Interreg CENTRAL EUROPE

Co-funded by the European Union

JETforCE

D.2.2.1 Final report of transnational pilot 1

O.2.1 Challenge Mapping pilot – Digital citizen engagement for Just Energy Transition in Central Europe

Final

11/2024

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Introduction

JETforCE project consortium in February 2024 has officially launched the implementation of the first JETforCE Transnational pilot action "Mapping energy transition challenges with citizens" - Testing JETforCE Digital Challenge Mapping for Just Energy Transition. The pilot was focused on applying the Challenge Mapping tool (D.1.3.1) in partner areas, collecting challenges and proposing solutions to address identified challenges in transnational Pilot 2, by using the Technology Evaluation tool (D.1.4.1). Pilot activities were focused on engaging local citizens and stakeholders through the Challenge Mapping Tool to map specific issues affecting energy transition in CE 9 regions.

This report presents the activities carried out in the pilot, analyses challenges and how to prioritise/address them (input for policy consolidation in WP3), and it includes results of the final evaluation carried out in A2.1.

1. Transnational Pilot 1 – Mapping energy transition challenges

The piloting process started almost at the beginning of the project implementation by providing inputs to the D.1.3.1 JETforCE Challenge Mapping Tool developer, PP3-IAAI. Project partners have worked together with IAAI on defining the tools features and how it can be used in the scope of the JETforCE project, which focuses on addressing the need for energy transition in Central Europe (CE), without disproportionate negative socio-economic impacts on certain vulnerable territories or demographics.

The beta version of the Challenge Mapping tool was developed by PP3-IAAI in the first project semester, and then project partners were invited to provide their feedback and inputs to adapt the beta version before its official launch at the end of February 2024. The Challenge Mapping Tool represents a innovative framework, where a challenge reporting data structure assesses climate transition initiatives in a given area and identifies potentially adverse effects on vulnerable communities. In JETforCE, the tool is adapted to Interreg Central Europe regions and extended to all citizens.

The official launch of the Transnational Pilot 1 was in Bautzen, Germany on 29th of February at the Bautzen Energy Forum, after which, each project partner has organised the testing process, together with local launch events in their region.

1.1 Events at local/regional level

The Transnational Pilot 1 was officially launched and tested in 9 Central European regions. In this chapter it will be described how each responsible PP has organised and conducted events at local or regional level with the aim to test the Challenge Mapping Tool and collect challenges from citizens in their area.

In Hungary, the leading organisation of the JETforCE project consortium, BORA 94, introduced the Challenge Mapping Tool on the General Assembly meeting for the Bükk-Area LEADER Action Group on the 16th of May 2024 where the project and the tool were introduced to a larger group of mayors and other community members/energy experts (35 attendees). The event has provided a great opportunity to introduce the core elements of the JETforCE project as well as to raise awareness about the climate challenge mapping application. BORA 94 has raised questions about the potential local usage of the app as well (e.g. would they dedicate a climate/energy expert to follow-up the challenges, what types of local incentives would they provide for the active users, etc.).

Metropolitan City of Bologna-PP4 organised the first online local event on 24 of April 2024. The event, realised in collaboration with Digital Ambassador Nicolò Fontana of Absolut Eventi & Comunicazione, brought together over twenty entrepreneurs, managers and marketing directors from various manufacturing realities in northern Italy. The main objective was to promote a fair and sustainable energy transition through the involvement of the business sector. This collaboration offered a unique platform for stakeholders to directly contribute to the

definition of EU energy policies and investment strategies. The event was attended by leading companies from different sectors, including Montenegro Group, Waterlogic Corporate, Culligan, CPS Company, Blu Service, Dolce&Gabbana, BolognaFiere Group, Electra Global Service, Sistemi Ufficio, Visual Lab, Baccaro I Cementisti and the SANA Festival. Participants had the opportunity to take part in meaningful discussions and explore the JETforCE Digital Challenge Mapping Tool, a tool designed to facilitate the identification and analysis of key local challenges. The second event in the took place on 8 May 2024 at the University of Reggio Emilia in collaboration with Professor Francesco Silvestri (DA) and Nicolò Fontana. The goal was to promote the tool to Marketing (and Digital Marketing) students in order to understand what challenges today's young people want to bring to their attention.

In Germany, organised by Bautzen Innovation Centre-PP5, the beta version of the Challenge Mapping Tool was presented at the Bautzen Energy Forum on 29 February 2024. On 13 May 2024 as part of the meeting of PP5's JETA that day, an in-person workshop on the Transnational Pilot 1 was held, in which the functionality of the tool was demonstrated, questions were answered and its use was encouraged. Following the meeting, an initial sample of challenges was submitted by the participants; the workshop also helped to identify some remaining usability concerns. On succeeding meetings, JETA participants were kept in the loop about changes and updates to the platform and encouraged to join. Pilot 1 was further publicized by the creation of a dedicated page and user guide on the website of the Bautzen Energy Agency, a follow-up mailing to the participants of the Bautzen Energy Forum, articles in two newsletters, and another mailing in October 2024. PP5 also joined several formal and informal conversations with local stakeholders, for example on an energy discussion round table hosted by the Saxony Consumer Advocacy Centre on 16 April 2024, and a local civic stakeholder meet-up organized by VEE Sachsen.

In Slovenia, Local energy agency Spodnje Podravje-PP6, successfully held on June 16, 2024, the local launch of the JETforCE Digital Challenge Mapping tool during the Municipality’s community event. LEASP hosted its own stand, where staff provided in-person guidance on using the tool. Printed guides in Slovenian were distributed to ensure accessibility for all attendees. Throughout the event, LEASP representatives actively engaged with citizens, highlighting the tool’s benefits and demonstrating how to report local energy transition challenges. Hands-on assistance and real-time responses to questions helped empower participants to use the tool confidently. Interactive demonstrations allowed attendees to try the tool on-site, with LEASP staff offering guidance to build familiarity and self-assurance. This approach fostered community involvement and collected valuable insights from residents on specific energy transition challenges. By aligning the launch with the Municipality's event, LEASP reached a broad audience, encouraging widespread adoption of the mapping tool and promoting active citizen participation in the energy transition.

IRENA–Istrian Regional Energy Agency-PP7, officially launched the Transnational pilot 1 in the Istria Region at the end of April 2024. The launch events were organised at two major events in the Istria Region, where the JETforCE pilot activities were presented and officially launched. From 23-26 April, IRENA was one of the responsible partners for the organisation of the conference “Green and Blue Energy Transition Days”, a series

of three-day events organised to promote energy efficiency and the use of renewable energy sources in the Istria Region. The organisers of the conference besides IRENA, were the Istria Region, the City of Labin, the Faculty of Mechanical Engineering and Naval Architecture and the Faculty of Mining, Geology and Petroleum Engineering of the University of Zagreb. The three-day programme contained a set of comprehensive presentations and panel discussions. On one of the panels, representatives of IRENA introduced the project JETforCE, its importance in ensuring the just energy transition and inclusion of vulnerable groups. The conference was a great opportunity to invite the audience to download the tool and provide initial feedback. On the 25th of April, representatives of IRENA participated at the conference "Increase in solar energy production capacity at public facilities" organized by the Municipality of Medulin where they introduced the JETforCE pilot activities, particularly the Challenge Mapping pilot which can be a powerful tool for collecting valuable inputs from the citizens in the scope of detecting and addressing local energy transition challenges. The last major event where JETforCE Transnational pilot 1 activities were presented, was the public event "Living streets-Labin", organized in Labin on 25th of October. At the event, IRENA had a stand where citizens were invited to report challenges which they are facing in the energy transition process.

In Czech Republic, Energy Agency Vysočini (EAV)-PP8 organized their local launch event in Jihlava, in the premises of the Jihlava City Hall, specifically in the Great Gothic Hall, on the 3rd of May 2024. EAV organized the event in cooperation with the City of Jihlava, which is a strategic partner of the JETforCE project. Representatives of municipalities in the Vysočina region and the general public were invited. All attendees were informed about the tool and received information on where to find the app and how to use it for mapping challenges in their city. The Challenge Mapping Tool was also introduced during the RES conference held on October 3, 2024, in Slavonice, Czech Republic. During the event, participants, including municipal and regional representatives, were introduced to the tool's functionalities and capabilities. Conference attendees also learned about the specific methods for implementing the tool within regional and municipal strategies, as well as how it can simplify and accelerate the analysis of challenges and opportunities in territorial development.

The local launch event in Slovakia took place on 29th May 2024 in regional office of PP9-Slovak Innovation and Energy Agency (SIEA), located in Banská Bystrica – the capital of the associated partner´s region. The meeting was held in hybrid form. The JETforCE progress was presented by the SIEA representatives at the 13th EUSDR Forum in Vienna as a part of the session dedicated to PA2: Sustainable Energy of the Danube Strategy, as the project, by its focus, contributes to the fulfilment of the objective of this priority. On 19th September 2024 an internal online event for the staff of the Slovak PP - Slovak Innovation and Energy Agency was organised. The main focus of the event was to present step – by – step the use and functions of the application Challenge Mapping Tool. The project JETforCE was presented by the representatives of SIEA at the annual IT conference "Radosti a strasti elektronizácie" organized by the JETA member – company YMS, a.s. An event took place in Hotel Sitno (village Vyhne) in Banská Bystrica region.

On August 9, 2024, the public local launch event of the JETforCE Digital Challenge Mapping Tool was organized in in Lodz, Poland by the PP10-Lodzkie Region. The meeting with the participation of Artur Ostrowski, Member

of the Management Board of the Lodzkie Region, was organized by the Department of Regional Policy and Foreign Cooperation of the Marshal's Office of the Lodzkie Region. The speakers also included representatives of the Just Transition Fund Department and the Spatial Planning Office of the Lodzkie Region in Lodz. The participants of the event were authorities and representatives of local governments from the transformation area of the Lodzkie Region and non-government organizations from the region interested in the process of just transformation. The aim of the meeting was to present the digital tool developed as part of the first pilot action of the JETforCE project, used to map challenges occurring in the transformation areas covered by the project. During the meeting, issues important for the gathered stakeholders were also discussed, such as the assumptions of the just transformation process in the Lodzkie Region, as well as support available to local governments under the JTP Groundwork and LIFE AFTER COAL projects, in which the Spatial Planning Office of the Lodzkie Region in Lodz takes part. Possibilities of financing transformation activities under the FEŁ2027 program and obtaining information on obtaining project funding were also discussed.

In Austria, Weizer Energy and Innovation Centre-PP12, for the purpose of testing the Challenge Mapping Tool and collect energy transition challenges from citizens in their area, organized three key events. On April 22, 2024, they have organized official launch of the Challenge Mapping Tool, by bringing together local stakeholders and citizens to introduce the tool and its role in the Just Energy Transition (JET) process. During the event, participants were guided through the tool, and open discussions were held to identify regional energy challenges. As a result, 11 challenges were mapped during this session, marking a successful start in gathering input for the energy transition. On July 2ND and 3rd 2024, PP12 organized an excursion to the Energy Park Wunsiedel, where they have exchanged ideas with their German neighbours, focusing on citizen engagement strategies. While this was not specifically organized for testing the Challenge Mapping Tool, the discussions provided them with valuable insights into how to involve citizens more effectively in the energy transition, which we applied in our local activities. On September 22, 2024, we participated in the Environmental Event in Gleisdorf, where we showcased the Challenge Mapping Tool and engaged with local citizens about energy transition challenges. The event provided an excellent platform for raising awareness about the importance of community involvement in shaping sustainable energy solutions. Attendees had the opportunity to interact with the tool directly, offering their insights and identifying specific challenges related to the local energy landscape.

1.2 Challenge Mapping Tool – testing at the local/regional level

Each project partner was responsible for implementation of testing activities in their areas. In the following chapters, it will be described how the testing was organised, who was involved and how the testing went.

The testing process in Hungary, organised by LP-BORA94 was organised in four main steps, according to the target group involved:

1) Colleagues of BORA 94 – following the Bautzen meeting/public launch of the tool.
2) JETA members, including Digital Ambassadors – in person on the 23rd of April 2024.

3) Students from the University of Miskolc in the frame of an outsourced energy economics class – 14th of May 2024 – to get feedback from the younger generation, who is more likely to use apps.
4) Involving a new JETA member (Hungarian Red Cross B-A-Z County Directorate, dealing with most vulnerable groups) and testing with them individually – 03rd of June 2024.

The LP in their report state that it it was a valuable testing process, since they could gather ideas, suggestions for the app improvement from all kinds of aspects. All different target groups had found the basic concept of the app very useful, however all expressed their main concerns regarding the uncertain future of the tool management issues (e.g. who will deal with the reports and their follow-up/solution, as well as the proper application of the GDPR rules (e.g. for uploading photos of someone else's house/property, etc. without their consent). Another main concern that still remains is that if there will be no incentives for reporting challenges, then it is not likely that the tool will be widely used. These aspects will need to be further discussed with potential local organizations (e.g. local municipalities, environmental/social NGOs), who are able to provide climate/energy expert anyway to tackle and handle the reported issues.

The Metropolitan City of Bologna (MCBO)-PP4, led the implementation and testing of the digital application in the area of Emilia Romagna Region. Firstly, the tool was downloaded and tested by MCBO employees to ensure its proper functionality. In the next phase, with the support of the two Digital Ambassadors, Nicolò Fontana and Francesco Silvestri, comprehensive information about the tool was shared with key stakeholders. This included a link and a QR code for downloading the app, along with a request for feedback. Many stakeholders reported issues with the app's functionality, such as difficulties with registration, errors in localisation, inability to download, and challenges using it on mobile devices (though it worked on PCs). These problems were promptly communicated to the WP2 and PA leaders, who addressed the issues and ensured the app became fully operational. Digital Ambassador Nicolò Fontana was tasked with developing a promotional strategy targeting companies and students within the metropolitan area. Additionally, the tool was promoted and tested during two local launch events organized by the Metropolitan City of Bologna on April 24 and May 8, 2024.

Bautzen Innovation Centre-PP5 repeatedly tested beta versions of the Transnational Pilot 1 throughout its development, on both Windows and Linux PCs as well as iOS and Android smartphones. The testing led to several rounds of feedback to the developers on various technical aspects of the platform, such as appearance on different devices and/or browsers, categorization of challenges, and user interface / accessibility. This also incorporated feedback collected from their local JETA. This feedback was submitted via email and also presented at the fourth project meeting in Ptuj on 12-13 June 2024.

In their final report, PP6-LEASP stated that the pilot testing phase proved crucial in ensuring the JETforCE Digital Challenge Mapping tool's effectiveness and usability. Input from the Municipality's representatives helped them to identify and address specific areas for enhancement, resulting in a tool that now supports clear and constructive communication between citizens and local authorities for tackling energy transition challenges. At the launch event, LEASP successfully engaged citizens, encouraging them to actively use the

tool to report local challenges. The Municipality representative not only offered on-site assistance to citizens in posting challenges but has since taken an active role in regularly reviewing the submissions. These reports are now being discussed internally, enabling the Municipality to address urgent challenges promptly and integrate community insights into long-term strategies (if relevant).

