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ENERGY PROSPECTS

Energy Citizenship country profiles

Hungary

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This report is part of a series of country profile reports that can be found at https://www.energyprospects.eu/
For further information about the mapping of energy citizenship and the series of country profile reports, please contact GreenDependent Institute at info@greendependent.org.
For further information about the cases in Hungary, please contact GreenDependent Institute at info@greendependent.org.

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Table of Contents

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Introduction and notes on methodology

This report was prepared as part of the 'mapping of energy citizenship in Europe' task within the EnergyPROSPECTS project.

EnergyPROSPECTS (PROactive Strategies and Policies for Energy Citizenship Transformation) works with a critical understanding of energy citizenship that is grounded in state-of-the-art social sciences and humanities (SSH) insights. The project aims to develop a broad understanding of energy citizenship as a policy concept, a sociotechnical imaginary, and a knowing-of-governance – i.e., a social construction of desirable/normal civic agency in future energy systems. The project set out to identify and examine a range of cross-cutting issues in energy citizenship, which informed the iterative typology development and criteria for case selection. Drawing on pre-existing databases and the identification of new cases, the selection of at least 500 initiatives, as well as mapping and typology refinement exercises that demonstrate the depth/breadth of the energy citizenship concept in theory and practice is undertaken.

As part of the energy citizenship mapping task, a methodology was developed for pursuing the overall project aim of identifying the diversity of types and empirical manifestations of energy citizenship. The methodology was created to help answer the main research questions the EnergyPROSPECTS project team intends to answer through undertaking the mapping activity, which are as follows:

- Which forms of energy citizenship (henceforth referred to as ENCI) can be found in Europe today? How can we account for their diversity?
- Can we find the same forms of ENCI in the different regions/countries of Europe?
- In what contexts do different forms of ENCI emerge and develop?

In the current report we present the diversity of forms of energy citizenship identified in one of the project partner countries, Hungary. Please note that **the objective was to identify the diversity of forms rather than to ensure representativity. Thus, this report does not aim to present all examples of energy citizenship in Hungary, but rather to illustrate their diversity.**

For the definition of energy citizenship we turn to the conceptual framework of the EnergyPROSPECTS project presented in Pel et al., 2021:

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Energy citizenship refers to forms of civic involvement that pertain to the development of a more sustainable and democratic energy system. Beyond its manifest forms, ENCI also comprises various latent forms: it is an ideal that can be lived up to and realised to varying degrees, according to different framework conditions and states of empowerment. (Pel et al., 2021:64)

Building on this definition of energy citizenship, **within the EnergyPROSPECTS project, instances of ENCI are understood as:**

1. constellations of actors (in a context) and how they
   - ✓ enable/support citizens to become active private and/or public energy citizens;
   - ✓ act as collective energy citizens by contributing to changes in the energy system

or

2. including individual energy citizens and how they realize their potential in a private, public or organisational setting.

As indicated by these definitions, and underlined by the agency dimension of the conceptual typology presented in Debourdeau et al. (2021) and summarised in Chapter 3 below, examples of ENCI can involve individuals or be realised in a multitude of collective forms. During the mapping of the ENCI landscape, focus was placed on identifying and collecting data about both types of cases.

Furthermore, as a huge variety of cases and initiatives are available that would fit these definitions, and mapping them all would go beyond the scope and resources of the current project, there was a need to further define what is considered a case within the research focus of the EnergyPROSPECTS project. Thus, the consortium decided at team workshops that the ENCI mapping activity would cover cases that:

- are **based in European countries** (including EU, EEA, and accession countries);
- are **currently active or were concluded no sooner than 2015** when the Energy Union Strategy was published.
  (This is because the focus in this research is not so much the historical forms of ENCI, but rather its current forms and manifestations, and the differences between them depending on the political, socioeconomic, etc. characteristics of their context);
- are **focused on direct energy production and/or consumption** (e.g., in households, organizations, etc.), **mobility** (having a direct connection to energy issues), or with a **more holistic overall focus on sustainable and just energy**.
  This means that in EnergyPROSPECTS a decision was made not to study initiatives that focus solely on nutrition, for example. However, if nutrition is part of an overall strategy for reducing energy use or carbon footprint that also focuses on direct energy use, mobility, etc., then the case could be included *(more details on the sampling strategy can be found in Vadovics et al., 2022).*

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As Pel et al. (2021) indicate, we also recognise that even within the limitations specified for ENCI mapping, "enabling" and "supporting" citizens to become active private and/or public energy citizens can take many different forms. Similarly, energy citizenship itself can take many different forms. Furthermore, in reality many cases enable or support several different forms of energy citizenship in parallel, and often involve less as well as more active forms within the same case (e.g. citizens voluntarily organising carbon reduction groups as a more active form of citizenship, and citizens participating in these groups as a less active form).

As a result, it is expected that a very diverse collection of ENCI cases will emerge as an output of the mapping process. Indeed, it is important to note that although the term *energy citizenship* is often associated with energy communities or community energy projects, the objective in the EnergyPROSPECTS project is to uncover other forms of energy citizenship as well that include both individual and collective forms of citizenship.

As a result of the ENCI mapping activity, the consortium mapped 595 cases of ENCI in Europe. In addition to the country profile reports, we will present them in various forms, including an interactive database on the project website and various analytical reports that will all also be available on the website. For more about our ENCI mapping methodology and sampling strategy, please read Vadovics et al., 2022.

Report Disclaimer

In summary, when reading the following report, please bear in mind the following:

- The mapping of energy citizenship (ENCI) was not conducted to achieve a representative sample of cases in the country, but rather with the aim of providing an overview of the diversity of cases.
- The analysis is rather descriptive in nature, and further highlights diversity.
- The classification of the mapped cases into the various categories in our analysis does not involve a value judgement, but is rather an indication of diversity, as all types of cases are needed for the sustainable energy transformation to happen.
- Since providing details about the conceptual and methodological underpinning of the work that is presented here would go beyond the scope of this report, this is not attempted in this document, but details are available in other project documents – primarily, the following:
  1. methodology for ENCI mapping and data collection: Vadovics et al., 2022
  2. conceptual framework: Pel et al., 2021
  3. conceptual typology: Debourdeau et al. (2021)

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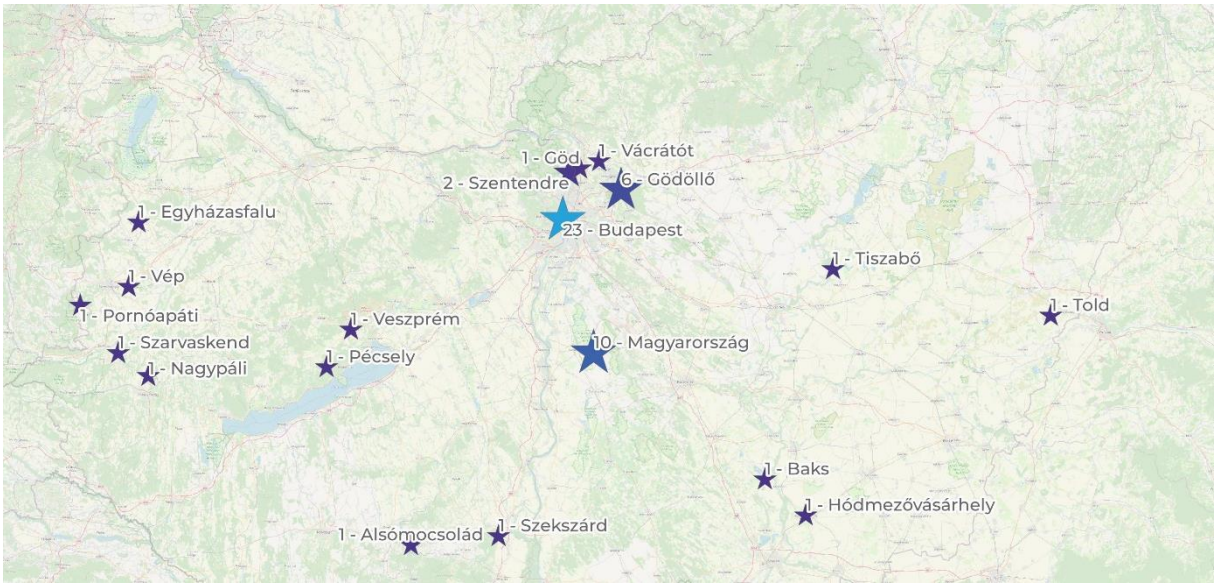
Part 1: Basic information about energy citizenship in Hungary: illustrating the diversity of energy citizenship



A total of **56 ENCI cases from Hungary** have been entered into the database. As stated in the Introduction, the objective of the mapping was not to achieve representativity, but rather to map the diversity of ENCI. Twenty-three cases (half of all the cases) are related to Budapest (e.g. the Community Energy Programme of FoE Hungary,[1] and the Bubi bicycle-sharing network in Budapest). The second highest number of cases (6) are from Gödöllő, where GreenDependent has its office. (these mostly involve GreenDependent projects such as EnergyNeighbourhoods and TreeDependent). Ten cases are marked as general Hungarian cases, meaning that they are not limited to a specific geographical location but are national-level cases that operate in various locations around the country (e.g. Fridays for Future Hungary, Cycle to work).

[1] A list of all the cases that are mapped, along with a brief description of them, is available in the Annex.

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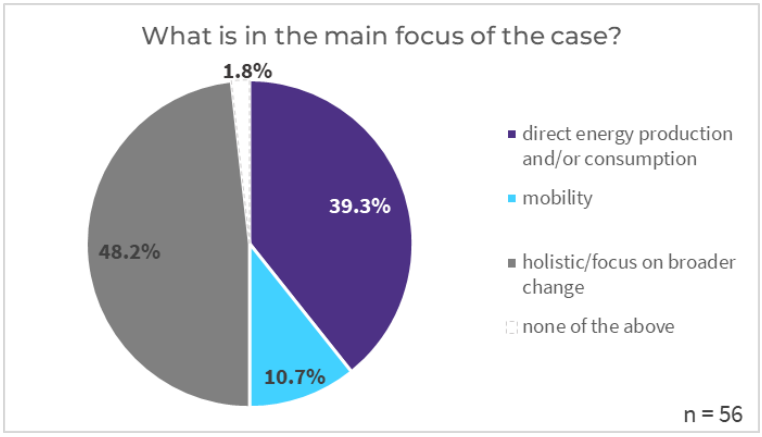
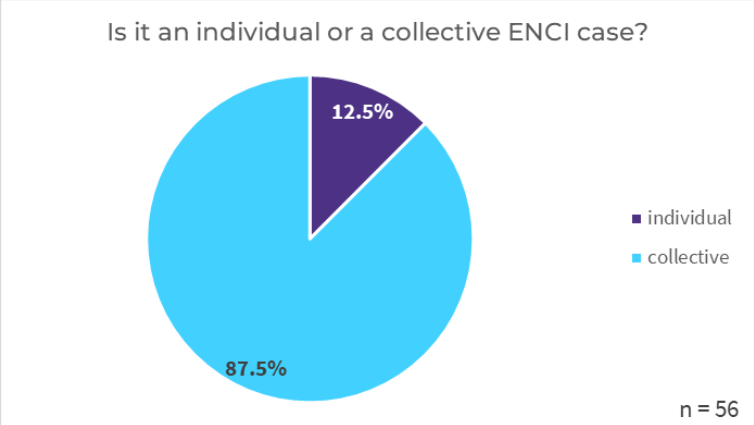
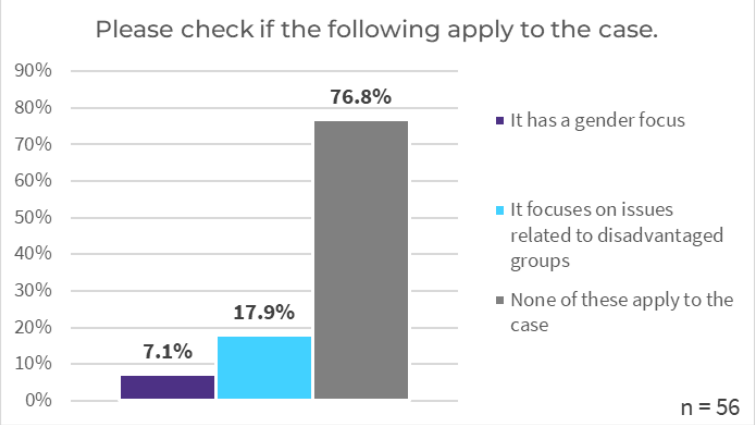
Almost **half of the cases (48.2%) focus on holistic, broader change** (e.g. the Cargonomia, Compete4SECAP [C4S] project [H2020]). A relatively similar proportion (39.3%) are energy-specific initiatives (e.g., anti-nuclear protests in Hungary, the Energy Community in the Kazán Közösségi Ház [Kazán Community House]), and only one-tenth (10.7%) are focused mainly on mobility (SUNRISE [Zugló, Törökőr], Cyclonomia).



The **great majority (87.5%)** of Hungarian cases in the database **are collective** (e.g. Carbon footprint calculation in Piliscsaba, RenoHUb, and Carbon House) and just over a tenth (12.5%) are individual cases (e.g. Zsuzsanna Hojtsy-Keresztény - EnergyNeighbourhoods energy master, local change maker, Dr István Dőry).





Nearly a **fifth of all cases (17.9%) focus on issues related to disadvantaged groups,** like those involving energy poverty, minorities, etc. (e.g. Biobriquettes for the energy poor, Light bringers), **but a specific gender focus is less widespread, involving only a small proportion of cases (7.1%)** such as a focus on gender equity, focus on women, etc. (e.g. Women in Energy [WONY], Ada Ámon - Women in Energy EUSEW award winner).

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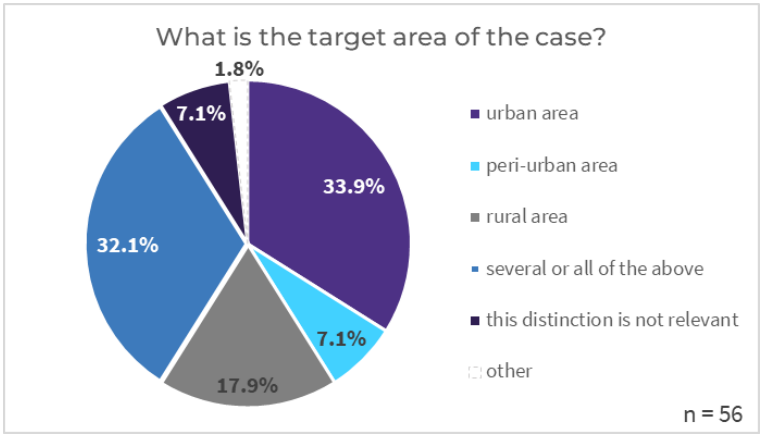
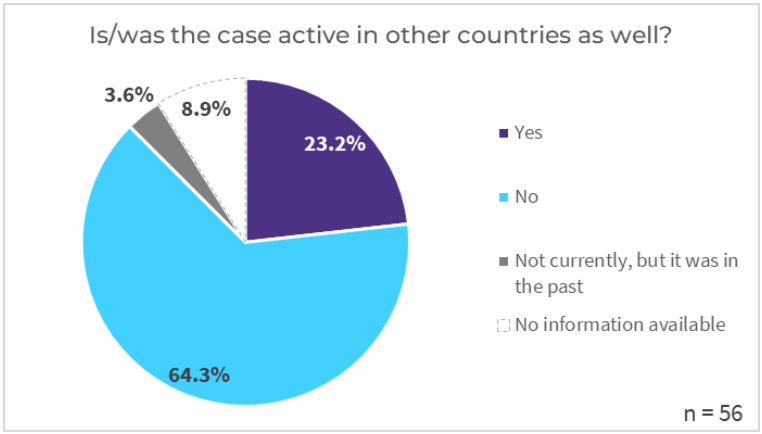
Looking at the mapped cases, a **third of the initiatives (33.9%) are based in urban areas** (e.g. Community Energy Service Company, Sustainable Energy and Climate Action Plan Erzsébetváros). Only a small proportion (7.1%) are concentrated in suburban, semi-urban areas (e.g. Carbon footprint calculation in Piliscsaba, Dömörkapu Rengeteg Community Energy). More than one-sixth of the cases (17.9%) focus on rural areas (including remote communities, islands, etc.) (e.g. Community wind turbine in Vép, Nagypáli, the renewable energy village). A large proportion, also a third of the cases (32.1%), focus on several of the above areas (e.g. Passive House Open Door Days, Move for the Climate!).



Almost two-thirds of the cases (64.3%) that were mapped are active only in Hungary (Heat Columns, Energy in the Home), and only a quarter are now (23.2%) operating or have (3.6%) operated in other countries (Compete4SECAP [C4S] project [H2020], SUNRISE [Zugló, Törökőr]). The top five partner countries for Hungarian cases currently in the database are Germany (involving 12 cases, e.g. EnergyNeighbourhoods); Spain (12 cases, e.g. RenoHUb); Italy (11 cases, e.g. Climate Star); France (10 cases, e.g. Solar Decathlon Europe 2019); Romania (10 cases, e.g. Passive House Open Door Days); and the United Kingdom (10 cases, e.g. Climate Star). In the 'Other' category it was mentioned several times that a case can also be active at global level (mentioned in relation to four cases – e.g. the E.ON Energy Globe Hungary Award).



In Hungary, with only a few exceptions (e.g. Nagypáli, the renewable energy village), **most of the cases that were mapped started after 2010**, with nearly a third starting between 2011 and 2015 (e.g. the Bubi bicycle sharing network in Budapest, EnergyNeighbourhoods), and more than a third between 2016 and 2020 (e.g. Business Council for Sustainable Development in Hungary: carbon

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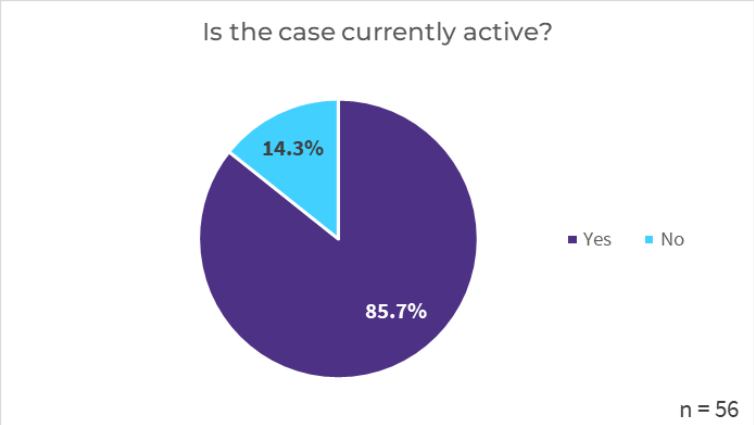
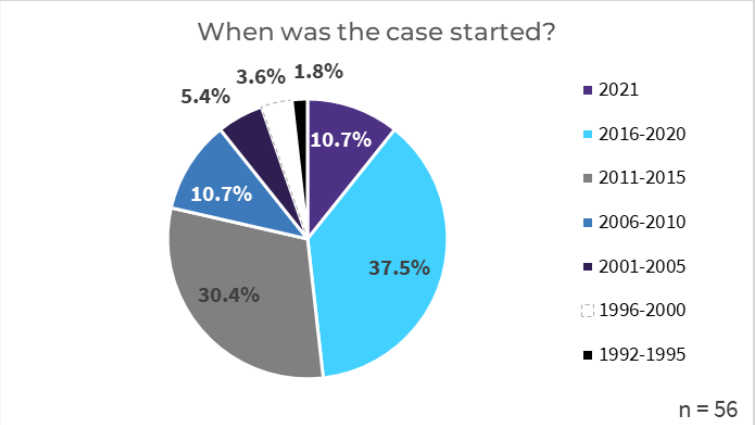
footprint compensation through planting native fruit trees; PowerPoor in Hungary: Energy Communities mentors).





