

D.2.2 Factsheet on existing services and their features



**Co-funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them. Project number: 101120622

Copyright message This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both. Reproduction is authorised provided the source is acknowledged.

Disclaimer Any dissemination of results reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains. [OBJ]

Deliverable Information Sheet

Grant Agreement Number	101120622
Project Acronym	DISCOVER
Project Title	Developing Integrated Services for COmmunity energy to accelerate Valid Energy tRansition
Project Call	LIFE-2022-CET
Project Duration	36 months
Deliverable Number	D2.1
Deliverable Title	Report on existing support initiatives
Deliverable Dissemination Level	PU
Work Package	2
Lead Partner	AGENA
Authors	Claudia Magri and Danilo Di Pietro
Contributing Partners	Ilaria BAGLIVI, Emanuela DANE, Cveta DIMITROVA, Franz KOBERG, Charles LEMONNIER, Damir MEDVED, Davorka MEDVED, Marina VARVESI
Delivery Date	14th June 2024

Table of contents

Deliverable Information Sheet	3
List of Abbreviation and Acronym	5
1 Introduction: DISCOVER Project.....	6
1.1 Overview.....	6
1.2 “WP2 – Setup of Community Energy Project framework/ guidebook” activities	6
2 Overview of the document.....	7
2.1 Structure of the document	8
3 Background	8
4 Methodology.....	9
5 Sources of information	10
6 Overview of selected services.....	11
6.1 Services and main findings across EU	11
6.2 Services and main findings in Italy.....	17
6.3 Services and main findings in France	26
6.4 Services and main findings in Croatia.....	31
6.5 Services and main findings in Austria	37
6.6 Services and main findings in Bulgaria.....	43
7 Comparative assessment.....	50
7.1 Delivery organisation	50
7.2 Geographic coverage	51
7.3 Target users	53
7.4 Type of service.....	54
7.5 Customisation.....	59
7.6 User friendliness.....	60
7.7 Tunability	61
7.8 Accessibility of the service.....	63
7.9 Licensing cost.....	64
8 Conclusions.....	65
Annex 1 - Factsheet of services per partner	70
Annex 2 – Services and main findings in each partner Country in PP language	70

List of Abbreviation and Acronym

Abbreviation	Meanining
CEPs	Community Energy Projects
RECs.	Renewable Energy Communities
CSC	Collective Self-Consumption
OSS	One stop shop
DSO	Distribution System Operators
PV	Photovoltaic
NPV	Net Present Value
IRR	Internal Rate of Return
WACC	Weighted Average Cost of Capital
CACER	Self-consumption Configurations for Renewable Energy Sharing
D2.X	Deliverable 2.X (X can mean n.1, n. 2 and so on)

1 Introduction: DISCOVER Project

1.1 Overview

DISCOVER is an innovative LIFE project with the strategic aim to support the transition to a renewable energy-driven society. By fostering Community Energy Projects (CEPs), DISCOVER will empower stakeholders and citizens and mobilize significant investments in renewable energy generation in pilot regions across Europe. DISCOVER will catalyse the launch of CEPs in 5 diverse European regions respectively in Austria, Bulgaria, Croatia, France and Italy. Local hubs will be set up to pilot innovative support mechanisms for CEPs. The hubs will deliver guidance and practical services on the technical, economic, financial and legal aspects and will help connecting CEPs to local service and technology providers. The services will cover all developmental stages of CEPs, accompanying them throughout their entire lifecycle.

Taking into account the diverse socio-geographical-legislative and market maturity levels across these 5 pilot regions, DISCOVER will follow a regionally specific approach with four local service hubs. On top of that, an interactive online tool will be designed to provide extensive support to local communities embarking on Renewable Energy Projects.

DISCOVER aims to simplify decision-making processes and reduce operational barriers by connecting projects with local service/technology providers and relevant authorities.

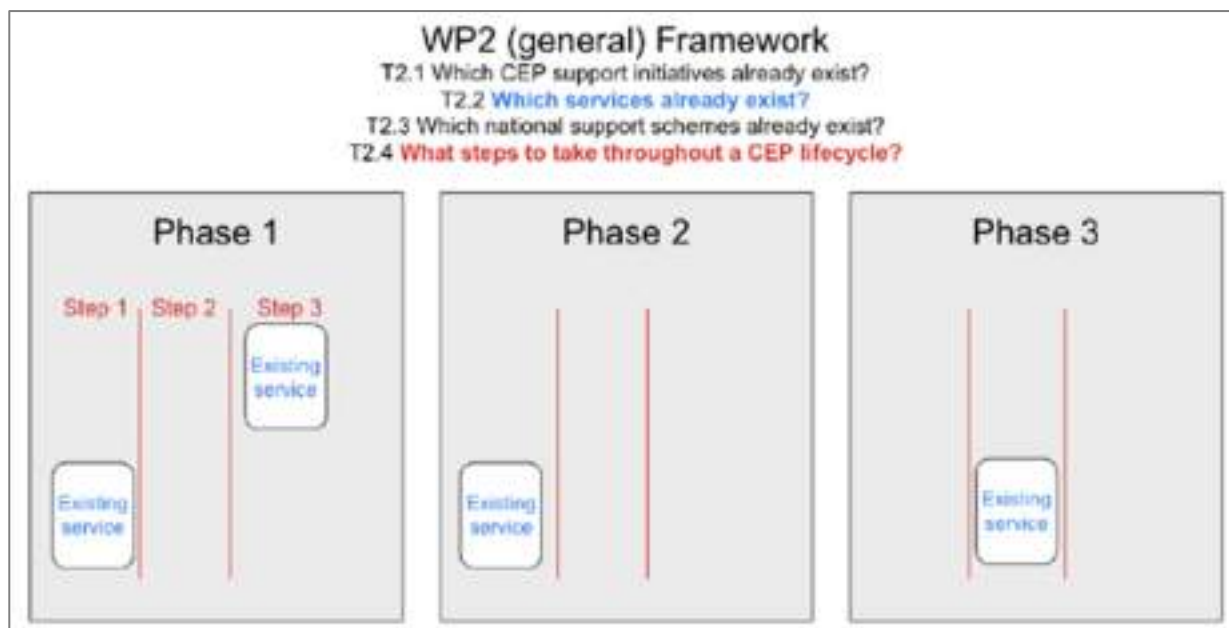
During the 3 years timeframe (2023 – 2026), DISCOVER is expected to reach more than 20,000 citizens, support 20 new initiatives (focusing on community PV installation), and trigger a total investment of more than 7.7 million of euros. The project will promote and facilitate the recreation of future service hubs in other regions to ensure replication across other European regions.

The DISCOVER consortium stands as a collaborative force spanning over five European countries, each committed to driving the vision of CEPs within their respective region. The consortium comprises active national / regional leaders in the CEP initiatives, well-connected to citizens, local authorities, and stakeholders.

1.2 “WP2 – Setup of Community Energy Project framework/ guidebook” activities

Work package 2 lays the foundation of the DISCOVER project, which starts with desktop research focusing on existing support initiatives and services addressing CEPs. As the outcome of this research the potential for synergies with existing initiatives is evaluated to make best use of existing support services and schemes. Furthermore, as the basis for the WP3 (Preparation phase of CEP services) & WP4 (Implementation of support services in service hubs/OSS in pilot region), the CEP framework/guidebook is elaborated. It is a step-by-step manual for realizing a CEP. It will be used by the service hubs in each pilot region and bundles all support services. The guidebook outlines the

life-cycle of a CEP and describes all the steps required to realize a CEP. The guidebook links each step to existing support services.



2 Overview of the document

The following report has been developed as part of WP2, Task 2.2. “Identification and evaluation of existing services at European, National and Regional level”. In particular, the primary objective of this task is to identify existing services which can be used for the project and its targeted type of CEPs (primarily PV/solar projects).

DISCOVER is dedicated to kickstarting energy community projects and fostering an investment pipeline in renewable energy generation. For this reason, DISCOVER is going to develop a guidebook, which also aims to list existing support services tailored to implement CEPs. Thanks to this, some projects may evolve into energy communities, they will benefit from support services specifically geared towards energy communities. Furthermore, certain CEPs will benefit from services specifically designed for photovoltaic (PV) plants.

The output of this document is a selection of existing support services covering various scopes of application, along with a documentation that summarizes the features and limitations for each service individually, as well as a benchmark among services found by each partner. Existing services and tools may encompass various aspects, including:

- Generation, supply, consumption and sharing, distribution of electric energy
- energy services, such as energy efficiency, energy storage and smart grid integration)
- energy monitoring
- financial services
- other activities, such as consultation services, information and awareness raising campaigns, energy poverty measures)

The research was conducted through desktop analysis, starting with the initiatives identified in D2.1 “Report on existing CEPs supporting initiatives”. Additionally, when deemed necessary, further investigations were carried out via e-mail, web meetings, or face to face discussions.

Evaluation of existing services and tools includes testing them to verify their suitability for integration into the DISCOVER guidebook. Among others, licensing costs, tunability and usability are investigated.

A factsheet for each existing service has been compiled, comprising 41 services (5 at EU level and 36 at national level), all of which can assist CEPs at various stages of development.

These factsheets are not intended to be exhaustive and don't constitute a qualitative evaluation or endorsement of all existing services. Their primary aim is to illustrate various categories of services and match them with needs and challenges faced by CEPs.

2.1 Structure of the document

The following part of the document is structured into these sections:

1. Background
2. Methodology
3. Sources of information
4. Overview of selected services
5. Comparative assessment
6. Conclusions
7. Annexes

3 Background

The green transition of the energy sector requires the engagement of citizens, municipalities, small companies and other small entities. Despite being small end-consumers, they play a significant role in the energy system due to their sheer number. Organizing them as energy communities, results in decentralized electricity generation, increased awareness for energy usage and ultimately independence from fossil fuels. However, energy communities, and other initiatives on a local level are still in an early stage in most project partners Countries.

Establishing community structures and associated infrastructure brings forth numerous hurdles, which complicate the realization of Community Energy Projects, such as lack of contextualized information, lack of knowledge, lack of advice for complex decisions, lack of tools, lack of guidance through project lifecycle and lack of a regional partner and technology provider network.

4 Methodology

The DISCOVER consortium screens existing CEP support services and tools across Europe which address these hurdles. They are bundled in the DISCOVER guidebook to make them accessible to CEPs in the DISCOVER pilot regions. To facilitate the collection of existing services and enable easy comparisons, AGENA has designed an Excel sheet with a user friendly interface. This allows partners to input data in a standardised manner while also providing the option for a specific description of each service.

The information to be gathered throughout the research include:

- Name of the service: Specify a short descriptive title for the service
- Delivery organisation: Specify the body responsible for the initiative (multiple selection possible) from the following: Public, private, third sector, local energy agency, NGO, other to be specified
- Geographic coverage: Select the most relevant area for the service from the following: Municipal, Provincial, Regional, National, Inter Member States, EU-wide
- Target users: Select all the relevant users to whom the service addresses (multiple selection possible) from the following: local authorities, SMEs, ESCOs, NGO, citizens, industry, other to be specified
- Type of service: Select the most relevant type of services (multiple selection possible) from the following:
 - Information material, guidance/manuals/guidebooks
 - Personal consulting, guidance and support
 - Technological screening, Product testing
 - Stand-alone Calculation tool (economical, technical, etc.)
 - Networking service, List/Directory (of Professionals, ...)
 - Policy Advocacy
 - Mediation service
 - Training
 - HW solutions, SW solutions
 - Representing the interests of a group
- The service can address one or all stages of a CEP's lifecycle: development, execution and operation
- Extra info: Specify the nature of the service, its scope and any information which could provide a relatively good understanding of the service
- Customisation: Select the level of customisation from the following list - ready to be used as is, ready soon, needs tuning
- User friendliness: Specify the ease of use of the service from the following: user-friendly, not user -friendly, other to be specified
- Shortcomings and limitations of the service: Specify the main weaknesses and disadvantages of the service

Tunability: Select from the following - easy to adjust, hard to adjust, not tuneable at all, not needed

Accessibility of the service: Select from the following - free, sign-up account, paywall, other

Licensing cost: Select from the following - open source, free demo, flat rate fee, service fee, subscription

Describe the cost or fees for the service

Contacts: Provide contact of the person in charge of the service, if any

5 Sources of information

The research was conducted through desktop analysis, initially examining the websites of initiatives selected in Task 2.1 (including both EU projects and country-specific projects). Subsequently, existing services independent from initiatives but pertaining to the same topic were also explored.

Examples of EU initiatives included in the research are COMANAGE, BECKON, LifeLOOP, SUN4U and from the main initiative launched by the EU Commission namely “Energy Communities Repository”.

Examples for country specific initiatives are “Energy Communities and collective self-consumption”, “Synergies: development of energy communities on a social scale” and “Support for the development of renewable energy communities in Emilia Romagna Region” in Italy.

In France, the listed services in D2.2 are not associated with the support initiatives listed in D2.1 (except one service operated by ADEME), which are more global initiatives of support for PV projects (such as Energie Partagée or Enercoop), or more general initiatives in favour of the energy transition (such as Amorce or Ademe), than the services listed in D2.2 which are more specific.

In Austria, the listed services in D2.2 are not associated with the support initiatives listed in D2.1, which are either not available yet or still need to be tuned. Instead, for D2.2 the focus was on services which already exist and are well established and publicly available.

In Croatia, the listed services in D2.2 are not directly associated with the support initiatives listed in D2.1. Proposed services are international and where already existing / well developed tools which are publicly available.

In Bulgaria the services are not associated in the support initiatives, shown in D2.1 as they do not target specifically the developing of CEPs or CECs. They reflect the current situation of providing services to individuals or business entities by the State as the financial support for the Green transition is operationalised through the Plan for Recovery and Sustainability. Furthermore, commercial companies that provide services often regard them as marketing strategy for attracting customers to their core businesses, and tend to encourage visitors to sign-up for a paid contractual relationship in order to be eligible for further consultancy & assistance.

6 Overview of selected services

In the following paragraphs the overview of selected services in each Country is provided. The descriptions of the features of the services are complementary to the information available in Annex 1.

6.1 Services and main findings across EU

Five services have been identified across Europe by AISFOR.

The service type is different from one to each other and include:

- COMANAGE Open Platform (COP) | COMANAGE
- BECKON all-in-one- Platform | BECKON
- SUN4U app | Sun4U together with the SUN 4AII
- LifeLOOP Accreditation scheme | LIFELOOP
- Energy Community Repository

The **COP** is a flexible and adaptable set of tools, supporting mechanisms and integrated services to facilitate sustainability and growth in renewable energy communities.



The first tool is the **Energy Community Governance Toolkit (ECGT)**. It is a comprehensive resource which is based on the inputs received thanks to the participatory process and divided into five strategic components: legal, social, communication, technical and financial tools. At the moment part of these tools have been implemented, such as the legal one, while the others are on an ongoing stage.

The second tool provided by the COP is the **COMANAGE e-learning platform**, called “COMANAGE Academy”, which is an open-source Moodle platform. It is composed by a common departing point provided in English which each pilot has implemented with a national tailored part concerning themes such as the legal and financial ones. The multilingual course is divided into 5 modules:

1. Introduction to Energy Communities,
2. Technical Tools,
3. Business Models and Financial Tools,
4. Legal and Administrative Tools,
5. Participation and Dissemination Tools.

At the end of the course, a certificate will be delivered to those who achieve a minimum score for each module. This tool will be launched from each pilot in different moments, starting from June.

The third tool is the **Decision Support System**. It is an important tool for supporting replicators and all interested stakeholders in identifying and interpreting the most useful information/tools/tricks for the management of energy communities. The DSS is an AI-based system which is able to analyse a set of documents and extract useful information for decision-making processes. It will automatically process the documents to train the automatic response system. The tool will be available within May.

Fourth tool is the **Digital Hub**, which consists of an Online and virtual space to allow the exchange of information and practices, mutual learning, discussion and debates. Regarding this last one, it is not clear whether it is going to see the light or not, as it is not a priority for some partners.

BECKON all-in-one- Platform



GUIDANCE HUB: This hub guides stakeholders through essential materials to kickstart your project. In here you can find the Energy-Community Roadmap, which is a step-by-step storyline framework, guiding stakeholders through four key stages of an Energy Community Initiative: Initiation, Design, Implementation and Operation.



The step 1 (initiation) consists of the following three sources: FAQ, existing EC to be inspired from, a template to fill which is supposed to help you with collecting your EC ideas.

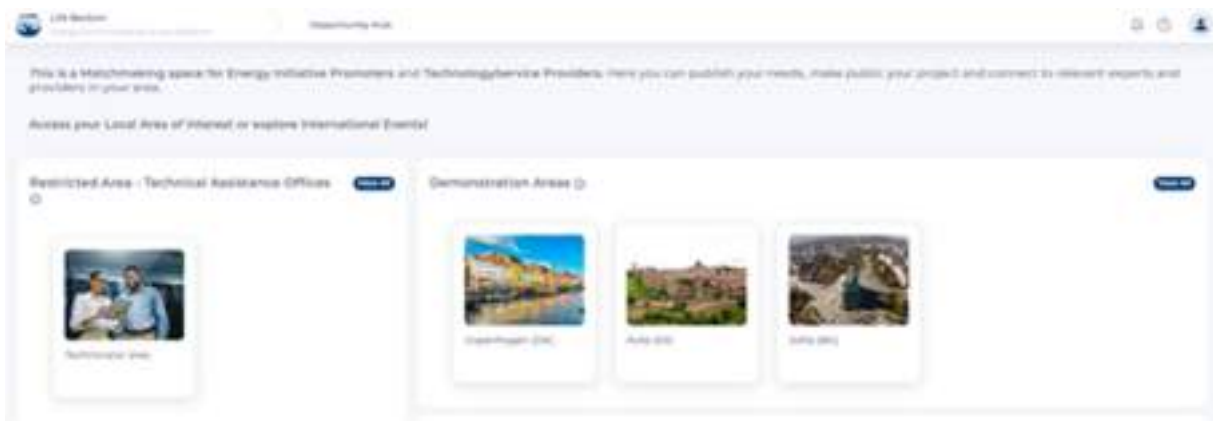
The step 2 (Design) aims to define a clear and detailed business plan for the Energy Community, describing in detail all the most relevant elements. The provided tools include: tools for active collaboration, Business Plan template, Examples of Business Plans and Business Plan support material.

The step 3 (implementation) and the step 4 (Operation) are not ready yet.

TRAINING HUB includes diverse range of resources: thematic videos (already available in 8 languages' subtitles, suitable for increasing the number of languages though), interactive webinars, guided exploration journeys (templates to fill such as swot analysis, stakeholder mapping...), the community's forum and newsfeed. In addition to this, upcoming soon is the LIFE-BECKON Cookbook too, which consists of a curated selection of tools and methods tailored to support the journey through the five-step phases of initiation, technical design, legal design, setup and implementation, and monitoring and reporting.



OPPORTUNITY HUB: Here it is possible to share your needs, make public your project and connect to relevant experts and providers in your area. Also, after having filled the “onboarding form”, you will have access to your Local Area of interest and you can explore international events.



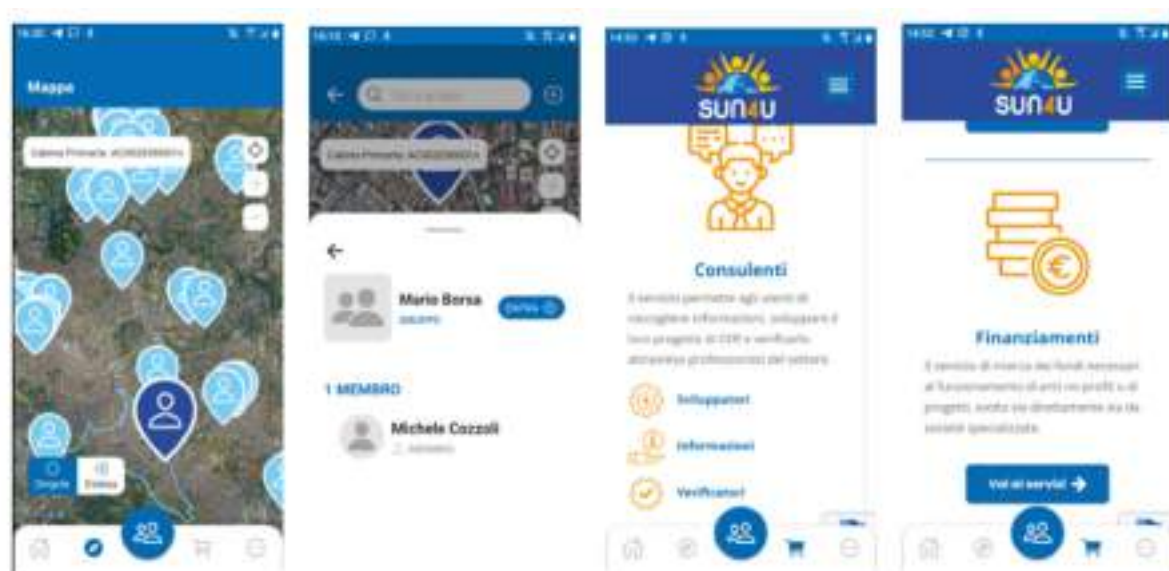
LifeLOOP Accreditation Scheme



The tool is open to all municipalities who want to show their commitment to empower and speed up the creation of or partnership with energy communities in its area, no matter what stage they are. To join this programme, the municipality first needs to sign the Charter, then, after the LifeLOOP team has registered the municipality in the scheme, a team of civil servants starts completing all the expected tasks. First task is the [self-assessment tracker](#), which aims to understand how much of a community energy supporter the municipality is and what is missing. Then, **encouraging in-house**

capacity-building, i.e. providing staff time to develop new skills and knowledge through the self-paced online [Community Energy Espresso course](#). Lastly, the [asset match-making tool](#) will link up with new or existing energy communities in the area to maximise local benefits.

SUN FOR U



SUN FOR U is a digital platform that aims to simplify and accelerate the setting up of RECs by providing several services and tools. However, Its main aim is to provide to users both a network of other people interested in creating a REC too and a capacity network, which can support the setting up of your community. It gives you the possibility to calculate the energy potential of the roof, find other nearby users, create your RECs group, simulate your best REC model and register your REC in the “marketplace”. This last one is a very interesting area: after you have registered to this section, you can find several services divided in competence field, finance field and manager field. You can be put into contact with consultants and sustainable energy designers, you can find the energy contracts and financial programmes that suit your community the best and many other services. Unfortunately, at the moment the app language is mainly Italian, but that’s due to the early-stage development of the tool.

ENERGY COMMUNITY REPOSITORY

This website collects the main tools for EC: it is possible to find the complete toolbox and also decide to share own experience with other communities [here](#).

One of these is a [short guide for energy communities](#). The purpose of this interactive document is to illustrate different categories of digital solutions which respond to some of the needs and challenges expressed by energy communities to the Energy Communities Repository. Each tool is accessible from the guide thank to links.



In the summary, we can find digital “tools for internal management and communication”, “digital tool for operation” and “list of digital tools produced by EU projects”. The first chapter includes two guides that feature a collection of digital tools for the internal, communications and IT management of energy communities:

- The Participation Toolkit: Digital tools
- IT- and communication tools for energy communities.

The second chapter is about Digital tools for operations. An example of the tools is [EnergyID](#), which offers aggregated data-insights to improve collective self-consumption and self-sufficiency as well as to investigate options for energy sharing.

The last chapter lists digital tools produced by EU projects: it is focused on Consumption monitoring & production forecasting tools, providing links to them too.

6.2 Services and main findings in Italy

Seven services have been identified in Italy by AGENA.

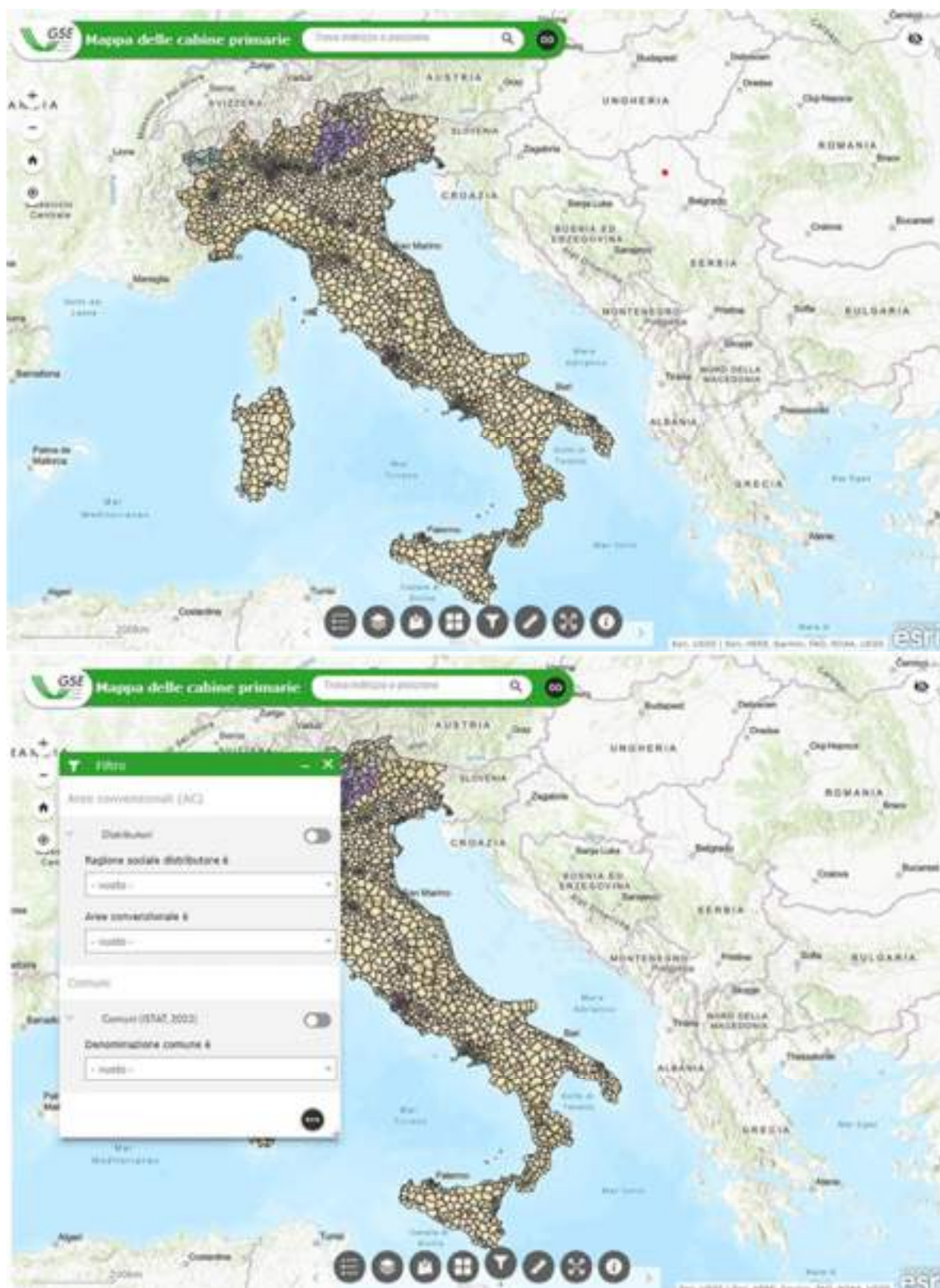
These services are of different types and they include:

- The interactive map of the primary substations
- RECON - Renewable Energy Community ecONomic simulator
- Simulator for technical-economic assessment of PV systems for self-consumption groups or energy communities by GSE (the National Manager of Energy Services)
- DHOMUS - Data HOMes and Users
- Energy Community HelpDesk for Emilia Romagna Region
- ROSE Energy Community Platform
- Info package on RECs

They support users during the different phases of CEPs lifetime. Services are:

- functional tools (as the interactive map of primary substations)
- simulators like RECON and simulator for technical-economic assessment of PV systems for self-consumption groups or energy communities by GSE (the National Manager of Energy Services)
- information material/manual/guidebooks (helpdesk of Emilia Romagna region and info package)
- RECs management platform and domestic energy consumption management

In particular, the online tool, namely **the interactive map of the primary substations**, has been launched in September 2023 by GSE to help developers of energy communities to identify grid connection area of the same primary electrical substation. In Italy there are 2107 primary substations in total. The service is provided thanks to the collaboration with the Distribution System Operators (DSO) and it's updated every 2 years. The tool is important because everyone can have autonomous access to useful information, including the unique area code, the reference distributor, the municipal boundaries and the list of municipalities that insist under the same conventional area, good at promoting the development and dissemination of RECs. This means that the interactive map of all the primary substations helps citizens identify an appropriate geographical area in which to establish a community sharing initiative.



The simulator for technical-economic assessment of PV systems for self-consumption groups or energy communities by GSE is a tool which supports preliminary energy, economic and financial assessments for the creation of RECs and collective self-consumption. First, the user enters the address of the condominium or

building (in the case of self-consumption groups in residential or even commercial and industrial) or the address of the area where it is intended to build the plant subservient to multiple users (in the case of energy communities). At this point, by entering the annual energy consumption and the available surface for the panels, the simulator will calculate the size of PV systems, the investment and the payback time.

It is also possible to customize the simulation with information on the type of surfaces available and the number and type of end customers, on the methods of financing the intervention or tax advantage that you intend to exploit.

In addition to this, the Self-consumption Portal has also been expanded with new Information Guides, FAQs and features to have more information on the possibilities provided by the legislation and practical guidance on the launch of CEPs.

Both the tools have been identified from D2.1 on existing CEPs supporting initiative.