PP7-IRENA, after the launch events started with dissemination activities among the JETA members and the representatives of local municipalities in the Istria Region aiming to test the tool and report the first challenges. At the beginning, the tool was tested by IRENA members, and several suggestions for improvement were sent to IAAI. After the tool was improved, IRENA started informing local JETA members and also representatives of regional municipalities to test the tool, report challenges related to the energy transition process and provide recommendations for improvement. By the time of the Monitoring Committee meeting in Ptuj, the tool was tested by the representatives of the Municipality of Medulin, Kršan, Pićan, City of Labin, City of Pula and the Istria Region. After the Monitoring Committee meeting in Ptuj and implemented improvements in the tool, IRENA started to disseminate tool in several public events and inviting citizens to use the tool and report challenges which they seem relevant and important to be addressed by their local and regional authorities.

Energy Agency Vysočiny (EAV)-PP8 the first phase of testing the challenge mapping tool implemented at the partner organization level. EAV employees tested the tool to gather information and prepare feedback for IAAI, the organization responsible for developing the tool. EAV promoted the challenge mapping tool during various meetings with representatives of municipalities. The tool was introduced to representatives of Mikroregion Třešťsko, the City of Třešť, the City of Humpolec, and the City of Brtnice. On the 3rd of May, the tool was officially launched to the public at the local level by EAV. Since then, EAV has been monitoring the activity and usage of the tool. The feedback collected from these initial interactions will be crucial for further refining and enhancing the tool's functionality and will be use as a background for the following project activities.
In Slovakia, during the official launch event, the tool was launched and presented to the participants on screen and on line under the profiles of the PP9 representatives. Subsequently in the following weeks, other members of Slovak JET Alliance had generated their own profiles in the tool and altogether 5 of them participated in active pilot testing. At the online webinar (chapter 1.1.3) the same on screen and on-line presentation was used, supplemented with powerpoint presentations showing detailed description of each page of the tool, with explanations and comments on how to use it.

In the Lodzkie Region, the application was firstly downloaded and tested by employees of their institution. Then, detailed information about the tool as well as a link and QR code for download were sent to the group of stakeholders with a request for feedback. Most of their stakeholders indicated that there were problems with its functioning: logging in, location, and above all, it could not be opened. After reporting the above comments to the WP2 and PA1 leader, the errors were fixed, which allowed the application to be fully used.
The application was also handed over to the Digital Ambassador, who will develop a strategy to promote it among residents of the Transformation Area. On 8-9/11/2024 in Lodz during an expert exchange, organized by

the European Commission as part of the Just Transition Platform Groundwork, the JETforCE team from the Lodzkie Region was present with a stand dedicated to the project. The same thing happened during the Special Economic Zone's conference #INVESTMENTS Green Possibilities Forum, on June 25 in Lodz.

The testing activities conducted in the Weiz region cantered around a series of structured events aimed at promoting the Challenge Mapping Tool and engaging the community in energy transition discussions. The first key event was the **launch event** for the Challenge Mapping Tool, held on **April 22, 2024**. This gathering attracted **22 participants** from various sectors, including local residents, stakeholders, and community leaders. The event served as an introduction to the tool, featuring presentations that highlighted its purpose, functionality, and the importance of community involvement in reporting energy-related challenges. Interactive sessions encouraged attendees to explore the tool and ask questions, fostering a sense of ownership and enthusiasm among participants. Following the launch, several **virtual training sessions** were organized to further familiarize users with the app's features and functionalities. These sessions allowed participants to learn about the tool's capabilities in a more detailed manner, addressing any technical concerns and enhancing user confidence. Feedback from these sessions was instrumental in identifying areas for improvement and ensuring that the tool was accessible and user-friendly. A significant milestone occurred during the **transnational partner meeting in Ptuj on June 12-13, 2024**. This meeting allowed the Weiz team to exchange knowledge and experiences with other project partners regarding the testing of the Challenge Mapping Tool. The collaborative atmosphere facilitated discussions on best practices and challenges faced during implementation, enriching the overall understanding of the tool's application in various contexts. The testing activities in the Weiz region also included efforts to promote the Challenge Mapping Tool at the **Environmental Festival in Gleisdorf on September 22, 2024**. This event provided an excellent platform for wider dissemination of the tool, targeting a broader audience interested in environmental issues and community engagement. At the festival, the project team set up an interactive booth where attendees could learn about the Challenge Mapping Tool's functionalities and benefits. Participants were encouraged to download the app and explore its features firsthand, with team members on hand to provide guidance and answer questions. This engagement aimed to foster interest in the tool, highlighting its role in empowering citizens to identify and report energy-related challenges in their communities. These events collectively contributed to creating a robust framework for community engagement, equipping residents with the knowledge and tools necessary to participate in the energy transition actively. By fostering dialogue and collaboration, the Weiz project team not only promoted the Challenge Mapping Tool but also strengthened community ties and encouraged ongoing participation in energy-related initiatives.

2. Monitoring and evaluation of the PA1

2.1 Monitoring of the pilot action implementation

The pilot activities were monitored by the Monitoring Committee established according to the D.2.1.1. Methodology. Each project partner has assigned one member and regarding the Transnational pilot 1, two Monitoring Committee session were held. The first one was the constitutive meeting in Bautzen on 28th of February 2024 in the scope of the 3rd project meeting, and the second one was in Ptuj on 12th of June. The meeting in Ptuj was essential to evaluate the first phase of the Transnational pilot 1 progress, and during the Monitoring Committee session, partners have provided valuable inputs to the WP2 and PA1 leaders in order to improve the tool and prepare it for the final testing. As the conclusion from the 2nd Transnational Monitoring Committee meeting, project partners have agreed that due to the limited amount of time, it was necessary to carefully plan and implement improvements in the Challenge Mapping Tool in order to finalise the Transnational Pilot 1 on time.

As the most relevant improvements, project partners have proposed the following:

- Minimisation of technical issues (response time etc).
- Adding the possibility to modify reported challenges.
- Adding the possibility of sorting challenges by countries/regions.
- Providing instructions on what type of challenges should be reported.
- Adding the Possibility to use the app without sharing users' location.
- Play/App store availability.
- Motivation for the end users (incentives, rewards).
- Inclusion of Universities.

The proposed improvements of the tool were crucial for further collection of challenges by all the partners and analysis of reported challenges with the aim of addressing them in the Transnational Pilot 2 and WP3 activities.

In this chapter, all the partner contributions related how the pilot process went on the local level will be presented. Each PP had the task to prepare their report related to the implementation of the Transnational pilot 1 in their area, and in this document all their contributions were included.

LP-BORA9 94 in their report states that general process of the Transnational Pilot 1 went well, several personal and online meetings were held to introduce the project and the tool to different target audiences, however due to several technical issues to be resolved, the app is still not totally up and running. They have conducted several internal tests, and feedback was duly collected and sent regularly, after each testing meeting to the developers. Most of the issues have been solved already, but some important ones still remain to be solved. This includes also the key question of the actual usage of the tool (meaning that people will not send in anything

if they are not reassured that these challenges will be dealt with a management team, because nobody wants to just complain about a difficulty in their neighbourhood, if they are not sure that it will be solved sooner or later).

The Metropolitan City of Bologna-PP4, in collaboration with the two Digital Ambassadors, Nicolò Fontana and Francesco Silvestri, organized 2 meetings, in person and online, to present the project and its tool to various target groups. During this phase, some technical issues were identified, particularly regarding the tool's functionality for sharing challenges and geolocation. These issues were promptly reported to the WP2 and PA1 managers and the project partnership. While resolution required some time, the problems were successfully addressed, enabling smoother use of the tool. One of the main challenges was the need to clearly explain to stakeholders how to identify and share challenges, both from a business and citizen perspective. To overcome this, additional informational support was provided during the meetings, and more detailed explanatory materials were developed. The action was monitored by analysing stakeholder interactions with the tool and the feedback collected during the meetings. Through continuous review and refinement, valuable insights were gained to better understand the needs of the local area and to promote informed and effective use of the tool in alignment with the project's objectives.There were no significant delays in organizing the launch events. For the first meeting, held on April 24, an online format was chosen to align with the digital nature of the tool and its intended applications.

In their final report regarding PA1 activities, PP5 states that no major issues were encountered during the pilot action implementation, aside from consistently low response rates. Some publicity measures were purposefully delayed in order to allow for the tool developers to improve it before spreading it to the wider public. The PP5 states that their communication evolved in some ways from the original public presentation of the tool at the Bautzen Energy Forum in February to later in the year, as they sought to emphasize that there would be a follow-up to the reported challenges, and how they can be addressed.

LEASP-PP6 in their reports emphasized that after initial testing of the tool by representatives from the pilot municipality, they were able to effectively support citizens in reporting challenges. Although there was a small delay with the launch event and in citizens starting to use the tool, with the municipality's support they have gathered a relatively high number of reported challenges. The municipality representative has been highly dedicated to encouraging app usage among citizens, providing hands-on support as they navigate the tool.

PP7-IRENA as the partner responsible for the implementation of the Transnational Pilot 1 in the Istria Region, reported that planned testing activities in the region were performed on time, but with limited reach to the final target group, the citizens. The reason for lower success in reaching broader audience was mainly dedicated on providing valuable proof on how the collected challenges will be addressed in the future, and not “only” collected. This is something that needs to be addressed during the rest of the JETforCE duration, but also after the project ends.

In Czech Republic, the pilot action at the local level began with testing the mapping tool within the PP8-EAV, where basic functionalities were evaluated. EAV, as a project partner, identified several issues and provided comments to be reported to IAAI. Following this, a local public launch of the application was organized and testing of the application with the general public commenced.

Slovak Innovation and Energy Agency-PP9, in their report stated that with altogether 97 participants having the opportunity to see and test the tool during 4 organized events, they can consider the testing activity as successful one. On the other hand – the real number of challenges (only 3 reported challenges from Slovakia until 14th of November 2024), as well as 15 – 20 users that are regularly using the tool, they consider it as a quite insufficient result.

Work on the use of the tool in the Lodzkie region was delayed due to the postponement of the launch event.In May 2024, a service contractor was selected and the local launch event took place on August 9 with the participation of 50 local government representatives from the Lodzkie Region. The organization of the local launch event was also extended due to the local government elections taking place in Poland and change of the Board of the Lodzkie Region. The pilot action was presented during a conference #INVESTMENTS Green Possibilities Forum on June 25 in Lodz, link and manual was also sent by e-mail to local stakeholders and published on the website strategia.lodzkie.pl. This and each subsequent meeting will allow for more effective implementation of the tool and effective exchange of experiences between stakeholders and the region's authorities. Each of the meetings allowed for more effective implementation of the tool and an effective exchange of experiences between stakeholders and the region's authorities.

The Yunus Foundation-PP11 was responsible to monitor the implementation of the pilot action by providing support to the WP2 and PA1 leaders. Collaborating with the Digital Ambassadors, the Foundation offered insight into the first digital tool to improve functionality and performance. Working with the Metropolitan City of Bologna, the Foundation shared concerns about continuous stakeholder engagement.

The implementation of the pilot action for the Challenge Mapping Tool by PP12-WEIZ at the local level was executed with a focus on efficiency and community engagement. Overall, the pilot action progressed positively, achieving its key objectives while ensuring that stakeholders were actively involved throughout the process. The pilot action aimed to map energy transition challenges by engaging citizens and local stakeholders in identifying specific issues affecting the community. The Challenge Mapping Tool was introduced and tested in various events, including the launch event, stakeholder workshops, and public outreach activities. The management and organization of pilot activities were largely efficient. A structured plan was developed to guide the implementation process, which included scheduling events, coordinating with stakeholders, and ensuring that the necessary resources were available. Regular communication with all parties involved helped maintain momentum and fostered collaboration. The implementation of the pilot action was performed on schedule, with all key activities conducted within the planned timeframe. While the pilot action proceeded

smoothly, there were some instances where minor corrective measures were necessary to enhance effectiveness. For example, feedback collected during the initial workshops indicated a need for additional training on using the Challenge Mapping Tool. In response, PP12 organized follow-up sessions to provide further support to participants, ensuring they felt confident in using the tool. Additionally, ongoing engagement efforts were adapted based on citizen feedback, allowing us to better align the tool's functionalities with community needs.

2.2 Risk management protocol

A risk management process was implemented to identify and evaluate potential risk events and their impact on the pilot action activities. The risk management protocol had the role of identifying the possible risks that can be found during the implementation of the pilot, taking into account how these risks may affect its implementation, determining their impacts on the activities to develop, and proposing mitigation measures for reducing the consequences of adverse events.
Regarding the methodology used for collecting and systematising all the possible risks, the WP leader-IRENA has made a template table to fill in the information about the possible risks which can arise during the implementation of the pilot actions, and for collecting this information all the partners have been involved. In the first phase, the partners responsible for the development of digital tools (IAAI and EIFI) were invited to identify the possible risks in correlation with the application of both digital tools, their impacts on the project, and the activities/measures to mitigate them. In the second phase, all the partners were asked to participate and collaborate in identifying possible risks and respective mitigation measures.

In this final report, it will be transposed from the partner reports what risks each partner has identified, and what measures were performed to mitigate them.

LP-BORA 94 in their report stated that despite their several attempts to engage the JETA members, other professionals, NGOs and asking them to use and report in the tool local challenges, so far they could collect only 7 challenges, mainly because it is difficult to find/identify on the internet (is not available e.g. in Play Store), and once it is found, there is no clear guidance inside the tool on why it is important and how to use it. It can also be because there is no personal interest or potential benefit in filling the tool.

PP4-The Metropolitan City of Bologna reports that citizens are generally accustomed to having numerous apps on their smartphones and using them at a fast pace. However, one of the risks identified is the potential difficulty in effectively conveying the app's true value to users. Beta versions, which are often not fully optimized, may suffer from performance issues such as slow operation, leading to user frustration and reduced engagement.

In their report, PP5 has provided a comprehensive overview on what risks were identified. PP5 states that the initially identified risk of possible scarce public interest has certainly manifested itself in their region. They have reported that while PP5 has a substantial number of connections to energy transition stakeholders, even directly communicating with these people and organizations has resulted only a relatively modest number of reported challenges. Following any publicity measure (info mailing, public event) there was generally some activity, but this, like in many other regions, never led to sustained usage of the tool. PP5 has put significant effort through their communication channels argumenting that reported challenges will be forwarded and discussed with relevant local or regional authorities, and also made reference to later activities in the JETforCE project. However, it is not clear that this argument was found convincing; there is an inherent dichotomy between the ostensibly transnational nature of this tool and the local or regional scale of most reported challenges. Local energy transition stakeholders organize on a local level, and while an app which allows some insight into challenges reported in neighbouring states may present an interesting novelty, it is difficult to see such a tool as a more effective communication pathway than, say, attending a municipal assembly meeting and having your say with the people directly in charge. This, in the PP5 view, is the main risk for the future success of the tool, and can only be meaningfully addressed by proving that change can indeed in some way come by using the tool.
The secondary risk of identified challenges by PP5 is not focusing on the Just Energy Transition has appeared only to a minor extent (one challenge focusing on the need of climate change resilient forests, not directly related to just energy transition – all other challenges were broadly in scope). From the PP5 view, on a technical level, the tool still has some remaining weaknesses (mainly relatively long load times, especially on the “Home” tab), but most bugs identified in earlier stages of the monitoring process were addressed.

