

**EC2** Energy Citizenship and Energy Communities for a Clean-Energy Transition

# D5.2 Specification of needs, aspiration, and requirements from four regions





# **Document Description**

Document Name	Specification of needs, aspiration, and requirements from four regions	
Document ID	D5.2 – version 1.0	
Date	28 February 2023	
Responsible	ble Centre for Social Innovation (ZSI)	
Organisation		
Author(s)Elisabeth Unterfrauner, Judith Feichtinger, Daniela Fuchs		
Co-Author(s)		
Reviewers         Fran Whitlock (GEN)		
Dissemination Level Public		

This project has received funding from the European Union's Horizon 2020 research and innovation



programme under grant agreement No. 101022565. Neither the European Commission nor any person acting on behalf of the Commission is responsible for how the following information is used. The views expressed in this publication are the sole responsibility of the authors and do not necessarily reflect the views of the European Commission.

Abstract	This deliverable describes the results of co-creation workshops in			
	four European regions to prototype tools with the potential to			
	overcome barriers to implement and strengthen energy			
	communities and energy citizens. Following a brief introduction, the			
	workshop set-up and organisation is outlined. The results comprise			
	a description of the participating stakeholders, challenges and gaps			
	in founding and implementing energy communities, and in fostering			
	energy citizenship, and the prototyping ideas.			



# **Table of Contents**

# Contents

Lis	t of Abbre	viations	.4
1	Introduc	tion	. 5
2	Preparat	tion and implementation of co-creation workshops	. 5
3	Worksho	op results	.9
Э	8.1 Ider	ntification of challenges and gaps1	0
	3.1.1	Defining visions of (local) energy communities or energy citizenship1	0
	3.1.2 transfor	Lacking information or misinformation on renewable energy systems/E mation policy1	:U   1
	3.1.3	Conditions for initiating energy citizenship and energy communities1	1
	3.1.4	Lacking agency and community building activities1	2
З	3.2 Ove	rview of prototyped tools1	3
	3.2.1	Fostering energy Citizenship (Prototype 1)1	4
	3.2.2	Initiating energy communities (Prototype 2)1	5
	3.2.3	Implementing energy communities (Prototype 3)1	5
	3.2.4	Commonalities between the regions1	5
4	Conclus	ions1	6
5	Where d	o we go next?1	17
6	Annex –	Co-creation workshop protocols1	9

# **Table of Figures and Tables**

Table 1. Moderation sheet for co-creation workshops	8
Table 2. Participants overview in four regions per stakeholder group	9
Table 3. Experience of participants in relation to energy communities	9
Table 4: Overview of the tools prototyped in the four co-creation workshops	13



# List of Abbreviations

ABM	Arterra Bizimodu
Buurkracht	Buurkracht Projecten B.V.
ES	Spain
GEN Europe	Global Ecovillage Network of Europe E.V.
GRO	Groningen municipality
HCWS	Spółdzielnia Mieszkaniowa Wrocław-Południe
ICLEI	ICLEI European Secretariat GmbH
IT	Italy
NL	Netherlands
PL	Poland
Prot	Prototype
Prusice	Gmina Prusice
Scalenghe	Commune di Scalenghe
TURE NIRVANE	Ture Nirvane Societa' Cooperativa Sociale di Comunita'
UG	Rijksuniversiteit Groningen
ULEI	Universität Leipzig
Uni Graz	Universität Graz
WUEB	Uniwersytet Ekonomiczny we Wrocławiu
ZSI	Zentrum für Soziale Innovation GmbH



## **1** Introduction

The deliverable at hand reports on the findings from co-creation workshops in four European regions (Italy, the Netherlands, Poland, and Spain) with different stakeholders within the energy sector, energy community members, and citizens. These workshops aimed at prototyping tools with the potential to overcome barriers for energy communities and energy citizenship. The workshops built on the desk research on already available tools (c.f. D5.1). The report at hand distils needs, aspiration, and requirements from four regions for the further development of tool(s) in WP5. Thus, these workshops are intertwined with tool development in task 5.3 and the evaluation studies from task 5.4 in an agile cycle and, therefore, are held in two rounds.

In this first round of four workshops (one in each country), we (a) presented and discussed the results of the previous WPs, (b) specified the needs of the communities and the aspirations for the tools, (c) presented and analysed the potential of existing tools identified in task 5.1, and (d) created prototypes of desired tools.

The second round of workshops, again in the same regions, with potentially the same participants will be held in M25 and focus on presenting and discussing results from tasks 5.3 (i.e. Development of tools) and 5.4 (i.e. Empirical testing of tools), revisiting the topics covered in the first round and updating tools' requirements and specifications. In between the two rounds of workshops, one international cross-fertilisation online workshop in M26 will be implemented to ensure knowledge transfer and cross-national inspiration between the indepth regions.

The deliverable is structured as follows:

Following this brief introduction, we outline the set-up and organisation of the co-creation workshops in section 2. Section 3 describes the composition of participating stakeholders. Section 3.1 provides a synopsis of challenges and gaps in founding and implementing energy communities, and in fostering energy citizenship. In section 3.2 an overview of the prototyped tools developed in the workshops is provided. The report concludes with recommendations to be reflected in the tool development (section 4). For the detailed protocols of the workshops and the prototypes, see the annex.

### 2 Preparation and implementation of co-creation workshops

The EC<sup>2</sup> project values inclusivity and the knowledge created by practitioners already active in the field of renewable and / or cooperative energy creation and consumption. With this in mind, task 5.2 aims to generate further knowledge and feedback on tools that foster energy citizenship or aid energy communities or cooperatives in their daily routines and tasks by the means of eight co-creation workshops.

While Uni Graz has the overall lead in this WP, this task is led by ZSI, with the teams of ICLEI and GEN, as well as local practice partners, contributing to the organisation and facilitation of the workshop.



Preparations for task 5.2 started in late August 2022, not only to make good use of the available time, but also to allow the multiple levels of project partners involved to get informed about the task ahead, and to prepare invitations for the workshops accordingly. In September and October, online meetings were held between ZSI, Uni Graz, ICLEI and GEN to discuss the details, finances and requirements for each workshop, with the teams being informed on the current state of the desk research and the 5.1 research team preparing information based on their findings to guide the participants in the process.

The teams of ICLEI and GEN Europe act as coordinators and facilitators for the local workshop leaders. Specifically, the team paid attention to translating the presentations into the regional languages of the contributing partners, and to integrating the regional facilitators into the design process of the workshops, in order to reach a maximum of interested participants. Together with our partners we defined the goals and sub-goals of the co-creation workshops as follows:

(a) present and discuss the results of the previous WPs,

- Participants get overview about the project
- Participants get familiar with the concept of energy citizenship/energy communities

(b) specify the needs of the communities and the aspiration for the tools,

• Collection of challenges in initiating, founding and implementing energy communities - identification of gaps

(c) present and analyse the potential of existing tools identified in task 5.1

- Overview of list of tools identified in task 5.1
- Identification of further tools needed / tools to be adapted

(d) create an outline of desired tools by specifying their requirements

• Outline of desired tools and specification of requirements

To allow for a smooth organisation of the workshops as well as comparable results across the workshops, we developed different supporting materials, and a moderations sheet (c.f. Table 1). The moderation sheet contains a detailed plan of the sessions, the specific workshop exercises as well as materials needed, and roles required. While these served as guideline for the workshops it was made clear that adaptations were and should be made reflecting the local needs.

The following supporting materials were developed after feedback sessions with involved partners:

 Moderation sheet (c.f.Table 1): The moderation sheet outlines the overall timing of the workshop as well as the timing of all different session still with the possibility to adapt as needed. It further describes the goal of each session and the concrete exercise to operationalise this goal (method), the tasks for the facilitator and notetaker in each session, and materials needed.



