

Overview of existing tools and platforms to support collective actions

Report D4.1

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Abstract

Energy communities offer the unique opportunity for consumers to form a critical mass, become renewable energy producers, and provide their demand flexibility to the market. However, there is still a clear need to support local heroes, those who are setting the ground and leading the action within their community, establishing their energy community, and enabling 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. It 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.

One of the necessary first steps in elaborating the Gateway is to identify the most effective platforms and tools supporting energy communities available and provide a detailed inventory of relevant platforms and tools.

This report gives an overview of international tools and platforms, as well as existing ones, in the pilot countries of SHAREs – Austria, Bulgaria, Croatia, Germany, Georgia, and Hungary.

The described characteristics of the provided tools and platforms within this report are:

- ▶ Applicability
- ▶ Brief description
- ▶ Type of tool
- ▶ Regional applicability
- ▶ Complexity
- ▶ Project phase
- ▶ Necessary data for use
- ▶ Costs/registration
- ▶ Access



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1 | Introduction

1.1 About the SHAREs project

The SHAREs objective is to cover a great diversity of collective actions, contributing towards increased energy efficiency and/or optimised energy management and/or integrate a higher share of renewables. Thus, the term energy communities in SHAREs refers to all forms of collective action by and for consumers, such as cooperatives, collective purchase groups or other consumer-driven actions. In countries that have already transposed 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. 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 (pilots) 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. The 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 the SHAREs Gateway, which will be an all-encompassing online platform for energy communities. The aim of the Gateway is to provide solutions to identified gaps in each target country and to provide easy access to all the needed know-how on how to establish, run or expand various forms of collective energy actions. Potential communities are essential to make SHAREs successful and are approached through different multipliers in partner countries and at the EU level.

SHAREs will make the most of existing initiatives, project results, open-source solutions, existing data standards and national as well as European tools and will compile them into one single Gateway. Thus, this deliverable presents the first step needed – a detailed assessment of existing tools and platforms per country. SHAREs builds upon existing platforms and initiatives, where possible, to avoid duplication and generate new added value.

1.2 Scope of inventory of tools and platforms

Work Package 4 (WP4) identified the most effective platforms and tools for supporting energy communities which are already available (primarily online) and accessible to an interested public. The aim of WP4 was to ensure that the development of the SHAREs Gateway takes into consideration already pre-made tools and platforms, thus ensuring that the Gateway brings something new to the energy communities' scene.

Within the research phase, existing tools and platforms were identified and assessed, covering, but not limited to, the following areas:

- ▶ Technical and organisational
- ▶ Economics and business models
- ▶ Consumer and engagement behaviour

Upon finalising the inventory, missing tools and knowledge gaps were identified and presented within the deliverable D 4.2 (Report on defined gaps in the inventory on relevant tools and platforms). Hereafter, a detailed overview is provided, of available international tools and platforms, and those available per partner country.

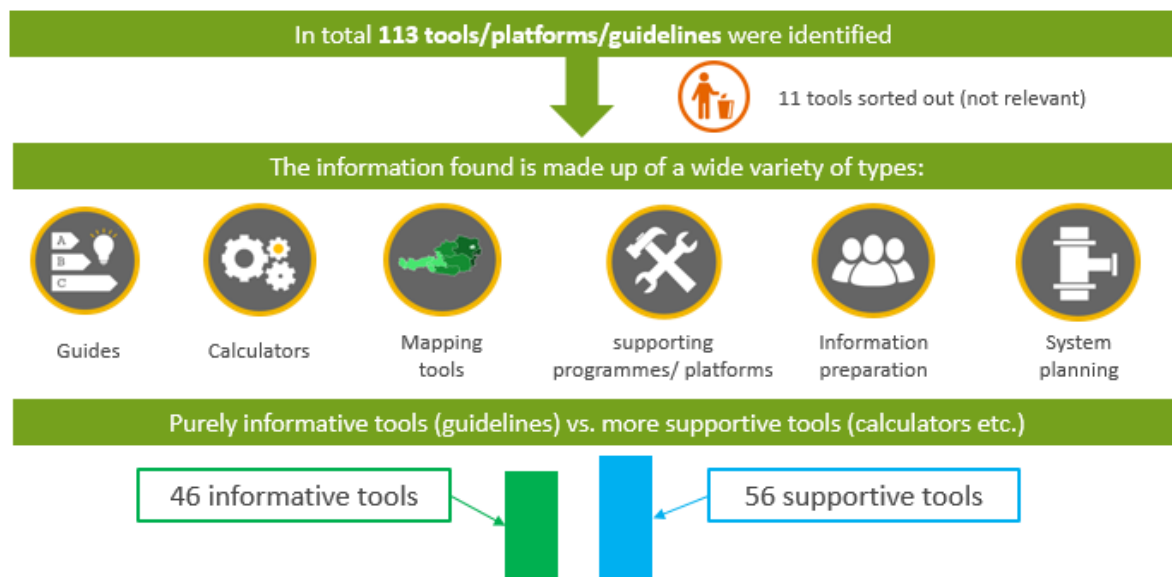


Figure 1 Overview of the existing tools and platforms on the EU level (Source: AEA)

2 | International tools and platforms overview

2.1 Overview

Within the first step, 113 international tools were collected. At the beginning, 11 were sorted out as they were not considered relevant due to their lack of relevance to the project. Out of the 102 remaining tools, 55 % were classified as supportive tools, while 45 % were informative tools. The basis for selecting the tools was setting local heroes as the primary target group, along with those who want to support/advise local heroes on a national level, and are reaching out for information. The thematic targets were focused on energy communities/collective actions.

International & national tools

First selection process

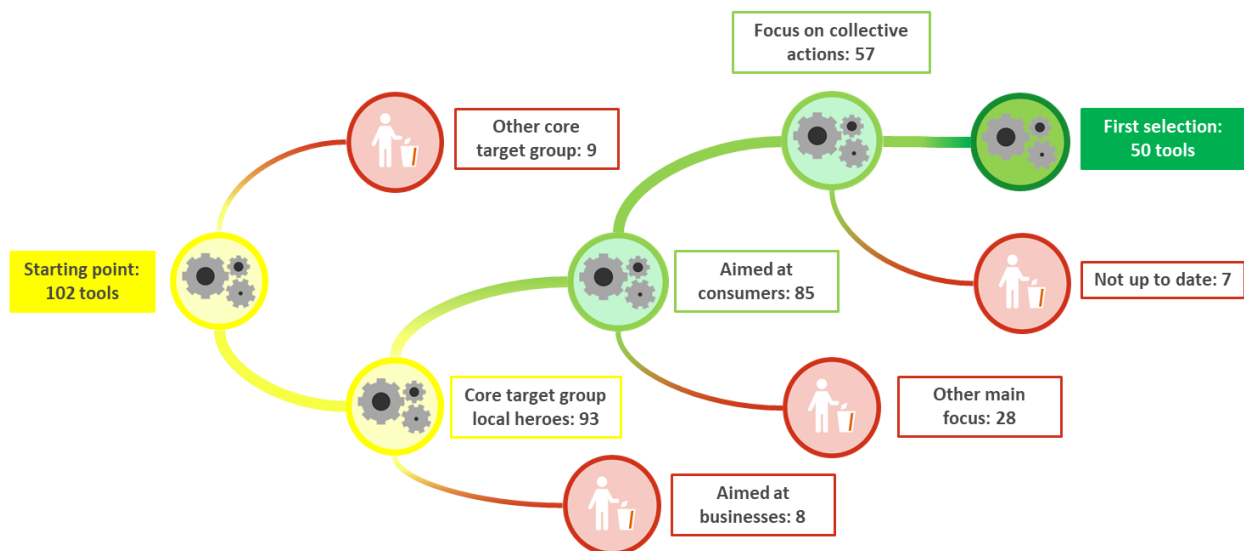


Figure 2 Selection process (Source: AEA)

After having made a first selection, further findings from the partner countries were added, often including tools local heroes may want to present to consumers to depict their personal benefit or environmental contribution when joining the community. The final inventory of international relevant tools and platforms is listed below in

Table 1.

Table 1 List of international tools

Name of the tool	Tool type	Link
DECIDE Tool Cards 1-4	Informational tool	https://decide4energy.eu/resource?uid=1115 https://decide4energy.eu/resource?uid=1116 https://decide4energy.eu/resource?uid=1117 https://decide4energy.eu/resource?uid=1118
DECIDE Training material for knowledge Hub	Report	https://decide4energy.eu/resource?uid=1119
Structured overview of existing and emerging business models, related contractual conditions and recommendations	Report	https://decide4energy.eu/resource?uid=1093
Guidelines to optimize energy-efficiency information campaigns and citizen participation for collective action and energy communities	Guidelines	https://decide4energy.eu/resource?uid=1010
Structured overview on optimized energy-efficiency interventions for EC and CA	Report	https://decide4energy.eu/resource?uid=1011
The Power of Community game	Board-game	https://thepowerofcommunity.space/
The Energy Game	Depictive tool	https://decide4energy.eu/energy-game
Guidelines for characterization, segmentation, and group dynamics of collective energy actions	Guidelines	https://decide4energy.eu/resource?uid=916
High-level description of use cases and business models	Report	https://project-clue.eu/wp-content/uploads/2021/04/D3.1_High-Level-Description-of-Use-Cases-and-Business-Models_v1.0.pdf
Local Energy Community architecture description	Report	https://project-clue.eu/wp-content/uploads/2021/06/D3.2-Local-Energy-Community-Architecture-Description.pdf
Self-Assessment Tool	Excel tool	https://r-aces.eu/tools/self-assessment-tool/

