

Energy Citizenship country profiles



Bulgaria

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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.

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Table of Contents

Introduction and notes on methodology	3
Part 1: Basic information about energy citizenship in Bulgaria: illustrating the diversity of energy citizenship	6
Part 2: Motivation, objectives, actors, operation	9
2.1 Motivation and objectives	9
2.2 Actors initiating and involved in the ENCI cases	11
2.3 Scale of ENCI operations, networks	12
2.4 Sources of funding for ENCI operations	14
Part 3: Placement of Bulgarian cases in the typology	15
Introduction to the EnergyPROSPECTS conceptual typology	15
3.1 Main types of cases according to the typology	17
3.2 Other typology types selected	22
Part 4: Aspects of energy citizenship	24
4.1 More and less active forms of energy citizenship	24
4.2 Private and public forms of energy citizenship	26
4.3 Level of hybridity in the cases of energy citizenship	28
4.4 Citizen power	30
4.5 Justice and equity	32
4.6 Environmental sustainability, recognizing carbon and other ecological limits	34
4.7 Frontrunners, early adopters and laggards	38
4.8 Pragmatic and transformative change	40
4.9 Contesting the current energy system	42
References	44
Annex: List of the Bulgarian cases	45

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, Bulgaria. 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 Bulgaria, 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](#):

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](#)*).

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.

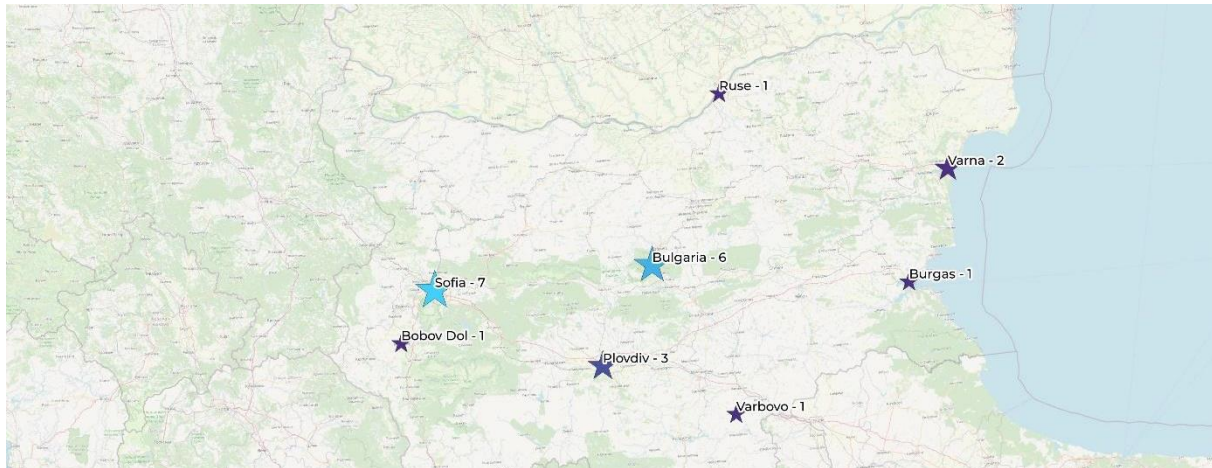
Since providing details about the conceptual and methodological underpinning of the work that is presented here would go beyond the scope of this report, this is not attempted in this document, but details are available in other project documents – primarily, the following:

methodology for ENCI mapping and data collection: [Vadovics et al., 2022](#)

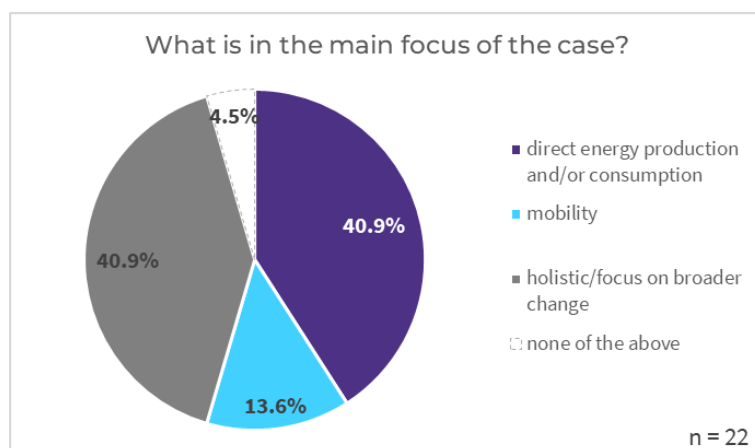
conceptual framework: [Pel et al., 2021](#)

conceptual typology: [Debourdeau et al. \(2021\)](#)

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



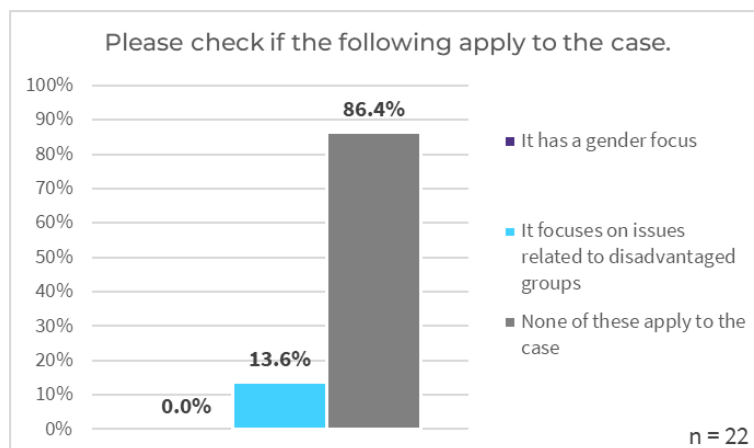
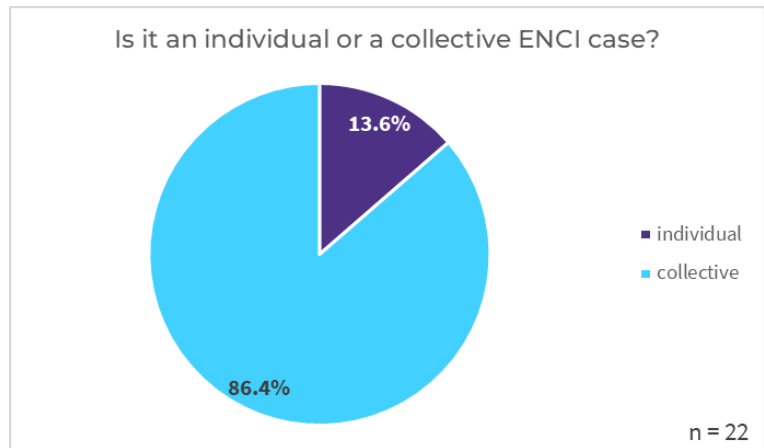
A total of **22 ENCI cases from Bulgaria** have been entered into the database. As stated in the Introduction, the objective of the mapping was not to achieve representativity, but rather to map the diversity of ENCI. Seven of these cases are related to Sofia, the country's capital and largest city. An additional three cases are related to Plovdiv, and two are centred in Varna. Bulgaria's other relatively densely-populated and rapidly evolving cities - Burgas and Ruse - follow with one case each. Similarly, Bobov Dol and Varbovo have also contributed with one case each. The remaining six cases operate on a national or multi-regional level, maintaining no specific geographical location to which they can be attributed.



The majority of the cases focus on either direct energy production and/or consumption; or holistic, broader change: the two categories each account for 40.9% of the cases. Meanwhile, only 13.6% of cases focus on mobility. The remaining 4.5% of cases do not fall under any of the categories above.

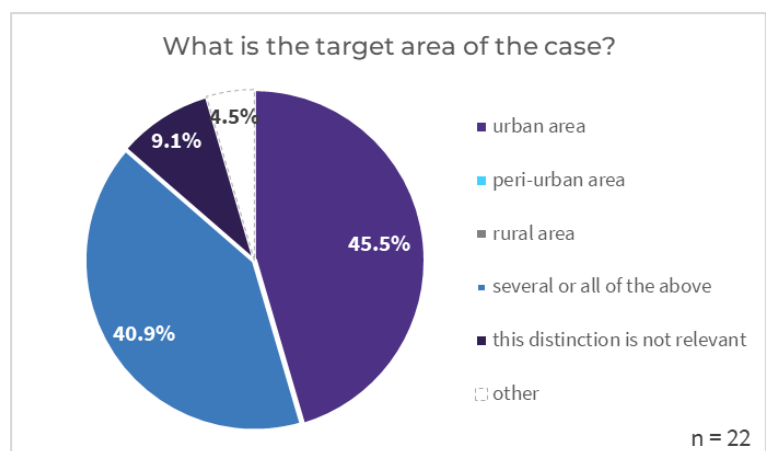
The vast majority of Bulgarian cases registered in the database

(86.4%) are collective. These include notable examples such as KafEco - a student initiative for the production of eco-friendly heating from waste; the promotion of Lime e-scooters; and Green Line Sofia - a project focused on creating new bicycle lanes. Individual cases make up just 13.6% (e.g. Maria Zhekova - a celebrity who uses her platform to promote a sustainable lifestyle).



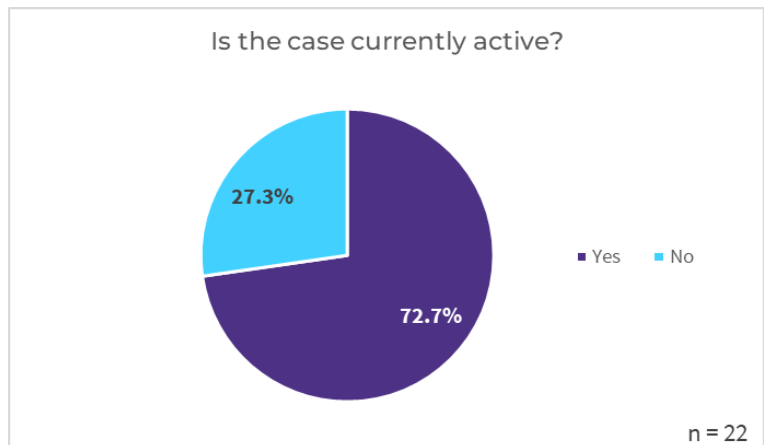
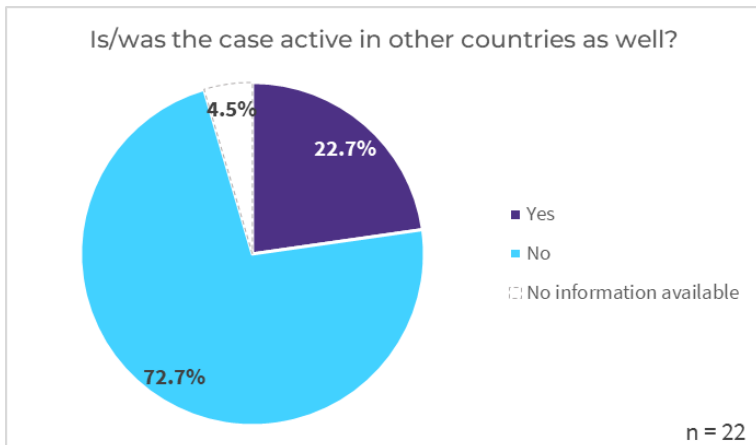
Just under 14% of the cases in Bulgaria focus on issues that **relate to disadvantaged or underrepresented groups** such as households experiencing energy poverty. None of the registered cases, however, focus on gender-related issues.

As far as the target area of each case is concerned, the collected data shows that **almost half of the cases (45.5%) are centred in urban areas.** Among them are Residential Park Plovdiv and the Student Switch-Off Campaigns conducted in Sofia. Another significant portion of the cases (40.9%) is conducted in various target areas at the



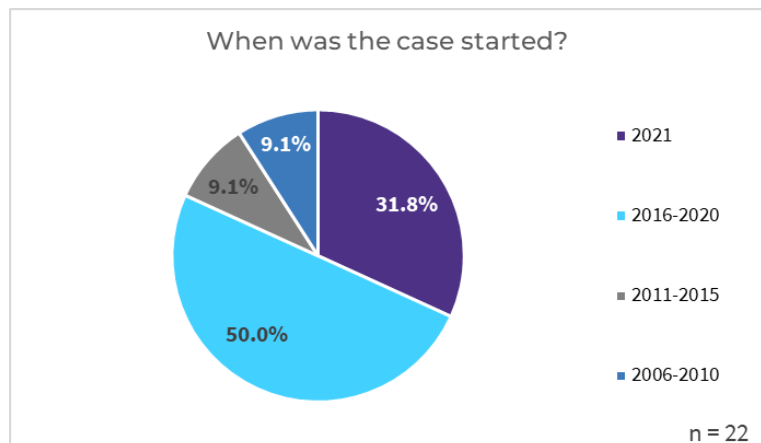
same time. Active Citizens for Independent Energy Municipalities, for example, is a case that spanned over cities, suburbs and villages throughout the country.