- Guiding presentation slides: Goals and Non-goals of the workshop; Agenda; Workshop etiquette; introduction to EC2, the consortium and methodological approach; the definition of energy citizenship and energy communities; guiding slides for (warm-up) exercises; challenges in establishing or joining an energy community which resulted from the WP3 co-creation workshops in the same regions; and an overview of already identified tools to support energy citizenship and energy communities with a few best practice examples.
- Attendance list for the participants to sign
- EC2 template for photographs and film consent
- Registration form text
- Invitation text for sending out emails
- Notetaker template: to document in a structured way the outcomes of the workshop including pictures of the artefacts produced
- Financial issues instructions and travel reimbursement forms for participants

In briefing sessions with each facilitator team per region the goals of the co-creation workshop, the moderation sheet as well as the guiding presentation and other supporting materials were introduced and explained in detail. Moreover, the roles, i.e. facilitiator(s) and notetaker(s), and their responsibilities were discussed. We emphasised that it was important to avoid creating false expectations for the participants, and to make it very clear that not all needs would be able to be addressed. Moreover, it was made clear that no one tool could be developed that exactly met the needs of one region only, but instead that the resulting preferences and needs would be reflected in the forthcoming tool development.

The workshops were planned as one-day workshops, with a morning and an afternoon session and a lunchbreak in between (for a detailed overview of the moderation sheet, please see table 1).

# Session 1: Energy communities and energy citizenship – challenges on the way (10.00 - 12:15)

#### Details

- Introduction and welcome
- Get to know your neighbour
- The project EC2
- Coffee break
- Challenges for energy communities and energy citizens
- Lunchbreak

# Session 2: Tools for supporting energy communities and energy citizenship (13:45 – 17:00)

Details

- Already available tools
- Prototyping useful tools
- Feedback and closing



#### Table 1. Moderation sheet for co-creation workshops

Start	End	Durati	Goal of the subtopic	Details	Methode	Who?
10:00	10:15	00:15	Welcome and	Welcome and Introduction: Goals & Non-Goals; Agenda; consent procedures	Presentation	Facilitator
10:15	10:35	00:20	Project overview	Project presentation	Presentation and	
			understand the		Q&A	
			energy citizenship	15' Overview project, EC2 concept of energy citizenship and role of energy communities 5' questions for clarification		
10:35	11:05	00:30	Getting to know	10'Socio-metrical exercise: (1) Which stakeholder group do you belong to? (policy, dtizen,	Sociometric excercise	Facilitator;
			each other	practioners such as energy community, businessed&Industry e.g. energy company, other); 2)		note-taker:
				Three stations: who of you is part of an energy community? Who of you is planning to or	chat in pairs and	how many
				currently founding an energy community? Who of you is just interested in energy communities? 3) When did you get up this morping? (or another fun question)	present neighbour	people per stakeholder
				when all you get up the merining. (or another run question)		group and
				20'Get to know neighbour: Chat with neighbour with leading questions: Names, affiliations, why		range of
				are they here? What experience do they have with energy communities? (5 min), everyone		experience
11:05	11:15	00:10	COFFEE BREAK			
11:15	12:05	00:50	Identification of	Introduction of session: 10' Three Elle Charte in the ream with require from proving workshop (WP2)(on the woll or on pin	Discussion in break	Facilitator;
			gaps	wall or flip charts in the room with results from previos workshop (wrs)(on the wall of on pin	out groups	Pictures of
			3-1-	1. Challenges on the way to energy citizenship		results/
				2. Challenges when initiating and founding an energy community		flipcharts (in
				<ol><li>Challenges when implementing/running an energy community</li></ol>		case the
				Step1: 40'		participants
				Split participants in three groups (find a good mix of balanced groups of experienced and not so		as in WP3 co-
				experienced people); make sure groups are more or less balanced in number of participants		creation
				Group 1: Fostering energy citizenship: What challenges do you see on the way to energy		present, it
				citizenship?;		makes sense
				Group 2: Initiating and founding an energy community: What challenges do you face in the		to share
				initiation and founding phase?;		some of the
				Group 3: Implementing an energy community. What challenges do you face when running an energy community?		results on challenges)
				energy communicy:		chancinges
				Groups discuss input gathered in the walk before and complement. Prioritise challenges - visualize		
				(e.g with colours, or sticky dots).		
12:05	13:35	01:30	LUNCH BREAK	Moderation team: write challenges on moderation cards , list them accoring to topic field and	Topic list	moderation
				priorities.		team
13:35	13:40	00:05	Energizer	Wake up group after Lunch (e.g. dance the alphabet)	Dresentation	
15:40	14:10	00:30	Inspiring tools	presentation with overview of tools for energy diteensity and energy communities. This presentation is inspiring the participants for the later prototyping session. They see what already	Presentation	
				exists and already get some ideas what is needed, or should be improved. The presentation will		
		00.05		also introduce some chosen tools in depth.		
14:10	14:15	00:05	Break Identification of	Introduction of session: 5'	Prototyping	Facilitator:
1	10.10	01.50	tools needed;	Guideline for groups:	rococyping	r demedeory
			Outline of desired	This is a prototyping session. Be as specific as possible and visualise your results!		rapporteur
			tools and	All prototypes should identify:		per group;
			requirements	* Challenges or gaps the tool adresses		note-taker
				* Purpose of the tool		per group?
				* Features		
				* Functionality * How can the tool motivate people to engage in a energy community / become an energy		
				dtizen		
				* Who are the target groups?		
				Califiate 2 groups according to interact (decide on one rapportage per group) 95'		
				1. on energy ditizenship		
				> Group 1: Fostering energy citizenship		
				2 on energy communities		
				> Group 3: Implementing energy communities		
				Be flexible in group building, but make sure that one group at least adresses an energy		
15.45	16.40	00.55	Take gapting for the	community topic field and one the energy citizenship topic field.	Orbinal Science	Englitzte
15:45	16:40	00:55	Integrating further perspectives	Introduction of Session: 5	Critical friend	time keeper:
			parapeeures	Step1: 30'		note taker
				All groups but the rapporteurs mix and visit other groups as critical friends. Rapporteurs stay with		(takes note
				their prototype and explain it to visiting critical friends. After the presentation, the critical friends		at each
				raise questions and give inputs to improve the prototype. Talk about strengths and weaknesses, rapporteur makes notes		presentation)
				two rounds (15 min each)		
				Step 2: 10'		
				All people go back to their groups and integrate feedback.		
				Step 3: 10'		
16:40	16:50	00:10	Closing and	Feedback with matches, hint to next workshop		
			feedback			



## 3 Workshop results

having two or more hats to put on.

The four workshops took place between November 2022 and January 2023: in Poland on 26<sup>th</sup> of November 2022, in Italy on the 3<sup>rd</sup> of December 2022, in the Netherlands on the 17<sup>th</sup> of January 2023, and in Spain on the 20<sup>th</sup> of January 2023.

Table 2 gives an overview of the number of participants per workshop as well as the stakeholder composition. In total, 72 people participated in the four regional workshops. Please note that participants can be assigned to several stakeholder groups at the same time,

	Italy	Spain	The Netherlands	Poland	Overall
Number of participants	16	10	31	15	72
Policy	6	0	2	0	8
Practitioners (e.g. energy community)	2	5	3	6	16
Citizen and citizen's representatives	4	4	26	7	41
Business and industry (e.g. energy providers)	1	1	0	0	2
Other	2 University, 1 video-maker	0	0	2 Education	5

Table 2. Participants overview in four regions per stakeholder group

As table 2 shows, more than half of the participants (57%) were citizens and citizens' representatives. The second biggest group represented in the workshops were practitioners with 22%. Not well represented was the group of business and industry. However, as the workshops as well as the tools to be developed in WP5 are supposed to strengthen and support preliminarily energy citizens, the main target group was covered.

Table 3 shows the level of experience with energy communities among participants in the different regions.



#### Table 3. Experience of participants in relation to energy communities

	Italy	Spain	The Netherlands <sup>1</sup>	Poland	Overall
Members of energy community	2	2	-	1	5
Planning or currently founding energy community	7	5	-	6	18
Interested in energy communities	7	3	-	5	15

#### 3.1 Identification of challenges and gaps

In a dedicated workshop session, regionally specific challenges and gaps were identified by the participations in addition to the previously already gathered problems (WP3 co-creation workshops).