The majority (85.7%) of the cases entered in the database **are still active**, and only a small number of cases that were mapped are no longer in operation. These are also worth mentioning as good examples because their experience is valuable and can provide a basis for other projects (e.g. Carbon footprint calculation in Piliscsaba, SUNRISE [Zugló, Törökőr]).

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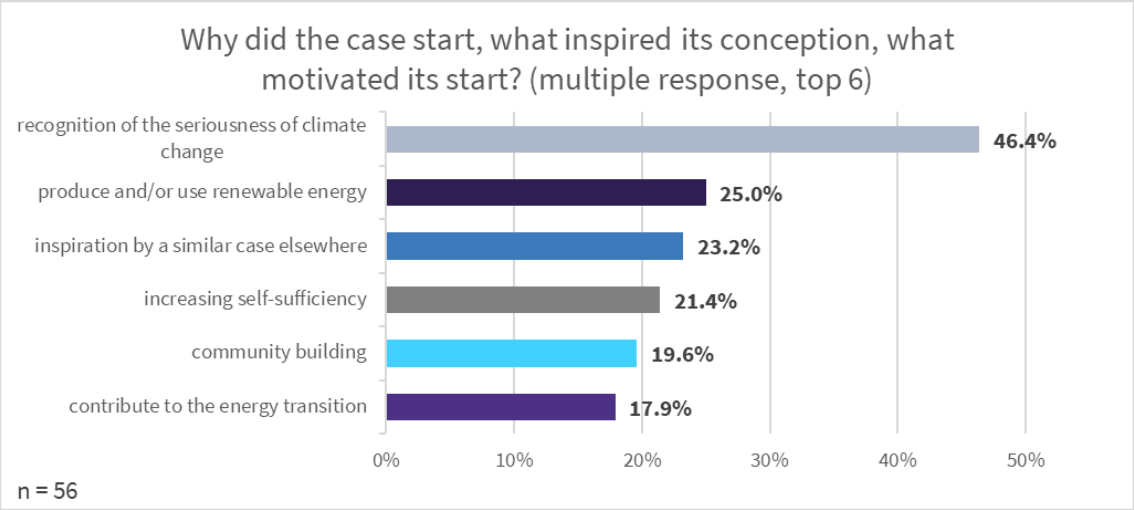
Part 2: Motivation, objectives, actors, operation

2.1 Motivation and objectives

Q24. Why did the case start, what inspired its conception, ***what motivated its start****?*

Q25. What do the actors involved in the case primarily want to achieve? ***What are/were the main objectives and aims****?*[2]

In Hungary, the main motivation, which was a determining factor in **almost half of the cases (46.4%), was the recognition of the severity of climate change**. The second most important factor involved a desire for the production and/or use of renewable energy, which was the key motivator in a quarter of cases (25%). The third factor, present in nearly a quarter of the cases (23.2%), was inspiration from a similar case elsewhere.



Although all the mapped cases had several sources of motivation for their conception and start, it is interesting to mention some examples of the main ones. The recognition of climate change was an important source of motivation for initiatives such as Carbon House; the Gödöllő Climate Club; and the Business Council for Sustainable Development in Hungary: carbon footprint compensation through planting native fruit trees; and also of course for individual cases like that of Dr István Dőry and Zsuzsanna Hojtsy-Keresztény - EnergyNeighbourhoods energy master, local change maker.

[2] *Questions from the mapping questionnaire. Details of methodology and questions are available here: https://www.energyprospects.eu/fileadmin/user_upload/ENERGY_PROSPECTS.EU/Deliverables/EnergyPROSPECTS_D3.1_310122_Final.pdf*

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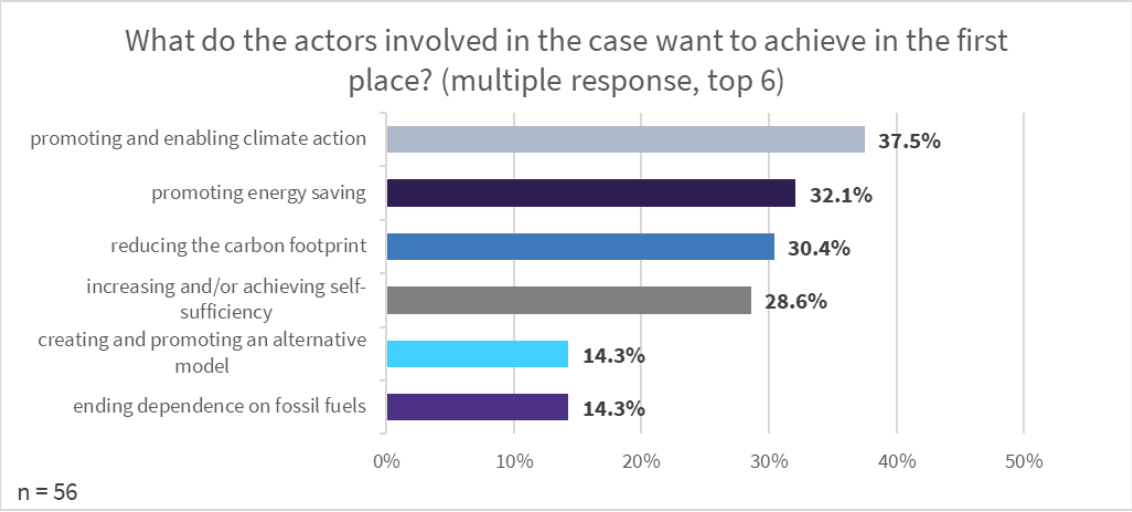
A desire for the production and/or use of renewable energy was influential in cases like the Community Energy Programme of FoE Hungary, the Community wind turbine in Vép, and Nagypáli, the renewable energy village. Inspiration from similar cases elsewhere was an important factor in cases like Biobriquettes for the energy poor, Extinction Rebellion Hungary, and the E.ON Energy Globe Hungary Award.

For two-fifths of the cases (39.3%), 'Other' sources of motivation were (also) relevant. These cases focus on sustainable mobility (e.g. the Bubi bicycle sharing network in Budapest), specifically on sustainable architecture (e.g. Passive House Open Door Days), or some other aspect of sustainability beyond energy, such as local organic agriculture (Cargonomia).

Answers are more divided concerning what the initiators want to primarily achieve. **The greatest proportion seek to promote and enable climate action**, which is an important aim for almost two-fifths of the cases (37.5%). For almost a third (32.1%), promoting energy saving, and for a slightly smaller proportion (30.4%), reducing carbon emissions was an important factor. It is important to mention that **increasing and/or achieving self-sufficiency** was found to be both an important motivator (mentioned in relation to 21.4% of the cases), *and* an important goal (for 28.6% of cases).



Promoting and enabling climate action was an important aim for cases such as SUNRISE (Zugló, Törökőr), Climate Elves, and TreeDependent. Promoting energy saving was connected to initiatives like Energy in the Home, Heat Columns, and Cycle to work. Reducing the carbon footprint was indicated as relevant for cases like Carbon footprint calculation in Piliscsaba, Green Walk, and Veronika Kiss - responsible travel.

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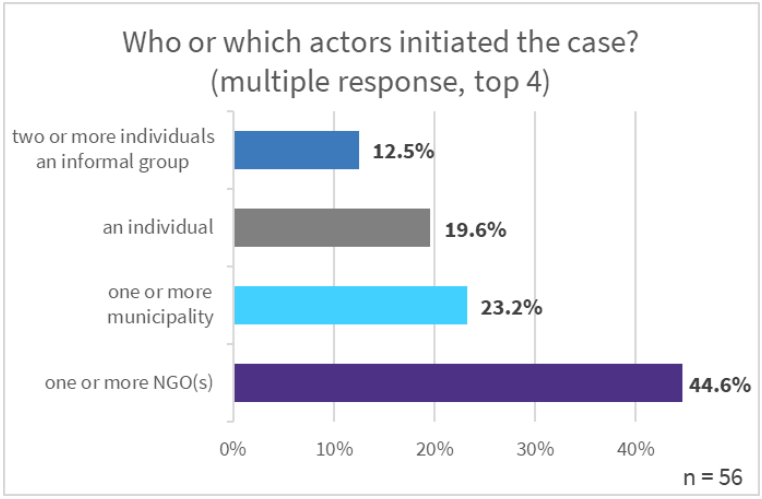
Regarding this question, the 'other' category was relevant in more than the half of the cases (51.8%). Promoting community development was a goal for several of them (e.g. Gödöllő Climate Club, Zsuzsanna Hojtsy-Keresztény - EnergyNeighbourhoods energy master, local change maker), and, as with the earlier question, sustainable mobility (e.g. SUNRISE [Zugló, Törökőr]) and sustainable building (Solar Decathlon Europe 2019 Szentendre Magyarország) were important considerations too. Some more specific aims were also defined, such as dealing with social problems (e.g. Biobriquettes for the energy poor) or promoting gender equality (Women in Energy (WONY)).

2.2 Actors initiating and involved in the ENCI cases

*Q31. Who or **which actors initiated** the case?*

*Q33. Who and/or **which actors are currently involved** in the case?*



In most Hungarian cases, **the initiating actors were one or more NGO(s): in more than two-fifths of cases (44.6%)** they were identified as important actors (e.g. EnergyNeighbourhoods, Partnership for New Energy Leadership 2050, Light bringers). In nearly a quarter of cases (23.2%), one or more municipality, including a municipal department or agency, were initiators (e.g. SUNRISE [Zugló, Törökőr], Community biomass heating plant in Pornóapáti, Citizens' Assembly on Climate in Budapest), and in nearly a quarter of cases (19.6%) an individual was responsible (e.g. Biobriquettes for the energy poor, Fridays for Future Hungary, and of course in the individual cases).

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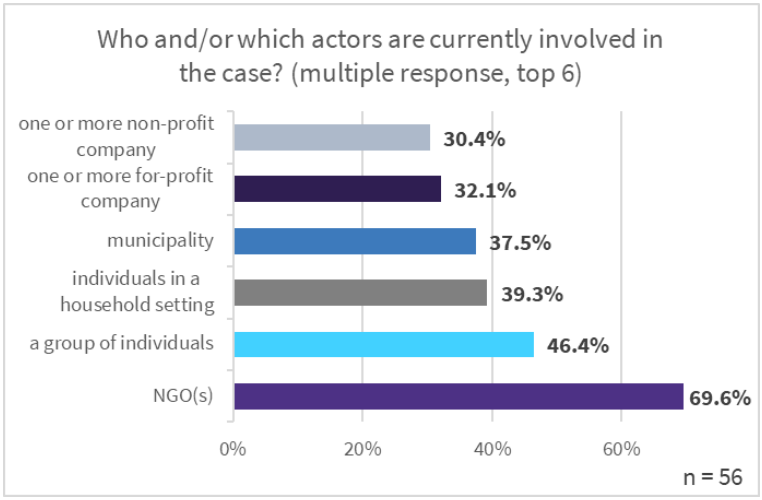
In the large majority of cases – **more than two-thirds (69.6%)** – **NGOs were involved** in the implementation of cases (e.g. Community Energy Programme of FoE Hungary, PowerPoor in Hungary: Energy Communities mentors, RenoHUb). Also, significantly, almost half of the time (46.4%) a group of individuals (incl. community group) were the important actors (e.g. Energy efficient Wekerle, Cargonomia, Community biomass heating plant in Pornóapáti). In third largest proportions – in almost two-fifths of cases (39.3%) – individuals in a household setting were the relevant actors (EnergyNeighbourhoods, Sustainability and community in a Baranya village, ComAct: Community tailored actions for energy poverty mitigation in Hungary).



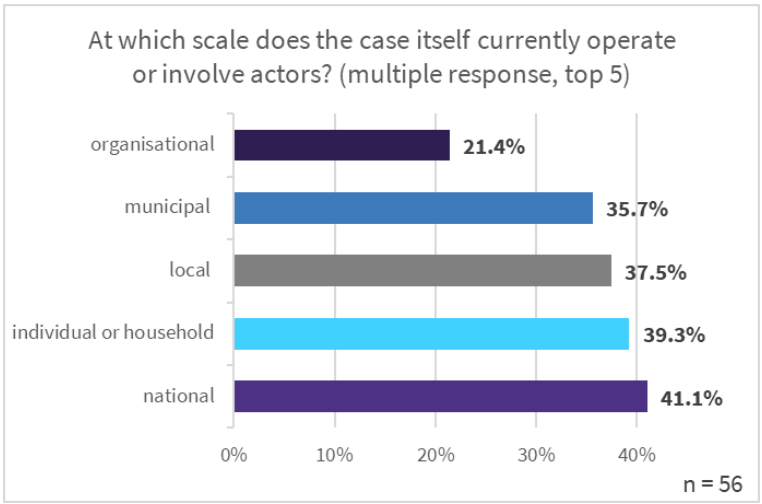
2.3 Scale of ENCI operations, networks

*Q35. At **which scale** does the case itself currently operate or involve actors?*

*Q36. What is the current **organisational form/structure** of the case?*

*Q39. Is/was the case **part of a network** of similar initiatives?*

The **operational level of Hungarian cases is mixed**. Just over two-fifths of them (41.1%) operate at national level, a little fewer than two-fifths (39.3%) at individual or household level, and a few percent less (37.5%) at local level. Examples at a national level include cases like TreeDependent and Fridays for Future Hungary, at the individual or household level are EnergyNeighbourhoods and Fruzsina Józsa, and at the local level are the Gödöllő Climate Club and Cyclonomia. A case can



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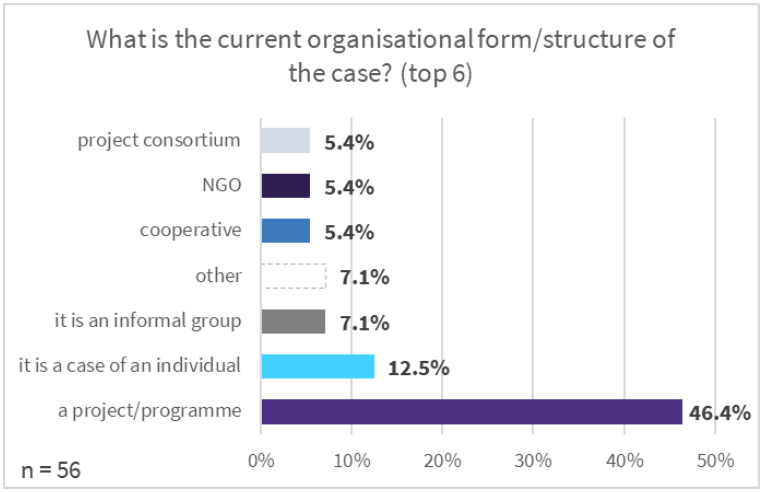
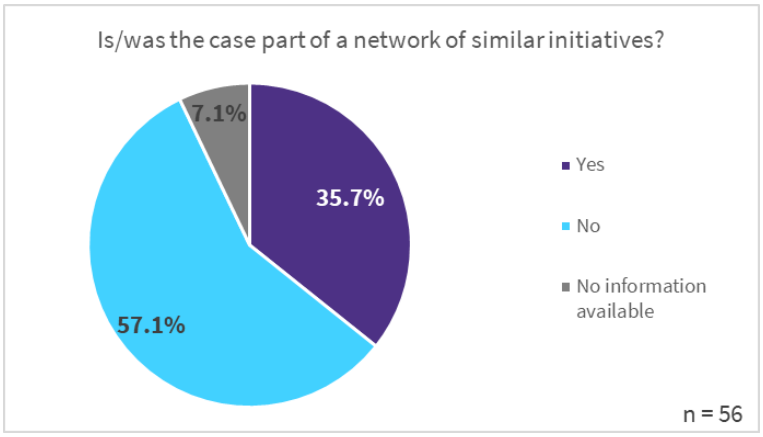
operate at several levels (such as PowerPoor in Hungary: Energy Communities mentors, or Gyöngyvér Kazinczy - being free of(f) the grid), which operate or involve actors at all three levels. It is important to note that the level of operation is not restricted by the case being an individual one, individuals, like Gyöngyvér Kazinczy, are also often active at different levels.



The **majority of Hungarian cases – almost half of them (46.4%) – take the form of projects/programmes within an organisation**. More than a tenth of the cases (12.5%) are individual cases. The third largest proportion (7.1%) either involve informal groups or are cases classified into the 'other' category. The other category includes cases that, for example, represent a project but are the result of collaboration between several organisations, or, for example, do not represent a specific programme of an organisation but its work in general. The project/programme type of case is represented, for example, by TreeDependent and Biobriquettes for the energy poor, while the individual cases are demonstrated by, for example, Zsuzsanna Hojtsy-Keresztény - EnergyNeighbourhoods energy master, local change maker, and Veronika Kiss - responsible travel, while informal groups include, for example, Energy efficient Wekerle and the Gödöllő Climate Club.



The majority of the Hungarian cases (57.1%) are not part of any network of similar initiatives – only a little more than one-third of them (35.7%) are. In a small proportion of cases (7.1%), there was no information available to answer the respective question. For those cases that are part of a network, the following, among others, were mentioned: International Passive House Open Days, Climate Alliance, International Energy Globe Award, Covenant of Mayors, Central Eastern European Sustainable Energy Network, Extinction Rebellion,

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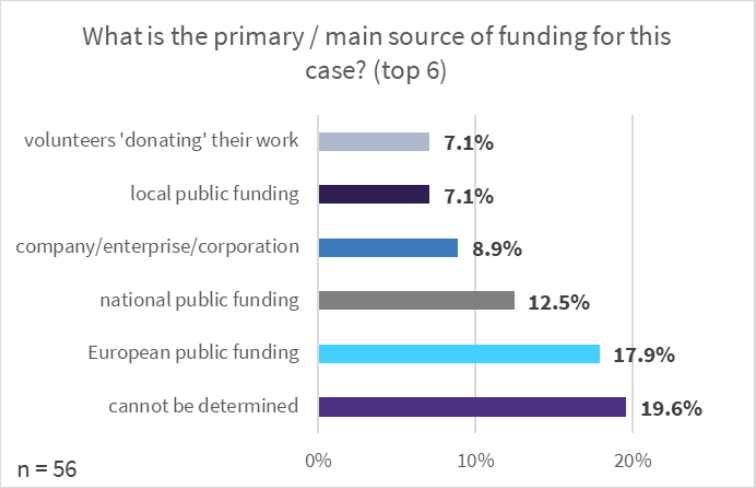
Fridays for Future International, Friends of the Earth Europe, and the World Business Council for Sustainable Development.

2.4 Sources of funding for ENCI operations

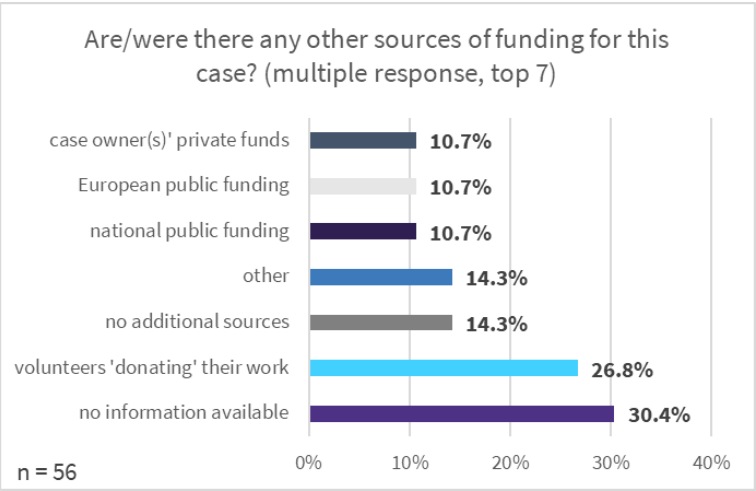
*Q46. What is the **primary / main source of funding** for this case?*

*Q47. Are/were there any **other sources of funding** for this case?*

In the largest proportion of Hungarian cases – nearly a fifth of them (19.6%) – the primary source of funding could not be determined by desk research (e.g. Climate Elves, Ada Ámon - Women in Energy EUSEW award winner). The second largest proportion of cases (17.9%) are funded by European public resources (e.g. the Compete4SECAP [C4S] project [H2020], the Community Energy Programme of FoE Hungary), and the third largest proportion (12.5%) from national public funding (such as the Sustainable Energy and Climate Action Plan Erzsébetváros, and the Community Energy Service Company).