70% of the cases that were mapped are only active in Bulgaria. A portion of them (amounting to 22.7% in total) partnered with neighbouring countries: 3 cases are active in Romania, while 2 are active in Greece. The remaining 2 cases involve partnerships in Germany.



Of the 22 cases mapped in Bulgaria, **72.7% are still active**. The remaining 27.3% were completed after achieving their set goals, or were discontinued. Nevertheless, they all provided a valuable contribution to the development of Energy Citizenship in Bulgaria.

Over 90% of the cases were initiated after 2010. 9.1% were started between 2011 and 2015, while the biggest part of them (50%) was established between 2016 and 2020. The most recent cases, established in 2021, account for 31.8% of the ones included in the database.



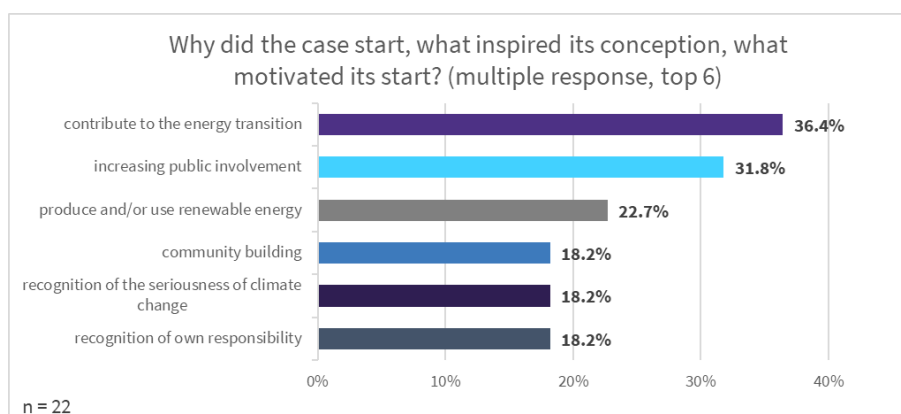
Part 2: Motivation, objectives, actors, operation

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 want to achieve in the first place/most importantly? **What are/were the main objectives, aims?**¹

According to the database, the most significant motivator for the creation and proliferation of the registered cases is the need to **contribute to the energy transition**. This factor inspired the establishment of **36.4% of the cases**. The prominence of this factor thus becomes apparent upon observation of recent Bulgarian initiatives, such as the Campaign for the Decentralization of the Energy System and the efforts made by students in Pernik to produce solar thermal energy.



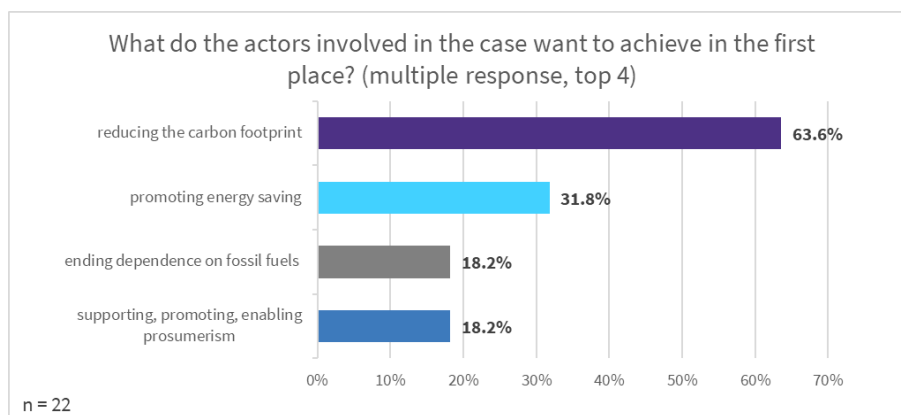
Other important motives include the desire to increase public involvement, which persisted in 31.8% of the cases, among them the Act4Eco Platform; and the necessity of producing and using renewable energy, to which the creation of about 23% of the cases is attributed. Bulgaria's first energy community, Izgrei.BG, was in fact established with the purpose of attaining this goal through the installation of solar energy production. Community building, the recognition of the seriousness of climate change, and the urgent need to take responsibility also proved impactful motivators, credited with inspiring 18% of the cases each.

Thus, the reasons for the conception of the cases foretells the main goals and aspirations of the actors involved therein. **About two-thirds of the actors (63.6%) strive to reduce the carbon footprint** in

¹ Questions from the mapping questionnaire. Methodology and questions are available here:

https://www.energyprospects.eu/fileadmin/user_upload/ENERGY_PROSPECTS.EU/Deliverables/EnergyPROSPECTS_D3.1_310122_Final.pdf

Bulgaria. This was the factor that promoted the creation of initiatives like KafEco and inspired Maria Zhekova's involvement in Energy Citizenship. Beyond that, energy saving is also credited as a priority for another third of the actors. Among them are those who participated in the EcoVarna case, in which the municipality's Public Environmental Centre for Sustainable Development aided students in learning more about energy conservation through interactive projects. Finally, ending dependence on fossil fuels and furthering prosumerism have also proven equally significant, each serving as an influence for 18.2% of the actors involved in the cases.



2.2 Actors initiating and involved in the ENCI cases

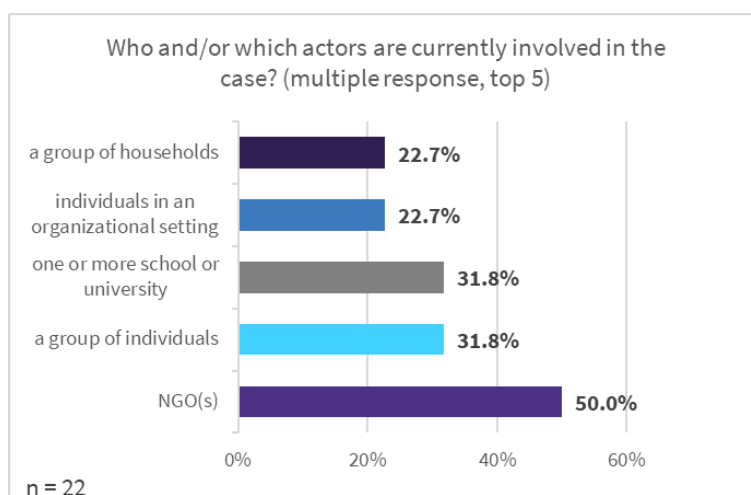
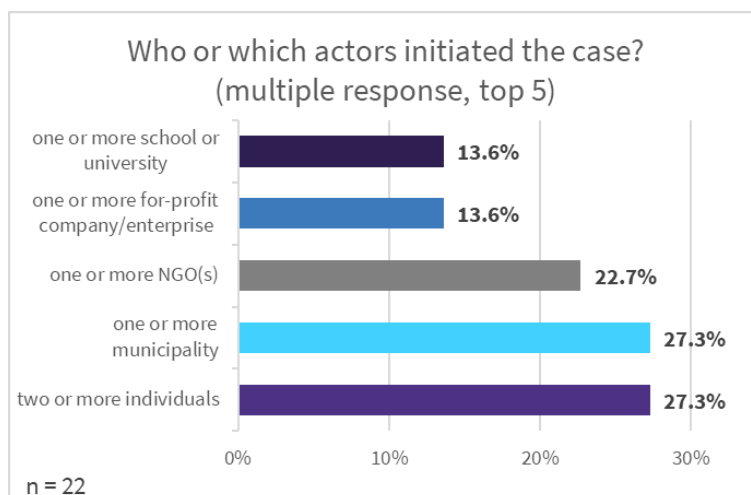
Q31. Who or **which actors initiated** the case?

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

In Bulgaria, the primary initiators of Energy Citizenship cases are **two or more individuals** and **one or more municipalities, each of which accounted for the creation of 27.3% of all cases included in the database**. Green Line Sofia serves as a prominent example of a case initiated by a group of individuals, having been created by a team of young architects with the goal of urban revitalization. Though partnered with a municipal enterprise, the actors initiated the project in an entirely informal sphere. Other examples include ridesharing groups that expand through social media.

Municipalities, on the other hand, have contributed with initiatives such as the Contest for Energy Saving Day promoted by Varna; and the Active Citizens for Independent Energy Municipalities, in which several Bulgarian regions cooperated to promote energy democracy. NGOs also have a significant role therein, credited with establishing 22.7% of the initiatives (e.g. Green Laws, which tracks and accelerates the implementation of environmental legislation in Bulgaria through publications, organizational meetings, and promotion of civic engagement). For-profit enterprises and educational institutions such as schools and universities are tied at 13.6%.

In exactly half of the cases, NGOs took an active role in the implementation process. Greenpeace, for example, was heavily involved in the Campaign for the Decentralization of the Energy System. The arrival of the NGO's "Rainbow Warrior" essentially catalysed the movement, encouraging



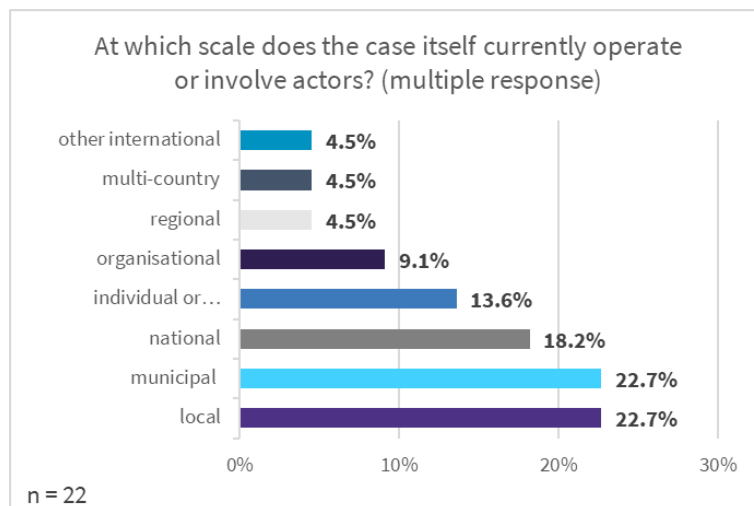
individuals, small businesses, and members of renewable energy associations to make their demands concerning the restructuring of the energy system known. About 32% of cases were conducted with the active involvement of individuals, in an organizational setting - such as Green Line Sofia and KafEco. In another 31.8% of cases, schools and universities appeared to be most heavily involved. The successful implementation of the aforementioned Student Switch-Off Campaign required the active participation of Sofia University's staff and students. Individuals in an organizational setting and in a household setting were each involved in 22.7% of cases. The former includes Green Laws, whose impact depended not only on the members of the organization, but also on volunteers. The latter is more prominent in cases such as Act4Eco, which required the active and willing participation of households in the energy conservation process.

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?

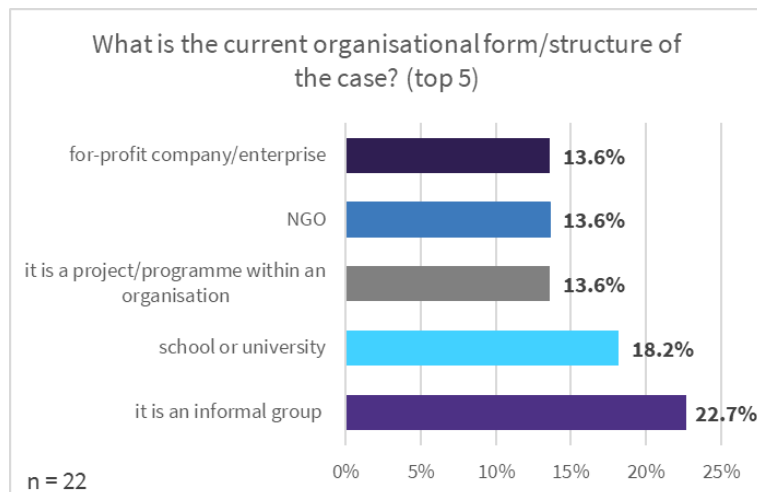
Q39. Is/was the case **part of a network** of similar initiatives?



