

# Newsletter

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**Welcome to the quarterly newsletter from EC<sup>2</sup>: Energy Citizenship and Energy Communities for a Clean Energy Transition.**

Funded by the EU's Horizon 2020 Research and Innovation Grants, EC<sup>2</sup>'s aim is to discover what it takes for energy citizenship and energy communities to thrive.



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# Introduction

**W**elcome to the final newsletter of the EC<sup>2</sup> project! As the project draws to a close, we celebrate all we have learned and delivered: from a novel definition of energy citizenship, through months of co-creation with citizens, to new tools and policy briefs to bring our theory and knowledge into practice. Throughout this project, issues of energy security and climate concern have been ever-present in the news, and we believe that the knowledge we have generated in the last three years can offer useful insights into how the citizen-led clean energy transition that is so clearly needed can be made a reality.

The last few months have seen a period of intense activity for the project, and this newsletter offers an insight into some of the recent highlights, including new deliverables and a look back at our final event in Brussels and the launch of a new policy brief.

Our final consortium meeting in Wroclaw offered us a chance to reflect, celebrate and share our lessons in person. We hope you enjoy this newsletter and all the resources it contains, and thank you for following the EC<sup>2</sup> project!





# Energy Citizenship in the Making: Brussels event launches new joint policy brief

On March 5<sup>th</sup>, over 50 participants from the worlds of academia, policy and civil society gathered in Brussels to dive deep into energy citizenship at Energy Citizenship in the Making, the culminating policy event of the EC<sup>2</sup> project.



The event was organised in collaboration with three other Horizon projects: DIALOGUES, ENCLUDE and EnergyPROSPECTS. It aimed at providing insights from the four projects on how energy citizenship can contribute to an inclusive, democratic, and sustainable Green Deal. It celebrated the launch of a [new joint policy](#) brief drawing on the insights of all four projects on how energy citizenship can contribute to an inclusive, democratic, and sustainable Green Deal.

After an opening address laying out the key challenges regarding energy citizenship, and the pathways identified in order to advance, the day continued with an engaging array of discussions and activities designed to go deeper into the findings of the four projects. EC<sup>2</sup> representative Katja Corcoran from the University of Graz participated in a panel discussion highlighting the psychological aspects of energy citizenship as studied by the project. In the afternoon of the day the EC<sup>2</sup> project team offered a well-attended and highly engaging fishbowl discussion on our transdisciplinary and multi-disciplinary understanding of energy citizenship.

Important emerging themes throughout the day's conversations were the need to focus on the social or *community* aspect of energy communities, particularly with regard to the challenge of inclusion, and the issue of trust and the role of trust-building agents in energy communities. The event was also an opportunity to share our Energy Citizen Empowerment Kits, which provided a talking point as participants networked over lunch.

Between the projects, over 32,000 people across Europe engaged in research, dialogues and co-creation around energy citizenship, and the event was a worthy reflection of the diversity of experiences and input this represented. The joint policy brief serves as a culmination of these efforts, synthesising the diverse knowledge, perspectives, and experiences of the involved citizens. It presents a series of concrete pathways and recommendations for policy-makers, with a primary focus on those at the European Union level, though the insights contained within are also of potential relevance to Member States, regional, and local authorities. The document underscores the importance of integrating the voices and experiences of citizens in shaping policies to not only address the technical aspects of the energy transition but also its social, cultural, and democratic dimensions.

We thank the representatives of DIALOGUES, ENCLUDE and EnergyPROSPECTS for their warm collaboration and all the participants for a highly engaging event.

# Field study results on energy communities and energy citizenship now available



Fleur Goedkoop, University of Groningen

**I**n Work Package 4, EC<sup>2</sup> aimed to provide empirical evidence for the barriers and facilitators of energy communities and energy citizenship. The longitudinal field studies collected survey data among 3902 members and non-members of energy communities within 21 countries and 19 experimental scenario studies including over 10,000 participants. The goal was to identify the relation between (perceived) social, legal, and economic energy community setup features, involvement in energy communities, and energy citizenship of members and non-members (see map of participating countries below).

These studies offer important insights towards understanding citizens' involvement in the energy transition and creating successful interventions to encourage this. The resulting three deliverables, [Report on experimental studies on energy communities](#), [Report on experimental studies on energy citizenship](#) and [Report on correlational longitudinal studies](#) detail the studies and what their conclusions may mean for supporting energy communities and fostering energy citizenship.