LEASP-PP6 in their report stated that they observed that users, not only from their pilot municipality but also from other pilot regions, are reporting some irrelevant risks and challenges. To mitigate this risk, PP6 is working on ensuring that citizens fully understand the purpose of the tool and the specific types of challenges it is intended to address. By providing clear instructions and comprehensive guidance, they should aim to help users accurately identify and report issues related to the Just Energy Transition. This approach should enhance the quality of the data collected and ensure that the tool effectively supports our objectives.

PP7-IRENA in their report noted that one of the risks was identified at the early beginning of the pilot testing, and this is that the citizens (final users) are not well-informed what type of challenge they should report. For this reason, IRENA developed a brief set of instructions on how to use the tool and a description of the possible challenges. The question remains on how to explain what is the benefit for the users (who deals with the reported challenges, and how they can be solved).

Reported challenges are not always focused on energy transition topics was the main risk identified by PP8-EAV, and also, they have reported that the choice of challenge types does not seem to be very clear for users, as they select challenge types that are not in line with the content.

Slovak Innovation and Energy Agency-PP9, reported that in Slovakia they have identified the following risks during the implementation of the Transnational pilot 1:

a) The need for development of a brief guideline describing which challenges are useful to be reported in the tool and which are out of the scope of the tool.

b) The need for better communication campaign – digital marketing or some workshops with selected target audience – at the beginning they recommend to start at vocational IT schools. In general, it is more than requested to promote app in the public - otherwise, nobody will use it.

c) Development of the methodology of the systematic evaluation for the needs of regional planning in the area of just energy transition.

In response to these identified recommendations or shortcomings, PP9 has made the following improvements:

a) Preparation of an explanatory showing detailed description of each page of the tool (in Slovak language version), with explanations and comments how, to use it.

b) Posting on their official website as well as on other SIEA´s official communication channels (Linked In, Facebook and Instagram) posts with actual news and events in Slovakia, concerning the project JETforCE.

The biggest risk identified by Lodzkie Region-PP10 was the low interest of local stakeholders and citizens in the application. To increase interest, activities were carried out in cooperation with a digital ambassador in the communes of the Transformation Area.

PP12-Weizer Energy and Innovation Centre in their report identified several risks outlined in the Monitoring and Evaluation (M&E) Methodology. The specific risks that they have encountered, along with the mitigation activities and measures undertaken to address are the following:

1. **Risk of Low Citizen Engagement**

   Identified Risk: There was a concern that citizens might not actively participate in the challenge mapping process, which could limit the diversity and relevance of the challenges identified.

   Mitigation activities:

   - **Outreach Campaigns:** They have launched targeted outreach efforts, including social media campaigns and information sessions, to raise awareness about the importance of citizen input in the energy transition.
   - **Engagement through the Digital Ambassador:** Collaboration with their Digital Ambassador helped foster community interest and encourage participation. Their role included facilitating discussions and promoting the tool at local events.

2. **Risk of Tool Usability Issues**

   Identified Risk: Users may encounter difficulties in navigating the Challenge Mapping Tool, which could hinder its effectiveness.

   Mitigation activities:

- **Training Sessions:** They have organized additional training sessions following initial workshops to ensure participants were comfortable using the tool. This included hands-on demonstrations and Q&A sessions.
- **User Feedback Collection:** They have established a feedback mechanism for users to report any issues or challenges faced while using the tool, allowing us to make timely adjustments.

3. **Risk of Stakeholder Misalignment**

   Identified Risk: Different stakeholders may have varying priorities or perspectives on energy transition challenges, potentially leading to conflicts or misalignment.

   Mitigation activities:

   - **Inclusive Workshops:** They have facilitated inclusive workshops that brought together diverse stakeholder groups to discuss and align on common goals. This helped to foster collaboration and ensure that all voices were heard.
   - **Regular Communication:** Maintaining open lines of communication among stakeholders allowed for ongoing dialogue and the ability to address any emerging conflicts or misunderstandings promptly.

2.3 Evaluation of the impact of the pilot action

According to the PA 1 indicators set in the D.2.1.1 Transnational pilot monitoring methodology, tables from 1 to 10 present achieved indicators on the overall project and partner level:

Table 1: Pilot action 1 key performance indicators on the project level

No	Name of the indicator	Measurement unit	Value achieved	Target
1.	Launch of challenge mapping tool	Number of test launches at the local level	13 1HU, 2IT, 2DE, 1SI, 1CZ, 2SK, 1AT, 1PL, 2HR	1 per partner
2.	Local launch event	Number of people attending local launch event	516 35HU,36 IT,135 DE, 1SI, 20CZ, 97SK, 22AT, 120HR, 50PL,	20 per partner
3.	Active users	Number of active users who participated in pilot testing	140 19HU, 2IT, 62DE, 12SI, 9CZ, 10SK, 6PL, 8AT,10HR	20 per partner
4.	Reported and validated challenges	Number of reported and validated challenges	101 7HU, 4IT, 11DE, 20SI, 16HR, 18CZ, 3SK, 11PL, 11AT	10 per partner

From the presented indicators in the table 1, it can be noted that project partners have put significant effort in mobilising citizens, stakeholders and other interested parties to participate at the local launch events, but they were facing issues when users had to actively use the tool and report energy transition challenges.

Table 2: Pilot action 1 key performance indicators on the partner level-LP

No	Name of the indicator	Measurement unit	Value
1.	Launch of challenge mapping tool	Number of test launches at the local level	1
2.	Local launch event	Number of people attending local launch event	35
3.	Active users	Number of active users who participated in pilot testing	19
4.	Reported and validated challenges	Number of reported and validated challenges	7

Table 3: Pilot action 1 key performance indicators on the partner level-PP4

No	Name of the indicator	Measurement unit	Value
1.	Launch of challenge mapping tool	Number of test launches at the local level	2
2.	Local launch event	Number of people attending local launch event	36
4.	Active users	Number of active users who participated in pilot testing	2
5.	Reported and validated challenges	Number of reported and validated challenges	4

Table 4: Pilot action 1 key performance indicators on the partner level-PP5

No	Name of the indicator	Measurement unit	Value
1.	Launch of challenge mapping tool	Number of test launches at the local level	2
2.	Local launch event	Number of people attending local launch event	135
4.	Active users	Number of active users who participated in pilot testing	62
5.	Reported and validated challenges	Number of reported and validated challenges	11

Table 5: Pilot action 1 key performance indicators on the partner level-PP6

No	Name of the indicator	Measurement unit	Value
1.	Launch of challenge mapping tool	Number of test launches at the local level	1
2.	Local launch event	Number of people attending local launch event	1
3.	Active users	Number of active users who participated in pilot testing	12
4.	Reported and validated challenges	Number of reported and validated challenges	20

Table 6: Pilot action 1 key performance indicators on the partner level-PP7

No	Name of the indicator	Measurement unit	Value
1.	Launch of challenge mapping tool	Number of test launches at the local level	1
2.	Local launch event	Number of people attending local launch event	2
3.	Active users	Number of active users who participated in pilot testing	6
4.	Reported and validated challenges	Number of reported and validated challenges	12

Table 7: Pilot action 1 key performance indicators on the partner level-PP8

No	Name of the indicator	Measurement unit	Value
1.	Launch of challenge mapping tool	Number of test launches at the local level	1
2.	Local launch event	Number of people attending local launch event	20
3.	Active users	Number of active users who participated in pilot testing	9
4.	Reported and validated challenges	Number of reported and validated challenges	18

Table 8: Pilot action 1 key performance indicators on the partner level-PP9

No	Name of the indicator	Measurement unit	Value
1.	Launch of challenge mapping tool	Number of test launches at the local level	2
2.	Local launch event	Number of people attending local launch event	97
3.	Active users	Number of active users who participated in pilot testing	10
4.	Reported and validated challenges	Number of reported and validated challenges	3

Table 9: Pilot action 1 key performance indicators on the partner level-PP10

No	Name of the indicator	Measurement unit	Value
1.	Launch of challenge mapping tool	Number of test launches at the local level	1
2.	Local launch event	Number of people attending local launch event	50
3.	Active users	Number of active users who participated in pilot testing	6
4.	Reported and validated challenges	Number of reported and validated challenges	11

Table 10: Pilot action 1 key performance indicators on the partner level-PP12

No	Name of the indicator	Measurement unit	Value
1.	Launch of challenge mapping tool	Number of test launches at the local level	1
2.	Local launch event	Number of people attending local launch event	22
3.	Active users	Number of active users who participated in pilot testing	8
4.	Reported and validated challenges	Number of reported and validated challenges	11

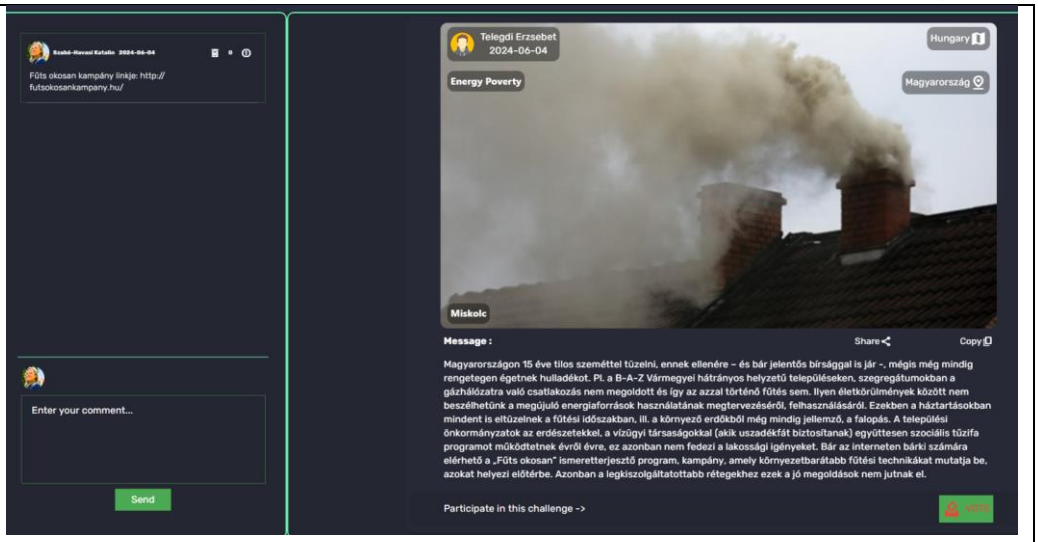
3. Energy transition challenges

3.1 List of collected challenges

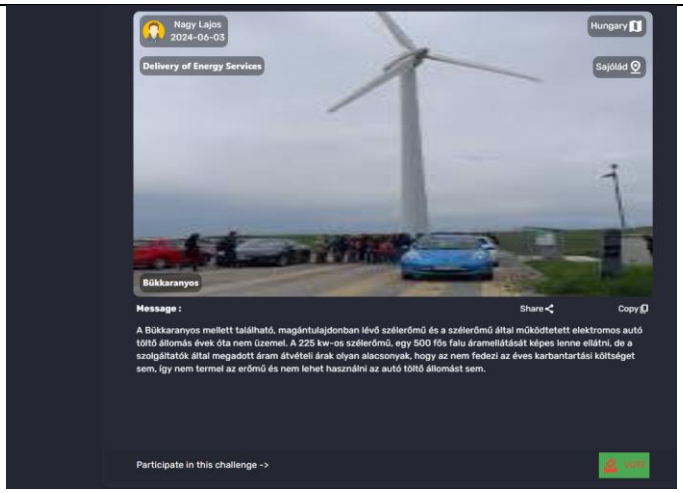
In this chapter, all collected challenges in the Challenge Mapping Tool in 9 Central European regions are lised. For each challenge, in the table below, PPs have provided a review/evaluation of the challenge, by focusing on how the reported challenge can be addressed in their area.

3.1.1. LP-BORA 94 Borsod-Abaúj-Zemplén County Development Agency

Nr of challenge:	1
Name of the challenge:	Burning rubbish in low-income neighbourhoods and segregated areas as a means of providing heat for the people
Description of the challenge:	In Hungary, it has been illegal to burn rubbish for 15 years, but despite this - and the significant fines - many people still burn waste. For example, in the disadvantaged settlements and segregated areas of the B-A-Z County, there is no connection to the gas network and therefore no heating. Under such living conditions, there is no question of planning and using renewable energy sources. In these households, everything is burnt during the heating season, and wood theft from the surrounding forests is still a common practice. The municipalities, together with the forestry and water companies (who provide wood for floating waste), run a social firewood programme every year, but this does not cover the needs of the population. Although the 'Fire wisely' awareness programme and campaign, which is available to anyone on the internet, highlights more environmentally friendly heating techniques. However, these good solutions are not reaching the most vulnerable.

Picture:	
Evaluation of reported challenge:	In terms of the major challenges that vulnerable groups face in our regions, the challenge is very relevant for the JET, however solving this problem goes beyond the JETforCE project, it is very complex and definitely needs national and local governmental support.

Nr of challenge:	2
Name of the challenge:	Wind power farm out of service due to low electricity purchase prices
Description of the challenge:	The privately owned wind farm located next to Bükkaranyos and the electric car charging station operated by the wind farm have not been in operation for years. The 225-kw wind power plant would be able to provide electricity for a village of 500 people, but the electricity purchase prices allowed by the service providers are so low that they do not cover the annual maintenance costs, so the power plant does not produce and the car charging station cannot be used either.

Picture:	
Evaluation of reported challenge:	This challenge is relevant for JET. The problem was already communicated towards the relevant actors; however, its solution is still ongoing.

Nr of challenge:	3
Name of the challenge:	Legal regulations are slow to follow the demands of energy communities
Description of the challenge:	In accordance with the requirements of the European Union, the Bükk-Térségi LEADER Association has started the development of the local energy community, the aim of which is to make the possibility of renewable energy production available to a wider range of consumers, who can cover their own consumption and production/storage capacity through a virtual network, thereby reducing gas consumption and building operating costs. In the first round, existing production capacities, further development opportunities and technical obstacles in the 42 settlements in the association's operational area were assessed. During the preparatory work, another 40 settlements indicated their intention to join the initiative. Challenge/problem: the lack of the possibility of regulation within the transformer area. Even though the technical conditions are given, and several models have been developed, the legal regulations do not yet allow the start-up and operation of a real, large-scale energy community in Hungary.

Picture:	
Evaluation of reported challenge:	Forming energy communities is very relevant for JET, however, to accelerate the legal regulations is the responsibility of the governmental decision makers, who are already aware of this situation and are working on its solution.