Roughly, the identified challenges and gaps can be sorted into four clusters:

- Lack of visions of (local) energy communities or energy citizenship;
- Lacking information or misinformation on renewable energy systems/EU transition policy;
- Limiting legal, economic, and technical context and conditions for initiating energy citizenship and energy communities;
- Lacking agency and community building activities.

#### 3.1.1 Defining visions of (local) energy communities or energy citizenship

Depending on the national context, participants addressed a lack of visions of a just energy transition, and the individual steps to achieve it. In particular, Polish participants enunciated a lack of coherent political and societal vision of energy transition and networks, trickling down in a lack of coordinated activities in investment (PL, G1, ECit<sup>2</sup>; PL, G2, ECom). To convey the importance of the topic of energy citizenship and just energy transition, a change of narrative was proposed to shift emphasis from immediate effects of energy communities to a focus on the process, in particular regarding the energy prospects. A suggestion was to admit that "we are in the pilot/pioneer stage – things can get rough, but we will get by" (PL, G2, ECom).

Participants in Italy envisioned the concept of "energy citizenship" to be broader than political citizenship, since those not part of the state, i.e., experiencing migration, are often affected the most by questions of (affordable) energy (IT, G2, ECom). Moreover, they defined "energy citizenship" by referring to specific aspects of sustainable development, i.e., factoring in needs and requirements of future generations, emphasising the long-lasting and moving-target character of energy transition (IT, G1, ECit). Accordingly, a paradigm shift was considered necessary to implement just energy transition, with energy communities built on non-speculative management, entrusted to public bodies or non-profit organisations (IT, G3,

<sup>&</sup>lt;sup>1</sup> The information was not collected in the workshop in the Netherlands.

<sup>&</sup>lt;sup>2</sup> ECit stands for focus on 'energy citizenship' and ECom for focus on Energy Community



ECom). The aspect of inclusion addressed both actors, i.e., the requirement of bringing together technology and citizens (IT, G2, ECom), and the need to communicate complex context, i.e., the interconnectedness of environmental, economic and social factors in an accessible way in order to facilitate a just energy transition (IT, G1, ECit).

With regard to energy citizenship and energy communities, the challenge of "joining an existing movement" was brought forth which was especially expressed in questions of (symbolic) ownership of the movement (ES; NL, G2, ECom). Moreover, participants identified a lack of political will to support the citizens' right to energy sovereignty (ES, G2, ECom) as economic issues were considered dominant compared to ecological awareness (ES, G2, ECom). To address this, a public office to guide the implementation of energy communities was proposed (ES, G2, ECom).

However, the vision of energy citizenship remained embedded in broader visions of sustainability, therefore, requiring a broader change of values and behaviour of many different agencies, reaching beyond individual energy communities to contribute to a facilitation of energy transition.

# 3.1.2 Lacking information or misinformation on renewable energy systems/EU transformation policy

The issues of misinformation or a lack of information on energy communities and renewable energy systems showed prevalently in the Polish workshop (PL, G1-3), and was considered to lead to a lack of trust among citizens towards governments and public authorities (PL, G2, ECom). Government structures were considered an oligopoly and not trustworthy. In addition, the potential manipulation of media enhances distrust in public structures (PL, G1, ECit). Moreover, general high degrees of lobbyism (PL, G1, ECit) and, more specifically, aggressive marketing practices of photovoltaics industry were perceived as deceptive (PL, G2, ECom).

The lack of information was explained by a lack of supporting institutions, knowledge transfer and testing, leading to a lack of information, education and access to information (PL, G1, ECit). Thus, participants highlighted the need for simple and easy-to-understand messages (PL, G3, ECom).

Moreover, missing information on existing projects (e.g., on municipality level) to create synergies with individual initiatives was considered lacking; accordingly, participants identified a lack of best practices and knowledge exchange, as well as contact points to receive information (NL, G2/G3, ECom).

More generally, a lack of economic, ecological and legal information has been highlighted, including a lack of collective and ecological awareness, and a lack of interest in environmental awareness education promoted by the political class (ES, G1, ECit; partly ES, G2, ECom).

#### 3.1.3 Conditions for initiating energy citizenship and energy communities

Limiting conditions for fostering energy citizenship and establishing energy communities were manifold and addressed general power relations as well as technical, regulatory, and administrative issues. Organisational issues were also listed.

With regard to power structures, participants pointed out that oligopoly structures result in resigned acceptance of imposed rules by the population and that they suspected a lack of



education driven by the political class (ES, G1, ECit). They argue that the presence of the electricity oligopoly implies that "the rules of the game are already imposed" and "the control of the market has us totally limited". Moreover, participants argued that "they want citizens to finance the transition themselves", and favourable conditions and return of investment were slow, i.e., incentives were missing (ES, G1, ECit). It was argued that a net balance between production and collective self-consumption was missing (ES, G2, ECom).

A lack of technical expertise was identified in order to build more resilient energy communities, and, as a result, depend less on market fluctuations (ES, G1, ECit). Other participants addressed technical issues with regard to infrastructures and historic buildings: while infrastructure was considered not to be equipped for renewables due to outdated networks (PL, G1, ECit), historic buildings were considered challenging due to structural issues limiting opportunities to install technical solutions (here: photovoltaics) (PL, G2, ECom). Some participants assumed that adequate technical possibilities exist (IT, G2, ECom), while others considered support for new technologies (e.g., perovskite-based solar cells) to be lacking (PL, G1, ECit). Moreover, technical barriers in context of energy transition were identified for the elderly and the poor (PL, G1, ECit).

In terms of initiating energy communities, legal conditions were considered restricting, especially in Poland (G1/G3). Participants referred to missing legal regulations for energy communities (PL, G1, ECit) and frequent and unpredictable changes of law, rendering decisions inaccurate and hampering project workflows (PL, G3, ECom). Besides, high level of bureaucracy and high initial costs were considered to hamper the initiation of concrete projects (PL, G3, ECom). However, participants from other countries also considered legal conditions to be challenging, especially frequent changes (ES, G1, ECit) or delays in authorization and licencing (ES, G2, ECom).

Concrete proposals to facilitate energy communities addressed changes in funding structures, i.e., to empower government collaboration with banks (IT, G2, ECom) or funding in general, e.g. on municipality level (NL, G2, ECom) or with regard to public funding (not further specified, ES, G2, ECom). Moreover, organisational issues (e.g., priority setting, creating an agenda) were addressed (NL, G2, ECom; ES, G2, ECom), together with difficulties in eventually selling energy (ES, G2, ECom). The distribution of roles between municipalities and energy communities also needed clarification (NL, G3, ECom). When setting up energy communities, a lack of funds (in particular for vulnerable groups) was addressed (ES, G2, ECom).

#### 3.1.4 Lacking agency and community building activities

With regard to community building, participants addressed three issues in particular: the general potential for agency of actors, challenges to engage in community building activities, and requirements for communication and facilitation.

In general, participants addressed a general lack of community and agency in their region and found individualism to hamper energy communities and energy citizenships (PL, G1, ECit; ES, G1, ECit). Some emphasised the importance of "agents of change" who are active in the respective communities, i.e., leaders, initiators, liaisons, reactivators) (PL, G1, ECit). They criticised the passivity of administrators and decision-making in housing communities (PL, G1, ECit). G1, ECit) and proposed to use expert experiences more consistently (PL, G1, ECit).

Generally speaking, a lack of time, and reluctance to act and invest were identified as hindering the building of energy citizenship and energy communities (ES, G1, ECit, ES, G2, ECom). In



addition, finding support for creating together to overcome passivity and reluctance were considered difficult (ES, G2, ECom).

Community building was considered core, albeit a challenge on its own, in particular by Polish participants. However, several challenges to do so were identified, among them the efforts needed to initiate an energy community. Besides, participants pointed to lack of neighbourly bonds due to rental tenancy in housing communities, and the deriving limited communication with fellow residents (PL, G2, ECom).