Based on their findings, recommendations have been derived for policy makers and energy communities in a dedicated policy brief, [Recommendations for inclusive and empowered energy communities](#).

Specifically, we find that the majority of citizens are not involved in an energy community, and are even unaware of an energy community in their local region. Our research suggests that support for and involvement in energy communities depends on how they are set up - whether as a government initiative, or co-created with citizens. We also find that individual differences in demographics, personal factors such as whether it is perceived as efficacious to join the community, and existing degree of energy citizenship are associated with involvement. Importantly, while we found many insightful results, it's also clear that further research on this topic is urgently needed in order to find out how and when different set-ups of energy communities motivate different groups of people within the EU and beyond to participate in a just and sustainable energy transition.



We want to thank all participants for their time and effort to fill out the survey and all our EC<sup>2</sup> project partners and student assistants for their valuable input, helping with the translation of the surveys and their assistance with the data collection!



# EC<sup>2</sup> launches full set of energy citizenship policy briefs

EC<sup>2</sup> is pleased to share its full set of six policy briefs covering key issues for a just, sustainable and citizen-centred energy transition. The briefs offer comprehensive, research-based recommendations for facilitating and accelerating the transition at every level, from the EU to national and local contexts, with additional focus on a just transition in coal regions and policies for inclusive and motivated energy communities, based on insights from psychological studies.

Each brief, co-authored by ICLEI and EC<sup>2</sup>'s academic partners, succinctly highlights key takeaways for policymakers backed by interdisciplinary empirical research.

ICLEI project lead Daniel Botha of ICLEI said,

“Environmental and geopolitical considerations have seen a huge policy push towards a more renewable and decentralised energy regime across the EU in recent years. These policy briefs seek to contribute to the effective implementation of such policies, showing that their success is contingent on creating a truly holistic and context-specific enabling environment for more active citizen involvement in the energy transition.

The addition of new energy community actors and individual rights and responsibilities to more direct involvement in the transition is a welcome first step. Yet this needs to now be complemented with updates to the wider regulatory and economic framework, which still largely reflects a top-down producer-consumer relationship.

Two examples of recommendations are the focus on legislative coherence extending to domains beyond energy law (most notably housing and planning law), and the far greater guiding role required from intermediaries - particularly local and regional governments, but also civil society actors and local communities.

These briefs aim to guide policymakers at all levels, providing a clearer picture of the unique role that each level can play in the energy transition.”



The briefs were launched at ICLEI's Breakfast at Sustainability's online event on February 14th, “Inclusion and justice in energy transition and energy communities”. This in-depth discussion highlighted recommendations, research results, and good practices for local governments and community energy initiatives, drawing on expertise from the EC<sup>2</sup> project and the Community Energy Academy and with contributions from other actors from across the energy sector.

The full set of briefs, including translations, can be found on our [downloads page](#).





# EC<sup>2</sup> launches the Energy Citizen Empowerment Kit to encourage inclusive community energy initiatives

In February, EC<sup>2</sup> launched a new resource to support the planning and implementation of more diverse and inclusive community energy initiatives: the **Energy Citizen Empowerment Kit**.

Devised with both energy communities and policy-makers in mind, the kit aims at identifying dynamics of exclusion taking place in the energy system while fostering the design of more inclusive and democratic energy initiatives.

## ? What is an Empowerment Kit?

The Empowerment Kit is a gamified tool that triggers and guides discussion about barriers to participate in the energy system. It helps to investigate and identify potential context-specific opportunities and solutions during workshops, brainstorming sessions, energy planning sessions, conferences, and webinars.



## ? How does it work?

The Empowerment Kit is a card game and is offered in a digital and printable format in five languages for an engaging activity both online and offline.

It includes instructions for use and four sets of cards. Each of the sets relates to one socio-demographic factor that is associated with dynamics of exclusion in the energy system: gender, socio-economic background, belonging to an ethnic minority, and housing status.

The socio-demographic factors are used as 'lenses' through which users look at five different dimensions that are crucial for enabling or hindering citizens' participation and engagement in the energy system:

- Knowledge and skills
- Legal
- Finance/economy
- Empowerment/psychology and Participation



The game invites groups and users to consider their own context and answer questions that will help spark discussion and identify possible weak points and inclusive solutions. Cards with examples of solutions in action are also included to inspire possible actions.