RECON – Renewable Energy Community ecONomic simulator version 2.0 is a tool released by ENEA (Italian National Agency for New Technologies, Energy and Sustainable Development). It's a web application that performs preliminary energy, economic and financial assessments with the goal to promote the creation of renewable energy communities (REC) and jointly acting renewables self-consumers (CSC).

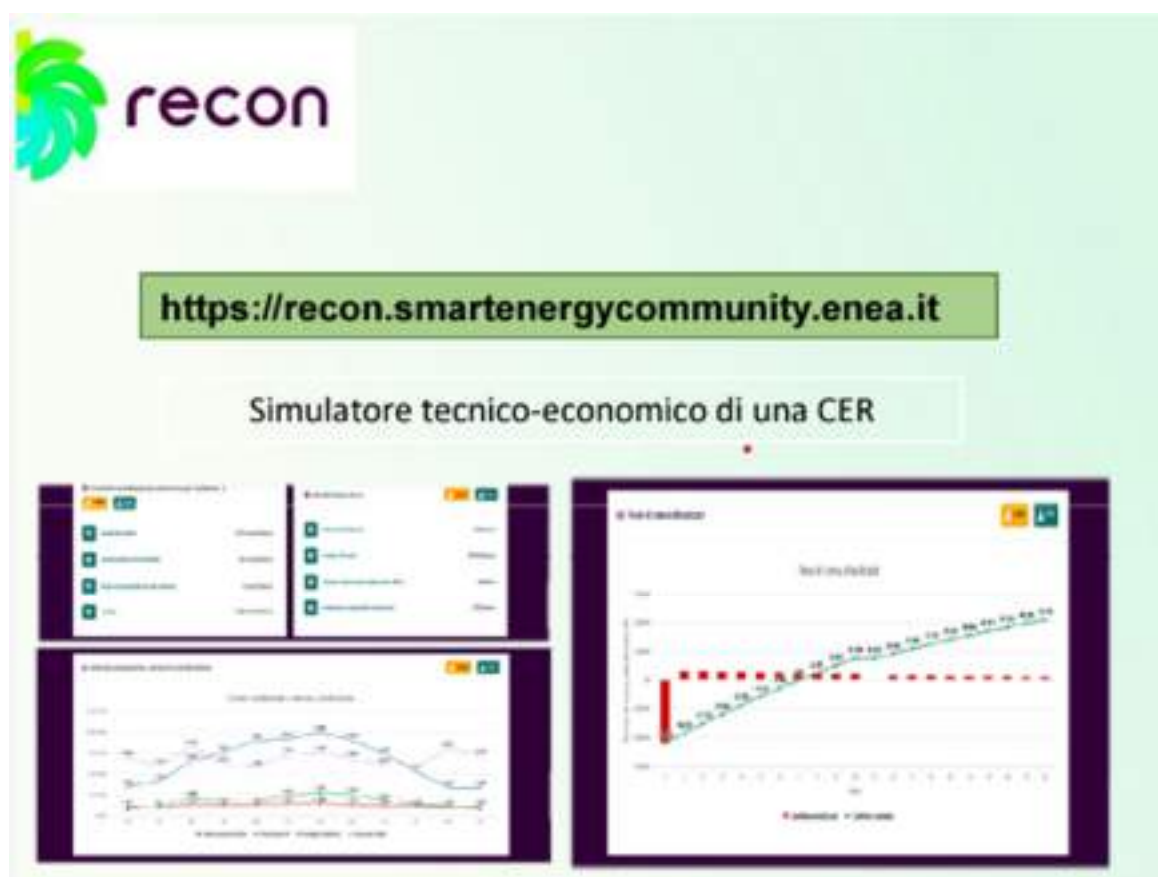
RECON can provide a valid support to local authorities and stakeholders to make conscious and informed choices and encourage citizens' involvement in the energy transition, in line with the European Union goals.

RECON 2.0 gives the possibility to analyse REC and CSC composed of an indefinite number of consumers, prosumers, and producers and can simulate different consumption profiles (i.e., residential, condominium, office, school, commercial, industrial). Electricity withdrawals can be provided on a monthly or annual basis, depending on data availability, and consumption of individual prosumers is calculated by the simulator basing on the contribution of onsite self-consumption.

The economic and financial analyses are carried out at the level of the individual production plant, considering different forms of financing: operating rental, leasing, purchase with equity and/or debt capital, capital grants (including the NRRP grant

dedicated to REC and CSS with RES power plants in small municipalities) and tax deductions.

RECON calculates physical and widespread self-consumption, energy self-sufficiency, environmental benefits in terms of reduction of CO₂ emissions, savings linked to onsite self-consumption, revenues from energy sales, the incentive, and the Authority ARERA contribution that valorises widespread self-consumption, O&M costs, discounted cash flows and the main financial indicators (NPV, IRR, WACC, payback time).

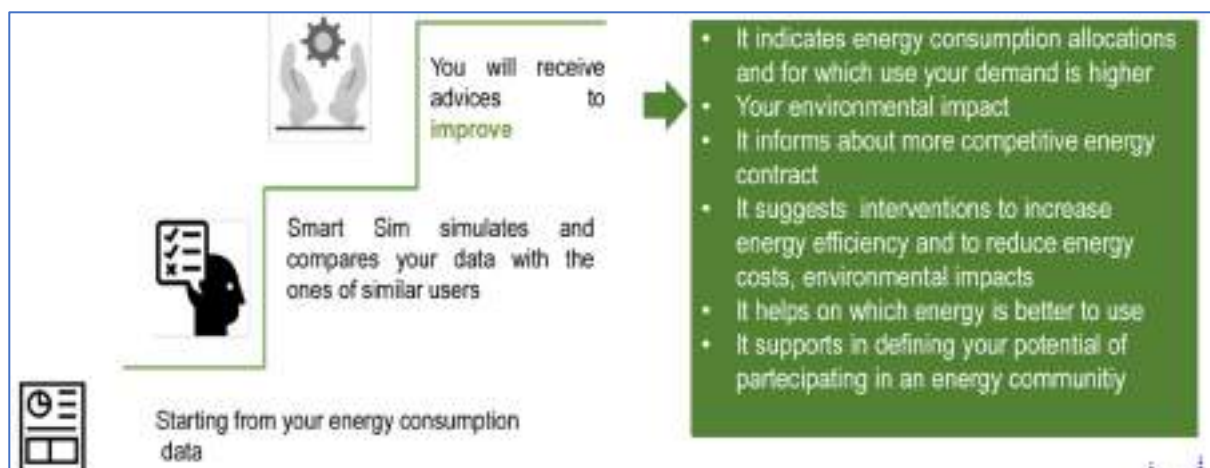


Another service is the **DHOMUS IoT platform**, developed by ENEA. It is dedicated to residential users for smart home applications and suggests the most appropriate behaviours to save energy based on the monitored consumption in residential homes. The users are the fulcrum of the platform: the ones equipped with smart devices and the simple consumers.

The main objective of DHOMUS is to make users aware of their energy data, to let them understand how much energy they consume and why, to support reduction of both consumption and costs, thereby contributing to decrease their impact on the environment, to increase energy awareness, and to transform residential users into active subjects that contribute to the stability of the grid.



For a generic user, the “smart sim” is a tool for energy self-assessment and benchmarking of residential users.



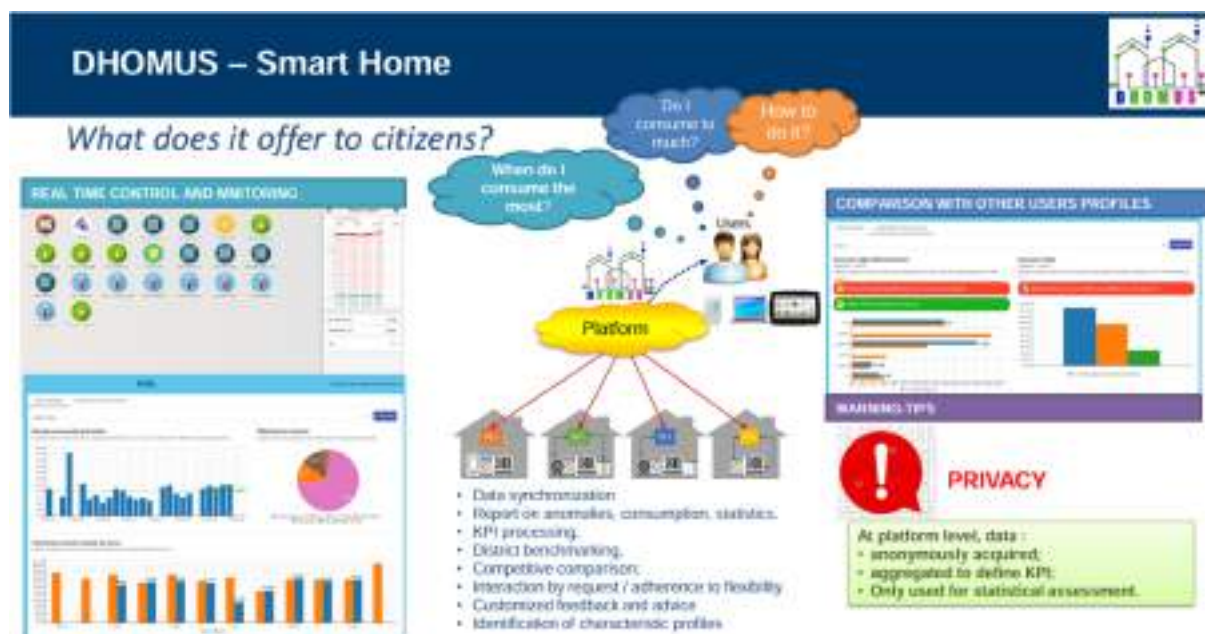


Two are the offered services:

- SMART SIM is dedicated to the general consumer who pays bills and wants tips to save energy and reduce costs;
- SMART HOME is dedicated to enabled users equipped with devices to monitor consumptions. Data are collected and processed to provide suggestions that improve their energy profile.

The monitored data at the household level are transmitted in real-time and anonymously to the platform, where they are collected and processed to calculate energy performance indicators for individual homes, the KPIs (Key Performance Indicators), and where benchmarking of monitored consumption profiles is carried out by comparing both reference profiles and those of network users. From the comparison of performances, a series of educational feedback is generated for the users to guide them towards a more conscious use of energy.

The platform is also able to acquire and process signals from the energy market and identify opportunities for managing the flexibility of the energy demand of users. In particular, within the energy communities, can help to achieve the goal of maximizing energy consumption and energy self-sufficiency, in fact, thanks to the interaction with the user, it allows managing and implementing demand response scenarios by sending requests to the individual user to modify his consumption profile, which consequently can be remunerated.



The energy community helpdesk of Emilia Romagna Region provides online and in person question and supporting guidebooks such as “Introduction to Energy Sharing Models” and “Main legal models for the establishment of the RECs legal entity”.

The Emilia-Romagna Region has chosen to adopt its own legislation on renewable energy communities, issued by regional law n. 5/2022. The law identifies the system actions and measures to support and promote collective consumption and energy communities, providing for the supply of contributions and financial instruments that accompany communities from the establishment and design, until the purchase and installation of production and storage facilities. The essential initiatives for communication, information and participation by citizens on the issues of renewable energy, self-consumption and energy sharing, which are also financed by the budgetary economic resources, are well analysed.

Also “**The info package and informative platform on RECs**” provide a guide with information relating to technological, legal, social, governance and economic management aspects of RECs with social impact and four in-depth videos carried out by experts on legal, social and technical issues. The package includes also administrative templates for the establishment of a REC by a local authority, the deed of incorporation and statute of the legal entity.



Moreover, “EnergIA” is the name of the information desk that, using advanced technologies of artificial intelligence and 3D real time, combined with expert support on specific issues, allows to provide information and direct assistance on RECs, ensuring support in the design and implementation of renewable energy communities. In fact, using the voice or in textual form, users can ask energy information on the establishment and development of RECs, as well as ongoing application and activities to support their development. “EnergIA” will respond in the most pertinent way, based on the most up-to-date documentation thanks to the potential of machine learning and artificial intelligence.

The service works at national level, but in addition at regional level (not in the DISCOVER Italian pilot, but in Piedmont, Liguria and Valle D’Aosta regions), two notices have been issued. The first for the realization of pre-feasibility studies, while the second for the subsequent development and implementation of Renewable Energy Communities with social impact. In addition, a one-stop-shop service is available free of charge, allowing stakeholders to consult on the subject of RECs with experts in the energy, legal and social fields. If the users need a direct discussion with the experts, it’s possible to book a free online or face to face interview with consultants. Both services have been identified from D2.1 on existing CEPs supporting initiative.

Finally, **ROSE Energy Community platform** is an innovative cloud application for creating simulating and fully managing energy communities that combines an Intelligent Energy Management module and a mobile App to engage participants.

It is composed by 3 modules:

- ROSE Energy Community Designer is the cloud-based software for the preliminary simulation and energy-economic analysis of Renewable Energy

Communities, Collective Self-Consumption Groups and Individual Remote Renewable Energy Systems.

- ROSE Energy Community Promoter supports the search for and management of stakeholders interested in participating in CACER (Self-consumption Configurations for Renewable Energy Sharing), from the collection of expressions of interest to the completion of the registration process as a full member.
- ROSE Energy Community Manager is a cloud-based software that digitizes the entire process of setting up, promoting and managing the administrative, energy and economic management of CACER, facilitating energy optimization and scalability of business models.



CONFIGURATION

Quick creation of new communities and multiple configurations to compare results

Simple configuration of consumers, prosumers, producers and storage systems

Visualisation of projects with map, filters by name, region and province

SIMULATION

Evaluation of energy flows and economic performance, hour by hour over an entire year

- | | |
|---------------------------|-------------------------------------|
| • Energy produced | • Premium rate |
| • Energy input | • Incentive |
| • Energy consumed | • Valorisation of energy sale (RID) |
| • Energy withdrawn | • Self-consumption rate |
| • Direct self-consumption | • Shared energy rate |
| • Shared energy | |
| • Unit fee | |



ANALYSIS OF RESULTS

Daily, monthly and annual analysis with KPIs and graphs

Results visible at Community or Member aggregation level

Optimisation of storage

DATA EXPORT

Export the simulation outcome to **Excel files**, including data on annual, monthly and daily aggregates for the community and for individual members.

*Functionality exclusive to the PSD version



6.3 Services and main findings in France

Seven services have been identified as supportive for CEPs and photovoltaic projects in France, and in Paris in particular. These services mainly provide information and tools to PV projects, which can be part of a CEPs. Some services provide also consulting. Services have been found for each phase of a CEP, but most of them are useful for the initial phases. One service is directed to local authorities for the development of CEPs (Les Générateurs), but all the other services are directed to the PV projects or the CEPs themselves. Except two services (REScoop VPP, Enogrid), the rest of services have free versions for users, and are linked to public authorities. Except REScoop VPP, an EU project, all services are accessible only in French language.

The 8 support initiatives listed in D2.1, are complementary to these services listed in D2.2. The initiatives in D2.1 provide funding, technical and general assistance to CEPs as well as training, or networking and policy advocating. Among them, Energie Partagée initiative is probably the most comprehensive tool for assistance of CEPs. In certain cities such as the east suburb of Paris (“Est Ensemble”), Strasbourg, Bordeaux, Annecy, or Grenoble, the Local Energy and Climate Agency, also member of FLAME network, provides guidance and first-approach, opportunity analysis to house-owner for their PV project, and in fewer cases, to multi-apartment co-owners for their PV projects.

Here is the list of the 7 support services identified:

- National center of resources on photovoltaic (Hespul)
- My solar potential (Ile-de-France Region)
- AutoCalSol - Solar yield calculation tool (INES)
- Les Générateurs - Public consultancy for local authorities (Ademe & regional authorities)
- Grid connection calculation tool (Enedis)
- REScoopVPP - virtual power plant project for energy communities (EU project)
- Enogrid - commercial solutions for collective self-consumption (start-up)

The National center of resources on photovoltaic operated by Hespul association, on behalf of the French State, is the essential reference on PV topic. All the relevant information is gathered, made accessible to any user, and kept up to date. Personal consulting is provided to users with specific questions and projects. One can find the feed-in tariffs, made more user-friendly than if read directly on the legal decrees. Also, exhaustive information is given for each step of a PV project. Photovoltaic.info website does not focus on Energy communities but there is information on collective self-consumption.



Front page of photovoltaïque.info.



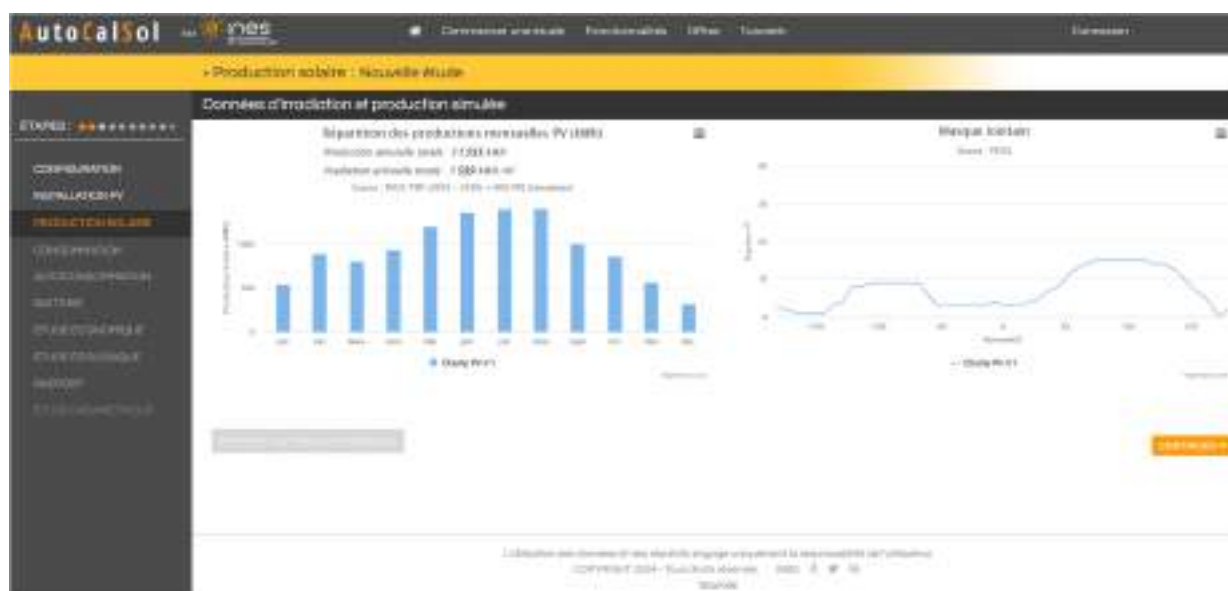
Each step of a project are detailed.

Two online tools are provided, for free, by Hespul, one for solar yield calculations and the other for self-evaluation of enterprise quotes.



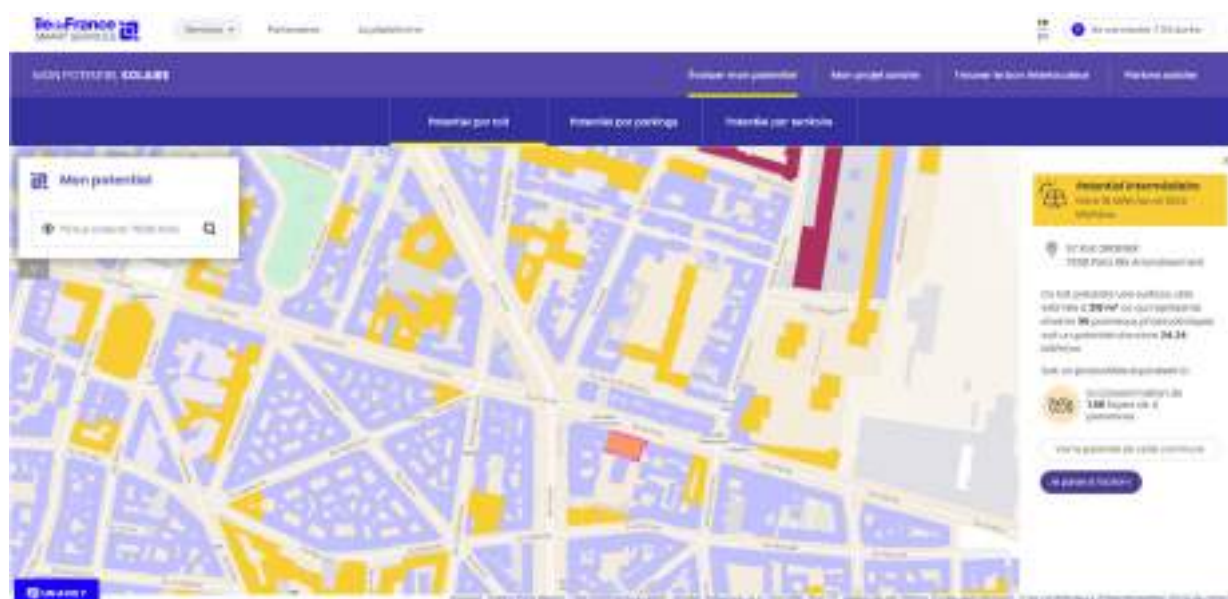
The two online tools accessible from photovoltaïque.info.

Along with the basic photovoltaïque.info calculation tool, the National Institute for Solar Energy (INES) provides a stand-alone calculation tool that is more complete, based on PVGIS technology: **AutoCalSol**. It allows for the preliminary sizing of self-consumption PV installations, gives simulation of monthly production and, with a paid-licence version, can compare it to the actual monthly consumption (a data that a client can get from the DSO Enedis).



AutoCalSol calculation tool.

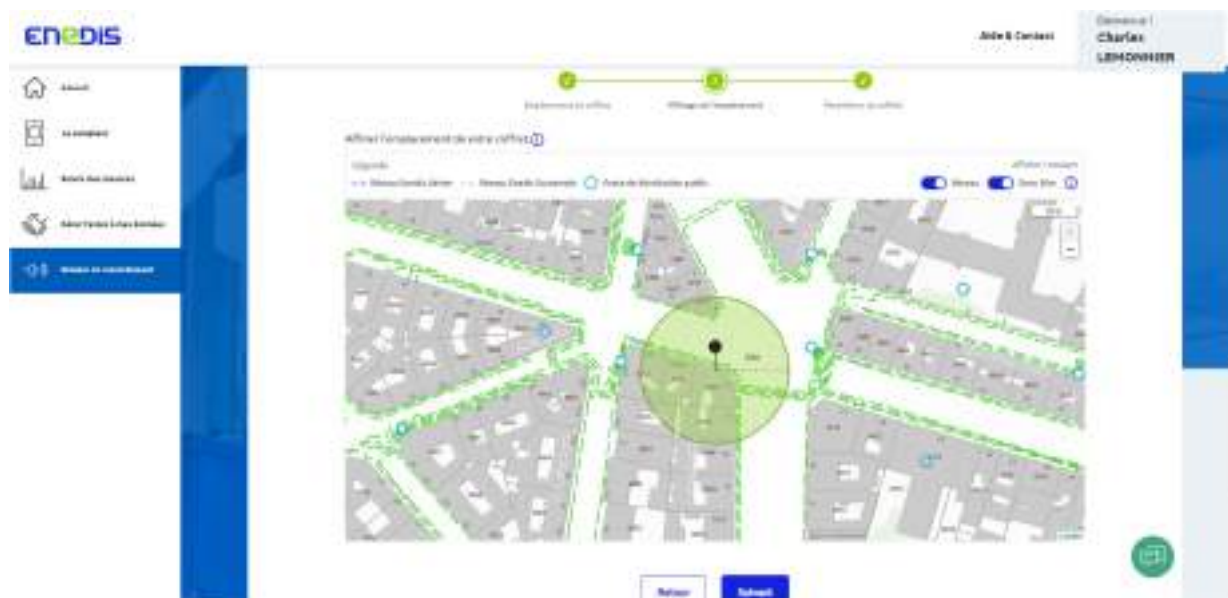
In Ile-de-France Region, one can use a rather user-friendly **calculation tool for solar potential**: Smart Services IDF “Mon potentiel solaire”. It calculates solar potential at three scales: habitat, parking area, municipality. Useful for a first approach on a PV project, it does not imply a collective or community approach though. APC lacks feedback on how effective it is to foster CEPs and will investigate.



Smart Services IDF calculation tool.

All in all, in Ile-de-France, at least 3 calculation tools are available for free (plus PVGIS free online software).

French DSO Enedis (95% of the metropolitan territory) provide an operational tool for the **calculation of grid connection costs and simulation of complexities**. The user needs a subscription, and it is free. It also simulates the user's future PV production. APC lacks feedback but the user interface is good.



Enedis grid connection simulation tool.

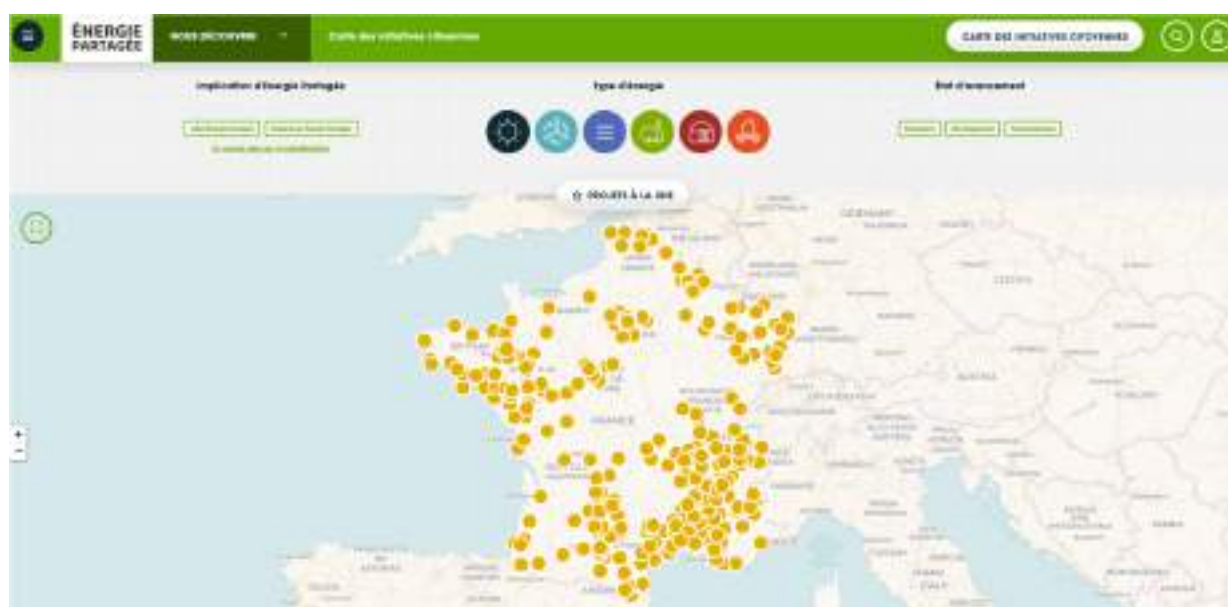
The relatively new topic of collective self-consumption (CSC) still lacks adequate services. An EU project active in France, **REScoop**, has developed a prospective tool (hardware and software) for virtual power plants but it is not widespread nor does it seems usable yet by anybody. **Enogrid**, a French start-up, has been active for a few years with the objective to promote CSC. They have developed tools (such as EnoPower) to optimize the repartition of the electricity generated by PV installations connected within a CSC entity, in order to make CSC more interesting. Enogrid also provides training on CSC. Contact has been taken with the REScoop and Enogrid teams in order to know more about them.



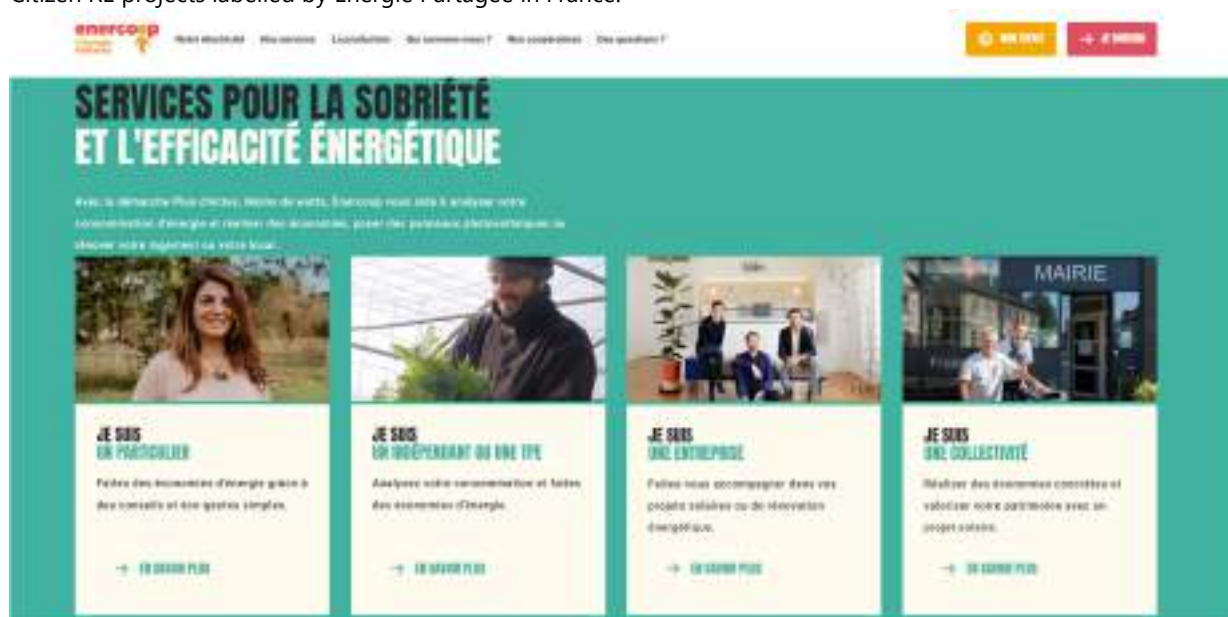
REScoop VPP virtual plant tool (left) / Enogrid EnoPower tool for CSC (right)

These services are quite limited in their scope, and they focus solely on the development phase of CEPs. For a more global assistance to CEPs in France, and funding, there are several initiatives as identified in task 2.1.