Name of the tool	Tool type	Link
Legal Decision Support Tool	Contract template	https://r-aces.eu/tools/legal-decision-support-tool/
Energy Management Platform	Online Platform	https://r-aces.eu/tools/energy-management-platform/
Use Cases	Informational tool	https://r-aces.eu/use_case/
Serious Board Game	Board game	https://r-aces.eu/training/serious-board-game/
COOLKIT	Knowledge Repository	https://www.compile-project.eu/products/coolkit/
HomeRule	Home energy management tool	https://www.compile-project.eu/products/homerule/
GridRule	EC management tool	https://www.compile-project.eu/products/gridrule/
ComPilot	EC management tool	https://www.compile-project.eu/products/compilot/
ValueTool	-	https://www.compile-project.eu/products/coolkit/technical-tools/
EVRule	-	https://www.compile-project.eu/products/coolkit/technical-tools/
ECCO-Financing Best Practices Guide	Report	http://www.ecco-oss.eu/phocadownload/ECCO-Financing%20Best%20Practices%20Guide_2.pdf
Timeline Tool	Informational tool	https://www.ecco-oss.eu/timeline/awareness
Greenhouse Gas Calculator- ECCO One stop shop	Calculator	-
Technology Decision Plan	Questionnaire	https://www.ecco-oss.eu/tech-decision-plan
Progress Tool- ECCO One stop shop	Questionnaire	-
NREL's PVWatts® Calculator	Calculator	https://pvwatts.nrel.gov/index.php
Prosumer Inspiration Book	Report	https://proseu.eu/resource/prosumer-inspiration-book
A multi-dimensional typology of collective RES prosumers across Europe	Report	https://proseu.eu/resource/key-technical-findings-and-recommendations-prosumer-communities
Business models for prosumers in Europe	Report	https://proseu.eu/resource/business-models-prosumers-europe
PowerTarget tool	Survey	http://powerpoor.epu.ntua.gr/powerpoor-toolkit/target/
PowerAct tool	Survey	http://powerpoor.epu.ntua.gr/powerpoor-toolkit/act/
PowerFund tool	Platform	https://www.powerfund.eu/

Name of the tool	Tool type	Link
REPLACE Heating Matrix	Decision support matrix	http://replace-project.eu/replace-heating-matrix/
REPLACE Heating Calculator	Calculator	https://replace-project.eu/decision-support-tool/
CoolHeating calculator	Calculator	https://www.coolheating.eu/images/downloads/D5.2_CoolHeating_Economic-tool.xlsm
CoolHeating Handbook	Handbook	https://www.coolheating.eu/en/publications.html
Guideline on drafting heat/cold supply contracts for small DHC systems	Guideline	https://www.coolheating.eu/en/publications.html

2.2 Project DECIDE

2.2.1 DECIDE Tool Cards 1-4

Applicability: Energy communities / collective actions in general

Brief description: The DECIDE tool cards provide practical inputs that can improve the development of an energy-related community initiative. They are accessible to audiences abroad, do not require background knowledge on the topic and in a catchy format present the tools and methodologies investigated by the project. Each card is a stand-alone piece of information related to energy communities in Europe.

Type of tool: Informational tool (short tool presentation in card format)

Regional applicability: No restriction (in English)

Complexity: Does not require specific knowledge, it is a simple and short description of the respective tool (in a PDF)

Project phase: The Tool Cards can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://decide4energy.eu/resource?uid=1115>

<https://decide4energy.eu/resource?uid=1116>

<https://decide4energy.eu/resource?uid=1117>

<https://decide4energy.eu/resource?uid=1118>

2.2.2 DECIDE Training material for knowledge hub

Applicability: Energy communities / collective actions in general

Brief description: The document provides an overview of the knowledge products created by DECIDE to foster the development and enhancement of energy communities and collective actions. It relates to the general training material offered by DECIDE and includes an overview of all selected materials and a short description of each one. It describes the objectives, targets and format of the knowledge material, as well as the methodology on how to use them most effectively.

Type of tool: Report

Regional applicability: No restriction (in English)

Complexity: Does not require specific knowledge

Project phase: The report can be used for the planning phase as well as for the expansion phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://decide4energy.eu/resource?uid=1119>

2.2.3 Structured overview of existing and emerging business models, related contractual conditions, and recommendations

Applicability: Energy communities / collective actions in general

Brief description: The report gives insights into different existing and emerging approaches for business models for energy communities and collective actions, how to group them and provides specific examples. Also, it includes the analyses of existing and emerging contractual conditions and to what extent they could impact the development of energy communities, increase investments into renewables and offer a fair arrangement between all involved parties.

Type of tool: Report

Regional applicability: No restriction (in English)

Complexity: Expert level - comprehensive report for people who are more concretely interested in the topic

Project phase: The report can be used in the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://decide4energy.eu/resource?uid=1093>

2.2.4 Guidelines to optimize energy-efficiency information campaigns and citizen participation for collective action and energy communities

Applicability: Energy communities / collective actions in general

Brief description: The guidelines provide a coherent summary of communication/information approaches and intervention campaigns for establishing and shaping energy communities, with a strong focus on the behavioural science perspective. It offers recommendations for a structured stakeholder engagement, provides concrete tools and information on how to classify them from a psychological perspective and recommendations tailored for DECIDE's pilots.

Type of tool: Guidelines

Regional applicability: No restriction (in English)

Complexity: Expert level- comprehensive report for people who are more concretely interested in the topic

Project phase: The guidelines can be used for the planning phase, as well as for the expansion phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://decide4energy.eu/resource?uid=1010>

2.2.5 Structured overview on optimized energy-efficiency interventions for EC and CA

Applicability: Energy communities / collective actions in general

Brief description: This document represents an overview of the recommendations to optimise energy-efficiency intervention and information campaigns for energy communities and collective energy actions in the framework of the DECIDE project and beyond, with a strong focus on the social science perspective. A general overview of potential tools for information and intervention campaigns within engagement and communication strategies is given, which serves as a "toolbox" to provide the broadest possible impression of potential tools. Also, specific recommendations for optimising intervention and information campaigns, tailored to the respective pilots in DECIDE are provided.

Type of tool: Report

Regional applicability: No restriction (in English)

Complexity: Short report for people who are more concretely interested in the topic

Project phase: The report can be used for the planning phase, as well as for the expansion phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://decide4energy.eu/resource?uid=1011>

2.2.6 The Power of Community game

Applicability: Energy communities / collective actions in general

Brief description: The Power of Community is an educational board game that uses kids' creativity to explore the functioning of the energy system and renewable energy sources, learn more about the barriers and the benefits of pursuing the energy transition and discover the role that each one can play in it. The kit is available in different languages, and a copy (educational and not for commercial use) can be requested online.

Type of tool: Board-game

Regional applicability: No regional restriction - illustrated playing cards; instructions only online in EN, DE, EE, NL, FR, GR, PL, ESCL, IT (Website in English)

Complexity: Does not require specific knowledge and was developed especially for children

Project phase: The game can be used for awareness-raising in schools or similar organisations

Necessary data for use: The use requires a free order

Costs/registration: Copies of the game (max. 10) can be ordered free of charge

Access: <https://thepowerofcommunity.space/>

2.2.7 The Energy Game

Applicability: Energy communities / collective actions in general

Brief description: The game helps explore the elements considered most relevant for individuals when thinking about their ideal energy collective action. The participants can choose among a set of items and place them in the target at the centre of the screen. The relevance depends on the closeness to the centre- the closer to the centre, the most relevant that specific element is to the respondent.

Type of tool: Depictive tool (and questionnaire)

Regional applicability: No regional restriction (in English)

Complexity: Does not require specific knowledge and can be used by anyone

Project phase: The game can be used for the planning phase as well as for the expansion phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://decide4energy.eu/energy-game>

2.2.8 Guidelines for characterization, segmentation, and group dynamics of collective energy actions

Applicability: Energy communities / collective actions in general

Brief description: The report aims to foster a shared understanding of collective energy actions and review the evidence on how to promote them. It should help to get concrete definitions for collective energy actions and is based on an extensive review of scientific literature, publications from previous projects, original stakeholder interviews and the legislative framework for energy communities, including empirical as well as conceptual considerations.

Type of tool: Guidelines

Regional applicability: No regional restriction (in English)

Complexity: A report for experts who want to deal with the topic in-depth

Project phase: The report can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://decide4energy.eu/resource?uid=916>

2.3 Project CLUE

2.3.1 High-level description of use cases and business models

Applicability: Energy communities / collective actions in general

Brief description: The focus of the report is to provide a detailed overview of the different use cases and business models with the characterization of the demo sites in the project CLUE. Specifically, it includes a description of parent-use cases (energy trading, control-based demand response, customer-based demand response, incentive-based demand response, capacity sharing etc.) and country-specific use-cases in Austria, Germany, Scotland and Sweden.

Type of tool: Report

Regional applicability: No regional restriction (in English)

Complexity: Expert level - comprehensive report for experts

Project phase: The report can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: https://project-clue.eu/wp-content/uploads/2021/04/D3.1_High-Level-Description-of-Use-Cases-and-Business-Models_v1.0.pdf

2.3.2 Local energy community architecture description

Applicability: Energy communities / collective actions in general

Brief description: This report addresses the areas of developing a reference ICT architecture and understanding the roles of stakeholders within local energy communities. A reference architecture based on international standards is established to provide a common foundation for the CLUE use cases throughout the project's involved countries and regions, while the stakeholder mapping was included as an effective approach to reveal the positions, roles, and relationships between relevant stakeholders.