The operational level of Bulgarian cases is relatively mixed: local and municipal cases are especially prominent, each making up 22.7% of the total number of cases in the database. 18.2% of the cases included in the study operate on a national level, while those on an individual or household level come up at just over 13%. Regional, multi-

country and other types of international cases each make up 4.5% of the total number. Locally-based cases in Bulgaria include Residential Park Plovdiv, which is concentrated on a certain portion of the city. Another municipal case is that of an initiative focused on the energy transition of Burgas, featured in the Transformative Cities Awards - in this case, energy efficiency was emphasized in various domains throughout the entire municipality of Burgas, leading to widespread changes in living conditions. Cases

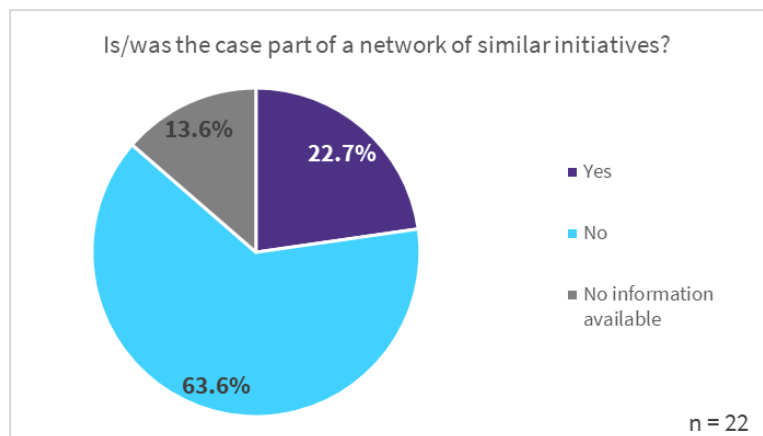
such as Act4Eco and Izgrei.BG, on the other hand, operate on a national level, involving citizens throughout the entire country in equal measure.



Additionally, according to the data collected, **22.7% of cases in Bulgaria are operated by informal groups** with no legal identity rather than an organized structure. Such cases include “The Independent” by the Bulgarian Solar Association and the Student Switch-Off Campaign, as well as Green Line Sofia, more notably prior to

its partnerships. Educational institutions represent approximately 18% of cases, while organizations that conduct specific projects and programmes, NGOs and for-profit enterprises each account for 13.6% of cases. The Independent Energy Collective established by the Professional High School of Bobov Dol is a prime example of a case operated by an educational institution, as are the Student Energy Teams created and directed by a total of ten Bulgarian schools.

Out of the twenty-two cases recorded in Bulgaria, **over two-thirds (63.6%) do not belong to a network of similar initiatives**. Only about 23% of them have been confirmed to be part of such networks. Among them are Izgrei.BG, which is a member of the REScoop Federation, and the initiative focused on teaching students in Pernik

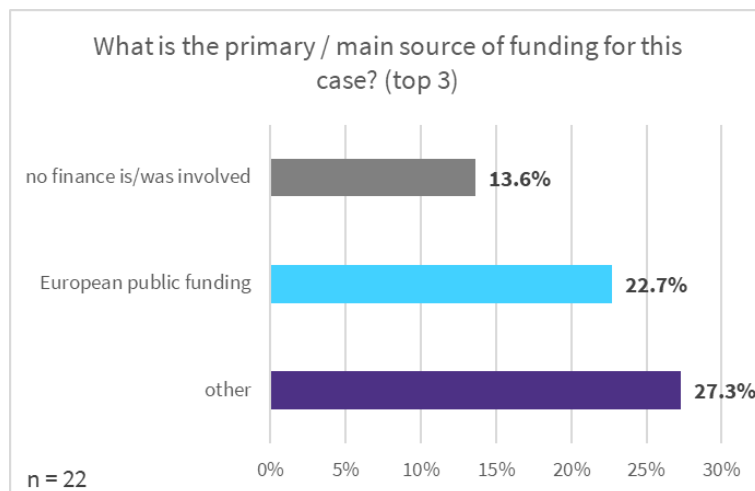


to produce solar thermal energy, which is associated with Greenpeace. For the remaining 13.6% of the cases, there is no information regarding their participation in networks of similar initiatives.

2.4 Sources of funding for ENCI operations

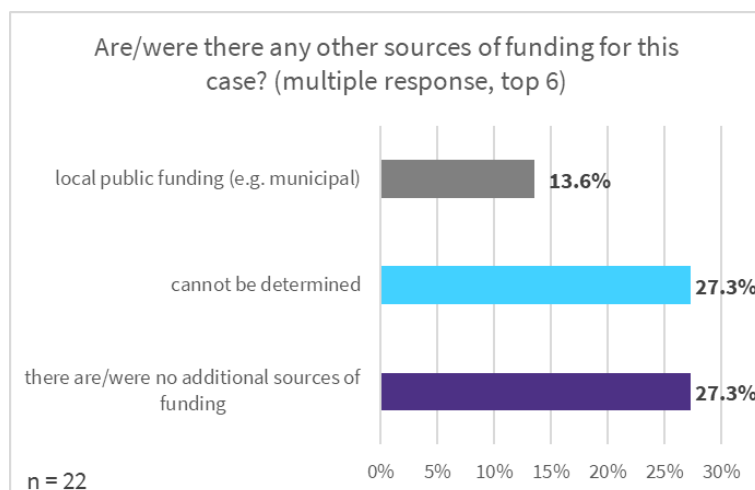
Q46. What is the **primary / main source of funding** for this case?

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



22.7% of Bulgarian cases are primarily supported by European public funding, while 13.6% are not financed at all. However, **the biggest portion of cases - 27.3% - received other forms of financing**. This includes donations (as in the case of Pernik students' energy generation project, in which the necessary equipment was

donated), crowdfunding, membership fees, local public funding, and self-generated income (e.g. the individual case of Magdalena Maleeva). In some cases, the source of funding could not be determined by desk-based research.



Concerning the additional financing some cases received, the source was primarily local public funding (13.6% of cases). However, nearly one-third of cases (27.3%) received no additional funding at all, while in the case of another third, there is insufficient information regarding their potential secondary sources of financing.

Part 3: Placement of Bulgarian 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 summarized 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.

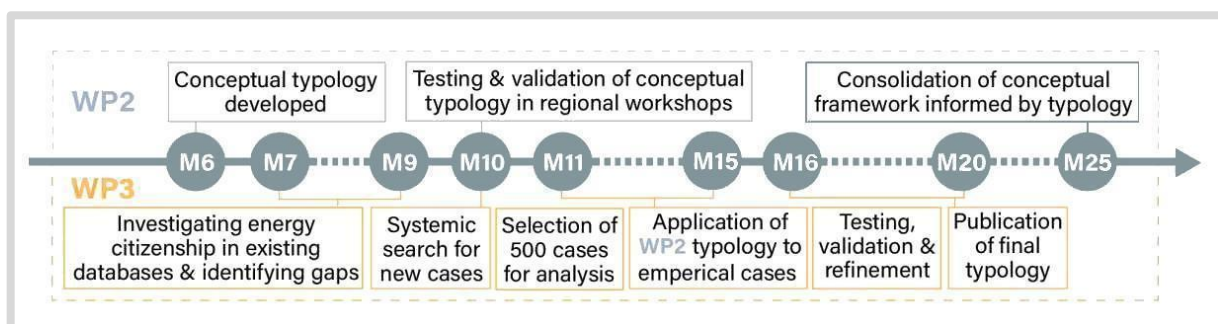
The agency dimension encompasses three key distinctions highlighted within the conceptual framework, and primarily aims at addressing basic issues such as: *Who is doing ENCI? To whom can ENCI be ascribed? and Which kinds of configurations of actors can be considered relevant when searching for empirical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

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](#).

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?*

Out of the cases that were mapped in Bulgaria, the data suggests that **the biggest percentage (27.3%) falls under Type 1 of the conceptual typology - the “Reformative - Private” category.** “Transformative - Private” and “Reformative - Citizen-based and Hybrid” are the second most prominent categories, each accounting for 13.6% of the evaluated cases. The diversity of the cases is moreover showcased by their even representation of Types 3, 8, 9 and 10 according to the table below: each category represents approximately one-tenth of the cases. Notably, no cases that are best represented by Type 6 (“Transformative - Public”) were mapped.

	Individual			Collective		Other
	Private	Organizationally embedded	Public	Citizen-based and Hybrid	Social movements	
Reformative	6 (27.3%)	2 (9.1%)	1 (4.5%)	3 (13.6%)	2 (9.1%)	0 (0.0%)
Transformative	3 (13.6%)	1 (4.5%)	0 (0.0%)	2 (9.1%)	2 (9.1%)	

The “Reformative - Private” category includes cases such as **the initiatives of Maria Zhekova**, who used her earnings from a competitive television show to encourage a sustainable and environmentally friendly lifestyle. She uses her popularity and platform to promote low-carbon and energy-efficient household solutions, while also offering information on eco-construction to her followers on social media. Through her actions, Maria Zhekova urges her community to recognize the seriousness of climate change, embrace energy conservation and take concrete measures to reduce their carbon footprint. However, as she proposes mitigating solutions rather than radical changes to the energy system, Zhekova adheres to the reformative category of the typology.

Similarly, the **ridesharing groups** which are currently prominent on various social media platforms, particularly on Facebook, also contribute to energy conservation and the reduction of air and noise pollution. These groups have amassed a total of **30,000 members**, who both offer and benefit from shared trips between Bulgaria’s largest cities, thus reducing their carbon footprint. This case is a prime

example of individuals with limited resources recognizing their own responsibility in combating climate change and, despite not offering radical solutions, reforming their habits to promote sustainability.

The **“Transformative - Private”** category in Bulgaria’s cases is primarily expressed through the **installation of hybrid systems in three of Plovdiv’s social housing buildings**. Conducted under the POWERTY Project, this initiative primarily functions in an organizational setting. However, it was created to benefit vulnerable households and individuals, including those with disabilities or facing poverty. The inhabitants of the buildings are thus encouraged to achieve a significant degree of renewable self-consumption and energy independence, simultaneously decreasing their energy bills and contributing to the decarbonisation of the energy system.

The **“Reformative - Organisationally Embedded”** category includes two cases in total: the **“Climate Protection Through Improved Behaviour of Energy Consumers in European Schools” Project, and the Student Switch-Off Campaign**. The former intended to raise awareness about energy efficiency and conservation in four Bulgarian schools. Apart from the offer of educational materials, teacher training sessions, conferences with political representatives and the provision of guidelines for pedagogical support to the schools. Students moreover recorded energy-related data in their respective schools and thus developed plans to further energy conservation.

Residential Park Plovdiv falls under the “Transformative - Organisationally Embedded” category: it is an innovative project focused on the construction of a one-of-a-kind, car-free neighbourhood with highly energy-efficient apartment buildings. The objective is to establish a safe and environmentally friendly space, where all vehicles will be parked and - if necessary, charged - in an underground area, connected to the neighbourhood itself via elevators and escalators. This case focuses on energy efficiency and conservation, the rejection of the current energy system, and the reduction of air and noise pollution.

The “Reformative - Public” type includes just one case - that of Magdalena Maleeva. Former professional tennis player Magdalena Maleeva uses her fame and resources to inspire action against climate change among the general public. Her influence is far-reaching, encompassing not only the founding of the environmental organization Gorichka, but also the “Anonymous Climaticians” Community and a podcast that complements the initiative. Maleeva’s goal is not only to raise awareness about climate-related issues, but also to include citizens in the conversation by reaching out to the public and presenting contemporary climate- and energy-related issues in a comprehensible and accessible way.

The case of Magdalena Maleeva, in fact, serves as the only case that embraces a public nature according to the ENCI typology. As noted above, no transformative cases of the same category were mapped in Bulgaria, potentially due to their minor popularity in comparison to other types.

Collective cases, however, appear rather prominent in Bulgaria, according to the data that has been collected. **The “Reformative - Citizen-Based and Hybrid” category includes notable cases such as the Energy Transition of Burgas, and the proliferation of “Lime” shared electric scooters.** The e-scooters are easily accessible by citizens in Sofia, as well as other more densely-populated cities, through a mobile application. Micromobility offers an affordable and environmentally-friendly alternative to cars, and has helped alleviate pollution and heavy traffic in Sofia and contributed to its sustainable development as an urban space. Its relative inexpensiveness and availability in most neighbourhoods also offers citizens an incentive to participate in and benefit from reformative solutions more easily.

One of the representatives of the transformative counterpart of the **“Citizen-based and Hybrid” type is the Green Laws initiative.** The Association for Research Practices founded this initiative as an attempt to offer expert analyses on the implementation of and adherence to environmental legislation in Bulgaria. Green Laws aims to track and examine laws regarding energy, spatial planning, rural development, climate and biodiversity, utilizing methods such as organizational meetings, publications, civic engagement strategies, and debates. The project maintains an online platform, through which decision-makers may gain insight to expert opinions, as well as the public’s suggestions concerning environmental sustainability. Thus, the initiative not only strives to transform the country’s energy system and environmental development plan, but also to reconcile citizens and decision-makers.