With regard to communication and facilitation, diversity posed a challenge to develop mutual understanding between different societal groups (e.g., age, cultural differences) (PL, G1, ECit/G2, ECom). Accordingly, facilitators were considered important, in particular for communities under social distress (IT, G2, ECom). Demonstrating benefits of energy citizenship and energy communities was considered crucial with regard to rising energy costs, which hit elderly citizens in particular (PL, G2, ECom).

#### 3.2 Overview of prototyped tools

Equipped with all kinds of creative materials and after deciding on the most pressing needs, participants prototyped tools with the potential to overcome some of these challenges. Different emphasis for tool development could be selected: citizens could either focus on fostering energy citizenship, initiating energy communities, or implementing energy communities. In most countries, prototypes for all three objectives were developed; where this was not possible, participants could choose which aim they would like to pursue.

In the process, they were asked to clearly identify which challenges the tool addresses, the purpose of the tool, its features and functionalities, and the potential target group. After a first prototyping session, participants could join other groups to discuss their prototype and in the roles of critical friends give recommendations and suggestions on how to improve the tool. Back at the original group these recommendations were incorporated where feasible. Table 4 gives a detailed overview of the tools prototyped in the four co-creation workshops. While completely different in their eventual design (for details see section 0 which includes the collection of all prototypes), some similarities can be deduced from the discussions and prototypes developed during the co-creation workshops in Italy, Poland, Spain and the Netherlands.

	Citizenship (Prot1)	Communities (Prot2)	Communities (Prot3)
ΙΤ	The Union gives us Energy: creating common language and making benefits of an EC visible in small communities on a concrete example/ project	Find your energy compatibility: creation of a portal where local stakeholders (users, technicians, youth, administrators) can meet, get acquainted, start trusting each other, and share their best practices as well as challenges, ideas, and opinions	<b>Gamer:</b> An energy- focused game targeting and connecting energy communities to improve their efficiency. The game aims at building up a community and includes monetary incentives (prizes).

Table 4: Overview of the tools prototyped in the four co-creation workshops

Eastoring Energy Initiating Energy



PL	<b>Raising awareness,</b> internet tool building community and presenting benefits	Toolbox offering comprehensive help for setting up and running an energy community: Help, lead and simplify the process	App and a network of local contact points: informing and animating the energy community movement, providing possibilities to exchange experiences
ES	<b>A cultural tool:</b> generating a narrative for citizenship and a paradigm shift	<b>One-stop shop for</b> <b>information on how to</b> <b>create an EC:</b> A place where every citizen with an interest in creating an EC can find answers to their main doubts and questions	-
NL	-	_	<ul> <li>(1) Networking and peer- to-peer exchange tool: to get insights into the activities of other citizen initiatives and communities, including a calendar function; contact information of the energy community</li> <li>(2) Connecting energy communities and municipalities: including dashboards, chat/e-mail function, maybe course- like information on plans, planner with activities</li> </ul>

#### 3.2.1 Fostering energy Citizenship (Prototype 1)

The three co-created prototypes that aim at **fostering energy citizenship** have in common that they target the broad public or society as such, and tackle challenges such as the lack of knowledge and lack of community or solidarity between social groups. All three prototyped tools are supposed to create a common language and a new narrative for energy citizenship. The tool from the Italian workshop particularly emphasises making the benefits of the European Union in energy transition visible. The participants in Spain emphasised that the existing electricity oligopoly limits the options for energy citizenship and that the understanding of energy must change from energy as a product to sustainable, sovereign energy as a basic right for citizens. With this narrative, the citizens' rights become the responsibility of administrators and politicians who would then need to solve the technicalities (decentralisation of the energy production, etc.). In the long term, all three co-created prototypes are supposed to support a paradigm shift and lead to real energy sovereignty.



#### 3.2.2 Initiating energy communities (Prototype 2)

The co-created prototypes that aim at **initiating and setting up energy communities** target citizens, initiators, associations, collectives, or local firms that are particularly interested in initiating, creating and leading energy communities. All three tools aim at supporting the process of initiating energy communities by offering comprehensive help, support and information in order to simplify the process of initiation (PL and ES), while the prototype from the Italian workshop focuses additionally on building up networks to allow exchange on best practice. The idea here is to enable direct, informal information exchange on technical and procedural/organisational possibilities to increase motivation and build up trust (IT). The tools are supposed to be motivating as they reduce time and efforts for setting up energy communities, exchange might have the positive effect that the benefits of the members become clearer (savings, lower costs, independence, simplified processes). The tools should involve, connect and support existing energy cooperatives for accompaniment and advice.

#### **3.2.3** Implementing energy communities (Prototype 3)

The prototypes that aim at supporting the **implementation of (already existing) energy communities** mainly focus on improving the effectiveness of and processes in existing energy communities through tools that support network building and exchange between peer energy communities but also between energy communities and officials (from municipal and/or regional level). Target groups are energy communities and the connection of energy communities with decision makers to facilitate respective policy processes. While the tools from the Dutch and Spanish workshop emphasise exchange between actor groups, the tool from the Italian workshop pursues a gaming approach, letting the communities compete against each other. The winning energy communities receive economic incentives to improve their energy consumption.

#### 3.2.4 Commonalities between the regions

The co-created tools did not address fundamental changes (i.e., economic paradigm shifts) or shifts in wider technical, legal, administrative and political conditions as they were considered outside the reach of individual tools. Yet their implementation could lay the foundation for said changes and shifts. The only exception in this is a "cultural tool" sketched in the Spanish workshop (Prot1). It focuses on reshaping the narrative regarding energy to foster a paradigm shift on how to consider energy: namely as a basic right (and therefore responsibility of the administration) rather than a market product. Energy communities in this thinking serve as a bridge to move towards a deprivatised and remunicipalised energy sector with raised awareness of energy use and production.

All other proposed tools aim at developing and implementing (local) visions around energy questions, and, more concretely, energy communities, rather than energy citizenship more generally. They emphasised the following aspects:

**Community building** and the use of community effects were core to almost all prototypes. Depending on the national context, most tools used or strengthened existing, or aimed at creating new communities (IT, Prot1; IT, Prot2; IT, Prot3, PL, Prot2; PL, Prot3). Looking at the **target groups**, most tools aimed at mobilizing a broad range of actors, though two specifically addressed more professional communities (IT, Prot2; PL, Prot2).



Similarly, **organising information flows** was central to many tools, either through individualised communication (i.e., speed dating between different needs and expertise (IT, Prot2)), or through generalised communication (i.e., analogue or virtual information hubs on technical, legal or administrative issues (IT, Prot2; PL, Prot2/3). Some of these tools even aspired to engage immediately in setting up energy communities (PL, Prot2), or allowed for one-stop-information (Poland, Prot3; Spain, Prot2), including monitoring (PL, Prot3). Reviving and centralizing existing platforms and ensure support of the administration were considered a way to proceed (ES, Prot2). While most projects focused on virtual information flows (with real-life effects), one tool aimed at promoting energy communities and providing information through establishing a **best-practice** (here: for photovoltaics) and broadcasting the process on the internet (IT, Prot1).

**Communicating and visualising benefits** was another important aspect addressed by many tools in different ways: from a game demonstrating benefits of self-consumption (IT, Prot3), to a benefit simulator (PL, Prot1), to tools providing lists of benefits along with comprehensive ecological and technical assessment and monitoring (PL, Prot3). Some tools aimed at demonstrating benefits on an individual level; here, mechanisms of **nudging** were included (e.g., playing and winning a price, Italy, Prot3; or providing information on costs in comparison to neighbours, PL, Prot2). Other tools aimed at a better reflection on different types of energy generation and consumption to consider the issue of energy management comprehensively (ES, Prot2).

One proposal consisted of meta-tool (PL, Prot3) that could potentially provide a link between different tools proposed.

### 4 Conclusions

The co-creation workshops provided a first step to get participants engaged with the concept of energy citizenship and to start a reflection process on how to implement and foster energy communities accordingly. They revealed a broad range of challenges in the engagement and initiation of energy citizenships and energy communities; accordingly, the results of the prototyping session revealed a similar breadth of scope.