Type of tool: Report

Regional applicability: No regional restriction (in English)

Complexity: Expert level - comprehensive report for experts

Project phase: The report can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access:

<https://project-clue.eu/wp-content/uploads/2021/06/D3.2-Local-Energy-Community-Architecture-Description.pdf>

2.4 Project R-Aces

2.4.1 Self-Assessment Tool

Applicability: No specific energy community type (focused more on businesses and industry)

Brief description: The R-ACES assessment tool helps collect data about the energy demand, energy supply, stakeholders and existing infrastructure in the ecoregion and assess the quality and completeness of the data. The assessment questions and region description categories have been carefully selected based on past experiences recorded throughout various energy cooperation projects in Europe.

Type of tool: Excel tool

Regional applicability: No regional restriction (in English)

Complexity: Expert level - comprehensive report for experts

Project phase: The tool can be used for the planning phase

Necessary data for use: Data on regional energy production and consumption

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://r-aces.eu/tools/self-assessment-tool/>

2.4.2 Legal Decision Support Tool

Applicability: businesses and industry

Brief description: The tool is designed to lower the legal barriers and help develop energy cooperation projects between potential suppliers and customers in industrial clusters. It includes an easy-to-use fill-in contract template, with explanatory notes on the side. It helps with focusing and agreeing on the fundamentals of an energy exchange project (sales and delivery) and generates a ready-to-use (simple) contract in one go.

Type of tool: Contract template

Regional applicability: No regional restriction (in English)

Complexity: It can be used by anyone and is easy to use, but legal knowledge would be helpful

Project phase: The template can be used for the planning phase as well as for the expansion phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://r-aces.eu/tools/legal-decision-support-tool/>

2.4.3 Energy Management Platform

Applicability: Energy communities /collective actions in general

Brief description: A tool is designed to enable the exchange of energy between partners. The dashboard displays energy consumption and generation overlaps in surpluses, deficits, and energy flows between partners. A practical user guide, with all steps clearly described, is available for the users to help them to use the Platform.

Type of tool: Online Platform

Regional applicability: No regional restriction (in English)

Complexity: Expert level

Project phase: The tool can be used for the planning phase as well as for the expansion phase

Necessary data for use: Data on regional energy production and consumption

Costs/registration: Registration necessary, fees unclear

Access: <https://r-aces.eu/tools/energy-management-platform/>

2.4.4 Use Cases

Applicability: Specific to district heating & district cooling projects

Brief description: Description of ~ 70 examples of various energy collaborations on district heating & cooling from different countries. You can filter by energy source, geographical level and type of area (industrial/residential) or use cases (energy planning, projects etc.).

Type of tool: Informational tool (online overview)

Regional applicability: No regional restriction (in English)

Complexity: Requires no specific knowledge

Project phase: The tool can be used for the planning phase

Necessary data for use: Requires no specific knowledge

Costs/registration: The tool is available free of charge and without a prior registration

Access: https://r-aces.eu/use_case/

2.4.5 Serious Board Game

Applicability: Energy communities / collective actions in general

Brief description: Board game about regional energy management and development of the sustainable area around R-ACEDONIA, an important European industrial hub surrounded by nature and rivers. The players must look for innovative ideas to tackle the issue of rising carbon footprint and energy bill.

Type of tool: Board game

Regional applicability: No regional restriction (in English)

Complexity: Requires no specific knowledge

Project phase: N/A

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The game must be ordered

Access: <https://r-aces.eu/training/serious-board-game/>

2.5 Project COMPILE

2.5.1 COOLKIT

Applicability: Energy communities / collective actions in general

Brief description: The COOLKIT is a repository of reports and dashboards on how to build an energy community. The best practice guide provides examples for all types of activity, energy services and citizen-led partnerships. The stakeholder engagement guide provides tools and techniques to build community groups and organizations. The financing guide explains how to finance your projects and structure your ownership. The technical tools guide describes the technical tools developed by the COMPILE project.

Type of tool: Knowledge repository (available online and as reports)

Regional applicability: No regional restriction (in English)

Complexity: Requires no specific knowledge

Project phase: The COOLKIT can be used for the planning and starting phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://www.compile-project.eu/products/coolkit/>

2.5.2 HomeRule

Applicability: Energy communities / collective actions in general

Brief description: HomeRule helps operate energy communities, focusing on managing one building/home energy needs. The tool encompasses different features which bring new possibilities of management and control of various tech, resulting in added value for end-users. It also supports the connection to other COMPILE tools, which enable community-oriented management of flexibility.

Type of tool: Home energy management tool

Regional applicability: No regional restriction (in English)

Complexity: N/A

Project phase: The tool can be used for the starting and expansion phase

Necessary data for use: N/A

Costs/registration: Unclear

Access: <https://www.compile-project.eu/products/homerule/>

2.5.3 GridRule

Applicability: Energy communities / collective actions in general

Brief description: GridRule enables the community managers (aggregators, micro-grid operators, etc.) to operate and manage the local grid within network limits. It sets up the coordination of individual community members and optimizes the whole community energy needs. It enables data collection and presentation in a user-friendly manner and also features various control strategies that optimize all the available flexibility in the network. These features include community battery management and community self-consumption optimization.

Type of tool: Energy community management tool

Regional applicability: No regional restriction (in English)

Complexity: N/A

Project phase: The tool can be used for the starting and expansion phase

Necessary data for use: N/A

Costs/registration: Unclear

Access: <https://www.compile-project.eu/products/gridrule/>

2.5.4 ComPilot

Applicability: Energy communities /collective actions in general

Brief description: ComPilot is designed as a digital platform that allows virtual energy communities to be created and helps them manage their operation. The tool strives to activate more energy community members since it is formed as a socio-technological platform with various functionalities. It manages the demand response procedures, and by using it, network operators or community leaders can monitor and manage contracts of the community in a user-friendly way.

Type of tool: Energy community management tool

Regional applicability: No regional restriction (in English)

Complexity: N/A

Project phase: The tool can be used for the starting and expansion phase

Necessary data for use: N/A

Costs/registration: Unclear

Access: <https://www.compile-project.eu/products/compilot/>

2.5.5 ValueTool

Applicability: Energy communities /collective actions in general

Brief description: ValueTool helps consumers determine the costs and benefits of installing PV panels in their building and simulate the investments. The investment return period and needed information can be obtained in just a few steps, and with the data provided on the latest electricity bill.

Early stage of development, no details yet.

Type of tool: -

Regional applicability: -

Complexity: -

Project phase: -

Necessary data for use: -

Costs/registration: -

Access: <https://www.compile-project.eu/products/coolkit/technical-tools/>

2.5.6 EVRule

Applicability: Energy communities /collective actions in general

Brief description: EVrule is an EV management platform that will be enhanced with the algorithms for predicting EV user behaviour and household consumption and upgraded to enable communication with GridRule. The

development of charging algorithms for EnC will include fair redistribution of power available for charging to all EV users and other different charging options.

Early stage of development, no details yet.

Type of tool: -

Regional applicability: -

Complexity: -

Project phase: -

Necessary data for use: -

Costs/registration: -

Access: <https://www.compile-project.eu/products/coolkit/technical-tools/>

2.6 ECCO One Stop Shop

2.6.1 ECCO-Financing Best Practices Guide

Applicability: Energy communities /collective actions in general

Brief description: The guide informs (future) ECCOs and policy makers on what financial supporting schemes already exist and function well for realizing local energy cooperatives. It summarizes common, as well as activity-specific financing problems, encountered in the development, construction, and operation phase of community-centred energy cooperatives. Additionally, it gives an overview of commonly used financing instruments, provides some specific funding solutions that some ECCOs applied detailed insights into the funding schemes of three energy cooperatives of the ECCO-Programme.

Type of tool: Report

Regional applicability: No regional restriction (in English)

Complexity: Expert level - comprehensive report for people who are more concretely interested in the topic

Project phase: The report can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: http://www.ecco-oss.eu/phocadownload/ECCO-Financing%20Best%20Practices%20Guide_2.pdf

2.6.2 Timeline Tool

Applicability: Energy communities /collective actions in general

Brief description: A graphical overview of the development phases of an energy community project, showing the different relevant activities divided into technical, financial and group activities. The overview can help get an impression of the whole development process and gain insight into what needs to be considered.

Type of tool: Informational tool (Info sheet)

Regional applicability: No regional restriction (in English)

Complexity: Does not require specific knowledge, simple descriptions

Project phase: The tool can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://www.ecco-oss.eu/timeline/awareness>

2.6.3 Greenhouse Gas Calculator

Applicability: Energy communities /collective actions in general

Brief description: The calculator is a simple and easy-to-use calculator that will show the amount of CO2 sequestered from various forms of renewable energy.

Type of tool: Calculator

Regional applicability: No regional restriction (in English)

Complexity: N/A

Project phase: N/A

Necessary data for use: N/A

Costs/registration: N/A

Access: The official link on the calculator is currently unavailable, with the possibility of becoming active in the future (the availability can be checked through this web address <https://www.ecco-oss.eu/oss-tools>)

2.6.4 Technology Decision Plan

Applicability: Energy communities /collective actions in general

Brief description: A short online questionnaire that gives you recommendations based on your answers on the best renewable energy option for a user based on the resources available in their local community.

Type of tool: Questionnaire

Regional applicability: No regional restriction (in English)

Complexity: Does not require specific knowledge, simple descriptions

Project phase: The tool can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://www.ecco-oss.eu/tech-decision-plan>

2.6.5 Progress Tool

Applicability: Energy communities /collective actions in general

Brief description: The tool consists of a survey for community energy groups to understand what stage of development their projects are and assist them in understanding what next steps to take. The answers from the survey are used to measure the project's progress, while the results are shown on a spider diagram along with a checklist of tasks.