The Active Citizens for Independent Energy Municipalities case, on the other hand, serves as an example for the “Reformative - Social Movements” category according to the ENCI typology. The initiative of this case may be classified as a social movement due to its widespread effect and inclusion of various actors in Bulgarian society. The Association of Bulgarian Cities and Regions has involved several municipalities in a project aiming to promote energy democracy and transition. The project focuses on increasing public awareness regarding energy-related issues, among them production, consumption, and democracy. Within thirty months, the project strives to have paved the way for the public’s involvement in the energy market, and to ensure that the upcoming transition will be conducted smoothly and effectively. The widespread education of the public and the creation of new opportunities for individuals and households to participate in the energy market, thereby gaining experience and familiarity with renewable resources renders them more favourable toward the

transition process. Apart from committing themselves to creating suitable conditions for energy transition and informing the public on its benefits, it also draws attention to the specific shortcomings of the energy system, encouraging newly-informed citizens to embrace alternative channels.

The final category according to the ENCI typology is titled **“Transformative - Social Movements” and encompasses, among others, cases such as Izgrei.BG**. Izgrei.BG is a member of REScoop and Bulgaria’s first energy community, and it focuses predominantly on creating a solar energy production installation. It is the first private platform to work with all energy suppliers in the country, initiating contact between businesses and energy suppliers in order to offer sustainable and cost-efficient solutions and thus provide them with an incentive to invest in energy transition. The goal of the start-up company is to accelerate the process of energy transition in a way that empowers businesses and offers previously unseen sustainable solutions to technological and energy-related issues. Rather than addressing a specific issue within the energy system, Izgrei.BG seeks to transform it altogether and offers, first and foremost, an opportunity for businesses and organizations to participate in the energy transition themselves.

	Individual			Collective	
	Private	Organizationally embedded	Public	Citizen-based and Hybrid	Social movements
Reformative	<ul style="list-style-type: none"> Act4Eco – online platform for energy conscious consumers Contest for International Energy Saving Day Facebook groups for rideshare KafEco Maria Zhekova Student Energy Teams 	<ul style="list-style-type: none"> “Climate protection through improved behavior of energy consumers in European schools” (50/50 project) Student Switch Off campaigns in Bulgaria 	<ul style="list-style-type: none"> Magdalena Maleeva 	<ul style="list-style-type: none"> Bike Evolution Energy Transition of City of Burgas: Going Smart and Sustainable Shared electric scooters Lime 	<ul style="list-style-type: none"> Active Citizens for Independent Energy Municipalities Students Taught to Produce Solar Energy
Transformative	<ul style="list-style-type: none"> Green Line Sofia Installation of hybrid systems in 3 social housing buildings in Plovdiv The Independent 	<ul style="list-style-type: none"> Residential Park Plovdiv 	-	<ul style="list-style-type: none"> Green Laws Student Project - Independent Energy Collective 	<ul style="list-style-type: none"> Campaign for the Decentralization of the Energy System Izgrei.bg
Other	-				



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 characterizing 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 – Social Movements” - it includes 13.6% of cases.** Another 13.6% of cases, however, were marked as “other,” due to their deviation from the rest of the typology cases established by researchers. These two categories are followed by the “Reformative – Social Movements” type, to which 9.1% of the cases belong. The last secondary types to which cases were attributed, each accounting for 4.5% of the cases, are the following: Reformative - Private, Transformative - Public, and Transformative - Citizen-based and Hybrid.

	Individual			Collective		Other
	Private	Organizationally embedded	Public	Citizen-based and Hybrid	Social movements	
Reformative	1 (4.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (9.1%)	3 (13.6%)
Transformative	0 (0.0%)	0 (0.0%)	1 (4.5%)	1 (4.5%)	3 (13.6%)	

For example, the case of **Magdalena Maleeva**, chiefly categorized as “Reformative - Public” may also be regarded as a **reformative social movement**. Due to the large following she amassed with the intent of generating environmental and energy-related changes, it can be suggested that she has inspired a type of social movement.

Similarly, **the Contest for International Energy Saving Day** may also be classified as a **reformative social movement**, as it was initiated by a collective with the purpose of inciting small-scale change (mostly on a household level). While it allows students as individuals to adopt habits that facilitate energy conservation, its realization as a project required the initiative of the organization which designed and implemented the activity to suit students’ requirements.

The aforementioned case of **Green Laws** is also considered to be defined by a secondary type of ENCI. Although primarily established as a “Transformative - Citizen-based and Hybrid” case, it also meets the prerequisites to be considered a **transformative social movement** to an extent.

The project not only expands citizen organizational forms, but also analyses the shortcomings of the current energy system and the way in which energy-related issues are handled. The inclusion of citizens in this process and the conscious attempt to offer them both sufficient information and an opportunity to participate in related discussions has allowed the project to be classified as a sort of social movement, albeit restricted.

Finally, **Bike Evolution** - a case **predominantly categorized as “Reformative - Citizen-based and Hybrid”** due to its classification as an NGO that cooperates with Bulgarian municipalities and other societal actors - has also been considered **representative of the “Reformative - Private” type**. This is due to the fact that the project strives to encourage individuals to commit to everyday actions with the goal of contributing to a cleaner and safer environment. While its organizational structure and functioning is collective and citizen-based, it depends on the active participation of individuals.

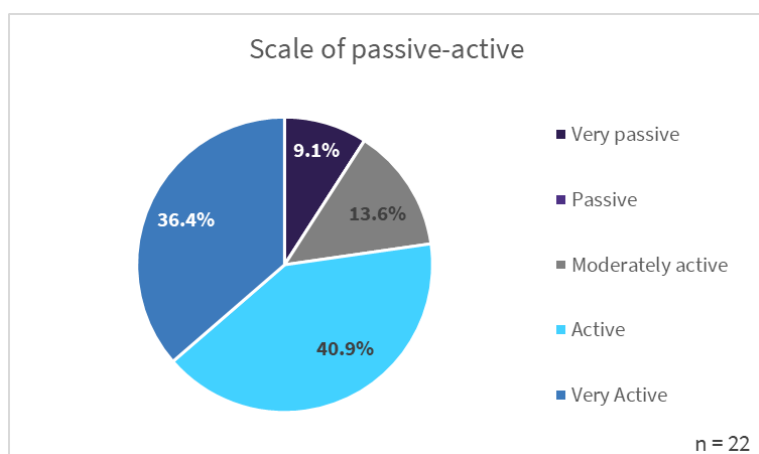


Part 4: Aspects of energy citizenship

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 place 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 passive-active scale devised by the participating researchers, **the most significant portion** of cases mapped in Bulgaria were classified as **active**. **This applies to 40.9% of all cases.** The “Very active” category includes 36.4% of cases, while 13.6% were only classified as “moderately

active.” The remaining 9.1% of cases fall into the “Very passive” category.

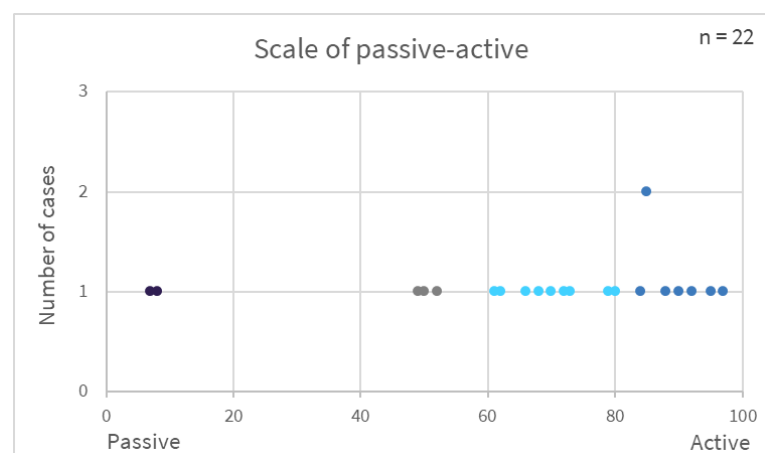
The “Very active” category includes cases such as the **Rideshare Groups on social media**. It has been classified as such due to its ever-increasing popularity and its recognition as a suitable alternative in the attempt to combat pollution and climate change. **The Student Switch-Off Campaigns** and **the case in which students were taught to produce solar thermal energy** have also been placed in the same category: the former is considered such because it empowers students to take action towards energy conservation by raising their awareness and encouraging them to adopt new habits that can be implemented on an everyday basis; and the latter - because it actively

empowers students to become involved in the energy transition process, and aids them in understanding renewable energy and phasing out fossil fuels. Essentially, the case involves future professionals in a city historically sustained by coal mining, thus paving the way for sustainable energy production.

The “**active**” category includes the **Active Citizens for Independent Energy Municipalities** case - the aim of the project is to inform and empower the public, so that actors in society may individually and collectively participate in energy transition and find suitable channels of activity. However, it does not propose radical, immediate change regarding energy consumption and conservation; rather, it presents a gradual process through which both the organization itself and the public may become increasingly active and empowered. This category moreover includes the **Energy Transition of Burgas**. The municipality initially raised awareness among its citizens regarding the need to refurbish residential buildings in order to promote energy efficiency. It encouraged citizens to become increasingly active and urged them to participate in retrofitting initiatives.

Finally, cases defined as “**moderately active**” include the proliferation of **Lime e-scooters**. This case appears to maintain a balance between passivity and activity; the e-scooters offer an alternative, sustainable means of transport throughout cities, allowing them to become more active themselves and reduce carbon emissions. However, it does not directly empower citizens; rather, it simply presents them with an opportunity to contribute to their city’s green development.

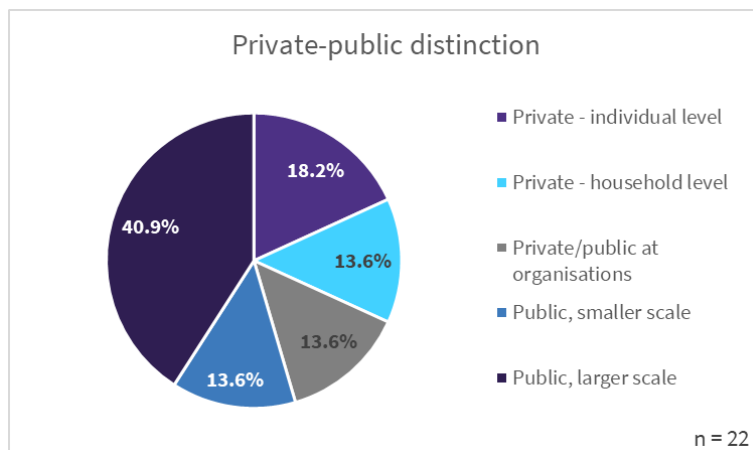
The exact placement of the cases on the passive-active scale is depicted in this graph. While the majority of the Bulgarian cases selected fall into the two most active categories, a small minority has been defined as exceedingly passive: these are the installation of hybrid systems in housing buildings in Plovdiv, and the case of Maria Zhekova.



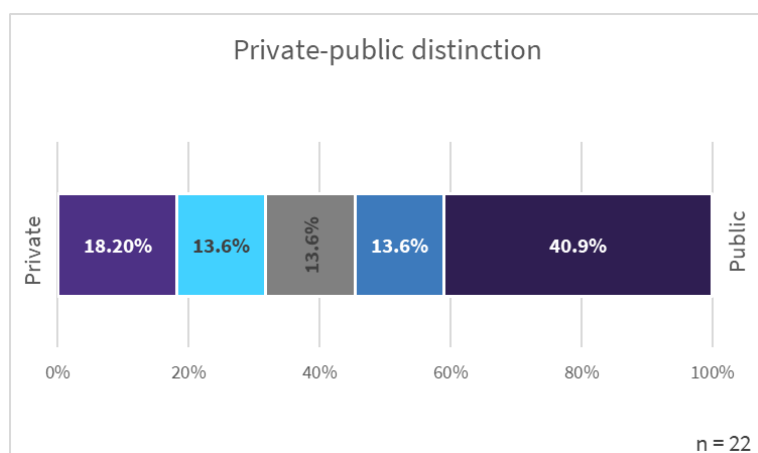
4.2 Private and public forms of energy citizenship

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.

According to the data collected, it can be stated that there is a rather noticeable diversity in the distribution of the Bulgarian cases on the public-private scale. **The largest portion (40.9%) were classified as “Private - Individual,”** followed by the “Public - Larger scale”



category, which encompasses 18.2% of the cases. The last three categories each account for 13.6% of the cases. These are “Private - household level”, “Private/Public at organizations” and “Public, smaller scale”.