The situation is similar with regard to additional funding. In the largest proportions, comprising almost a third of cases (30.4%), there is not enough information available about financing to determine the source (e.g. Passive House Open Door Days, and Heat Columns). The category with the second highest number of cases (26.8%) involves those cases for which volunteers "donate" their work (e.g. Pedibus Gödöllő, and the Dömörkapu Rengeteg Community Energy). These are followed



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by cases (14.3%) where there is/was no additional source of funding (e.g. Business Council for Sustainable Development in Hungary: carbon footprint compensation through planting native fruit trees, Energy in the Home). The same proportion of cases were categorized as 'Other', including cases that used, for example, another country's national funding, like the Community biomass heating plant in Pornóapáti; or were individual cases, like that of Dr. István Dőry.

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Part 3: Placement of Hungarian cases in the typology

Introduction to the EnergyPROSPECTS conceptual typology

In accordance with the conceptual framework elaborated in Pel et al., 2021, the EnergyPROSPECTS conceptual typology seeks to derive from the key conceptual distinctions analytical types and categories that account for the multiple forms of energy citizenship (ENCI). This is a qualitative descriptive typology that is mostly grounded on both a conceptual framework and consistent empirical research. Therefore, a dedicated methodology was elaborated to allow for typologisation that takes into account the specificity of the ENCI as a research object and the provisional absence of empirical input. The conceptual background of the EnergyPROSPECTS typology and its development process is summarised in Debourdeau et al. (2021).

As presented in Debourdeau et al. (2021), the EnergyPROSPECTS conceptual typology has two key dimensions: agency (individual vs. collective), and outcome orientation (reformative vs. transformative), each of which encompasses a variety of forms of ENCI.

The agency dimension encompasses three key distinctions highlighted within the conceptual framework, and primarily aims at addressing basic issues such as: *Who is doing ENCI? To whom can ENCI be ascribed? and Which kinds of configurations of actors can be considered relevant when searching for empirical cases?*

The outcome orientation dimension also encompasses two key distinctions highlighted within the conceptual framework and aims primarily at addressing questions that are complementary to those used for the agency dimension – i.e., *ENCI for what? What are the possible outcomes of ENCI that legitimise it as desirable? What kind of engagements and outcome orientations are to be considered as relevant for the empirical research?*

The matrix that can be constructed considering these two key dimensions is as follows, and allows for the distinction of ten conceptual types of ENCI:

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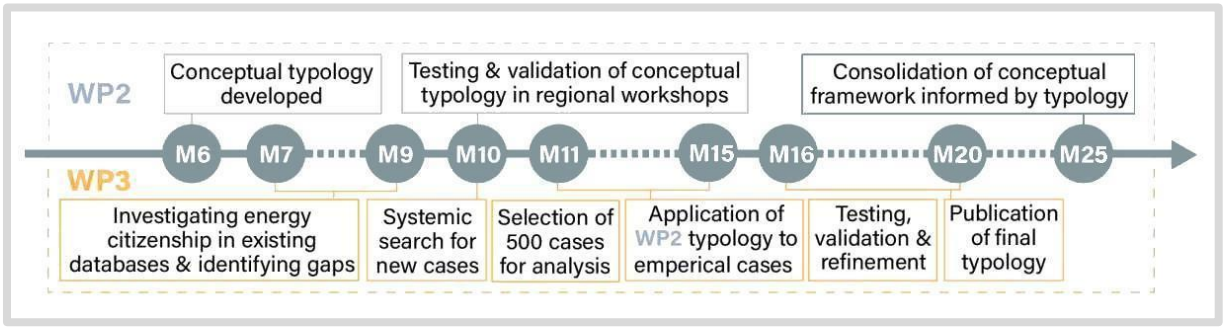
AGENCY	INDIVIDUAL			COLLECTIVE	
OUTCOME ORIENTATION	PRIVATE (HOUSEHOLD)	ORGANISATIONALLY EMBEDDED (E.G., WORKPLACE)	PUBLIC	CITIZEN-BASED AND HYBRID	SOCIAL MOVEMENTS
REFORMATIVE	1. DO THEIR BIT (in the household) Complying with the green energy transition	3. DO THEIR BIT (within organisations) Energy citizenship within organisations	5. MAKE THEIR VOICE HEARD Participating in societal energy discussions	7. DO THEIR SHARE Joining green energy projects	9. DO THE JOB Facilitating the energy transition through alignment activities
TRANSFORMATIVE	2. DO THEIR OWN (in the household) The change-making energy citizen	4. DO IT THEIR WAY (within organisations) The energy-related change maker in organisations	6. MAKE THEIR VOTE COUNT Mobilising votes for energy transition	8. GO AHEAD Building, expanding and linking citizen-based organisational forms	10. MAKE THEIR CLAIMS Protesting against the current energy system

During the mapping activity, members of the consortium were asked to first identify the main type of mapped ENCI cases according to the typology, and then to identify all remaining types that it shapes, enables, or supports. However, given the conceptual nature of the typology, it was also acknowledged that the mapping – or in other words, the empirical validation of the typology – may uncover ENCI types the typology does not yet include. Furthermore, the iterative typology development process adopted in EnergyPROSPECTS also means that the conceptual typology will be further developed during subsequent stages of the research, as depicted in the figure below.



In our analysis, described below, we present the ENCI cases as they were typologised using the conceptual typology presented above. Any further development of the typology will be reported on the project website.

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3.1 Main types of cases according to the typology

*Q75. Considering the main (or only) type of ENCI the case shapes/enables/supports, which **ideal type of ENCI** would you associate it with?*

Based on the evaluation of the Hungarian research team of most of the cases that were mapped, **a quarter of them (25%) were classified as Type 7 according to the "Reformative – Citizen based and Hybrid"** part of the ENCI typology. The category associated with the second largest number of cases was Type 8, "Transformative – Citizen based and Hybrid", representing a fifth of cases (19.6%), and the third largest was "Reformative – Private", also representing nearly another fifth of cases (17.9%).

	Individual			Collective		Other
	Private	Organisationally embedded	Public	Citizen-based and Hybrid	Social movements	
Reformative	10 (17.9%)	2 (3.6%)	2 (3.6%)	14 (25.0%)	2 (3.6%)	4 (7.1%)
Transformative	6 (10.7%)	1 (1.8%)	1 (1.8%)	11 (19.6%)	3 (5.4%)	

The **Reformative - Private** category includes,[3] among others, the **Heat Columns and the Carbon footprint calculation in Piliscsaba** initiatives, while the **Transformative - Private** category includes mostly individual cases like that of **Gabriella Révész, eco architect and activist**, but also initiatives, such as **Cycle to work.**

The **Heat Columns** project is about building heat columns in settlements in disadvantaged regions that can reliably and sustainably provide heat to the homes of families in need. The installation of a heat column significantly improves the quality of life of families: in addition to using less firewood, and reducing air pollution, the families no longer have to get up at night to "feed" their stoves.

The **Carbon footprint calculation in Piliscsaba** was GreenDependent's project. In cooperation with the Piliscsaba-Garancstető Association, the annual carbon footprint of 21

[3] Please see below on pp. 22-23 a table with all mapped cases according to each typology category.

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households was calculated during the spring of 2020, which is the first step in raising awareness that lifestyle change can reduce the environmental impact of families. In addition, the cooperation included a community event at which the details and results of the calculation were discussed, and native fruit trees were planted in a community garden in recognition of the participants' responsibility for their footprints.

Gabriella Révész is an eco-architect who focuses on environmentally sound ways of building, especially on straw-bale and adobe houses. In addition, she is one of the founders and the president of the Hungarian Strawbuilders Association. Further, she is an active member of several local civic organisations and groups in the town of Gödöllő, as well as a zero-waste activist.

Cycle to work is an awareness-raising and motivation campaign organised annually by the Association of Hungarian Cyclists to promote cycling to work. The campaign provides lots of information on cycling for individuals, and also hosts a championship and gives awards for best visibility and cycled kilometres to create recognition and strengthen the trend for biking to work. Individuals can register and count how many times and how many kilometres they have biked.

The **organizationally embedded category** includes cases such as **Social Solar Powerplant**, a collaborative project between a utility company and an NGO aimed at providing solar energy for those in energy poverty on the **reformative side**, and **Ada Ámon - Women in Energy EUSEW award winner** on the **transformative side**.

Also on the reformative side, **Move for the Climate!** is a campaign for schools, teachers, and students. The campaign is a competition based on collecting climate miles by sustainably going to school, having non-meat or local food days, carrying out climate action in groups, and planting trees

Ada Ámon founded the influential clean energy think tank EnergiaKlub and has been working as a senior expert at E3G and other energy and environmental organisations. Her latest role has been Chief Advisor to the Mayor of Budapest on Climate Affairs and head of the city's newly established climate department. Also, she was one of the winners of the European Sustainable Energy Award for Women in Energy in 2020.

The **public category** includes cases such as **Citizens' Assembly on Climate in Budapest** on the **reformative side** and **Climate Election 2022** on the **transformative side**.

The **Citizens' Assembly on Climate in Budapest** was the first of its kind in Budapest, as instigated by the City Council. The Assembly was facilitated by a professional NGO and climate experts, 50 randomly selected citizens participated in it, and after two weekends of facilitated

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discussions and deliberative processes they came up with a priority list. The list serves as the base for updating the Climate Strategy of Budapest City Council.

Climate Election 2022 was a consortium of NGOs that attempted to get the candidates running in the 2022 parliamentary elections to commit to and sign their seven-point green agenda.

Looking at the collective cases of energy citizenship, the **Reformative – Citizen-based and Hybrid** category includes, among others, the **SUNRISE (Zugló, Törökőr) and TreeDependent** initiatives, and the **Transformative - Citizen-based and Hybrid** category cases like **Community Energy Programme of FoE Hungary** and **Cargonomia.**

The main task of the **SUNRISE** project in Zuglo's Törökör neighbourhood was to widen and deepen pre-existing process of participatory planning and to establish sustainable cooperation of local stakeholders in relation to co-assessing and co-planning mobility-related issues.

The **TreeDependent** programme is about providing support for reducing carbon emissions, as well as calculating and compensating them through services offered by 'TreeDependent – responsible events, and a responsible travel programme aimed at communities and organisations, as well as individuals or households.

The **Community Energy Programme of FoE** has focused on creating a more favourable legislative environment for community Renewable Energy Sources (RES) projects and building up a cross-national and national community power coalition. Moreover, public campaigns have been organised in five Hungarian regions to facilitate the birth of more community energy initiatives and projects.

Cargonomia is a crossover point between the activities of several types of partners involved in the project: sustainable food production, the promotion of low carbon transport solutions, and bicycle competency advocacy. Based on the principles of sustainability, low-tech development and fair trade, one of the primary goals is to increase access to locally produced products by promoting direct trade from local producers to consumer communities.

The social movements typology category includes cases such as **Climate Star** on the **reformative side**, and **Fridays for Future Hungary** on the **transformative side**.

Climate Star is an award that honours the commitment and achievements of European towns, cities and regions in the fields of sustainable energy, mobility, consumption, urban and regional development, and citizen involvement. In Hungary, the Award has been open since 2011 and is managed by an NGO.

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Fridays for Future Hungary is a youth-led and -organised movement that began in August 2018 after 15-year-old Greta Thunberg and other young activists sat in front of the Swedish parliament every school day for three weeks to protest against the lack of action related to the climate crisis. The group demands the declaration of a climate emergency, change on all levels, in all sectors, and staying below the 1.5-degree target.

The **other** category includes cases such as **Solar Decathlon Europe 2019** and **Compete4SECAP (C4S) project (H2020)**, which researchers were not able to locate in any of the typology categories specified thus far.[4]

The **Solar Decathlon** has become the world's most significant architectural innovation competition organized between universities. The basic goal of the initiative is to foster the cooperation of university researchers and developers with industrial partners and sponsors, to build on the creativity and innovative abilities of young people, and to design the type of innovative and energy-efficient houses that may be showcase homes in terms of demonstrating sustainability based on the use of renewable energy and the conscientious use of resources. Solar Decathlon Europe 2019 was one of the solar decathlons organised in Hungary with great success. It was not categorized, because for this case a new category under the "Collective" type would be most suitable, as this is a hybrid case, but organisation-based not a civil one.

Compete4SECAP (C4S) project (H2020) was a European research project implemented by GreenDependent Institute (GDI) in which GDI helped four Hungarian municipalities address climate mitigation and adaptation issues related mainly to climate change, but also other sustainability areas, such as energy poverty, energy democracy, and active energy citizenship. Some elements of the project were collective (involving municipal employees), but were not social movements or citizen-based as they were initiated by the local government, although in other instances the case is indeed a collective hybrid as the municipal employees are also local citizens who are actively working on the energy transition.

[4] It is also the objective of the EnergyPROSPECTS project to test the conceptual typology in practice and modify/develop it if needed. Cases classified into the 'other' category will be the basis of this research task.

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	Individual			Collective	
	Private	**Organisationally embedded**	**Public**	**Citizen-based and Hybrid**	**Social movements**
Reformative	• Carbon footprint calculation in Piliscsaba • Carbon House • Climate Elves • Energy in the Home • Green Walk • GreenHome demonstration, training and community centre • Heat Columns • Passive House Open Door Days • Pedibus Gödöllő • RenoHUb	• Move for the Climate! • Social Solar Powerplant	• Citizens' Assembly on Climate in Budapest • Sustainable Energy and Climate Action Plan Erzsébetváros	• Bubi bicycle-sharing network in Budapest • ComAct: Community-tailored action for energy poverty mitigation in Hungary • Community biomass heating plant in Pornóapáti • Community wind turbine in Vép • Dömörkapu Rengeteg Community Energy • EnergyNeighbourhoods • Gödöllő Climate Club • Light bringers • Partnership for New Energy Leadership 2050 • Passive Social Housing in Budapest • PowerPoor in Hungary: Energy Communities mentors • SUNRISE (Zugló, Törökőr) • Szekszárd Climate Circle • TreeDependent	• Climate Star • Women in Energy (WONY)

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	Individual			Collective	
	Private	**Organisationally embedded**	**Public**	**Citizen-based and Hybrid**	**Social movements**
Transformative	• Cycle to work • Dr István Dőry • Fruzsina Józsa • Gabriella Révész, eco-architect and activist • Gyöngyvér Kazinczy - being free of(f) the grid • Veronika Kiss - responsible travel	• Ada Ámon - Women in Energy EUSEW award winner	• Climate Election 2022	• Biobriquettes for the energy poor • Business Council for Sustainable Development in Hungary: carbon footprint compensation through planting native fruit trees • Cargonomia • Community Energy Programme of FoE Hungary • Community Energy Service Company • Cyclonomia • Energy Community in the Kazán Közösségi Ház (Kazán Community House) • Energy efficient Wekerle • Nagypáli, the renewable energy village • Sustainability and community in a Baranya village • Zsuzsanna Hojtsy-Keresztény - EnergyNeighbourhoods energy master, local change maker	• Anti-nuclear protests in Hungary • Extinction Rebellion Hungary • Fridays for Future Hungary
Other	• Compete4SECAP (C4S) project (H2020) • E.ON Energy Globe Hungary Award • Solar Decathlon Europe 2019 • Sustainability Projects of Budaörs (Municipality)				

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3.2 Other typology types selected

*Q76. If relevant for this case, which **other ideal-type(s) of ENCI** does the case shape/enable/support?*

In the process of characterising cases, it was possible to identify one or more other categories in addition to the main typology type. The **most often selected category was Transformative – Private: almost one-sixth of the cases (16.1%) were placed here.** This was followed by the "Reformative – Private" type, as which 12.5% of the cases were classified, while the third most often selected secondary type (10.7% of cases) was "other", showing that not all cases can be clearly positioned according to the typology.

	Individual			Collective		Other
	Private	Organizationally embedded	Public	Citizen-based and Hybrid	Social movements	
Reformative	7 (12.5%)	4 (7.1%)	4 (7.1%)	3 (5.4%)	0 (0.0%)	6 (10.7%)
Transformative	9 (16.1%)	5 (8.9%)	2 (3.6%)	3 (5.4%)	2 (3.6%)	

For example, there are two different classification categories for the case of the **Light bringers**, which are "Reformative - Citizen-based and Hybrid" as the main type, and "Reformative – Public" as the secondary. This is because one part of the project is about obtaining devices for lighting and installing them in community-based ways in households. On the other hand, the project addresses the issue of energy poverty and organises campaigns to listen to the individual opinions of participants.

One of the best examples of a case that has been classified into several ideal types is **EnergyNeighbourhoods**, which is "Reformative – Citizen-based and Hybrid" as the main typology type, but on the other is also "Reformative Individual – Private" and "Transformative Individual – Private", because "this case allows and supports involvement and activity at different levels beginning from relatively passive and reformative involvement mainly at the household level

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through more transformative involvement, and even initiating and organizing the involvement of others and linking to other groups".[5]

It is also important to highlight that in several cases **the need for a new category, "collective, organizational",** has been raised, like in the case of **E.ON Energy Globe Hungary Award**, because "this case would be "reformative" and "collective", but under the heading collective it is neither of the types mentioned, so a third category is needed to capture the "organisational" component: something like "organisation-based and hybrid". The same need arose, among other cases, for the **Solar Decathlon Europe 2019, Business Council for Sustainable Development in Hungary: carbon footprint compensation through planting native fruit trees, Energy Community in the Kazán Közösségi Ház, and Dömörkapu Rengeteg Community Energy** cases. Studying these and similar cases in Hungary and in the other European countries in more detail will create the basis for the further refinement of the conceptual typology, which is one of the objectives of the EnergyPROSPECTS project.

[5] All quotes are from case researchers and are taken from the data collection surveys unless indicated otherwise.

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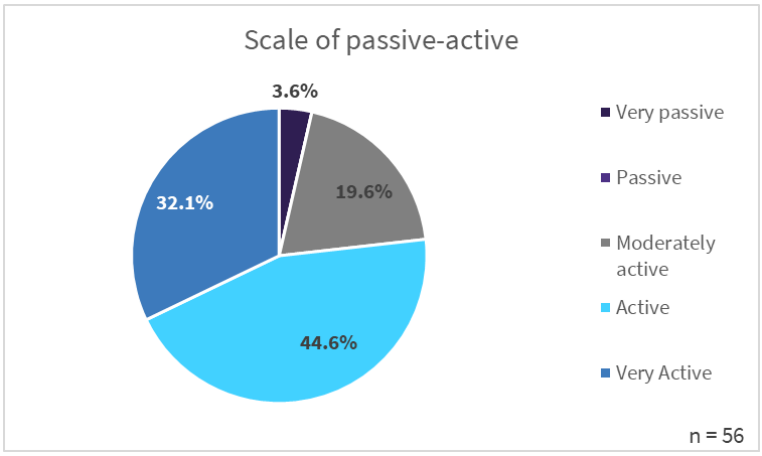
Part 4: Aspects of energy citizenship

4.1 More and less active forms of energy citizenship

*Q48. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), please locate the case on a **scale of passive-active** below, by moving the slider.*

For this question, responses were collected using a scale of 1 to 100 by the researchers participating in the mapping activity, and then divided into the following five categories: 1-20 very passive, 21-40 passive, 41-60 moderately active, 61-80 active, 81-100 very active. The **more passive a case is, the more it involves energy consumption**, which means that it is not an ENCI yet but rather a passive consumer of energy due to disempowerment, disillusionment, or disinterest. The **more active a case is, the more aware, empowered, and active it is**, which means that it involves not only changing individually and joining others but activating and empowering others and helping others to become active.