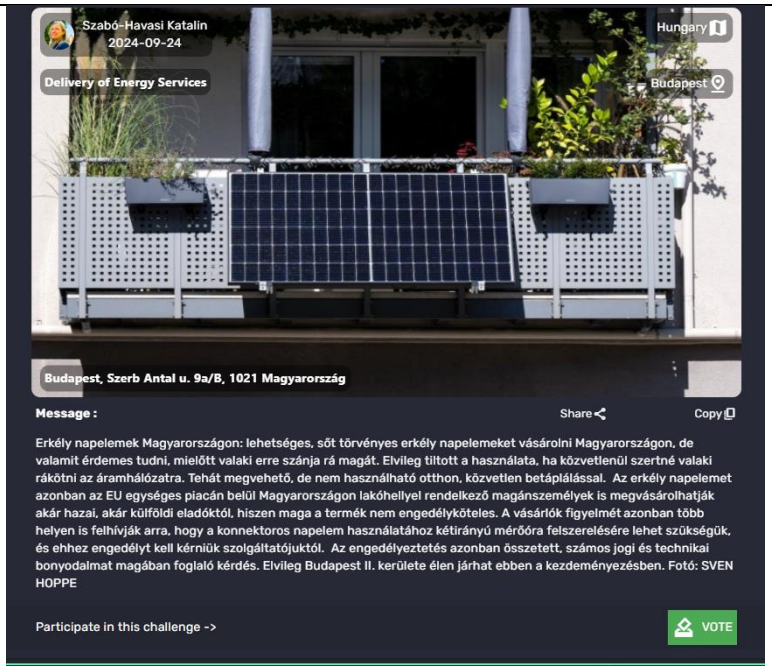
Nr of challenge:	4
Name of the challenge:	Balance settlement challenge with installed solar panels after January 1, 2024.
Description of the challenge:	In the case of installed solar panels, balance settlement from January 1, 2024. can only be applied to household-sized small power plant systems for which: • 10 years have not yet passed from the date of commissioning, or in the case of expansion, from the date of expansion, or • until September 7, 2023. submitted the application and they will be commissioned by January 1, 2026 at the latest. In all other cases, gross settlement is possible, in which case it is separated into units of purchased and supplied electricity and is settled separately. This is disadvantageous because the energy produced by the solar panel must either be used immediately or it will be lost. Storage is only possible for a limited time, with current technologies a maximum of 1 day, if an energy storage system and battery are also installed for the solar system, the cost of which is significant, and it also requires space. At the same time, the lack of environmental awareness also causes a problem, which could be improved to a large extent with training.

Picture:	
Evaluation of reported challenge:	This is local challenge, however, to solve this, it again mainly needs governmental decision or surplus investment from the residents in energy storage system and battery.

Nr of challenge:	5
Name of the challenge:	High demand for energy improvement tenders and low-level of knowledge to prepare them without professional help
Description of the challenge:	Tenders are regularly announced for the public and companies, e.g. to support photovoltaic systems, however, there is an extremely high oversubscription for these sources, and it is difficult to prepare the administration for someone who does not have a professional background in energy. Image source: https://napelemrendszer.info

Picture:	
Evaluation of reported challenge:	Without regular tenders that provide adequate financial support for energy developments and without awareness raising and training activities, the population cannot convert into an energy-aware society successfully.

Nr of challenge:	6
Name of the challenge:	Balcony solar panels in Hungary
Description of the challenge:	It is possible, even legal, to buy balcony solar panels, but something worth knowing is that someone in Hungary is dedicated to this. In principle, its use is prohibited if someone wants to connect it directly to the power grid. So, it can be bought, but not used at home, with direct feeding. However, within the single market of the EU, private individuals residing in Hungary can buy balcony solar panels either from domestic or from sellers, as the product itself is not subject to a license. However, customers are constantly calling on him in several places that the installation of a two-way meter may be necessary to use the plug-in solar panel, and for this permission must be requested from their service provider. Licensing is a complex issue involving many legal and technical complications. In principle, Budapest II. district can take the lead in this initiative. Photo: SVEN HOPPE

Picture:	
Evaluation of reported challenge:	There are already existing initiatives e.g. in the II. district in Budapest to react to this problem on the local level.

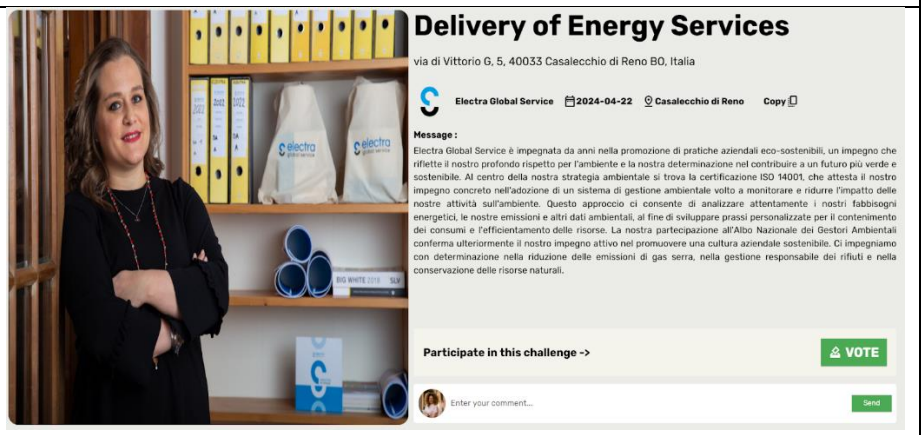
Nr of challenge:	7
Name of the challenge:	Overhead Fund
Description of the challenge:	On July 7, 2024, the Hungarian Parliament adopted this year's budget, the so called “Overhead Fund” will receive more than HUF 1,340 billion; this is how much the Hungarian government is allocating for utility reduction next year. Although this is half as much as this year's (HUF 2,580 billion), it is still one of the largest items on the expenditure side. The centrally set residential energy price for all Hungarian residential users - who are the so-called consumes "below average" - the subject has a right, regardless of whether he really needs this price subsidy. However, it appears from the analyses that the reduction in utility costs benefits the richest and not those for whom it is theoretically important. Instead, a solution that supports the climate goals and the interests of the population would be if a part of the budget for the reduction of several thousand billion dollars planned for this year and the following years would be regrouped for building energy renovations. With their lower energy consumption, the buildings could save their residents' wallets, at a very favorable price for reducing emissions and alleviating the climate crisis. Image source: hvg.hu

Picture:	
Evaluation of reported challenge:	This challenge needs governmental solution, to re-direct funding from the overhead fund to building energy renovations.

3.1.2 PP4-Metropolitan City of Bologna

Nr of challenge:	**1**
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	In the context of digital communication strategies for Absolut Events & Communication clients, special attention has been given to integrating eco-bloggers and green influencers.

Picture:	
Evaluation of reported challenge:	Over the years, collaborations have taken place with some of the most influential figures in sustainable communication, maximizing their potential in spreading relevant and impactful content. This approach has helped not only to make the companies' operations more sustainable but also to communicate them in an authentic and engaging way.

Nr of challenge:	**2**
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	Electra Global Service is dedicated to promoting environmentally sustainable business practices, reflected in its ISO 14001 certification and commitment to an effective environmental management system. This strategy focuses on monitoring and reducing environmental impact by analyzing energy consumption, emissions, and resource efficiency.
Picture:	
Evaluation of reported challenge:	The achievement of ISO 14001 certification testifies to the company's commitment to a solid environmental management system. The company

	has successfully reduced its environmental impact by optimising energy use, lowering emissions and improving resource efficiency. Furthermore, its participation in the National Register of Environmental Managers underlines its active role in promoting sustainable business practices.

Nr of challenge:	3
Name of the challenge:	Energy Poverty
Description of the challenge:	The issue of reducing waste during press conferences is of paramount importance. The aim is to replace paper materials with digital solutions.
Picture:	
Evaluation of reported challenge:	Key initiatives have included the introduction of digital slides instead of traditional paper riders and the use of QR codes instead of press kits, significantly reducing paper waste and improving access to information for journalists. In addition, the use of generic roll-ups, reusable on different occasions, was adopted, avoiding obsolescence related to dates or other specific information.

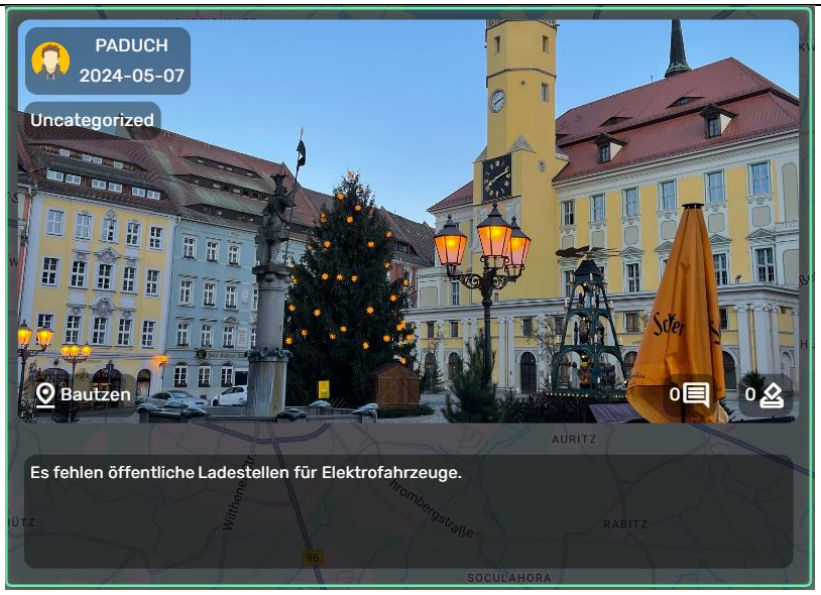
Nr of challenge:	4
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	The mission of Sistemy Energy is not limited to finding the optimal energy solution in terms of efficiency, cost savings and environmental protection; we are also committed to promoting innovative consumption monitoring systems, ensuring a continuous flow of energy to preserve electrical and electronic equipment.

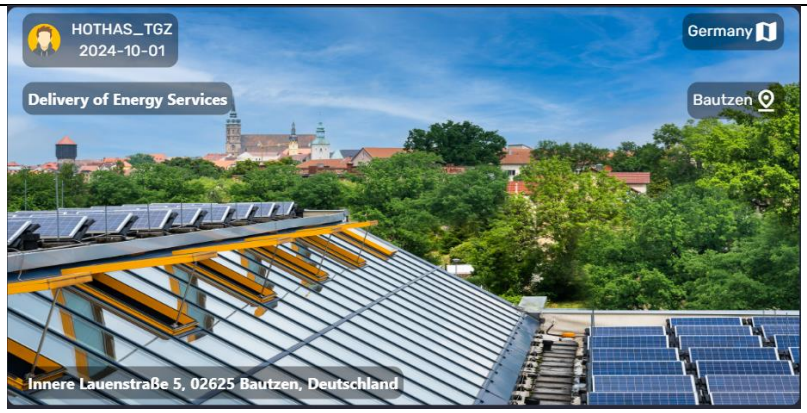
Picture:	
Evaluation of reported challenge:	The company offers a diverse range of options, including photovoltaic panels, cogeneration and trigeneration plants, which not only save electricity and heat, but also contribute to the energy autonomy of our partners. Not limited to the corporate sphere, we also promote sustainability in mobility. They install electric pillars at company premises to power environmentally friendly vehicles, including electric cars and bicycles, promoting a more sustainable and environmentally friendly way of getting around.

Nr of challenge:	5
Name of the challenge:	Energy Poverty
Description of the challenge:	Isolight technology, developed by Baccaro I Cementisti, represents a major breakthrough in sustainability and energy efficiency in the building sector. This innovative industrial system for the production of concrete products combines a polystyrene core with fiber-reinforced concrete and traditional reinforcements, effectively eliminating the thermal bridging present in crucial elements such as benches, thresholds and infills.

Picture:	
Evaluation of reported challenge:	One of the most significant aspects of Isolight is its ability to improve the energy performance of buildings. Thanks to its innovative structure, it helps reduce heat loss and energy consumption, enabling buildings to achieve high standards of energy efficiency. This not only leads to a positive impact on the environment, but also provides long-term economic benefits through reduced building operation and maintenance costs.

3.1.3 PP5-Bautzen Innovation Centre

Nr of challenge:	1
Name of the challenge:	Uncategorized
Description of the challenge:	Es fehlen öffentliche Ladestellen für Elektrofahrzeuge.
Picture:	

Evaluation of reported challenge:	This challenge concerns a lack of charging infrastructure for EVs in Bautzen's city centre. Addressing it is straightforward, although the city of Bautzen is unlikely to see it as a high priority right now, given the current downturn in the EV market.
Nr of challenge:	2
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	There is a shortage of independent, non-commercial advisory services in our region, which could provide energy-related counsel to individuals or companies without monetary interest. This problem was exacerbated further by the demise of the Bautzen Energy Agency in 2023.
Picture:	
Evaluation of reported challenge:	This challenge is difficult to address since restoring or expanding such a service would require a reliable source of funding, which is at this time not available and would have to come from either the state or the federal government. And even if an appropriate programme existed, rebuilding previous capabilities would take time.
Nr of challenge:	3
Name of the challenge:	Citizen Engagement
Description of the challenge:	Kann es mit Bürgerbeteiligung gelingen, geeignete Flächen, die bereits versiegelt sind, für PV-Energieerzeugung zu gewinnen?

Picture:	
Evaluation of reported challenge:	This challenge asks whether it might be possible to requisition existing sealed surfaces (such as roads, parking lots) for photovoltaics. This is certainly a good idea which could, especially in the case of parking lots owned by municipalities, be realized relatively easily, at least in theory. It is not clear to me if there are any significant legal barriers to executing such projects, but if there are, removing them should be a priority.
Nr of challenge:	4
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	Wann werden die Stromnetze an die zukünftigen Bedarfe erneuerbarer Energieträger angepasst?
Picture:	
Evaluation of reported challenge by PP (related on how to address identified challenge):	This challenge asks when the electric network will be adapted to meet the needs of renewable energy sources. This is an open question that would have to be made more concrete concerning steps that would actually need to be taken in order to reach this goal.
Nr of challenge:	5

Name of the challenge:	Uncategorized
Description of the challenge:	Für die Kommunale Wärmeplanung benötigen wir dringend eine Finanzierung. Vom Freistaat Sachsen und dem Bund gibt es derzeit keine Förderung.
Picture:	
Evaluation of reported challenge:	This challenge complains about a lack of funding for municipal heat planning, which is something that all municipalities now have to do, but which neither the state nor the federal government currently provide funds for. This need should be mentioned in a policy action plan.
Nr of challenge:	6
Name of the challenge:	Citizen Engagement
Description of the challenge:	There are a lot of buildings which don't have an installed pv plant on roof at the moment. Due to the simplified approval of micro PV stations like at balcony's a solution was opened to private house owners to decrease the energy grid consumption by 15-20 % (based on annual average consumption of 2500 kWh). Such a plant will be amortized in 3-4 years, depending on energy consumption level. Therefor the challenge is to wise up citizens belonging construction, assembly a saving calculation of such a device. The annual energy saving could be about 15 households, based on a village of 75 households.

Picture:	
Evaluation of reported challenge by PP:	This challenge is about a communicative issue of making citizens aware of the potential of balcony solar plants, but considering how massively successful they have recently become, I don't believe there is much that still needs to be done here.
Nr of challenge:	7
Name of the challenge:	Justice / Inequality
Description of the challenge:	The end of coal mining, while inevitable and arguably overdue, will lead to a non-trivial number of workers formerly active in the industry which will need to be requalified for new careers.
Picture:	
Evaluation of reported challenge:	The issue of lost jobs due to the end of coal mining is commonly described in much more severe terms than is really appropriate, since the number of affected workers is ultimately manageable and there are plenty of new employment opportunities arising from the renewable field. Nevertheless, more efforts should be made, if only to deflate populist claims – although the Just Transition Fund is a good start.

