ENCLUDE

Energy Citizens for Inclusive Decarbonization

encludeproject.eu/resources/deliverables

PROJECT RESULTS

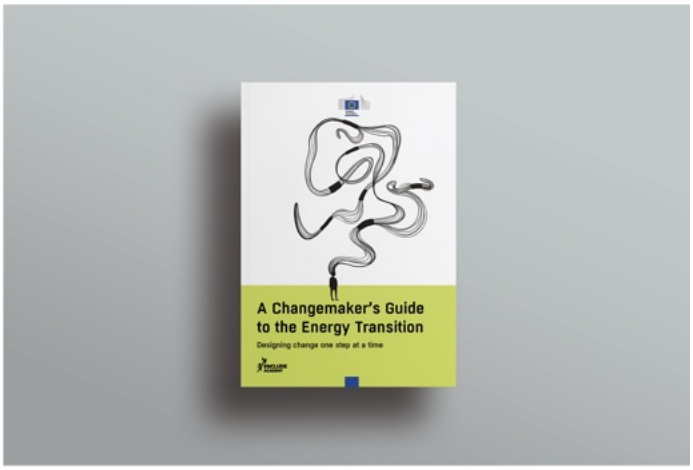
The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.

ENCLUDE
Energy Citizens for Inclusive Decarbonization

A CHANGEMAKER'S GUIDE TO THE ENERGY TRANSITION

Designing change one step at a time

This playbook aims to **take you step by step** to design, implement and reflect on an initiative of your own related to the energy transition..



Who is the playbook for?

This playbook is **for anyone looking to contribute to or already engaged in the energy transition**. It is tailored for those interested in launching or already working on community projects related to energy systems and decarbonisation.

The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.

ENCLUDE
Energy Citizens for Inclusive Decarbonization

A CHANGEMAKER'S GUIDE TO THE ENERGY TRANSITION

Designing change one step at a time

You do not need to start with any specific expertise. All you need is a curiosity to understand others around you and a willingness to do something in your community or surroundings.

This playbook may also be useful for civic organisations and local authorities who want to empower citizens to work together towards change. Wherever you are, the book hopes to be a **helpful guide at your side while you become or continue to be a changemaker.**

The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.

ENCLUDE
Energy Citizens for Inclusive Decarbonization

A CHANGEMAKER'S GUIDE TO THE ENERGY TRANSITION

Designing change one step at a time

You may still be wondering if this guide is for you. Here are a few assumptions that may prevent you from acting or you may face whenever you start a community action.

"Why spend so much time designing, we should better act quickly"

You may have a great solution in mind, but if it doesn't answer to the right problem-s it may be useless. Design thinking will require to dedicate time to define the issue-s you need to face. But in the end it is time saved. It will help you be sure what you do is efficient.

In other words be sure to understand what is the real problem before you try to develop anything. Otherwise, you may implement a solution you have already decided is right – and you are likely to find out it is right for an irrelevant problem. .

"It is too complicated, experts should do it"

There are lots of different forms of energy and even more ways to catch it and use it. You are not requested to invent a brand new machine, but rather trying to find the appropriate solutions to your context.

"It is hard to gather people around this topic, it is not they priority"

We develop here some categories of motivations: Energy is linked to everything, it is a mean to achieve other things and could be a ground for discussion:

- Climate;
- Cost reduction/efficiency;
- Learning;
- Collaborating and meeting with new persons.

"I don't know where to start, it looks like a big thing"

Follow this book one step at a time, at your speed ! The playbook will help you organise your work.

"I don't understand everything, I need more information"

All along this guide you will find resources and testimonies from people who have been through the same issues.

The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.

ENCLUDE
Energy Citizens for Inclusive Decarbonization

A CHANGEMAKER'S GUIDE TO THE ENERGY TRANSITION

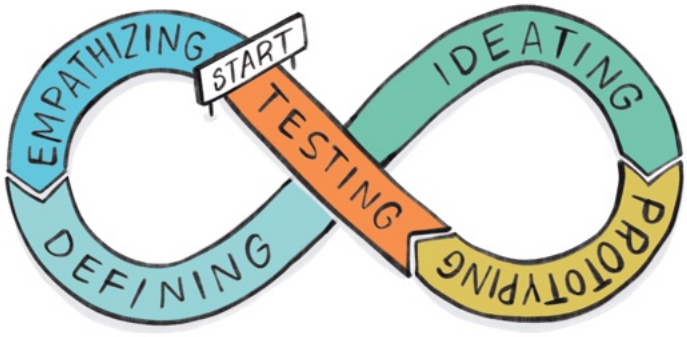
Designing change one step at a time

How to use this playbook?