The team from ICLEI, responsible for the Kit, commented:

“The kits have been developed with input from energy communities and experts from the finance, legal and psychology sectors. With this toolkit, we aim to promote a more inclusive and just approach to the set up of community energy initiatives, to increase awareness of structural barriers preventing a wider citizens' participation in the energy sector and transition, while encouraging the identification of tailored solutions to overcome them.”



## ? Who is it for?

The Empowerment Kit can be used by anyone working with renewable energy communities. New or aspiring energy communities may work with the kit in meetings to ensure an inclusive approach from the outset, while local governments or community organisers can use it to identify structural barriers and inclusive approaches to citizen participation and engagement with the energy system.

The Empowerment Kit is freely available on the [Community Energy Academy website](#), as well as the EC<sup>2</sup> downloads page, and is available in Spanish, Polish, Dutch and Italian as well as English. It is also published on various national and European platforms for energy citizens such as the REScoop Community Energy Platform, and has been presented to various representatives of municipalities and energy communities.





# New handbook for administrations supporting energy communities

In January EC<sup>2</sup> partners published a new co-created tool for administrations seeking to foster energy citizenship and the creation of renewable energy projects in their communities.

Developed by members of the Law and Psychology departments at the University of Graz and based on co-creation workshops with citizens, the [Energy Communities Website Handbook](#) is a comprehensive guide for public administrations to planning a website that promotes and supports energy communities. The handbook offers a clear structure for a website to provide valuable information and resources for individuals interested in energy communities, whether they want to join an existing one or create their own.

It also offers a mock-up design for a forum in which interested citizens can connect, share knowledge and build community: all needs identified by citizens in the tool's creation process.

Theresa Oswald, from the project team at the University of Graz, said:

“Our research highlighted the need to provide clear, easily accessible information for citizens. We believe this handbook will be a useful guide for any organisation or municipality wanting to support energy communities and look forward to seeing the results”







## A co-creative process

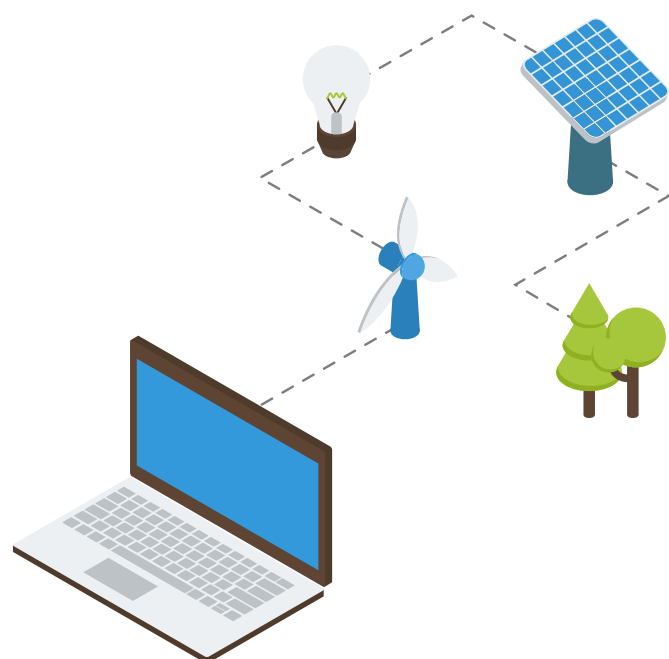
The tool emerged from an extensive process of co-creation with citizens.

The initial round of workshops, held in Italy, the Netherlands, Poland, and Spain, gathered insights on the requirements for transitioning to renewable forms of energy consumption. Energy communities were found to be crucial in local and sustainable energy generation, but encountered numerous technical and organisational challenges. Therefore, the focus was on identifying the most commonly addressed features that facilitate this transition and the obstacles faced by practitioners. During the workshops, participants, including practitioners from municipalities, the energy sector, and energy communities, generated inventive concepts for tools to overcome obstacles and improve facilitation for energy communities, promoting energy citizenship.

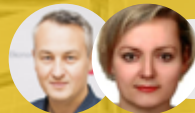
**The most commonly requested features were clear information and networking opportunities.**

With these findings in mind, the researchers first evaluated previously identified tools with regard to how they address the identified need for information. Eventually, they based the handbook on an existing website. To evaluate the website, they conducted a representative study which showed that the willingness to participate in energy communities increases with clear and concise information about them, although many people were unaware of their existence.