“Private - individual level” refers to actions that may be taken by individuals - for example, in a household setting - such as low carbon consumption and other lifestyle changes. This includes cases such as **KafEco** and **Maria Zhekova’s initiative**. Despite conducting different

actions, the organizers of the two cases share a common feature: they undertake climate action on an individual level through lifestyle changes, rather than promoting its development on a societal level.

The **“Private - Household level”** category refers to actions that, while still being undertaken in the home, present more radical alternatives to the current energy system. This includes prosumerism and self-sufficiency, such as in the case of the **Act4Eco platform**, which offers new ideas to households in regards to energy conservation and self-sufficiency.

“**Private/Public at organizations**” suggests the initiation of change and action in organizations. The **Student Switch-Off Campaigns** serve as a representative of this category, as they “inspire collective action of university students within dormitories or private accommodations.”

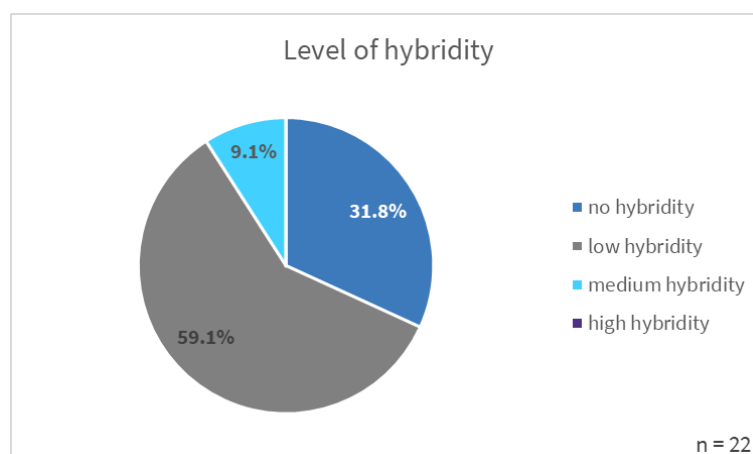
The “**Public - smaller scale**” category refers to change on a relatively small societal scale, such as in community groups, local shared-ownership or renewable energy projects. This includes the **50/50 Project - “Climate Protection Through Improved Behaviour of Energy Consumers in European Schools.”** This project focuses on the energy teams established in four different Bulgarian public schools, which inspire change through the practical education of students regarding energy efficiency and conservation.

The final category - “**Public - larger scale**” - emphasizes action on a district or settlement level, or even on a broader societal level (e.g. low-carbon districts, city-level public consultation, protests, transition towns, etc.). This includes cases like **Residential Park Plovdiv, Green Line Sofia, and Green Laws**. Each one of these cases strives to generate change on a larger scale - on a district level, a city level, and a national level respectively.

4.3 Level of hybridity in the cases of energy citizenship

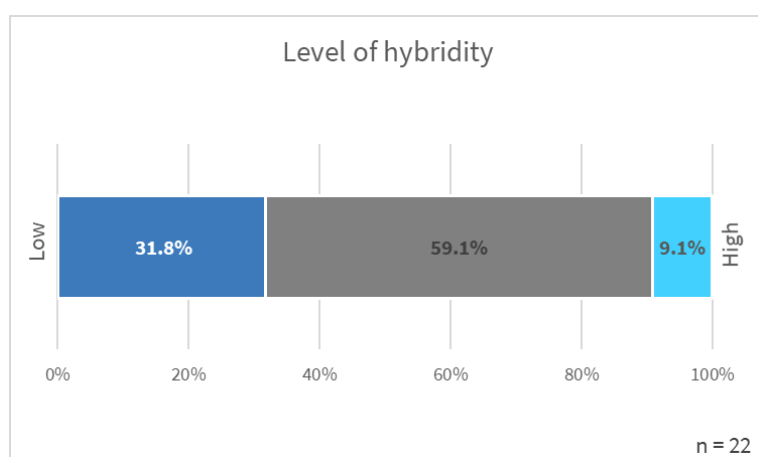
Q52. In terms of the form of ENCI it shapes/enables/supports (or shaped/enabled/supported), please select the **appropriate level of hybridity** for the case...

In Bulgaria, **the majority (59.1%) of the cases that were mapped displayed low hybridity**, while approximately a third of them (31.8%) displayed no hybridity at all. Only 9.1% were classified as having medium hybridity. None of the cases that were mapped, however, possess a high degree of hybridity.



Hybridity, and to the degree that it persists in the researched cases, is classified as such:

No hybridity means that only one type of actor or institutional logistic is represented in the case. This applies to the initiative of **Maria Zhekova**, for example, which only involved the work of an individual. Similarly, **Bike Evolution** and the **Rideshare Groups** on Facebook are operated and utilized exclusively by citizens.



Low hybridity is used to define cases that involve two or three types of actors or institutional logistics. **Act4Eco** is defined as such because the platform is used by citizens, but operated by an NGO. **KafEco** is also classified as a case with low hybridity, despite involving more

types of actors: “its initiators (4 students/citizens), entities that donate the raw materials for producing the final product (the coffee grounds and sawdust), one university that supports the initiators. Households, bars, and restaurants are among the entities that provide the coffee grounds

and the carpenters that provide the sawdust. If we consider them as separate types of actors, then the case has medium hybridity.”

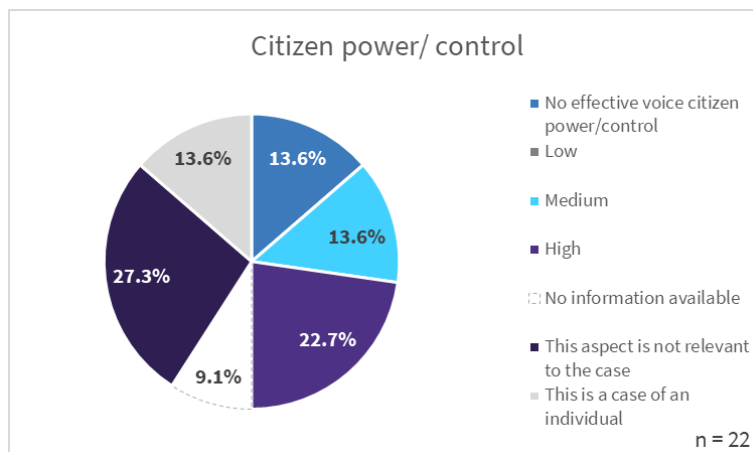
Medium hybridity means that four or five types of actors or institutional logistics are represented in the case. **The Campaign for the Decentralization of the Energy System**, for example, included citizens, representatives of the business sector, NGOs and associations, and - though indirectly - state institutions and decision-makers.

High hybridity persists in cases where more than five types of actors or institutional logistics are represented in the case. Such cases, as mentioned above, have not been mapped in Bulgaria.

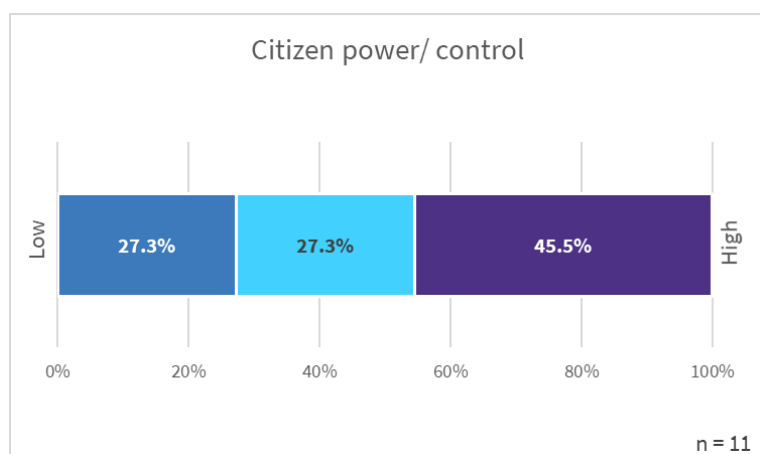
4.4 Citizen power

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.

According to the data collected, the cases mapped in Bulgaria are rather diverse in the degree of citizen power and control that they exhibit. **In 22.7% of the cases, the degree of citizen power/control has been classified as “high.”** Cases with medium or no effective citizen



power each comprise 13.6% of the total number, while none of the cases studied were established to have low citizen power. **In the biggest portion of the cases, however - 27.7% - this criterion proved to be irrelevant due to their nature.** An additional 13.6% of cases were excluded from the classification due to being entirely conducted by an individual, while 9.1% could not be categorized due to insufficient information.



Citizen power is defined by the degree to which citizens’ voices are taken into account in the implementation of a case (e.g. in deliberative, consultative or representative processes). In the occurrence of **no citizen power**, citizens are essentially excluded from the deliberative process, and

their suggestions, if any are received, are hardly taken into consideration. For example, in the **installation of hybrid systems in three social housing units in Plovdiv**, while citizens could benefit from the initiative, they had no means of influencing the process themselves.

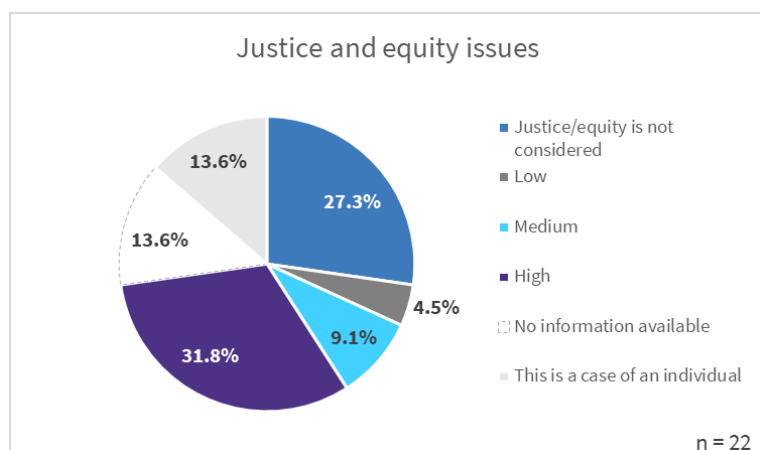
Medium citizen power applies when “citizens can express their views, but their voices are not included on a compulsory basis.” Citizens in such cases are included in the processes, but are

incapable of imposing their views on the other participating groups. **Izgrei.BG** serves as an example thereof: the start-up company provides an opportunity for sustainable alternatives and contribution to energy transition; although the alternatives it provides exist within the dominating framework. It is not yet available for widespread use; however, its official documents do not contain any mention regarding the inclusion of citizens in deliberative processes or in the radical restructuring of the energy system. Citizens are considered, but not prioritized.

In cases of **high citizen power**, “citizens exert effective control, and their votes are mandatory. This governance takes place mostly in an “invented” process (as opposed to the “invited” ones described by Radtke et al., 2020). Within the **Green Laws** project, for example, citizens’ voices are expressed through the various processes: their suggestions and demands are laid out and presented with the purpose of being formally addressed and eventually realized. Their priorities in the domain of energy are moreover made clear to the Parliament, thus allowing for institutional change. Civic involvement is a fundamental pillar of the project.

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.

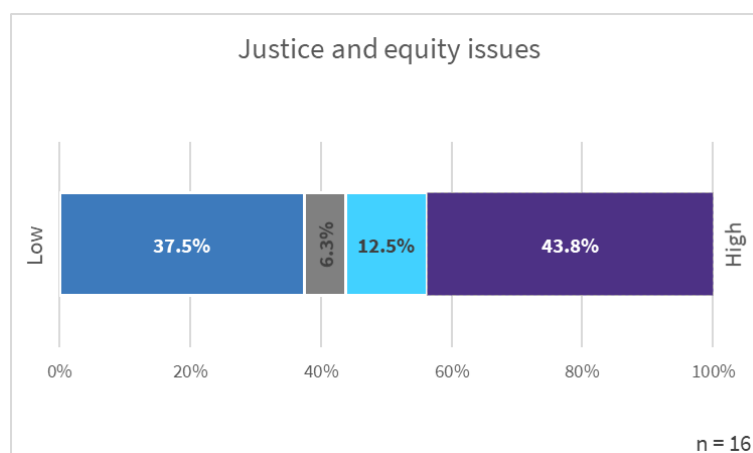


In terms of justice and equity, the most significant portion of Bulgarian cases (31.8%) have been classified into the “high” category. In 27.3% of cases, however, justice and equity are not considered at all. About one-tenth of the cases (9.1%) have been placed in the “medium”

category, while approximately 27% of the cases were excluded from the classification - either due to insufficient information, or because the case in question is conducted by an individual.

Justice and equity were not considered at all in cases such as the Lime e-scooters and the “Climate protection through improved behaviour of energy consumers in European schools” project. Such issues are entirely out of the scope of these initiatives, chiefly because they emphasize small-scale, predominantly individual responsibility and lifestyle changes.