On the scale of passive-active, the **majority of the Hungarian cases (44.6%) were classified as "Active".** Almost one-third (32.1%) of the cases were classified into the "Very active" category, about one-fifth (19.6%) into "Moderately active", and a very small percentage (3.6%) into "Very passive". In regard to this question, all cases were classified.



The **very passive** category includes two cases, **Passive Social Housing in Budapest** and **Green Walk**. **Passive Social Housing in Budapest,** which "focuses on consuming less energy via passive houses". People who live in the flats in the social housing block are not active energy citizens as they did not specifically choose to live in this type of housing, but were given the opportunity by the local municipality. **Green Walk**, through an organised walking event for interested citizens and experts, "showcases real examples of green buildings that are perhaps close to self-sufficiency, but

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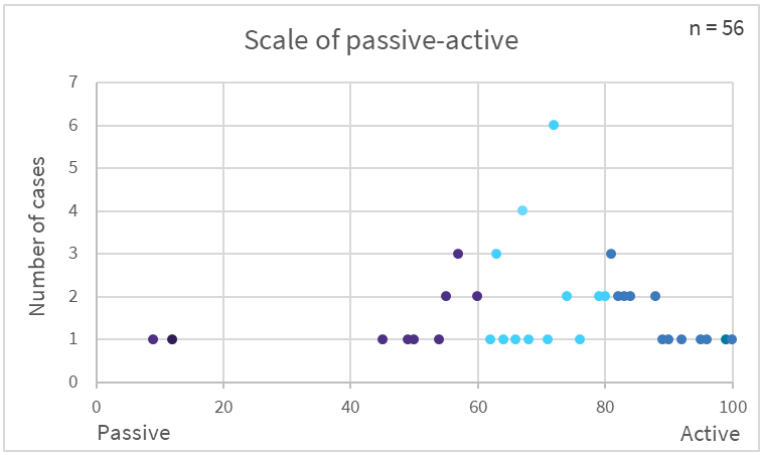
the main focus is on technology not on general system change". In Hungary, **no cases were classified into the passive** category.

The **moderately active** category includes cases such as **Heat Columns** because this case is "more on the passive side, supporting households in reducing their consumption, but - moving towards the active end - it also involves empowering people, inventing and designing more energy efficient heating solutions and sharing the idea and knowledge with experts working in the field of reducing energy poverty in the Central and Eastern European region".

The **active** category includes cases such as **Climate Star** because this case "acknowledges the activities of municipalities all over the country from year to year and helps and motivates other municipalities to become more active too, not only to undertake the action listed in their SECAPs, climate/environmental/sustainability plans, but also to communicate/disseminate their results among the inhabitants of the settlements".

The **very active** category includes cases such as **Energy efficient Wekerle** because, according to the case researcher, "the local volunteers themselves are very active, and they not only involve others, but teach them (e.g. through the insulation programme), and do it in a way that they, the community, can adapt and develop in the local context". The most active case is actually an individual one, **Gabriella Révész, eco-architect and activist**. "She, besides being a very conscious citizen herself, is actively trying to raise the awareness of others, and to empower people to act and increase their knowledge. She initiated an association with others to further boost her activities, and she has also joined several other local groups".

In the graph we depict the exact placement of the cases on the Passive-Active scale. It is clearly visible that the majority of cases selected for mapping in Hungary are located in the Active area of the scale.



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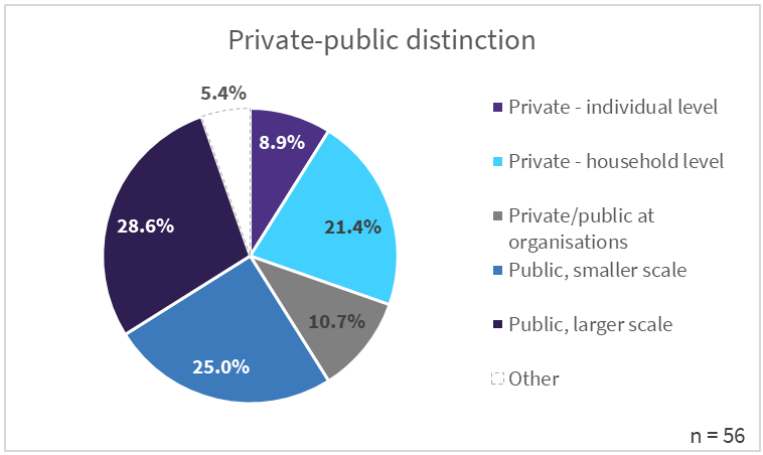
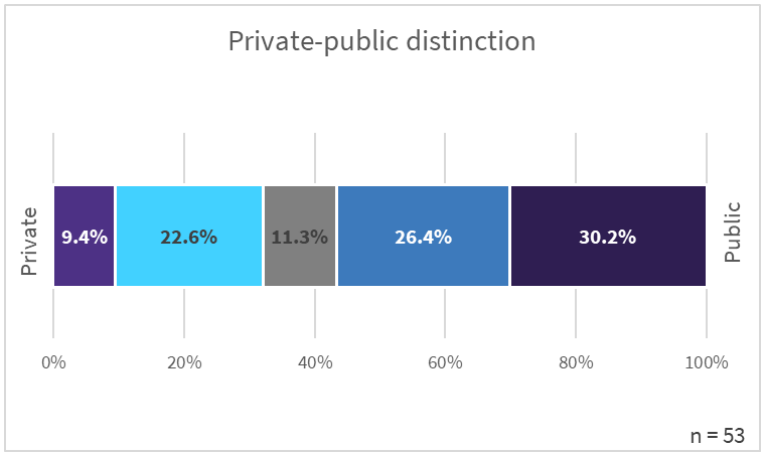
4.2 Private and public forms of energy citizenship

*Q50. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), considering the **private-public distinction**, please select which applies most to this particular case.*



In Hungary, the **distribution of the cases mapped on the public-private scale is very diverse**. The largest proportion of them (28.6%) were classified as "public, larger scale", but the "public, smaller scale" share is just a little lower (25.0%), while the third highest proportion (21.4%) involve "private – household level" cases. Only one-tenth of the cases (10.7%) were classified into the "private/public at organisations" category, and a little fewer (8.9%) were classified as "private – individual level".

Only a very small proportion of cases (5.4%, or 3 in total) were not classified using this category; these are listed as 'Other'. These three cases are not classified because they are simultaneously distinct in more than one area, like EnergyNeighbourhoods, which "supports action at two of these levels: private/household and public/smaller scale", and the E.ON Energy Globe Hungary Award, which is active at all levels. For this question, as shown above, it was not possible to select more than one response.



Private - individual level action and change means, for example, individual-level action in the home, individual lifestyle change, and low-carbon consumption, like the case of the **GreenHome demonstration, training and community centre,** because its "programs aim to

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change individuals' lifestyles and motivate them to undertake climate action at the individual level, and in their household and individual lifestyle".

Private - household level action and change means, for example, household-level action, still in the home, including more radical change like prosumerism and energy self-sufficiency, like the case of **Light bringers**, because "the main aim of the project is to provide cheap electricity for poor households".

Private/public at organisations means change and action at organisations, like the case of the **Business Council for Sustainable Development in Hungary: carbon footprint compensation through planting native fruit trees**, because this project "is mainly aimed at greening the corporate sector, focusing on activities, mainly events, of individual organisations".

Public, smaller scale means change and action in smaller groups and/or on a smaller scale (e.g. community groups, local shared-ownership and/or renewable energy projects), like the case of **Community Energy Service Company**, because it is "supporting local shared ownership and renewable energy projects, focusing on small and local communities".

Public, larger scale means change and action at the district or settlement level or even a larger scale, including the societal level (e.g. low-carbon districts/towns, city-level public consultation, protests, transition towns) like the case of the sustainability **Projects of Budaörs (Municipality)** because "this is a municipal level case where the local authority is the initiator and aims changes at a larger - municipal level - scale".

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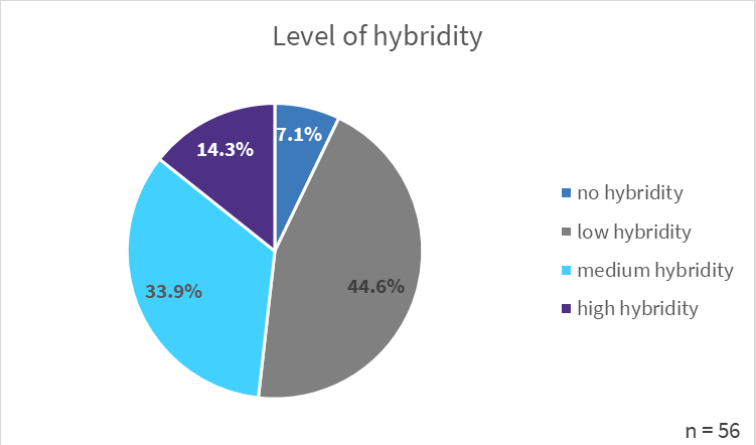
4.3 Level of hybridity in the cases of energy citizenship

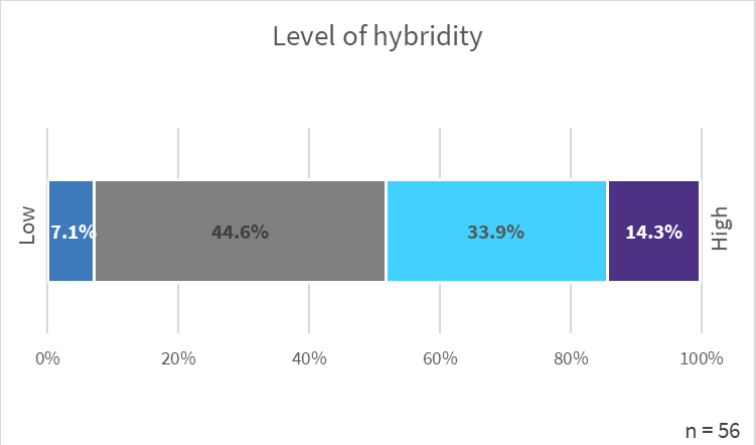
*Q52. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), please select the **appropriate level of hybridity** for the case…*

In Hungary, the **majority of cases mapped, almost half of them (44.6%), were classified as "low"** in terms of the level of hybridity. One-third (33.9%) of the cases were classified into the "medium" category and about one-sixth (14.3%) into the "high" one. A very small percentage of cases were categorized as "no hybridity".



For this question, all cases were classified.

No hybridity means that only one type of actor/institutional logistic is/was involved or represented in the case, as in the case of **Extinction Rebellion Hungary** because the "XR movement wants to engage individuals".



Low hybridity means that two or three types of actors/institutional logistics are involved or represented in the case, as in the case of **Energy efficient Wekerle,** where "the main actors are members of the local NGOs and community (so individuals and NGOs)".

Medium hybridity means that four or five types of actors/institutional logistics are/were involved or represented in the case, as in the case of **Climate Elves** where "kindergartens, schools as institutions are involved and the students, teachers, parents as individuals; and based on available information other authorities, NGOs, companies are also involved in the program somehow".

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High hybridity means that more than five types of actors/institutional logistics are involved or represented in the case, as in the case of **Partnership for New Energy Leadership 2050,** where "the main aim of the project is to involve as many stakeholders as possible who are connected and interested in energy planning".

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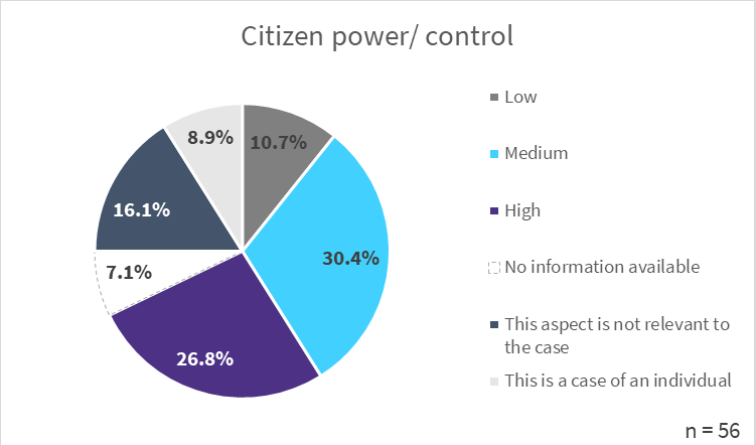
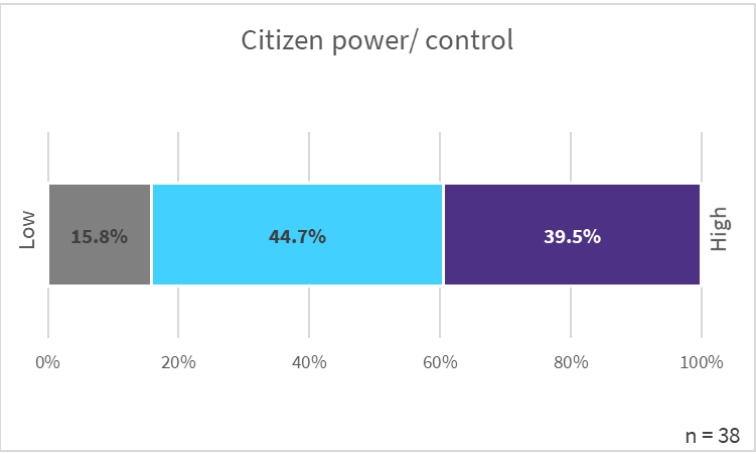
4.4 Citizen power

Q54. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), considering ***effective citizen power/ control,*** *please select which applies most to this particular case.*



In Hungary, the **majority of cases mapped, almost a third (30.4%), were classified as "medium"** in terms of the citizen power/control dimension of the typology. One-tenth (10.7%) of the cases were classified into the "low" category, and just over a quarter (26.8%) into the "high" one.

About a third of cases (32.1%) were not classified according to this category. For almost one-sixth of them (16.1%), the criterion was not relevant because of the nature of the case: nearly one-tenth (8.9%) were individual cases, and the remaining small percentage (7.1%) were classified as "No information available", meaning that based on the available data the researcher was unsure how to classify the case.



Low citizen power means that "When expressed (e.g., within "invited" deliberative processes), citizens' voices remain hardly heard or taken into account. Being in the minority, or considered this way, citizens' voices do not count, or in a voting process the framings tend to limit the possibility of expressing an opinion"[6], as in the case of **RenoHUb** because "based on the available information

[6] The description of low/medium/high was originally developed in Debourdeau et al. (2021), and then was adapted for the purposes of the data collection survey.

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knowledge travels *towards* citizens, but citizens' opinions are not gathered or cannot shape the process").

Medium citizen power means that "Citizens can express their views, but their voices are not included on a compulsory basis (within deliberative, representative or consultative processes). Within organised / participative structures, citizens remain a minority group; i.e.,are unable to impose their views on other groups", as in the case of **Pedibus Gödöllő,** because "Citizens have the power to organize themselves to create new routes within the structure of the project", but this is not a requirement.

High citizen power means that "Citizens exert effective control, and their votes are mandatory. This governance takes place mostly in an "invented" process (as opposed to "invited" ones described by Radtke et al., 2020). Citizens represent a majority group, are empowered enough to control the process, and thus make their voices predominant", as in the case of the **Community Energy Service Company**. "In this case, citizen power/control is one of the most important aspects. The whole project is about raising the energy awareness of communities and giving them real opportunity (through legal advocacy, for example) to implement community energy projects".

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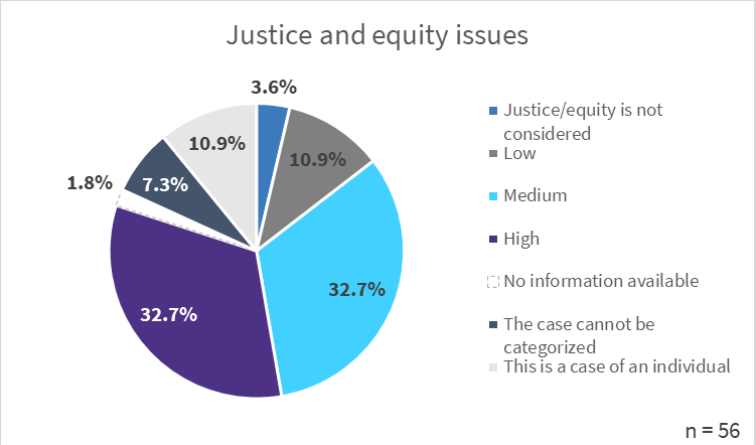
4.5 Justice and equity

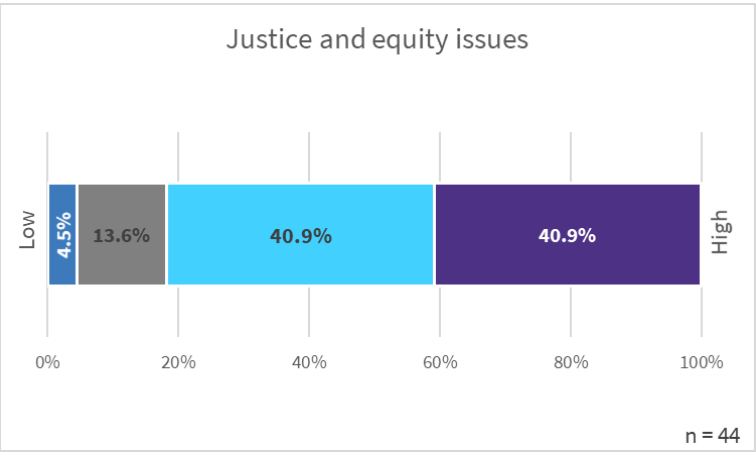
*Q56. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), considering energy, mobility, or more holistic **justice and equity issues**, please select which applies most to this particular case.*

In Hungary, among the cases that were mapped, there is an equal proportion of "medium" and "high" cases: about one-third of each (32.7%). One-tenth (10.9%) of the cases were classified into the "low" category, and only very few (3.6%) as "justice/equity not considered".



A fifth of the cases (20.0%) were not classified by researchers. One-tenth of them (10.9%) were individual cases, while a slightly smaller share (7.3%) were not categorised because of another considerations/issues and the remaining small percentage (1.8%) were classified as "No information available", meaning that not enough information and data were available through desk research for the researcher to make an informed decision on this topic.

Justice/equity is not considered for example in the case of **MOL Bubi** because, as the case researcher observed, "justice isn't an issue here, you have to pay for the service, so it excludes some groups anyway".



Low was defined in the project as "justice or equity are essentially out of scope, or restricted to equal access to markets" like in the cases of **Energy in the**

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Home because in this case "Justice and equity questions aren't dealt with and there is no active approach or targeted communication for poorer families".[7]

Medium means that equal access is granted to all concerned citizens, but the framings tend to limit them to a certain geographical area or amount of financial contribution, etc. which does not guarantee "real" equity, like in the case of **Compete4SECAP (C4S) project (H2020)**, where "all the actors of the project had equal access to the training events and materials provided by GDI, also to being able to participate actively in the energy saving competition, but there were no real references to energy justice explicitly, only implicitly in some of the SECAPs". In addition, the project was only open to municipalities which already had a SEAP and/or climate strategy, so already exhibited some level of awareness and strategic thinking about climate and energy issues.