However, we identified a few common challenges. First, a lack of visions of (local) energy citizenship and energy communities fundamentally restricted engaging and reflecting on how to implement these concepts. Although this lack of vision varied between the respective countries, a further in-depth engagement with what it means to take on energy citizenship seems necessary. Second, a lack of information (or, in some national contexts, even the existence of misinformation) about renewable energy systems, the EC's transformation policies or a lack of awareness on issues of energy transition in general posed a major barrier for mobilising participants and society more broadly to engage in (the debate on) energy citizenship. Third, current power structures and, more concretely, limiting legal, economic, and technical conditions hampered concrete steps for initiating energy communities. Lastly, participants perceived a lack of agency and community building activities in general to pose a major obstacle to mobilise people to engage in the discussion, and eventually, the implementation of the concept of energy citizenship as well as energy communities.



Accordingly, participants developed varying concepts of prototypes of tools to initiate and foster the implementation of energy citizenship and energy communities. However, all related to one or more challenges of the above. Except for one cultural tool, prototypes did not tackle the challenges of changing the mind-set of users fundamentally; nevertheless, they may contribute to such a change by operationalising visions of energy communities or energy citizenships in local contexts. Prevalently, tools were imagined to provide context-specific information on adequate technical solutions, as well as legal and administrative conditions and to strengthen community life in and beyond (existing) energy communities. Presenting benefits of transition and nudging to change behaviour, e.g. via gamification, were considered valid mechanisms to achieve this goals.

A prototype addressing as many voiced needs as possible for engaging with energy citizenship and for strengthening the building of energy communities may therefore comprise features as the following:

- a) Find your neighbours, share a vision: how should your community look like? The feature to connect with (certain members of) your community based on a shared vision (or elements thereof), inspired by speed-dating ideas.
- b) Envision your energy community project

The feature to specify the community in terms of energy solutions, including the feature to upload pictures of your community to photoshop the project, the deliberation on options and specific restrictions and the specification of user's roles in contributing to the project.

- a. What kinds of energy solutions do you see?
- b. What options do you (realistically) have?
- c. What would you like to contribute?
- c) Step-by-step: What to do?

The feature to conduct a demonstration of the project step by step. What is it that you need to do to realise your ideas?

d) How to start?

The feature to receive local and context-specific information, including legal conditions and potential finance plans, e.g. through a finance calculator.

e) See your benefit

The feature to compare the final project to the status-quo via realistic calculations in terms of CO<sub>2</sub> reduction, costs etc., and to engage with your neighbours in (playful) competition via real-context games.

- f) Get inspired and find synergies through exchange with peer energy communities
- g) Connected to municipal decision makers, get information on strategies and policies that are linked to energy communities (sustainability strategies)

### 5 Where do we go next?

To proceed with these findings, the EC<sup>2</sup> project will undertake the following three steps: First, based on the outcomes of the co-creation workshops, the EC<sup>2</sup> project will develop a prototype of a tool to fit requirements of participants.



Second, the EC<sup>2</sup> project will hold a cross-fertilisation workshop in May 2023 with participants from all four regions to engage further in the debate around energy citizenship and energy communities in order to foster an in-depth understanding of both concepts and to get inspired by the ideas of others already engaged in the debate. Third, the EC<sup>2</sup> project will conduct a second round of workshops in all four regions to validate a first early prototype of the final tool.



### 6 Annex – Co-creation workshop protocols

In the annex, the protocols of the four co-creation workshops are compiled following the structure of the analysis; starting with challenges identified in the four regions and followed by the detailed descriptions of the prototypes co-created in the respective workshops.

#### Challenges and gaps identified in the four regions

This section gives an overview on the challenges and gapes identified in each region.

#### **Region Italy**

<u>Group 1</u>: Fostering energy citizenship: What challenges do you see on the way to energy citizenship?

We focus on how to convey the **concept of the benefits** (environmental, economic, and social) on which an EC is founded and sustained to the people, as all 3 aspects are strongly linked and must be taken into consideration. Businesses, citizens, and public bodies may have different initial and primary motivations but if the reasons for one are not linked to the others, the project falls apart.

One aggregating element can be the **attention to the needs and requirements of future generations**. All elements must be held together, and it is essential to be able to **communicate** them properly, find the right communication tools, and use **accessible language**.

We also need to make people aware that the **energy transition process does not have a deadline** but is destined to last indefinitely.

<u>Group 2</u>: Initiating and founding an energy community: What challenges do you face in the initiation and founding phase?

There is an important dichotomy already in the EC design phase: i.e. the need to bring together technical expertise and the participation of locals who may often have no information on the subject but who are entitled to have a say in the development of their area. It is therefore important to create the conditions for the **empowerment of local citizens**. So, perhaps, the technical issue is not so challenging because the technological solutions exist, the problem is more the **involvement and training** of the subjects addressed.

One element that could foster empowerment is the **government's collaboration with banks** so that they provide soft loans for the installation of technologies to produce energy from renewable sources.

We discussed who the aggregator/facilitator is in the territories: to avoid over-determining the needs of the territory and its citizens, whoever takes the lead must to respect and value the local needs (especially important in conditions of greater social distress). A problem of **community governance** therefore emerges.

There are also problems linked to **bureaucracy**, often an obstacle to the creation of such projects: sometimes it is a matter of delays and other times of tensions arising from local politics.



Finally, Energy citizenship has to be seen as **a broader concept** than that of political citizenship because the energy issue weighs heavily on those who are not citizens, usually experiencing situations of greater hardship and poverty. There is a great need for **a new social pact based on a shared and inclusive language**.

<u>Group 3</u>: Implementing an energy community: What challenges do you face when running an energy community?

A strong **paradigm shift** is needed to set up an EC. A major challenge is sharing the benefits of an EC as well as the return on the initial economic investment to create it. Another problem is related to management: effective participation of the EC members in the management of the EC is needed. Management must be non-speculative, entrusted to public bodies or nonprofit organizations.

#### **Region Poland**

<u>Group 1</u>: Fostering energy citizenship: What challenges do you see on the way to energy citizenship?

Challenges on the way to energy citizenship

#### State level

- The problem of centralization or decentralization of energy networks, lack of a coherent vision in this regard
- The state does not protect citizens! this is confirmed by energy oligopolies
- Energy business interests strong influence of the lobby
- Lack of support for the development of new technologies photovoltaics based on perovskites (which are supposed to be cheap to buy)
- Infrastructural backwardness, infrastructure not adapted to the needs of RES (connection refusals)
- Legal no regulations

#### Information level:

- Manipulation of the media message
- Misinformation, eg about RES technologies
- Far from enough information on the possibilities of the energy transformation
- Education! Energy citizenship knowledge needs to be in the kindergarten
- · Access to knowledge lack of supporting institutions
- Science! Knowledge transfer, testing

#### **Technical level**

- Historic buildings (different building conditions)
- Technological barriers exclusion of the elderly and the poor

#### Level of local communities

- Cultural insufficient strength of the community, lack of a sense of agency
- Lack of trust



- Diverse communities it is not easy to find a common language, understanding (a team is needed to push the issue of energy communities forward)
- Community activation (leaders, initiators, liaisons, reactivators)
- Using the experience of experts (especially those at retirement age)

#### Housing communities and housing cooperatives

- Passivity of administrators
- Lack of decision making

<u>Group 2</u>: Initiating and founding an energy community: What challenges do you face in the initiation and founding phase?

#### Technology issues

- A lot of misinformation in this regards leading to the lack of trust.
- People's lack of technical knowledge and fear to make a decision.
- Due to aggressive marketing practices, e.g. in the PV market, people are sometimes looking at the technical solutions as a deception.
- The fear of failure of the installation systems especially in old buildings.
- Lack of coordination of activities in the field of investment works in buildings and their vicinity, which makes it impossible to carry out works related to, for example, photovoltaics – lack of "big picture" approach.