Namely, **Energie Partagée**, and the existing Energy Communities that are part of their network, can provide the most useful services locally to CEPs. They can share their experiences and tools. Energie Partagée has the ability to co-finance projects of a certain size if environmental and social criteria are met (aided by the public “Enercit” fund). **Enercoop**, the main citizen-lead cooperative electricity supplier in France, also provides commercial services to CEPs, mostly feasibility studies. The existence of the Parisian energy community **EnercitIF** proves, locally, the effectiveness of their services.



Citizen RE projects labelled by Energie Partagée in France.



Enercoop range of services.

Les Générateurs is an interesting service, quite recent, created in 2022, and not active in Paris which is already quite equipped compared to rural areas or smaller cities. The service is active in most regions of France. It is a State-driven network of public consultants for municipalities and inter-municipal authorities. Public consultants provide first advice, consulting and training for the local development of renewable energies, wind and solar.



Les Générateurs, a network of regional consultants for local authorities.

6.4 Services and main findings in Croatia

In Croatia, there is no systematic support for establishment of CEP that has reflected in creation of proper support tools. EU directives had not yet been properly adapted into Croatian legislation. The Croatian authorities and politicians do not understand the importance of this topic, so there is a lack of systematic help both from administrative bodies and state agencies, as well as from HEP, the national energy company that produces, distributes, and supplies electricity. In other words, there is not a single "official" tool funded and maintained by the competent state institutions like in Italy or Austria. Some services are set up on local level during implementation of various EU funded projects; however, this is not permanent, tools are not supported, in many cases tools are quite simple (there are at least 4 web based solar calculators as result of various EU projects – all are remarkably similar) with limited usability and often disappear as no longer-term support is available after project is completed. Useful support tools such as solar maps are provided individually by municipalities (only 3 in Croatia), but again these services are not regularly updated.

Therefore, when WB lists the services that can help the establishment and operation of the CEP, WB mainly lists technical services that are not from Croatian origin.

Services identified by WB as suitable for enabling CEP support in following areas:

Planning and simulation

- Grid Singularity
- Homer Pro
- Ret Screen

PV plant dimensioning

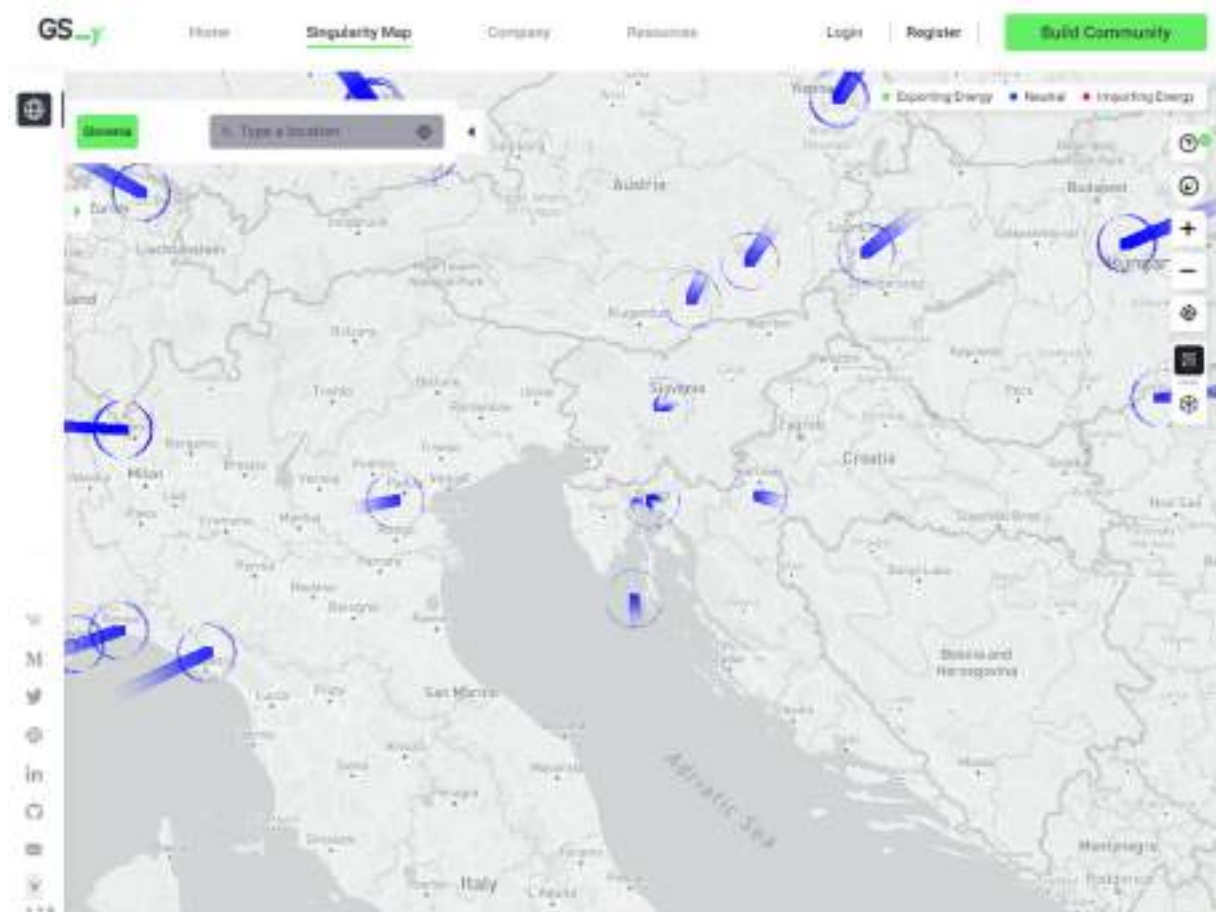
- IBC Solar PV calculator
- Na sunčanoj strani (On the sunny side) – tool for budgetary estimate of PV plant investment

Data sources / solar maps

- Mapa solarnog potencijala (Solar potential maps)

CEP Support Tools:

Grid Singularity is product based on open-source initiative from Berlin, Germany and simulates and runs interconnected grid-aware energy marketplaces enabling multiple degrees of freedom in trading for any market participant. Grid Singularity helps a bottom-up local energy market design by connecting aggregators, which in turn connect households and distributed energy assets digitally represented by trading agents, and grid operators through an application interface (Grid Operator API and Asset API).



It is particularly useful tool for EC energy flows simulation, the tool is demanding to use, but after training, very complex modelling of energy communities is possible. Grid Singularity's software is available under an open-source GNU General Public License, with a specific license link provided in Grid Singularity's GitHub repository. WB has quite extensive and positive experience with that tool and is used for stakeholders WB is supporting.

The HOMER Pro® microgrid software by UL Solutions (USA) is the global standard for optimizing microgrid design. HOMER (Hybrid Optimization Model for Multiple Energy Resources) nests three powerful tools in one software product, so that engineering and economics work side by side: Simulation, Optimisation and Sensitivity Analysis. It is expensive and extraordinarily complex professional tool, but it is primarily intended for large energy communities, aggregators, or wireless network managers. Particularly useful for educational purposes and getting aware of complexities in larger organisations. WB has limited knowledge of practical usability mostly coming from trial usage; however, pricing was prohibitive for WB to acquire full licence.

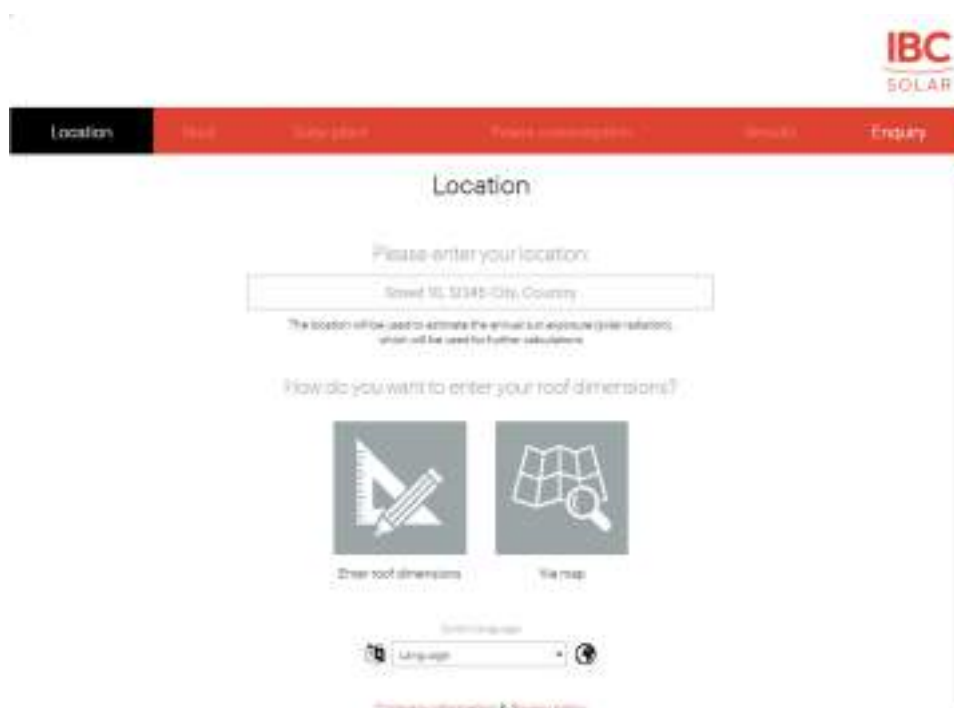


RETScreen - simulation and planning tool created as Canadian government initiative to promote renewable energy projects. The RETScreen® Clean Energy Management Software platform enables low-carbon planning, implementation, monitoring, and reporting. RETScreen Expert, an advanced premium version of the software, is available in Viewer mode completely free-of-charge. Software is fully translated in Croatian language, so it is quite user friendly, but demands lot of domain knowledge. WB has solid experience with this tool based on multiple trials with partner organisations.



The full functionality of RETScreen Expert (including the ability to save, print & export files as well as numerous advanced features) is available in Professional mode by purchasing a renewable 12-month subscription.

IBC Solar PV calculator - web based tools aid to find out how much solar power any roof-mounted system can produce in a year, what share of the electricity will be used by consumers and what will be available for sharing, and how this will help to lower energy costs.



This is quite simple tool, but useful for fast calculations. Web tool completely free to use, so WB is using this tool for initial discussions and estimations with our clients.

Na sunčanoj strani (On the sunny side – supported by NGO ZEZ)



and **METAR** (Network for education, transition, adaptation and development Network for education, transition, adaptation, and development – supported by NGO DOOR)



are almost identical tools for budgetary estimate of PV plant investment (result of two EU projects financed from ESF). These are high level tools based on statistical model and available only for several major Croatian cities. Output is truly generic information

in particular region. WB is recommending to our users IBC tool that is creating information on house level and taking into account real building roof size and orientation.

Mapa solarnog potencijala - solar maps of three Croatian cities. The solar potential map is an interactive online solution for visualizing the potential of solar energy, which enables the assessment of the potential for installing solar power plants on locations in targeted areas. This is the first step in the project realization process, and the map is helping citizens to save time and money when deciding on investment. It is limited to only a few Croatian cities (3 for now - Varaždin, Koprivnica and Vinkovci) but with potential to expand to other Croatian settlements. It is free of charge for end users but can be used only for citizens from project partner cities that pay licenses to the creators of the platform – GDI.



6.5 Services and main findings in Austria

Services identified by PIXEL include:

- Services provided by the Austrian “Koordinationsstelle” for energy communities
- PVGIS - Photovoltaic Geographical Information System provided by joint research under the European commission
- Information and Training Services provided by the interest group for PV and electricity storage in Austria
- PV calculation sheet provided by the Austrian Energy Agency
- PV installation size calculator provided by Opensolar
- Solar energy assessment tool provided by the European Space Agency
- Solar Potential Map provided by each state (e.g. Vienna)
- Calculators and Market Data provided by the Austrian Power Grid Regulatory Authority

Support services for energy communities

Researching relevant support services for CEPs in Austria entails a comprehensive analysis of resources dedicated to energy communities. These services are encompassed by the Austrian coordination hub for energy communities and its nine regional One-stop-shops (OSS). These resources offer a holistic array of virtual and in-person support services, catering to various types of energy communities, including regional, local, and citizen-led initiatives, all provided at no cost.

This includes:

- a step-by-step manual for creating energy communities,
- a benefit tool to calculate potential energy cost savings based on user-defined community composition and parameters,
- easily understandable, detailed information materials,
- a directory of professionals,
- a map listing existing energy communities, and
- contractual templates for establishing new energy communities.

In addition to support services tailored for energy communities, PIXEL analysis also encompassed services specifically geared towards photovoltaic (PV) electricity generation. Notably, all the services listed are available free of charge.



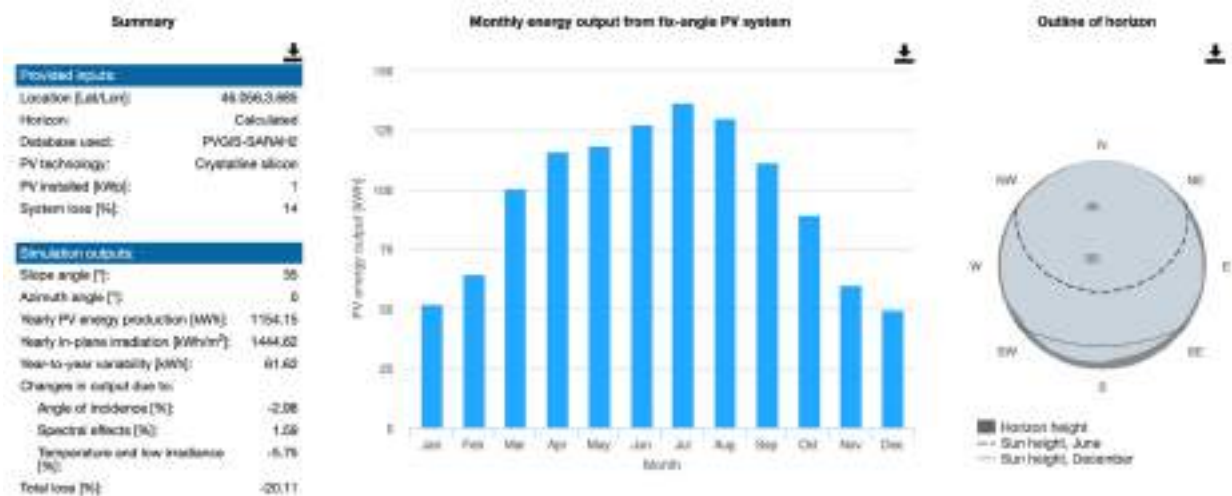


1. Erste Überlegungen & Konzept

Radiation Data Assessment

PVGIS allows the determination of solar radiation levels for any location globally. This web-based platform features a user-friendly interface for visualizing average daily, monthly, and hourly radiation data through interactive diagrams, as well as the option to download the data as tables. Users can input parameters such as PV technology, slope, and azimuth for fixed-mounted PV plants, or specify the range of motion for tracking PV systems.

Similarly, the interactive exploration tools provided by **ESA**, with a focus on Austria, allow users to explore green transition pathways. Among its features, the platform offers seasonal solar irradiation data. The Solar Energy Assessment tool visualizes seasonal and annual average solar energy on a map with a 10-meter spatial resolution. Users can filter the data based on aspect, slope, elevation, and distance to the energy grid (2500 meters or less).



The **solar potential map** is accessible for every state in Austria, illustrating the suitability of rooftop areas for PV installations through color-coded visualization on a

map. Additionally, the map denotes protected areas. It also provides estimates of the plant size in kWp for each building.



Techno-Economical Calculation Tools

The calculation sheet provided by the **Austrian Energy Agency** allows users to input parameters such as area code, orientation, size, installation, and maintenance costs. It then calculates the point of return and provides a list of funding opportunities.

PV Austria offers a range of services, including:

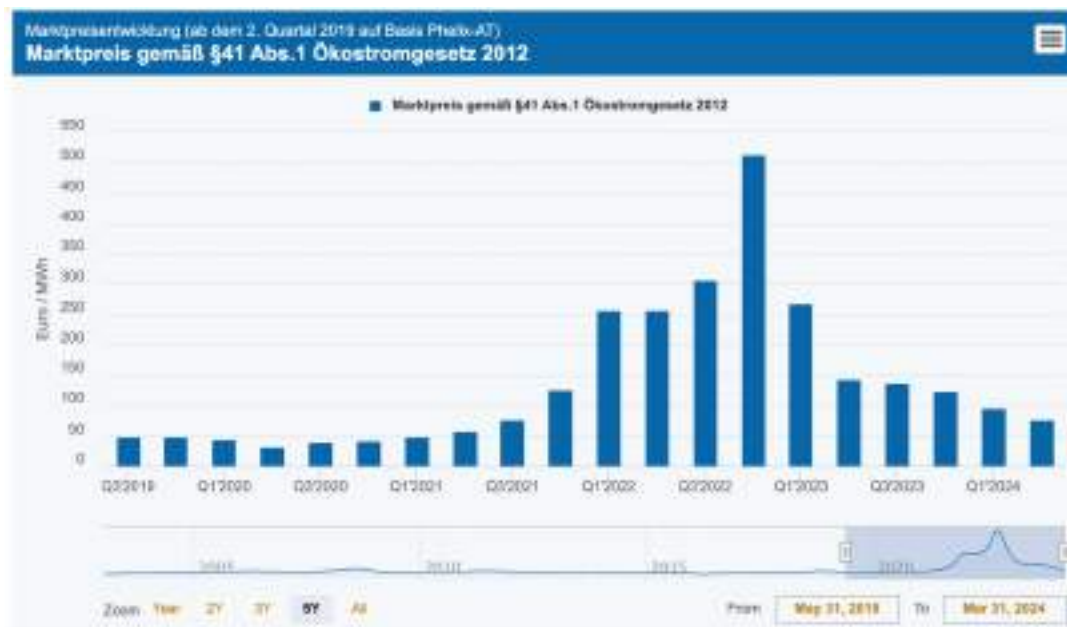
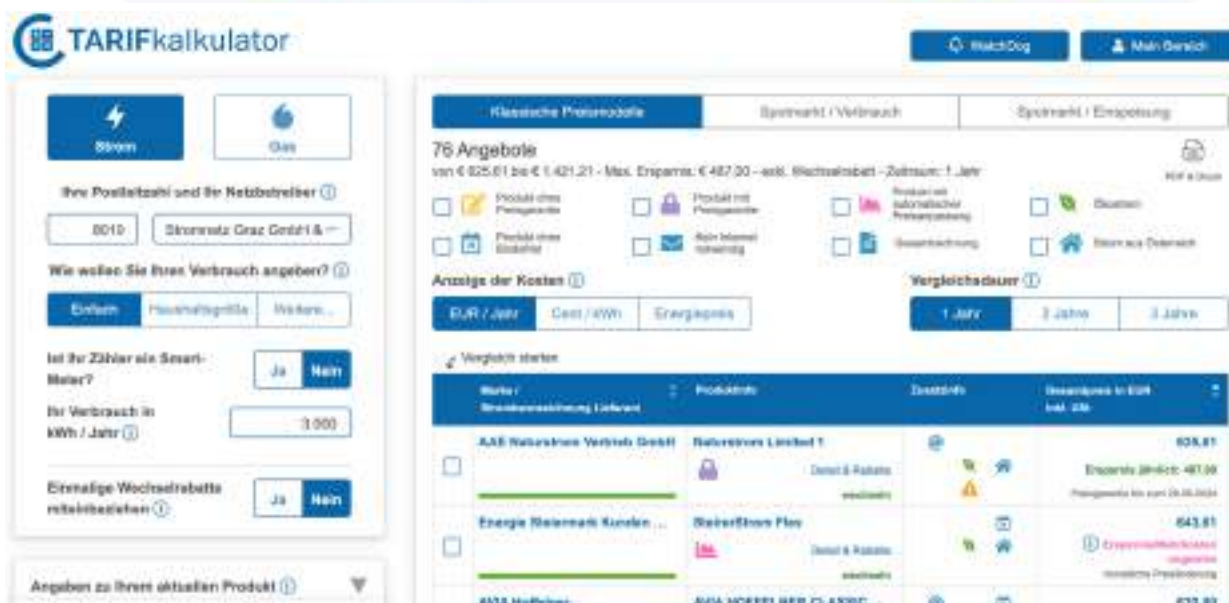
- Information materials tailored for individuals interested in or already owning a PV plant
- Networking services to connect with professionals in the field
- A benchmark for the remuneration of PV electricity tariffs
- A guidebook for PV installations, known as the 'Photovoltaik-Fibel'
- Financial and technical assistance, including funding opportunities through the 'Foerderkompass'
- Training sessions and events
- Policy advocacy initiatives
- Online tools such as the 'SonnenKlar PV-Rechner,' allowing users to input details about their plant (location, orientation, size, battery) and consumption (annual demand, living area, number of occupants, heat demand, and e-mobility) as well as costs (installation, funding, tariff details). As the output, the autonomy and break-even points are calculated.



The **Austrian Power Grid Regulatory Authority** serves as the advocate for all energy consumers, overseeing monopoly regulation and market supervision. In support of CEPs, it offers several relevant tools:

- An energy cost calculator and tariff comparison tool for both electricity consumers and prosumers.

- A comprehensive overview of distribution costs and fees.
- Electricity market statistics, including the reference market price for electricity, which serves as a benchmark for the remuneration paid to PV plant owners and operators.

TARIFkalkulator

Strom Gas

Ihre Postleitzahl und Ihr Netzbetreiber

8010 Stromeinzug Graz GmbH & Co

Wie wollen Sie Ihren Verbrauch angeben?

Einlesen Haushaltsgröße Weitere...

Ist Ihr Zähler ein Smart-Meter?

Ja Nein

Ihr Verbrauch in kWh / Jahr

3000

Einezeitige Wechselgebühren

Ja Nein

Angaben zu Ihrem aktuellen Produkt

76 Angebote
von € 825,61 bis € 1.421,21 - Max. Ersparnis: € 487,00 - inkl. Wechselkosten - Zeitraum: 1 Jahr

Produkt ohne Preisgarantie Produkt mit Preisgarantie Produkt mit automatisierter Preisanpassung Produkt mit automatisierter Preisanpassung

Produkt ohne Einzelwahl Kein Internet-Verbrauch

Arztzeit der Kosten

EUR / Jahr Cost / kWh Energiepreis

Vergleichsdauer

1 Jahr 2 Jahre 3 Jahre

Vergleich starten

Werk	Stromerzeugung (Leistung)	Produktname	Leistungs	Gesamtpreis in EUR inkl. ZSt
AAE Naturstrom Vertrieb GmbH	Naturstrom Limited 1	Dienst & Kategorie	1000 kWh	825,61
Energy Naturstrom Kunden ...	Naturstrom Plus	Dienst & Kategorie	1000 kWh	643,61
AVIA Hoffener	AVIA HOFFENER CLASSIC ...	Dienst & Kategorie	1000 kWh	679,89

Plant Size Calculation Tool

In addition to the **Solar Kataster**, which estimates rooftop areas based on its street address, Opensolar offers a distinct approach. **Opensolar** provides a sophisticated yet remarkably user-friendly tool for calculating PV plant size based on satellite data. Users can directly draw a PV installation onto a satellite image of a roof in a 3D perspective. The tool calculates PV yield and the break-even point based on these drawings, taking into account orientation and optional user inputs. Despite requiring registration, this tool

is freely accessible. It is designed for use by (but not limited to) PV professionals, enabling them to automatically generate cost estimates for clients.



6.6 Services and main findings in Bulgaria

Increasing energy efficiency, i.e. reducing energy consumption, can significantly reduce the maintenance costs of public buildings, manufacturing plants, small and medium-sized enterprises or the operation of entire cities and municipalities. Several services were identified in Bulgaria amongst others, providing data and statics, supporting mainly the energy efficiency assessment of buildings, business facilities and households.

These services support different aspects for the creation of community energy projects (CEP), but they are not specifically aimed at the building of renewable energy communities (RECs) or of civil energy communities (CECs) due to gaps in the legal framework.

The support services identified range from consultations by grid operators and energy suppliers (ESCO Bulgaria, Energy Supply, ENERGO-PRO electricity consumption consultations and comparison, electricity consumption cost comparison) to energy consumption price and comparison calculators.



The screenshot shows the Energy Supply website. At the top, there is a navigation bar with links: Home, About us, Energy Supply network, Services, Projects, Documents, and Contacts. Below this, there is a section titled "How it works" which includes a diagram illustrating the electricity supply process. The diagram shows a flow from "Network operator" to "High voltage network" to "Medium voltage network" to "Low voltage network" to "Energy supply network" to "Energy supply network" to "Energy supply network". Below the diagram, there is a section titled "How it works" which includes a list of services: "Energy Supply Network", "Energy Supply Network", "Energy Supply Network", "Energy Supply Network", "Energy Supply Network", "Energy Supply Network", "Energy Supply Network", "Energy Supply Network", "Energy Supply Network", "Energy Supply Network".

An important feature of the Bulgarian renewable sector business environment is that local businesses and households widely use EU tools for simulation and calculation of green energy ([pvq tools](#), [get.pvcase](#), and for that reason, the Bulgarian renewable energy associations have not developed tools of a similar kind).

Another important fact about Bulgaria green energy sector is that there is a large number of local engineering companies offering construction services in the field of renewable energy (PV installations mainly). Such companies ([www.newsolar.bg](#), [www.energiabg.net](#), [www.solaritybg.com](#), [www.energysupply.bg](#) offer free of charge consultations concerning the building of PVPs, including technical-economic assessment of PV systems for self-consumption groups or energy communities by telephone or during a meeting.

A powerful tool is the energy consumption calculator for households produced and distributed free of charge by the national Sustainable Energy Development Agency ([www.seea.government.bg](#)) which allows detailed analysis of the energy consumption and energy savings in buildings. The tool lets the users build virtual models of different types of buildings and consumer models and to change different characteristics, thus understanding the potential for more energy savings and renewable energy generation in the building.

Домашен енергичен калкулатор




Агенция за устойчиво енергийно развитие
Домашен Енергичен Калкулатор





ЕВРОПЕЙСКИ СЪЮЗ



НАЦИОНАЛНА СТРАТЕГИЧЕСКА РЕФЕРЕНТНА РАМКА 2007 – 2013



ОПЕРАТИВНА ПРОГРАМА "Развитие на конкурентоспособност на българската икономика" 2007 – 2013

Проекти от обществена с фискална поддръжка на Оперативна програма "Развитие на конкурентоспособност на българската икономика" (2007 – 2013) субфинансирани с европейски средства чрез Европейския фонд за регионално развитие.

Име на проект:

Климатична зона:

Вид сграда:

Година на строеж:

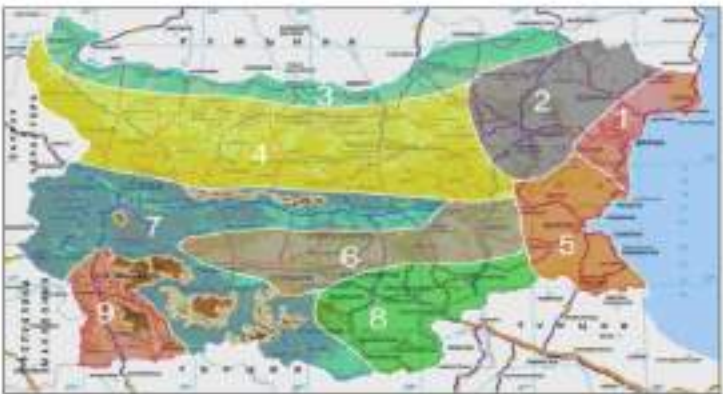
Карта на климатичните зони

A Initiative Energy Community Project

Климатична Зона 1 - Климатична зона Северно Черноморие

Еднофамилна вилар

Въвеждане в експлоатация преди 01.01.1990г.