On the justice and equity scale, **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. This applies to cases like the



Independent Energy Collective, which has been placed in this category because of its geographical limitations. The project, while it can be used to inspire and guide citizens throughout the entire country, is targeted specifically at the rural community of Bobov Dol.

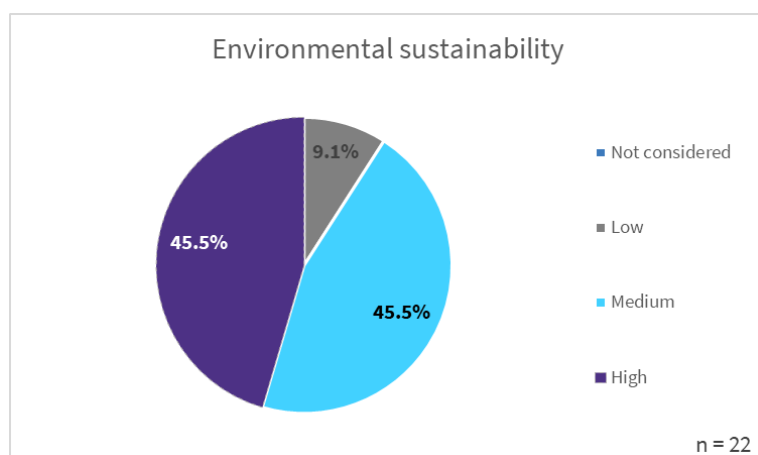
Cases with **high degrees of justice and equity** are distinguished by features such as fully open and available involvement, without specific conditions of participation, and consideration of issues such as energy poverty, gender, and inclusivity. Such cases foster adaptive measures aimed at guaranteeing more equity. Among them is the **Active Citizens for Independent Energy Municipalities** case, in which involvement is indeed fully available. Citizens are encouraged to participate, regardless of their income or access to capital. While gender is not a pivotal point, energy democracy remains one of the main pillars of the project, while the organizers allude to supporting all types of vulnerable social groups.

4.6 Environmental sustainability, recognizing carbon and other ecological limits

Q58. In terms of 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 there **other ecological limits** (e.g. biodiversity loss, deforestation, freshwater use, chemical pollution, etc.) mentioned and recognized as well?"

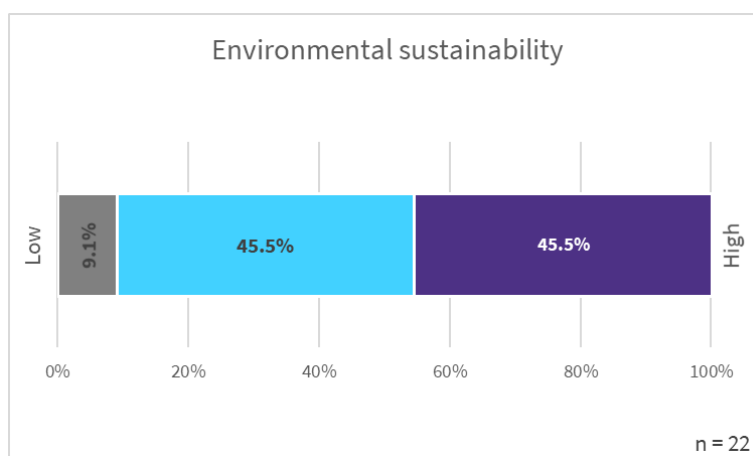


The majority of Bulgarian cases have exhibited either high or medium degrees of environmental sustainability, with each category representing 45.5% of the cases. The remaining 9.1% has been classified into the “low” category.

Low environmental sustainability 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.” For example, the **Residential Park Plovdiv** case provides a relatively environmentally sustainable alternative to the predominant lifestyle in Bulgaria’s larger cities; however, it does not focus on the ecological benefits of this sustainability. Factors pertaining to environmental protection and energy are not discussed on the official website or in statements by the actors involved, who emphasize predominantly aspects such as safety, comfort and quality of the material conditions. The environmental effects of the project are noted primarily by external factors such as journalists.

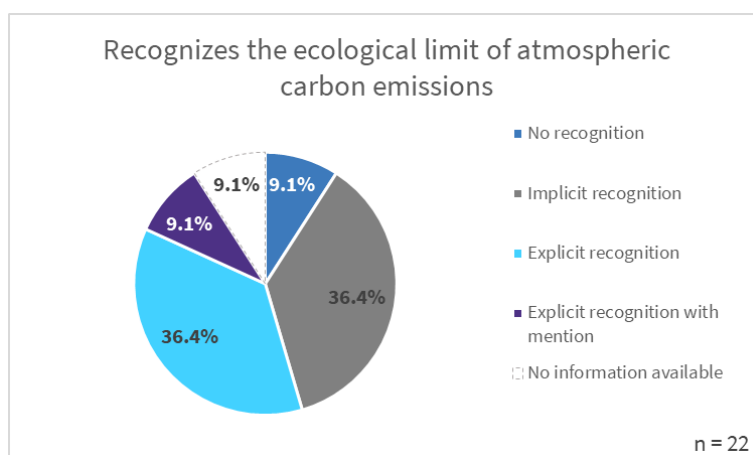
Medium refers to cases where “environmental sustainability is part of the process or initiative, but this concern is addressed superficially and without dedicated assessment, and energy remains the main focus.” This applies to initiatives such as the **Student Energy Teams**. Issues pertaining to sustainability are addressed; however, they are not examined in depth, as the action is conducted by school-aged students with limited knowledge and resources. Thus, it cannot meet the criteria for “high” environmental sustainability.

High environmental sustainability occurs when “environmental sustainability is a core issue, which is associated with a holistic strategy, and its assessment through indicators is seen as desirable.” Such cases include **Green Line Sofia**, which concerns a significant part of the

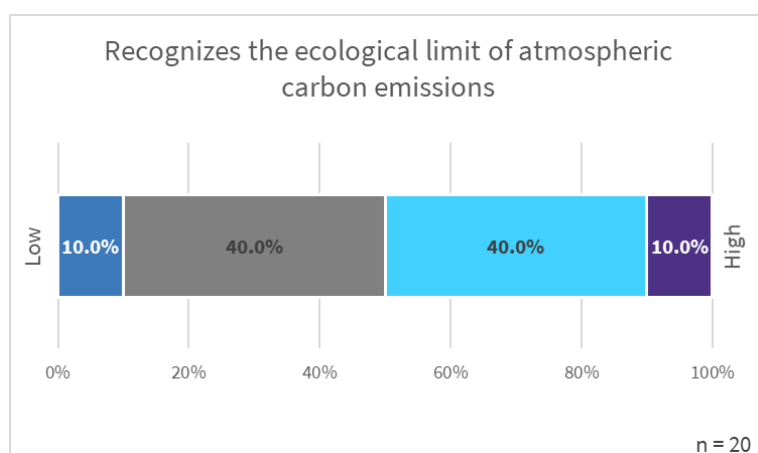


city and thus addresses sustainability related issues respective to different parts of the city: isolation and distance from the centre, lack of social and economic development, insufficient infrastructure for sustainable mobility, etc. The **Lime e-scooters project** also exhibits high environmental sustainability, as its primary focus is to reduce air pollution in one of Europe’s most polluted capital cities.

In addition to the consideration of environmental sustainability, the recognition of the ecological limit of atmospheric carbon emissions were also analysed during the research. **The vast majority of Bulgarian cases do recognize the impact of carbon emissions and strive to**



act against them: in 36.4% of cases, the ecological limit of carbon emissions is recognized explicitly, while the same number of cases recognize it implicitly. In only approximately one-tenth of the cases is the ecological limit explicitly recognized with mention. In another tenth of the cases, it is not recognized at all. 9.1% of the cases were excluded from the classification due to insufficient information.

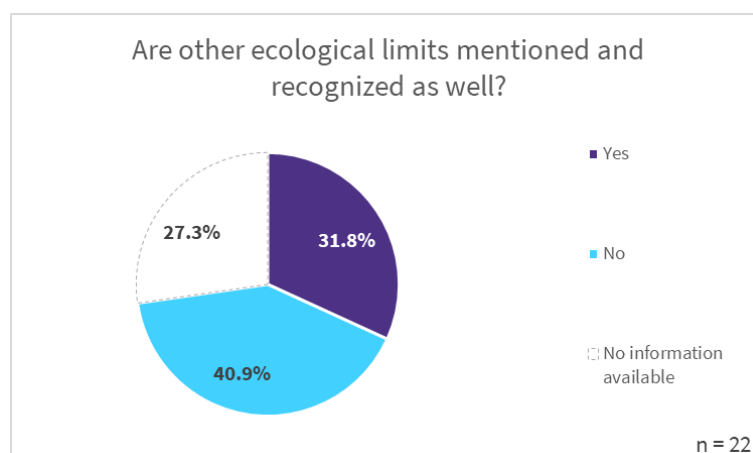


No recognition is understood to mean that “there is no mention of carbon limit or sustainable carbon footprint.” This is recognizable in cases such as **Izgrei.BG**. No ecological limits are mentioned by the organizers of the case, whether explicitly or implicitly.

Implicit recognition refers to cases where there is “no explicitly 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,” such as in the individual cases of **Maria Zhekova** and **Magdalena Maleeva**. Both promote concrete actions and strategies for a sustainable, low-carbon lifestyle, despite not having explicitly referenced the ecological limit of emissions.

Explicit recognition means 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.” Such cases include **KafEco**, which not only recognizes the gravity of carbon emissions, but takes specific strategic actions against them, as well as **Act4Eco**, which is centred around reducing energy consumption and mitigating the effects of carbon emissions through the education of the public.

One-third of the cases (31.8%) that mention the ecological limit of atmospheric carbon emissions also note other ecological limits. The biggest portion, however (40.9%) do not, while for over a quarter of the cases, (27.3%) the available information proved too lacking to



allow the researchers to classify them. **Green Laws**, for example, contains implicit references to

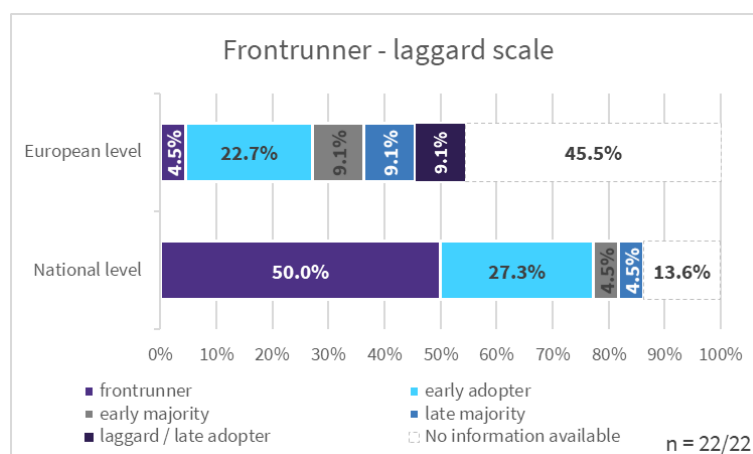
biodiversity and the significance of its preservation. Other initiatives, such as the **Climate Protection Through Improved Behaviour of Energy Consumers in European Schools** project, presented ecological limits much more explicitly: the organizers developed a guide regarding the necessity of energy saving, analysing issues such as deforestation, freshwater use, melting glaciers, sea level rise, environmental hazards, and rising temperatures, as well as their respective consequences (e.g. famine, migration, etc.).



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.



On a national level, half of the Bulgarian cases were classified as frontrunners. Over a quarter of them (27.3%) were considered early adopters, and the remaining ones were suggested to be either in the early or late majority - each of the two categories amounts to 4.5%. 13.6% of the cases could not be classified due to inadequate information.

On a European level, Bulgarian cases were classified very differently. Only 4.5% of them could be categorized as frontrunners. The biggest portion, in fact, were placed in the “early adopter” category (22.7%). The early majority, late majority and laggard categories each represent 9.1% of the cases.

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”. A Bulgarian case that was considered to be a frontrunner on both a national and a European level is that of the **Energy Transition of Burgas** - the innovations implemented in Burgas allowed it to come first in the energy category of the Transformative Cities Awards in 2020. Investments in energy efficiency, RES, electric vehicles and others, turned Burgas into a smart city according to both national and European standards. **Izgrei.BG**, on the other hand, is a prime

example of a frontrunner on a national level, but falls into the late majority on a European level. It is the first energy community in Bulgaria, and offers a mostly unique service to businesses. However, both energy communities and digital energy platforms have been widespread in Europe over the last decade. While there may exist certain differences among them, it is possible to attest that the general concept of Izgrei.bg's function has been influenced thereby.