#### Educational and social challenges

- Generational, age and cultural differences in the group that make people hard to understand each other. Younger generation absorbs knowledge more easily.
- Seniors care about the benefits of the new solutions (due to inflation and the rise of the energy bills).
- Badly put narrative focusing on the immediate effects and not on the process. We should change the narrative into "we are in the pilot/pioneer stage things can get rough, but we will get by".
- Problem with reaching and communicating with the fellow residents.
- Lack of neighborly bond/web due to large number rented apartments very limited contact with the owners. The people renting the apartment don't seem to care about joining the energy initiatives. Despite the lack of social bond, 5-6% of interested people is enough to push the project ahead.
- Initiating a community is time-consuming the necessity of putting in extra hours into motivating others and other organizational matters that is hard if there are only a few people working on the project from the scratch.

<u>Group 3</u>: Implementing an energy community: What challenges do you face when running an energy community?

- About 18.5m of Poles cannot found a cooperative and the ones that can still have a lot of conditions to meet.
- The frequent and unpredictable changes of the law make the process difficult.
- Due to the changes of the law every decision carries the risk of inaccuracy (e.g. of costs) which can lead to generating conflict –can result in suspension of the project.
- The high initial costs, e.g. requirement of covering 70% of the project can be a major liability- creates a barrier of engaging in the project.



#### **Technological issues**

- Network operators of PV farms often reject energy companies doe to their technologically outdated transmission networks
- Incomprehensible information results in citizens' lack of knowledge and interest —the message should be simplified and clear for everyone (so they are aware of what they are investing in).

\*reference from group 1 to group 3

selective approach to revealing cost information (e.g. providing only information on the costs of renewable energy but no comparison to the traditional one  $\rightarrow$  mindset of only looking at it as an additional cost). This is a reference to the anti-EU disinformation campaign of Polish energy companies, which pointed to the EU transformation policy as generating high energy costs.

#### **Region Spain**

Due to weather conditions, the number of participants was considerably reduced (from 15 to 10 people). Therefore, when organizing the working groups, it was decided to create only 2 groups, and the following areas were chosen: "promotion of energy citizenship" and "initiation and foundation of an energy community".

<u>Group</u>1: Fostering energy citizenship: What challenges do you see on the way to energy citizenship?

- Lack of information.
- Lack of awareness around energy issues.
- Individualism, lack of community culture.
- Oligopoly: resignation to accept imposed rules.
- Lack of time.
- Reluctance to act and invest.
- Lack of education driven by the political class.
- Unclear and changing laws

Here are some of the reflections brought by the participants when explaining the choice of the challenges:

Two hot topics are observed: The presence of the electricity oligopoly and the lack of awareness on energy issues.

Regarding the first one, resignation is expressed, as it is understood that "the rules of the game are already imposed", "the control of the market has us totally limited" and "they pretend that the transition should be financed by the citizens". The concept of "return" is mentioned; they say, "if the playing conditions were more favorable the recovery of the investment would be faster and, therefore, it would be an incentive."

In addition, the importance of being less dependent on market fluctuations in order to be more resilient is taken into account, for which they detect the need for technical expertise that not all systems have.

In this connection, "lack of information: economic, ecological and legal" is highlighted and "lack of time" is mentioned on several occasions. Also the "lack of collective and ecological awareness" and "the lack of interest in environmental awareness education promoted by the political class".



<u>Group2</u>: Initiating and founding an energy community: What challenges do you face in the initiation and founding phase?

- Difficulty in finding support when creating together (due to coincidence resignation passivity).
- Difficulties in selling energy.
- Lack of political will to support the citizens' right to energy sovereignty (and as a result, it is not supported).
- Need for public financial support.
- Authorizations and licenses/delays.
- Difficult organization.
- Lack of collective time.
- Lack of net balance between production and collective self-consumption in Spain.
- Lack of funds (especially vulnerable families).
- Lack of economic knowledge.

Some of the main reflections that have guided the participants in the choice of the challenges are collected:

There is consensus that "energy communities depend on a very cumbersome technical and legal development" and that "it is difficult to find all the time collectively needed to meet and follow all the necessary steps". They also point out that "ecological awareness is subordinated to economic issues". They say: "there is a lack of responsibility of the representatives to support, accompany and facilitate, in an integral and financed way, the creation of an energetic community". To which they conclude: "there is a lack of political will to support the right to energy sovereignty of citizens". Therefore, they see the existence of "a public office to guide the process of implementing an energy community" as an interesting solution.

\*Note: Among the legal factors, in the previous workshop the 500-meter rule for collective selfconsumption was taken up as a challenge. The participants point out in this workshop that the law has changed to 2000 meters.

#### **Region The Netherlands**

<u>Group2</u>: Initiating and founding an energy community: What challenges do you face in the initiation and founding phase?

- **Funding**: Is there a possibility to get a structural funding from i.e. the municipality? You need funding to make surveys, design flyers, organise activities, etc. Also, they might want to hire external expertise to help them with certain elements.
- What is the focus of the energy community? How do they create an agenda or an action plan? They often can't focus on too many things at the same time, so how do you set priorities?
- How do we get our neighbourhood involved? Via surveys, social media, newsletters, etc. But how do you do that in practice? Often, there is a lack of practical skills in this context.
- What is the municipality doing? Who do they have to get in touch with for what topic (energy transition, climate adaptation, etc.)? What support structures are available?



Also: what is the balance between activities of the municipality and activities by the energy community?

• What is already out there? Are there other energy communities and how do you connect with them to exchange knowledge and experiences?

<u>Group3</u>: Implementing an energy community: What challenges do you face when running an energy community?

- Balance between the energy community and the municipality. Both the municipality and the energy communities are active in the same district/neighbourhood. How do you make sure that you strengthen each other and do not take over each other's role? Energy communities have expressed their concern that the municipality might take over their role.
- Information over funding for projects. What funding possibilities are available? For both individual and collective actions, i.e. postcoderoos. How do they work? What are the in's and out's? Are there other communities that have experience with these kinds of projects? How do you get in touch?
- How can synergies with the projects of the municipality be created? For instance, the energy coaches and advisors that are employed by the municipality.
- What direction is the municipality heading and how can energy communities join the movement/ energy? What are the plans of the municipality (i.e. district heating, all electric), what activities, renovations, etc. are being planned in the neighbourhood throughout the year and upcoming years. How can energy communities join by i.e. coorganizing collective purchasing actions, etc.
  - Also: How exactly can energy communities and citizens participate? Expectation management is needed. What is possible and realistic and still open for debate? What is already decided and non-negotiable?
  - Energy communities want to organise on a higher level in a thinking group with regard to the updated roadmap.
- Who is the first contact point within the municipality for energy communities? Energy
  communities are working on various projects and there are different people working
  on these projects within the municipality. It would be great to have one central contact
  point who coordinates the efforts within the municipality.

#### Identification of tools needed

This section is dedicated to the prototypes that were developed in every region.

#### **Region Italy**

In Italy three ideas were developed.

#### Prototype 1: The Union gives us Energy!

Creation of a short video to disseminate and spread a project initiative that demonstrates the validity of a bottom-up energy community. The project aims to build a small photovoltaic plant with the contribution of the entire local community through fundraising, document it with a video, and make short clips for different social media (TikTok, Instagram, FB, website, etc.)







Challenges or gaps the tool addresses	benefits of an EC visible to the local community.
Purpose of the tool	To get different generations and social groups actively involved, thus creating trust and solidarity among them.
Features	Step-by-step creation of a small-scale PV plant:
	- starting with a fundraising activity that involves associations, the church, the schools, and citizens in general;
	- then creating a citizen committee to decide where to build it and define the design;
	- building the plant, and deciding how to use the power produced to answer the local needs and dreams: concerts, cinema, info point, battery charger for electric scooters, etc.
	Elderly people can also sit under the roof and play cards on sunny afternoons.
	The process is documented by a team of local video makers (who can be amateurs or school kids) to make a video clip for social media.
Functionality	Practical: locally produced energy
	Economic: empower the local community by fundraising activity
	Communication: share and multiply the message through social media
How can the tool motivate people to engage in an energy community / become an energy citizen?	It makes the EC visible and brings practical benefits to the town; it activates different social groups with different activities; it is a long-lasting project and motivates neighboring towns to replicate it.
Who are the target groups?	All citizens can get involved at different stages; local firms can supply building materials.