Продължи >

Заявка на проекта

Зареждане на проект

За програмата

Изход

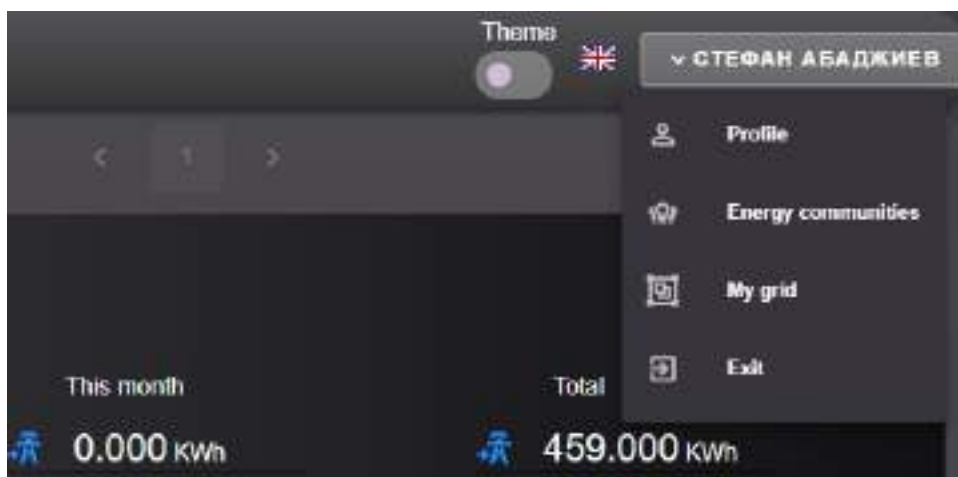


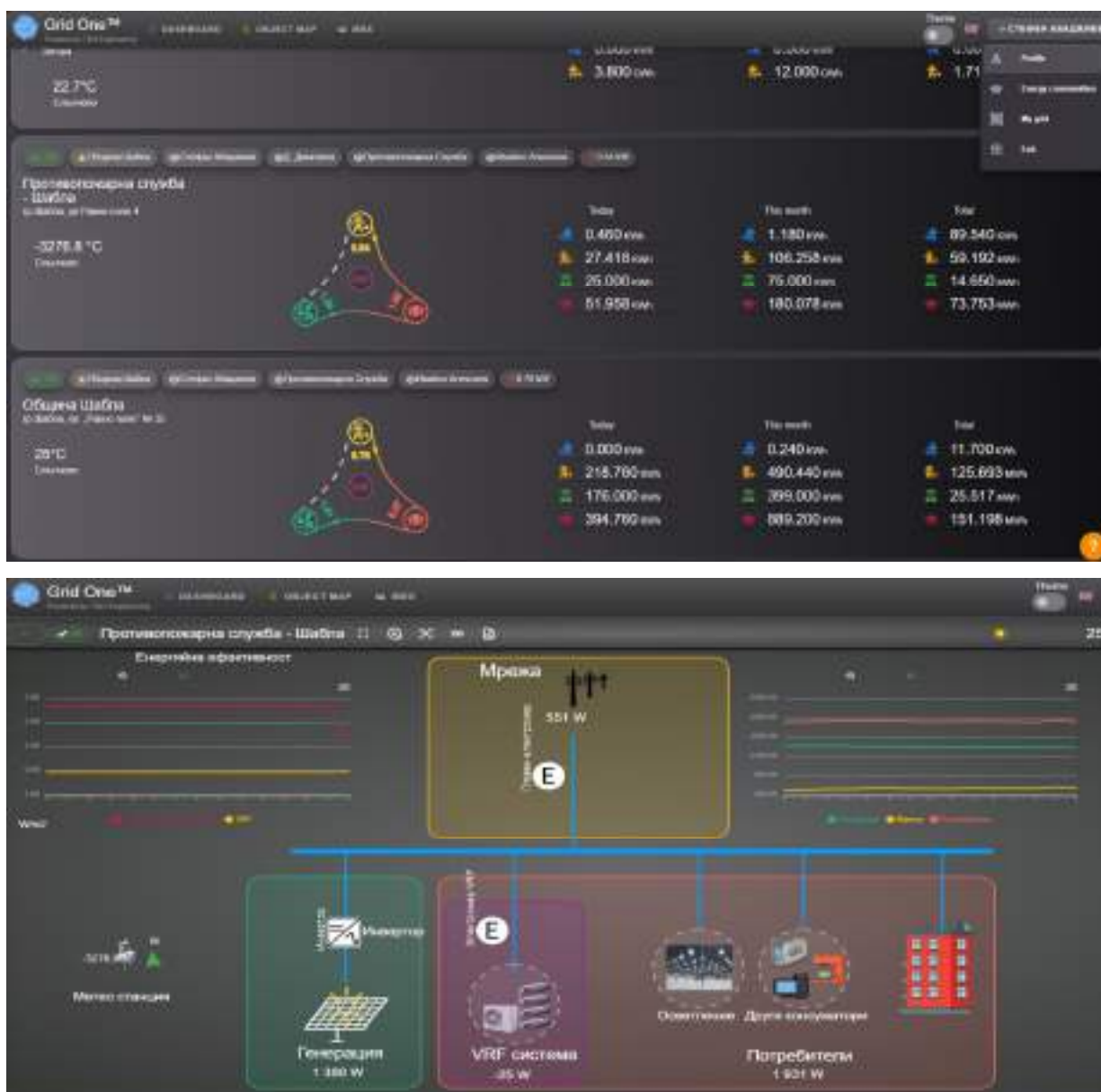
End of April 2024 SEEA has published the **“MANUAL for the construction or reconstruction of energy facilities and facilities for the production of energy from renewable sources”**, thus facilitating the procedures of such installations.

The **GRID-ONE** integrated platform for automated management of CECs and RECs offers a wide range of services: from organization and building of automated energy installations' clusters for energy communities to detailed reporting tools and models of different contracts between participants in energy communities.



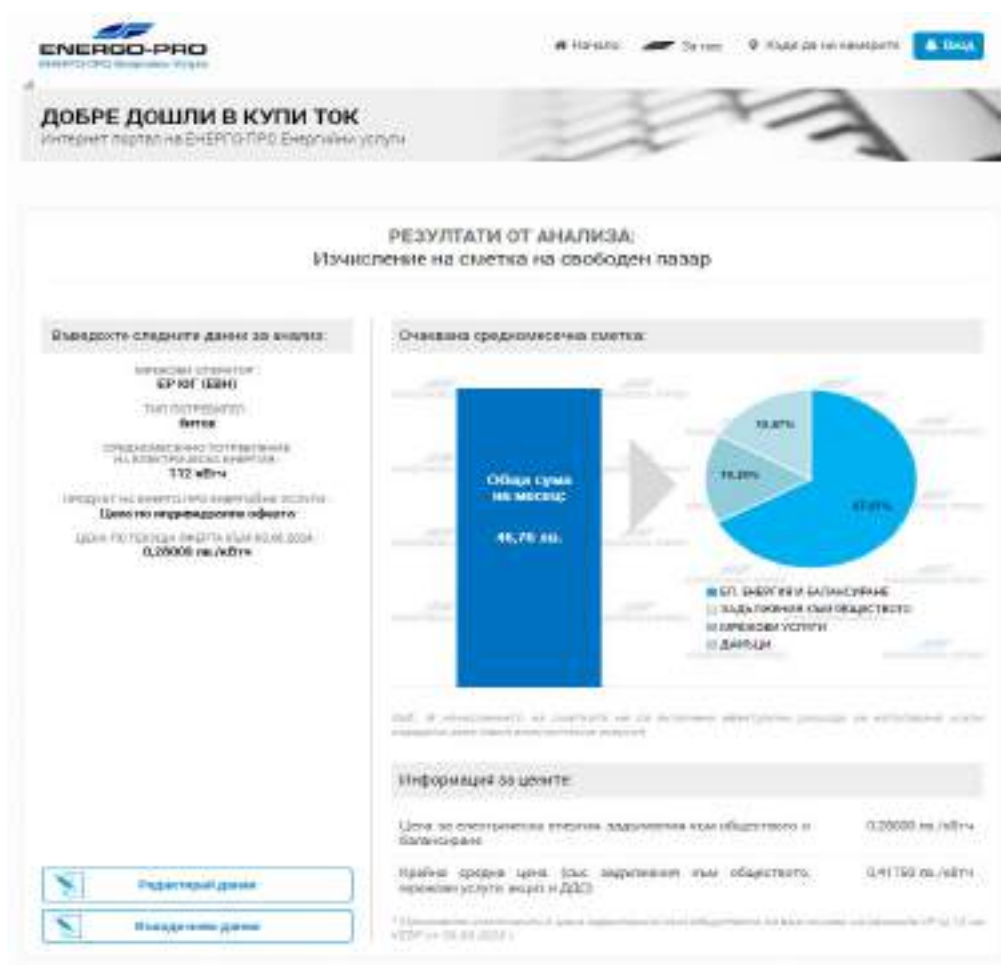
The GRID-ONE platform offers both tools for management and monitoring of energy devices, smart grids and smart meters, including management of EV charging stations, PV and battery storage installations and tools for automated report generation and reporting of data required by law to governmental agencies. GRID-ONE includes interactive map of EV charging stations and managed energy installations within CECs and RECs.





ESCO, energy services company focused on innovation, resource efficiency and environmental stewardship is also rendering different services. The company offers full scope of services including consulting, for the building of energy-effective buildings and municipal projects.

A wide range of consulting services in the fields of electricity production from RES, consumption optimization, engineering, construction and servicing of PV and hydropower plants is provided by **ENERGO-PRO**. **Being a vertically integrated company including an electricity grid operator** in its structure it has a developed network of offices in Northeast Bulgaria as well as in the capital Sofia. The company offers Consumer Effect Calculator for switching to a free electricity market.



Another vertically integrated company with a wide network of consulting offices is **ELECTROHOLD (www.electrohold.bg)**. It offers consultations in the fields of renewable energy, energy consumption and energy savings. The company offers one of the best energy pricing online calculator tools, which allows for comparison of consumer models and suppliers.

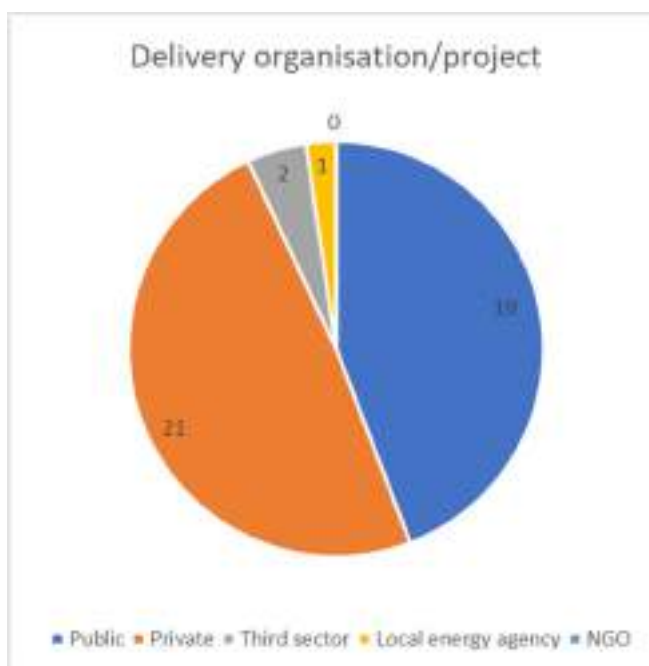
7 Comparative assessment

We have identified a total of 41 supporting services, with descriptions provided in Annex 1. For a qualitative assessment, the group of 41 services was examined based on certain characteristics (e.g. delivery organization), each of which is dedicated to its own subchapter. Following the analysis of the entire set, subgroups for each pilot region were further investigated.

7.1 Delivery organisation

The term 'delivery organization' refers to the entity or entities responsible for providing the support service. In cases where a service requires collaboration and coordination between multiple organizations, there may be involvement from more than one entity. Upon reviewing the complete set of services, the table highlights that the delivery organisations are predominantly private (21 out of 41) and public (19). At Country level, in Italy, France and Austria, the delivery organisations are primarily public. In France, it's noteworthy to emphasize the presence of 2 examples of delivery organizations belonging to the third sector, namely the National Center of Resources on Photovoltaic and REScoop VPP. On the other hand, in Bulgaria and Croatia, the delivery organizations are primarily private. This is likely due to the legislative framework not being fully defined, and public organizations not actively involved in the development of such services.

Delivering organisation/project	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Public	1	5	4	5	2	2	19
Private	4	2	2	3	7	3	21
Third Sector	0	0	2	0	0	0	2
Local energy agency	0	0	0	0	0	1	1
NGO	0	0	0	0	0	0	0



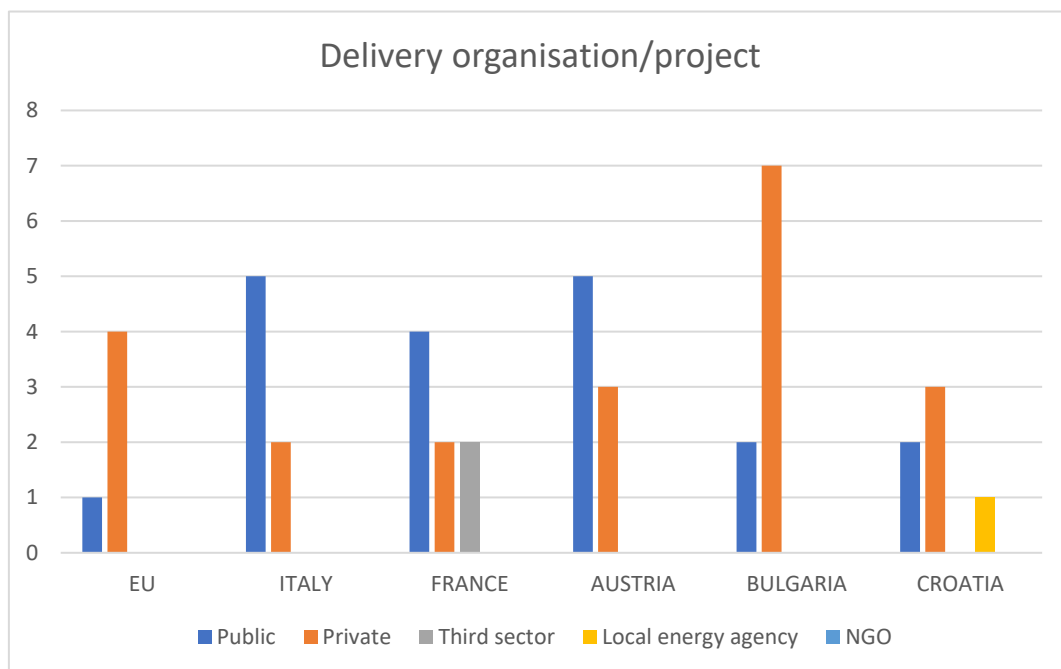
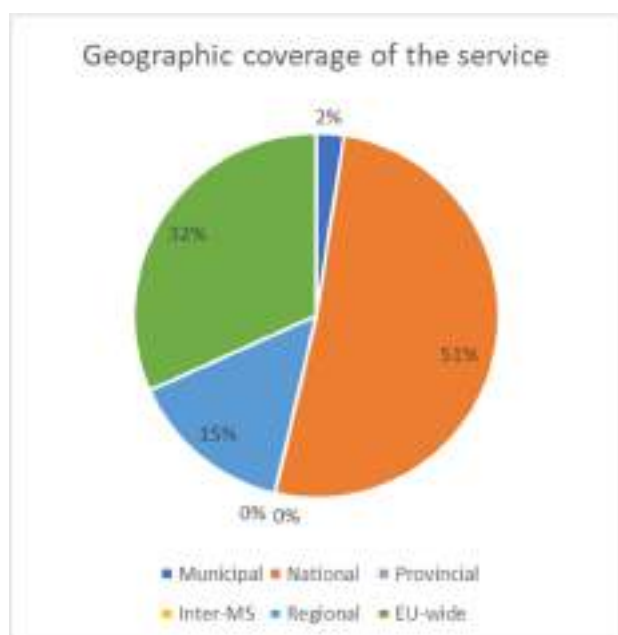


Fig.1 – Delivery organization of the service at global and National level

7.2 Geographic coverage

The geographic coverage describes the area served by the service. Looking at the entire group of services, the geographic coverage primarily has a national dimension (51%), followed by European (32%) and regional (15%) coverage.

Geographic coverage of the service	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Municipal	0	0	0	0	0	1	1
National	0	6	4	5	6	0	21
Provincial	0	0	0	0	0	0	0
Inter-MS	0	0	0	0	0	0	0
Regional	0	1	2	1	2	0	6
EU-wide	5	0	1	2	1	4	13



It's noteworthy to mention the large number of services that are applicable to National (21) or even to EU-wide (13). Such services, with extensive geographic coverage, often incorporate calculation tools already in frequent use by country partners.

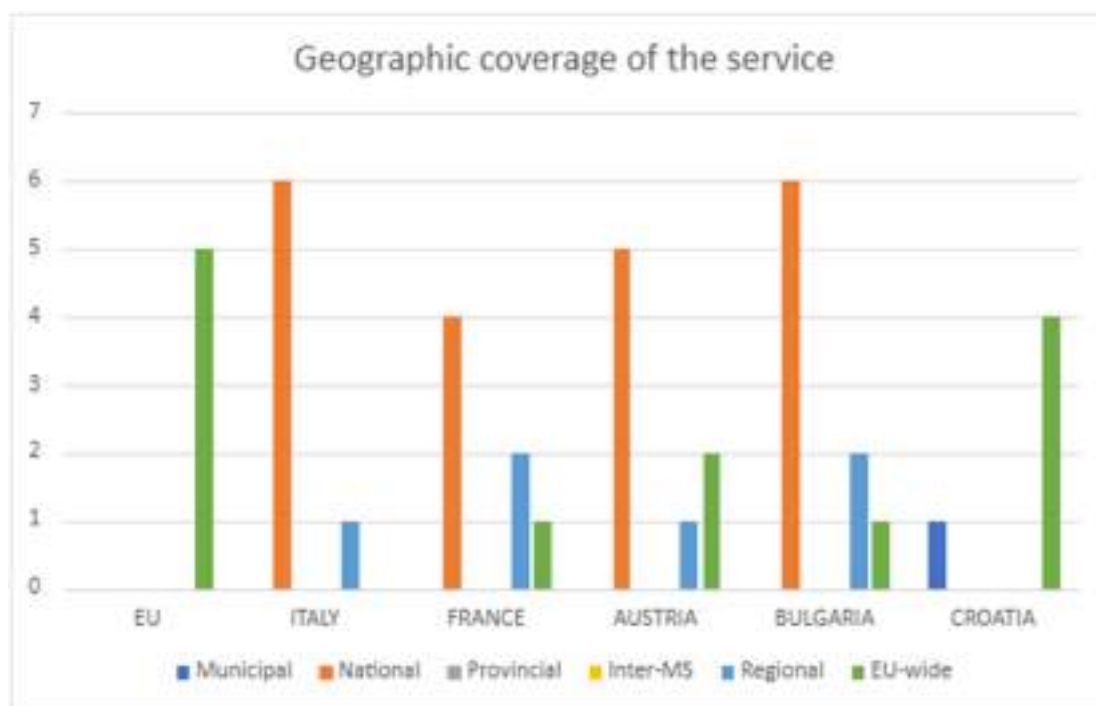


Fig.2 – Geographic coverage of the service at global and National level

Looking at the analysis on a country level, project partners from Italy, France, Austria, and Bulgaria primarily scoped services that are applicable nationally, i.e., within their own country. A regional service in Italy is provided by the Emilia Romagna Region, namely the “Energy Community helpdesk of Emilia Romagna Region”. In France, there are also regional services, such as “My solar potential” for the Ile de France Region and “Les Générateurs”. A European service scoped by the France project partner is associated with “REScoopVPP - virtual power plant project for energy communities”.

In Austria, two European services “PVGIS - Photovoltaic Geographical Information System” and “PV installation size calculator” and a regional service “Solar potential map” are provided. In Bulgaria, two regional services have been pointed out “Energopro” and “Electricity consumption consultations and comparison, electricity consumption cost comparison” along with “Grid-one” which is declared to work EU wide.

For Croatia, the project partner mentioned municipal services including “IBC Solar PV calculator” and “Solar map of Croatian cities”. Moreover, “Grid Singularity” was identified as a European service.

7.3 Target users

With regard to the target users, the overall assessment of all services shows that they primarily cater towards citizens (29), local authorities (25) and SMEs (25).

This is in close coherence with the Directive 2001/2018 that states “the shareholders or members of RECs are natural persons, SMEs or local

Target users	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Local authorities	5	6	6	3	3	2	25
Citizens	4	7	4	8	5	1	29
SMEs	1	6	5	7	4	2	25
Industry	0	4	2	4	7	2	19
ESCOs	0	4	4	0	2	1	11
NGO	1	6	2	2	1	4	16
Others	0	0	0	0	0	0	0

authorities, including municipalities”, and directive 944/2019, in which ‘citizen energy community’ is defined as “a legal entity that is based on voluntary and open participation and is effectively controlled by members or shareholders that are natural persons, local authorities, including municipalities, or small enterprises”.

So, the majority of services are dedicated to these key-stakeholders of the energy transition.

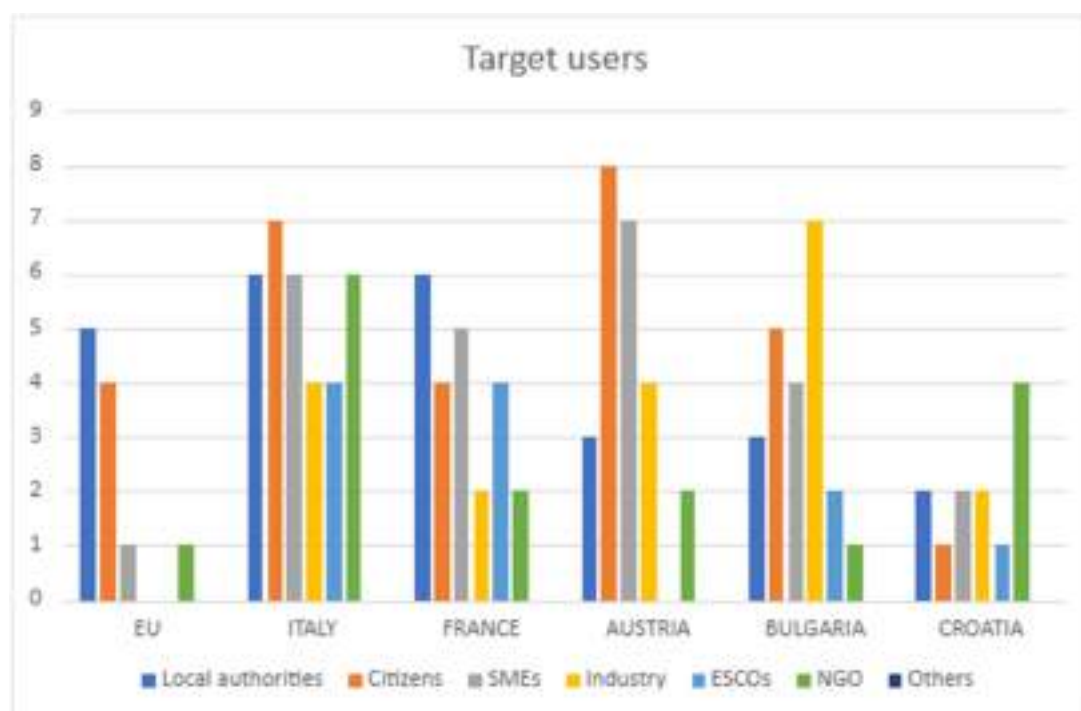


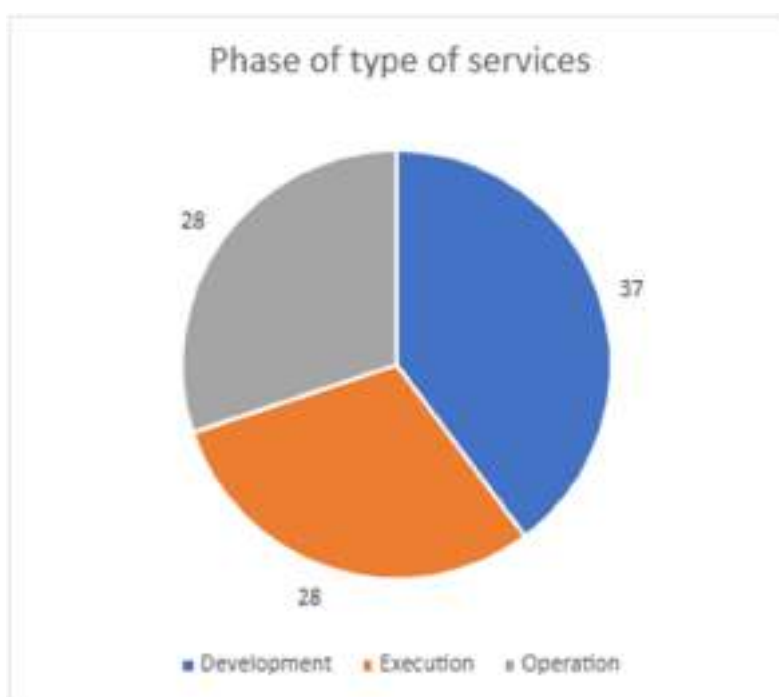
Fig.3 – Target users of the service at global and National level

At Country level, in Italy and in France, the analysis is coherent with the overall analysis, while in Austria and in Bulgaria ‘industry’ represent an important target user. For Croatia, the most support services included in this analysis are serving NGOs.

7.4 Type of service

The services included in this survey are assessed based on their relevance to the stages of a CEPs lifecycle: development, execution, and operation. Development encompasses the preparatory phase, involving technical, legal, financial feasibility studies. Execution refers to the implementation stage such as building and installation. The operation stage involves maintaining the installation and monitoring energy consumption and shared energy.

Phase of type services	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Development	5	7	6	8	6	5	37
Execution	4	6	3	2	9	4	28
Operation	4	5	4	3	9	3	28



Most services are specific to the development phase (37), followed by operation (28) and execution (28).

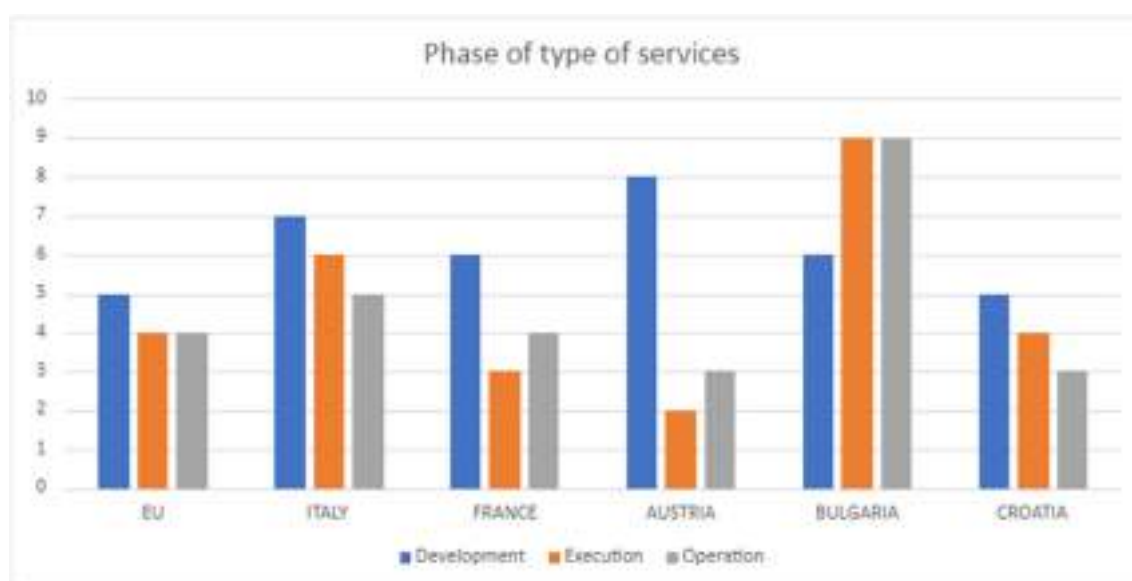


Fig.4 – Services per CEP phase at global and National level

The following three tables are specific for each CEP life-cycle phase and list all available services. For the developmental phase, most of the services are understood as stand-alone calculation tools (25), followed by “Information material, guidance / manuals/guidebooks” (17) and “personal consulting guidance/ support” (14).

Type of services - Development	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Information material, guidance/manuals/guidebooks	3	3	1	3	2	5	17
Personal consulting, guidance and support	1	3	3	1	5	1	14
Technological screening, Product testing	0	1	0	2	0	1	4
Stand alone Calculation tool (economical, technical,...)	1	2	4	8	5	5	25
Networking service	4	2	0	2	0	0	8
List/Directory (of Professionals, ...)	0	0	1	1	0	0	2
Policy Advocacy	0	0	0	0	0	0	0
Mediation service	0	0	0	1	0	0	1
Training	3	1	2	0	0	0	6
HW solutions	0	0	0	0	3	0	3
SW solutions	0	2	1	0	2	5	10
Representing the interests of a group	0	0	0	1	0	0	1

Fig.5 – Services in the development phase on the whole and at Country level

The analysis of services tailored for the development phase reveals the following findings: For EU-wide services, there is a predominant focus on networking (i.e.

Comanage, Beckon, LifeLOOP, SUN4U), training (i.e. Comanage, Beckon, LifeLOOP) and “information material/guidance/manuals/guidebooks” (i.e. Comanage, Beckon, Digital tools for Energy Community).

The services found by Italian project partners cover mostly “Personal consulting, guidance and support” and “information material/guidance/manuals/guidebooks” (simulator by GSE, Helpdesk for Emilia- Romagna Region, Info package).

In France and in Bulgaria, services mainly address “Stand alone calculation tools” (i.e. Hespul, My solar potential, AutoCalSol, Grid connection calculation tool in France; Esco Bulgaria, Energo Pro, Grid-one, Electricity consumption consultation and comparison, Consumer effect calculator in Bulgaria) and “Personal consulting, guidance and support” (i.e. Hespul, Les Générateurs, Enogrid in France; Esco Bulgaria, Energy supply, Energo Pro, Electricity consumption consultation and comparison, Consumer effect calculator in Bulgaria).

In Austria, the vast majority of the scoped services are classified as “Stand alone calculation tools”.

In Croatia, services for the development stage are more available for “Information material, guidance/manuals/guidebooks”, “Stand alone Calculation tool (economical, technical,...)” and “SW solutions”.

In the execution stage, most of the services included in this research refer to “Stand alone Calculation tool (economical, technical,...)” (14) “Information material, guidance/manuals/ guidebooks” (13) and “Personal consulting, guidance and support” (13).