In another step, practitioners were asked to share their expertise in a second round of co-creation workshops. Their ideas and refinements were integrated into the handbook and helped to focus on the information aspect. In addition, they emphasised a need for structured and easily accessible exchange between active and interested parties. Accordingly, the Uni Graz team created a clickable mock-up of the forum to test the idea and was found to be useful in another survey.



# Wrocław – South Housing Cooperative Unveils an Inspiring Solution for Energy Communities



Piotr Szymański, Magdalena Rozwadowska



**E**C<sup>2</sup> partner Wrocław-South Housing Cooperative (WP-SHC), recently celebrated the official launch of the second phase of the Wrocław Solar Power Plant (WSPP). This initiative modernised the thermal retrofitting of the building and installed hybrid systems combining photovoltaic-powered heat pumps with the existing cogeneration heat supply system. The event was attended by the cooperative's residents, project initiators (including WPSHC CEO Marek Dera), project contractors, representatives of housing cooperatives in Wrocław, representatives of city authorities, the district heating supplier Fortum S.A., and representatives from the University of Economics in Wrocław and EC<sup>2</sup> project members, Dr. Bożena Ryszawska and Dr. Piotr Szymański.



## The significance of the solution

Buildings account for 41% of energy consumption in the European Union. In Poland, this percentage is significantly higher because more than 50% of households use district heating, currently largely (almost 70%) still powered by hard coal. Simultaneously, from 2020 to 2023, the price of coal-fired district heating doubled. Thus, the hybrid renewable energy installation undertaken by WSHC has potential significance for 19.7 million citizens living in 555,400 multifamily buildings in Poland using district heating.

## Technical and economic dimension

The pilot hybrid solution applied in one of nearly 100 WSHC buildings combines a 40.3 kWp photovoltaic installation with heat pumps of a total capacity of 64 kW, providing hot water for about 712 residents in 252 apartments. The installation is supported by district heating. The construction costs of this installation amounted to 756 thousand PLN. The solution applied by WSHC allows saving 30% of the previous costs associated with domestic hot water, which represents 82 thousand PLN annually. Spreading this solution nationwide could save citizens 1.018 billion PLN annually. The investment also included the replacement and improvement of thermal insulation on walls and on the building's roof, increasing the insulation of heating installations, and replacing lighting with energy-efficient ones. This modernisation should yield results both during the heating season and in the summer, improving the thermal comfort of residents and increasing the building's functional values.

## Environmental dimension

The *ex-ante* analysis of the hybrid renewable energy installation indicated that increasing the building's energy efficiency allows estimating the annual scale of carbon dioxide emission reduction at 374 tons, equivalent to the assimilation of greenhouse gas by about 87 hectares of forest, or 29,000 trees - equivalent to the area of Szczytnicki Park, the largest in Wrocław. Considering the current prices of CO<sub>2</sub> emission allowances at 374 PLN per ton, the value of reduced emissions amounts to 156 thousand PLN. Scaling the solution applied by WSHC for other such buildings in Poland would achieve an annual emission reduction of 2.7 million tons of CO<sub>2</sub> and savings related to the lack of need to purchase CO<sub>2</sub> emission allowances amounting to 1.017 billion PLN annually. Additional environmental effects of 894 tons of CO<sub>2</sub> annually were obtained due to the building's thermal modernization.

## Social dimension

WSHC once again (after the success of Wrocław Solar Power Plant part one) sets the direction for cooperatives, housing communities, and municipal apartments in Poland on how to carry out a fair, civic energy transformation. This project is not only a technological change but also a social change that took place during a particularly difficult pandemic period. Change processes, innovative processes are difficult in enterprises, and even more challenging in cooperatives where there are many autonomous stakeholders, and expectations are very diverse. WSHC has prepared applications for co-financing for a similar project in subsequent buildings. The solution will ultimately cover 100 buildings with approximately 30,000 inhabitants.

EC<sup>2</sup> supported the long process of preparation and implementation, taking its analyses as basis for some recommendations directed to decision-makers at the local, national, and EU levels in the project's [policy briefs](#).