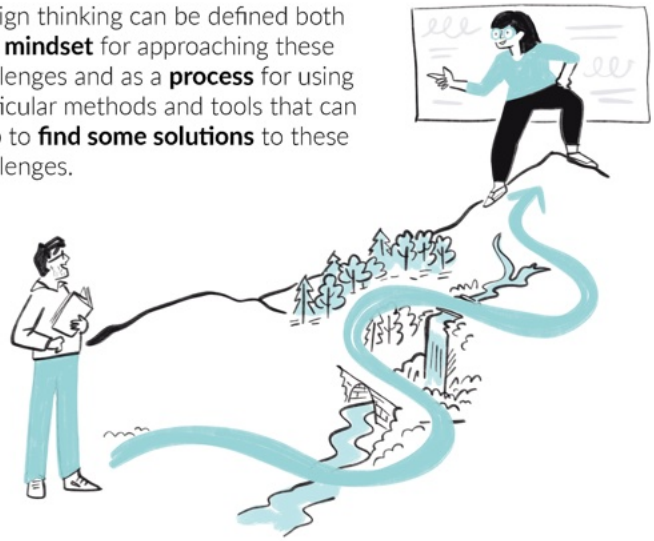
The playbook is based on the mindset and steps of **human-centered design thinking** to initiate a project for your community.

Design is the process used to **get us from where we are to where we want to be.** It is particularly useful when we are confronted with a problem that may be complex or not so well-defined, or when we know that the solution we will need is one that will need to evolve or adapt to a changing situation.

The Playbook will lead you through **five stages of design thinking:**



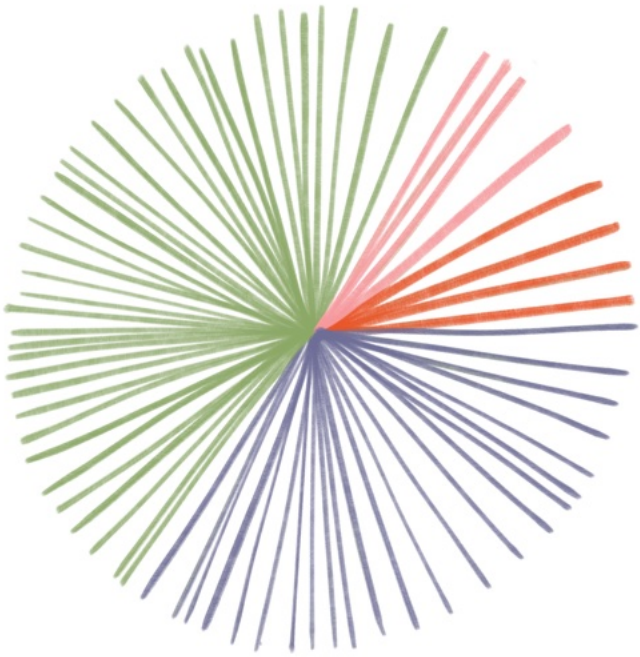
Design thinking can be defined both as a **mindset** for approaching these challenges and as a **process** for using particular methods and tools that can help to **find some solutions** to these challenges.



The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.

ENCLUDE
Energy Citizens for Inclusive Decarbonization

CASE STUDIES POOL SPLIT INTO FOUR GROUPS BASED ON THEIR CHARACTERISTICS



ENERGY COMMUNITY AND ECO-FARMS (37)

Associations of citizens based on open participation (at least in the starting phase) and in control by their members, with the purpose of **providing benefits for the community** and engaged with the generation, distribution, optimisation, or storage of renewable energy, with energy efficiency or eco farming.

POLITICAL AND SOCIAL MOVEMENTS (FOUR)

Political grassroot initiatives or protest movements with the aim of **changing regulations and legislation** in the energy sector of a region or country and/or expressing opposition to a particular action/decision.

COLLECTIVE TARGETED ACTIONS (23)

Companies or groups of persons with the aim of supporting communities and/or individuals in **pursuing behavioural and/or technological changes** to reduce energy use, increase energy efficiency, or achieve other such improvements in the field of energy.