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.” **The Independent**, a documentary series created by the Bulgarian Solar Association, is considered an early adopter due to the influential position and clear enthusiasm regarding the distribution of knowledge of the participants. There is little information, however, that may contribute to an informed comparison with their European peers.

Early majority means “early adoption, but deliberate, less venturesome and independent than earlier adopters.” On a European level, several Bulgarian cases appear to belong to the early majority. Examples thereof include the **Contest for Energy Saving Day**. On a national level, various school competitions and projects regarding energy consumption and environmental sustainability have been conducted, especially on SPARE's Energy Saving Day . Involving students in energy-related issues is not a novel concept. However, the project deviates from traditional ones by involving practical work and analysis. Similar projects have been conducted elsewhere in Europe, most of which do not predate the one at hand by much.

Cases classified as belonging to the **late majority** “only adopt change when there is a strong feeling of being left behind or missing out.” The **Independent Energy Collective**, despite being classified as an early majority case in Bulgaria, falls into the late majority category on a European level, as independent energy communities were already widespread throughout Europe at the inception of the case.

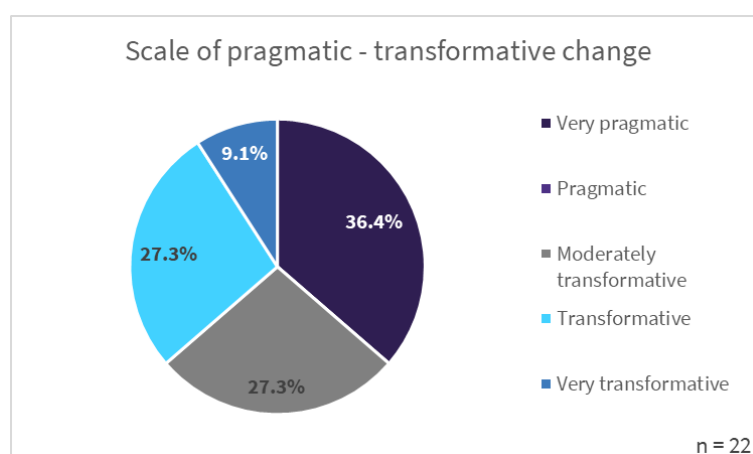
Laggards are characterized as being “traditional, slow to change, not yet in a position to change, or those who are resisting change, or who do not wish to adopt change.” On a European level, this category includes cases such as the **Climate Protection Through Improved Behaviour of Energy Consumers in European Schools** project: energy efficiency in Bulgarian schools was implemented at a considerably slower pace than in other European states

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 characterized 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 Bulgarian cases (36.4%) were classified as “very pragmatic.”** The following two categories - “moderately transformative” and “transformative” each account for 27.3% of the cases. Only 9.1% were classified as “very transformative.”



The **very pragmatic** category includes cases such as the initiative of **Maria Zhekova** - rather than advocating for transformative change in the energy system, she focuses on personal responsibility and energy efficiency, particularly through the use of sustainable materials.

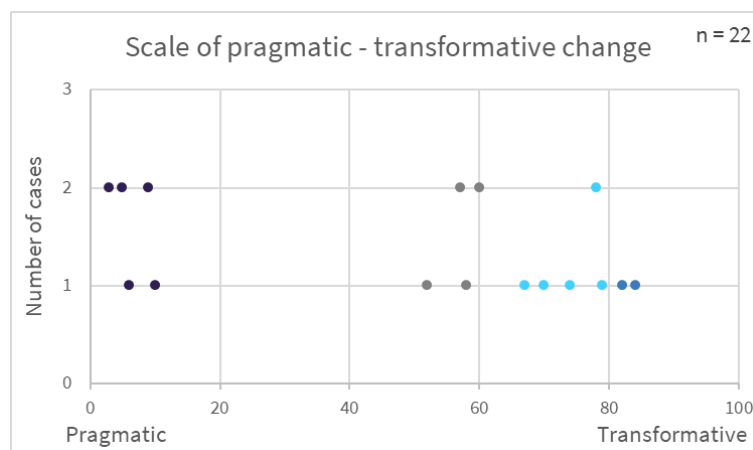
The **moderately transformative** category includes the **Energy Transition of Burgas** - turning Burgas into a smarter and greener city was the primary goal of the case, which in itself was undergone through innovative, transformative actions. The broader objectives of the project are moreover reflected in the new municipal strategic documents.

Transformative cases are also prominent in Bulgaria; among them is **Izgrei.BG**. The establishment and cultivation of Bulgaria’s first energy community provides an exceedingly broad

and great change for the country. While the project does not strive to change the aspects of the current energy system that have proven ineffective or damaging to citizens and the environment, its involvement in an all-encompassing energy transition renders it more so transformative.

Very transformative cases have proven rare in Bulgaria; however, **Green Laws** can in fact be classified as such. It encourages society in its entirety to address core issues and consider the potentially unsustainable measures proposed in the Parliament. It moreover addresses

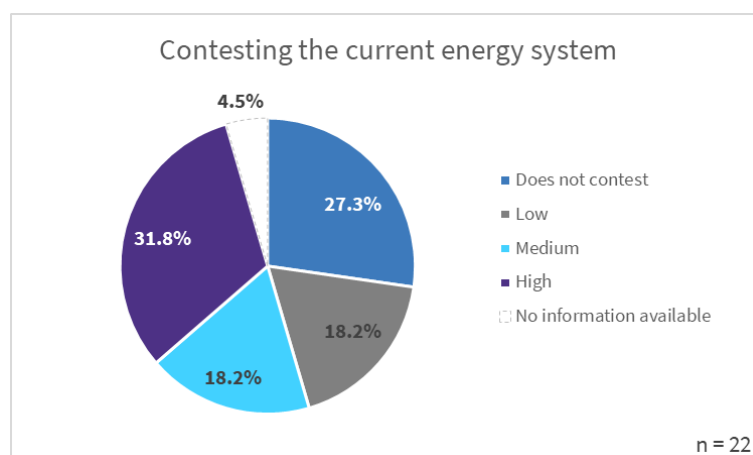
widespread and impactful problems such as the energy crisis and energy reforms.



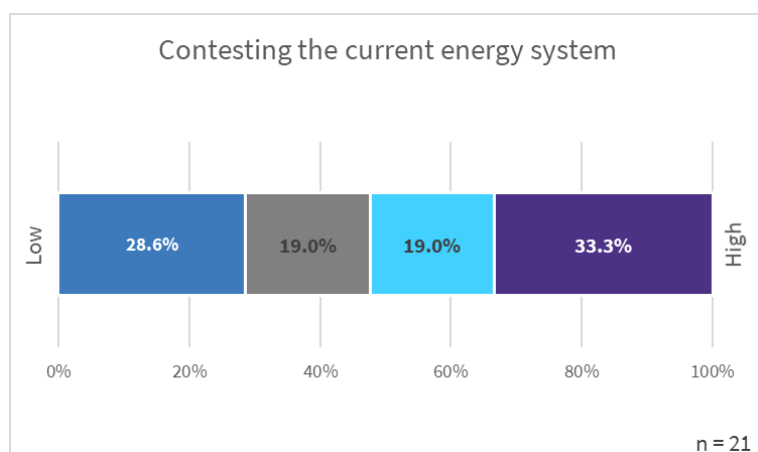
4.9 Contesting the current energy system

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..?**

Out of the cases that were mapped in Bulgaria, **the biggest percentage - 31.8% - are considered to contest the energy system on a high level.** 27.3%, however, do not contest the energy system at all. The cases classified as “low” or “medium” on the scale each account for 18.2% of the total number.



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 the **Student Switch-Off Campaigns**, as “students follow some basic energy saving instructions that are applicable in everyday life and are not that much aimed at restructuring the energy system radically.”



Medium refers to cases in which “some system-contesting aspects are part of the process, yet are not appropriated by citizens or considered a full part of their involvement” - for example, in **Izgrei.BG**. The project’s plans for widespread energy transition and the establishment of an energy

community have been only recently conceptualized. At present, while the project does attempt to reform or improve the energy system, it is not widely accepted or appropriated by citizens; it rather remains an instrument for the benefit of specific actors. The dominant system is rivalled by the energy community, but it is not strongly contested in widespread narratives and actions.

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 **Magdalena Maleeva**, who strives to empower people to address climate change challenges. She uses her platform to contribute to the cultivation of a sustainable future and encourages the general public to act similarly.

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Annex: List of the Bulgarian cases

Title of the case in English (original)	Brief overview	Webpage / Facebook
Act4Eco – online platform for energy conscious consumers (Платформа за енергийно отговорни потребители Act4Eco)	<p>The “Act4Eco – online platform for energy conscious consumers” Facebook group has been established by ARC Fund in May 2020 in order to provide virtual space for consumers to learn and share experience on energy related topics. Its initial aim has been to promote the Act4Eco platform among energy consumers in Bulgaria. The platform has been developed within Energy Conscious Consumers (ECO2) project and provides open-access knowledge in 9 EU languages on responsible energy consumption at home. With its 260 members the Facebook group contributed to not only increasing the traffic on the Act4Eco platform but also establishing a close Act4Eco community where interesting news on energy efficiency and energy savings are shared along with members’ own experience. The group provides knowledge about how to consume energy in a sustainable way by improving the energy efficiency of homes, how to self-produce energy, what habits are good to change to start saving energy in daily life, and many other interesting questions related with the topic.</p>	act4eco.eu; facebook.com/groups/act4ecobg/
Active Citizens for Independent Energy Municipalities (Активни граждани за независими енергийни общини)	<p>The Association of Bulgarian Cities and Regions has involved several municipalities in a project aiming to promote energy democracy and transition. The project focuses on increasing public awareness regarding energy-related issues, among them production, consumption, and democracy. Within thirty months, the project strives to have paved the way for the public’s involvement in the energy market, and to ensure that the upcoming transition will be conducted smoothly and effectively.</p>	abgr.org; facebook.com/abgr.org
Bike Evolution (Велоеволюция)	<p>Bike Evolution is a non-profit organisation, registered on 7 August 2007. The objective is to promote cycling as a valid alternative in modern urban mobility. To achieve this, Bike Evolution organises events (in association with partners and friends), participates in working groups and other bodies set up by the municipality, organises and hosts trainings and design workshops and many other activities to promote safe cycling. Bike Evolution represents its members in discussions with the municipality and other authorities related to urban mobility.</p>	velobg.org/; facebook.com/Veloevolucia



Title of the case in English <i>(original)</i>	Brief overview	Webpage / Facebook
Campaign for the Decentralization of the Energy System (Граждани се обявяват за децентрализация на енергийната система)	Bulgarian citizens made their demands known in a demonstration in favour of decentralizing and restructuring the energy system. They campaigned for the introduction of prosumerism and net metering, as well as virtual net metering, in the country's legal framework, and expressed their concerns regarding the excessive use of fossil fuel and the inadequate opportunities for a potential transition toward sustainable energy. They additionally presented their intent to utilize hydroelectric energy in coastal cities. The campaign was initiated thanks to the arrival of Greenpeace's "Rainbow Warrior," and was supported by representatives of small businesses, members of renewable energy associations, and volunteers at Greenpeace itself.	greenpeace.org/bulgaria/ ; facebook.com/greenpeacebg
Climate protection through improved behaviour of energy consumers in European schools (50/50 project) (Проект за опазване на климата чрез подобро поведение на енергопотребителите в европейските училища (Проект 50/50))	The 50/50 project aims to raise awareness among students in 4 Bulgarian schools (2 in Sofia and 2 in Samokov) about the importance of energy efficiency and to encourage them to save energy in their schools. This aim was achieved by the establishment of energy teams of students under the mentorship of several teachers in the 4 pilot schools. The energy teams received educational materials on the topic and were trained about the execution of energy efficiency measures. After that, each energy team began conducting energy tours of the respective school to assess the situation and to identify ways to improve energy consumption. Other activities included train-the-trainer and teacher trainings, conferences/workshops with school authorities and political representatives, provision of guidelines for schools authorities and pedagogical and technical support of the schools. The money saved as a result of the diminished energy consumption in the schools was supposed to be used for organising student trips or any other educational activities.	
Contest for International Energy Saving Day (Конкурс по повод Международния ден за пестене на енергия)	The Public Environmental Centre for Sustainable Development in Varna, Bulgaria, aided students in learning more about energy consumption and conservation by encouraging them to participate in a contest, in which they were asked to monitor their household's electricity meter over the span of one week. Students were asked to not only analyse their families' consumption habits, but also to propose conservation measures, after which they were to repeat the experiment while implementing them. The school with the most participants received an open lecture on the topic of individual contributions to combating climate change.	ecovarna.info ; facebook.com/ecovarna/