Type of services - Execution	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Information material, guidance/manuals/guidebooks	3	2	1	2	2	3	13
Personal consulting, guidance and support	0	3	3	1	5	1	13
Technological screening, Product testing	0	1	0	0	2	0	3
Stand alone Calculation tool (economical, technical,...)	1	1	1	0	7	4	14
Networking service	1	1	0	1	0	0	3
List/Directory (of Professionals, ...)	0	0	0	2	0	0	2
Policy Advocacy	0	0	0	0	0	0	0
Mediation service	0	0	0	0	0	0	0
Training	1	0	1	0	0	0	2
HW solutions	0	0	0	0	3	0	3
SW solutions	0	2	0	0	4	4	10
Representing the interests of a group	0	0	0	1	0	0	1

Fig.6 – Services in the execution phase at global and National level

For the execution stage, at national level, three services are declared as “Personal consulting, guidance and support” (similar to the development stage) in Italy and in France.

In Austria, informative services and “list/directory of professionals are highlighted.

In Bulgaria, stand-alone calculator tools and personal consulting, guidance and support are the main services.

In Croatia, similar to the development stage, services associated with standalone desktop tools are available (along with appropriate guidance and support services).

The top three categories, into which services for the operational stage fall are “Information material, guidance / manuals/ guidebooks” (13), stand-alone calculation tools (12) and SW solutions (11).

Type of services - Operation	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Information material, guidance/manuals/guidebooks	3	2	1	2	2	3	13
Personal consulting, guidance and support	0	1	2	1	5	1	10
Technological screening, Product testing	0	1	0	0	2	0	3
Stand alone Calculation tool (economical, technical,...)	0	1	0	1	7	3	12
Networking service	1	0	0	0	0	0	1
List/Directory (of Professionals, ...)	0	0	0	1	0	0	1
Policy Advocacy	0	0	0	0	0	0	0
Mediation service	0	0	0	0	0	0	0
Training	0	0	1	0	0	0	1
HW solutions	0	0	1	0	3	0	4
SW solutions	0	2	2	0	4	3	11
Representing the interests of a group	0	0	0	0	0	0	0

Fig.7 – Services in the operation phase at global and National level

For the operation stage, the benchmark at national level shows the prevalence of:

- “SW solution” and “Information material, guidance/manual/ guidebooks” in Italy
- “SW solution” and “Personal consulting, guidance and support” in France
- “Information material, guidance/manual/ guidebooks” in Austria
- “Stand alone calculation tools” and “Personal consulting, guidance and support” in Bulgaria
- “Stand alone calculation tools”, “Information material, guidance/manual/ guidebooks” and “SW solution” in Croatia

The following table summarizes the findings from this research. The number as well as the colour of each cell represents the service count. It's important to note that a single service can belong to multiple categories and contribute to the service count of various cells.

	EU			ITALY			FRANCE			AUSTRIA			BULGARIA			CROATIA		
	D	E	O	D	E	O	D	E	O	D	E	O	D	E	O	D	E	O
Information material, guidance/manuals/guidebooks	3	3	3	3	2	2	1	1	1	3	2	2	2	2	2	5	3	3
Personal consulting, guidance and support	1	0	0	3	1	1	3	2	2	1	1	1	5	5	5	1	1	1
Technological screening, Product testing	0	0	0	1	1	1	0	0	0	2	0	0	0	2	2	1	0	0
Stand alone Calculation tool (economical, technical,...)	1	0	0	2	1	1	4	0	0	8	1	1	5	7	7	5	3	3
Networking service	4	1	1	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0
List/Directory (of Professionals, ...)	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0
Policy Advocacy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mediation service	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Training	3	0	0	1	0	0	2	1	1	0	0	0	0	0	0	0	0	0
HW solutions	0	0	0	0	0	0	0	1	1	0	0	0	3	3	3	0	0	0
SW solutions	0	0	0	2	2	2	1	2	2	0	0	0	2	4	4	5	3	3
Representing the interests of a group	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

Fig.8 – Services per Country and per Phase

At National level, in Italy services cover mainly the development phase. “Information material, guidance/manuals/guidebooks” and “SW solutions” are the most active in all the stages.

Also in France, development phase services are the most numerous. “Personal consulting, guidance and support” and “SW solutions” are the main available services.

In Austria, services are linked to “stand alone calculation tools” especially for development stage and “Information material, guidance, manuals and guidebooks” for all stages.

In Bulgaria, services are mainly for the execution and operation stages, namely stand-alone calculation tools and personal consulting, guidance and support.

In Croatia, services cover also all the three phases. The available services aren't specific for RECs, but they can be used for different purposes. In addition, most of them are “imported” from European /worldwide tools.

7.5 Customisation

Customisation means that the service is tailored to the needs of users.

Overall, 78% of the selected tools are ready to be used directly, 15% need tuning and 7% are still being implemented and not ready yet.

In EU, only one service, “Digital tools for energy community”, needs tuning. Also in Italy, the “info package” needs tuning to be updated with the legislative framework evolution, concerning especially the operational rules.

In France, all tools are ready to be used except for REScoopVPP service.

In Austria, all tools can be used as they are.

In Bulgaria, 3 services out of 9, namely “Energy supply”, “Electricity consumption consultations and comparison, electricity cost comparison” and “Consumer effect calculator” need tuning.

In Croatia, all proposed tools are available to be used in their current state.

Customisation	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Ready to be used as is	2	5	6	8	6	5	32
Ready soon	2	1	0	0	0	0	3
Needs tuning	1	1	1	0	3	0	6

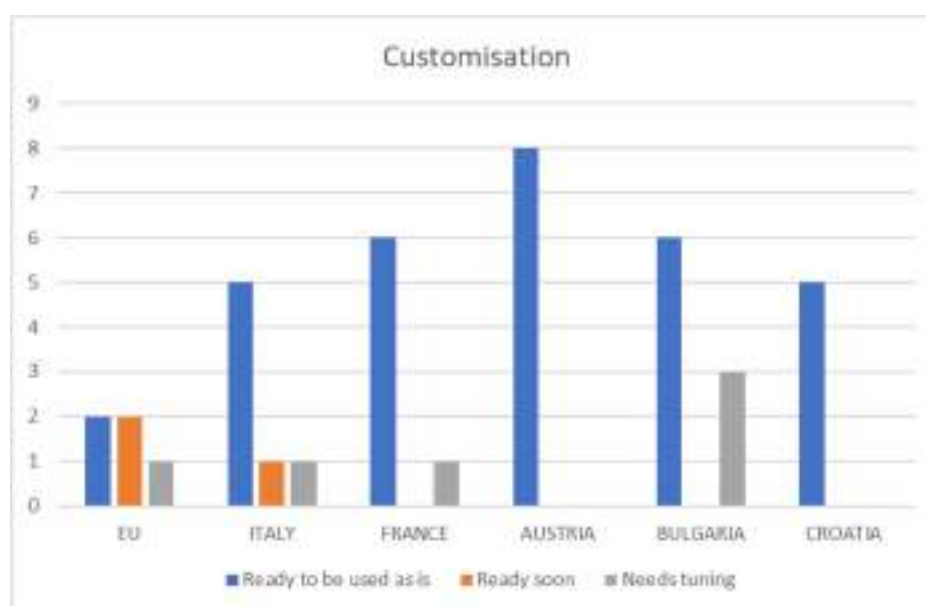
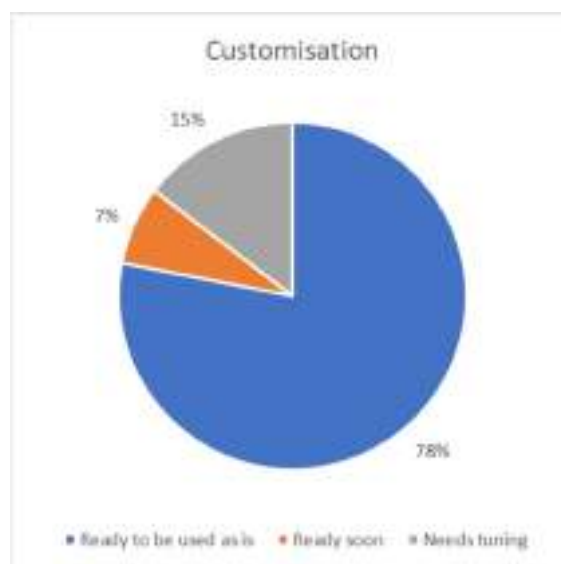


Fig.9 – Customisation of the service at global and National level

7.6 User friendliness

User friendliness means that the service is well designed and easy to use.

In general, 82% of the services are user friendly.

At national level, from the EU selection, only Beckon is not user friendly, because you get a bit lost trying to get to the document you need (too many resources or just not well organized).

	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
User friendliness							
User friendly	4	6	3	8	5	5	31
Not user- friendly	1	1	0	0	1	0	3
Other	0	0	4	0	3	0	7

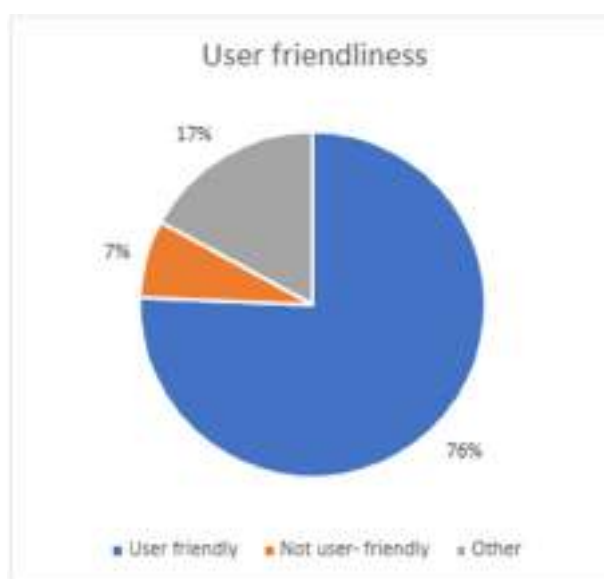
In Italy, DHOMUS platform is not so friendly, because the access requires a lot of time.

In France, three services user-friendly (photovoltaïque.info, AutoCalSol, MySolarPotential) and four are not known enough by APC to give a clear judgment (Enogrid, REScoop VPP, Les Générateurs, Enedis Grid connection calculation tool).

In Bulgaria, services from national institutions by rule are user friendly, but others, from private providers with specific parameters can be obtained by training and coaching.

In Austria, three services, namely “PVGIS”, “Info material and trainings” and “Sola energy assessment tool” are not tuneable at all. They are mature tools accessible through an interactive web-platform. They are versatile and satisfy many different use cases, thus don’t need to be changed anymore”.

In Austria and Croatia, all services are user friendly.



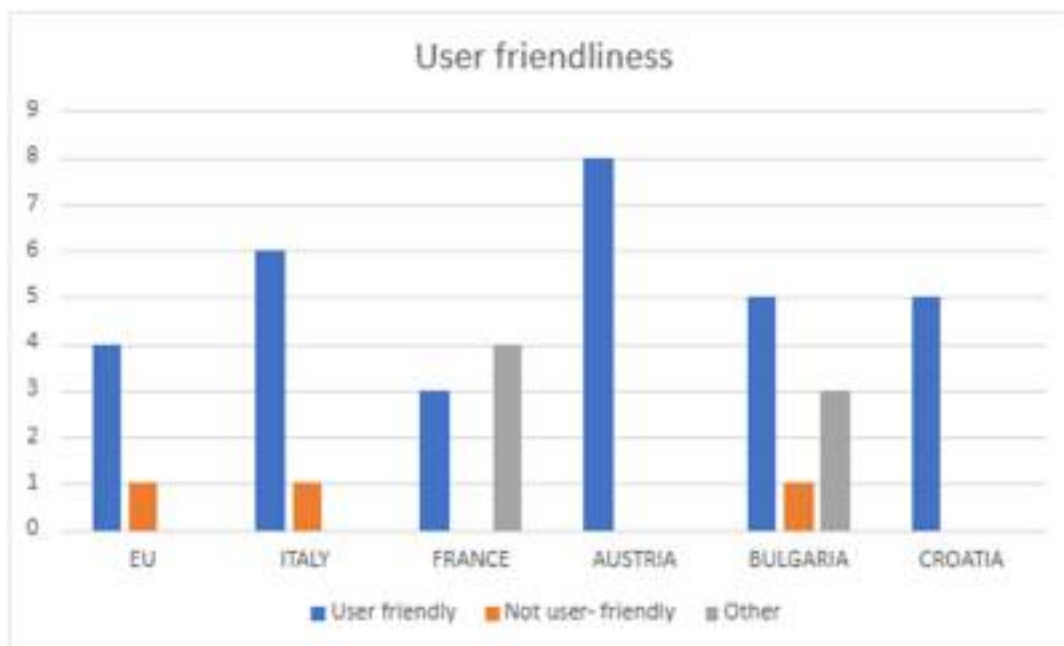


Fig.10 – User friendliness of the service at global and National level

7.7 Tunability

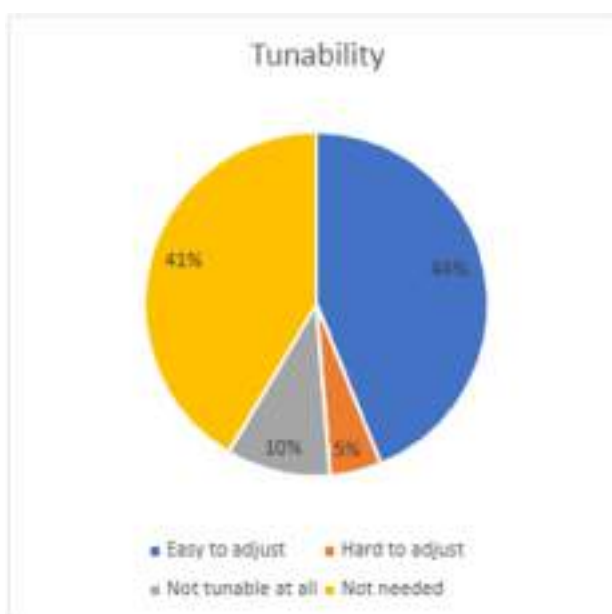
Concerning tunability, in general, 44% of services are easy to adjust and 41% of them don't require changes at all.

At national level, in EU and in Italy, the selected services are mainly easy to adjust or they don't need changes.

	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Tunability							
Easy to adjust	3	3	1	1	7	3	18
Hard to adjust	0	0	0	0	1	1	2
Not tuneable at all	0	0	0	3	0	1	4
Not needed	2	4	6	4	1	0	17

In Austria, three services, namely "PVGIS", "Info material and trainings" and "Sola energy assessment tool" are not tuneable at all. They are mature tools accessible through an interactive web-platform. They are versatile and satisfy many different use cases, thus don't need to be changed anymore.

In Bulgaria "Electricity consumption consultations and comparison" and "In Bulgaria all of the services are ready for use, but often need tuning up and generally (with the exception of GRID-ONE) they are not designed to meet the specific needs and requirements of CECs and RECs.



So, the majority of services are presented "as is", but with the development of the CECs and REC's sector in the country they are expected to be subject to changes.

For instance, the "Household Energy Calculator" of the national Sustainable Energy Development Agency takes in the data for energy communities, but is limited to one object with presumably small number of energy installations, and its results are focused on planned energy savings, all other energy results being a co-product of the calculations that is unfriendly to deal with.

GRID-ONE platform's functionalities for energy communities are full in scope, but are under constant tuning-up by the owners of the platform.

Services, like the ones offered by ENERGO-PRO and ELECTROHOLD are pinpointed at electricity consumption and comparison of expenses and would need some changes to meet the needs of CECs and REC's. EcoStruxure Smart Metering Advisor is designed to meet the situations of different energy technologies and must undergo changes in order to be fit for CECs and REC's. The same is applicable to the Energymonitor Pro of Energymonitor.

In Croatia, most of the tools are ready for use and are not intended to be changed (web tools), standalone tools could be optimised and adapted to certain degree with templates "RETScreen", and "Homer Pro microgrid" offers complex optimisations and extended tunability with SDK. The SDK allows HOMER users to write their control algorithms in C++, compile them into dynamic linking libraries (DLLs), and include them as a user-selectable controller for their microgrid. This enables almost perfect level of customisation but requires profound domain knowledge and programming skills.

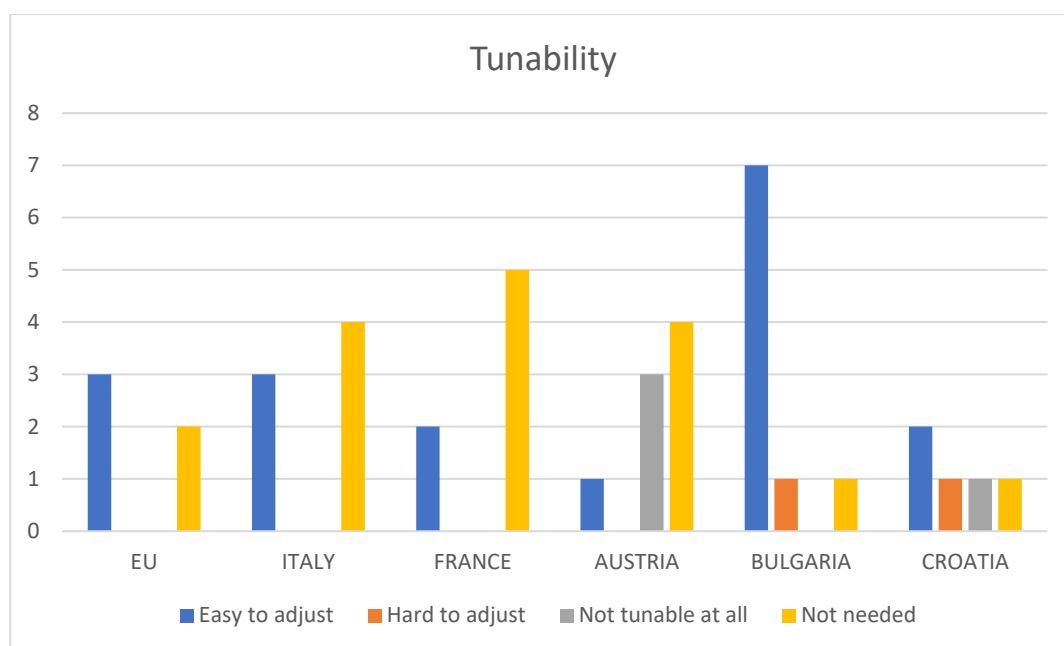


Fig.11 – Tunability of the service at global and National level

7.8 Accessibility of the service

Relating to the accessibility of the services, overall, 63% of them are free and 24% require the user to sign-in with an user account.

Free services are mostly provided by public organisations.

Accessibility of the service	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Free	2	6	4	8	3	3	26
Sign-up/account	3	1	1	0	3	2	10
Paywall	0	0	1	0	3	0	4
Other	0	0	1	0	0	0	1

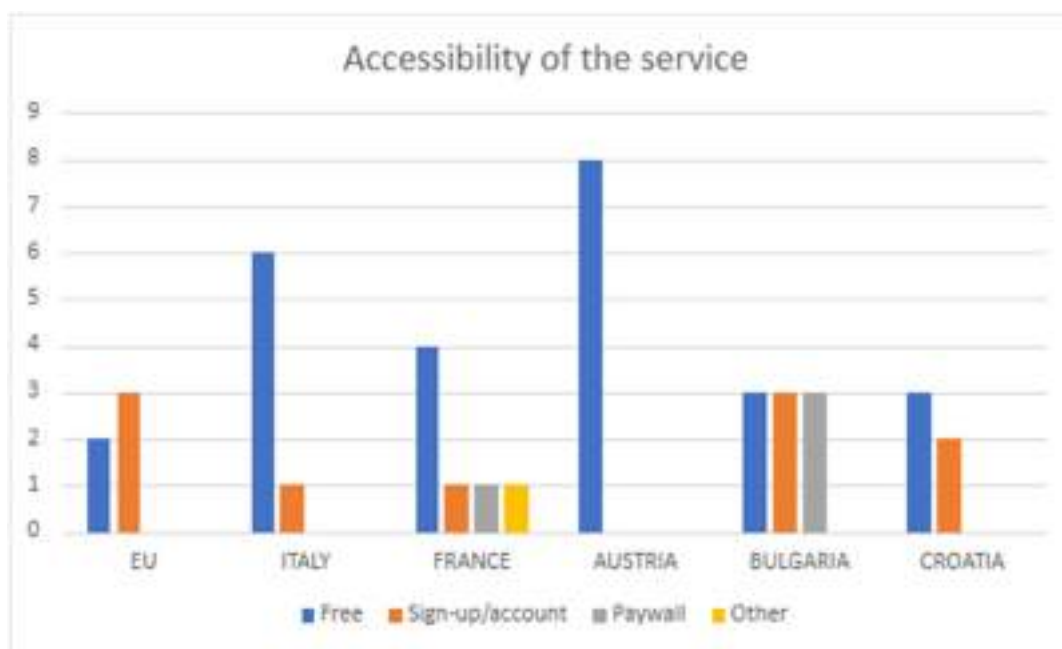
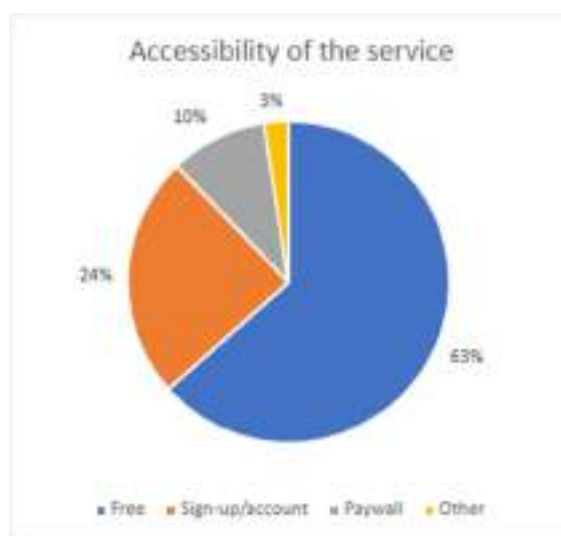


Fig.12 – Accessibility of the service at global and National level

7.9 Licensing cost

Only limited information is available for licensing fees and costs of services, especially because that data is typically not publicly available. Overall, most of the services are free of charge (28), some need subscription (12), some provide free demo (7) and 7 require a service fee.

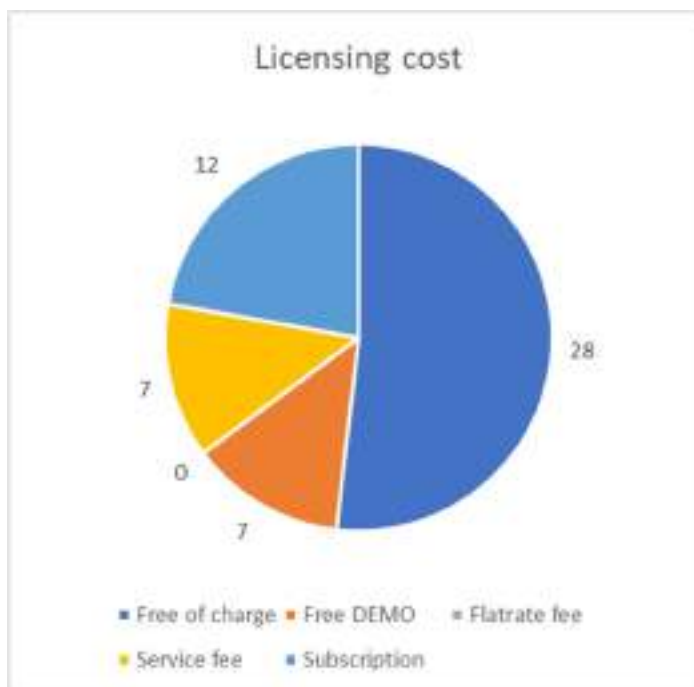
The EU and Austrian selected services are all free of charge.

On the other hand, in Italy, many services are free, but they require a subscription (i.e. RECON; DHOMUS). ROSE provides a subscription and it's possible to access a free demo with limited functionalities. For advanced functionalities, a service fee is needed. The cost of the service consists of two parts: an entry fee and a fee depending on the number of users and installed power.

In France, a service fee is required by Enogrid and AutoCalSol. The latter offers both a free version and a paid license version, starting from 250 euro per year. France is the only pilot region for which services are provided by “third sector” organisations, as well as the only one without any services declared as free of charge.

In Bulgaria, basic functionalities of many services are free, but require a subscription. For advances features, service fees are charged by EcoStruxure Smart Metering Advisor, Esco Bulgaria, Energy supply, with individual prices for each project. Bulgaria is the pilot region with the highest count of cost-bearing services. It is also the country with the highest count of services delivered by the private sector. For Croatia, most services or tools allow basic functionality at no cost. However, professional users need to purchase a license.

Licensing cost	EU	ITALY	FRANCE	AUSTRIA	BULGARIA	CROATIA	Total
Free of charge	5	4	3	8	4	4	28
Free DEMO	0	1	0	0	4	2	7
Flatrate fee	0	0	0	0	0	0	0
Service fee	0	1	2	0	3	1	7
Subscription	0	3	3	0	4	2	12



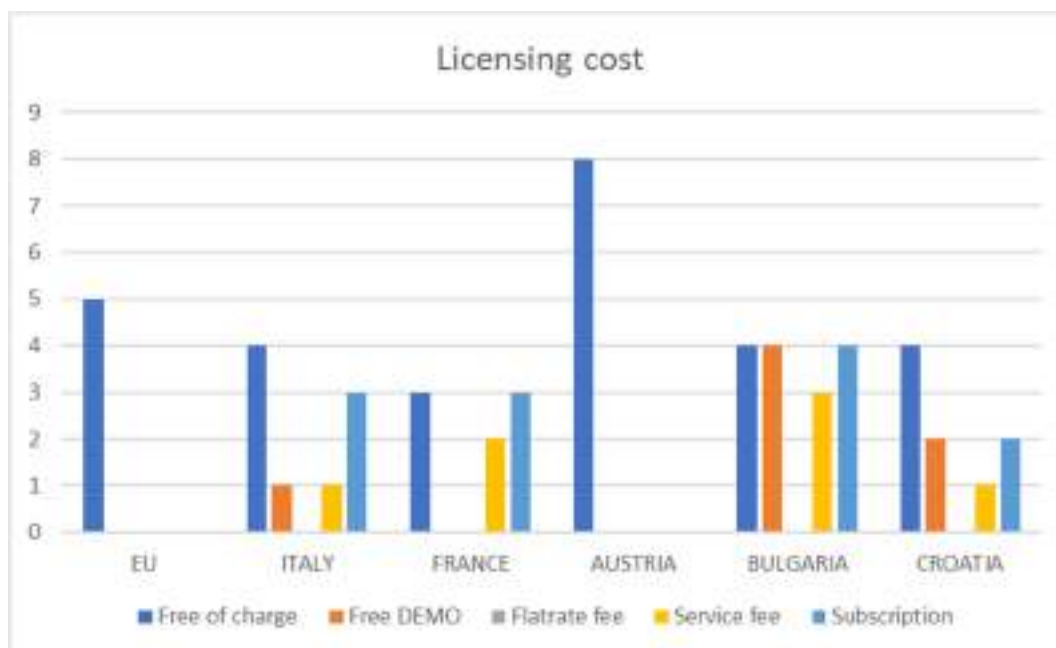


Fig.13 – Licensing cost at global and National level

8 Conclusions

Initiators of CEPs are primarily non-professional individuals who lack the necessary knowledge, experience and tools which hinders them from realizing their ideas. Initiators need guidance to navigate complex decisions and take the right steps. DISCOVER aims to address these challenges by offering integrated services to support them.

The purpose of this report is to gather existing services which help CEPs in overcoming barriers at any stage of the process (development, execution, operation).

The services scoped during this research are divers, influenced by the national framework in which they were developed, and aimed at addressing the challenges specific to their environments. This implies that the services are tailored to meet the specific needs of each country they origin from.

The report shows that majority of services cover the development stage of a CEP. In particular, they provide stand-alone calculation tools and guidance materials to provide information about the regulatory landscape, detailed instructions and resources to promote the concept of a CEP within the community.

Numerous existing services were identified, that focus on informing users at every stage through personalized consultations about energy community operations and the national and regional regulatory frameworks within which these communities operate. In fact, for each pilot region, such services were identified to provide access to information and enhance awareness.

The decentralized and distributed nature of renewable energy resources requires the use of digital solutions in order to better manage community electricity consumption, balance distributed supply with demand and make optimal use of existing grid infrastructure. For this purpose and for all stages, many services deliver tools and software for the internal management of the community and monitoring of energy consumptions. In some cases, these tools are based on open-source software.

These services cover the entire spectrum, ranging from raising awareness to providing technical assistance such as consultation, legal and financial advice, aggregation, assistance with administrative procedures (i.e. organizational support during the process of the legal body creation, providing the necessary administrative documentation), and tools that optimize the PV plant size and their yield.

As mentioned before, CEP support services aid CEPs in overcoming barriers and expediting their establishment process.

In the table below, typical hurdles are listed in the first column, followed by the corresponding project phase in the second column. The third and fourth column describe the services and tools which could theoretically mitigate these obstacles. Lastly, the last column references existing services - identified during this research – and matches them against existing hurdles.

The table gives highlights underserved needs and remaining gaps, which cannot be addressed by existing services. This is a preliminary gap analysis which will be further developed as part of WP3. Eventually, it will lead to the development of tailor-made new/advanced services.