Nr of challenge:	8
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	Umweltinitiative Sohland/Spree. Starting first citizen financed pv plant (45-90 kWp). actual problems: Electrical Network allows only feed-in of 30 kWp, otherwise high costs for cable to next transformer station.
Picture:	
Evaluation of reported challenge:	This challenge concerns the technical problem of the limited feed-in capacity of the public grid. This can and should be addressed, but it will be difficult due to resistance from traditional centralized energy providers, which fear being made obsolete.
Nr of challenge:	9
Name of the challenge:	Energy Poverty
Description of the challenge:	In unserem Dorf und auch im näheren Umland gibt es leider nach wie vor keine öffentlichen Ladesäulen für Elektroautos
Picture:	

Evaluation of reported challenge:	Another challenge remarking a lack of charging infrastructure, the same as previous applies here as well.
Nr of challenge:	10
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	Mittlerweile haben viele Häuser in unserer Region Solarzellen, was aber bei den meisten noch fehlt ist ein zugehöriger Energiespeicher. Hier wird Unterstützung gebraucht, sowohl finanziell durch Förderungen als auch informativ.
Picture:	
Evaluation of reported challenge:	This challenge points out that while there are many houses with solar cells by now, it is still fairly uncommon that people have actual energy storage systems to go along with them. There should be more support in this area, both financial and informational. This is certainly a valid point.
Nr of challenge:	11
Name of the challenge:	Justice/Inequality
Description of the challenge:	Aufgrund von durch Klimawandel verstärkten Dürreperioden sind viele Fichtenwälder in den letzten Jahren abgestorben. Um einen resilienteren Wald zu schaffen braucht es Unterstützung.

Picture:	
Evaluation of reported challenge:	This challenge concerns forest areas which have been left devastated by both a drought and the bark beetle pest, a phenomenon which applies to much of Germany. It calls for more support in building a climate change resilient forest, which is a noble pursuit, but not one directly related to the energy transition process.

3.1.4 PP6-Local energy agency Spodnje Podravje

Nr of challenge:	1
Name of the challenge:	Citizen Engagement
Description of the challenge:	In order to improve the visibility of the parking space, I would like to propose that the lines on the road be whitened again.

Picture:	
Evaluation of reported challenge:	This challenge can be addressed by scheduling regular maintenance of road markings, ensuring safer and clearer parking zones.

Nr of challenge:	2
Name of the challenge:	Citizen Engagement
Description of the challenge:	I suggest that the fence be rebuilt.
Picture:	

Evaluation of reported challenge:	It is recommended to include this in routine municipal repair schedules.

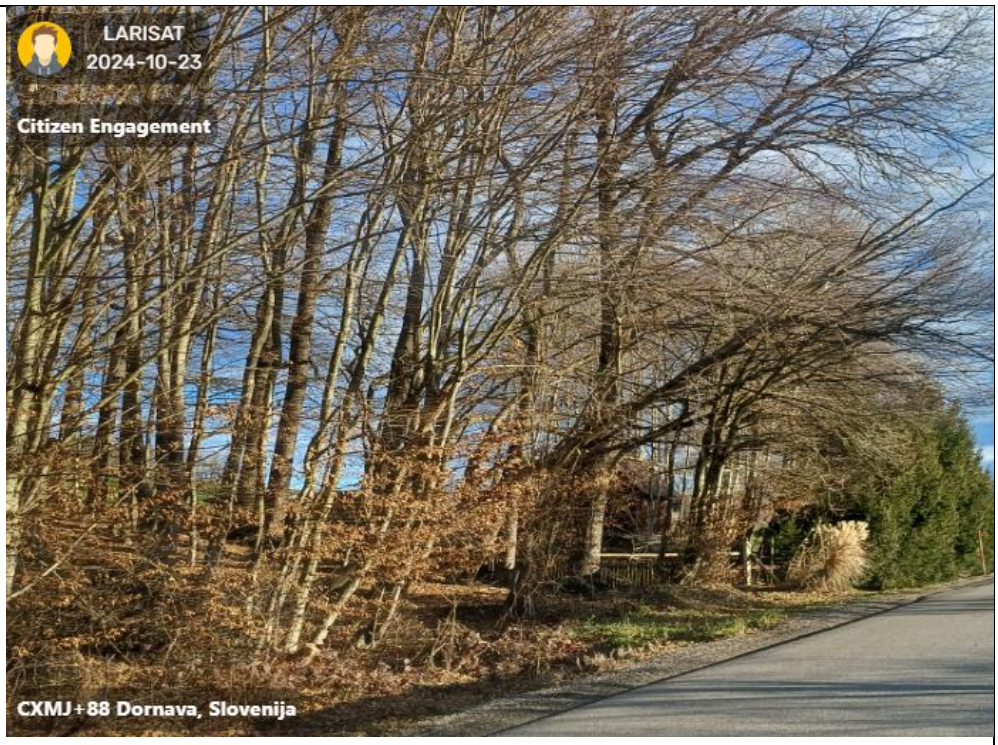
Nr of challenge:	3
Name of the challenge:	Energy poverty
Description of the challenge:	Upgrade of the electric grid. The electrical grid in the vicinity of the city of Ptuj is oversaturated due to insufficient investment in upgrading the electrical grid and it is not possible to connect solar power plants to the grid, which causes many problems for those interested in setting up and building solar power plants on private buildings. It is necessary to update the network, which will enable citizens to switch to a renewable source of energy.
Picture:	
Evaluation of reported challenge:	Coordination with local utilities for grid upgrades is essential to support renewable energy adoption. Long-term policy should prioritize infrastructure upgrades in renewable energy zones. Mark: Challenge reported not relevant for the pilot Municipality

Nr of challenge:	4
Name of the challenge:	Citizen Engagement
Description of the challenge:	Trash that does not belong in this trash can is thrown into the trash can at the cemetery, which is intended for waste candles.
Picture:	
Evaluation of reported challenge:	Improved labelling and frequent waste monitoring can mitigate this misuse, ensuring that waste segregation is followed.

Nr of challenge:	5
Name of the challenge:	Citizen Engagement
Description of the challenge:	Fallen pine needles and garbage on part of the road.

Picture:	
Evaluation of reported challenge:	Regular cleaning schedules and awareness campaigns can maintain road cleanliness, promoting a healthier environment.

Nr of challenge:	6
Name of the challenge:	Citizen Engagement
Description of the challenge:	A hanging tree obstructs traffic. I suggest it be removed.

Picture:	
Evaluation of reported challenge:	Immediate removal or trimming of obstructive vegetation should be coordinated with municipal services for road safety.

Nr of challenge:	7
Name of the challenge:	Citizen Engagement
Description of the challenge:	Damaged bank on the municipal road in Brezovci. I propose to arrange this road.

Picture:	
Evaluation of reported challenge:	Addressing road damage quickly enhances public safety and road durability. This repair should be prioritized.

Nr of challenge:	8
Name of the challenge:	Citizen Engagement
Description of the challenge:	A broken sign

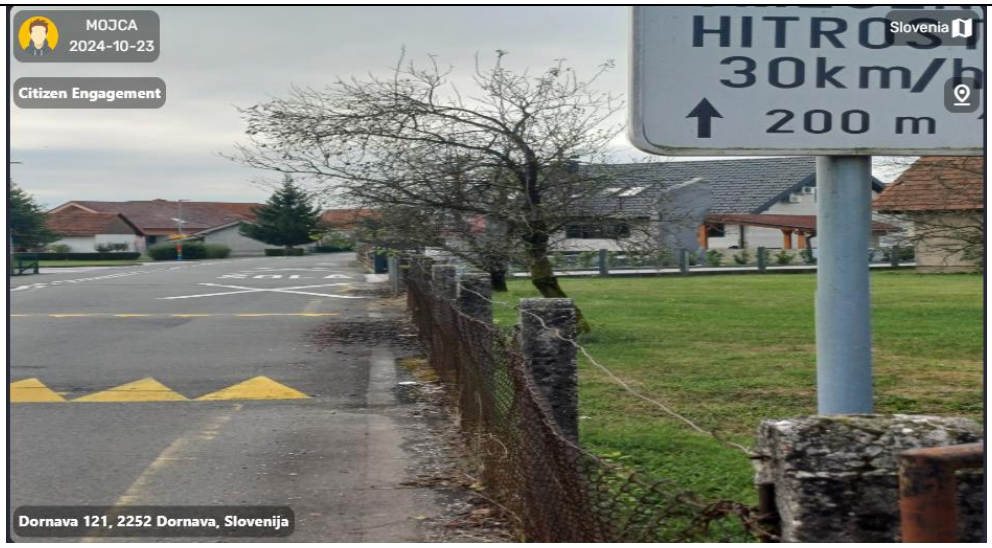
Picture:	
Evaluation of reported challenge:	Prompt replacement enhances navigation and information accessibility; the issue can be integrated into routine maintenance.

Nr of challenge:	9
Name of the challenge:	Citizen Engagement
Description of the challenge:	Badly plowed road in Bratislavci. I suggest that it be cleaned better in the future.

Picture:	
Evaluation of reported challenge:	Feedback should be communicated to plowing services, emphasizing thoroughness to ensure safe travel conditions.

Nr of challenge:	10
Name of the challenge:	Energy Poverty
Description of the challenge:	A dangerous electric pole is leaning against a wooden object. The electricity supplier should replace the worn-out wooden electric pole.

Picture:	
Evaluation of reported challenge:	Urgent replacement by the electricity supplier is required to eliminate potential hazards.

Nr of challenge:	11
Name of the challenge:	Citizen Engagement
Description of the challenge:	The branches of the tree reach the road and obstruct traffic. I suggest cutting the overhangs.
Picture:	

Evaluation of reported challenge:	Regular trimming of roadside trees should be prioritized for safer traffic flow.

Nr of challenge:	12
Name of the challenge:	Citizen Engagement
Description of the challenge:	The existing mirror is dilapidated. We suggest replacing it with a new one.
Picture:	
Evaluation of reported challenge:	Replacing damaged mirrors promptly improves traffic safety and should be part of regular checks.

Nr of challenge:	13
Name of the challenge:	Citizen Engagement
Description of the challenge:	The hive is fairly close to the road. It is an obstacle when meeting another means of transport (bus, car...etc.)

Picture/s:	
Evaluation of reported challenge:	Consider relocating or marking the hive to ensure road safety, especially for larger vehicles.

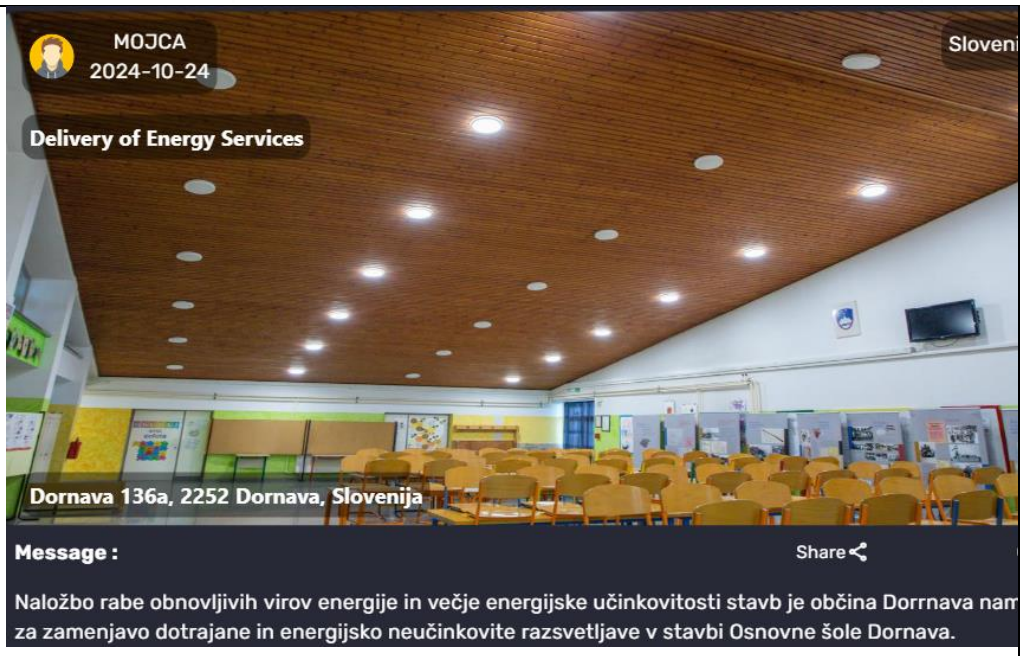
Nr of challenge:	14
Name of the challenge:	Citizen Engagement
Description of the challenge:	Damaged shaft and I suggest replacing it with a new one.

Picture:	
Evaluation of reported challenge:	Replacing the shaft should be prioritized to prevent accidents and ensure public safety.

Nr of challenge:	15
Name of the challenge:	Citizen Engagement
Description of the challenge:	A heavy storm damaged the edge of the road, so I think it's dangerous to drive. I suggest that this be dealt with in an appropriate way so that driving is safe and that it does not happen again in the next storm.

Picture:	
Evaluation of reported challenge:	Regular post-storm inspections and repairs can ensure road safety, especially in storm-prone areas.

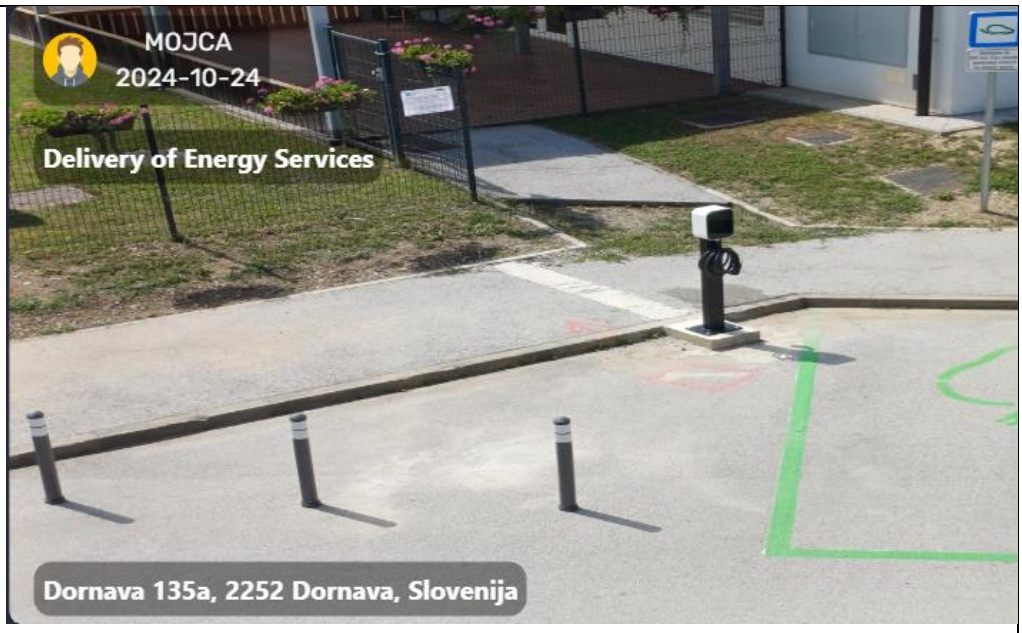
Nr of challenge:	16
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	The investment in the use of renewable energy sources and greater energy efficiency of buildings was earmarked by the municipality of Dorrnava for the replacement of dilapidated and energy-inefficient lighting in the Dornava Elementary School building.