TESTING CONDITIONS (FOUR)

Companies or groups of persons **testing the functioning of social and/or technical innovations** for generation, optimization or storage of energy under real conditions.

The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.

ENCLUDE
Energy Citizens for Inclusive Decarbonization

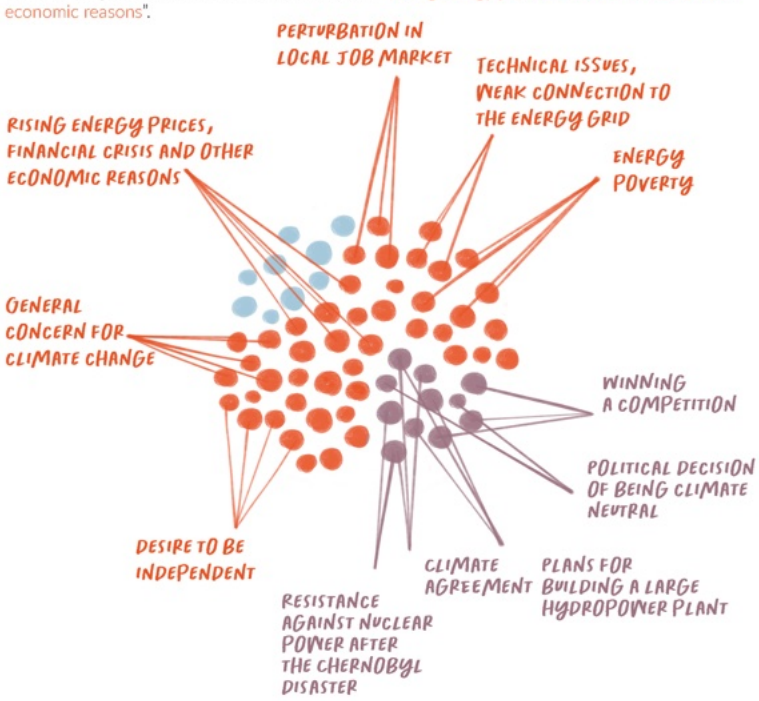
REASONS FOR THE CREATION OF CEIS

Energy communities vs Collective targeted actions

We aimed to understand the reasons behind the establishment of various Collective Energy Initiatives (CEIs), particularly exploring whether specific events such as floods, heat waves or natural disasters played a role in their creation. The data we have collected for 68 European case studies shows that:

	11 were influenced by a particular event
	48 were not influenced by any particular event and named other reasons
	9 case studies did not answer the question

Almost ¾ of the European case studies were not influenced by any particular natural or political event. However, five other reasons were listed, the most important of which were "Rising energy prices, financial crisis and other economic reasons".
A remarkable difference thereby can be observed: It seems that while the creation of ECs was strongly influenced by the "Desire to be independent" and by a "General concern for climate change", these factors were not mentioned by the CTAs.
The most important factor for the latter were the "Rising energy prices, financial crisis and other economic reasons".



This was partially echoed in a survey conducted with case-study members. In the case of ECs, contributing to climate-change mitigation was identified as the most important motive. Saving money and achieving self-sufficiency were also mentioned. However, members highlighted the significance of "doing something together with other members" as one of the main motives, emphasizing the central role of community aspects for ECs.
In contrast, for CTAs, further analysis confirmed the stronger role of personal benefits.

The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.

ENCLUDE
Energy Citizens for Inclusive Decarbonization

WHICH TECHNOLOGIES ARE MOST USED BY CEIS?

How has technology impacted the development of CEIs?

Technology is an indispensable part of many energy activities. As certain technologies become more accessible to citizens (cheaper, easier to find, maintain and operate), a rise can be expected to the development of related collective energy actions. To assess how technology has impacted the development of CEIs, we examined which technologies are more commonly used by CEIs.

↓ It was found that a large majority of the ECs use solar photovoltaic (PV) systems as main technology. Seventeen cases mention only PV as used technology. Additionally, renovations are more common in CTAs than ECs.