## Prototype 2: Find your energy compatibility

The creation of a portal/blog where the local stakeholders (users, technicians, youth, administrators) can meet, get acquainted, start trusting each other, and share their best practices as well as challenges, ideas, and opinions.



Challenges or gaps the tool addresses	Matching technical competencies with local participation to increase motivation and direct information exchange
Purpose of the tool	Represent the communities and their visions, transmit information, matching stakeholders: from pattern to detail
Features	Open-source forum with bottom-up design, an administrator and moderator
Functionality	Once you have clicked on the location, the technical characteristics of the project appear. On-site users can meet and get to know each other thanks to a system that assesses mutual compatibility. Each member uploads their skills, interests, questions, and availability to their profile. Each person can scroll through the users registered in the forum and for each match the software calculates compatibility based on the data entered by the members (e.g. Tinder). Once you scroll through the members and find someone with high compatibility you can start chatting with the other user.
How can the tool motivate people to engage in an energy community /	Conveying stakeholders' requests and queries towards technical and specific information sources available in a given location.
become an energy citizen?	Creating bottom-up links and networks between users and encouraging the sharing of best practices.
	The ultimate goal is to shorten the mutual acquaintance phase between local stakeholders as well as to create a virtual community in which ideas and opinions can be exchanged.
Who are the target groups?	Local activists, technicians, and local firms



#### Prototype 3: Gamer

An energy-focused game to encourage engagement and understanding of what benefits can derive from an efficient Energy Community.



Challenges or gaps the tool addresses	Investment stability, efficiency, socialization, replacement, loyalty, creation of trust, and awareness for sustainability
Purpose of the tool	Through the game, users are more motivated to follow the EC's best practices.
Features	The stakeholders already part of the EC are divided into teams and each team aims to achieve the highest level of self-consumption. In this way, the EC receives economic incentives from the GSE (Italian public society that regulates the economic incentives of renewable energy projects) or other local energy authorities.
Functionality	At the end of the game, the winning team gets a prize. One can also create 'open to the public' moments in which EC members involve acquaintances and friends by explaining to them the purpose of self- consumption and how they organised themselves internally in the team to achieve the highest level of self-consumption. Outside 'friends' could then decide to join the community.
How can the tool motivate people to engage in an energy community / become an energy citizen?	Getting points and bonuses, winning the prize, creating culture and fun
Who are the target groups?	Citizens, shops, schools, local associations (no local firms)



#### **Region Poland**

#### Prototype 1:

Internet tools in the form of a website or application focused on building a community and presenting benefits.

NR2UANIE	TRZEZNACZENIE NARZĘDZIH	FUNK JONATHOR	JAC HOTMAJE	DOCELOWA
BRALL WIEDZY, EDUKACJI I ZROUNIE CUMI JEST ORMANTEISTU ENERGETMANE I KAUMIENIA KORZYSA JEONNOSTYAI DUFKI UDURKCHI HE WSPÓLNOCH	(WINCHTANE LUNDONOIC) ! PEREFECTATION INTERPORTATION INTERPORTATION ISTNIESPORTAN LOERCHVIN STREED KORLYGU JAUIE DAJE PRZEJCIE DAJE PRZEJCIE DAJE PRZEJCIE DAJE PRZEJCIE DAJE PRZEJCIE DAJE PRZEJCIE DAJE PRZEJCIE UNTRALOJI NA ROLUIĘZANIA ZDIOROWE/ UROST TRANSPRENTING UZUALIZAJA		ZAPRASCA DOJUMD ZAPRANY I RIVICED TOLIHALA HARNE BEBY TOLIALA ZANECTRICENE TOLIETRZA I TOMAEUJENY HARE KEORI OD ZERA DO NP. REGIONU ALE CSIEDLE TEST JUNGLY H UNGURANETSUTH (TOLIGNEH)	GHINA GHINA V REGION
Met Paulinay	ALCONTAL ST	horis are Juri are Zetrice		-

Challenges or gaps the tool addresses	Lack of knowledge, education and understanding of what energy citizenship is and lack of understanding of the benefits for the individual through participation in the community
Purpose of the tool	Raising Awareness!
	Information and contact points in existing community meeting places
	Indication of the specific benefits of moving from individual installations to collective/joint solutions
	Visualization
Features and Functionality	<ul> <li>BENEFITS SIMULATOR</li> <li>Readability/Simplicity/Intuitive</li> <li>Simulates benefits</li> <li>It is possible to use both analog and virtual versions</li> <li>(scalability)</li> <li>Analog and virtual model that can drive around different places</li> <li>Comments from other groups</li> <li>1.technical: The data show a shift from individual solutions to community solutions</li> <li>2. You can use the cartoon "PAT and MAT" (Czech production) popular in Poland.</li> </ul>
	3. Smog vs climate change
How can the tool motivate people to engage in an energy community / become an energy citizen?	Invites, sensory experience, physical experience, fun - "touch and not just see the change". It is important to show the "disappearing" air pollution. We show small steps from scratch to, for example, a region, but the estate is our most important training ground.
who are the target groups?	Local society -> Community-> Region

#### Prototype 2:

Electronic and printed tools aimed at different age groups, a leader's toolbox offering comprehensive help for setting up and running EC





Challenges or gaps the tool addresses	Lack of trust, engagement, age gap problems
Purpose of the tool	Help and lead in the process, simplify it
Features	<ul> <li>Electronic and printed form</li> <li>benefit calculator - to convince people to start an energy community,</li> <li>technical calculator - e.g. the needed energy</li> <li>checklist with milestones and sequences in the process of creating an EC, ready to use documents, good practices in founding, financing, legal documents, advice, and newest legal regulations</li> <li>enables interaction and contact with specialist and moderators, other ECs</li> <li>scenarios for meetings</li> </ul>
Functionality	<ul> <li>Designation of topicality and clarification of the law, presenting the order and needed actions on the path of creating an EC</li> <li>In a form of: www, app, newsletter, printed version – different for different age group, easy to understand</li> <li>"tool shed" for the leaders, check lists, documents and forms ready to use</li> </ul>
How can the tool motivate people to engage in an energy community / become an energy citizen?	Arouse positive neighbourly envy: sharing the info about positive outcomes in terms of savings, low costs, benefits of the members Cost-saving and simplified process
Who are the target groups?	Leaders, originators who want to run an energy community



#### Prototype 3:

A comprehensive e-tool in form of a www or app and a network of local contact points that would inform, animate the EC movement.



Challenges or gaps the	Lack of complex source of information and help
tool addresses	
Purpose of the tool	<ul> <li>Platform and the network building</li> <li>Engaging people and raising awareness on the topic</li> <li>Partnership building</li> <li>Responsible: consortium of legislators, local governments, members of EC</li> </ul>
Features	<ul> <li>Examples of success and results, FAQ, overt scope of rights, law and obligations, discussion forum</li> <li>Local consultation points</li> <li>Educational and integrational picnics</li> <li>Activities that would help to know the technology issues, local visits to exemplary places</li> <li>Technical tools: simulator of the technical and ecological effects</li> </ul>
Functionality How can the tool	<ul> <li>A Web platform (and a local information point) containing valid data, achievements, knowledge, law regulations about an energy community</li> <li>knowledge base: contract templates, legal comments, regulations</li> <li>description of the implementation process, operating models</li> <li>list of technologies</li> <li>funding modes</li> <li>problem cases</li> <li>list of benefits</li> <li>contacts to exports and information and consultation points</li> <li>Monitoring of the ecological and technical effects</li> <li>Platform for settlements</li> <li>interaction: forum, FAQ, ask a question, creating a community, local groups, success stories</li> <li>rating</li> <li>feedback for platform</li> <li>new process improvement initiatives</li> <li>questionnaire</li> <li>thread evaluation/priority mechanism</li> <li>opinions of satisfied users</li> </ul>
motivate people to engage in an energy community / become an energy citizen?	There will be a visualisation of effects available
Who are the target groups?	Leaders, representatives, local partnerships, media, NGO, schools, local neighbourhoods boards



#### **Region Spain**

The tools provided by the EC<sup>2</sup> project are presented.