Hurdle	Project Phase	Service	Tools	Name of the identified tools
Understanding the own status: actual community needs and project requirements (Which aspects of my community & project do I need to understand in order to make the right CEP choices?)	Development	Informational Service: provision of contextualized information, guiding CEP initiators through self-evaluation, help to clarify the starting point & first steps	CEP framework/guideline, self-assessment guideline, Meetings, Brochures, Educational Videos, etc.	GSE simulator (IT); Helpdesk Emilia Romagna (IT); Info-package (IT); Energiegeinschaften.gv.at (AT); photovoltaïque.info (FR); Energie Partagée (FR); Les Générateurs (FR), Grid one (BG), ESCO (BG), Grid Singularity (HR)
Understanding the development process; Project setup planning, How do I realize my project?	Development	Informational Service: provision of contextualized information; project setup support; continuous consultancy	Project planning tools (Project management, GANTT charts, and similar) templates for CEP	GSE simulator (IT); DHOMUS (IT); Helpdesk Emilia Romagna (IT); Info-package (IT); Energiegeinschaften.gv.at (AT); photovoltaïque.info (FR); Energie Partagée (FR); Les Générateurs (FR), Akhnaton of SEEA (BG), Grid Singularity (HR), Homer Pro (HR), RET Screen (HR)
Legal project setup, definition of project roles & risk management	Development	Advice on legal implications, roles & responsibilities	Checklist and contact info of partner experts Risk management evaluation tool	Helpdesk Emilia Romagna (IT); Info-package (IT); Energie Partagée (FR); Les Générateurs (FR), Grid one (BG), Homer Pro (HR), RET Screen (HR)
Technical viability, Is the project technically viable?	Development	Technical feasibility check, Structural engineering (ext), etc.	Grid level & section information enquiry system, list of structural engineers for assessment,	The interactive map of the primary substations (IT); Helpdesk Emilia Romagna (IT); Info-package (IT); My solar potential (FR); Energie Partagée

			etc.	(FR); Les Générateurs (FR); ENEDIS simulator (FR), Grid Singularity (HR), Homer Pro (HR), RET Screen (HR)
Decisions on technology to use, Which technologies are the best to use in my case?	Development	Technology advice	Technology monitoring status, technology evaluation methods/tools	PVGIS (EU); photovoltaïque.info (FR), Energymonitor Pro (BG), ESCO (BG),
Economic viability, Is my project economically viable?	Development	Economic check Financial assessment	Techno-economic simulation & digital twin of EC, Calculation of projected returns & break-even points, Investment budget template and financial needs	RECON (IT); GSE simulator (IT); ROSE (IT); Info-package (IT); PV calculation sheet (AT), OpenSolar (WW); AutoCalSol (FR); ENEDIS simulator (FR), ESCO (BG), Homer Pro (HR), RET Screen (HR), IBC Solar Calculator (HR), ZEZ Solar Calculator (HR)
Get all necessary permits	Execution	Informational service regarding necessary permits and licenses, interface management support	Checklist and contact partners for permits and licenses, standardized submission documents	GSE simulator (IT); photovoltaic.info (FR); Energie Partagée (FR)
How do I raise the necessary capital for my project	Execution	Financing support Financing partners matching	Documentation guidelines to make finance documentation clear List of financing partners (e.g. banks, crowdfunding agencies, etc.); matching evaluation tool	GSE simulator (IT); Helpdesk Emilia Romagna (IT); Energie Partagée (FR); Enercoop (FR)
What tax implications does my project have?	Execution	Tax overview Tax consultancy	Overview about taxes to be considered List of legal advisors with experience for consultancy	GSE simulator (IT); photovoltaïque.info (FR); Energie Partagée (FR);

Actual project development (construction/installation)	Execution	Matching service to professionals, requirements management	Documentation for inquiries, requirement management tool, List of professionals	Interest group for PV (AT); photovoltaïque.info quote evaluation tool (FR); Energie Partagée (FR); Enercoop (FR)
Finding fair settlement rules	Execution	Community guidance & mediation service	Techno-economic scenario evaluation and impact assessment	GSE simulator (IT); ROSE (IT); Energie Partagée (FR); Grid Singularity (HR)
Integration into energy community processes	Execution	continuous EC process update service	list of partners, update guidelines	ROSE (IT)
Management of operations	Operation	Information about operating the project	Guidebook for managing operations List of Third party operators that can take-over operations	GSE simulator (IT); Energie Partagée (FR); Enogrid (FR)
Measurement and Accounting	Operation	Informational service, SW solution	standardized data management & transfer tools; List of available solutions	RECON (IT); GSE simulator (IT); ROSE (IT); Energie Partagée (FR); Enogrid (FR); REScoop VPP (FR)
Settlement	Operation	Informational service, SW solution	Guidelines on settlement principles List of settlement service providers or settlement software	GSE simulator (IT); ROSE (IT); Energie Partagée (FR); REScoop VPP (FR), Eproes(BG), Grid Singularity (HR)

Annex 1 - Factsheet of services per partner

Annex 2 – Services and main findings in each partner Country in PP language



www.projectdiscover.eu

www.projectdiscover.eu



**Co-funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them. Project number: 101120622





D2.2 Factsheet on existing services and their features - ANNEX 1



**Co-funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them. Project number: 101120622

Name of the service/s:									
COMANAGE Open Platform									
Delivery organisation/project			Private						
Geographic coverage of the service:			Municipal		Provincial		Regional		
			National		Inter-MS		X	EU-wide	
Target users:			X	Local authorities		SMEs		ESCOs	NGO
			X	Citizens		Industry			
Type of services:					Development	Execution	Operation		
Information material, guidance/manuals/guidebooks					X	X	X		
Personal consulting, guidance and support									
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)									
Networking service					X				
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training					X				
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info: The main outputs of the project are: 1) Energy Communities Governance Toolkit 2) E-Learning Platform 3) Digital Hub 4) Decision Support System (DSS). They are all provided by the Comanage Open Platform.									
Customisation:			Ready soon			User friendliness:		User friendly	
Shortcomings and limitations of the service:									
The limitations are due to the fact that the services are not launched yet (ready soon though). In particulare, it is not sure yet whether the Digital Hub is going to see the light or not.									
Tunability:			Easy to adjust			Accessibility of the service: Sign-up/account			
Licensing cost:			Describe the cost fee of the service						
X	Free of charge	none							
	Free DEMO								
	Flatrate fee								
	Service fee	Contacts: joana@ecoserveis.net							
	Subscription								
Links of the service:									
https://comanage.spindoxlabs.com/cop									

Name of the service/s:									
BECKON All-In-One Platform									
Delivery organisation/project			Private						
Geographic coverage of the service:			Municipal		Provincial		Regional		
			National		Inter-MS		X	EU-wide	
Target users:			X	Local authorities		SMEs		ESCOs	NGO
			X	Citizens		Industry			
Type of services:					Development	Execution	Operation		
Information material, guidance/manuals/guidebooks					X	X	X		
Personal consulting, guidance and support									
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)									
Networking service					X				
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training					X	X			
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info: The platform delivers three tools: 1) Guidance Hub: Step-by-step Guidance 2) Training Hub: interactive learning material 3) Opportunity Hub: where to exchange know-how, build relationships and kickstart initiatives									
Customisation:			Ready soon			User friendliness:		Not user- friendly	
Shortcomings and limitations of the service:									
A lot of tools available. The Platform is not very friendly though, you get a bit lost trying to get to the document you need (too many resources or just not well organized): nevertheless the team is aware of this limit (due to the website working structure). At the moment the platform is only in spanish and english.									
Tunability:			Easy to adjust			Accessibility of the service:		Sign-up/account	
Licensing cost:			Describe the cost fee of the service						
X	Free of charge	none							
	Free DEMO								
	Flatrate fee								
	Service fee	Contacts:		federico.noris@r2msolution.com					
	Subscription								
Links of the service:									
https://app.community.nectios.com/life-beckon									

Name of the service/s:										
LifeLOOP Accreditation Scheme										
Delivery organisation/project			Private							
Geographic coverage of the service:			Municipal		Provincial		Regional			
			National		Inter-MS		X EU-wide			
Target users:			X	Local authorities		SMEs		ESCOs		NGO
				Citizens		Industry				
Type of services:					Development		Execution		Operation	
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)										
Networking service					X					
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training					X					
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		The signment of the charter leads to three tasks: 1. self-assessment tracker 2. Community Energy Espresso course 3) the asset match-making tool								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
asset match-making tool: needs to be updates.										
Tunability:			Not needed		Accessibility of the service:			Free		
Licensing cost:			Describe the cost fee of the service							
X	Free of charge	none								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		anna.francis@energy-cities.eu						
	Subscription									
Links of the service:										
https://energy-cities.eu/project/lifeloop-accreditation-scheme/										

Name of the service/s:									
SUN4U									
Delivery organisation/project			Private						
Geographic coverage of the service:			Municipal		Provincial		Regional		
			National		Inter-MS		X EU-wide		
Target users:			X	Local authorities		SMEs		ESCOs	NGO
			X	Citizens		Industry			
Type of services:					Development	Execution	Operation		
Information material, guidance/manuals/guidebooks									
Personal consulting, guidance and support					X				
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)					X	X			
Networking service					X	X	X		
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info: The app, available on for Android and Apple, allows you to form a REC starting from verifying the suitability of your coverage for the installation of photovoltaic panels. It is then possible to search for other nearby users to set-up a CER, simulate the results of the CER, create groups to communicate with the REC's participants.									
Customisation:			Ready to be used as is		User friendliness:		User friendly		
Shortcomings and limitations of the service:									
The application is still under construction. At the moment, the app is mainly in italian.									
Tunability:			Not needed		Accessibility of the service: Sign-up/account				
Licensing cost:			Describe the cost fee of the service						
X	Free of charge	none							
	Free DEMO								
	Flatrate fee								
	Service fee	Contacts: info@sun4u.it							
	Subscription								
Links of the service:									
https://sun4u.it/la-tua-cer-con-un-click/									

Name of the service/s:									
Digital tools for Energy Community - a short guide by Energy Community Repository									
Delivery organisation/project			Public						
Geographic coverage of the service:			Municipal		Provincial		Regional		
			National		Inter-MS		X EU-wide		
Target users:			X	Local authorities	X	SMEs		ESCOs	X NGO
			X	Citizens		Industry			
Type of services:					Development	Execution	Operation		
Information material, guidance/manuals/guidebooks					X	X	X		
Personal consulting, guidance and support									
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)									
Networking service									
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info: The Energy Communities Repository has compiled a short interactive guide with practical examples of digital solutions for energy communities in different scopes of application.									
Customisation:			Needs tuning		User friendliness:		User friendly		
Shortcomings and limitations of the service:									
Published in may 2023, meaning some more recent tools may not be mentioned in this guide.									
Tunability:			Easy to adjust		Accessibility of the service:		Free		
Licensing cost:			Describe the cost fee of the service						
X	Free of charge	none							
	Free DEMO								
	Flatrate fee								
	Service fee	Contacts: info@ec-repository.eu							
	Subscription								
Links of the service:									
https://energy-communities-repository.ec.europa.eu/document/download/eac35d1d-446f-40ee-bf9e-acea2adeaeda_en?filename=Energy%20Communities%20Repository%20-%20Short%20Guide%20-%20FINAL.pdf									

Name of the service/s:										
The interactive map of the primary substations										
Delivery organisation/project			Public							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:			X	Local authorities	X	SMEs	X	ESCOs	X	NGO
			X	Citizens	X	Industry				
Type of services:					Development		Execution		Operation	
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing					X		X		X	
Stand alone Calculation tool (economical, technical,...)										
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		It's a tool, updated every 2 years, to geolocate the Conventional Areas and verify that the interest connection points are located under the same primary substation. In Italy there are 2107 primary substations in total. The service is provided thanks to the collaboration with the Distribution System Operators.								
Customisation:			Ready to be used as is			User friendliness:		User friendly		
Shortcomings and limitations of the service:										
The map does not provide information relating to the smaller non-interconnected islands or to the areas relating to the Closed Distribution Systems.										
Tunability:			Not needed			Accessibility of the service:		Free		
Licensing cost:			Describe the cost fee of the service							
X	Free of charge	None								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		Tel. +39 0680111 - PEC: gsespa@pec.gse.it						
	Subscription									
Links of the service:										
https://www.gse.it/servizi-per-te/autoconsumo/mappa-interattiva-delle-cabine-primarie										

Name of the service/s:										
RECON - Renewable Energy Community ecONomic simulator										
Delivery organisation/project			Public							
Geographic coverage of the service:				Municipal		Provincial			Regional	
			X	National		Inter-MS			EU-wide	
Target users:			X	Local authorities	X	SMEs	X	ESCOs	X	NGO
			X	Citizens	X	Industry				
Type of services:					Development	Execution		Operation		
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)					X					
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		It's a web application by ENEA to support preliminary energy, economic and financial assessments for the creation of RECs and collective self-consumption. The tool calculates the production of PV system, the aggregate monthly consumption, collective self-consumption and shared energy and performs economic-financial analysis.								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
RECON2.0 has been updated on the basis of the new legislation (MASE Decree n. 414 del 07/12/2023 and Integrated Text on diffused self consumption (TIAD) in May 2024. Actually it can evaluate only PV. Shortly, modules for wind and hydroelectric systems will be released.										
Tunability:		Easy to adjust			Accessibility of the service:		Free			
Licensing cost:		Describe the cost fee of the service								
	Free of charge	After the subscription, the service is free								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		Matteo Caldera - recon.project@enea.it						
X	Subscription									
Links of the service:										
https://recon.smartenergycommunity.enea.it/										

Name of the service/s:										
Simulator for technical-economic assessment of PV systems for self-consumption groups or energy communities by GSE (Energy System manager).										
Delivery organisation/project			Public							
Geographic coverage of the service:				Municipal		Provincial			Regional	
			X	National		Inter-MS			EU-wide	
Target users:			X	Local authorities	X	SMEs	X	ESCOs	X	NGO
			X	Citizens	X	Industry				
Type of services:					Development		Execution		Operation	
Information material, guidance/manuals/guidebooks					X		X		X	
Personal consulting, guidance and support					X		X		X	
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)					X					
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		From the location address of the system, by entering the annual energy consumption and the surface area available for the panels, the simulator will calculate the adequate sizing of the PV systems, the investment and the return on investment. The tool provide also the link to guidance materials and personal support.								
Customisation:			Ready soon			User friendliness:		User friendly		
Shortcomings and limitations of the service:										
The simulator is being updated on the basis of the new legislation (MASE Decree n. 414 del 07/12/2023). The simulator will be ready at the beginning of April.										
Tunability:			Easy to adjust			Accessibility of the service:		Free		
Licensing cost:			Describe the cost fee of the service							
X	Free of charge	None								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:	It is possible to send a message directly in "customers assistance" or though call							
	Subscription									
Links of the service:										
https://www.autoconsumo.gse.it/										

Name of the service/s:										
DHOMUS - Data HOMes and USERS										
Delivery organisation/project			Public							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:				Local authorities		SMEs		ESCOs		NGO
			X	Citizens		Industry				
Type of services:						Development	Execution	Operation		
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)							X	X		
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions						X	X	X		
Representing the interests of a group										
Extra info:		Dhomus is a platform dedicated to residential users that allows timely monitoring of a home's energy consumption to provide educational feedback to the user and encourage conscious and virtuous use of energy.								
Customisation:			Ready to be used as is			User friendliness:		Not user- friendly		
Shortcomings and limitations of the service:										
Access to the DHOMUS platform requires the acquisition or availability of electricity consumption measurement tools. Furthermore, it is essential to configure these devices on the platform by the intervention of a specialized technician or company. Connection to the platform is possible via specifications provided by ENEA. Currently, the service is full active only in Rome.										
Tunability:			Not needed			Accessibility of the service:				
			Sign-up/account							
Licensing cost:		Describe the cost fee of the service								
	Free of charge	none								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts: dhomus.project@enea.it								
X	Subscription									
Links of the service:										
https://dhomus.smartenergycommunity.enea.it										

Name of the service/s:									
Energy Community HelpDesk for Emilia Romagna Region									
Delivery organisation/project			Public						
Geographic coverage of the service:			Municipal		Provincial		X		Regional
			National		Inter-MS				EU-wide
Target users:			X Local authorities		X SMEs		ESCOs		X NGO
			X Citizens		Industry				
Type of services:					Development		Execution		Operation
Information material, guidance/manuals/guidebooks					X				
Personal consulting, guidance and support					X		X		
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)									
Networking service					X				
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info: It is a service managed by ART-ER, on behalf of the Emilia-Romagna Region. You can submit a question about renewable energy communities or collective consumption groups by filling out a form. The service provides for two guidebooks: 1 - Introduction to Energy Sharing Models and 2- Main legal models for the establishment of the RECs legal entity									
Customisation:			Ready to be used as is		User friendliness:			User friendly	
Shortcomings and limitations of the service:									
The initiative also provides documents on what are collective self-consumption and renewable energy communities, how to activate a renewable energy community, economic incentives and benefits of local energy sharing. Some opportunities are valid only for Emilia Romagna Region.									
Tunability:			Not needed		Accessibility of the service:			Free	
Licensing cost:			Describe the cost fee of the service						
X	Free of charge		None						
	Free DEMO								
	Flatrate fee								
	Service fee		Contacts:		051 6450411 (from Monday to Friday from 10.00 to 13) or fill out the form)				
	Subscription								
Links of the service:									
https://energia.regione.emilia-romagna.it/come-fare-per/help-desk-comunita-energetiche-rinnovabili									

Name of the service/s:										
ROSE Energy Community Platform										
Delivery organisation/project			Private							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:			X	Local authorities	X	SMEs	X	ESCOs	X	NGO
			X	Citizens	X	Industry				
Type of services:					Development		Execution		Operation	
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)										
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions					X		X		X	
Representing the interests of a group										
Extra info:		It's the cloud-based SW for preliminary simulation of energy flows and for economic analysis of RECs. It supports the technical and economic analysis of RECs and provides a forecast of revenues, supports the development and improvement of the business model, compares different configurations, helps formulate a long-term strategy for REC management.								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
The basic version doesn't allow the customisation, only configurations with citizens are allowed (not SMEs).										
Tunability:		Not needed			Accessibility of the service:		Free			
Licensing cost:		Describe the cost fee of the service								
	Free of charge	The cost of the service consists of two parts: an entry fee and a fee depending on the number of users and installed power								
X	Free DEMO									
	Flatrate fee									
X	Service fee	Contacts:		Gabriele.Rossi@mapsgroup.it						
X	Subscription									
Links of the service:										
https://energy.mapsgroup.it/energy-community-designer-registrati-2/										

Name of the service/s:										
Info package and informative platform for Renewable Energy Communities										
Delivery organisation/project			Private							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:			X	Local authorities	X	SMEs		ESCOs	X	NGO
			X	Citizens		Industry				
Type of services:						Development	Execution	Operation		
Information material, guidance/manuals/guidebooks						X	X	X		
Personal consulting, guidance and support						X	X			
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)										
Networking service						X	X			
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training						X				
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		It consists of a guide with information relating to technological, legal, social, governance and economic management aspects of RECs and 4 in-depth videos carried out by experts. The package includes also administrative templates for the establishment of a CER by a local authority, the deed of incorporation and statute of the legal entity. In addition, an information help-desk platform using an artificial intelligence system has been provided.								
Customisation:		Needs tuning				User friendliness:		User friendly		
Shortcomings and limitations of the service:										
The info package was updated in July 2023. The templates for deed of incorporation and statute of legal entity cover only not recognised association, foundation and limited partnership.										
Tunability:		Easy to adjust				Accessibility of the service:		Free		
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	None								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		assistentzarol@compagniadisanpaolo.it						
	Subscription									
Links of the service:										
https://www.compagniadisanpaolo.it/it/contributi/sinergie/										

Name of the service/s:										
National center of resources on photovoltaic (Hespul)										
Delivery organisation/project			Third sector			Association				
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:			X	Local authorities	X	SMEs	X	ESCOs	X	NGO
			X	Citizens	X	Industry				
Type of services:					Development		Execution		Operation	
Information material, guidance/manuals/guidebooks					X		X		X	
Personal consulting, guidance and support					X		X		X	
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)					X		X			
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		1) The reference website with comprehensive and up-to-date ressources on PV. Personal consulting for pros via email or phone. + two online tools: 2) evaluation of local photovoltaic yield 3) evaluation of quotes								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
* Very useful and accessible, updated and comprehensive. * Information on collective self-consumption but no focus on Energy communities.										
Tunability:			Not needed			Accessibility of the service:				Free
Licensing cost:			Describe the cost fee of the service							
X	Free of charge	None								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		https://www.photovoltaique.info/fr/nous-contacter/						
	Subscription									
Links of the service:										
https://www.photovoltaique.info/fr/ https://carte-productible.photovoltaique.info/ https://evaluer-mon-devis.photovoltaique.info/										

Name of the service/s:									
My solar potential (Ile-de-France Region)									
Delivery organisation/project			Public		Regional authority				
Geographic coverage of the service:			Municipal		Provincial		X		Regional
			National		Inter-MS				EU-wide
Target users:			X Local authorities		X SMEs		ESCOs		NGO
			X Citizens		Industry				
Type of services:					Development		Execution		Operation
Information material, guidance/manuals/guidebooks									
Personal consulting, guidance and support									
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)					X				
Networking service									
List/Directory (of Professionals, ...)					X				
Policy Advocacy									
Mediation service									
Training									
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info: Online tool for Ile-de-France territory that gives a first estimation of the solar yield of any building (kwh/m ² /year), general advice on the next steps and a directory of professionals									
Customisation:			Ready to be used as is		User friendliness:		User friendly		
Shortcomings and limitations of the service:									
Quite user-friendly and easy to use, but we lack feedback on its effectiveness as a project driver. * Focuses in the first step (productible), the next steps are quickly presented * Focuses on individual move at various scales (habitat, parking area, municipality), does not imply a community approach									
Tunability:			Not needed		Accessibility of the service:		Free		
Licensing cost:			Describe the cost fee of the service						
X	Free of charge		None						
	Free DEMO								
	Flatrate fee								
	Service fee		Contacts:		assistance@smartidf.services / contact@smartidf.services				
	Subscription								
Links of the service:									
https://monpotentielsolaire.smartidf.services/fr									

Name of the service/s:									
AutoCalSol - Solar yield calculation tool (INES)									
Delivery organisation/project			Public			Public center of research			
Geographic coverage of the service:				Municipal		Provincial			Regional
			X	National		Inter-MS			EU-wide
Target users:			X	Local authorities	X	SMEs	X	ESCOs	NGO
			X	Citizens		Industry			
Type of services:					Development		Execution		Operation
Information material, guidance/manuals/guidebooks									
Personal consulting, guidance and support									
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)					X				
Networking service									
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info: Software for preliminary sizing of self-consumption PV installations. * Free version: Compares monthly production with consumption of typical residential or professional users ; calculates self-consumption rate, economical, ecological indicators. * A paid license is upgraed and can use actual consumption data. * Same basic software as PVGIS's.									
Customisation:			Ready to be used as is			User friendliness:		User friendly	
Shortcomings and limitations of the service:									
APC uses the tool. Convenient.									
Tunability:			Easy to adjust			Accessibility of the service:		Free	
Licensing cost:			Describe the cost fee of the service						
	Free of charge		Offers both a free version, and paid license versions (starting 250 euros per year).						
	Free DEMO								
	Flatrate fee								
	Service fee		Contacts: autocalsol@ines-solaire.org						
X	Subscription								
Links of the service:									
https://autocalsol.ines-solaire.org/									

Name of the service/s:									
Les Générateurs - Public consultancy for local authorities (Ademe & regional authorities)									
Delivery organisation/project			Public		Energy agency				
Geographic coverage of the service:			Municipal		Provincial		X		Regional
			National		Inter-MS				EU-wide
Target users:			X Local authorities		SMEs		ESCOs		NGO
			Citizens		Industry				
Type of services:					Development		Execution		Operation
Information material, guidance/manuals/guidebooks									
Personal consulting, guidance and support					X		X		X
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)									
Networking service									
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training					X		X		X
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info: State-driven network of public consultants for municipalities and reunion of municipalities. Organized at the regional level. Provides first advices, consulting and training for the local development of renewable energies, wind and solar. Was created in 2022. 70 consultants in 12 regions to date.									
Customisation:			Ready to be used as is		User friendliness:		Absence of feedback		
Shortcomings and limitations of the service:									
* Service dedicated to local authorities, not CEPs themselves * No shortcomings known but APC lacks feedbacks on this recently created service as it is not operating in Paris.									
Tunability:			Not needed		Accessibility of the service:		Free		
Licensing cost:			Describe the cost fee of the service						
X	Free of charge	None							
	Free DEMO								
	Flatrate fee								
	Service fee	Contacts:		https://lesgenerateurs.ademe.fr/contact/					
X	Subscription								
Links of the service:									
https://lesgenerateurs.ademe.fr/ https://agirpourlatransition.ademe.fr/collectivites/amenager-territoire/energies-renouvelables-sobriete/photovoltaique									

Name of the service/s:									
REScoopVPP - virtual power plant project for energy communities									
Delivery organisation/project			Third sector			EU project			
Geographic coverage of the service:			Municipal		Provincial		Regional		
			National		Inter-MS		X	EU-wide	
Target users:			Local authorities		SMEs	X	ESCOs	NGO	
			Citizens		Industry				
Type of services:					Development		Execution		Operation
Information material, guidance/manuals/guidebooks									
Personal consulting, guidance and support									
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)									
Networking service									
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions									X
SW solutions									X
Representing the interests of a group									
Extra info:		The main aim of REScoopVPP is to set-up a community-driven virtual power plant that can actually provide flexibility services to the grid for 100% renewables (balancing the intermittent energy). Developed in France and 4 EU countries from 2020 to 2023. The final tool is called COFI box. Both hardware and software. Open-source solution.							
Customisation:		Needs tuning			User friendliness:		Absence of feedback		
Shortcomings and limitations of the service:									
It is not a commercial tool, but rather a prospective tool at this stage. 1.domestic equipment automation & control (by the Carbon co-op) 2.forecasting algorithms (by Enercoop) 3.cloud-computing to integrate all weather and market information into one signal (EnergieID) They are working in further integrating these services in the medium term.									
Tunability:		Easy to adjust			Accessibility of the service:		Other		
Licensing cost:		Describe the cost fee of the service							
	Free of charge	Unknown							
	Free DEMO								
	Flatrate fee								
X	Service fee	Contacts:		roland.tual@rescoop.eu / sara.tachelet@rescoop.eu					
	Subscription								
Links of the service:									
https://www.rescoopvpp.eu/									

Name of the service/s:										
Grid connection calculation tool (Enedis)										
Delivery organisation/project			Public		Private		DSO			
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:			X	Local authorities	X	SMEs		ESCOs		NGO
			X	Citizens		Industry				
Type of services:					Development	Execution	Operation			
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)					X					
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		Estimates the price and complexities for connecting a PV installation to the public grid. Provided by Enedis, the Distribution System Operator of 95% of France. Needs a subscription, free. Also provides data about the PV productions.								
Customisation:		Ready to be used as is			User friendliness:		Absence of feedback			
Shortcomings and limitations of the service:										
APC lacks feedback from this tool. User interface is accessible.										
Tunability: Not needed				Accessibility of the service: Sign-up/account						
Licensing cost:		Describe the cost fee of the service								
	Free of charge	Free subscription								
	Free DEMO	Takes one or two days to get effective after subscription demand								
	Flatrate fee									
	Service fee	Contacts:		https://www.enedis.fr/aide-contact/contacter-enedis						
X	Subscription									
Links of the service:										
https://mon-compte-client.enedis.fr/										

Name of the service/s:										
Enogrid commercial solutions for collective self-consumption										
Delivery organisation/project			Private			Start-up				
Geographic coverage of the service:				Municipal		Provincial			Regional	
			X	National		Inter-MS			EU-wide	
Target users:			X	Local authorities	X	SMEs	X	ESCOs	X	NGO
				Citizens	X	Industry				
Type of services:						Development	Execution	Operation		
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support						X	X			
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)										
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training						X				
HW solutions										
SW solutions						X		X		
Representing the interests of a group										
Extra info:	Start-up aiming at fostering collective self-consumption. Sells digital tools to pros for complex simulation and PV production management, as well as training and consulting. There is EnoLab tool for development phase, EnoPower for operation phase.									
Customisation:			Ready to be used as is			User friendliness:		May rebuke non-professionals		
Shortcomings and limitations of the service:										
Not free. APC has no feedback.										
Tunability:			Not needed			Accessibility of the service:				Paywall
Licensing cost:		Describe the cost fee of the service								
	Free of charge	Not available								
	Free DEMO									
	Flatrate fee									
X	Service fee	Contacts:	contact@enogrid.com							
	Subscription									
Links of the service:										
https://enogrid.com/										

Name of the service/s:										
PVGIS - Photovoltaic Geographical Information System										
Delivery organisation/project			Public							
Geographic coverage of the service:			Municipal		Provincial		Regional			
			National		Inter-MS		X	EU-wide		
Target users:			X	Local authorities	X	SMEs		ESCOs	X	NGO
			X	Citizens		Industry				
Type of services:					Development	Execution	Operation			
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)					X					
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		Tool to determine the solar radion for a specific loaction. The tool is provided by a joint research center under the European Commission.								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
Plant size needs to be entered manually.										
Tunability: Not tunable at all					Accessibility of the service: Free					
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	free								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		European Commission, Joint Research Centre						
	Subscription									
Links of the service:										
https://re.jrc.ec.europa.eu/pvg_tools/en/										