High means that involvement is fully open, without specific conditions of participation, and issues such as energy poverty, gender, and inclusivity are taken into account and foster adaptive measures aimed at guaranteeing more justice/equity like in the case of **Biobriquettes for the energy poor** where "the main focus of the project is to reduce energy poverty".

[7] The description of low/medium/high was originally developed in Debourdeau et al. (2021), and then was adapted for the purposes of the data collection survey.

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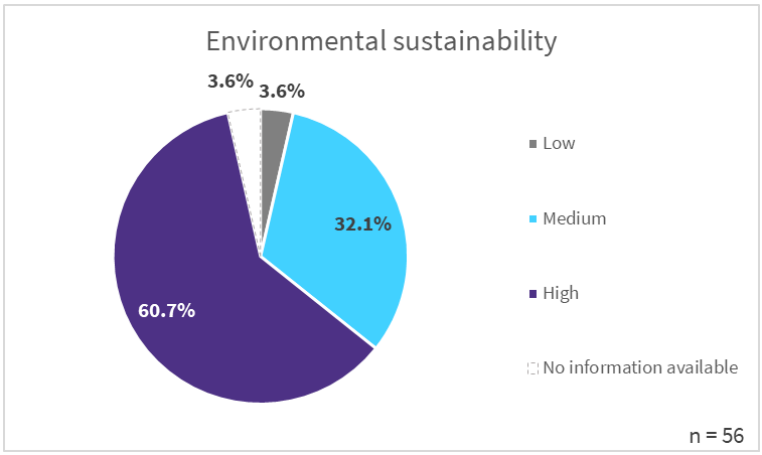
4.6 Environmental sustainability, recognizing carbon and other ecological limits

*Q58. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), considering **environmental sustainability**, please select which applies most to this particular case*

*Q60. Does/did the case shape/enable/support ENCI that **explicitly recognizes the ecological limit** of atmospheric carbon emissions…?*

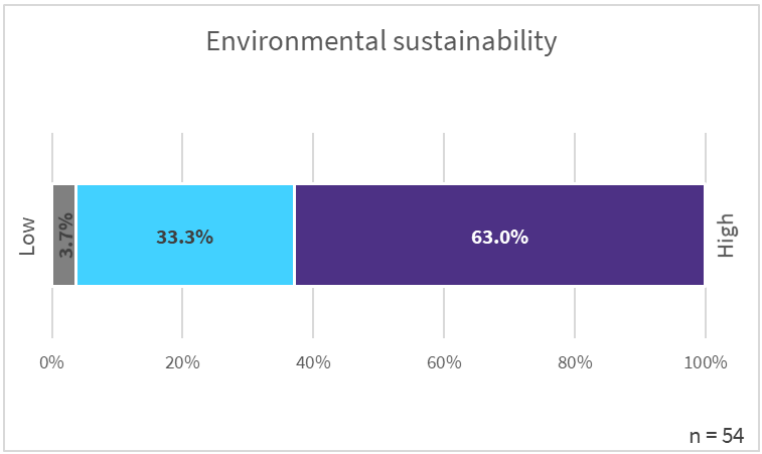
*Q61. Are **other ecological limits** (e.g. biodiversity loss, deforestation, freshwater use, chemical pollution, etc.) mentioned and recognized as well?"*

In Hungary, the **majority of cases (60.7%) were classified as "high"** according to the environmental sustainability dimension of the typology. One-third (32.1%) of the cases were classified into the "medium" category and very few (3.6%) into the "low" one.



Only a very small proportion (3.6%) were not classified in this category, and these are listed as "other".

Low here means that "if given any consideration, environmental sustainability issues are mostly taken for granted and not explicitly taken into account; in the lowest forms, environmental sustainability tends to be dealt with as a positive or negative externality"[8] like in the case of



[8] The description of low/medium/high was originally developed in Debourdeau et al. (2021), and then was adapted for the purposes of the data collection survey.

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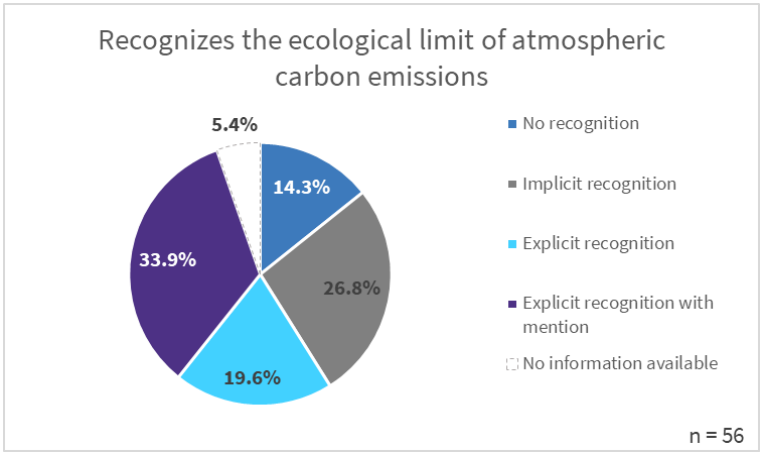
Women in Energy (WONY), because here "Environmental sustainability isn't talked about on any public platforms of the case".

Medium means that "environmental sustainability is part of the process or initiative, but this concern is addressed superficially and without dedicated assessment, and energy remains the main focus" like in the case of **ComAct: Community tailored actions for energy poverty mitigation in Hungary** where "Environmental sustainability is one of the core issues besides mitigation of energy poverty, and the strategy can be considered medium since there is no specific mention of sufficiency and consistency measures".

High was defined as "environmental sustainability is a core issue, which is associated with a holistic strategy, and its assessment through indicators is seen as desirable" like in the case of **TreeDependent** , because "the main objective of the case is to increase awareness about the carbon footprint of various activities, lifestyles, events, etc., and to strongly encourage reducing it and taking responsibility for it".

Related to environmental sustainability, we also investigated the cases' approach to recognising and taking action related to the ecological limit of atmospheric carbon emissions. In regard to this question, in the **majority of cases, about one-third (33.9%) were classified as "explicit recognition with mention"**. One-quarter (26.8%) of the cases were classified into the "implicit recognition" category, one-fifth (19.8%) of them into the "explicit recognition" and about one-sixth (14.3%) of them in the "no recognition" one.



Only a very small proportion (5.4%) of cases were not classified in this category: as there was no way to make an informed decision about classification, these are listed as "No information available".

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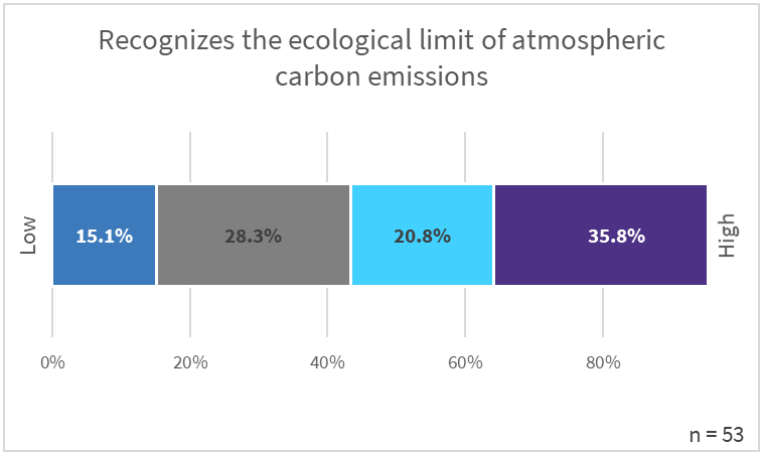
No recognition is understood to mean that "there is no mention of carbon limit or sustainable carbon footprint"[9], like in the case of **Community wind turbine in Vép**, which is mostly about community renewable energy investment and local community involvement, but ecological limits (specifically carbon emissions) are not mentioned.



Implicit recognition means that there is "No explicit mention of the ecological limit of atmospheric carbon emissions or sustainable carbon footprint, but despite the lack of formal references to either of them, the case is involved in activities aimed at reducing consumption and/or the emission of carbon", like in the case **of Bubi bicycle sharing network in Budapest**, which promotes a more sustainable transport model based on bicycle transport, thus indirectly but strongly encouraging people to reduce their mobility-related carbon emissions.

Explicit recognition is defined as meaning that "the ecological limit of atmospheric carbon emissions or sustainable carbon footprint is mentioned in core documents and the actors involved in the case are engaged in attempts to reduce consumption and/or emission of carbon", like in the case of the **Business for Sustainable Development in Hungary: carbon footprint compensation through planting native fruit trees**, which is an initiative specifically aimed at reducing the carbon footprint of events, calculating their footprint, and finally compensating for this through planting native fruit trees in educational and non-profit gardens.

Explicit recognition with mention means that, in addition to mentioning the ecological limit of atmospheric carbon emissions or sustainable carbon footprint, the maximum sustainable carbon footprint and/or emissions are also defined in associated documents, like in the case of **EnergyNeighbourhoods**, where, in addition to reducing the energy consumption of participating households at home, it is important to know the latter's carbon footprint and the average values and

[9] The different levels of the recognition of the ecological limit of atmospheric carbon emissions are adapted from Vadovics et al. (2012) and were adapted for the data collection survey.

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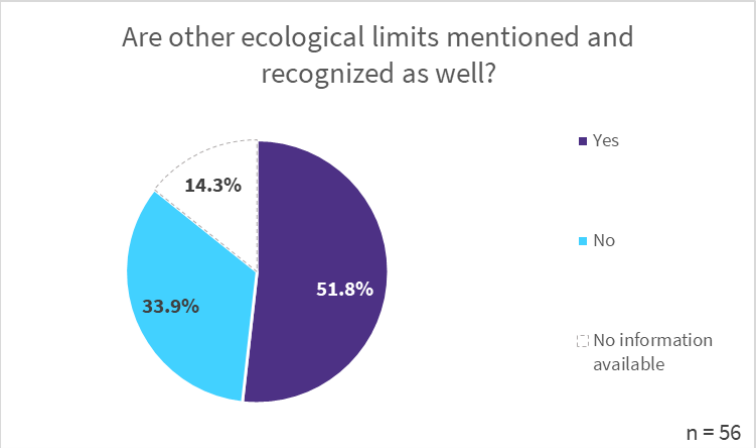
reduction needed both in Hungary and globally, so this aspect is included in training sessions and exercises carried out in the framework of the case.

Half of the Hungarian cases (51.8%) mention and recognize other ecological limits as well**,** while one-third (33.8%) of them do not, and only a smaller proportion (14.3%) were not classified according to this category: these are listed as "No information available" for making an informed judgement.



For example, in the case of **EnergyNeighbourhoods** "various ecological limits are recognized or mentioned, some implicitly, some explicitly (e.g. biodiversity loss, chemical pollution, soil loss, etc.), even though they are not explicitly the focus of the programme".

In the case of the **Compete4SECAP (C4S) project (H2020)**, several ecological limits are also mentioned, because deforestation, freshwater use, soil degradation – and in certain instances biodiversity – were usually mentioned in the SECAPs created by municipalities involved in the project.

Similarly, in the case of **Biobriquettes for the energy poor**, the "reduction of local air pollution is mentioned, which is achieved by switching to a different heating fuel".

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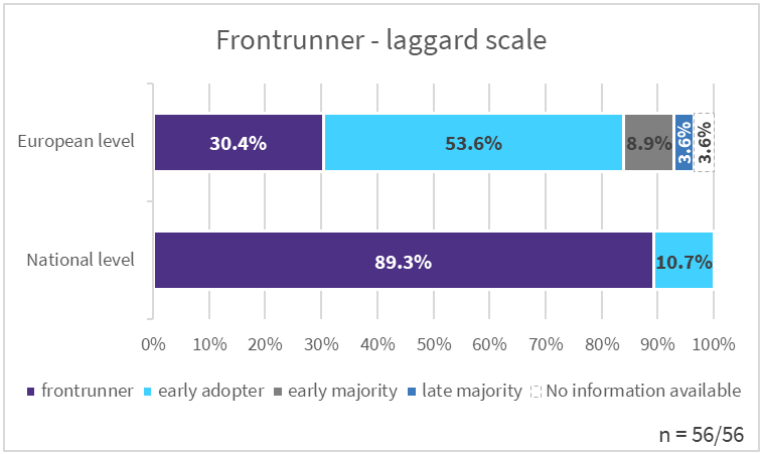
4.7 Frontrunners, early adopters and laggards

*Q63-Q64. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), considering the **laggard - frontrunner distinction**, please select which applies most to this particular case – national and European level context.*

As indicated by the question above, the issue of frontrunners and laggards was investigated at both the national and European levels as the assumption was made that some cases, although frontrunners in their national context, may be considered early adopters, etc. when evaluated at the European level.



At the national level, the **majority of the Hungarian cases (89.3%) were classified as "frontrunners",** and the rest of them (10.7%) as "early adopters". Related to this question, all cases were classified so there were no "No information available" or similar responses by case researchers.

At the European level, the distribution is more diverse: **more than half of the cases (53.6%) were classified as "early adopters"**, almost one-third of them as "frontrunners", nearly one-tenth of them (8.9%) as "early majority", and a few of them (3.6%) as "late majority". Only a very small proportion (3.6%) were not classified at this level: these are listed as "No information available".

Frontrunner is understood to mean that the case "unleashes the change process, starts the innovation, whether technological or social, and takes it through the first difficult stage, i.e. pioneers trendsetters, those who wish to lead and/or have the resources to lead the change process". Frontrunner examples of cases that were classified as such at both the national and European level (altogether 17 cases) include **Gyöngyvér Kazinczy - being free of(f) the grid**, because "living an energy self-sufficient lifestyles is very innovative at the moment, and Gyöngyvér and her family live in an autonomous house, and they need to adapt their energy use and needs to how the energy is available to them (they use solar energy, and also biomass for heating)". The frontrunner category also includes cases like **Women in Energy (WONY)** because this initiative "is certainly at the

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forefront in Hungary and Eastern Europe, but as gender diversity in the energy sector is not much more ahead in the European Union either, it was placed in the frontrunner category there too".

Early adopter(s) are defined as "opinion leaders who become enthusiastic about new products/ways of doing things/solutions, etc., share their benefits with others and adopt first". There is only one case which was classified into the early adopter category for both levels: the **E.ON Energy Globe Hungary Award**, because "the award process and event as a case can be considered as an "early adopter" as it is one of the first of its kind in Hungary, a bit less so in Europe".

Early majority means "early adoption, but deliberate, less venturesome and independent than earlier adopters". In this category there are cases only from the European level –for example, **Climate Elves**, which was categorised as an early adopter in Hungary because in Hungary there were already some programmes for kindergartens in the 2000s, so this programme counts as an early adopter, but at the European level kindergarten sustainability education is probably well ahead of Hungarian, so it was considered less innovative in this respect.

Late majority means "the case only adopts change when there is a strong feeling of being left behind or missing out". When considering the European level, only one case was classified into this category from Hungary, the **Bubi bicycle sharing network in Budapest**. However, this case is an "early adopter at the national level, because it was one of the first community bike sharing systems in Budapest, but it has become quite common now, especially at the European level".

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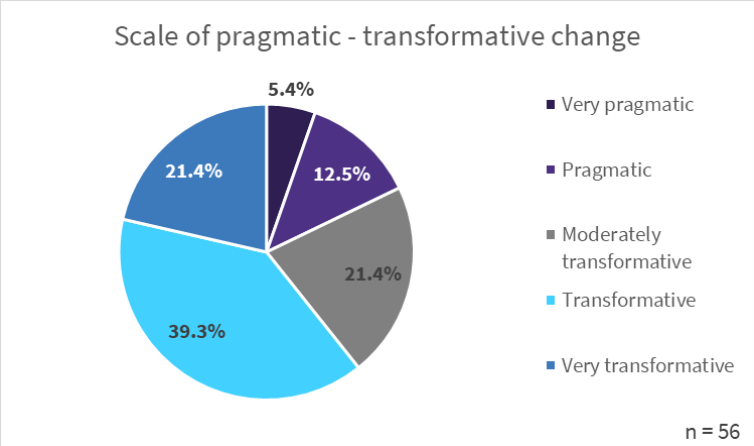
4.8 Pragmatic and transformative change

*Q66. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), please place the case on a **scale of pragmatic - transformative change** by moving the slider.*

For this question, responses were collected from case researchers on a scale of 1 to 100, and for the analysis were divided into the following five categories: 1-20 very pragmatic, 21-40 pragmatic, 41-60 moderately transformative, 61-80 transformative, and 81-100 very transformative. A case is understood to be **more pragmatic if it mainly operates using pragmatic involvement,** which often refers to involvement within "concrete projects" or activities, and is often characterised by a preoccupation with technology and efficiency. A case is defined as **more transformative if it is more about transformative involvement,** embraces broader energy transition goals and climate change, and is concerned with and focuses on energy democracy and/or sufficiency.



Using the scale of pragmatic-transformative change, the **majority of the Hungarian cases (39.3.6%) were classified as "transformative".** One-fifth (each) (21.4%) of cases were classified into the "Moderately transformative" and the "Very transformative" category, more than one-tenth (12.5%) into the "Pragmatic", and a very small percentage (5.4%) into the "Very pragmatic" one. For this question, all cases were classified.

The **very pragmatic** category includes cases such as **RenoHUb** because "the service provides information and know-how support about building renovation, but besides that it does not facilitate any deeper change in the system, sufficiency or democracy".

The **pragmatic** category includes cases such as the **GreenHome demonstration, training and community centre** because "it provides some technology that can be used by individuals, but doesn't facilitate deeper change, nor questions democracy deficits".

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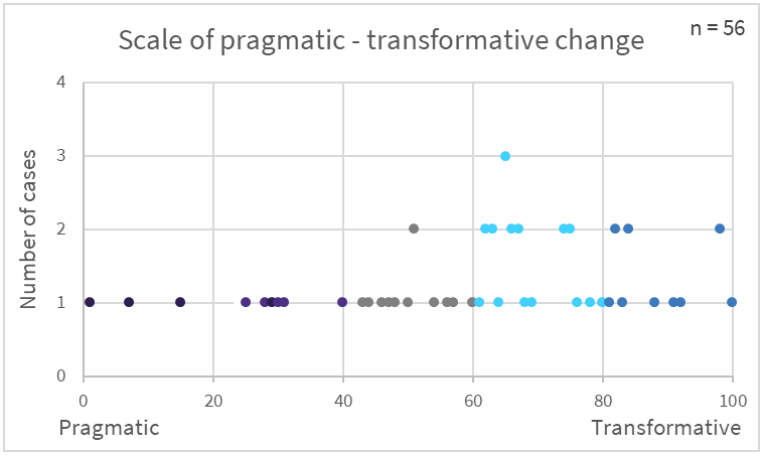
The **moderately transformative** category includes cases such as **Cycle to work** because "it requires real action from participating individuals [that goes against current mainstream practices], but there is no deeper democratic aspect and system change involved".



The **transformative** category includes cases such as **Veronika Kiss - responsible travel** because she is "interested in transforming the way we travel overseas as well as the way we take responsibility for the negative impacts of our travel, and is acting upon this interest and concern".

The **very transformative** category includes cases such as **Cargonomia** because "they are specifically working in a new form of cooperation, on a community basis (combining each other's experiences and strengths), which will contribute to building the ground for a holistic transition".