Type of tool: Questionnaire

Regional applicability: No regional restriction (in English)

Complexity: Does not require specific knowledge, simple descriptions

Project phase: The tool can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge, registration is necessary

Access:

https://www.ecco-oss.eu/index.php?option=com_users&view=login&return=aW5kZXgucGhwP29wdGlvbj1jb21fcHJvZ3Jlc3N0b29sJnZpZXc9cHJvamVjdGJvYXJk

2.7 National Renewable Energy Laboratory (US)

2.7.1 NREL's PVWatts® Calculator

Applicability: Energy communities / collective actions in general

Brief description: The calculator estimates the energy production and energy cost of grid-connected photovoltaic (PV) energy systems worldwide. It allows homeowners, small building owners, installers, and manufacturers to easily develop estimations of the performance of potential PV installations.

Type of tool: Calculator

Regional applicability: No regional restriction (in English)

Complexity: Amateur and expert level (advanced settings) - comprehensive report for experts

Project phase: The tool can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://pvwatts.nrel.gov/index.php>

2.8 PROSEU

2.8.1 Prosumer Inspiration Book

Applicability: Energy communities / collective actions in general

Brief description: The handbook provides examples from the project's Living Labs on how to overcome regulatory barriers, bring people together and potential business and funding models, as well as identify appropriate technologies. It is intended to motivate and inspire people interested in energy communities to become active and develop their projects.

Type of tool: Report

Regional applicability: No regional restriction (in English)

Complexity: Does not require specific knowledge

Project phase: The tool can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://proseu.eu/resource/prosumer-inspiration-book>

2.8.2 A multi-dimensional typology of collective RES prosumers across Europe

Applicability: Energy communities / collective actions in general

Brief description: The document presents conclusions and recommendations based on the technical findings of the PROSEU project to assist prosumers in choosing their suitable renewable prosumer technology depending on their needs, demands, size and location. It provides recommendations that can support the implementation

and mainstreaming of prosumer technologies. It also gives an overview of the key prosumer technologies and their technical, economic, ecological, and social parameters, as well as some best practice examples.

Type of tool: Report

Regional applicability: No regional restriction (in English)

Complexity: Expert level

Project phase: The tool can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://proseu.eu/resource/key-technical-findings-and-recommendations-prosumer-communities>

2.8.3 Business models for prosumers in Europe

Applicability: Energy communities / collective actions in general

Brief description: The report explores the different business models being adopted to enable renewable energy generation and self-consumption in the European Union and explains why energy communities are necessary, what kind of value they bring in the framework of the energy transition, and how they can be empowered through EU member states' energy policy and regulation.

Type of tool: Report

Regional applicability: No regional restriction (in English)

Complexity: Expert level - comprehensive report for people who are more concretely interested in the topic

Project phase: The tool can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://proseu.eu/resource/business-models-prosumers-europe>

2.9 Project POWERPOOR

2.9.1 PowerTarget tool

Applicability: Energy efficiency

Brief description: The tool consists of a survey which helps in the assessment of energy expenses. After it is complete, users can receive recommendations on how to reduce their energy costs.

Type of tool: Survey

Regional applicability: No regional restriction (in English and possibly further languages)

Complexity: Does not require specific knowledge. Meant for households.

Project phase: N/A

Necessary data for use: The tool is a survey which needs data on energy costs

Costs/registration: The tool is available free of charge and with prior registration

Access: <http://powerpoor.epu.ntua.gr/powerpoor-toolkit/target/>

2.9.2 PowerAct tool

Applicability: Energy efficiency

Brief description: The tool consists of a survey which helps in the assessment of energy consumption. After it is completed, users can receive personalized suggestions for single behaviour changes to reduce their consumption. In the last step, users can participate in funding programs for efficiency improvements.

Type of tool: Survey

Regional applicability: No regional restriction (in English and possibly further languages)

Complexity: Does not require specific knowledge. Meant for households.

Project phase: N/A

Necessary data for use: The tool is a survey which needs data on energy consumption

Costs/registration: The tool is available free of charge and prior registration is needed

Access: <http://powerpoor.epu.ntua.gr/powerpoor-toolkit/act/>

2.9.3 PowerFund tool

Applicability: Collective actions in general

Brief description: A web-based tool which helps energy poor citizens across Europe to identify and learn about collective innovative actions. The tool provides the users with an online marketplace for collective energy initiatives, such as energy communities and cooperatives, as well as an open space to learn about innovative financial instruments like crowdfunding, and how to use the potential of collective finance to overcome the economic and financial barriers.

Type of tool: Platform

Regional applicability: No regional restriction, 10 languages available incl. English

Complexity: Easy to use, but possibly more suitable for more dedicated consumers

Project phase: The tool can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The tool is available free of charge but requires registration for certain functionalities

Access: <https://www.powerfund.eu/>

2.10 Project REPLACE

2.10.1 REPLACE Heating Matrix

Applicability: collective actions in general/individual measures

Brief description: The REPLACE Heating Matrix provides an initial overview on available options for replacing inefficient heating systems. It shows which type of heating system based on renewable energy sources or a connection to district heat is most suitable for your single or double family houses or for your larger volume building.

Type of tool: Decision support matrix

Regional applicability: Versions for the following countries available: Austria, Bosnia, Bulgaria, Croatia, Germany, Macedonia, Serbia, Slovenia, Spain_

Complexity: Does not require specific knowledge. Meant for consumers.

Project phase: The tool can be used for the planning phase

Necessary data for use: The tool does not require any data input

Costs/registration: The tool is available free of charge and without a prior registration

Access: <http://replace-project.eu/replace-heating-matrix/>

2.10.2 REPLACE Heating Calculator

Applicability: collective actions in general/individual measures

Brief description: With the “REPLACE your Heating System Calculator” you can find the best future-proof, resilient and climate-friendly alternative to your old heating system in just three steps. Individually for renovating or replacing your boilers or ovens, tailored to your home and your situation in 10 European target regions. The calculator works in 8 languages (BiH, DE, BG, ES, HR, MK, RS, SL) almost like an energy consultation.

Type of tool: Calculator

Regional applicability: Austria, Bosnia, Bulgaria, Croatia, Germany, Macedonia, Serbia, Slovenia, Spain

Complexity: Does not require specific knowledge. Meant for consumers and experts.

Project phase: The tool can be used for the planning phase as well as for the expansion phase

Necessary data for use: The tool does require data on buildings and heat consumption

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://replace-project.eu/decision-support-tool/>

2.11 Project CoolHeating

2.11.1 CoolHeating calculator

Applicability: collective actions in general

Brief description: In order to prepare the implementation of small modular renewable energy district heating and cooling systems in the target countries up to the investment stage economic figures are essential for the success of the project. The Economic calculation tool was developed in order to calculate the economic performance of district heating projects that will be initiated within the CoolHeating project. The tool is open source and is available for the public and was introduced to the target country partners, so that they are able to further adjust and modify it during the project development.

Type of tool: Calculator

Regional applicability: English

Complexity: for people interested to set-up small scale district heating systems

Project phase: The tool can be used for the planning phase

Necessary data for use: Data on the foreseen district heating project

Costs/registration: The tool is available free of charge and without a prior registration

Access: https://www.coolheating.eu/images/downloads/D5.2_CoolHeating_Economic-tool.xlsm

2.11.2 CoolHeating Handbook

Applicability: collective actions in general

Brief description: Handbook on small modular renewable district heating and cooling grids. The handbook provides an overview of both, technical and non-technical (planning) aspects. The main characteristics of different heat sources from solar, biomass, geothermal and excess heat are described and the opportunities of

their combination in small modular RE district heating and cooling system are presented. Seasonal and diurnal storage systems are included, as well as the use of heat pumps. Specific aspects of heating and cooling in small grids are shown.

Type of tool: Handbook

Regional applicability: English, Bosnian, Slovenian, Macedonian, Serbian, German, Croatian

Complexity: for people interested to set-up small scale district heating systems

Project phase: The handbook can be used for the planning phase

Necessary data for use: Data on the foreseen district heating project

Costs/registration: The tool is available free of charge and without a prior registration

Access: <https://www.coolheating.eu/en/publications.html>

2.11.3 Guideline on drafting heat/cold supply contracts for small DHC systems

Applicability: collective actions in general

Brief description: The main goal of this report is to support different actors in the preparation of heat/cold supply contracts. Emphasis is placed on the support of actors and target groups with low awareness and limited knowledge about DHC supply, who intend to develop projects and to invest in or to finance DHC projects.

Type of tool: Guideline

Regional applicability: No regional restriction (in English)

Complexity: for persons interested to set-up small scale district heating systems

Project phase: The tool can be used for the planning phase as well as for the expansion phase

Necessary data for use: The tool does not need any data input and can be used directly

Costs/registration: The guideline is available free of charge and without a prior registration

Access: <https://www.coolheating.eu/en/publications.html>

3 | Austria

3.1 Overview

The implementation of RED II in national law has already been carried out in Austria. In general, there are many efforts to promote energy communities, which is also reflected in the scope of the available tools. Compared to other countries, Austria already has a relatively extensive range of useful tools, from calculators to guidelines and further information. There is also a broad interest in energy communities among the population.

To streamline activities to support the implementation of renewable energy communities in Austria, the Austrian Coordination Office for Energy Communities has been established. The Coordination Offices' main goal is to offer information and help with the planning, establishing and implementation of energy communities.

In addition to serving as a focal information point for energy communities, the Coordination Office also has the task of observing the market and development of energy communities in Austria and providing feedback to the policy makers to evaluate and adapt the legal framework for energy communities.