Picture:	
Evaluation of reported challenge:	This investment contributes to energy savings and sets a precedent for sustainable energy improvements in public buildings and should be consider when planning the strategy for investments.

Nr of challenge:	17
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	Installing a solar phone charging bench is a great way to promote sustainable energy and provide convenience to users.

Picture/s:	
Evaluation of reported challenge:	This initiative promotes sustainability and can be replicated in other public areas to enhance public amenities. This investment should be included in the energy related strategy (like local energy concept for Municipality) for future investments.

Nr of challenge:	18
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	By setting up a charging station for electric vehicles, sustainable mobility is promoted and the accessibility of electric vehicles is improved.

Picture:	
Evaluation of reported challenge:	The installation aligns with green mobility goals, encouraging EV use and reducing carbon emissions. Municipality should plan the investment in charging stations in for e.g. Local energy concept.

Nr of challenge:	19
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	The installation of solar lamps near bus stops due to the efficiency of the use of renewable resources, reduced costs, easy installation, they are ideal for remote areas or in places where electricity is not available and due to the reduction of the carbon footprint.

Picture/s:	
Evaluation of reported challenge:	Solar lighting is ideal for off-grid locations and improves safety and accessibility for public transit users and should be considered in the future energy investment planning.

Nr of challenge:	20
Name of the challenge:	Cross Institutional Cooperation
Description of the challenge:	The intervention of firefighters is crucial in various emergency situations, such as floods, where quick and effective help is needed.
Picture:	

Evaluation of reported challenge:	

3.1.5 PP7-IRENA – Istrian Regional Energy Agency

Nr of challenge:	1
Name of the challenge:	Tackling energy poverty
Description of the challenge:	Energy poverty means the inability to meet the costs for energy necessary for life in acceptable conditions, in other words energy poor people are those who live in inadequate conditions or in energy inefficient housing and pay high energy prices, with a low level of income. One example of a residential building where citizens at risk of energy poverty live is the Samački dom in Labin, which serves as necessary accommodation for people with no or low income. For this reason, IRENA chose the Samački dom building for the JETforCE pilot action through which it will test the technologies used in the energy transition process (in this case, photovoltaic systems), and use the produced electricity to reduce the costs of people who are at risk of energy poverty.
Picture:	
Evaluationof reported challenge:	Mitigating the risk of energy poverty, especially in those areas with a larger number of residents characterized as vulnerable groups, is certainly a challenge for every local and regional government unit. Small projects, such as the one on the building of the Singles'

	Home in Labin, can certainly contribute to achieving financial savings that can be used to increase social benefits for vulnerable groups.
Nr of challenge:	2
Name of the challenge:	Historical buildings in the energy transition process
Description of the challenge:	The impossibility of installing a photovoltaic power plant on the roof of a residential building in the old town of Labin due to the fact that the building is located in a protected cultural and historical complex. Due to the status of a cultural asset, interventions on the buildings that would affect their visual identity are not permitted by the Conservation Department.
Pictures:	
Evaluation of reported challenge:	One of the possible solutions can be the installation of PV powerplant in the vicinity of the historical area, and including citizens in the energy communities and in that way ensure the use of the produced renewable energy by the citizens that live in the protected areas.
Nr of challenge:	3
Name of the challenge:	Just transition transformation in the Labin area
Description of the challenge:	The former coal separation building is located in Potpićan, Kršan Municipality. It is a dilapidated and abandoned coal separation facility mined in the Tupljak Istrian coal mines. The coal was delivered by trucks or wagons to the base of the building, and from there it was lifted by elevators to the upper floors, where the coal was separated from the stone material. The building has not been in operation for many years and cannot be

	brought back to its original function because all the parts that were elements of the production process have been removed from it. What remained was a bare reinforced concrete skeleton structure with many damages and holes in the intermediate floor reinforced concrete slabs. All floors were intended for this function. The building will now be converted into a techno innovation incubator. Rehabilitation and conversion of coal separation will be carried out with materials of high energy properties. A photovoltaic power plant is planned to be installed in the parking lot, and powerful heat pumps are planned to be installed in the basement of the building to meet the energy needs of users, which will maximize the goal of energy self-sufficiency and low carbon footprint of products/services. The Municipality of Kršan plans to finance the rehabilitation, reconstruction and conversion of the coal separation building with grants from the European Union, specifically from the Just Transition Fund. Namely, the project in question is on the list of priority projects of the Territorial Plan of the Just Transition of the Republic of Croatia.
Picture:	
Evaluation of reported challenge:	The challenge represents an overview on how through the EU mechanism, in this case Just Transition Mechanism, areas most affected by the energy transition process can be transformed.
Nr of challenge:	4
Name of the challenge:	Incentives for EE/RES
Description of the challenge:	From 2023, the municipality of Kršan co-finances measures of renewable energy sources and energy efficiency in family homes. In this way, grants are awarded that encourage the residents of the Municipality to use renewable energy sources, which enables the

	reduction of overhead costs in their households. As part of the public call, IRENA (Istrian Regional Energy Agency is in charge of technical assistance to the Municipality and citizens).
Picture/s:	
Evaluation of reported challenge:	Besides the funds allocated on the national level, there is a need for ensuring additional amounts through the local and regional budgets aiming to trigger the investments in EE/RES.
Nr of challenge:	5
Name of the challenge:	Poor electrical infrastructure
Description of the challenge:	Many rural settlements in the Istria County are poorly connected to the energy network. There are few substations and sometimes it is not possible to get a new connection to the electricity grid. In the absence of an existing connection to the electrical network, it is necessary to submit a request for a new substation, which requires huge costs

Picture/s:	
Evaluation of reported challenge:	Taking into account constant increase in the consumption of electricity, there is a urgent need for the investments in the electrical infrastructure.
Nr of challenge:	6
Name of the challenge:	Urban transport
Description of the challenge:	The level of transport connectivity provided by the city bus lines of the City of Labin is not sufficient to cover the increasing need for mobility and the poor interconnection between rural and urban areas in the Labin region. A new green and efficient public transport line would offer better connectivity and mobility between surrounding local self-government units and rural and urban areas, would improve general health conditions, offer better availability of public services (e.g. health services for the elderly population), encourage employment (e.g. availability of work and transport options for currently unemployed citizens), greater social inclusion in the local community, would partially solve congestion problems related to mass tourism, and would contribute to the decarbonization of the region and the general quality of life.

Picture:	
Evaluation of reported challenge by PP:	The reported challenge once again has raised importance of the establishment of new and effective public transport service in the City of Labin and its surrounding municipalities. The challenge was forwarded to the local authorities.
Nr of challenge:	7
Name of the challenge:	Illegal waste dumps
Description of the challenge:	In the territory of the Municipality of Medulin, there are a large number of legalized buildings that were built outside the construction area, which, in addition to illegal construction, also results in illegal or "wild" landfills, which in most cases begin with the disposal of construction waste, on which other bulky waste is then deposited, and even mixed municipal waste. The Kamik recycling yard was established in the territory of the municipality of Medulin, in Banjole, but despite this, certain people dispose of waste in nature. A lot of legalized buildings that were illegally built outside the urbanized area inaccessible to the municipal company that collects waste and for which the owners of the buildings did not request the contracting of the waste removal service, brought the problem of illegal waste disposal and dumping of waste in nature, thus contaminating the environment.

Picture:	
Evaluation of reported challenge:	Illegal waste dumps are unfortunately a constant threat in the region. Local and regional authorities are making significant efforts to remediate such dumps and ensure that further dumping is prohibited.
Nr of challenge:	8
Name of the challenge:	Production of renewable energy
Description of the challenge:	For the project "Increasing the capacity for the production of solar energy on public facilities of the Municipality of Medulin - REF. NO. 81", the Municipality of Medulin received funding from Iceland, Liechtenstein and Norway through the financial mechanism of the European Economic Area (EEA) 2014-2021, with national co-financing of the Republic of Croatia, in the amount of EUR 346,893 in grants under the "Energy and Climate Change" Program. The total value of the project is 408,110 euros, while the co-financing rate is a high 85%. With this project, the Municipality of Medulin with partners Albanež d.o.o. and Med eko servis d.o.o. installed as many as 7 photovoltaic power plants on public buildings owned by the municipality of Medulin, thereby laying the foundations for continued work on environmental protection and reducing electricity consumption. With this project, the Municipality of Medulin has started a new era for a greener Municipality of Medulin. The project was completed in 2024. For the installation of new photovoltaic power plants, there are still potential locations owned by the Municipality of Medulin, and an adequate public call for co-financing is awaited, and documentation needs to be prepared. The approvals of the HEP are waiting for a very long time due to the lack of manpower in the HEP.

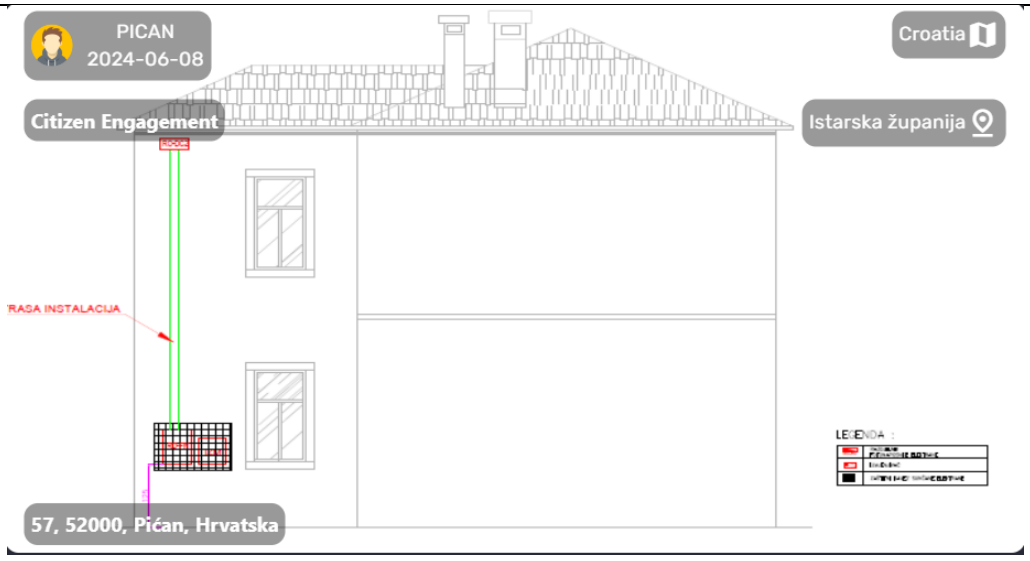
Picture:	
Evaluation of reported challenge:	In recent years, solarization has finally reached the Istria County. Local government units are leading the process in their areas, but there is still lot of potential in order to reach the targets set in the energy plans.
Nr of challenge:	9
Name of the challenge:	Single use items
Description of the challenge:	The Municipal Council of the Municipality of Medulin, at the session of the Municipal Council held on June 6, 2019, passed the Decision on the cessation of the use of single-use plastic items and measures to prevent environmental pollution in the administrative bodies of the Municipality of Medulin and the commercial companies and public institutions founded by the Municipality of Medulin. The amount of harmful plastic waste in the seas is increasing every day. During the summer season, the amount of waste increases significantly, considering that the Municipality of Medulin is the most touristic municipality in Croatia. Plastic waste is undoubtedly a big problem because plastic waste ends up in our air, on our soil, in our seas and in our food, and is a problem not only for the environment but also for our health. Having seen all of the above, the Municipality of Medulin, by adopting the Decision, is introducing a wave of change, taking the first steps on its own business example. The municipality of Medulin has recognized how much of a problem for our environment pollution is, especially with single-use plastic, and with this measure is trying to contribute to the fight against plastic and environmental pollution. This Decision introduces concrete measures with the aim of consequently encouraging local residents as well as business entities to develop awareness of environmental protection and concrete action in accordance with it. In accordance with the aforementioned, the Municipality of Medulin, commercial companies and public

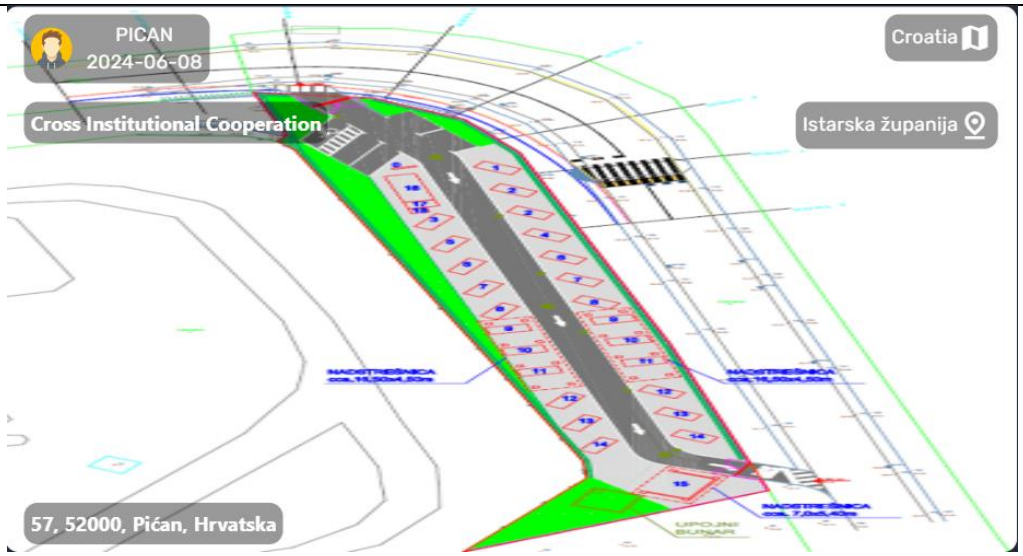
	institutions founded by the Municipality introduced environmentally friendly materials and equipment into their operations, rationally using electricity and other energy sources in order to reduce environmental pollution. It should be noted that the goal of this Decision is to gradually reduce the consumption of single-use plastic and replace it with more environmentally friendly solutions, and the existing equipment and inventory used in the premises of the Municipality, its trading companies, public institutions and other legal entities, which is not made of environmentally friendly or biodegradable materials will remain in use until it is used up or until its function is satisfactory, all with the aim of avoiding additional waste generation. The above implies that previously purchased plastic was not thrown away immediately after the Decision was made, but that purchased will be used, and all future orders and items are purchased in accordance with this Decision. There is still a big challenge regarding compliance with the aforementioned Decision, given that the price of recycled office paper is higher than that of non-recycled paper and that recycled paper is of a lower quality than non-recycled paper, so the durability of documents printed on recycled paper is lower than those on non-recycled paper. In accordance with the Decision on the cessation of the use of single-use plastics, the Municipality of Medulin created educational posters for the purpose of educating local entrepreneurs, residents and the general public about the importance of environmental protection and measures to reduce the use of single-use plastics.
Picture:	
Evaluation of reported challenge:	Today, plastic is used in almost all aspects of human life, and this increases the amount of plastic waste that ends up in the environment. The use of plastic materials has brought great social benefits, so for a long time the impact of plastic in the environment was ecologically marginalized with an eventual emphasis on the aesthetic aspect of discarded plastic. Local authorities are struggling with the huge amount of produced waste, particularly the plastic one. Even if there are several important initiatives for reducing