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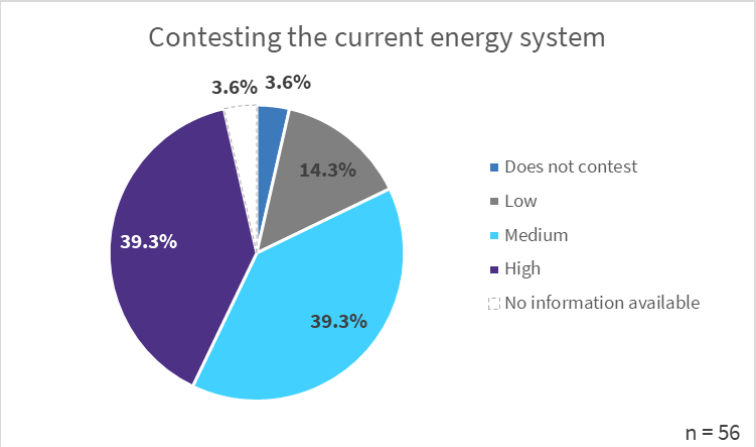
4.9 Contesting the current energy system

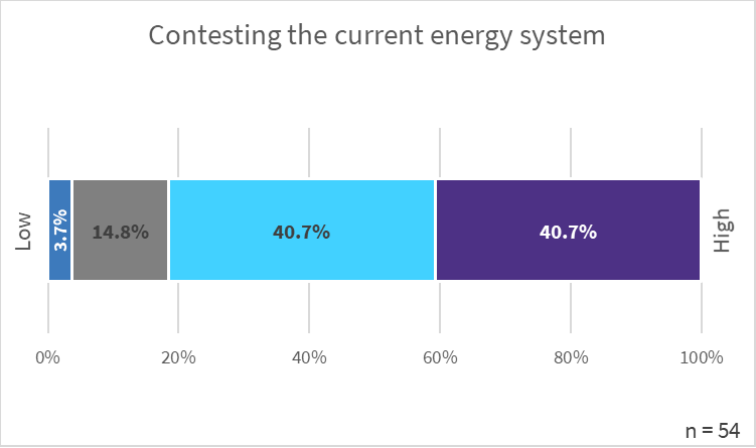
*Q68. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), please select which applies most to this particular case in terms of **contesting the current energy system**…*

Of the Hungarian cases that were mapped, 39.3% were independently classified as "medium" and "high" (i.e. two-fifths each) in terms of at which level they contest the current energy system. Almost one-sixth (14.3%) of the cases were classified into the "low" category, and only a few of them (3.6%) were found not to be contesting the system.



Similarly, only a few cases (3.6%) were classified as "No information available" in relation to this question.

There are some cases, like **Heat Columns,** which **do not contest** the current energy system. In the latter case, this is because it only is specifically aimed at increasing energy efficiency.



Low in terms of contesting the current system means that "citizen involvement/action is essentially system-confirming, which means that citizens generally go along with the basic structures of the existing system", like in the case of **Passive House Open Door Days** because, as the case researcher observed, this "case does not contest the current energy system or distribution; it mainly offers a technical solution for becoming less dependent on it".[10]

[10] The description of low/medium/high was originally developed in Debourdeau et al. (2021), and then was adapted for the purposes of the data collection survey.

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Medium means that “some system-contesting aspects are part of the process, yet are not appropriated by citizens or considered a full part of their involvement” like in the case of **Women in Energy (WONY),** because “Involving more women – and "women power" – in the management of the energy sector is already a system-contesting aspect”.

High means that “citizens are committed to deeply renewing and restructuring the system toward a more democratic and sustainable one; additionally, narratives, action, and proposals are part of the contestation of the dominant system, resulting in critique and protest against energy or mobility policies, or support for more holistic sustainability policies and action, as well as forms of engagement that aim at making fundamental change (e.g., achieving autonomy)” like in the case of **Fridays for Future Hungary,** where the main action is protesting for more ambitious climate targets, and demanding real changes in all aspects of climate policies and our life on the planet. Another example is the **Community Energy Programme** of FoE Hungary, which is about reducing the power of the fossil fuel industry and creating a more democratic energy system.

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4.10 A more detailed look at contesting the current energy system: mapping equity/justice, environmental sustainability and citizen power

In this chapter we describe the first step of the analysis aimed at obtaining a fuller picture of to what extent the ENCIs mapped in Hungary contest the current energy system. We selected those questions related to environmental sustainability (including the recognition of the carbon limit), equity/justice, and citizen power. For the analysis presented here, we attempt to classify the ENCIs according to different coordinate systems, each time selecting two of these aspects to see how they contest the current energy system, and also compare them.

The purpose of this part of the report is to increase understanding of the arrangement of each category (e.g. how many and what kind of cases received high ratings from both an environmental sustainability and a system-contesting point of view, or for observing the carbon limit *and* promoting equity/justice), and to prepare the ground for further detailed typological analyses in the future. The quadrants in the graphs also illustrate whether the cases belong to the “high” or “medium” group, or to the “low” or “not considered” group, according to current criteria.

Cases that were mapped but were not classified by case researchers into any of the explicitly defined categories (i.e. that were. classified as “other” or “no information available”) have not been included in this analysis.

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Environmental sustainability & Contesting the current energy system

It can be clearly seen that of the majority of the Hungarian cases that were mapped (a total of 52 cases) that have the appropriate information for our analysis, 42 of them may be classified into the "medium"-"high" group according to both criteria (environmental sustainability and contesting the current energy system). Within this group, the majority of the cases are classified as "high" from an environmental point of view (32 cases), of which 16 are defined as "high" and 16 "medium" from the system-contesting perspective. In the figure below, on the right-hand side, we have included concrete case examples as an illustration.[11]

Environmental sustainability	Not contest	Low	Medium	High
High		1	16	16
Medium	1	6	4	6
Low			2	
Not consider				

Contesting the current energy system

Environmental sustainability	Not contest	Low	Medium	High
High		Energy in the Home	TreeDependent; Climate Star (+ 14 others)	Anti-nuclear protests in Hungary; Cargonomia (+ 14 others)
Medium	Heat Columns	Compete4SECAP (C4S) project (H2020) (+ 5 others)	Cycle to work; Biobriquettes for the energy poor (+ 2 others)	Light bringers; Community wind turbine in Vép (+ 4 others)
Low			PowerPoor in Hungary: Energy Communities mentors; Women in Energy (WONY)	-
Not consider				

Contesting the current energy system

[11] Please refer to the Annex for a brief description of the cases.

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Carbon limits & Contesting the current energy system

If environmental sustainability is replaced with recognition of carbon limits, and the graph is drawn again (with the other variant remaining as contesting the current energy system), we identify 51 cases from the whole set (56). It is still true that the majority of Hungarian cases belong to the "medium"-"high" group from both perspectives (23). However, there is a more varied distribution of cases, with many cases falling into the bottom-right quadrant of the graph – i.e. the "medium"-"high" category in terms of contesting the current energy system, but with no or low recognition of carbon limits. The fact that many cases can be found both in the top- (6) and the bottom-left (2) quadrants of the graph illustrates that, in terms of examining cases that contest the energy system and recognise carbon limits, more issues are raised. For example, how does the recognition of the carbon limit relate to environmental sustainability? Is it considered part of environmental sustainability? In what ways do cases contest the energy system, and can they really do this if they do not clearly and explicitly observe the carbon limit?

We have again included some cases for each quadrant and sub-quadrant of the graph to illustrate which ENCI cases were placed where in terms of the two differentiating factors.

Carbon limit	Not contest	Low	Medium	High
High		3	10	5
Medium		3	5	3
Low	1	1	5	7
No recognition			2	6

Contesting the current energy system

Carbon limit	Not contest	Low	Medium	High
High		Carbon footprint calculation in Piliscsba RenoHUb (+ 1 others)	Energy-Neighbourhoods; Sustainability Projects of Budaörs (Municipality) (+ 8 others)	Fridays for Future Hungary; Ada Ámon (+ 3 others)
Medium		Social Solar Powerplant Compete4SECAP (C4S) project; (+ 1 others)	GreenHome demonstration, training and community centre; Veronika Kiss (+ 3 others)	Cargonomia; Nagypáli, the renewable energy village (+ 1 others)
Low	Heat Columns	Bubi bicycle sharing network in Budapest	Women in Energy (WONY); Climate Star (+ 3 others)	Solar Decathlon Europe 2019; Gyöngyvér Kazinczy (+ 5 others)
No recognition			Dömörkapu Rengeteg; Community Energy Biobriquettes for the energy poor	Community wind turbine in Vép; Light bringers (+ 4 others)

Contesting the current energy system

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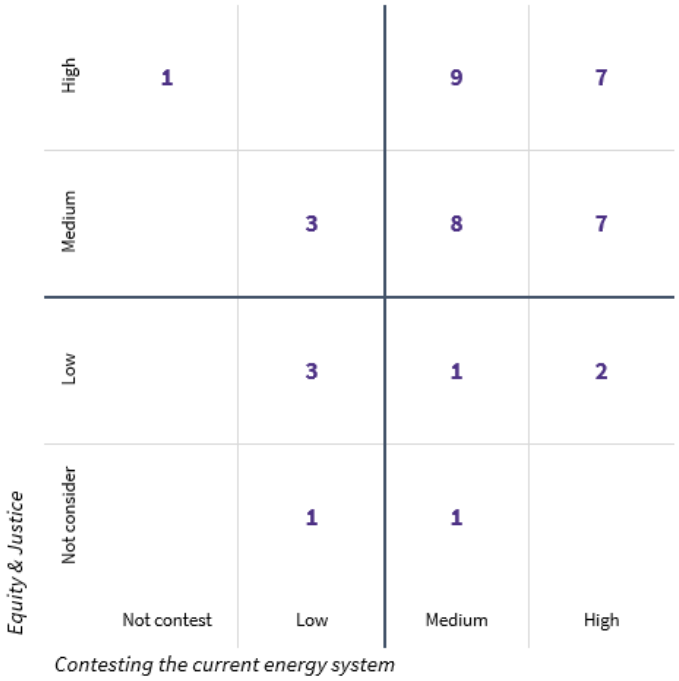
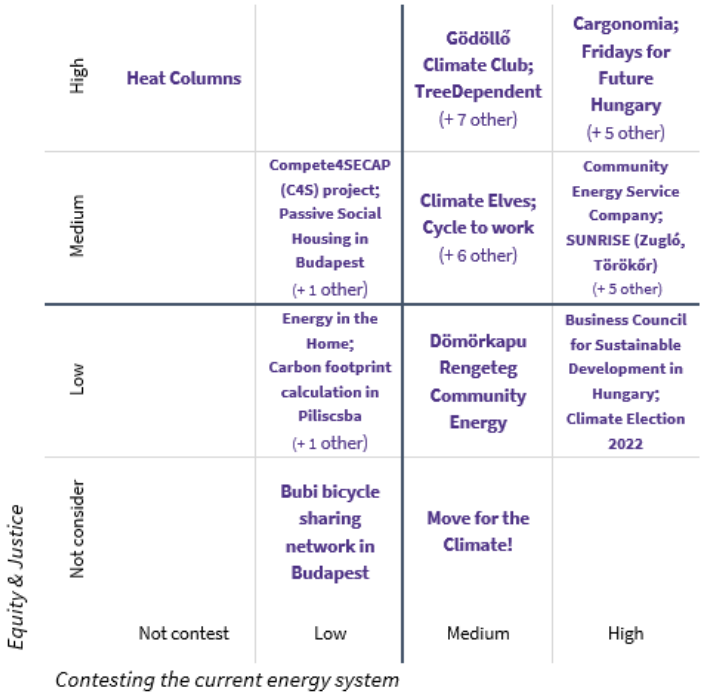
Equity and justice & Contesting the current energy system

A total of 43 cases can be placed on the graph in terms of responses to the question about equity and justice *and* contesting the current energy system. We can clearly see again that the "medium"-"high" quadrant for both aspects is the most populated one (31 cases). Within this group, the cases are almost evenly distributed in the four sub-categories.





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Citizen power/control & Contesting the current energy system

If the two variables that are compared are citizen power *and* contesting the energy system, it is visible that the same patterns appear again. With a total of 43 cases having appropriate data for this analysis (i.e. are not defined by the "other" or "no information" categories), the most crowded group is the "medium"-"high" one in both regards (28 cases). It is interesting to observe that within this group 24 cases are equally classified into the "high"-"high" and the "medium"-"medium" categories (i.e. 12 cases each).

Citizen power/control	Not contest	Low	Medium	High
High			3	12
Medium	2	1	12	1
Low		3	2	1
Not consider				

Contesting the current energy system

Citizen power/control	Not contest	Low	Medium	High
High			Zsuzsanna Hojtsy-Keresztény; Biobriquettes for the energy poor (+ 1 other)	SUNRISE (Zugló, Törökőr); Anti-nuclear protests in Hungary (+ 10 other)
Medium	Pedibus Gödöllő; Heat Columns	Bubi bicycle sharing network in Budapest	Szekszárd Climate Circle; Women in Energy (WONY) (+ 10 other)	Solar Decathlon Europe 2019
Low		Carbon footprint calculation in Piliscsaba; RenoHUb (+ 1 other)	Carbon House Climate Elves	Community wind turbine in Vép
Not consider				

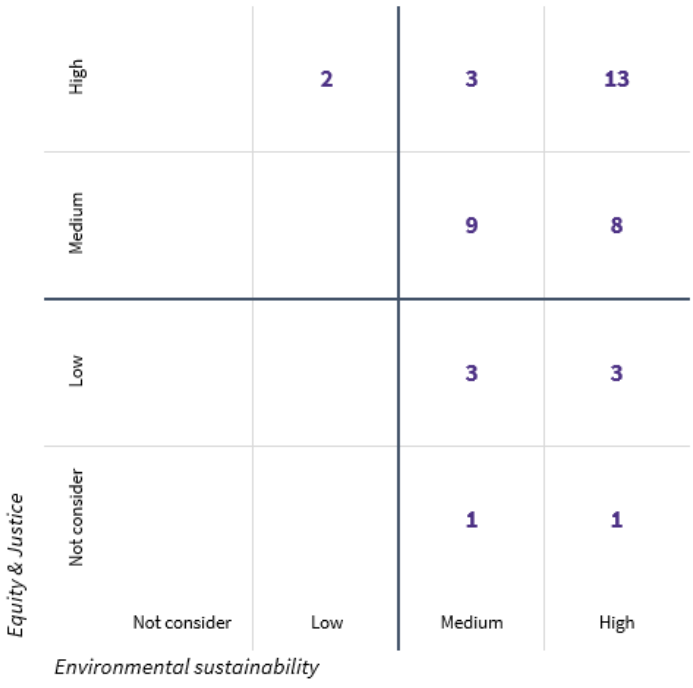
Contesting the current energy system

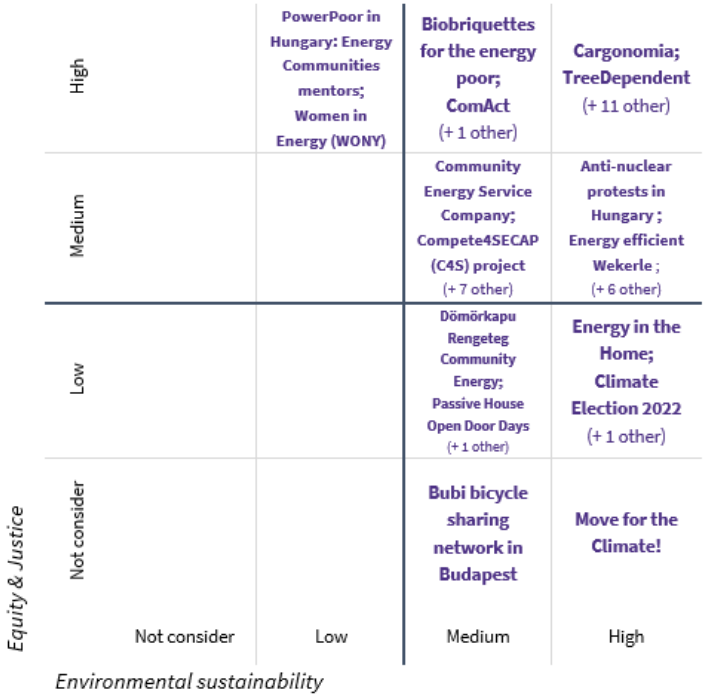
This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 727642.

Equity and justice & Environmental sustainability

In this section, and the sections below, we investigate how the variables we looked at in comparison with contesting the energy system are related to one another.

First, we compared equity and justice and environmental sustainability, and located the 43 cases with appropriate data on the graph. Here again, we can see the same pattern that was observed in the Hungarian cases: the “medium”-“high” or top-right quadrant of the graph is the most populated one. Of the 33 cases classified here, 13 are positioned in the “high”-“high” category, among them cases that adopt a more holistic approach, such as Cargonomia and TreeDependent.





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Equity and justice & Carbon limits

If environmental sustainability is replaced by carbon limits as the second variable in the comparison with equity and justice, the distribution of cases across the four quadrants of the graph becomes more varied. Of the 43 cases that could be analysed regarding these two aspects, considering equity and justice most of the cases are located in the top two quadrants of the coordinate system where equity and justice are defined as “medium”-“high”. However, the distribution is much more mixed when we look at whether cases recognize the carbon limit, with an almost equal number of cases positioned in the “medium”-“high” (18 cases) and in the “no recognition”-“low” quadrants (17).

Equity & Justice	No recognition	Low	Medium	High
High	1	8	4	5
Medium	5	3	3	6
Low	1		2	3
Not consider		1		1

Carbon limit

Equity & Justice	No recognition	Low	Medium	High
High	Biobriquettes for the energy poor	Cyclonomia; Sustainability and community in a Baranya village (+ 6 other)	Nagypáli, the renewable energy village; Veronika Kiss (+ 2 other)	Energy-Neighbourhoods; Citizens' Assembly on Climate in Budapest (+ 3 other)
Medium	Light bringers; Energy Community in the Kazán Közösségi Ház (+ 3 other)	SUNRISE (Zugló, Törökőr); Energy efficient Wekerle (+ 1 other)	Compete4SECAP (C4S) project; Cycle to work (+ 1 other)	Carbon House; Sustainable Energy and Climate Action Plan Erzsébetváros (+ 4 other)
Low	Dömörkapu Rengeteg Community Energy		Business Council for Sustainable Development in Hungary; Passive House Open Door Days	Carbon footprint calculation in Piliscsba; Energy in the Home (+ 1 other)
Not consider		Bubi bicycle sharing network in Budapest		Move for the Climate!