In addition, from Spain, some existing tools are added, both at regional and general level:

- "Quick guide to set up an EC" Energy Plan of Navarra Horizon 2030 (PEN 2030).
- Legal report: "Legal fit of the Energy Communities in the property legislation of the local entities of Navarra" - General Directorate of Local Administration and Depopulation - Government of Navarra.
- "What are the Energy Communities" Somcomunitats.coop
- "How to start an Energy Community" Somcomunitats.coop
- "Shared electric mobility in Energy Communities" Somcomunitats.coop
- "Renewable electricity generation in Energy Communities" Somcomunitats.coop
- "3 practical cases of Energy Communities" Somcomunitats.coop
- "Legal forms to promote an Energy Community" Somcomunitats.coop

Following the previous dynamics, 2 tables have been prepared: The first one presented the questions related to the "promotion of energy citizenship" and the second one, those related to the "initiation and foundation of an energy community". Participants were invited to re-read the challenges, to connect with the experience of the previous exercise and to approach the tables thinking about what area they would have liked to contribute to develop a tool that can bring results, efficiency and cohesion, i.e. success in raising awareness of energy communities and their creation.





#### Prototype 1:

It is decided to create a cultural tool (this is a new category, as it is not considered to fit as a "political tool"):

"The key point to generate energy citizenship is **the narrative**. And, for this, a **paradigm shift** is required, which consists of **changing the perception of what energy is**, **to begin to understand it as a basic right of citizenship and not as a market product**. From there, the relationship between citizens and energy can change and thus become a gateway to energy citizenship. This is a commitment to **real energy sovereignty**.

Issues to consider:

- The change from product to right implies that it is a right for citizens and becomes a responsibility for public administrators. In other words, the care of this right would become the responsibility of politicians.
- Renewable energies bring the technical possibility of tending towards something decentralised and that is where the change of paradigm would lie: through renewables and their own identity, it would be understood that the electricity market (which could be called something other than "market") would be decentralised and distributed. We would be sovereign citizens, not "another kind of energy citizens". In the direction of this process, we would understand energy communities as a bridge, as a tool to move forward in this model.
- Awareness would be created through experience.
- The electric companies would have to go through a mourning process, because the product is no longer a product; it becomes a right.
- Citizens would have to become aware of the energy use we make. Example 1: When we say that a car has 90 horsepower, we visualise a carriage pulled by 90 horses. Example 2: A house has an average energy consumption comparable to that of a person with 15 slaves, when there was no electricity. This is the estimate that has been made if we were to pedal to generate our own energy (average 200W per person).
- Importance of interaction: spaces would be generated where the story is alive and transmitted: forums, platforms, which have already existed or exist, which would have to be revitalised with a discourse that could involve more citizenship."

After the presentation, the colleagues of the second prototype raise questions and make contributions to improve the prototype:

• What is the medium of this tool; what is the format; is it a computer tool, an informative talk show...?

The story is located in the body. It is a construction that, if it makes sense and if you learn to transmit it easily, you can disseminate it to different groups through your own voice. Then it would be concretised in different supports, such as existing channels: groups, associations, communities, forums, platforms..... The objective is to occupy the space of the existing narrative.



• The paradigm shift to understand energy as a right and not as a commodity requires a step, as with water, education or health, which is the need for public ownership and distribution: the deprivatization and remunicipalization of energy. Observe and rely on examples of resistance to privatization: such as Isaba, in Navarra.

#### Brief description:

The key point to generate energy citizenship is the narrative.

Challenges or gaps the tool addresses	Achieving real energy sovereignty.
Purpose of the tool	Paradigm shift
Features	It is a cultural tool
Functionality	To change the perception of what energy is, to begin to understand it as a basic right of citizens and not as a market product.
How can the tool motivate people to engage in an energy community / become an energy citizen?	Through awareness and responsibility.
Who are the target groups?	The citizens

#### Prototype 2:

The tool is called "One-stop shop for information on how to create an EC":

- "The idea is based on the existence of **an office where every citizen with an interest in creating an energy community can find answers to all their doubts**. The information would provide coverage at different levels: legal (permits), technical, economic (subsidies), and would provide clarity in the face of fears that arise.
- To begin with, 10 key questions would be identified, which would be answered in this "One Stop Shop".
- The characteristics of this resource would be: Effective, realistic, stimulating, accountable and participatory. It is important that it is "unique", that the information is centralised to find the answers from the beginning to the end.
- Depending on the implication of time and work, a priori it is not known if it could work with trained volunteers or if it would be necessary to resort to hiring experts. The ideal would be for the administration that would create this service.
- The groups of beneficiaries would be the citizens in general, from associations, collectives, cooperatives, which on achieving it would revert to City Councils and later to Autonomous Communities".

After the presentation, the colleagues of the first prototype asked questions and made contributions to improve the prototype:



- Have you identified some of the key questions you are talking about?
  - The key questions are imagined from a very specific format, such as:
  - Do I have to consume everything my solar panels produce?
  - Is it possible to sell the surplus energy?
  - Are there subsidies and how can I access them?

And the answers would be concrete, the information would be very elaborate and very detailed, even at the level of content, so that the citizen would understand it well.

I would also highlight the proactive attitude of their experts; that they show a real interest in answering the questions as completely as possible.

- Keep in mind that energy is not only photovoltaic panels: Energy can also be firewood management, collective purchases, housing rehabilitation or insulation. Reflect that electrical energy is the most luxurious energy there is from an efficiency point of view.
- Who provides these services: the administration, a specialised company with its business behind? Platforms such as spaces that we empower both for this type of information services and to offer a professional service?

There are already energy cooperatives for accompaniment and advice. For the time being, the service could live in these forums. Even so, it should be possible to ask the administration for these services. Also make use of consumer associations.

There is the possibility for an organization to sign an agreement with the administration for the management of a service, in which: the organization has the management and the administration puts the money. One option would be to ask for an annual budget item in the general budgets of Navarre for the democratization of these processes and to have it managed by the cooperatives that exist today.

Brief description:

A place where every citizen with an interest in creating an EC can find answers to their main doubts.

Challenges or gaps the tool addresses	The citizens of any city or neighborhood do not have the information (legal, technical, economic, problems, fears), they do not know how to start an energy community.
Purpose of the tool	This tool aims to: 1) Identify key questions from the citizens, 2) Create a "One Stop Shop" with the answers.
Features	Effective, realistic, stimulating, responsible, participative, proactive.
Functionality	Groups of experts (hired or from the administration).



How can the tool motivate	Facilitating access to all this information.
people to engage in an energy community / become an energy citizen?	
Who are the target groups?	Citizens in general $\rightarrow$ Cooperatives, collectives $\rightarrow$ City Councils –Autonomous Community.



#### **Region The Netherlands Prototype 1:**

Picture and short description and fill in table below

Challenges or gaps the tool addresses	There are many energy communities active in Groningen and they are all eager to have an impact and involve as many people as possible. However, organizing activities and learning what works best is challenging at times. It would be great to learn from other initiatives and see what activities they are currently organizing and planning – also to see if synergies can be found.
Purpose of the tool	Insight into the activities of other citizen initiatives and communities.
Features	Calendar function; contact information of the energy community
Functionality	
How can the tool motivate people to engage in an energy community / become an energy citizen?	Reduce organization time and effort.
Who are the target groups?	Energy communities, initiatives and cooperatives. Also: citizens who are interested and want to know what's going on in their municipality.

#### Prototype 2:

Picture and short description

Challenges or gaps the tool addresses	Energy communities feel that they don't know well enough what the plans of the municipality are on the different topics related to sustainability (energy transition, mobility, climate adaptation) and what the planning of these projects is in the respective neighbourhoods.
Purpose of the tool	Provide an overview
Features	Dashboard, chat/e-mail function, maybe course-like information on plans, planner with activities
Functionality	Get information, Ask questions, get in touch, gain information on contact points
How can the tool motivate people to engage in an energy community / become an energy citizen?	See where action is needed, how actions can be most effective; provide information to rest of neighbourhood
Who are the target groups?	Municipality and energy communities; citizens willing to learn more about plans of the municipality.