Name of the service/s:										
Guidebook, Support services and benefit tool and calculations sheets										
Delivery organisation/project			Public							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:				Local authorities	X	SMEs		ESCOs		NGO
			X	Citizens	X	Industry				
Type of services:					Development	Execution	Operation			
Information material, guidance/manuals/guidebooks					X	X	X			
Personal consulting, guidance and support					X	X	X			
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)					X					
Networking service					X					
List/Directory (of Professionals, ...)					X	X	X			
Policy Advocacy										
Mediation service					X					
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		Local OSS in each state of Austria offering in person support Contract templates, EC guidebook and benefit calculator, info events Bundles knowledge on homepage: Explanations, Best Practice Examples, List of professionals								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
Specific for Energy communities										
Tunability:		Not needed			Accessibility of the service:		Free			
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	Free								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		Austrian coordination office for energy communities						
	Subscription									
Links of the service:										
https://energiegemeinschaften.gv.at/online-guide/ https://www.energieinstitut.at/tools/benefit/										

Name of the service/s:										
PV-Tool for yield calculation										
Delivery organisation/project			Private							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:				Local authorities	X	SMEs		ESCOs		NGO
			X	Citizens		Industry				
Type of services:						Development	Execution	Operation		
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)						X				
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		Calculation Sheet. Inputs (area code, orientation, size, service costs), output (point of return, funding opportunities)								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
Self-Consumption = constant value										
Tunability:			Easy to adjust			Accessibility of the service: Free				
Licensing cost:			Describe the cost fee of the service							
X	Free of charge	Free								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		Austrian Energy Agency						
	Subscription									
Links of the service:										
https://www.klimaaktiv.at/service/tools/erneuerbare/pv_rechner.html										

Name of the service/s:										
Calculators and Market Data										
Delivery organisation/project			Public							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:				Local authorities	X	SMEs		ESCOs		NGO
			X	Citizens		Industry				
Type of services:						Development	Execution	Operation		
Information material, guidance/manuals/guidebooks						X				
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)						X		X		
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group						X				
Extra info:	Regulatory Authority = Attorney of all energy consumers, responsible for monopoly regulation and market supervision - Calculators for energy tariffs (compares electricity and gas prices) - Distribution costs overview, Overview costs and fees - Market data									
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
None										
Tunability:			Not needed			Accessibility of the service: Free				
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	Free								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:	E-Control							
	Subscription									
Links of the service:										
https://www.e-control.at										

Name of the service/s:										
Infomaterial and Trainings										
Delivery organisation/project			Private							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:				Local authorities		SMEs		ESCOs		NGO
			X	Citizens	X	Industry				
Type of services:					Development	Execution	Operation			
Information material, guidance/manuals/guidebooks					X	X	X			
Personal consulting, guidance and support										
Technological screening, Product testing					X					
Stand alone Calculation tool (economical, technical,...)					X					
Networking service					X	X				
List/Directory (of Professionals, ...)						X				
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group						X				
Extra info:		interest group for PV and electricity storage in Austria -) Infomaterials -) Networking: Find professionals -) online tools: Foerderkompass, radiation data, sales price for PV electricity, guidebook for PV installations-) Financial & Technical assistance -) trainings, events -) Policy advocacy								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
Simple PV tools and basic information										
Tunability:		Not tunable at all			Accessibility of the service:		Free			
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	Free								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		FEDERAL ASSOCIATION OF PHOTOVOLTAIC AUSTRIA						
	Subscription									
Links of the service:										
https://pvaustria.at										

Name of the service/s:									
PV installation size calculator									
Delivery organisation/project			Private						
Geographic coverage of the service:			Municipal		Provincial		Regional		
			National		Inter-MS		X EU-wide		
Target users:			Local authorities		X	SMEs	ESCOs		NGO
			X Citizens	X	Industry				
Type of services:					Development	Execution		Operation	
Information material, guidance/manuals/guidebooks									
Personal consulting, guidance and support									
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)					X				
Networking service									
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info:		Great tool to calculate the size/yield/costs of a PV plant.							
Customisation:		Ready to be used as is			User friendliness:		User friendly		
Shortcomings and limitations of the service:									
Need to register									
Tunability: Not needed				Accessibility of the service: Free					
Licensing cost:			Describe the cost fee of the service						
X	Free of charge		No Costs.						
	Free DEMO								
	Flatrate fee								
	Service fee		Contacts:		OPENSOLAR				
	Subscription								
Links of the service:									
https://app.opensolar.com/									

Name of the service/s:										
Solar energy assessment tool										
Delivery organisation/project			Public							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:			X	Local authorities	X	SMEs		ESCOs	X	NGO
			X	Citizens	X	Industry				
Type of services:					Development	Execution	Operation			
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing					X					
Stand alone Calculation tool (economical, technical,...)					X					
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:		Sponsored and developed with the European Space Agency. They use Earth Observation Data to provide information for Green Transition. E.g. Solar potential, wind potential, etc.								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
Map based service, with low resolution. Most relevant service is the solar energy assessment tool, which allows to choose one out of four seasons. Available data limited to the vicinity of the energy grid (2500m or less).										
Tunability:		Not tunable at all			Accessibility of the service:		Free			
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	Free online service								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		Green Energy Transition Information Factory						
	Subscription									
Links of the service:										
https://gtif.esa.int/										

Name of the service/s:																			
Solar Potential Map																			
Delivery organisation/project			Public																
Geographic coverage of the service:			Municipal		Provincial		X		Regional										
			National		Inter-MS				EU-wide										
Target users:			X	Local authorities		X	SMEs	ESCOs		NGO									
			X	Citizens		Industry													
Type of services:					Development		Execution		Operation										
Information material, guidance/manuals/guidebooks																			
Personal consulting, guidance and support																			
Technological screening, Product testing																			
Stand alone Calculation tool (economical, technical,...)					X														
Networking service																			
List/Directory (of Professionals, ...)																			
Policy Advocacy																			
Mediation service																			
Training																			
HW solutions																			
SW solutions																			
Representing the interests of a group																			
<table border="1"> <tr> <td>Extra info:</td> <td colspan="9">Map based service, qualitative and quantitative evaluation of solar potential on a "per house" scale</td> </tr> </table>										Extra info:	Map based service, qualitative and quantitative evaluation of solar potential on a "per house" scale								
Extra info:	Map based service, qualitative and quantitative evaluation of solar potential on a "per house" scale																		
Customisation:		Ready to be used as is			User friendliness:		User friendly												
Shortcomings and limitations of the service:																			
Outputs the plant size only, no yield.																			
Tunability: Not needed					Accessibility of the service: Free														
Licensing cost:		Describe the cost fee of the service																	
X	Free of charge	Free																	
	Free DEMO																		
	Flatrate fee																		
	Service fee	Contacts:		City of Vienna solar potential register															
	Subscription																		
Links of the service:																			
https://www.wien.gv.at/stadtentwicklung/energie/themenstadtplan/solarpotenzial/																			

Name of the service/s:										
Grid Singularity simulates and operates interconnected grid-aware energy marketplaces enabling the utmost degrees of freedom in trading for any market participant.										
Delivery organisation/project			Private							
Geographic coverage of the service:			Municipal		Provincial		Regional			
			National		Inter-MS		X EU-wide			
Target users:			X	Local authorities		SMEs		ESCOs	X NGO	
				Citizens		Industry				
Type of services:					Development		Execution		Operation	
Information material, guidance/manuals/guidebooks					X				X	
Personal consulting, guidance and support										
Technological screening, Product testing					X					
Stand alone Calculation tool (economical, technical,...)					X		X		X	
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions					X		X		X	
Representing the interests of a group										
Extra info:		Grid Singularity facilitates a bottom-up market design by connecting aggregators, which in turn connect households and distributed energy assets digitally represented by trading agents, and grid operators through an application interface (Grid Operator API and Asset API).								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
Very useful tool for EC energy flows simulation, the tool is demanding to use, but after training, very complex modelling of energy communities is possible. We have a very direct positive experience in using it.										
Tunability:			Easy to adjust			Accessibility of the service:			Free	
Licensing cost:			Describe the cost fee of the service							
X	Free of charge		Grid Singularity's software is available under an Free of charge GNU General Public License, with a specific licence link provided in Grid Singularity's GitHub repository, and subject to Terms of Services that are available on: https://gridsingularity.com/terms-of-service							
X	Free DEMO									
	Flatrate fee									
	Service fee		Contacts: contact@gridsingularity.com							
	Subscription									
Links of the service:										
https://gridsingularity.com/										

Name of the service/s:										
The HOMER Pro® microgrid software by UL Solutions is the global standard for optimizing microgrid design										
Delivery organisation/project			Private							
Geographic coverage of the service:			Municipal		Provincial		Regional			
			National		Inter-MS		X EU-wide			
Target users:			Local authorities		X	SMEs	X	ESCOs	NGO	
			Citizens		X	Industry				
Type of services:					Development		Execution		Operation	
Information material, guidance/manuals/guidebooks					X		X		X	
Personal consulting, guidance and support					X		X		X	
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)					X		X		X	
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions					X		X		X	
Representing the interests of a group										
Extra info:		HOMER (Hybrid Optimization Model for Multiple Energy Resources) nests three powerful tools in one software product, so that engineering and economics work side by side: Simulation, Optimisation and Sensitivity Analysis								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
Expensive! It is a very complex and professional tool, but it is primarily intended for large energy communities, aggregators or wireless network managers.										
Tunability:		Hard to adjust			Accessibility of the service:		Sign-up/account			
Licensing cost:		Describe the cost fee of the service								
	Free of charge	Monthly subscription, expensive, special offer for researchers.								
X	Free DEMO									
	Flatrate fee									
X	Service fee	Contacts:		support@homerenergy.com						
X	Subscription									
Links of the service:										
https://homerenergy.com/products/pro/index.html										

Name of the service/s:										
RETScreen - simulation and planning tool										
Delivery organisation/project			Public							
Geographic coverage of the service:			Municipal		Provincial		Regional			
			National		Inter-MS		X EU-wide			
Target users:			X	Local authorities		SMEs		ESCOs	X NGO	
				Citizens	X	Industry				
Type of services:					Development		Execution		Operation	
Information material, guidance/manuals/guidebooks					X		X		X	
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)					X		X		X	
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions					X		X		X	
Representing the interests of a group										
Extra info:		The RETScreen® Clean Energy Management Software platform enables low-carbon planning, implementation, monitoring and reporting. RETScreen Expert, an advanced premium version of the software, is available in Viewer mode completely free-of-charge.								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
Professional mode has annual subscription. Customized to North American markets - the main limitations of RETScreen are: it does not consider the effect of temperature on PV performance analysis, the data sharing problem, limited options for search and sensitivity analysis.										
Tunability:		Easy to adjust			Accessibility of the service:		Sign-up/account			
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	The full functionality of RETScreen Expert (including the ability to save, print & export files as well as numerous advanced features) is available in Professional mode by purchasing a renewable 12-month subscription, currently priced at \$869 (Canadian dollars) per subscription.								
	Free DEMO									
	Flatrate fee									
	Service fee									
	Subscription	Contacts:		RETScreen@nrcan-rncan.gc.ca						
Links of the service:										
https://natural-resources.canada.ca/maps-tools-and-publications/tools/modelling-tools/retscreen/7465										

Name of the service/s:									
IBC Solar PV calculator									
Delivery organisation/project			Private						
Geographic coverage of the service:			Municipal		Provincial		Regional		
			National		Inter-MS		X	EU-wide	
Target users:			Local authorities		X	SMEs	ESCOs	X	NGO
			Citizens			Industry			
Type of services:					Development	Execution	Operation		
Information material, guidance/manuals/guidebooks					X				
Personal consulting, guidance and support									
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)					X				
Networking service									
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions									
SW solutions					X				
Representing the interests of a group									
Extra info: Web based tools assists to find out how much solar power your roof-mounted system can produce in a year, what share of the electricity you will be able to use yourself, and how this will help you lower your energy costs.									
Customisation:			Ready to be used as is			User friendliness:		User friendly	
Shortcomings and limitations of the service:									
Simple tools, but useful for fast calculations									
Tunability:			Not needed			Accessibility of the service:		Free	
Licensing cost:			Describe the cost fee of the service						
X	Free of charge		Web tool completely free to use.						
	Free DEMO								
	Flatrate fee								
	Service fee		Contacts:		annika.bloem@ibc-solar.com				
	Subscription								
Links of the service:									
https://powercalculator.ibc-solar.com/									

Name of the service/s:										
Mapa solarnog potencijala - solar maps of several Croatian cities										
Delivery organisation/project			Public		Local energy agency					
Geographic coverage of the service:			X	Municipal		Provincial		Regional		
				National		Inter-MS		EU-wide		
Target users:				Local authorities		SMEs		ESCOs	X	NGO
			X	Citizens		Industry				
Type of services:						Development	Execution	Operation		
Information material, guidance/manuals/guidebooks						X	X			
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)						X	X			
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions						X	X			
Representing the interests of a group										
Extra info:		The solar potential map is an interactive online solution for visualizing the potential of solar energy, which enables the assessment of the potential for installing solar power plants on your facilities. This is the initial step in the project realization process, and the map can help you save time and money when deciding.								
Customisation:		Ready to be used as is				User friendliness:		User friendly		
Shortcomings and limitations of the service:										
Limited to only a few Croatian cities, in the future it will expand to most settlements										
Tunability:		Not tunable at all				Accessibility of the service:		Free		
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	It is free of charge, but can be used only for citizens from partner cities.								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:		info@rea-sjever.hr						
	Subscription									
Links of the service:										
https://www.solarnamapa.hr/										

Name of the service/s:										
EcoStruxure Smart Metering Advisor - comprehensive solution adds data analytics for improved smart grid operations.										
Delivery organisation/project			Private							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:				Local authorities		SMEs	X	ESCOs		NGO
				Citizens	X	Industry				
Type of services:					Development	Execution	Operation			
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing						X	X			
Stand alone Calculation tool (economical, technical,...)										
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
Extra info:					EcoStruxure Grid Metering Operation manages the complete lifecycle of electric and water metres utilising microservices. guaranteeing scalability and increase security. This solution can be deployed on-premises or in the cloud and is supported by our team of experts with deep implementation and operations experience.					
Customisation:			Ready to be used as is		User friendliness:			Not user- friendly		
Shortcomings and limitations of the service:										
Enables secure integration with your Supervisory Control and Data Acquisition (SCADA) system, making current and historical data readily available for correlation with meter data and events. Requires professional support engineers.										
Tunability:			Easy to adjust		Accessibility of the service: Paywall					
Licensing cost:			Describe the cost fee of the service							
	Free of charge		An offer will be received upon request							
X	Free DEMO									
	Flatrate fee									
X	Service fee		Contacts: office@akhnaton.biz							
X	Subscription									
Links of the service:										
https://akhnaton.biz/produkt/schneider-electric-ecostruxure-smart-metering-advisor										

Name of the service/s:										
Energy savings simplified calculator for households										
Delivery organisation/project			Public							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:				Local authorities		SMEs		ESCOs		NGO
			X	Citizens		Industry				
Type of services:					Development	Execution	Operation			
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)						X	X			
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions						X	X			
Representing the interests of a group										
Extra info:		With the help of the calculator, a household can calculate the energy consumption of the main electrical appliances in its home. The calculator will help plan the electricity costs and achieve better energy efficiency.								
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
N/A										
Tunability:		Easy to adjust			Accessibility of the service:		Free			
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	Free								
X	Free DEMO									
	Flatrate fee									
	Service fee	Contacts: Tsvetomira Kulevska, General Directorate "Coordination								
	Subscription	and Management of Energy Efficiency and Renewable Energy Sources", Тел. (02) 915 4041 Kulevska@SEI								
Links of the service:										
https://seea.government.bg/										

Name of the service/s:										
Energymonitor/Energymonitor Pro										
Delivery organisation/project			Private							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:				Local authorities	X	SMEs		ESCOs		NGO
				Citizens	X	Industry				
Type of services:						Development	Execution	Operation		
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing							X	X		
Stand alone Calculation tool (economical, technical,...)							X	X		
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions							X	X		
Representing the interests of a group										
Extra info:	Online energy management - digital management of energy, energy costs and microclimate in real time with IoT and AI. Integrates and remotely measures the consumption and production of energy and energy resources in real time and performs data analysis, evaluation of energy savings (M&V) in energy, money and CO2 emissions,									
Customisation:		Ready to be used as is			User friendliness:		User friendly			
Shortcomings and limitations of the service:										
Web-based platform requires fast Internet, difficult to be used in regions where the Internet is slow. Requires a dedicated trained expert to operate with it.										
Tunability:		Easy to adjust			Accessibility of the service:		Sign-up/account			
Licensing cost:		Describe the cost fee of the service								
	Free of charge	Free DEMO								
X	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:								
	Subscription									
Links of the service:										
https://energomonitor.bg/										

Name of the service/s:										
ESCO Bulgaria										
Delivery organisation/project			Public							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:			X	Local authorities	X	SMEs		ESCOs		NGO
				Citizens	X	Industry				
Type of services:					Development	Execution	Operation			
Information material, guidance/manuals/guidebooks					X	X	X			
Personal consulting, guidance and support					X	X	X			
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)					X	X	X			
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions					X	X	X			
SW solutions										
Representing the interests of a group										
Extra info: Individual turnkey solution= Offer comprehensive project management and administration, i.e. assessment, design, construction and commissioning of energy and energy efficient projects.										
Customisation:		Ready to be used as is			User friendliness:		Other			
Shortcomings and limitations of the service:										
Complicated process for assessment, project development and implementation. Resource demanding.										
Tunability:		Easy to adjust			Accessibility of the service:		Paywall			
Licensing cost:		Describe the cost fee of the service								
X	Free of charge	Depends on the scale and parameters of the project.								
X	Free DEMO									
	Flatrate fee									
X	Service fee	Contacts:								
	Subscription	Sofia 1754, Benchmark Business Center, info@esco.bg								
Links of the service:										
www.esco.bg										

Name of the service/s:									
Energy Supply Ltd.									
Delivery organisation/project			Private						
Geographic coverage of the service:				Municipal		Provincial		Regional	
			X	National		Inter-MS		EU-wide	
Target users:			X	Local authorities	X	SMEs		ESCOs	
				Citizens	X	Industry			
Type of services:						Development	Execution	Operation	
Information material, guidance/manuals/guidebooks						X	X	X	
Personal consulting, guidance and support						X	X	X	
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)									
Networking service									
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions						X	X	X	
SW solutions						X	X	X	
Representing the interests of a group									
Energy supply on the liberalised market									
Extra info:		the provision of consulting services in the field of electricity production from renewable sources, as well as engineering, delivery, construction and servicing of photovoltaic power plants. Energy Supply has subsidiaries in Serbia, Macedonia, Greece, Romania, Hungary, Czech Republic and Albania.							
Customisation:		Needs tuning				User friendliness:		User friendly	
Shortcomings and limitations of the service:									
N/A									
Tunability:		Easy to adjust				Accessibility of the service:		Paywall	
Licensing cost:		Describe the cost fee of the service							
	Free of charge	There are several services and for each ones a different financial offer is provided.							
	Free DEMO								
	Flatrate fee								
X	Service fee	Contacts:							
	Subscription	Sofia 1000, 2, Graf Ignatiev street; Phone)359 2 9848785							
Links of the service:									
www.energysupply-bg.com									

Name of the service/s:									
ENERGO-PRO electricity consumption consultations and comparison, electricity consumption cost comparison									
Delivery organisation/project			Private						
Geographic coverage of the service:			Municipal		Provincial		X		Regional
			National		Inter-MS				EU-wide
Target users:			Local authorities		SMEs		ESCOs		NGO
			X Citizens		X Industry				
Type of services:					Development		Execution		Operation
Information material, guidance/manuals/guidebooks									
Personal consulting, guidance and support					X		X		X
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)					X		X		X
Networking service									
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions									
SW solutions									
Representing the interests of a group									
Supply of energy on the regulated market									
Extra info:		Provision of consulting in the fields of electricity production from RES, consumption optimization, engineering, construction and servicing of PV plants. ENERGO-PRO is a vertically integrated company including an electricity grid operator in its structure. It has group member companies in Georgia and the Czech Republic.							
Customisation:		Ready to be used as is			User friendliness:		Other		
Shortcomings and limitations of the service:									
Limited comparison data scope.									
Tunability:		Easy to adjust			Accessibility of the service:		Free		
Licensing cost:		Describe the cost fee of the service							
Free of charge		Free							
Free DEMO									
Flatrate fee									
Service fee		Contacts: ENERGO-PRO Varna EAD, Varna Towers, G tower, Vladislav Varnenchik blvd, 258, Varna, Bulgaria							
X Subscription									
Links of the service:									
https://vp.energo-pro.bg/									

Name of the service/s:										
GRID-ONE energy management and monitoring platform										
Delivery organisation/project			Private							
Geographic coverage of the service:			Municipal		Provincial		Regional			
			National		Inter-MS		X EU-wide			
Target users:			X	Local authorities			SMEs	X	ESCOs	NGO
			X	Citizens		X	Industry			
Type of services:						Development	Execution	Operation		
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support										
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)						X	X	X		
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions						X	X	X		
SW solutions						X	X	X		
Representing the interests of a group										
Extra info:		Remote AI management of energy installations of all kinds, management of energy, energy costs and microclimate in real time with AI. Compatible with all HW and SW systems of all producers. Real time control and correction of consumption and production of energy. Data control and analysis. Evaluation of energy savings and reduction of CO2 emissions.								
Customisation:			Ready to be used as is			User friendliness:		User friendly		
Shortcomings and limitations of the service:										
N/A										
Tunability:			Not needed			Accessibility of the service:		Sign-up/account		
Licensing cost:		Describe the cost fee of the service								
	Free of charge	Different levels of subscription.								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:								
X	Subscription	46 Perunka str., Varna, Bulgaria, T&D Engineering								
Links of the service:										
http://grid-one.eu/, http://grid-one.bg/										

Name of the service/s:									
Electricity consumption consultations and comparison, electricity consumption cost comparison									
Delivery organisation/project			Private						
Geographic coverage of the service:			Municipal		Provincial		X		Regional
			National		Inter-MS				EU-wide
Target users:			Local authorities		SMEs		ESCOs		NGO
			X Citizens		X Industry				
Type of services:					Development		Execution		Operation
Information material, guidance/manuals/guidebooks									
Personal consulting, guidance and support					X		X		X
Technological screening, Product testing									
Stand alone Calculation tool (economical, technical,...)					X		X		X
Networking service									
List/Directory (of Professionals, ...)									
Policy Advocacy									
Mediation service									
Training									
HW solutions									
SW solutions									
Representing the interests of a group									
Extra info: Provision of consulting in the fields of electricity production from RES, consumption optimization, engineering, construction and servicing of PV plants. ELECTROHOLD is a vertically integrated company including an electricity grid operator in its structure.									
Customisation:			Needs tuning			User friendliness:		User friendly	
Shortcomings and limitations of the service:									
N/A									
Tunability:			Hard to adjust			Accessibility of the service:		Free	
Licensing cost:			Describe the cost fee of the service						
X	Free of charge		Free						
	Free DEMO								
	Flatrate fee								
	Service fee		Contacts:						
	Subscription		159 "Tsarigradsko shose" blvd., BenchMark Business Center, Sofia, Bulgaria						
Links of the service:									
https://electrohold.bg/bg/sales/kalkulator-za-izchislyavane-na-mesechna-konsumaciya-na-elektroenergiya/									

Name of the service/s:										
Consumer Effect Calculator for switching to a free electricity market										
Delivery organisation/project			Private							
Geographic coverage of the service:				Municipal		Provincial		Regional		
			X	National		Inter-MS		EU-wide		
Target users:				Local authorities	X	SMEs		ESCOs	X	NGO
			X	Citizens		Industry				
Type of services:						Development	Execution	Operation		
Information material, guidance/manuals/guidebooks										
Personal consulting, guidance and support						X	X	X		
Technological screening, Product testing										
Stand alone Calculation tool (economical, technical,...)						X	X	X		
Networking service										
List/Directory (of Professionals, ...)										
Policy Advocacy										
Mediation service										
Training										
HW solutions										
SW solutions										
Representing the interests of a group										
supply of electricity on the free market										
Extra info:	the provision of consulting services in the field of electricity production from renewable sources, as well as engineering, delivery, construction and servicing of photovoltaic power plants. Energy Supply has subsidiaries in Serbia, Macedonia, Greece, Romania, Hungary, Check Republic and Albania.									
Customisation:			Needs tuning			User friendliness:		Other		
Shortcomings and limitations of the service:										
Does not cover all consumer consumption options										
Tunability:			Easy to adjust			Accessibility of the service:		Sign-up/account		
Licensing cost:			Describe the cost fee of the service							
X	Free of charge	Free								
	Free DEMO									
	Flatrate fee									
	Service fee	Contacts:								
X	Subscription	Energo Pro Energy Services, 2, Pozitano str., Sofia, Bulgaria								
Links of the service:										
https://portal.eproes.bg/index.php?page=calculator										

D.2.2 Factsheet on existing services and their features

ANNEX 2 Main services in each partner Country in PP language



**Co-funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them. Project number: 101120622

Table of contents

1	Introduction	3
2	Main support services in Austria - German.....	4
3	Main services in Bulgaria - Bulgarian	6
4	Main services in Croatia - Croatian	8
5	Main services in France - French	11
6	Main services in Italy - Italian	14

1 Introduction

The aim of Annex 2 is to provide the main support services in each partner country, translated in the native language. This part shall later be integrated into the specific local guide-book and contains information how these services can be used for DISCOVER and impact on the goal of kicking of 20 new initiatives.

2 Main support services in Austria - German

Unterstützungsdienste für Energiegemeinschaften

Die Recherche relevanter support-services für CEPs in Österreich beinhaltet eine Analyse aller Dienste und Leistungen, die Energiegemeinschaften zur Verfügung stehen. Diese Dienste werden vom österreichischen **Koordinierungsstelle** für Energiegemeinschaften und seinen neun regionalen One-Stop-Shops (OSS) bereitgestellt. Diese Beratungsstellen bieten eine ganzheitliche Palette von virtuellen und persönlichen services, und unterstützen damit unentgeltlich verschiedene Arten von Energiegemeinschaften, einschließlich regionaler, lokaler und Bürger-Energiegemeinschaften.

Das Angebot umfasst:

- einen Schritt-für-Schritt Leitfaden zur Gründung von Energiegemeinschaften,
- ein Berechnungs-tool für das Energiekosteneinsparungspotential einer erneuerbaren Energiegemeinschaft auf Basis von benutzerdefinierten Parametern,
- leicht verständliche und detaillierte Informationsmaterialien,
- ein Verzeichnis von Fachleuten,
- eine Karte mit bestehenden Energiegemeinschaften und
- Vertragsvorlagen zur Gründung neuer Energiegemeinschaften.

Bewertung der Solarpotentials

PVGIS ermöglicht die Bestimmung der Solarenergie für jeden Ort weltweit. Diese webbasierte Plattform verfügt über eine benutzerfreundliche Oberfläche zur Visualisierung von den durchschnittlichen Strahlungsdaten (täglichen, monatlichen und stündlichen) mittels interaktiver Diagramme. Die Daten können auch als Tabellen heruntergeladen werden. Benutzer können Parameter wie PV-Technologie, Neigung und Azimut für fest installierte PV-Anlagen eingeben oder den Bewegungsbereich für geführte PV-Systeme angeben.

Die interaktiven Erkundungstools von **ESA** (mit Schwerpunkt auf Österreich) beleuchten verschiedene Aspekte der Energiewende. Eine Funktion der Plattform ist die Visualisierung von Sonneneinstrahlungsdaten. Das Solar Energy Assessment-Tool visualisiert durchschnittliche Solarenergie (saisonale und jährliche) auf einer Karte mit einer räumlichen Auflösung von 10 Metern. Benutzer können die Daten nach Neigung, Höhe und Entfernung zum Stromnetz (2500 Meter oder weniger) filtern.

Die **Solarpotenzialkataster** ist für jeden Bundesstaat in Österreich verfügbar und veranschaulicht die Eignung von Dachflächen für PV-Installationen durch farbcodierte Visualisierung auf einer Karte. Darüber hinaus kennzeichnet die Karte geschützte Gebiete. Sie liefert auch Schätzungen zur Anlagengröße in kWp für jedes Gebäude.

Techno-ökonomische Berechnungswerkzeuge

Das von der **österreichischen Energieagentur** bereitgestellte Berechnungsblatt ermöglicht es den Benutzern, Parameter wie Postleitzahl, Ausrichtung, Größe, Installations- und Wartungskosten einzugeben. Es berechnet daraus den Amortisierungszeitraum und bietet eine Übersicht aller Fördermöglichkeiten.

PV Austria bietet eine Reihe von Dienstleistungen, darunter:

- Informationsmaterialien für Personen, welche an einer PV-Anlage interessiert sind
- Networking-Service und Verzeichnis von Fachleuten
- Eine Vergleichstabelle für PV Einspeisetarife
- Ein Nachschlagewerk für PV-Fachbegriffe - 'Photovoltaik-Fibel'
- Übersicht aller Fördermöglichkeiten - 'Förderkompass'
- Schulungen und Veranstaltungen
- Lobbyarbeit

Online-Tools wie der 'SonnenKlar PV-Rechner' ermöglichen es den Benutzern, Details über ihre Anlage (Standort, Ausrichtung, Größe, Speicher) und ihren Verbrauch (jährlicher Bedarf, Wohnfläche, Anzahl der Bewohner, Wärmebedarf und E-Mobilität) sowie Kosten (Installation, Förderung, Tarifdetails) einzugeben. Als Ergebnis werden der Autonomiegrad und die Amortisierung berechnet.