# Open days and twinning programme bring citizens closer to energy communities

**E**C<sup>2</sup> has committed to spark energy citizenship in localities across Europe. As a result of this commitment, community energy projects have hosted six energy community open days. Events took place in the UK, Spain, France, Estonia, Slovenia and Italy, with the goal of helping citizens understand how they can become more engaged in energy issues with practical and inspiring examples. From a family fun day with games and activities hosted by Community Energy Colchester to a visit to the only residential settlement in Slovenia that is powered 100% on renewable sources of energy, the open days have inspired almost 200 citizens to rethink their relationship with the energy system.

Meanwhile, to deepen engagement with the tools and learnings from EC<sup>2</sup>, the project's online twinning programme has recently celebrated its final session. This programme received applications from all across the world, and links EC<sup>2</sup> practice partners with new and aspiring energy communities to offer mentoring and create action plans encompassing the legal, social and financial aspects of setting up and running a successful community energy initiative.



The first action plan, created with Pourges ecovillage, proposes the idea of a 'community within a community' - creating an energy community with the wider community surrounding the ecovillage. This plan brings together practical recommendations from the practice partners Arterra Bizimodu, Buurkracht, the municipality of Scalenghe and Torri Superiore. A final deliverable, the policy and practice impacts report, will bring together insights from the open days and twinning programme, and offer learnings for future energy citizenship engagement opportunities.



# Reflections from a practice partner



Lucilla Borio, Ture Nirvane

As the end of the EC<sup>2</sup> consortium is fast approaching, the practice partners have been reflecting on the role they had in this three-years long partnership. Their contribution has been meaningful, and even crucial, at different levels: collaborating with the University of Groningen for the creation and distribution of community-oriented surveys, organising and managing a series of interactive workshops in the Netherlands, Poland, Spain and Italy to engage different stakeholders in the process of creating an innovative web-based tool to support Energy Communities, consulting with UniGraz and GEN Europe for the creation of the Energy Cards to inspire discussion and reflection of the topic of energy transition in various contexts.

Says Lucilla Borio of the Ture Nirvane Social Cooperative, that runs the Ecovillage Torri Superiore in Liguria, Italy:



*“Being part of this consortium has been a great honour for us, and it also posed some concrete challenges in terms of getting familiar with the formal and aspects of the Horizon2020 programs. We have learned a lot about the current situation on the topic of energy transition in Europe and especially in Italy, where the legal framework is still evolving and new regulations have been issued during these three years. Our closest partners in Italy, the Municipality of Scalenghe and the University of Eastern Piedmont UNIPO, were key to the success of the three workshops thanks to the active participation and contribution of Dott. Anna Grignani.*

*We as Ecovillage Torri Superiore have triggered quite a bit of discussion in our western Liguria area, innovative projects are being discussed to further development in our area. We like to bring an open perspective on the topic of energy, a concept that is permaculture based and aims at defining energy as an element embedded in multiple elements of nature, including water, biomass, humus, wind, and not focus only on solar energy for PV panels. Energy is all around us, the first step for a sustainable and fair energy transition is to become more literate in understanding it, and storing it locally as much as possible. A stitch in time saves nine!”*





# Looking back at the EC<sup>2</sup> deliverables



**A**s the project comes to a close, we have been reflecting back on the wide range of deliverables developed through EC<sup>2</sup>. From theoretical contributions to practical tools for citizens and policymakers, these deliverables have all contributed to realising the original aim of EC<sup>2</sup>: advancing the state of the art in its area of study and to informing policy and practice on energy communities and energy citizenship for a low-carbon transition.

Our work began by developing an [interdisciplinary definition of energy citizenship](#), followed by a [scale](#) to measure energy citizenship. We compiled a [catalogue](#) of legal and economic barriers to energy citizenship with input from actors across the energy sector, forming the basis for further deliverables such as the [co-created tool](#) to support energy citizenship and the [Community Energy Academy](#). Lab studies (on [energy communities](#) and [energy citizenship](#)) and a [longitudinal study](#) informed several of the recommendations in our series of [six policy briefs](#). Finally, the [Energy Citizen Empowerment Kit](#) drew on insights from across the project to provide a practical tool for administrations, energy citizens and energy planners.

Beyond the project deliverables, our academic partners have made several contributions to the state of the art through published and in-progress journal publications, conference proceedings and a book chapter.

All our deliverables and publications will remain available [on our website](#), and we hope they will provide meaningful support for those who study and practice energy citizenship in the years to come.

*Thank you for accompanying us on this long and varied journey towards a just and sustainable energy transition!*





# Celebrating the final EC<sup>2</sup> consortium meeting in Wroclaw, Poland

... with a smile and a tear in our eyes!