Table 2 List of tools In Austria

Name of the tool	Tool type	Link
Six steps towards an energy community (REC)	Information tool	https://energiegemeinschaften.gv.at/in-sechs-schritten-zur-energiegemeinschaft/
Model contracts for REC	Template	https://energiegemeinschaften.gv.at/download-bereich/
Benefit tools for REC	Calculator	https://www.energieinstitut.at/tools/benefit/
REC Guide Communities	Guide	https://energiegemeinschaften.gv.at/wp-content/uploads/sites/19/2022/02/EEG-Ratgeber-Gemeinden_Februar_2022.pdf
e-community.at, savings calculator	Calculator	https://e-gemeinschaft.at/ersparnis.php?b=w
7energy.at	Information tool	https://7energy.at/
Sample contracts ebUtilities	Template	https://www.ebutilities.at/mustervertraege.html
Information distribution grid area EKG	Information tool	https://gis-stw-at.maps.arcgis.com/apps/instant/lookup/index.html?appid=8bc6e3dbaa784646a7d4ecbe6daa5b68
Quick check for short range query	Information tool	https://www.netz-noe.at/SpecialPages/EEGBauskunftung.aspx
e-community.at distribution tool	Calculator	https://e-gemeinschaft.at/verteilung.php
Photovoltaic calculator	Calculator	https://www.klimaaktiv.at/service/tools/erneuerbare/pv_rechner.html
Photovoltaic self-consumption calculator	Calculator	https://pvaustria.at/sonnenklar_rechner/
CO2 Indicator Calculator	Calculator	https://www.dachgold.at/co2-kennzahlenrechner/

3.2 Six steps towards an energy community (REC)

Applicability: (renewable) Energy communities

Brief Description: This website briefly describes the important steps to implement a renewable energy community. The steps here go from the idea phase to start-up through to the connection to the network. They represent only a brief initial orientation. Further information can then be obtained from energy advice centres.

Type of Tool: Basic information

Regional applicability: Austria

Complexity: Information on the basics of the process

Project phase: Idea generation, planning

Necessary data for use: None

Costs/registration: The website is available free of charge and can be used without prior registration

Access: <https://energiegemeinschaften.gv.at/in-sechs-schritten-zur-energiegemeinschaft/>

3.3 Model contracts for REC

Applicability: (renewable) Energy communities

Brief description: The Austrian Coordination Office for Energy Communities website provides sample statutes for associations, a supply agreement, and agreements for full and surplus feeding. These materials can be used as a starting point for design in concrete renewable energy communities.

Type of tool: Planning, organisation

Regional applicability: Austria

Complexity: Applicable without special prior knowledge; sample contracts

Project phase: The sample contracts can be used in the planning and foundation phase

Necessary data for use: None

Costs/registration: The model contracts are available free of charge and can be used without prior registration.

Access: <https://energiegemeinschaften.gv.at/download-bereich/>

3.4 Benefit tools for REC

Applicability: (renewable) Energy communities

Brief description: The Benefit Tool can be used to estimate the economic viability of a renewable energy community with photovoltaic systems (with and without storage) for projects planned in Austria. The tool distinguishes between "conventional" (without energy community) and "energy community" and compares the respective electricity prices. Economic advantages through participation in an energy community (e.g., reducing grid fees) are estimated in this way. It works for both local and regional energy communities.

Type of tool: Calculator (economic calculation)

Regional applicability: Austria

Complexity: Applicable without special prior knowledge; simple Excel tool plus PDF instructions; numerous predefined values

Project phase: The benefit tool can be used for the planning phase as well as for the expansion phase (new customers)

Necessary data for use: Energy purchase price with and without energy community, feed-in tariff without energy community, energy sales price in the energy community

Costs/registration: The tool is available free of charge and can be used without prior registration.

Access: <https://energiegemeinschaften.gv.at/benefit-tool/>

3.5 REC guide for communities

Applicability: (renewable) Energy communities

Brief description: The REC guidebook for communities concisely summarises the most important information on the topic of renewable energy communities (REC). It explains what a REC is, what the benefits of founding a REC are, and describes the path to a REC. The brochure thus provides basic information for decision-makers in municipalities.

Type of tool: Guide

Regional applicability: Austria (in German)

Complexity: Basic information brochure, focus on municipalities

Project phase: Idea generation, planning

Necessary data for use: None

Cost/registration: The brochure is available free of charge and can be used without prior registration.

Access:

https://energiegemeinschaften.gv.at/wp-content/uploads/sites/19/2022/02/EEG-Ratgeber-Gemeinden_Februar_2022.pdf

3.6 e-community.at, savings calculator

Applicability: (renewable) Energy communities

Brief description: e-community.at offers an online calculator that households can use to estimate the total savings in their electricity costs in a renewable energy community compared to a 100% electricity supply from the public grid.

Type of tool: Calculator (for economic efficiency)

Regional applicability: Austria (differentiating between federal states)

Complexity: Applicable without special prior knowledge, multiple predefined calculation values. Project-specific values increase the accuracy of estimation.

Project phase: Planning and extension phase

Necessary data for use: None

Costs/registration: The tool is available free of charge and can be used without prior registration.

Access: <https://e-gemeinschaft.at/ersparnis.php?b=w>

3.7 7energy.at

Applicability: (renewable) Energy communities

Brief description: 7energy.at supports initiatives that are interested in establishing a renewable energy community. In addition to free basic information, services for planning and implementing renewable energy communities are offered.

Type of tool: Information tool

Regional applicability: Austria

Complexity: Applicable without special previous knowledge; support offer

Project phase: Planning, implementation, and expansion phase

Necessary data for use: None

Costs/registration: Basic information free of charge and without registration; fees for other services

Access: <https://7energy.at/>

3.8 Sample contracts ebUtilities

Applicability: (renewable) Energy communities

Brief description: This website provides, among other things, sample contracts between grid operators and the energy community for operation and grid access of community generation installations, citizen energy communities and renewable energy communities. Furthermore, a guide and checklist for energy communities are available online.

Type of tool: Template (Planning, organisation)

Regional applicability: Austria

Complexity: Applicable without special prior knowledge; sample contracts

Project phase: The sample contracts can be used in the planning and foundation phase.

Necessary data for use: The energy community must already be established.

Costs/registration: The sample contracts are available free of charge and can be used without prior registration.

Access: <https://www.ebutilities.at/mustervertraege.html>

3.9 Information distribution grid area EKG

Applicability: (renewable) Energy communities

Brief description: After entering their address on this website, interested people receive the information to which distribution grid level their consumption metering point or installation is connected. This gives basic information about possibilities for a renewable energy community. From the information obtained, one can conclude whether the "local" tariff (within the same transformer station area in the same substation area) or the "regional" tariff (within the same substation area) is applied.

Type of tool: Information tool (information about network area)

Regional applicability: Austria: Limited to the grid area of Energie Klagenfurt GmbH (Carinthia)

Complexity: Applicable without special prior knowledge

Project phase: The tool can be used for the idea generation and planning phase

Necessary data for use: Address of the installation

Costs/registration: The tool is available free of charge and can be used without prior registration.

Access: <https://gis-stw-at.maps.arcgis.com/apps/instant/lookup/index.html?appid=8bc6e3dbaa784646a7d4ecbe6daa5b68>

3.10 Quick Check for short range query

Applicability: (renewable) Energy communities

Brief description: After entering their metering point number, this website provides consumers with information on the transformer station or substation from which they are supplied. Based on this information, it can be checked whether the "local" tariff (within the same transformer station area in the same substation area) or the "regional" tariff (within the same substation area) is applied to the planned energy community.

Type of tool: Information tool (about network area)

Regional applicability: Austria: Limited to the grid area of Netz Niederösterreich (Lower Austria)

Complexity: Usable without special prior knowledge

Project phase: The tool can be used for the idea generation and planning phase.

Necessary data for use: Metering point number

Costs/registration: The tool is available free of charge and can be used without prior registration.

Access: <https://www.netz-noe.at/SpecialPages/EEGBeauskunftung.aspx>

3.11 e-community.at distribution tool

Applicability: (renewable) Energy communities

Brief description: e-community.at offers a source code to clearly allocate generation and consumption in the energy community. The option "dynamic distribution" (proportional to consumption or generation) and the option "static distribution" (equal share for each participant) are available.

Type of tool: Calculation tool

Regional applicability: in German

Complexity: Source code for implementation in Excel; basic programming knowledge required

Project phase: Planning, extension, and implementation phase

Necessary data for use: Consumption and/or electricity generation of all participants of the renewable energy community

Costs/registration: The tool is available free of charge and can be used without prior registration.

Access: <https://e-gemeinschaft.at/verteilung.php>

3.12 Photovoltaic calculator

Applicability: RES in general

Brief description: The photovoltaic calculator helps to economically evaluate a planned photovoltaic system, thus enabling a quick estimation of the economic viability of photovoltaic systems in new construction and renovation of buildings. It can be used to evaluate the economics of a photovoltaic system without participating in a renewable energy community.

Type of tool: Calculator (economic calculation)

Regional applicability: Austria (differentiates between federal states)

Complexity: Not usable without basic technical knowledge

Project phase: The calculator can be used for the planning phase, as well as for the expansion phase (new customers)

Necessary data for use: All data is pre-filled. The more project-specific data is entered (location, technical parameters, and costs of the PV system), the more accurate the economic calculation will be.

Costs/registration: The tool is available free of charge and can be used without prior registration.