PV
solar photovoltaic, either household level or larger-scale installations

WIND
wind turbines (mainly on-shore, only one off-shore)

OTHER PRODUCTION OR DISTRICT HEATING
other large-scale electricity/heat/fuel production, such as hydro, geothermal biomass, biogas, tidal or wave energy, hydrogen, and/or district heating systems

BATTERIES
electric energy storage of any scale

HVAC, HEAT PUMPS
household-level energy systems other than PV, including heating, cooling and ventilation systems such as heat pumps and solar heating or other efficient household-level appliances

RENOVATION
building renovation including insulating, replacement of lamps with LED, etc.

SMART SYSTEMS AND MONITORING
monitoring devices, smart meters, energy management systems, IoT hardware or software, smart appliances

ELECTROMOBILITY-RELATED
Electric vehicles, EV chargers, EV bikes

OTHER NON-ENERGY
related for instance to water management or eco-farming

↑ Finally, 19 cases use smart systems or monitoring, out of which 12 cases include different types of smart technologies other than just smart meters The latter cases mainly include CTAs that specifically focused on the implementation of such smart systems or awareness raising via monitoring of energy. It is not as common to find smart technologies in ECs, other than smart meters.

The further analysis revealed that both CTAs and ECs acknowledge the advantages of PV panels, citing easy installation, minimal maintenance, and adaptability to local conditions. CTAs highlight funding availability as a crucial factor influencing the choice of PV technology, while ECs show greater technology diversity.

Despite a willingness to explore new technologies, CTAs note the scarcity of information and discussions as obstacles to improvement, a concern not explicitly raised by ECs during interviews.

Energy Community and Eco farms
Collective Targeted Actions
Political and Social Movements
Testing Conditions

ENCLUDE
Energy Citizens for Inclusive Decarbonization

ORGANISATION, DECISION-MAKING AND COMMUNITY CULTURE

The form of decision-making and organization might strongly determine the development of an initiative. We are therefore interested in **how formalised and transparent the processes are**.
To answer this, we use three questions:
Are there specific rules in place on how decisions are made in the initiative? Are there specific rules in place on how the leaders are determined? Is there a clear distribution of roles?
If the interviewee answers "**no**" to all three questions XXX we assume there is **no degree of formalisation** at all, if two questions are answered "**no**", XX the **degree is low**, if two questions are answered "**yes**", ✓ the **degree is medium** and if all three questions are answered "**yes**", ✓✓✓ the degree of **formalisation is high**.

XXX	XX✓	X✓✓	✓✓✓
None	Low	Medium	High

Typical forms of formal decision-making include **a leaders' board**, which governs everyday business, and **an annual general assembly** for basic decisions. Typical ways to select the leaders is via the general assembly, and a clear distribution of roles means for example that every member of the leaders' board has certain aspects of the initiative under control.

In the further analysis we discovered that social links and interactions hold greater importance for EC members compared to those in CTAs. In terms of community engagement, various degrees are identified within the studied ECs. Core group members are highly engaged, others are less in-vested but still involved, and some act as observers. ECs express intentions to enhance member engagement through information sharing, events, voting, and incentives. In the case of CTAs, less organized community engagement results in a noticeable absence of a shared sense of belonging among citizens.

↓ Formalisation varies strongly between different types (%).

↑ While 100% of testing conditions and 89% of ECs have a high or medium formalization of the organization, the percentage drops to 75% for PMs and 65% for CTAs.

This once again emphasises the importance of group and community aspects especially for ECs, whereas CTAs seem to be more result-oriented: As long as the outcome is satisfying, it is not so important how decisions are made and how leaders are chosen.