Title of the case in English (original)	Brief overview	Webpage / Facebook
Energy Transition of City of Burgas: Going Smart and Sustainable	<p>Fifteen years ago, the Bulgarian town of Burgas was highly energy inefficient, leading to very high energy costs for local authorities and citizens, as well as poor living conditions and environmental inequality. Today, it is a different story. Burgas is a smart, energy efficient city, implementing the most up-to-date energy approaches and measures, which demonstrates the power of local authorities to drive sustainable change. Energy efficiency has become one of the priorities of the Municipality after 2007. As a result, nowadays the entire population of Burgas Municipality (232,000 people) have directly or indirectly benefitted from this decision. All public buildings have been retrofitted, providing better living conditions for inhabitants. Children, young people and teachers have benefitted from the retrofitting of 98% of kindergartens and schools, and local businesses have benefitted from investments in energy efficiency and renewable energy sources. Burgas municipality is now leading the country when it comes to energy efficient living, with more than 200 residential buildings retrofitted under the National EE Programme and the number of hybrid and e-vehicles in the city is constantly rising. As a result of these actions, Burgas won the energy category of the 2020 edition of the Transformative cities award. The Transformative cities initiative inspires people to take action to transform their cities in areas of water, energy, food and housing.</p>	<p>burgas.bg/en; facebook.com/Burgas.Municipality</p>
Facebook groups for rideshare (Фейсбук групи за споделено пътуване)	<p>There are several Facebook groups for rideshare in Bulgaria - the total amount of their members is about 300 000 members and this number is constantly rising (the 3 largest groups increase their members by about 100+ members per week). The three largest groups are the following: "Rideshare Burgas - Sofia and back!," (75 104 members) "Rideshare Plovdiv-Sofia" (62 900 members) and "Rideshare" (47 000 members). Plovdiv and Burgas are the second and the fourth largest cities in Bulgaria, respectively. The other rideshare groups are dedicated to trips to Varna (the third largest city) and other smaller, but popular towns in Bulgaria. Most of these groups were founded in the period 2011-2013 and offer a platform to car owners who are travelling to a particular destination by themselves to share their trip with other people, travelling to the same city, but who don't have or don't want to use their own transportation. Thus, both parties benefit from: 1) sharing the trip expenses; 2) having a company during the trip/meeting interesting people; 3) reducing the number of vehicles on the road and 4) reducing the carbon footprint of the trip.</p>	<p>facebook.com/groups/170166326408823; facebook.com/groups/347973931909973</p>

Title of the case in English (original)	Brief overview	Webpage / Facebook
Green Laws (Зелени закони)	<p>The “Green Laws” initiative aims to track and stimulate the implementation of environmental laws in Bulgaria, including domains such as energy, spatial planning, rural development, climate, and biodiversity. This is achieved through organizational meetings, publications, civic engagement, and debates. The project maintains an online platform, through which decision-makers can gain insight to expert opinions and the public’s suggestions concerning environmental sustainability.</p>	<p>zelenizakoni.com; facebook.com/sdruzheniezaizsledovatelskipraktiki/</p>
Green Line Sofia (Зелена линия София)	<p>Currently, the obsolete railroad in Sofia spans about 20km, and includes a large number of abandoned facilities (stations, warehouses, etc.). The project aims to repurpose obsolete railroads in Sofia by using them to expand the existing bicycle lanes. In doing so, peripheral neighbourhoods will be linked to the city centre through a sustainable mobility network, and abandoned public areas will be revived. Moreover, traffic will be reduced, and new opportunities for sports, leisure, cultural development, business investments and tourism may arise.</p>	<p>greenlinesofia.com; facebook.com/zelenaliniasofia/</p>
Installation of hybrid systems in 3 social housing buildings in Plovdiv (Инсталиране на хибридни системи в 3 сгради със социално предназначение в Пловдив)	<p>As part of the POWERTY project, financed by the Interreg Europe programme, PVs for collective self-consumption systems are planned to be installed in three social housing buildings in Plovdiv, Bulgaria. The pilot action in Plovdiv tests an innovative hybrid of PV plus Battery Energy Storage System (PV+BESS) as a possible solution for vulnerable households to achieve a significant share of renewable self-consumption and energy independency and thus decrease electricity bills and contribute to the decarbonisation of the energy system, while providing no further stress to the grid. The project implements 3 hybrids consisted of PV+BESS in social housing buildings owned by the Municipality of Plovdiv, which are currently provided to youths and children with disabilities, as a possible solution to alleviate energy poverty of the participating households. The final users are youths and children with disabilities who are currently occupying publicly owned social housing. All pilot installations are planned to be co-supported by the Municipality of Plovdiv, which is going to facilitate the participation of the low-income households and Schneider Electric Bulgaria, who are running a specific fund helping alleviation of energy poverty at local level.</p>	<p>projects2014-2020.interregeurope.eu/powerity/;</p>



Title of the case in English (original)	Brief overview	Webpage / Facebook
Izgrei.bg (Изгрей БГ)	<p>Izgrei.bg is the first energy community in Bulgaria, working on creating a solar energy production installation. The start-up is moreover the first private platform to work with all energy suppliers in the country. It initiates contact between businesses and energy suppliers to offer sustainable and cost-efficient solutions, thus providing them with an incentive to invest in energy transition.</p>	<p>izgrei.bg; facebook.com/izgrei.bg/</p>
KafEco (КафЕко)	<p>KafEco is a student company established in the end of 2020 by four high school students in Ruse, Bulgaria. Their idea was to develop an alternative eco-friendly heating from waste material, namely by producing a briquette from coffee grounds and sawdust (a residual product from processing clean wood). The coffee grounds are collected from places where coffee is consumed: from households, and from small neighbourhood restaurants to large fast food chains. The sawdust is collected from local carpenters in Ruse. KafEco already reached its prototype phase, with testing results showing that its briquettes are more calorific than wood (radiates more heat) and burn almost twice as fast, releasing less harmful emissions into the air compared to other solid fuels (mainly wood and coal). The sale of the briquettes is expected to start in a year, after all the testing and certifications are finished successfully. The main aim of KafEco is to make consumers change their mindset and lifestyle and move to a more sustainable and environmental-friendly one by starting consuming eco materials for heating.</p>	<p>facebook.com/KafEcoTeam/</p>



Title of the case in English <i>(original)</i>	Brief overview	Webpage / Facebook
Magdalena Maleeva (Магдалена Малеева)	<p>Magdalena Maleeva is a former professional tennis player from Bulgaria, who uses her fame to inspire action against climate change among the wider public. She has founded the environmental organisation Gorichka, whose aim is to create public awareness about urgent environmental problems, including climate change, energy transition and sustainable agriculture. One of her latest initiatives is the “Anonymous Climaticians” community. It is an informal group of people, connected by their concern about climate change. Its members have diverse expertise and know-how in various areas, but share the belief that the climate crisis is one of the most serious problems that mankind is facing. They also believe that it is possible to avoid the worst case scenarios and the first step in this direction is to initiate a discussion in order to come up with viable solutions. The group uses the platform Gorichka to make its readers part of this conversation and to attract new members. Part of the “Anonymous Climaticians” initiative is also a podcast, dedicated to the energy transition dialogue. The latest 7th episode of the podcast was uploaded on 16 January 2022.</p>	facebook.com/magdalena.maleeva
Maria Zhekova (Мария Жекова)	<p>Maria Zhekova is one of the winners of the Master Chef TV show in Bulgaria. After winning the prize, she has become famous for her sustainable lifestyle and for promoting natural way of living. She has bought an old house in the mountains in Bulgaria and has started restoring it by using natural materials – wood, wool, straw, clay, natural paints, etc. - sharing the whole process of restoration with her followers on the social media (mainly Instagram) and get them inspired to follow her example. Maria proves and promotes that you can make your home energy efficient by using natural materials – insulate it with wool and straw and clay, also use paints that are produced in a natural low-carbon way. In one word – making your home low-carbon by using materials which production and supply has also been low-carbon. She shows that it is possible to apply eco-construction measures to an old building. Many people are interested in the eco-construction measures that she uses for the restoration of her 200-years old house in the mountains, they ask questions in her Instagram profile, while she has promised to describe the whole process and share it with them after the house is ready. Another passion of Maria is cooking and food photography. She is using natural and seasonal ingredients for her recipes that she is also sharing with her audience. She is also trying to show old traditional recipes and to cook with ingredients that our predecessors have used, especially people living in the mountains.</p>	instagram.com/mariajekova/



Title of the case in English (original)	Brief overview	Webpage / Facebook
Residential Park Plovdiv (Квартал "Residential Park")	<p>The Residential Park neighbourhood is a project initiated by an individual businessman and carried out RT Consult, an architecture company which turned an abandoned area in Plovdiv's centre into the country's first car-free neighbourhood. It is being constructed to consist of 58 apartment buildings and numerous establishments for entertainment, leisure and commercial purposes. It will also include a park with diverse plant life. The objective is to establish a safe, innovative and environmentally friendly space, where all vehicles will be parked and - if necessary, charged - in an underground area, which will be connected to the neighbourhood itself via elevators and escalators.</p>	<p>rpp.bg/bg ; facebook.com/residentialparkplovdiv/</p>
Shared electric scooters Lime (Споделени електрически скутери Lime)	<p>Lime is an international company offering the shared use of light e-vehicles such as mopeds, scooters, and bikes in various cities around the world, including Sofia, Bulgaria. The service provides access to smart, affordable mobility and was introduced in Sofia as a measure to alleviate the traffic and mitigate air pollution in the city. The Lime electric scooters are available in Sofia's city centre along with some of its biggest neighbourhoods. The scooters do not have parking stations, they work through a mobile application and are at citizens' disposal at any time to move from one place to another for a small fee. Also, Lime contributes directly to making Sofia a greener and cleaner city, which coincides with the goal for sustainable urban development.</p>	<p>help.li.me/hc/bg; facebook.com/limebike/</p>
Student Energy Teams (Ученически енергийни екипи)	<p>10 Bulgarian schools from 3 urban communities (Sofia, Samokov, and Veliko Turnovo) and 1 rural community (Pavel Banya) participated into an international consortium from 7 EU countries (incl. Bulgaria, The Czech Republic, Germany, Greece, Poland, Portugal, and Romania) in the project Bridging European and Local Climate Action (BEACON) between April 2018 and March 2021. The project's purpose was to enhance international cooperation in climate action and achieve a common vision for implementing the Paris Agreement. The Student Energy Teams in each school (aged 10-12), mentored by their science teachers, were the core actors in the project. They planned and implemented various science-backed activities for educating their peers, teachers, and parents on sustainable energy consumption and production and for reducing the energy consumption in their schools and homes, achieving tangible results.</p>	



Title of the case in English <i>(original)</i>	Brief overview	Webpage / Facebook
Student Project - Independent Energy Collective (Български ученици създадоха проект за независим енергиен кооператив)	The case is a student project, created by a team of 5 that won a competition among 40 students in the Professional Highschool in Bobov Dol, Bulgaria. The project gives instructions how an independent energy collective of 50 households could operate, including a guide for energy production and for selling surplus energy on the market. The project addresses both energy independence from the system and environmental sustainability as a result of cleaner energy production.	
Student Switch Off campaigns in Bulgaria	Sofia University "St. Kliment Ohridski" (UoS) participated in the Student Switch Off (SSO) campaigns organised within the SAVES2 project. The SSO campaign is an inter-dormitory energy-saving competition, encouraging students to save energy in their university dormitories, while SSO+ campaign is focused on students living in the private rented sector, aiming to help students to reduce their energy costs and their exposure to energy poverty. Energy savings are determined by comparing pre-intervention electricity consumption, with post intervention electricity consumption, in each dormitory/private accommodation. The campaigns have been active in UoS for three consecutive academic years in the period 2017 – 2020, with 6,300 students involved in 2017-2018 and 2018-2019 academic years, and 3,097 involved in 2019-2020 academic year.	bulgaria.studentswitchoff.org/; facebook.com/UOSSSO/
Students Taught to Produce Solar Energy (Ученици се обучават в създаване на енергия от слънцето)	Students from two professional high schools for energy in Pernik are offered the opportunity to actively participate in the energy transition process by learning to produce solar thermal energy. For this purpose, they received access to a laboratory equipped with innovative technology for the production of green energy. The production of thermal solar energy and the analysis of the process were treated as a regular part of their education.	greenpeace.org/bulgaria/; facebook.com/greenpeacebg
The Independent (#Независимите)	"The Independent" is a documentary series created by the Bulgarian Solar Association. Each episode (of 3 in total) depicts a different story of Bulgarian citizens who have decided to become independent from the grid in various ways, including through sustainable energy production and consumption, urban farming, and others. The documentary shows the most common struggles they face, including resistance from the national energy providers, bureaucratic complexities, lack of local support for urban farming, and others.	