Access: https://www.klimaaktiv.at/service/tools/erneuerbare/pv_rechner.html

3.13 Photovoltaic self-consumption calculator

Applicability: RES in general

Brief description: The photovoltaic self-consumption calculator provides information for a planned photovoltaic system on how and to what extent the self-consumption share of the on-site produced PV electricity can be increased. It can be used to evaluate the case of a photovoltaic system without participation in a renewable energy community. The tool can also help to calculate the increase of the self-consumption share of a system with a maximum of 10 kWp or of a household with a maximum of 10,000 kWh of annual electricity consumption through electric load management, storage, and electric water heating. The use of a heat pump and an electric car are only described qualitatively in the tool and are not included in the calculation.

Type of tool: Calculation tool

Regional applicability: in German for Vienna (Austria) and surroundings (the results can also be used for a rough estimation for other regions)

Complexity: Applicable without special prior knowledge; a simple online tool

Project phase: The tool can be used for the planning phase, as well as for the expansion phase (new customers)

Necessary data for use: Location of the installation, size and electricity consumption of the household, inclination, orientation, and power of the planned photovoltaic installation

Costs/registration: The tool is available free of charge and can be used without prior registration.

Access: https://pvaustria.at/sonnenklar_rechner/

3.14 CO2 Indicator Calculator

Applicability: RES in general

Brief description: The CO2 indicator calculator can be used to estimate the amount of CO2 that can be reduced by installing a photovoltaic system. Furthermore, it shows how many kilometres driven in an electric car correspond to the system's annual production.

Type of tool: Calculator (awareness-raising)

Regional applicability: Austria

Complexity: Applicable without special prior knowledge

Project phase: The CO2 indicator calculator can be used for the planning phase, as well as for the expansion phase (new customers)

Necessary data for use: Power of the planned photovoltaic system

Costs/registration: The tool is available free of charge and can be used without prior registration.

Access: <https://www.dachgold.at/co2-kennzahlenrechner/>

4 | Bulgaria

4.1 Overview

Due to the delay in transposing the RED II directive into the national legislation and the existence of various barriers hindering the replication of models of energy communities and collective action, Bulgarian citizens still show little interest in the use and development of REC/CEC-related tools and platforms. The existing tools are primarily created as deliverables of EU-funded projects and as part of EU-wide projects.

Table 3 List of tools in Bulgaria

Name of the tool	Tool type	Link
Act4ECO	Platform	https://act4eco.eu/?lang=bg
Solar Estates	Platform	https://vei-imot.bg/

4.2 Act4ECO

Applicability: Other

Brief description: ACT4ECO is a dynamic knowledge-sharing platform facilitating knowledge for consumers on how to use energy efficiently. The platform guides users to act on five important themes:

- ▶ limiting the house's carbon footprint by improving its energy performance and investing in highly efficient technology options and appliances.
- ▶ familiarising users with options for controlling their energy consumption by correctly using and understanding ICT energy equipment.
- ▶ helping users draw links between their daily routine activities and their energy consumption, e.g. by adopting small changes in behaviour that can bring significant improvements.
- ▶ avoiding the return to bad energy consumption habits.
- ▶ guiding consumers in evaluating if it is worth investing in small-scale energy generation, e.g. by providing information on the necessary technical requirements.

Type of tool: Platform (Online-based interactive platform)

Regional applicability: The content is available in 11 languages, incl. in Bulgarian

Complexity: Applicable without special prior knowledge

Project phase: The tool can be used for the idea generation and planning phase

Necessary data for use: n/a

Costs/registration: Registration is required but free of charge

Access: <https://act4eco.eu/?lang=bg>

4.3 Solar Estates

Applicability: RES in general

Brief description: Solar Estates is the first specialised platform for investments in the RES parks and purchasing of suitable properties. It connects property owners/sellers and investors in RES and assists in finding selected contractors.

Type of tool: Platform (Online-based platform for selling/renting properties suitable for RES development)

Regional applicability: Bulgaria

Complexity: Applicable without special prior knowledge

Project phase: The platform can be used for the initial phase of planning and implementation

Necessary data for use: Depends on the investor's plans

Costs/registration: Registration is required. Currently free of charge with the option to turn into paid service in the future

Access: <https://vei-imot.bg/>

5 | Croatia

5.1 Overview

Energy communities, as a term, has been recognised by Croatian law only recently, at the end of 2021. Even though they are mentioned in two new laws, Law on Electricity Market (Official Gazette nr 111/21) and Law on Renewable Energy Sources and High-Efficiency Cogeneration (Official Gazette nr 138/21), there is still the need for additional regulations (bylaws are still missing) since these two documents only tackle the basics of the energy communities and its functions.

Considering all mentioned above, it can be concluded that there are not many available tools regarding energy communities and that there is a strong need for any kind of tools and guidelines on how to establish them and implement projects through this type of citizen engagement activities/initiatives.

Table 4 List of tools in Croatia

Name of the tool	Tool type	Link
On the sunny side platform	Platform	https://www.nasuncanojstrani.hr/
Solar club FB group	Social network group	https://www.facebook.com/groups/solarniklub
My energy, my freedom	Handbook	https://bit.ly/brochurePV
E.on solar calculator	Calculator	https://www.eon.hr/hr/kucanstva/solarni-kalkulator.html
Energia naturalis solar calculator	Calculator	https://www.energianaturalis.hr/kalkulator
Energy communities- where to start?	Webinar	https://www.youtube.com/watch?v=PDrcFk4z6ho

5.2 On the sunny side platform

Applicability: Renewable energy communities

Brief description: The platform offers turn-key solutions for the implementation of PV plants - from access to all relevant information, preparation of documentation, use of co-financing opportunities and design, to procurement and installation.

Type of tool: Platform (incl. a simple calculation tool)

Regional applicability: Croatia

Complexity: Applicable without special prior knowledge

Project phase: The whole project cycle

Necessary data for use: Location, monthly electricity bill

Costs/registration: The simple tool is available free of charge and can be used without prior registration. A more detailed cost-effectiveness assessment is not free of charge (when designing a project, one may need to have it done depending on the characteristics of the facility and one's consumption).

Access: <https://www.nasuncanojstrani.hr/>

5.3 Solar club Facebook group

Applicability: Renewable energy communities

Brief description: A public Facebook group for all solar enthusiasts, owners of solar power plants and those who want to become one. The group is very active, and it has more than 15 000 members.

Type of tool: Social network group

Regional applicability: Croatia

Complexity: Applicable without special prior knowledge

Project phase: The whole project cycle

Necessary data for use: None

Costs/registration: No costs, facebook registration enables one to scroll indefinitely

Access: <https://www.facebook.com/groups/solarniklub>

5.4 My energy, my freedom

Applicability: Renewable energy communities

Brief description: The handbook for installation of small PV plants on private houses provides information on 10 steps on how to implement a PV plant on a house, a detailed description of the technical aspects of the implementation of such project and answers to common questions regarding PV plants installations.

Type of tool: Handbook

Regional applicability: Croatia

Complexity: Applicable without special prior knowledge

Project phase: The whole project cycle

Necessary data for use: None

Costs/registration: Available free of charge and without prior registration

Access: <https://bit.ly/brochurePV>

5.5 E.on solar calculator

Applicability: Renewable energy communities

Brief description: The tool for calculates the service of setting up a home solar power plant and estimates the solar potential. After all requested data is entered (see below), a non-binding offer with all the details arrives at the provided e-mail address.

Type of tool: Calculator

Regional applicability: Croatia

Complexity: Applicable without special prior knowledge

Project phase: The beginning of the project

Necessary data for use: Location, type of roof, roof area, type of roof covering, how many meters in total are on the building, average annual consumption etc.

Costs/registration: No

Access: <https://www.eon.hr/hr/kucanstva/solarni-kalkulator.html>

5.6 Energia naturalis solar calculator

Applicability: Renewable energy communities

Brief description: The calculator provides information on how much you can save by installing a solar power plant on your roof. After all requested data is entered (see below), a non-binding offer with all the details arrives at

the provided e-mail address. Also, in cooperation with a bank, they provide special credit terms to their solar power plant customers.

Type of tool: Calculator

Regional applicability: Croatia

Complexity: Applicable without special prior knowledge

Project phase: The beginning of the project

Necessary data for use: Location, average annual consumption etc.

Costs/registration: No

Access: <https://www.energianaturalis.hr/kalkulator>

5.7 Energy communities - where to start?

Applicability: (renewable) Energy communities

Brief description: Webinar held by a representative of Green Energy Cooperative where all the important steps and barriers were presented on the implementation and establishment of energy communities, along with the new legislative framework and benefits of joining such kind of collective actions.

Type of tool: Webinar

Regional applicability: Croatia

Complexity: Applicable without special prior knowledge

Project phase: The whole project cycle

Necessary data for use: None

Costs/registration: No

Access: <https://www.youtube.com/watch?v=PDrcFk4z6ho>

6 | Germany

6.1 Overview

Due to the delay in transposing the RED II directive into the national legislation, there is no tool on energy sharing or energy communities in existence. Tools and related topics like CO₂ emissions may, however, be useful for interested citizens and institutions.