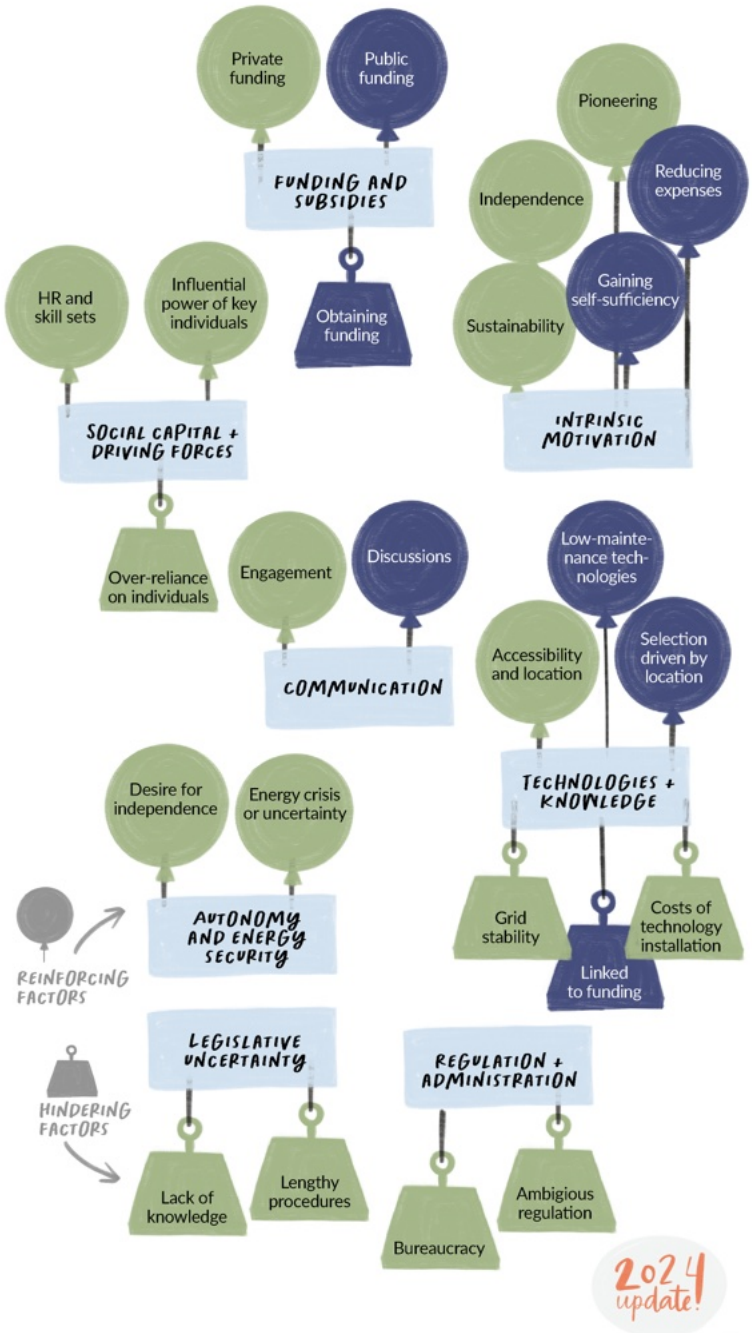
ENCLUDE
Energy Citizens for Inclusive Decarbonization

EMERGENCE

What are factors influencing emergence of CEIs?

Our research aims to uncover factors shaping collective energy citizenship emergence and consolidation.
Our study provides nuanced insights into positive and negative influences on collective energy initiatives, contributing to strategies for expanding and accelerating new initiatives.