Die österreichische Regulierungsbehörde für das Stromnetz, **e-control**, versteht sich als Anwalt aller Energieverbraucher, überwacht das Strommarkt-Monopol und übernimmt die Marktaufsicht. Zur Unterstützung von Energiegemeinschaften bietet sie mehrere relevante Tools an:

- Energiekostenrechner und Tarifvergleich für Stromkunden und Prosumer.
- Umfassende Übersicht über Netzgebühren
- Strommarktdaten, einschließlich des Referenzmarktpreises, eine wichtige Kenngröße für die Vergütung von PV-Überschussstrom

Tools zur Auslegung von PV Anlagen

Neben dem Solar Kataster, welcher die nutzbare Dachfläche mittels Luftaufnahmen abschätzt, bietet **Opensolar** eine einzigartige Möglichkeit die nutzbare Anlagengröße zu bestimmen: Benutzer können eine PV-Anlage direkt auf einem Satellitenbild (auch in 3D-Ansicht) einzeichnen. Das Werkzeug berechnet PV-Erträge und den Break-even-Point unter Berücksichtigung der Ausrichtung und optionaler Benutzereingaben. Trotz der erforderlichen Registrierung ist dieses Werkzeug frei zugänglich. Es ist für die Verwendung durch PV-Gewerbetreibende konzipiert, und erlaubt es ihnen die automatische Erstellung von Kostenschätzungen für Kunden zu ermöglichen.

3 Main services in Bulgaria - Bulgarian

Задача 2.2. Услуги за подпомагане на енергийния преход (България)

Повишаването на енергийната ефективност може значително да намали разходите за поддръжка на обществени сгради, производствени предприятия, малки и средни предприятия или дейността на цели градове и общини. В България бяха идентифицирани различни инструменти за събиране на данни и статистика, подпомагащи основно оценката за енергийна ефективност на сгради, бизнес съоръжения и домакинства.

В последните години се наблюдава предлагането на различни видове интегрирани услуги, основно от инвеститори в соларни инсталации, както и от големите ЕРП в България. Тези услуги помагат за анализиране на различни аспекти при разработване на общностни енергийни проекти (ОЕП), но те не са конкретно насочени към изграждането на общности за възобновяема енергия (ОЕВ) или граждански енергийни общности (ГЕО) поради пропуски в правната рамка на страната.

Идентифицираните услуги за подпомагане варират от консултации на мрежови оператори и енергийни доставчици (ЕСКО България, Енергоснабдяване, консултации и сравнение на потреблението на електроенергия, сравнение на разходите за потребление на електроенергия) до калкулатори за цена на потреблението на енергия и сравнение на цените.

Важна характеристика на бизнес средата в сектора на възобновяема енергия в България е, че местните фирми и домакинства в повечето случаи използват инструменти на ЕС за симулация и изчисляване на зелената енергия (https://re.jrc.ec.europa.eu/pvg_tools/en/tools.html, <https://get.pvcase.com/>, поради което българските асоциации за възобновяема енергия не са разработили подобни инструменти.

Друг важен факт за сектора на зелената енергия в България е, че има голям брой местни инженерингови компании, предлагащи строителни услуги в областта на възобновяемата енергия (предимно фотоволтаични инсталации). Такива компании (www.newsolar.bg, www.energiabg.net, www.solaritybg.com, www.gwconsulting.bg) предлагат безплатни консултации по телефона или на индивидуални срещи относно изграждане на ФВЕЦ, включително технико-икономическа оценка на фотоволтаичните системи за собствено потребление или енергийни общности.

Мощен инструмент представлява калкулаторът за потребление на енергия за домакинствата, произведен и разпространен безплатно от националната **Агенция за устойчиво енергийно развитие (АУЕР)**, който извършва подробен анализ на

потреблението и спестяванията на енергия в сградите. Инструментът позволява на потребителите да изграждат виртуални модели на различни типове сгради и потребителски модели и да променят различни характеристики, като по този начин разбират потенциала за повече икономии на енергия и генериране на възобновяема енергия в сградите.

В края на април 2024 г. АУЕР публикува „НАРЪЧНИК за изграждане или реконструкция на енергийни съоръжения и съоръжения за производство на енергия от възобновяеми източници“, като по този начин улеснява процедурите за изграждане на такива инсталации.

Интегрираната платформа **GRID-ONE** за автоматизирано управление на ГЕО и ОЕП предлага широка гама от услуги: от организация и изграждане на клъстери на автоматизирани енергийни инсталации за енергийни общности до подробни инструменти за отчитане и модели на различни договори между участниците в енергийните общности. Платформата GRID-ONE предлага както инструменти за управление, така и за наблюдение на енергийни устройства, интелигентни мрежи и интелигентни измервателни уреди, включително управление на станции за зареждане на електроомобили; инсталации за съхранение и батерии и инструменти за автоматизирано генериране на отчети и докладване на данни, изисквани от закона. GRID-ONE включва интерактивна карта на станции за зареждане на електроомобили и управлявани енергийни инсталации в ГЕО и ОЕП.

ЕСКО, компания за енергийни услуги, фокусирана върху иновациите, ефективността на ресурсите и грижата за околната среда предоставя също различни услуги. Фирмата предлага пълен набор от услуги, включително консултации, за изграждане на енергийно ефективни сгради и общински проекти.

ЕНЕРГО-ПРО предоставя широка гама от консултантски услуги в областта на производството на електроенергия от ВЕИ, оптимизиране на потреблението, инженеринга, изграждането и обслужването на фотоволтаични и водоелектроенергетични централи. Като вертикално интегрирана компания, включваща в структурата си електропреносен оператор, тя има развита мрежа от офиси в Североизточна България, както и в столицата София. Компанията предлага Калкулатор на потребителския ефект за преминаване към свободен пазар на електроенергия. Друга вертикално интегрирана компания с широка мрежа от консултантски офиси е **ЕЛЕКТРОХОЛД**. Предлага консултации в областите възобновяема енергия, потребление на енергия и спестяване на енергия. Компанията предлага един от най-добрите инструменти за онлайн калкулатор за ценообразуване на енергия, който позволява сравнение на потребителски модели и доставчици.

4 Main services in Croatia - Croatian

Usluge u Hrvatskoj

U Hrvatskoj ne postoji sustavna potpora uspostavi energetske zajednice građana (eng. CEP), pa nema ni potpore stvaranju odgovarajućih alata za podršku. Direktive EU-a još nisu primjereno prilagođene hrvatskom zakonodavstvu. Hrvatske vlasti i političari ne pridaju dovoljnu važnost ovoj temi, pa nedostaje sustavne pomoći kako upravnih tijela i državnih agencija, tako i nacionalne energetske tvrtke koja proizvodi, distribuira i isporučuje električnu energiju (Hrvatska Elektroprivreda HEP). Drugim riječima, ne postoji niti jedan "službeni" alat koji financiraju i održavaju nadležne državne institucije kao što primjerice postoje u Italiji ili Austriji. Neke su usluge uspostavljene na lokalnoj razini tijekom provedbe različitih projekata financiranih sredstvima EU-a; međutim, usluge nije kontinuirane, alati nisu podržani, u mnogim slučajevima sami alati su vrlo jednostavni (postoje najmanje 4 solarna kalkulatora publicirana na webu kao rezultat različitih EU projekata - svi su izuzetno slični) s ograničenom upotrebljivošću i često postaju nedostupni jer nakon završetka projekta više nije dostupna dugoročna podrška. Korisnije alate za podršku poput solarnih karata pojedinačno pružaju općine (samo 3 u Hrvatskoj), ali opet se te usluge i podaci ne ažuriraju redovito.

Stoga, kada se navode usluge koje mogu pomoći u osnivanju i radu CEP-a u Hrvatskoj, uglavnom se navode tehničke platforme ili usluge koje nisu hrvatskog podrijetla.

Usluge za koje je Bez granica utvrdio da su prikladne i korisne za omogućavanje podrške u okviru CEP-a, podijeljene su sljedeće skupine:

Planiranje i simulacija

1. Grid Singularity
2. Homer Pro
3. RET Screen

Dimenzioniranje fotonaponskih postrojenja

4. IBC solarni fotonaponski kalkulator
5. Na sunčanoj strani – alat za proračunsku procjenu ulaganja u fotonaponske elektrane

Izvori podataka / solarne karte

6. Karte solarnih potencijala

Alati za podršku CEP-u

Grid Singularity proizvod je koji se temelji na inicijativi otvorenog koda iz Berlina u Njemačkoj, služi za simulaciju i vođenje međusobno povezanih energetske tržišta. Omogućava više stupnjeva slobode u trgovanju za bilo kojeg sudionika u tržišnim transakcijama. Grid Singularity pomaže dizajn lokalnog energetske tržišta odozdo

prema gore povezivanjem agregatora, koji pak povezuju kućanstva i distribuiranu energetske imovine energetske zajednice. Zajednica je digitalno opisana kroz modele trgovačkih agenata i operatori mreže putem aplikacijskog sučelja (API operatora mreže i API imovine).

Posebno je koristan alat za simulaciju energetske tokova energetske zajednice, alat je zahtjevan za korištenje, ali nakon obuke moguće je vrlo složeno modeliranje energetske tokova. Softver Grid Singularity dostupan je pod Općom javnom licencom GNU otvorenog koda, te s posebnom licenčnom vezom koja se nalazi u GitHub spremištu tvrtke Grid Singularity. Udruga Bez granica ima prilično veliko i pozitivno iskustvo s tim alatom i koristi ga za dionike koje podržava.

Softver HOMER Pro® mikro mreže tvrtke UL Solutions (SAD) globalni je industrijski standard koda alata za optimizaciju dizajna mikro mreža. HOMER (Hybrid Optimization Model for Multiple Energy Resources) sadrži tri moćna alata u jednom softverskom proizvodu, omogućavajući provjeru tehnoloških i ekonomskih parametara poput simulacije, optimizacije i analize osjetljivosti. To je skup i izuzetno složen profesionalni alat, a prvenstveno je namijenjen velikim energetske zajednicama, agregatima ili menadžerima distribucijske mreža. Posebno je koristan u obrazovne svrhe i osvještavanje složenosti u većim organizacijama. Bez granica ima ograničeno znanje o praktičnoj upotrebljivosti koje uglavnom dolazi iz suradnje sa znanstvenim institucijama na nekoliko razvojnih projekata; međutim, razina cijena platforme bila je prohibitivna da Bez granica koristi punu licencu u svakodnevnom radu.

RETScreen - alat za simulaciju i planiranje nastao je kao inicijativa kanadske vlade za promicanje projekata obnovljivih izvora energije. Platforma RETScreen® Clean Energy Management Software omogućuje nisko ugljično planiranje postrojenja, implementaciju, praćenje i izvješćivanje. RETScreen Expert, napredna je verzija softvera, a dostupna je u pregledničkom načinu rada potpuno besplatno. Softver je u cijelosti preveden na hrvatski jezik, tako da je vrlo jednostavan za upotrebu, ali zahtijeva puno domenskog znanja. Bez granica ima solidno iskustvo s ovim alatom na temelju više ispitivanja s partnerskim organizacijama.

Potpuna funkcionalnost RETScreen Expert (uključujući mogućnost spremanja, ispisa i izvoza datoteka, kao i brojnih naprednih značajki) dostupna je u profesionalnom načinu kupnjom obnovljive 12-mjesečne pretplate.

IBC Solar PV kalkulator – pristupačan internetski alat koji pomaže u proračunu koliko solarne energije može proizvesti bilo koji fotonaponski krovni sustav u godini dana, koliki će udio električne energije koristiti potrošači i što će biti dostupno za dijeljenje te kako će to pomoći u smanjenju troškova energije promatranog kućanstva.

Ovo je vrlo jednostavan alat, ali vrlo koristan za brze izračune s obzirom da preciznije uzima u obzir geometriju objekta. Web alat je potpuno besplatan za korištenje, tako da Bez granica koristi ovaj alat za početne rasprave i procjene solarnog potencijala s našim korisnicima.

Na sunčanoj strani (na sunčanoj strani – uz podršku nevladine organizacije ZEZ) i **METAR** (Mreža za obrazovanje, tranziciju, prilagodbu i razvoj – uz podršku nevladinih organizacija DOOR) donose gotovo identične alate za proračunsku procjenu ulaganja u fotonaponske objekte (rezultat dvaju projekata EU-a koji se financiraju iz ESF-a). Riječ je o jednostavnim alatima koji se temelje na statističkom modelu i dostupni su samo za nekoliko većih hrvatskih gradova. Rezultat koji se dobije je uistinu generička informacija o potencijalu u određenoj regiji. Bez granica preporučuje našim korisnicima IBC alat koji stvara informacije o razini kuće i uzimajući u obzir stvarnu veličinu i orijentaciju krova zgrade.

Mapa solarnog potencijala – predstavlja solarne karte tri hrvatska grada. Karta solarnih potencijala interaktivno je online rješenje za vizualizaciju potencijala sunčeve energije koje omogućuje procjenu potencijala za ugradnju solarnih elektrana na lokacije u ciljanim područjima. Ovo je prvi korak u procesu realizacije projekta, a karta pomaže građanima da uštede vrijeme i novac prilikom odlučivanja o investiciji. Ograničena je na samo nekoliko hrvatskih gradova (za sada 3 - Varaždin, Koprivnica i Vinkovci), ali s potencijalom širenja na druga hrvatska naselja. Besplatan je za krajnje korisnike, ali ga mogu koristiti građani iz gradova projektnih partnera koji plaćaju licence kreatorima platforme – GDI.

5 Main services in France - French

Services de soutien disponibles en France

Sept services ont été identifiés comme étant de soutien pour les CEP (Projets d'Énergie en Communauté) et les projets photovoltaïques en France, et en particulier à Paris. Ces services fournissent principalement des informations et des outils aux projets photovoltaïques, qui peuvent faire partie d'une CEP. Certains services offrent également des conseils. Des services ont été trouvés pour chaque phase d'une CEP, mais la plupart sont utiles pour les phases initiales. Un service est destiné aux autorités locales pour le développement des CEP (**Les Générateurs**), mais tous les autres services sont dirigés vers les projets photovoltaïques ou les CEP eux-mêmes. À l'exception de deux services (**REScoop VPP, Enogrid**), les autres services proposent des versions gratuites pour les utilisateurs et sont liés aux autorités publiques. À l'exception de REScoop VPP, un projet européen, tous les services sont accessibles uniquement en langue française.

Les 8 initiatives de soutien répertoriées dans le D2.1 sont complémentaires à ces services listés dans le D2.2. Les initiatives du D2.1 offrent un financement, une assistance technique et générale aux CEP ainsi que des formations, ou des actions de mise en réseau et de plaidoyer politique. Parmi elles, l'initiative Énergie Partagée est probablement l'outil le plus complet pour l'assistance aux CEP. Dans certaines villes comme la banlieue est de Paris ("Est Ensemble"), Strasbourg, Bordeaux, Annecy, ou Grenoble, l'Agence Locale de l'Énergie et du Climat, également membre du réseau FLAME, fournit des conseils et une première approche, une analyse d'opportunité aux propriétaires pour leur projet photovoltaïque, et dans de rares cas, aux copropriétaires pour leurs projets photovoltaïques.

Voici la liste des 7 services de soutien identifiés :

- Centre national de ressources sur le photovoltaïque (Hespul)
- Mon potentiel solaire (Région Île-de-France)
- AutoCalSol - Outil de calcul de production solaire (INES)
- Les Générateurs - Conseil public pour les autorités locales (ADEME & autorités régionales)
- Outil de calcul de raccordement au réseau (Enedis)
- REScoopVPP - Projet de centrale électrique virtuelle pour les communautés énergétiques (projet Européen)
- Enogrid - Solutions commerciales pour l'autoconsommation collective (start-up)

Le Centre national de ressources sur le photovoltaïque, géré par l'association Hespul pour le compte de l'État français, est la référence essentielle sur le sujet du photovoltaïque. Toutes les informations pertinentes sont rassemblées, rendues accessibles à tout utilisateur, et mises à jour régulièrement. Une consultation personnalisée est fournie aux utilisateurs avec des questions et des projets spécifiques. On peut y trouver les tarifs de rachat, rendus plus conviviaux que s'ils étaient lus

directement dans les décrets légaux. De plus, des informations exhaustives sont fournies pour chaque étape d'un projet photovoltaïque. Le site Photovoltaïque.info ne se concentre pas sur les communautés énergétiques mais fournit des informations sur l'autoconsommation collective.

Deux outils en ligne sont fournis gratuitement par Hespul, l'un pour le calcul de la production solaire et l'autre pour l'auto-évaluation des devis d'entreprise.

En plus de l'outil de calcul de base de photovoltaïque.info, l'Institut National de l'Énergie Solaire (INES) propose un outil de calcul autonome plus complet, basé sur la technologie PVGIS: **AutoCalSol**. Il permet le dimensionnement préliminaire des installations photovoltaïques en autoconsommation, fournit une simulation de la production mensuelle et, avec une version sous licence payante, peut la comparer à la consommation mensuelle réelle (une donnée que le client peut obtenir auprès du gestionnaire de réseau Enedis).

En Île-de-France, on peut utiliser **un outil de calcul du potentiel solaire** assez convivial: **Smart Services** IDF "Mon potentiel solaire". Il calcule le potentiel solaire à trois échelles: habitat, aire de stationnement, commune. Utile pour une première approche d'un projet photovoltaïque, il n'implique cependant pas une approche collective ou communautaire. L'APC manque de retours sur son efficacité à favoriser les CEP et va enquêter.

En résumé, en Île-de-France, au moins 3 outils de calcul sont disponibles gratuitement (en plus du logiciel en ligne gratuit PVGIS).

Le gestionnaire de réseau français Enedis (95 % du territoire métropolitain) propose un outil opérationnel pour **le calcul des coûts de raccordement au réseau et la simulation des complexités**. L'utilisateur doit s'abonner, mais c'est gratuit. Il simule également la future production photovoltaïque de l'utilisateur. L'APC manque de retours, mais l'interface utilisateur est bonne.

Le sujet relativement nouveau de l'autoconsommation collective manque encore de services adéquats. Un projet européen actif en France, **REScoop**, a développé un outil prospectif (matériel et logiciel) pour les centrales électriques virtuelles, mais il n'est pas encore largement répandu ni semble utilisable par tout le monde.

Enogrid, une start-up française, est active depuis quelques années avec pour objectif de promouvoir l'ACC (autoconsommation collective). Ils ont développé des outils (comme EnoPower) pour optimiser la répartition de l'électricité générée par des installations photovoltaïques connectées au sein d'une entité ACC, afin de rendre la ACC plus intéressante. Enogrid propose également des formations sur l'ACC. Un contact a été pris avec les équipes de REScoop et d'Enogrid pour en savoir plus sur eux.

Ces services sont assez limités dans leur portée et se concentrent uniquement sur la phase de développement des CEP. Pour une assistance plus globale aux CEP en France, ainsi que pour le financement, il existe plusieurs initiatives identifiées dans la tâche 2.1.



D2.2. ANNEX 2 Main services in each Partner Country

Notamment, **Énergie Partagée** et les Communautés Énergétiques existantes qui font partie de leur réseau peuvent fournir les services les plus utiles localement aux CEP. Ils peuvent partager leurs expériences et leurs outils. Énergie Partagée a la capacité de co-financer des projets d'une certaine taille si les critères environnementaux et sociaux sont respectés (avec l'aide du fonds public "Enercit"). **Enercoop**, le principal fournisseur d'électricité coopératif dirigé par des citoyens en France, offre également des services commerciaux aux CEP, principalement des études de faisabilité. L'existence de la communauté énergétique parisienne EnercitIF prouve, localement, l'efficacité de leurs services.

Les Générateurs est un service intéressant, assez récent, créé en 2022, et non actif à Paris qui est déjà bien équipé par rapport aux zones rurales ou aux petites villes. Le service est actif dans la plupart des régions de France. C'est un réseau d'État de consultants publics pour les municipalités et les autorités intercommunales. Les consultants publics fournissent des premiers conseils, du conseil et de la formation pour le développement local des énergies renouvelables, éolienne et solaire.

Les Générateurs, un réseau de consultants régionaux pour les autorités locales.

6 Main services in Italy - Italian

In Italia sono stati individuati sette servizi di diverso tipo che comprendono:

- La mappa interattiva delle cabine primarie
- RECON - Simulatore economico per Comunità di Energia Rinnovabile (CER)
- Il Simulatore per la valutazione tecnico-economica degli impianti fotovoltaici per gruppi di autoconsumo o comunità energetiche gestito dal GSE (Gestore dei Servizi Energetici)
- DHOMUS - Data HOMes and Users
- Lo Sportello informativo di Assistenza per le Comunità Energetiche della Regione Emilia Romagna
- La Piattaforma per le Comunità Energetiche ROSE
- L'info package - Pacchetto informativo sulle CER

Questi servizi supportano gli utenti nelle diverse fasi di sviluppo e implementazione dei Progetti Energetici di Comunità (CEP). I servizi variano da strumenti operativi come la mappa interattiva delle cabine primarie a simulatori per la valutazione tecnico-economica degli impianti fotovoltaici per gruppi di autoconsumo o comunità energetiche come RECON e il simulatore GSE, a materiale informativo/manuali/guide (Sportello informativo della Regione Emilia Romagna e "Pacchetto informativo"), fino a piattaforme per la gestione delle CER (Piattaforma Rose) e per la gestione dei consumi energetici domestici (DHOMUS).

In particolare la **mappa interattiva delle cabine primarie** è uno strumento online, introdotto dal GSE nel settembre 2023, che consente di localizzare le aree convenzionali e di verificare che i punti di connessione siano inclusi nell'area sottesa alla medesima cabina primaria. In Italia sono state individuate 2107 cabine primarie. Le informazioni cartografiche messe a disposizione dal GSE sono fornite dalle imprese distributrici e la mappa è aggiornata con cadenza biennale. Lo strumento è importante perché chiunque può avere accesso in autonomia alle informazioni utili, tra cui il codice univoco dell'area, il distributore di riferimento, i confini comunali e la lista dei Comuni che insistono nella stessa area convenzionale". Tale strumento facilita lo sviluppo e la diffusione delle CER.

Passando in rassegna agli altri servizi, il **simulatore per la valutazione tecnico-economica degli impianti fotovoltaici per gruppi di autoconsumo o comunità energetiche gestito** dal GSE è uno strumento digitale utile per la pianificazione degli interventi FV che supporta valutazioni preliminari energetiche, economiche e finanziarie per la creazione di CER e per l'autoconsumo collettivo. L'utente inserisce innanzitutto l'indirizzo dell'edificio o dell'area dove si intende installare l'impianto, il consumo energetico annuale e la superficie disponibile per i pannelli. Il simulatore dimensiona in maniera appropriata gli impianti fotovoltaici, stima l'investimento necessario per realizzarli e il tempo di ritorno dell'investimento. È anche possibile personalizzare la simulazione con informazioni sul tipo di superfici disponibili e sul numero e tipo di utenti

finali, sui metodi di finanziamento dell'intervento o vantaggi fiscali che si intende sfruttare.

In aggiunta, il Portale dell'Autoconsumo del GSE è stato arricchito con nuove guide Informative, FAQ e funzionalità per ottenere maggiori informazioni sulle possibilità previste dalla normativa e indicazioni pratiche per favorire lo sviluppo delle CER.

Entrambi i suddetti strumenti sono stati identificati nel deliverable D2.1 relativo alle iniziative di supporto esistenti per i progetti energetici di comunità.

Poi c'è **RECON** (Renewable Energy Community ecONomic simulator - Simulatore per la valutazione economica delle Comunità di Energia Rinnovabile), un applicativo web realizzato da ENEA e finalizzato a supportare valutazioni preliminari di tipo energetico, economico e finanziario per la nascita di comunità energetiche rinnovabili o di gruppi di autoconsumatori di energia rinnovabile che agiscono collettivamente in base al quadro legislativo e regolatorio in vigore in Italia. RECON può essere utilizzato gratuitamente previa registrazione.

RECON può fornire un valido supporto alle autorità locali e agli stakeholder per prendere decisioni informate e consapevoli per la creazione di CER, facilitando la partecipazione attiva dei cittadini nel mercato dell'energia, in linea con gli obiettivi dell'Unione Europea.

Utilizzando un set limitato di dati di input facilmente reperibili (informazioni sull'edificio-impianto, consumi elettrici dalla bolletta, caratteristiche dell'impianto fotovoltaico e alcuni parametri di investimento), RECON esegue una simulazione mensile e calcola diversi KPI energetici, ambientali, economici e finanziari. Nell'attuale versione RECON analizza utenze residenziali e considera il fotovoltaico per la generazione elettrica. Esso può simulare un numero arbitrario di abitazioni aggregate fino a dieci cluster sulla base di analoghe caratteristiche di occupazione, involucro e utenze elettriche. Uno dei punti di forza è la facilità di compilazione e il basso numero di dati richiesti. Nel caso in cui i consumi da bolletta non siano disponibili, il simulatore li stima considerando separatamente il contributo del singolo uso finale.

RECON calcola la resa energetica, l'autoconsumo e la condivisione dell'energia, l'impatto ambientale (riduzione delle emissioni di CO₂), i flussi di cassa attualizzati e i principali indicatori finanziari (VAN, TIR, payback time, ecc.) considerando diverse forme di finanziamento dell'investimento, le detrazioni fiscali e gli incentivi introdotti dalla recente normativa.

Sempre sviluppata da ENEA è **DHOMUS**, una piattaforma ICT, che ha la funzione di raccogliere, aggregare e analizzare i dati provenienti dagli utenti residenziali per fornire feedback educativi all'utente.

L'obiettivo principale di DHOMUS è rendere gli utenti consapevoli dei propri consumi energetici, far loro comprendere quanta energia consumano e come, supportarli nella riduzione dei consumi e dei costi, permettendo così di diminuire il loro impatto ambientale, di aumentare la consapevolezza energetica e trasformare gli utenti residenziali in soggetti attivi che contribuiscono alla stabilità della rete.

I servizi offerti sono due:

- SMART SIM è dedicato al consumatore comune che paga le bollette e vuole suggerimenti per risparmiare energia e costi;
- SMART HOME è dedicato ad utenti abilitati e dotati di dispositivi per il monitoraggio dei consumi, che vengono raccolti e elaborati per fornire suggerimenti in grado di migliorare il proprio profilo energetico.

I dati monitorati a livello di abitazione vengono trasmessi real time ed in forma anonima alla piattaforma dove vengono collezionati ed elaborati per calcolare degli indicatori di prestazioni energetiche delle singole home, i KPI (Key Performance Indicators) e dove viene effettuato il benchmarking dei profili di consumo monitorati, tramite il confronto sia con profili di riferimento che con quelli relativi agli utenti della rete. Dal confronto tra le prestazioni scaturiscono una serie di feedback educativi per l'utente per indirizzarlo verso un uso più consapevole dell'energia.

La piattaforma è inoltre in grado di acquisire ed elaborare i segnali provenienti dal mercato energetico ed individuare opportunità per la gestione della flessibilità della richiesta energetica degli utenti. In particolare, nell'ambito delle comunità energetiche, può contribuire a raggiungere l'obiettivo di massimizzare l'energia auto-consumata e l'autosufficienza energetica, infatti, grazie all'interazione con l'utente, consente di gestire ed attuare scenari di Demand Response inviando al singolo utente delle richieste di modifica del proprio profilo di consumo, che di conseguenza potranno essere remunerati.

Un altro servizio interessante è quello offerto dallo **sportello informativo di assistenza per le comunità energetiche della Regione Emilia Romagna**, che fornisce una consulenza dedicata sia online che in presenza a favore di tutti i soggetti interessati ad investire nelle comunità energetiche rinnovabili. Inoltre, supporta gli utenti tramite quaderni divulgativi sui modelli di condivisione dell'energia e sui principali modelli legali per la costituzione delle entità giuridiche delle CER. Sempre della stessa tipologia è il cosiddetto "Info –package", realizzato nell'ambito dell'iniziativa "Sinergie" della Fondazione "Compagnia di San Paolo", costituito da una guida con informazioni relative agli aspetti tecnologici, legali, sociali, di governance e di gestione economica delle CER con impatto sociale e da quattro video approfonditi realizzati da esperti su questioni legali, sociali e aspetti tecnici. L'"info –package" include anche dei fac-simile di deliberazione consiliare per la costituzione di una CER da parte di un'autorità locale, di atto costitutivo e statuto di associazione non riconosciuta, di accordo per l'apporto di capacità di autoconsumo.

Infine, **ROSE Energy Community** è un'applicazione cloud innovativa per creare, simulare e gestire completamente le comunità energetiche che combina un modulo di gestione intelligente dell'energia e un'app per coinvolgere i partecipanti.



D2.2. ANNEX 2 Main services in each Partner Country

È composta da 3 moduli:

- ROSE Energy Community Designer è il software in cloud che supporta la simulazione preliminare e l'analisi energetica ed economica di configurazioni di condivisione di energia rinnovabile (CACER)
- ROSE Energy Community Promoter è il software in cloud che supporta la promozione e semplifica la raccolta e la gestione dei soggetti interessati a partecipare ad una CACER, dalla raccolta delle manifestazioni di interesse al completamento del processo di registrazione come membri a pieno titolo.
- ROSE Energy Community Manager è il software in cloud che semplifica la costituzione, ottimizza la gestione amministrativa, energetica ed economica delle CACER e aumenta il coinvolgimento dei membri per massimizzare l'energia condivisa.

Grazie all'Intelligenza Artificiale elabora previsioni e ottimizzazioni per l'efficienza energetica e per migliorare il bilanciamento di produzioni e consumi.



www.projectdiscover.eu