Table 5 List of tools in Germany

Name of the tool	Tool type	Link
CO ₂ online StromCheck	Calculation tool	https://www.co2online.de/klima-schuetzen/
Klimaschutz-Planer	Calculation tool	https://www.klimaschutz-planer.de/
UBA Carbon Calculator	Calculation tool	https://uba.co2-rechner.de/de_DE/
WWF-Klimarechner	Calculation tool	https://www.wwf.de/themen-projekte/klima-energie/wwf-klimarechner
Online Wertschöpfungsrechner	Calculation tool	https://www.unendlich-viel-energie.de/wertschoepfungsrechner
Solarrechner	Calculation tool	https://www.sma.de/solarrechner.html
PV-Ertragsrechner	Calculation tool	https://www.solarserver.de/pv-anlage-online-berechnen/
Genossenschaften in Deutschland	Platform	https://gemeinsam-mobil.net/
Gemeinsam-mobil.net	Platform	https://gemeinsam-mobil.net/
Wärmewende	Platform	https://www.waermewende.de/
Regionale Wertschöpfung durch erneuerbare Energien	Information	https://www.energieagentur.rlp.de/fileadmin/user_upload/pdf/20171029_Exkursions-Handout_COP23_RHK_dt.pdf
Kommunale Wertschöpfung durch Klimaschutz	Information	https://mkuem.rlp.de/fileadmin/mulewf/Service/Veranstaltungschronik/pdf-Dateien/Weltklimaschutzkonferenz_in_Bonn_-_Klimaschutz_in_Kommunen/Kommunale_Wertschoepfung_durch_Klimaschutz_Uhle.pdf

6.2 CO₂online StromCheck

Applicability: Citizens

Brief description: With the tool, consumers and households can get an overview of the biggest sources and sectors of CO₂ emission. It includes three tools to calculate the personal consumption of electricity and heating and on modernisation measures for house owners. Subsequently, users get recommendations on how to improve their CO₂ footprint.

Type of tool: Calculation tool

Regional applicability: Germany

Complexity: Low complexity and illustrative explanations

Project phase: Entry-level tool to get a better understanding of the personal contribution to CO₂-emission

Necessary data for use: The calculator works with personal consumption estimates

Costs/registration: Free and no registration needed

Access: <https://www.co2online.de/klima-schuetzen/>

6.3 Klimaschutz-Planer

Applicability: Citizens

Brief description: Interactive tool and data collection about German municipalities' energy consumption and emission. Additional data and graphics are presented to inform the reader.

Type of tool: Calculation tool

Regional applicability: Germany

Complexity: Average, as the use of the data may require some knowledge

Project phase: Entry-level tool, can be used later in the project to show the progress of the own municipality

Necessary data for use: None

Costs/registration: Free and no registration needed

Access: <https://www.klimaschutz-planer.de/>

6.4 UBA Carbon Calculator

Applicability: Citizens

Brief description: The tool permits the user a calculation of their own CO₂-emissions and provides other options like future scenarios and a separated display of different sources of emissions.

Type of tool: Calculation tool

Regional applicability: in English and German

Complexity: Low

Project phase: Entry-level tool to get a better understanding of the personal contribution to CO₂-emissions

Necessary data for use: The calculator works with personal consumption estimates

Costs/registration: Free and no registration needed

Access:

- ▶ in German https://uba.co2-rechner.de/de_DE/
- ▶ in English https://uba.co2-rechner.de/en_GB/

6.5 WWF-Klimarechner

Applicability: Citizens

Brief description: The tool permits the user a calculation of their own CO₂-emissions, with very detailed questions on personal consumption.

Type of tool: Calculation tool

Regional applicability: Germany

Complexity: Low, but longer calculation survey compared to the UBA-calculator

Project phase: Entry-level tool to get a better understanding of the personal contribution to CO₂-emissions

Necessary data for use: The calculator works with personal consumption estimates

Costs/registration: Free and no registration needed

Access: <https://www.wwf.de/themen-projekte/klima-energie/wwf-klimarechner>

6.6 Online Wertschöpfungsrechner

Applicability: Citizens and renewable energy communities

Brief description: The tool calculates the added value in a municipality or community. It focuses on renewable energy, but also on economic aspects.

Type of tool: Calculation tool

Regional applicability: Germany

Complexity: Average but with a clear presentation to explain the process, difficult if municipality information is unknown

Project phase: Entry-level tool, can be used later in the project to show the progress of the own municipality

Necessary data for use: Data on the municipality and renewable energy production

Costs/registration: Registration is necessary to use the value-adding calculator and it is unclear if fees have to be payed

Access: <https://www.unendlich-viel-energie.de/wertschoepfungsrechner>

6.7 Solarrechner

Applicability: RES in general

Brief description: The calculation tool helps to determine the potential for solar energy of the house. Further calculations seem necessary, but the tool helps to get a general idea. The result shows if money can be saved by installing solar panels on the roof or not.

Type of tool: Calculation tool

Regional applicability: Germany

Complexity: Low

Project phase: Entry-level tool, when planning a solar energy project

Necessary data for use: Data on personal home

Costs/registration: Free and no registration needed

Access: <https://www.sma.de/solarrechner.html>

6.8 PV-Ertragsrechner

Applicability: RES in general

Brief description: The calculation tool helps to find out the potential for solar energy of the house. Further calculations seem necessary, but the tool helps to get a general idea. The result shows the energy generation in each month.

Type of tool: Calculation tool

Regional applicability: Germany

Complexity: Low, but additional knowledge is necessary to understand the results

Project phase: Entry-level tool, when planning a solar energy project

Necessary data for use: Data on personal home

Costs/registration: Free and no registration needed

Access: <https://www.solarserver.de/pv-anlage-online-berechnen/>

6.9 Genossenschaften in Deutschland

Applicability: Renewable energy communities and collective action

Brief description: The platform offers information material on cooperatives and energy cooperatives and gives detailed material on how to fund a cooperative, ideas and concepts, ongoing projects, consultation, news and more.

Type of tool: Platform

Regional applicability: Germany

Complexity: Low, as it offers the user an easy way to get an overview of this type of legal form.

Project phase: Entry-level phase to get an overview of cooperatives and possible projects

Necessary data for use: None

Costs/registration: Free and no registration needed

Access: <https://www.genossenschaften.de/>

6.10 gemeinsam-mobil.net

Applicability: Citizens and collective action

Brief description: The website gives all the necessary information if someone is interested in planning and implementing an electrical mobility project. It includes a tool that explains how to analyse, plan, implement and operate this type of project. Additionally, users find an overview on the concepts, existing projects, and the possibility to join the community and exchange ideas.

Type of tool: Platform

Regional applicability: Germany

Complexity: Low, as it offers the user an easy way to get an overview of this type of business model

Project phase: Entry-level phase to get an overview of cooperatives and possible mobility projects

Necessary data for use: None

Costs/registration: Free and no registration needed

Access: <https://gemeinsam-mobil.net/>

6.11 Wärmewende

Applicability: RES in general

Brief description: The website includes tools and information for people and municipalities interested in heating. Besides a calculation tool on heating consumption, it gives useful material on, technical explanations, energy efficiency measures and an overview of funding programs.

Type of tool: Platform

Regional applicability: Germany

Complexity: Generally low, but the website also includes technical topics that may be difficult to understand

Project phase: Entry-level phase to get a better understanding of heat consumption and possibilities to lower emissions and costs

Necessary data for use: None

Costs/registration: Free and no registration needed

Access: <https://www.waermewende.de/>

6.12 Regionale Wertschöpfung aus erneuerbaren Energien

Applicability: RES in general

Brief description: The document offers examples of regional value-added from renewable energy projects and the underlying financial and technical numbers that may be helpful to get a better understanding on the implementation of projects.

Type of tool: Information

Regional applicability: Germany

Complexity: Low and with good illustrations

Project phase: Entry-level phase to get an understanding of the project process

Necessary data for use: None

Costs/registration: Free and no registration needed

Access:

[https://www.energieagentur.rlp.de/fileadmin/user_upload/pdf/20171029_Exkursions-Handout COP23 RHK dt.pdf](https://www.energieagentur.rlp.de/fileadmin/user_upload/pdf/20171029_Exkursions-Handout_COP23_RHK_dt.pdf)

6.13 Kommunale Wertschöpfung durch Klimaschutz

Applicability: Citizens and collective action

Brief description: The document offers examples of regional value-added from renewable energy projects and the underlying financial and technical numbers that may be helpful to get a better understanding of the implementation of projects.

Type of tool: Information

Regional applicability: Germany

Complexity: Low but with some graphics that may be difficult to understand

Project phase: Entry-level phase to get an understanding of the project process

Necessary data for use: None

Costs/registration: Free and no registration needed

Access:

[https://mkuem.rlp.de/fileadmin/mulewf/Service/Veranstaltungschronik/pdf-](https://mkuem.rlp.de/fileadmin/mulewf/Service/Veranstaltungschronik/pdf-Dateien/Weltklimaschutzkonferenz_in_Bonn_-_Klimaschutz_in_Kommunen/Kommunale_Wertschoepfung_durch_Klimaschutz_Uhle.pdf)

[Dateien/Weltklimaschutzkonferenz in Bonn -](https://mkuem.rlp.de/fileadmin/mulewf/Service/Veranstaltungschronik/pdf-Dateien/Weltklimaschutzkonferenz_in_Bonn_-_Klimaschutz_in_Kommunen/Kommunale_Wertschoepfung_durch_Klimaschutz_Uhle.pdf)

[_Klimaschutz in Kommunen/Kommunale Wertschoepfung durch Klimaschutz Uhle.pdf](https://mkuem.rlp.de/fileadmin/mulewf/Service/Veranstaltungschronik/pdf-Dateien/Weltklimaschutzkonferenz_in_Bonn_-_Klimaschutz_in_Kommunen/Kommunale_Wertschoepfung_durch_Klimaschutz_Uhle.pdf)

7 | Georgia

7.1 Overview

Even though EMD and RED II regulations have not been transposed yet in Georgia, in general, the national legislation allows the establishment of collective actions/energy communities. However, the respective legal and regulatory frameworks are not solid and do not incentivise consumers.

Georgia became a full member of the European Energy Community in 2016. As a contracting party, Georgia has committed itself to transposing the third energy package and respective regulations according to its accession protocol to the Energy Community. Georgia's legal and regulatory framework is underdeveloped regarding energy communities and collective actions of self-consumers.