Carbon limit

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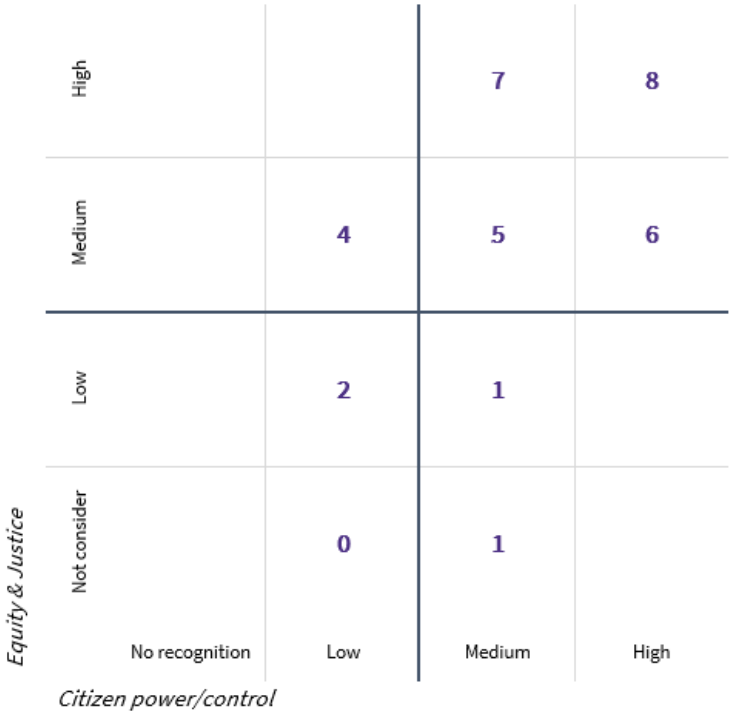
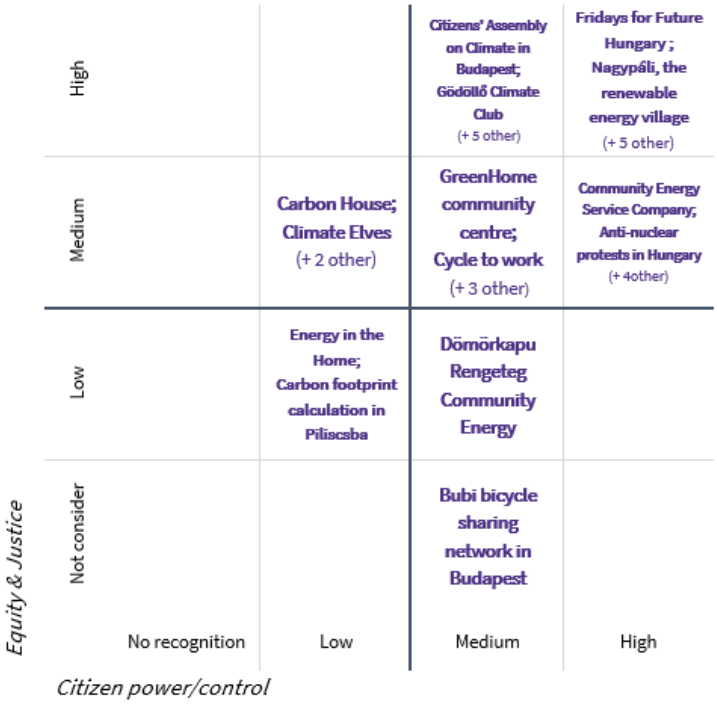
Equity and justice & Citizen power/control

The distribution of cases across the coordinate system is less diverse if equity and justice and citizen power/control are the two variables on the two axes. The most populated quadrant is the "medium"-"high" one from the point of view of both aspects. Cases are distributed rather equally. In this analysis, 37 cases out of the 56 could be considered for classification (i.e. were associated with relevant data).





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Environmental sustainability & Carbon limits

Finally, if we compare the two green aspects, environmental sustainability and carbon limits, which we would assume show very strong convergence (as referred to above), some diversity is still identifiable. The majority of cases – 30 out of the 53 that could be classified here – are located in the "medium"-"high" category regarding both aspects – i.e. in the top-right quadrant of the coordinate system, with 17 cases in the "high"-"high" sub-quadrant. These 17 cases are the ones where environmental sustainability clearly includes an explicit recognition of carbon limits with defined reduction targets.

The second most populated quadrant is the one where environmental sustainability remains "medium"-"high", while from the point of view of recognising the carbon limit, cases are categorised as no or low recognition, with 21 cases in this group.

Environmental sustainability	No recognition	Low	Medium	High
High	1	9	6	17
Medium	7	4	5	2
Low		2		
Not consider				

Carbon limit

Environmental sustainability	No recognition	Low	Medium	High
High	Anti-nuclear protests in Hungary	E.ON Energy Globe Hungary Award; Fruzsina Józsa (+ 7 other)	TreeDependent; Zsuzsanna Hojtsy-Keresztény (+ 4 other)	Extinction Rebellion Hungary; Dr István Dőry (+ 15 other)
Medium	Community Energy Programme of FoE Hungary; Light bringers (+ 5 other)	Bubi bicycle sharing network in Budapest; SUNRISE (Zugló, Törökőr) (+ 2 other)	Passive House Open Door Days; Social Solar Powerplant (+ 3 other)	Carbon footprint calculation in Piliscsba; RenoHUb
Low		PowerPoor in Hungary: Energy Communities mentors Women in Energy (WONY)		
Not consider				

Carbon limit

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Brief summary

As the EnergyPROSPECTS team defined energy citizenship as "*forms of civic involvement that pertain to the development of a more sustainable and democratic energy system. Beyond its manifest forms, ENCI also comprises various latent forms: it is an ideal that can be lived up to and realised to varying degrees, according to different framework conditions and states of empowerment"* (Pel et al., 2021:64), it is of specific interest to the research team to study how cases of ENCI contest current energy systems, and whether the forms of contestation that are observed indeed help move society towards creating a more sustainable and democratic energy system. In Chapter 4.10 we undertook the first steps in the analysis to be able to respond to this question, and looked at different variables corresponding to different aspects of sustainability to obtain a preliminary overview and inform future analysis in the project.

The analysis that was conducted clearly shows that environmental sustainability is a major concern for the selected Hungarian cases, and the latter cases strongly correspond with those that also contest the current energy system. What requires more research, however, is the situation with the evaluation of the ecological limit of atmospheric carbon emissions, as although it could be argued that the latter is an important aspect of environmental sustainability, our investigation showed that this factor is differently correlated with contesting the energy system, at least for the Hungarian ENCIs. As the data pool is rather small, this issue will be investigated in more detail for the whole database consisting of 596 cases.

There is also a high level of correspondence between cases that are classified as "medium" or "high" in terms of citizen power/control and equity/justice, and "medium" and "high" for contesting the current energy system.

We also started investigating the relationship between the various variables, both within (i.e. looking at environmental sustainability vs. recognizing the carbon limit, and citizen power/control vs. equity/justice), and across aspects of sustainability. However, at this very early stage the most important conclusion that can be drawn is that these relationships need to be studied further, both through looking at the cases themselves in more detail and through the analysis of the full database.

Finally, it is interesting to note that there are two Hungarian cases that were classified as "high" regarding all of the aspects investigated in this chapter. They are both transformative social movements: Fridays for Future Hungary, and Extinction Rebellion Hungary. If this group is widened to include all cases that were classified as either "medium" or "high" for all aspects, there are

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altogether 12 cases. It is noteworthy that all of these are collective cases, and 10 of them have a more holistic focus.

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Annex: List of the Hungarian cases

Title of the case in English *(original)*	**Brief overview**	**Webpage / Facebook**
Ada Ámon - Women in Energy EUSEW award winner *(Ámon Ada - EUSEW díj győztese Women in Energy kategóriában)*	Ada Ámon, an energy and climate policy expert, was one of the winners of the European Sustainable Energy Award for Women in Energy in 2020. She founded the influential clean energy think tank EnergiaKlub and has been working as a senior expert at E3G and other energy and environmental organisations. Through her latest role as Chief Advisor to the Mayor of Budapest on Climate Affairs and head of the city's newly established climate department, she is now changing the lives of communities in Budapest. Her progressive programme of renovating urban buildings to lower their energy consumption will not only reduce greenhouse gas emissions, but also save energy and lower costs for residents, as well as reduce air pollution in the city.	-
Anti-nuclear protests in Hungary *(Atomenergia ellenes tüntetések Magyarországon)*	Hungary's anti-nuclear protests and related activities in recent years have mainly been linked to Greenpeace. The activities started in 2003 in relation to the extension of the reactors' lifetime, and picked up in 2009 after the decision to expand the plant was taken. Greenpeace activists protested against nuclear power in various creative ways, such as turning a roundabout into a nuclear sign, symbolically walling up the national nuclear power office, and also by organising a photo exhibition, holding a public demonstration, and of course offering an alternative solution by encouraging renewables.	greenpeace.org/hungary/cselekedj/paks-ii-helyett-megujulokat/; facebook.com/greenpeace.hu/
Biobriquettes for the energy poor *(Biobrikett az energiaszegénységben élőknek)*	The Biomass briquettes programme was established in a disadvantaged region of Hungary where the unemployment rate is higher than the national average and many people live below the poverty line. The target area is Told, a Roma village, the residents of which, as a socially marginalised group in Hungary, have even less access to combustible materials for heating. The project was developed within the framework of the Real Pearl Foundation and Art School with the aim of hand-making biomass briquette, a cheap, environmentally friendly fuel. The project contributes to creating new jobs and strengthening the community, reducing the heating costs of families involved, and saving local forests from being illegally cut down.	igazgyongyalapitvany.hu; facebook.com/igazgyongyalapitvany.hu
Bubi bicycle sharing network in Budapest *(MOL Bubi)*	MOL Bubi is a public transport service by BKK that represents a quick and eco-friendly urban transport option with 24/7 availability. MOL Bubi offers a fast, efficient and sustainable mobility alternative in Budapest. It has become an integral part of city transport in the past few years, and can also be easily combined with other modes of public transport. There are 158 stations at citywide locations and 1,560 bikes awaiting users who can access the public bike-sharing service with a mobile app.	molbubi.hu; facebook.com/molbubi

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Title of the case in English *(original)*	**Brief overview**	**Webpage / Facebook**
Business Council for Sustainable Development in Hungary: carbon footprint compensation through planting native fruit trees *(Magyarországi Üzleti Tanács a Fenntartható Fejlődésért (BCSDH): karbonlábnyom-kompenzáció őshonos gyümölcsfák ültetésével)*	One focus of BCSDH's programme is climate change itself, and how companies are dealing with it. In addition to its many activities in support of environmental sustainability, the organisation has been working with the GreenDependent Institute for many years to reduce and offset the carbon footprint of its events. To do this, at BCSDH events only local and seasonal food is offered, exactly the amount of food that is needed is ordered. Food waste is minimised in consultation with the catering company, and if there is leftover food it is distributed to those in need through the Budapest Bike Maffia. Further, GreenDependent Institute regularly calculates the carbon footprint of their events, which they compensate by planting native fruit trees in Hungarian school gardens.	bcsdh.hu; facebook.com/BCSDHungary
Carbon footprint calculation in Piliscsaba *(Karbon-lábnyom számítás Piliscsabán)*	GreenDependent Institution, in cooperation with the Piliscsaba-Garancstető Association, calculated the yearly carbon footprints of 21 households during 2020 spring. The project was actually part of a tripartite collaboration sponsored by Daikin. Although this was only a pilot project, it created an important message: components of households' carbon footprints are different, so unique solutions are needed for their efficient decrease. The components of a household's carbon footprint consist of six main categories, of which household energy consumption is usually responsible for the largest part. At the end of the program, to present and discuss the results and footprint reduction opportunities, GreenDependent organized a small event with the community of Garancstető, which was combined with a community tree planting initiative.	garancsteto.hu/faultetessel-kozossegert-es-klimavalsag-ellen
Carbon House *(Karbonház)*	Carbon house exhibition "How big is your footprint?" at the National Botanical Garden. The exhibition aims to raise awareness about environmental constraints. The transfer of messages is supported by the passive house construction of the Carbon house of 400 m2 in size. A separable conference area is provided on the first floor for a maximum of 80 participants. Forty photovoltaic panels ensure the production of electricity required each year for the operation of the building. Renewable energies, geothermal, biomass and solar are used in other facilities of the botanical garden and the buildings of the municipality where the garden is located.	geoterm-vacratot.hu
Cargonomia *(Cargonomia)*	Cargonomia is the formalisation of a pre-existing collaboration between three socially and environmentally conscious small enterprises operating in or near Budapest. Partners within the project include the Cyclonomia Do it Yourself Bicycle Social Cooperative, Zsamboki Biokert, an organic vegetable farm and sustainable agriculture community education center which distributes weekly vegetable boxes to food communities in Budapest, and Kantaa, a self-organised bike messenger and delivery company. Cargonomia and its partner's activities aim to display how environmentally friendly and equity-based partnerships can create sustainable and meaningful community empowerment opportunities which offer concrete alternatives to standard profit-driven social and economic systems.	cargonomia.hu; www.facebook.com/cargonomia

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Title of the case in English *(original)*	**Brief overview**	**Webpage / Facebook**
Citizens' Assembly on Climate in Budapest *(Budapesti Közösségi Gyűlés 2020)*	The first Citizens' Assembly in Budapest, initiated by the City Council. The Assembly was facilitated by a professional NGO and climate experts. Fifty randomly selected citizens participated, who after two weekends of facilitated discussions and deliberative processes came up with a priority list. The list serves as a basis for updating the Climate Strategy of Budapest City Council.	-
Climate Election 2022 *(Klímaválasztás 2022)*	A consortium of NGOs that promotes commitment to and the signing of a 7-point green agenda by candidates who are running for the parliamentary election this year.	klimavalasztas2022.hu
Climate Elves *(Klímanócskák)*	The Climate Elves program is a holistic program series for children from 3-11 years old, primarily for children but also for their parents. It involves various programs from climate topics, extreme weather conditions, to waste and water management and personal resilience, from a few-hour-long indoor workshops and events to outdoor adventure programs and a week-long camp.	facebook.com/Kl%C3%ADman%C3%B3csk%C3%A1k-180063005783600/
Climate Star *(Klímasztár)*	Since 2002, the Climate Alliance has been recognising excellent projects carried out by Climate Alliance municipalities and their municipal networks from across Europe with the Climate Star award. The Climate Star honours the commitment and achievements of European towns, cities and regions in the fields of sustainable energy, mobility, consumption, urban and regional development and citizen involvement. In Hungary the Award has been open since 2011.	eghajlatvedelmiszovetseg.hu/index.php/klimasztar-2013
ComAct: Community tailored actions for energy poverty mitigation in Hungary *(Energiaszegénység enyhítése közösségekre szabott intézkedésekkel)*	The ComAct pilot project in Hungary aims to encourage the renovation of 2-3 multi-family apartment buildings in District 3 which may directly benefit 100-200 residents and serve as a model for various housing communities. The Metropolitan Research Institute, the pilot coordinator for Hungary, supports energy-efficient improvements which are affordable and manageable for energy-poor communities and creates the necessary assistance conditions for lifting them out of energy poverty. Thus, social, financial and technical issues are taken into consideration at the same time to promote a just energy transition.	comact-project.eu/hungary; facebook.com/ComActProject
Community biomass heating plant in Pornóapáti *(Közösségi fűtőmű Pornóapátiban)*	A new community biosolar heating plant was built in Pornóapáti in 2005, the first of smaller Hungarian municipalities to do this. The investment was inspired by the village heating plants that have been operating in Austria for several years to the satisfaction of citizens. The development was motivated by the environmental benefits of renewable energy sources and the possibility of energy self-sufficiency. The support and cooperation of locals was also an important factor in the realisation of the project.	pornoapatitavho.hu

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Title of the case in English *(original)*	**Brief overview**	**Webpage / Facebook**
Community Energy Programme of FoE Hungary *(MTVSZ Közösségi Energia programja)*	The mission of Friends of the Earth Hungary (FoE), comprised of over 100 Hungarian member groups, is the comprehensive protection of nature, as well as the promotion of sustainable development. The Community Energy Programme of FoE is focused on creating a more favourable legislative environment for community Renewable Energy Sources (RES) projects and building up a cross-national and national community power coalition. Additionally, public campaigns have been organised in five Hungarian regions to facilitate the birth of more community energy initiatives and projects. This programme has given risen to the Community Energy Service Company, which supports the creation of energy co-operatives and the implementation of pilot projects.	mtvsz.hu/kozossegi-energia; facebook.com/mtvsz
Community Energy Service Company *(Közösségi Energia Szolgáltató (KESZ))*	Friends of Earth Hungary (FoE), the Solidarity Economy Centre, and the Gólya community house and bar joined forces to create the Community Energy Service Company in 2021. The objective is to develop a decentralized renewable energy generation model owned by local communities or solidarity economy enterprises. Under the programme community energy projects will be implemented in 7 locations. The first location will be the Kazán Community House, home to the Gólya Presszó. This project is a continuation of FoE's community energy programme that has been running since 2013.	mtvsz.hu/kozossegi-energia; szolidarisgazdasagkozpont.hu; facebook.com/kozossegienergia/
Community wind turbine in Vép *(Közösségi szélerőmű Vépen)*	In Vép, Hungary's first community wind turbine project was initiated. A few enthusiastic people (some of them locals) came up with the idea of investing in a wind turbine in Vép, a village near the Austrian border. The investors' aim was not to make profit for themselves but to create value for the village, enhance its economic potential, and do good to the community of inhabitants. They handed over 20% of the ownership to the local municipality and created the possibility for locals to become co-owners. The original investors only wanted to keep 35% of ownership. Unfortunately, current legislation has prevented further development of the wind farm, but the current single turbine will certainly be in operation until 2030.	-

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Title of the case in English *(original)*	**Brief overview**	**Webpage / Facebook**
Compete4SECAP (C4S) project (H2020) *(Fenntartható Fenntartó (C4S) projekt (H2020))*	The case is an international (H2020) project of GreenDependent Institute (GDI) by which GDI helped 4 Hungarian municipalities/local authorities to address mitigation and adaptation issues related mainly to climate change, but also other sustainability areas, such as energy poverty, energy democracy, and active energy citizenship. Within the C4S project GDI, together with the participating municipalities, accomplished tasks related to three main activity areas: 1) Development of a SECAP - Sustainable Energy and Climate Action Plan (based on a pre-existing SEAP) with the active involvement of local stakeholders and citizens. 2) Development of an energy management system for several municipal buildings based on the ISO 50001 standard and initiation of training events for the public employees working in those buildings. 3) Organisation of a 1-year-long energy-saving competition for municipal employees and thus also raising their attention to other sustainability, energy-citizenship-related issues.	compete4secap.eu
Cycle to work *(Bringázz a munkába)*	An awareness-raising and motivation campaign to promote cycling to workplaces, as many individuals cycle for leisure, but not for everyday transport. The campaign provides a lot of information on cycling for individuals, on cycling generally, and also involves a championship and gives awards for best visibility and cycled kilometres. Individuals can register and count how many times and how many kilometres they have biked. Every year the campaign has a launch event called the 'bike breakfast' at which local shops provide bakery products and drinks for bikers at important squares in the city.	bringazzamunkaba.hu; facebook.com/bringazzamunkaba
Cyclonomia *(Cyclonomia)*	Cyclonomia is a collective community workshop at which participants can help each other to repair their bikes, build new bikes, learn to ride a tall bike, or a cargo bike. Their main goal is to promote urban cycling, tool usage, and the use of cargo bikes. Cyclonomia opened its doors in Budapest on June 15, 2013. Since then, they have been invited to a number of cycling awareness-raising events, as well as several university and other workshops.	cyclonomia.org; facebook.com/Cyclonomia
Dömörkapu Rengeteg Community Energy *(Közösségi Energia Dömörkapu Rengetegben)*	Dömörkapu Rengeteg is a tourist buffet and forest community space not far from Szentendre (or Budapest), in the Pilis forest. A team (mostly volunteers) has been working for two years on the step by step renewal of the place, and are now planning to switch to renewable energy production, which they want to implement as an energy community with collective funding. The visitor and supporting community will receive vouchers in return for their investment, which they can exchange there later (during programmes or at the planned cycling point). The project was inspired by FoE Hungary's call on the theme of sustainable resource management (Életigenlő társadalmat és gazdaságot!). As a community energy initiative it is now part of FoE Hungary's other programme that focuses on this exact issue.	mtvsz.hu/kozossegi-energia; facebook.com/domorkapurengeteg