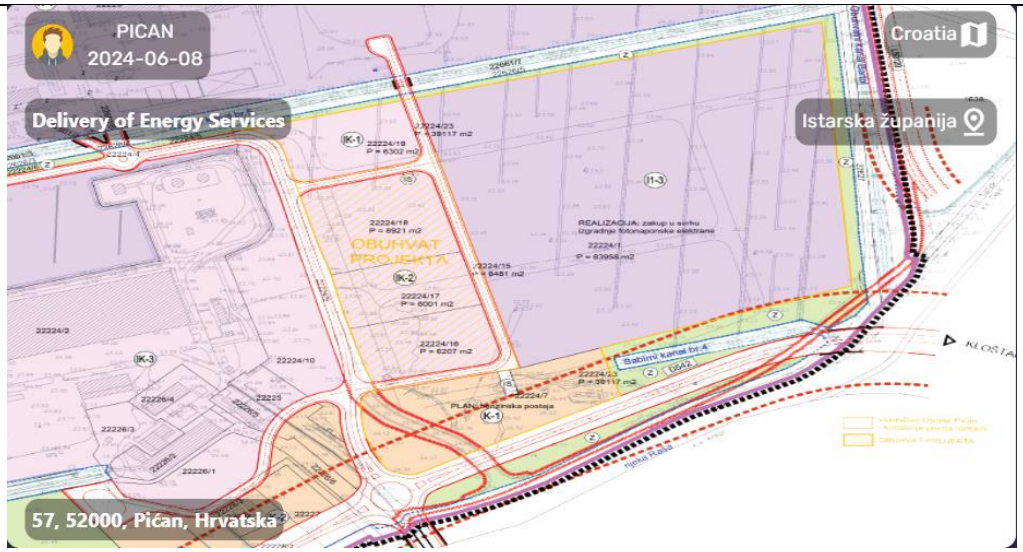
	the amount of produced waste, local and regional authorities should put more effort in mobilising the citizens to pay more attention on how to deal with the waste and how to reduce the quantity of it.
Nr of challenge:	10
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	The price of energy is high, and average salaries and pensions are low. It is not known until when the state will co-finance the price of electricity.
Picture:	
Evaluation of reported challenge:	Croatia has one of the lowest prices of the electricity in EU, and even with this low price, citizens are struggling to pay their bills. Increase of the production of electricity from renewables could possible reduce the price, but probably only for those target groups directly involved in the investments.
Nr of challenge:	11
Name of the challenge:	Waste management services
Description of the challenge:	The County Center for Waste Management (ŽCGO) of the Istrian County Kaštijun is located on the border of the Medulin municipality. The center has a problem with the disposal of waste that is brought there from all over Istria. The collected waste contains an excessive percentage of liquid, so it cannot be adequately disposed of and disrupts the entire waste disposal process. There is a big problem with the disposal of bales of waste that are stored in open space, and their purchase and removal require high costs. It would be desirable to explore the possibility of establishing a heating plant and the application of appropriate

	technology as in the world-famous successful waste management centers. Kaštijun is located in the south of Istria, and the greatest influence on the level of air quality is in its surrounding area where the municipality of Medulin and the city of Pula are located, while the other municipalities and cities of Istria are not affected by the poor operability of Kaštijun. It is located in the tourist area of Istria.
Picture:	
Evaluation of reported challenge:	Istria Region is facing enormous pressure during the summer season with the quantity of produced waste. Unfortunately, the Waste Management Center Kaštijun is facing issues with the quantity and quality of collected waste. There is a urgent need to establish separate collection of biowaste on the regional level and possible construction of the composting plant.
Nr of challenge:	12
Name of the challenge:	Use of renewable energy sources
Description of the challenge:	A small percentage of houses in the Medulin municipality use renewable energy sources. The Municipality of Medulin in cooperation with IRENA (Istrian Regional Energy Agency) has been conducting a public call for co-financing of measures for renewable energy sources in households since 2023, and every year holds a presentation of the public call and education of the population about the existing possibilities of implementing measures of renewable energy sources. IRENA represents the savings achieved by installing renewable energy sources. In accordance with market trends, the following measures are co-financed through a public call: M1) Measure of preparation of energy certificate and report on energy inspection of family houses; M2) Measure of the development of the main electrotechnical project of a photovoltaic power plant for the production of electricity in

	family homes, for own consumption in network operation and/or electric vehicle charging stations; M3) Measure of installation of a new photovoltaic power plant for the production of electricity in family homes, for own consumption in network operation; M4) Performance measure of the new infrastructure for electric vehicle charging; M5) Measure of supply and installation of a heat pump for space heating, space cooling and preparation of domestic hot water
Picture:	
Evaluation of reported challenge:	Local authorities should plan measures and funding sources for their citizens, but also for small and medium enterprises in order to trigger investments in EE and use of RES.
Nr of challenge:	13
Name of the challenge:	Energy sources
Description of the challenge:	Of all seven settlements in the Medulin municipality, only the Pješčana Uvala settlement has a city gas network, while the other settlements do not have this network, so space heating and hot water and cooking with city gas are not possible, and each facility must purchase gas bottles or install larger tanks in their yards.

Picture:	
Evaluation of reported challenge:	Natural gas as a transformation energy sources can be considered as a feasible option if the costs of the implementation in the area are not to high.
Nr of challenge:	14
Name of the challenge:	Triggering the use of RES in households
Description of the challenge:	It is necessary to establish a model for encouraging the use of renewable energy sources in households and to further instruct citizens with the advantages of renewable energy sources and involve them in creating conditions for energy renovation. The Municipality of Pićan has developed a project for the energy renovation of a school building for public needs.
Picture:	

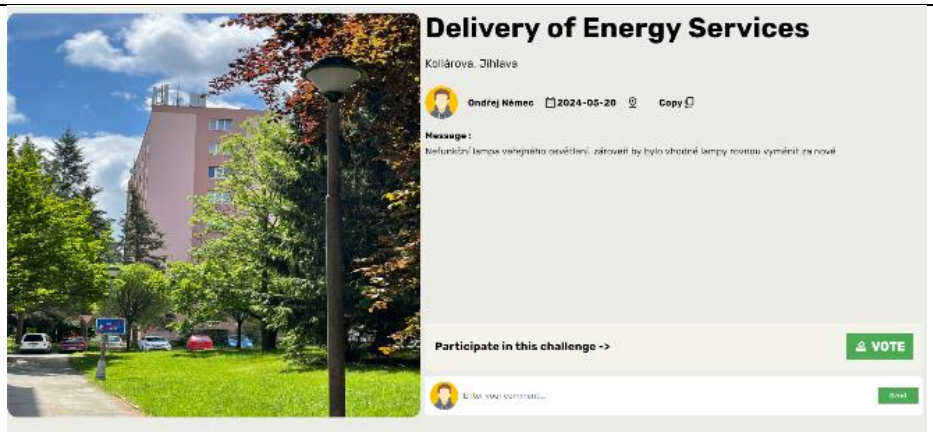
Evaluation of reported challenge:	In the last years, municipalities in the Istria Region have put significant effort in preparing and implementing projects focused on improving the EE and use of RES in public buildings. Besides the direct benefits, the implement measures can also be a good example on how to demonstrate to their citizens possible measures which can be applied on their houses or multi apartment buildings.
Nr of challenge:	15
Name of the challenge:	Cross institutional cooperation
Description of the challenge:	One of the problems that both citizens and the Municipality face is improper waste disposal. Although citizens are aware of the many problems that waste disposal in nature brings, we still often come across illegal landfills in our area. The Municipality of Pićan is in the process of preparing project documentation for the construction of a recycling yard in the industrial zone in order to make such a service even more accessible to citizens.
Picture:	
Evaluation of reported challenge:	Recycling yards are a a very good solution for providing citizens an option to put away the waste that cannot be disposed of through the regular waste management service provided by utility companies. Recycling yards are also a good option to reduce the possibility of developing illegal waste dumps.
Nr of challenge:	16
Name of the challenge:	Incentives for business

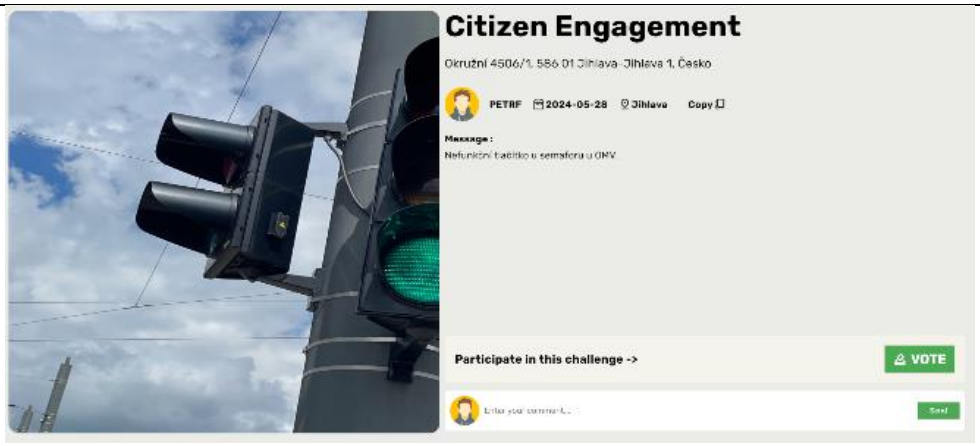
Description of the challenge:	As an incentive for entrepreneurs to start a business in a certain area, it is necessary to provide the prerequisites for them to be able to build their business. The availability of energy services is an important thing when choosing a location to start a business. Therefore, the Municipality of Pićan, is working on setting the prerequisites for the construction of a road within a part of the industrial zone as an access to future plots, which will contain all the communal infrastructure so that it is immediately available to interested users.
Picture:	
Evaluation of reported challenge:	Ensuring proper business infrastructure is crucial for every local municipality. The reported challenge reflects the intension of the Municipality of Pićan on how to make their business zone more attractive for investors.

3.1.6 PP8-Energy Agency Vysočiny

Nr of challenge:	1
Name of the challenge:	Illegal dumping of construction waste
Description of the challenge:	Illegal dumping of construction waste

Picture/s:	
Evaluation of reported challenge:	This is not really JET related Challenge, nevertheless the problem was solved by city representatives after challenger report.
Nr of challenge:	2
Name of the challenge:	Pubic parking
Description of the challenge:	Parking at the zoo. Nightmare! Does anyone know if there are plans for a parking garage at the zoo? Weekends are packed, and lots of people park at Tesco.
Picture/s:	
Evaluation of reported challenge:	It is a challenge which general public must face to on the daily basis. The problem is currently in negotiation of city council.
Nr of challenge:	3
Name of the challenge:	Old streetlights in Jihlava

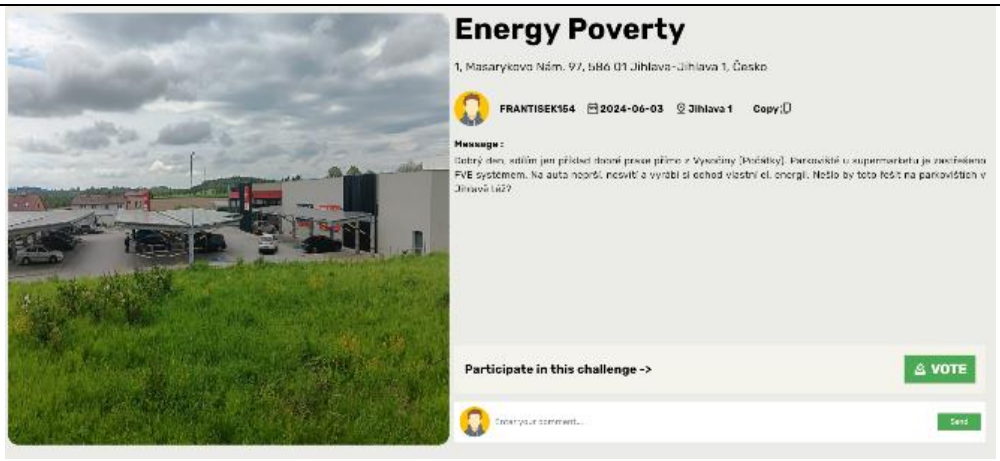
Description of the challenge:	Non-functional streetlight. It would also be appropriate to replace the lights with new ones.
Picture/s:	
Evaluation of reported challenge:	It is obvious, that municipality representatives are not able to check all street lights in the city, so it is important to have reporting tool, where citizens can report these challenges. Problem solved by city representatives
Nr of challenge:	4
Name of the challenge:	Social media for protection of the environment
Description of the challenge:	Social media can also be utilized for activities contributing to environmental protection. The regional Facebook group "Obal není odpad Vysočina" (Packaging is not waste Vysočina) enables the offering of unused packaging and filling materials from postal shipments, used packaging from food, cosmetics, and other goods for your personal projects. This saves energy and resources, thereby extending their lifespan.
Picture/s:	

Evaluation of reported challenge:	Zero waste groups on social media are very useful and often used in Czech Republic in general. Good example practice.
Nr of challenge:	5
Name of the challenge:	Non-functional button at the traffic light near OMV gas station in Jihlava
Description of the challenge:	Non-functional button at the traffic light near OMV gas station in Jihlava
Picture:	
Evaluation of reported challenge:	Challenge was reported to responsible office.
Nr of challenge:	6
Name of the challenge:	Parking zones and payments for parking
Description of the challenge:	Since the introduction of the blue parking zones in Jihlava, the P+R parking lot at ONO is overcrowded every day. It's becoming increasingly challenging to drive into Jihlava by car.

Picture:	
Evaluation of reported challenge:	The city of Jihlava representatives wer informed about necessity of P+R parking capacities.
Nr of challenge:	7
Name of the challenge:	Traffic lights in Jihlava
Description of the challenge:	Foliage obstructing traffic signs/traffic lights
Picture:	
Evaluation of reported challenge:	Challenge to be solved easily
Nr of challenge:	8
Name of the challenge:	Foliage obstructing traffic signs

Description of the challenge:	Foliage obstructing traffic signs/traffic lights
Picture:	
Evaluation of reported challenge:	Challenge to be solved easily
Nr of challenge:	10
Name of the challenge:	The poor condition of the road
Description of the challenge:	A severely damaged road surface with numerous potholes. The poor condition of the road complicates vehicle passage and directly increases fuel consumption and emissions while also accelerating vehicle wear and tear. These factors contribute to higher energy consumption required for fuel production, repairs, manufacturing of new vehicles, and their components, among others
Picture:	

Evaluation of reported challenge:	This is a problem of small streets with no inhabitants. It seems to be not so important to repair these small roads.
Nr of challenge:	11
Name of the challenge:	PV power plant in ZOO Jihlava
Description of the challenge:	Considering the upcoming legislation regarding community energy, the installation of photovoltaic panels for the buildings of Jihlava Zoo seems to a suitable solution. It is a vast area with a consistent demand for energy, even during the summer months.
Picture:	
Evaluation of reported challenge:	In terms of community energy in line with new legislation in Czech Republic, this would be very interesting and helpful investment. The idea was presented to City of Jihlava representatives
Nr of challenge:	12
Name of the challenge:	Reusable cup
Description of the challenge:	As the time for summer festivals, travel, and gatherings with friends approaches, it's still possible to be environmentally conscious during these enjoyable activities. Simply opt for beverages served in reusable cups, bring your own water bottle, or enjoy coffee in a ceramic mug or thermos.