The Georgian primary and secondary legislation are based on the provisions of the Third Energy Package. Joint efforts of self-consumers using micro-generators up to 500 KW is feasible in Georgia as the Law on Energy and Water Supply and GNERC regulations contain respective rules and regulations.

Net metering regulation is the only mechanism used. Although it is not the most efficient and market-oriented mechanism, it provides a minimum framework for end-users to utilise the benefits of micro-generation monetary. It should be noted that the Energy Community Ministerial Council adopted the Clean Energy for all Europeans Package in late November 2021. Hence, EMD and RED II transposition is envisaged in the coming years.

Even though EMD and RED II regulations have not been transposed yet in Georgia, in general, the national legislation allows the establishment of collective actions/energy communities. However, as already mentioned, the respective legal and regulatory frameworks are not solid and do not incentivise consumers.

Considering all mentioned above, there are currently no tools available regarding energy communities. However, there is a need for platforms, tools, and guidelines for supporting energy communities to establish them and implement collective actions through this type of citizen engagement and activities/initiatives.

8 | Hungary

8.1 Overview

As the definition of energy communities is new and detailed rules of energy sharing are still missing, there are no special tools for energy communities available in Hungary. Following tools help plan collective actions.

Table 6 List of tools in Hungary

Name of the tool	Tool type	Link
HOW TO RENOVATE PUBLIC BUILDINGS TO NEARLY-ZERO ENERGY? Step by step guide	PDF tool	https://www.interreg-central.eu/Content.Node/DT232-16112020-HU.pdf
POWERFUND	Platform	https://www.powerfund.eu/hu
Renovation of buildings to near-zero energy levels with innovative financing methods - Decision support tool	Information tool	https://rb.gv/q84mre
Energy Neighbourhoods	Programme	https://energiakozossegek.hu/
Napelem árajánlat	Online quote request form	https://www.napelemajanlat.hu/
Árajánlatkérés napelemes rendszerekre	Online quote request form	https://www.mnnsz.hu/arajanlat-keres-napelemes-rendszerek/

8.2 How to renovate public buildings to nearly-zero energy? Step by step guide

Applicability: Collective actions in general

Brief description: The guide aims to help local authorities (mainly HU, SLO, HR) understand and implement the renovation process. It describes the main stages of the implementation of renovations, from project development, design, and construction to operation.

Type of tool: PDF tool

Regional applicability: Hungary

Complexity: Does not require specific knowledge, simple PDF tool short description.

Project phase: It can be used for the planning phase.

Necessary data for use: The tool does not need any data input and can be used directly.

Costs/registration: The tool is available free of charge and without prior registration.

Access: <https://www.interreg-central.eu/Content.Node/DT232-16112020-HU.pdf>

8.3 PowerFund (in HU)

Applicability: Collective actions in general

Brief description: PowerFund is a web-based tool to help energy poor citizens across Europe identify and learn about collective innovative actions to tackle energy poverty and take direct action. The tool provides the users with an online marketplace for collective energy Initiatives, such as energy communities and cooperatives, as

well as an open space where to learn about innovative financial instruments like crowdfunding, and how to use the potential of collective finance to overcome the economic and financial barriers hindering energy poor citizens from taking part in the energy transition.

Type of tool: Platform

Regional applicability: Hungary

Complexity: Does not require specific knowledge

Project phase: Can be used for the planning phase

Necessary data for use: Does not need any data input and can be used directly

Costs/registration: The tool is available free of charge and without prior registration.

Access: <https://www.powerfund.eu/hu>

8.4 Renovation of buildings to near-zero energy levels with innovative financing methods - Decision support tool

Applicability: Collective actions in general

Brief description: It provides information on the renovation of near-zero energy buildings through innovative financing methods such as public-private partnerships (PPPs), energy performance contracts (EPCs) and community financing (CF). The tool includes a decision tree for innovative financing schemes and good international examples.

Type of tool: information tool (PDF)

Regional applicability: Hungary

Complexity: Does not require specific knowledge

Project phase: It can be used for the planning phase

Necessary data for use: The tool does not need any data input and can be used directly.

Costs/registration: The tool is available free of charge and without prior registration.

Access: <https://rb.gy/q84mre>

8.5 Energy Neighbourhoods

Applicability: Collective actions of households

Brief description: The programme organised by EON and GreenDependent Institution is a community competition where communities of families/households across the country compete to see who can save more (minimum 9%) energy in their homes. The Energy Communities programme and its specific methodology are characterised by: helping to clarify the link between climate change and everyday life; helping to save energy without reducing the quality of life; helps to providing programme participants with information and guidance on what they can do in their own homes to save energy without investing; participants work with other families to support and empower each other to achieve sustainable lifestyles, with expert support and advice.

Type of tool: Community program (has been running for a couple of years, we don't know how long it will continue)

Regional applicability: Hungary

Complexity: It needs engaged consumers

Project phase: Implementation phase

Necessary data for use: Data of the participating households

Costs/registration: The tool is available free of charge. Annual registration is needed in autumn

Access: <https://energiakozossegek.hu/>

8.6 Napelem árajánlat

Applicability: Collective actions in general

Brief description: One can receive PV installation offers easily, from all over Hungary, at the push of a button. It is available for companies, private persons, and public institutions, too. The tool was developed by a private company with special financing offers also available through the website.

Type of tool: Online offer request form

Regional applicability: Hungary

Complexity: Simple, some technical data is needed

Project phase: Planning phase

Necessary data for use: Data of the building: orientation and shading of the roof; annual consumption

Costs/registration: Free of charge

Access: <https://www.napelemajanlat.hu/>

8.7 Árajánlat kérés

Applicability: Collective actions in general

Brief description: Request a solar panel offer from one of the 300 member companies of MNNSZ by filling in the form. By filling in the form, the best solar quotes will be available from 300 member companies of the Hungarian PV and Solar Collector Association (MNNSZ), free of charge and without obligation. Offer requests will be sent simultaneously to the member companies, who will send their best technical solution proposals and quotes shortly. Requests can be specified by scale and work phase.

Type of tool: Online offer request form

Regional applicability: Hungary

Complexity: Simple, some technical data is needed

Project phase: Planning phase

Necessary data for use: Data of the building: orientation and shading of the roof; annual consumption

Costs/registration: Free of charge request form (no registration)

Access: <https://www.mnnsz.hu/arajanlat-keres-napelemes-rendszerek/>

9 | Conclusions

The goal of the conducted tool analysis was to get an overview of the existing supporting instruments and identify the most effective platforms and tools supporting energy communities available. This was one of the main prerequisites for the successful development of the SHAREs Gateway. It is also a necessity to elaborate adequate and country-specific implementation toolkits for local heroes that provide them the technical and organisational capacity to set up their own energy community with a tailored communication campaign.

The process of gathering and analysing the available data relevant for collective energy actions, consisted of two main activities. Within the first activity, a list of the available international tools and platforms that have been classified as relevant was compiled. Upon the completion of the list of international tools, pilot countries had the opportunity to investigate their current situation and availability of national tools and platforms. The results from both activities have been summarised in this report.

Within the first step, information on a total of 113 international tools was collected. 11 of the identified tools were rated as not relevant for the Gateway development. Out of the 102 remaining tools, 55 % of them were supportive tools, while 45 % were informative tools.

During the tool collection phase, it was concluded that there is currently a bigger range of different supporting tools already available in the economic & business model sector, while many tools/guidelines do not have a suitable form for local heroes. Some tools are too comprehensive or not user friendly, some are only available in a foreign language, and some do not have free access. Tools are also commonly dispersed across different platforms and there is no “one-size-fits-all” place available for collective energy actions in any of the target countries.

Consumer engagement has been identified as least targeted and most challenging segment. Many of the tools identified here are intended for commercial use and do not directly deal with collective actions.

Finally, after more in-depth research, 38 tools and platforms on the international level were selected as most relevant for energy communities/collective actions in development. Most of the collected tools are different reports (10), while in smaller numbers there are guidelines (2), surveys and questionnaires (4), Excel tools and calculators (4), EC management tools (2), platforms (2) etc.

Regarding the national tools, 39 were identified in total – Austria 13, Bulgaria 2, Croatia 6, Germany 12, and Hungary 6, while no suitable tools have been found in Georgia. In most of the pilot countries the transposition of EU *acquis* was delayed and there are still barriers hindering the implementation of projects related to energy communities and collective actions. This is likely to be the main reason why those countries do not have many tools available regarding energy communities.

Through this extensive task of tool identification and analysis, it was clearly shown that there is a significant need for supporting tools and platforms which are suitable for building and implementing collective actions. Most of the tools identified on a national level were calculators (15), then information tools (5), platforms (8), handbooks/guidelines (2) and other tools (5) such as programmes, webinars, templates and similar. Thus, there is a need to develop easy-to-find and easy-to-use online tools and information points which serve the purpose of supporting collective energy actions. Those tools should be applicable and available to both those who are just starting and need step-by-step guides on how to set up an CEC, REC, cooperative or other form of collective action, as well as to those who already have a successfully running collective energy action and wish to expand.

Therefore, the development of the SHAREs Gateway will be set up in a manner to provide those unique and much needed online support mechanisms tailored to the specific national needs.

An inventory of all selected relevant tools and platforms, which includes detailed information on each one, will thus serve as the basis for the further work of WP 5 within the SHAREs project and for the development of the SHAREs Gateway.

This extensive analysis conducted will also provide inspiration for the possible development of new tools on the national level, as well as know-how transfer and exchange of experiences and awareness raising among all included stakeholders.

Any missing tools and knowledge gaps will be identified and presented in a separate report (D 4.2 Report on defined gaps in the inventory on relevant tools and platforms) which will be examined closely in WP 5.

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