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Title of the case in English *(original)*	**Brief overview**	**Webpage / Facebook**
Dr István Dőry *(Dr. Dőry István)*	Dr István Dőry is a physicist and currently a lecturer at EDUTUS University. More than 10 years ago, he and his wife moved from the capital to Egyházasfalu, a small village in the western region of the country. They deliberately chose a place where there are no major roads but good train transport - and where they can live a sustainable lifestyle. István has been involved as a climate coordinator (i.e. community organiser and leader) for 6 seasons in the EnergyCommunities programme (a residential energy-saving programme) organised by GreenDependent. He is also the creator and builder of the SunSnail (NapCsiga), which works as an independent solar-energy vehicle, meaning that it uses only the electricity that the mounted solar panels produce. SunSnail is capable of transporting 1-2 people and a 300-400 kg load and its designed cruising speed is 25 km/h.	facebook.com/NapCsiga
E.ON Energy Globe Hungary Award *(E.ON Energy Globe Magyarország Díj)*	The aim of the Energy Globe Hungary award is to recognize the most outstanding Hungarian sustainability initiatives and to contribute to the promotion of sustainable, smart solutions and environmental awareness – those that prove that action can and should be taken today for a sustainable, liveable tomorrow. The overall winner of the award will go through to the international finals, which are considered to be the "Oscars" of the energy world. Entries are judged by recognised experts in the fields of energy, climate change, and innovation. There are always various categories for entries: in 2020 (the last round of the award process) these entry categories were "enterprises", "municipalities", "future generations", "buildings", "initiatives by individuals" and "innovative idea".	eon.hu/hu/energy-globe
Energy Community in the Kazán Közösségi Ház (Kazán Community House) *(Közösségi Energia a Kazán Közösségi Házban)*	The Community Energy Service, established in 2021, will deliver community energy investments in 7 locations. The first pilot site is Kazán Community House, home of Gólya Presszó, Solidarity Economic Center (founders of Community Energy Service) and other NGOs and communities. The plan is to install around 200 square metres of solar panels on the roof of the building, which will provide the community centre with a full supply of renewable energy. The project will be partly funded by a national grant, partly by a loan, and partly by a crowdfunding campaign.	golyapresszo.hu; www.facebook.com/kozossegienergia; www.facebook.com/kazankozosseg
Energy efficient Wekerle *(Energiahatékony Wekerle)*	Energy Efficient Wekerle is a bottom-up initiative which is trying to improve energy efficiency in a 100-year-old neighbourhood of Budapest. There are several different programmes under this initiative, such as the 'Wekerle Energy Brigade', which offers one-off training sessions to participants so they can learn DIY insulation techniques and then the opportunity to rent the necessary equipment. Another service is the rental of a thermal imaging camera, whose use is demonstrated at community events to show when and how to use these devices. They regularly organise events in a local café that was opened by a member of the community. The initiative is now linked to Transition Wekerle.	www.wekerletelep.hu; www.facebook.com/Energiahat%C3%A9kony-Wekerle-264905010193993

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Title of the case in English *(original)*	**Brief overview**	**Webpage / Facebook**
Energy in the Home *(Otthonosenergia)*	Information and awareness-raising campaign about energy savings and building energy-efficiency in cooperation with a Budapest district and NGO. Besides online and offline information materials, there have been online and face-to-face info days, and citizens could ask for energy audit and a thermal camera recording.	-
EnergyNeighbourhoods *(EnergiaKözösségek)*	"Energy Neighbourhoods" is a residential energy saving programme for small groups of 5-10 households (families, friends, colleagues, etc.) who compete to save the largest amount of energy only through changing their behaviour and everyday consumption patterns. Each group is supported by a volunteer adult coordinator, a so-called "Energy Master", who supports the activities of the groups, organises meetings, and motivates members. The small groups, or EnergyNeighbourhoods are also supported by GreenDependent Institute who provides them with professional advice, brochures, saving tips, and training for coordinators to more efficiently reduce consumption.	energiakozossegek.hu; www.facebook.com/EnergiaKozossegek
Extinction Rebellion Hungary *(Extinction Rebellion Magyarország)*	Extinction Rebellion Hungary is part of an international decentralised movement – Extinction Rebellion, founded in the UK. The Hungarian group is politically non-partisan and uses non-violent direct action and civil disobedience to persuade the Hungarian government to act justly in relation to the Climate and Ecological Emergency.	facebook.com/xrhungary
Fridays for Future Hungary *(Fridays for Future Magyarország)*	A group of Hungarian youth involved in the Fridays for Future movement, a youth-led and -organised movement that began in August 2018 after 15-year-old Greta Thunberg and other young activists sat in front of the Swedish parliament every school day for three weeks to protest against the lack of action on the climate crisis. The group demands the introduction of a climate emergency, change on all levels, in all sectors, and staying below the 1.5 degrees C target.	fridaysforfuture.hu
Fruzsina Józsa *(Józsa Fruzsina)*	Fruzsina Józsa is a self-taught expert in the area of natural and traditional buildings. She supports citizens to construct and renovate homes in a way which has a small ecological footprint and is also cost-effective. Her consultancy services, renovation planning, help with construction, open farm days, training and workshops enable citizens to create their own homes from natural and reused materials. In this way the pollution involved in production and of transportation as well as waste and cost can considerably be reduced. Moreover, since these houses are located in the countryside, another aim is to enliven depopulated rural areas and sustain organic building traditions.	facebook.com/sarmives

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Title of the case in English *(original)*	**Brief overview**	**Webpage / Facebook**
Gabriella Révész, eco- architect and activist *(Révész Gabriella, ökoépítész és aktivista)*	In her own definition, a "mother of three happy children, cyclist, recyclist, zero waste activist, idealist, small town gardener, community engine", Gabriella is an eco-architect who focuses on environmentally sound ways of building, especially straw-bale and adobe houses. She is a founder and the president of the Hungarian Strawbuilders Association, built her own house with her husband and many friends, and has opened her house to experts and lay people who are interested in straw bale houses and organises workshops there. Moroever, she is an active member of several local civil organisations and groups in Gödöllő, Hungary, a cyclist group and an "eco picnic" group; she also organises film screenings on sustainability-related issues, and is an active zero-waste activist. She is also a member of the local organic food box system (CSA).	korepitok.hu/reveszgabriella; facebook.com/gabriella.revesz.52
Gödöllő Climate Club *(Gödöllői klíma-klub)*	The Gödöllő Climate Club is a small, voluntary, grassroots group initiated in 2009 by GreenDependent Association in the town of Gödöllő in Central Hungary, with the primary goal of reducing the carbon footprint of its members and creating a supportive group for change. The club was initiated as a pilot project within a European Union FP7 research project called Changing Behaviour which investigated how to induce long-term behaviour change related to energy use. The pilot project proved to be successful as the club has been meeting ever since, attracting an increasing number of people.	klimaklub.greendependent.org; facebook.com/Godolloiklimaklub
Green Walk *(Green Walk)*	Green Walk is part of the World Green Building Week, a campaign to accelerate sustainable buildings for everyone. Organised visits to otherwise closed buildings and houses to learn about resilient net zero built environment. The walks are organised for architects and citizens and are led by experts to teach about technology.	-
GreenHome demonstration, training and community centre *(ZöldLak Bemutatóközpont)*	GreenHome is a renovated house that was turned into community centre to demonstrate that old buildings can be turned into energy efficient ones using renewable energy. The house at the moment provides training on different topics such as green energy, zero waste life, woman circle, entrepreneurship skills training, and serves as an event space.	facebook.com/ZoldLak
Gyöngyvér Kazinczy - being free of(f) the grid *(Kazinczy Gyöngyvér - hálózatfüggelteln életmód)*	This case involves an architect, Gyöngyvér Kazinczy, and the house she built (renovated) for her family, and the lifestyle they lead off the grid. Gyöngyvér also writes about their experience, shares advice as well as organizes events that people can visit to learn both about their house and lifestyle in the country, in the Balaton Uplands in Hungary.	energiatudatoshaz.hu/; hetkenyervendeghaz.hu/; facebook.com/gyongyver.kazinczy

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Heat Columns *(Hőoszlop - szociális kályhacsere-program)*	In the winter of 2021-2022, in the settlement of Ág in Baranya county, Habitat for Humanity Hungary built five Heat Columns, which since then have provided a reliable heat source for the homes of families in need. The installation of a heat column significantly improves the quality of life of families: in addition to using less firewood and reducing air pollution, the families no longer have to get up at night to "feed" their stoves. Habitat plans to build additional Heat Columns nationwide as part of a social stove replacement program for energy-poor households, and to introduce the model to professionals in the Central and Eastern European region.	-
Light bringers *(Fényhozók)*	For hundreds of thousands of poor households, accessing electricity is a big problem and they are often cut off from the grid as they are unable to pay their bills and fines. Roma students, with the mentorship of an organisation, developed a cheap form of access to electricity that uses a solar-charged panel that is easy to install and covers the demand for lighting for 5-6 hours and the charging of one mobile phone. With crowdfunding they installed this for 40 families in one village and a few others have taken over the innovation.	facebook.com/fenyhozok http://kozos-dolgaink.hu/fenyhozok
Move for the Climate! *(Mozdulj a klímáért!)*	This is a campaign for schools, teachers, and students. The campaign is a competition-based one that involves collecting climate miles while going to school in a sustainable way, having non-meat or local food days, and engaging in climate action in groups or planting trees. Besides this, there are always compulsory campaign elements connected to other activities and themes (biodiversity, chemical-free food, clean water, renewable energy) and optional ones as well. The number of climate miles that are collected are calculated every year and added up on the global level as well.	-
Nagypáli, the renewable energy village *(Nagypáli megújuló energiás települése)*	The Green Road Village Development Program started in 1997 in Nagypáli, the main goal of which was to develop the village into a European-standard, self-sustaining settlement, preserving the traditions of the villages of the Göcsej region in Western Hungary. The directions of the development were determined from the start: the use of renewable energy sources, development of tourism, building a community, environmental protection and environmental awareness, and the production of local products. In two decades, a sustainable, liveable, and well-functioning settlement has been established with all kinds of renewable energy use: a biosolar heating plant, solar collectors and solar panel farms (with very minimal municipal overhead costs), e-mobility (bikes and cars) powered by solar panels, energy plantations, etc. The latest plans include building a biogas plant and turning an old water tower into a lookout tower with a wind turbine that will also generate electricity. In 2007 they opened the Renewable Energy Innovation Eco Centre, which serves as a promotional centre, where they organise temporary exhibitions, conferences, lectures and workshops, the main topics of which are the use and implementation of biomass, biogas, solar and wind energy, and energy plantations.	nagypali.hu

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Partnership for New Energy Leadership 2050 *(Partnership for New Energy Leadership 2050)*	The PANEL 2050 project aims to create durable and replicable sustainable energy networks at a local (municipality/community) level, where relevant local stakeholders collaborate to create local energy visions, strategies, road mapping and action plans for the transition towards low-carbon communities in 2050. The project consists of stakeholder mapping, capacity building, and vision setting for a certain region in each country in which the project is active.	ceesen.org/en
Passive House Open Door Days *(Passzívház Nyílt Napok)*	A popular and successful form of event by MAPASZ (the Hungarian Passive House Association) is the annual passive house open door days (coinciding with the international Passive House Open Door Days) during which anyone who is interested is invited to visit energy efficient, low-energy buildings, both private as well as public ones. The organizers organize visits, including travelling around the country, to several buildings in buses.	phm.hu
Passive Social Housing in Budapest *(Szociáls passzív házak Budapesten)*	One of the district governments of Budapest (District 13) implemented an exemplary unique initiative. A multi-flat building with 100 flats was built by April 2014 which flats are now rented out on a social basis, while they remain the property of the municipality. People who move into the flats receive training on how to use the flats - as the building is a certified passive house -, and on energy saving. Following upon the success of the first social building, the municipality built a second passive house in 2018 with 23 flats, and several others followed. The latest official handover of a passive social house with 35 flats was in January 2022. According to a decision of the district municipality only social housing that adheres to passive house standards has been constructed since 2014.	budapest13.hu/?s=passz%C3%ADv;
Pedibus Gödöllő *(Lábbusz Gödöllő)*	With Pedibus, children can walk to school in an organized setting accompanied by registered local volunteers. There is a map with pre-defined routes, with "stops" (meeting points) and a timetable. One of the main goals is to minimise car usage associated with taking kids to school.	facebook.com/pedibuszgodollo
PowerPoor in Hungary: Energy Communities mentors *(PowerPoor: Energiaszegénységi Támogatók)*	The main aim of PowerPoor is to support programmes/schemes for energy-poor citizens and encourage the use of alternative financing schemes (e.g. establishing energy communities / cooperatives, and crowd funding). PowerPoor facilitates experience and knowledge sharing, as well as the implementation of small-scale energy efficiency interventions and the installation of renewable energy sources, increasing the active participation of citizens.	powerpoor.eu/about/locations/hungary; facebook.com/PowerpoorEU
RenoHUb *(RenoHUb)*	A one-stop-shop model adopted in Hungary to facilitate and support energy efficient renovations of flats and houses. The consortium builds up researchers and an expert pool, an online platform, and, so far, three offices that offer direct consultation with citizens.	renopont.hu; facebook.com/RenoHUb.projekt

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Social Solar Powerplant *(Szociális Naperőmű)*	The project aims at providing at least one heated (bed)room for socially severely disadvantaged households in Tiszabő (Eastern Hungary) where there is at least one child under the age of 3. As the families do not have enough money to renovate their houses, instead of getting the so-called "social timber" donation provided by the local municipalities, the households receive electricity generated from a locally installed Social Solar Powerplant donated by E.ON Hungary and the Hungarian Order of Malta. Furthermore, the households get electric heaters to place in bedrooms where the small child(ren) sleep.	szocialisnaperomu.hu
Solar Decathlon Europe 2019 *(Solar Decathlon Europe 2019 Szentendre Magyarország)*	By now the Solar Decathlon has become the world's most significant architectural innovation competition organized between universities. Initiated by the Department of Energy (DoE) of the US Government, the first Solar Decathlon competition was held in Washington in 2002. The basic goal of the initiative is to foster the cooperation of university researchers and developers with industrial partners and sponsors, building on the creativity and innovative abilities of young people, and to design the type of innovative and energy efficient houses that may be showcase homes for demonstrating sustainability based on the use of renewable energy and the conscientious use of resources. The competitors not only draw up plans during the competition, but they also construct the selected entries at the venue for the finals (this time in Szentendre in the summer of 2019). Thus, as a result of the competition, a publicly accessible exhibition area called the "Showcase House Park" will be created open to professionals and the general public. (source: sde2019.hu/what_is_solar_decathlon.html)	sde2019.hu/index_en.html
SUNRISE (Zugló, Törökőr) *(SUNRISE (Zugló, Törökőr))*	The main task of the SUNRISE (Sustainable Urban Neighbourhoods Research and Implementation Support in Europe) project in Zuglo's Törökör neighbourhood was to widen and deepen the pre-existing process of participatory planning and to establish sustainable cooperation of local stakeholders for co-assessing and co-planning mobility-related issues. Co-implementing innovative solutions was also part of the main task, using synergies of other developments that involved citizens in the neighbourhood. The regeneration of public spaces in the district was Zuglo's main goal. Also, using Törökör as a pilot neighbourhood for this process could help disseminate innovative methods and tools to other neighbourhoods.	civitas-sunrise.eu/neighbourhoods/budapest-zuglo-toeroekor
Sustainability and community in a Baranya village *(Fenntarthatóság és közösség egy baranyai településen)*	The village of Alsómocsolád in the South-West of Hungary is a small, but exemplary settlement. With its 323 inhabitants, the community is working together to create a self-sustaining, environmentally conscious and solidarity-based economy. Their latest goal is to ensure the energy independence of the settlement in partnership with the Community Energy Service Provider (a joint project of the National Society of Conservationists and the Solidarity Economy Centre).	alsomocsolad.hu; facebook.com/alsomocsolad

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Sustainability Projects of Budaörs (Municipality) *(Budaörs fenntartható projektjei)*	Extract from the Energy Policy of Budaörs (2018): The Local Authority of Budaörs would like to express its commitment towards climate protection and the sustainable development of the city by making responsible decisions in the field of energy efficiency too. Our Local Authority is dedicated to improving its energy efficiency and energy performance of its institutions. The Town has committed itself toward climate protection and sustainable energy management by joining the Covenant of Mayors in 2011 and preparing our Sustainable Energy Action Plan in 2012. In this Plan we pledged to reduce our CO2 emissions by at least 20% by 2020. As this commitment of ours is on a good track and to keep up this positive process we would like to implement a complex energy management system (ISO 50001) at our local authority.	budaors.hu; facebook.com/budaors.hu
Sustainable Energy and Climate Action Plan Erzsébetváros *(Erzsébetváros Fenntartható Energia és Klíma Akcióterve*)	One of the Budapest districts has developed a Sustainable Energy and Climate Action plan. The process is facilitated by the municipality, involving experts and local stakeholders and citizens. As participatory processes are not part of established culture, it is a difficult process.	-
Szekszárd Climate Circle *(Szekszárdi Klímakör)*	The municipality of City of Szekszard runs a Climate Circle that supports the development and the implementation of the cities' climate strategy. The main coordinator is a green NGO that coordinates the program, manages the climate fund, and communicates to citizens. The Climate Circle has ongoing annual programs and five working groups, and a unique climate fund. The working groups develop action plans for the areas of the climate strategy (energy, waste, water, education, transport) and define the priorities for the annual climate fund. The climate fund supports citizens to receive small amounts of money to undertake real climate action.	facebook.com/szekszardiklimakor
TreeDependent *(TreeDependent)*	The TreeDependent programme is about providing support to reduce carbon emissions, as well as calculating and compensating them through the services offered within the 'TreeDependent – responsible events, responsible travel' programme. However, this is not a typical compensation programme as only native fruit trees are planted in the form of fully voluntary compensation, and they are planted in school or non-profit gardens, thereby connecting activities related to different sustainable development objectives. This is a programme run by GreenDependent in Hungary.	treedependent.org; facebook.com/GreenDependent

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Veronika Kiss - responsible travel *(Kiss Veronika - felelős utazás)*	This case is about individuals being responsible for their air travel and to some extent their overseas holidays. On the one hand, making an effort to reduce the need for air travel as much as possible, and on the other making an effort to compensate for it. In this case, Veronika, a Hungarian woman, asked GDI to calculate the carbon footprint of her and her family's travelling, and to plant native fruit trees in order to compensate for it (while not assuming that if air travel is compensated, you can do it as much as you like). For Veronika it was also important that the planting of fruit trees contributes to preserving biodiversity, and that they are planted in school gardens or the gardens of NGOs and thus there are some additional social and ecological benefits.	-
Women in Energy (WONY) *(Women in Energy (WONY))*	Women in Energy, WONY, is a non-profit association founded in Budapest in 2017. Their aim is to increase the proportion of women leaders in the energy sector, not only in Hungary, but also in the CEE Countries. They would also like to support the growing professional community of women in the energy field, to enable women to reach top decision-making positions, and to increase the visibility of women with board mandates.	womeninenergy.eu; facebook.com/womeninenergyszervezet
Zsuzsanna Hojtsy-Keresztény - EnergyNeighbourhoods energy master, local change maker *(Hojtsy-Keresztényi Zsuzsanna - EnergiaKözösségek klíma-koordinátor többször, helyi aktivista)*	Zsuzsanna is a regular participant in GreenDepedent's Energy Neighbourhoods programme as an “energy master”. She also has experience with another Hungarian NGO's community-based, household greening programme, called ÖkoKör (EcoTeam). Based on its methodology, a local eco-club was founded; she was one of the main organisers of the first meeting in 2019. Since then, the informal community has grown into a formal NGO. They want to create a community whose members are willing to address the current ecological crisis and are ready to learn about and apply solutions that help create an ecologically sustainable way of life.	godiokoklub.hu; facebook.com/groups/godiokoklub; facebook.com/kerizsuzsi

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