Judith Feichtinger, ZSI

**E**C<sup>2</sup> is coming to an end and the final consortium meeting provided a welcome opportunity to reflect and wrap up our years of work together. It focused on completing the project, discussing its legacy, and ensuring its sustainability. In this article, we spotlight some of the key conclusions the consortium made during this meeting.

One of the sessions was built on a discussion we had at the very beginning of the project, to be exact, three years earlier. Back then, at the kick-off meeting, we employed the “dreams and nightmares” workshop method. This format allowed us to identify visions and concerns for EC<sup>2</sup>, enabling consortium partners to brainstorm ideas on how to achieve our dreams for EC<sup>2</sup> and prevent potential nightmares. It is an excellent method for fostering a collective vision and addressing concerns in a targeted manner. After three years and the experiences gained in EC<sup>2</sup> we returned to these discussions and assessed whether the anticipated accomplishments and risks materialised. Partners collectively noted that many of the initial concerns were resolved remarkably well. In particular, EC<sup>2</sup> succeeded in overcoming challenges related to interdisciplinary collaboration and uncertainties surrounding the role and responsibilities of practice partners.

Moreover, the consortium explores the legacy and sustainability of the EC<sup>2</sup> project. The discussion was structured in two rounds; the first explored what elements would endure after EC<sup>2</sup> while the second delved into personal and organisational benefits. Several activities and tools directly connected to are expected to outlast the project. For instance, EC<sup>2</sup> will be presented at the EUSEW 2024 in June and at the CINEA clustering project event in September 2024. All outcomes will be published on Zenodo, and the webpage containing all results will remain online for additional two years. Our scientists will continue working with their students on EC<sup>2</sup> results, also the data will be reused and applied further. Our network partners will continue using the tools elaborated and practice partners have gained good experience with co-creation processes – accelerating the building of bridges between citizens and municipalities and new insights, e.g. on inclusion aspects. Consultancy services can particularly benefit from social scientific parts of the results. We concluded that our outcomes contribute to the advancement of the clean energy transition, gaining valuable insights primarily within the realm of social research and with generating tools that are genuinely beneficial and efficient in practical application.



***On a personal level, the consortium partners recognised a significant learning curve in acquiring knowledge on the topic energy citizenship.***

It was also emphasised that the communication within the consortium went exceptionally well, which led to strong networks and initiated reflection on our organisations contributions and broadened the understanding of interlinkages between actor groups. Many partners acknowledged that helped them to grow in the face of the challenges that multi-stakeholder processes pose. Finally, partners unanimously agreed that the intrinsic motivation of all partners within EC<sup>2</sup> was and continues to be very inspiring.

The second day, we met with representatives of Wrocław City, Deputy Mayor Bartłomiej Ciążyński and Deputy Director of the Department of Climate and Energy, Grzegorz Synowiec, Professor Andrzej Graczyk (UEW), energy experts from the Provincial Fund for Environmental Protection and Water Management in Wrocław, Lightness project expert Izabela Kowalik and Maria Lewandowska-Mika, Director of the Lower Silesian Federation of Non-Governmental Organisations. The research team, Bożena Ryszawska, Magdalena Rozwadowska and Piotr Szymanski from the Wrocław University of Economics and Business, presented recommendations for countries, regions and cities to support citizen energy communities. A heated debate on the co-creation of energy communities by citizens took place.

Additionally, the consortium visited our Polish practice partner, the Housing Cooperative Wrocław-South (HCWS). HCWS runs the Wrocław Solar Power Plant (WSPP) project, which is the largest rooftop photovoltaic system in Poland. The solar panel the EC2 consortium visited is part of a total of 2,771 solar panels on the rooftops of 35 buildings all over Wrocław. It was developed using a co-creation strategy that engaged the inhabitants.

Finally, we toured the city with a professional guide who told us about the history of Wrocław. We ended the day in the oldest restaurant in Wrocław dating back to the 13th century, Piwnica Świdnicka.

Overall it was an enjoyable mix of reflection, learning and celebration, and we are grateful to our hosts and all our partners for such a satisfying closure to our project.







# Stay connected



Whether you're **researching energy citizenship**, a member of an **energy community**, working on **energy policy**, or simply curious about what the **green energy transition** can look like - we invite you to stay connected with us on social media:




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