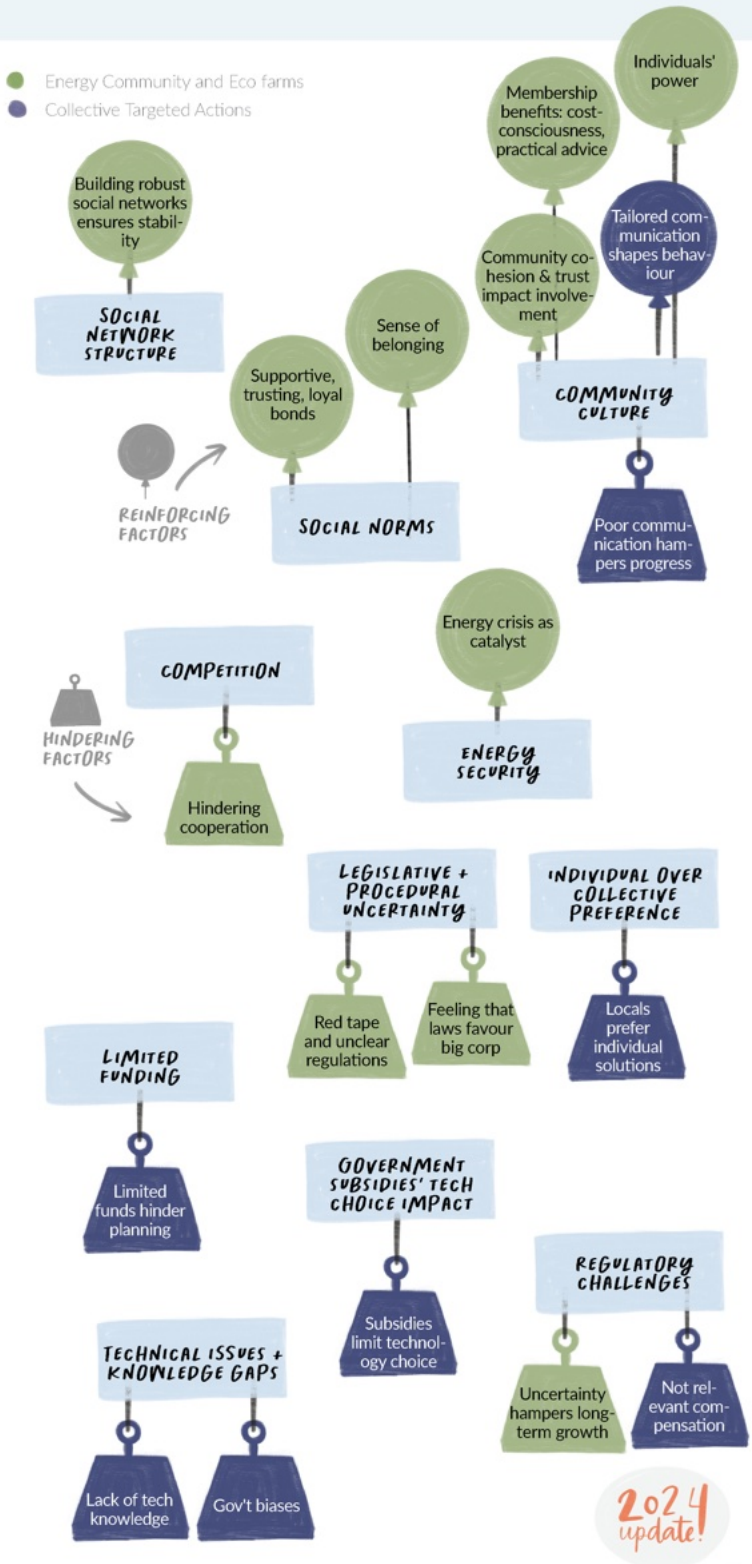
- Energy Community and Eco farms
- Collective Targeted Actions



ENCLUDE
Energy Citizens for Inclusive Decarbonization

CONSOLIDATION

What are factors influencing consolidation of CEIs?



ENCLUDE
Energy Citizens for Inclusive Decarbonization

CITIZENS AT THE HEART OF THE ENERGY TRANSITION

Uncovering motivations and barriers for Collective Energy Initiatives

	ENERGY COMMUNITIES AND ECO-FARMS (ECS):
Activity	**Production, storage, distribution** or **optimization** of sustainable energy, including sustainable farming practices that reduce energy and water needs.
Ownership	The ownership of assets is rather **equally shared** between members.
Drivers	**Community aspects** are central to the case, such as clear rules for decision making and choosing of leadership, clearly defined roles, and democratic participation. High **pro-environmental** motivation.

The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.

ENCLUDE
Energy Citizens for Inclusive Decarbonization

CITIZENS AT THE HEART OF THE ENERGY TRANSITION

Uncovering motivations and barriers for Collective Energy Initiatives

COLLECTIVE TARGETED ACTIONS (CTAS):

Activity	Implementation of solutions for the **production, storage, distribution** or **optimization** of energy, including energy efficiency solutions, renovation, as well as trainings and demonstrations aiming to create awareness on energy issues.
Ownership	Participants have **very limited contribution** to the decision making / participation is not primarily based on the principles of community, decision-making is primarily top-down.
Drivers	High **pro-environmental** motivation.

The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.

ENCLUDE
Energy Citizens for Inclusive Decarbonization

CITIZENS AT THE HEART OF THE ENERGY TRANSITION

Uncovering motivations and barriers for Collective Energy Initiatives

POLITICAL AND SOCIAL MOVEMENTS (PMS):

Activity	**Influence policy makers** towards certain goals connected to energy production, distribution, storage or optimization.
Ownership	**No technical projects** are implemented.
Drivers	Lower environmental motivation than members of ECS and CTAs, stronger **focus on self-sufficiency**.

The ENCLUDE project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101022791.