Picture:	
Evaluation of reported challenge:	Good example practice
Nr of challenge:	13
Name of the challenge:	PV power plants on public parking lots as a shading
Description of the challenge:	Hello. I'm just sharing an example of good practice from the Vysočina region (Počátky). The parking lot at the supermarket is covered with a photovoltaic system. Cars are protected from rain, there's shade, and the system generates its own electricity. Could this solution also be implemented in parking lots in Jihlava?
Picture:	
Evaluation of reported challenge:	Good example practice
Nr of challenge:	14

Name of the challenge:	PV power plants in Jihlava
Description of the challenge:	The potential for utilizing photovoltaic panels in the municipal shelter area is significant. Part of the area is heated using electric heaters, leading to a high consumption of electrical energy. The buildings in the area are either uninsulated or only partially and inadequately insulated.
Picture:	
Evaluation of reported challenge:	Idea for RES use.
Nr of challenge:	15
Name of the challenge:	Green urban area
Description of the challenge:	Insufficient greenery in Masaryk Square. The predominance of concrete surfaces in the summer months accumulates heat and, as a result, increases the demand for building air conditioning. This translates to high electricity consumption during the summer months due to the need for building cooling.

Picture:	
Evaluation of reported challenge:	Good example practice for preventing overheating in the city centre
Nr of challenge:	16
Name of the challenge:	Green facade example
Description of the challenge:	An example of a "green facade" in practice is a building covered with vegetation during summer days, where water evaporation from the leaves reduces the need for cooling. At least, this is probably less of an issue for the attic facade. In the winter, this effect is not as significant, so it would be beneficial to insulate the building further. In a typical house, addressing overheating or water retention in the landscape can be approached in a similar, albeit amateur, manner. I assume neither of these was the owner's intention; they just didn't trim the greenery in time.
Picture:	
Evaluation of reported challenge:	Good example practice for preventing overheating in buildings

Nr of challenge:	17
Name of the challenge:	Energy wasting for promotion
Description of the challenge:	So today I went shopping at the hobby market, and I was surprised to find that all the lights in the lighting section are on at full brightness. There are quite a few light fixtures there, and the electricity consumption for the whole day must be substantial. I wonder how much money is wasted unnecessarily each day. Why aren't the lights turned off?
Picture:	
Evaluation of reported challenge:	Very good point for discussion and thinking about necessity of relatively high energy consumption
Nr of challenge:	18
Name of the challenge:	Energy wasting for promotion
Description of the challenge:	Hello, I've already mentioned unnecessary lighting before, so I couldn't help but notice that lights are also on in a closed store in the middle of the shopping center. In this store, after closing time, the lights are running at full brightness unnecessarily. I hope they at least turn them off at night. The store closes 4 hours earlier than the center, so every day they're wasting electricity! The unnecessary electricity consumption won't be insignificant for 4 hours each day.

Picture:	
Evaluation of reported challenge:	Very good point for discussion and thinking about necessity of relatively high energy consumption

3.1.7 Slovak Innovation and Energy Agency

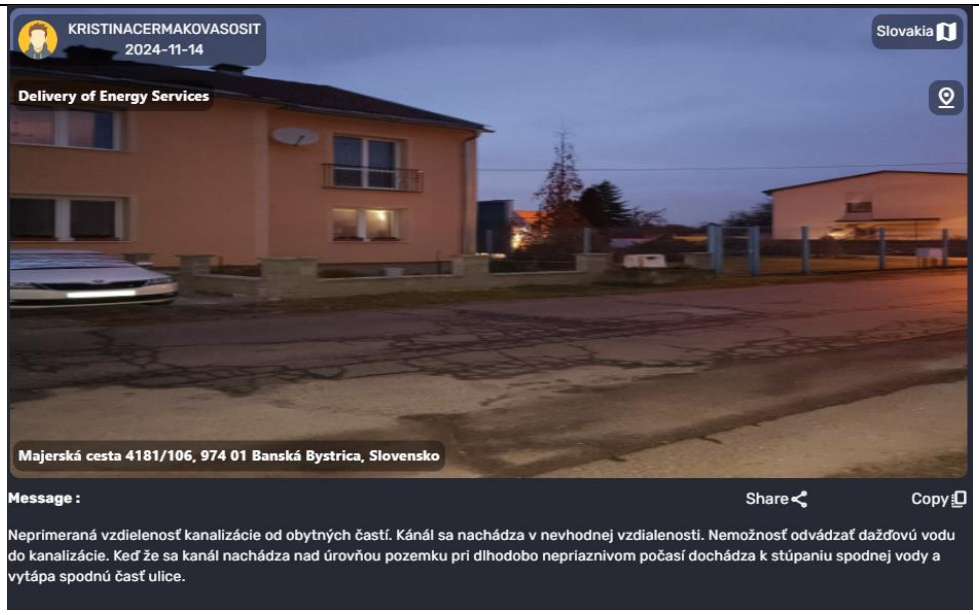
Nr of challenge:	1
Name of the challenge:	Unapproved Housing
Description of the challenge:	The temporary dwellings of some residents from socially marginalized communities expose them to energy poverty. Since these buildings do not meet even the minimum legislative requirements, their residents do not have access to subsidies for their renovation and quality housing within the framework of European standards is unavailable to them. Based on the experience of experts working with marginalized communities to date, there is no universal solution to the above problem in Slovakia and such situations need to be assessed separately - case by case. In any case, it is necessary to choose solutions that allow replacing these temporary buildings with residential buildings that meet at least the minimum legislative requirements of the EU, their construction is economically efficient and are affordable for members of socially marginalized communities.

Picture:	
Evaluation of reported challenge:	This challenge is relevant for just transition in general as well as for just energy transition. The challenge is addressing several priorities in the Slovak Just Transition Plan, which represents a main framework document concerning the just transition agenda in Slovakia. Namely it concerns to following priorities of the plan:Energy poverty, Employment/ Reskilling of unemployed workforce, Phasing out of coal fuels, Energy efficiency

Nr of challenge:	2
Name of the challenge:	Missing sewage system
Description of the challenge:	The municipality of Telgárt, with over 1,500 inhabitants, has a wastewater treatment plant, but only a 325 m long sewage system is connected to it, and only a few houses are connected to the sewer system. Most houses have a septic tank, the disposal of which is more expensive in terms of both financial and energy costs compared to sewage, and is also less ecological. The disposal is carried out by the municipality based on the request of citizens. And even though efforts are made to optimize the disposal, the total capacity of the sewage trailer, which is pulled by a tractor, cannot always be used, and its operation is therefore more expensive. In addition to direct emissions created during disposal, there is also a risk of environmental contamination, both when handling the sewage trailer and when the septic tanks may be flooded or overflowed. Since this is a smaller municipality that does not have enough of its own funds, a grant to build a sewage system for all houses and businesses in the municipality would certainly help.

Picture:	
Evaluation of reported challenge:	This challenge is relevant for just transition in general as well as for just energy transition. The challenge is addressing several priorities in the Slovak Just Transition Plan, which represents a main framework document concerning the just transition agenda in Slovakia. Namely it concerns to following priorities of the plan: • Common goal – to make region more attractive • Justice and Inequality • Energy efficiency • Reconstruction of territories affected by the transformation

Nr of challenge:	3
Name of the challenge:	Unresolved rainwater drainage
Description of the challenge:	Inappropriate distance of the sewer from residential areas. The canal is located at an inappropriate distance. Inability to drain rainwater into the sewer. Since the canal is located above the level of the land, during prolonged adverse weather conditions, groundwater rises and floods the lower part of the street.

Picture:	
Evaluation of reported challenge:	This challenge is relevant for just transition in general as well as for just energy transition. The challenge is addressing several priorities in the Slovak Just Transition Plan, which represents a main framework document concerning the just transition agenda in Slovakia. Namely it concerns to following priorities of the plan: • Common goal – to make region more attractive • Justice and Inequality • Energy efficiency • Reconstruction of territories affected by the transformation

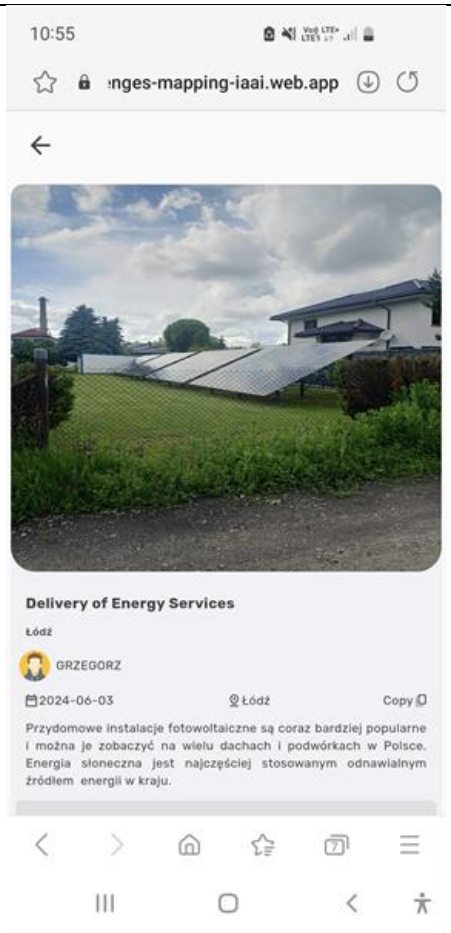
3.1.8 PP10-Lodzkie Region

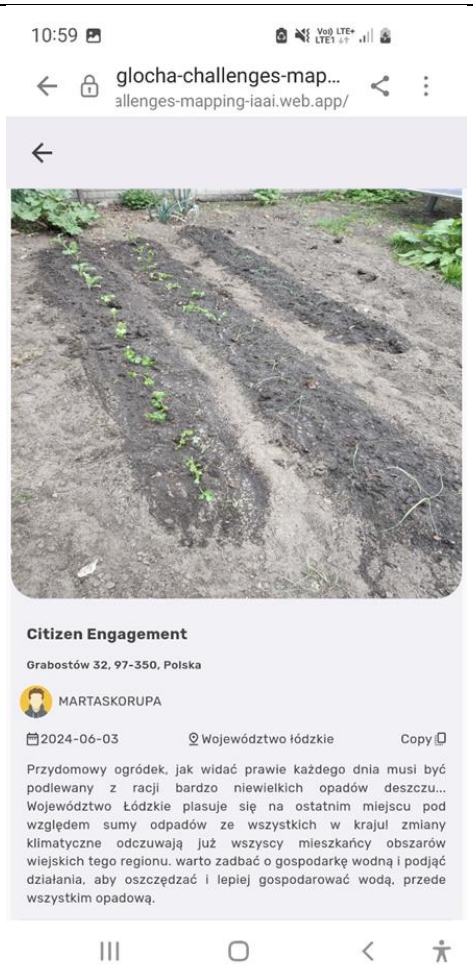
Nr of challenge:	**1**
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	Not very effective waste management even in cities. garbage is collected and disposed of far too rarely... what's more, as you can see, the residents themselves also do not pay much attention to the cleanliness of the estates...
Picture:	
Evaluation of reported challenge:	Illegal waste dumps and the problem of their treatment often appear in the reported challenges. This issue should be taken into account when planning the shape of public policies. Apparently, existing solutions are not effective or very popular. This issue needs to be looked into. Local government authorities should be made aware of the need to solve this problem.

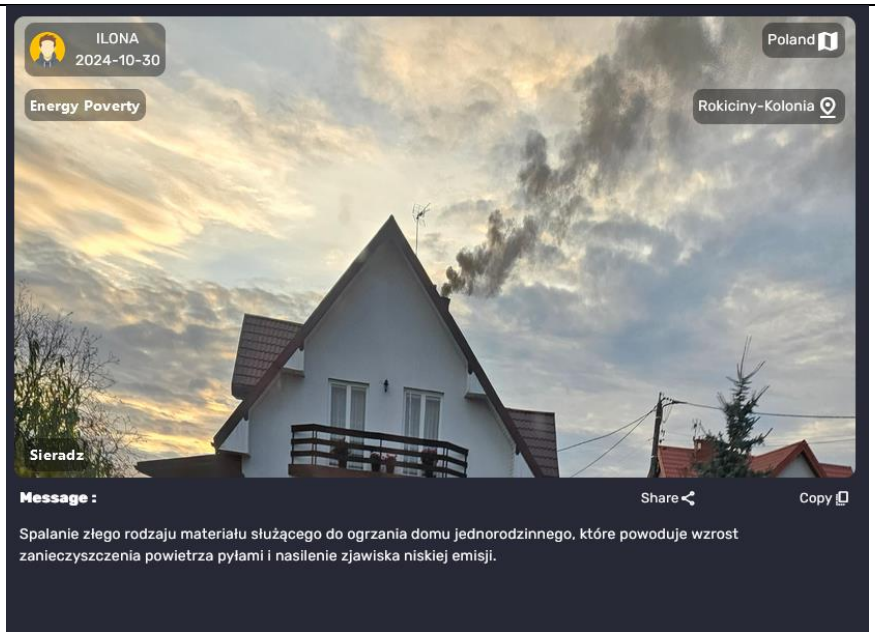
Nr of challenge:	**2**
Name of the challenge:	Citizen Engagement
Description of the challenge:	Construction chemicals factory in Zgierz near Lodz City, next to cultivated fields.
Picture/s:	
Evaluation of reported challenge:	The problem of air pollution is one of the most important ones identified in the region. Point emissions identified in industrial areas are mainly responsible for the high level of greenhouse gases, primarily CO2. There is a great need to change production methods in large industrial plants to reduce their emissions.

Nr of challenge:	**3**
Name of the challenge:	Citizen Engagement
Description of the challenge:	Group Sewage Treatment Plant in Lodz - the largest sewage treatment plant of this type in Poland, located on the Ner River, in the southwestern part of the city. It includes a number of structures and buildings of technical, technological and auxiliary importance. The sewage treatment plant together with the areas associated with it and the protection zone cover an area of 366 ha.
Picture:	
Evaluation of reported challenge:	It took many years to create a sewage treatment system at a satisfactory level. This trend should be maintained and we should also focus on illegal landfills and the discharge of waste by citizens, which primarily pollute groundwater.

Nr of challenge:	4
Name of the challenge:	Citizen Engagement
Description of the challenge:	Garbage on Brusie Street in Łódź.
Picture:	
Evaluation of reported challenge:	Illegal waste dumps and the problem of their treatment often appear in the reported challenges. This issue should be taken into account when planning the shape of public policies. Apparently, existing solutions are not effective or very popular. This issue needs to be looked into. Local government authorities should be made aware of the need to solve this problem.

Nr of challenge:	5
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	Home photovoltaic installations are becoming more and more popular and can be seen on many roofs and backyards in Poland. Solar energy is the most widely used renewable energy source in the country.
Picture:	
Evaluation of reported challenge:	The Lodzkie Region is Poland's industrial center in terms of energy production from conventional fuels: brown coal. Due to the EU's climate policy, there is a need to modernize the economy to one based on green energy. Huge financial resources are needed to change the economic profile of the region and the country, as well as re-industry of approximately 20,000 people employees of the mining and energy sector.

Nr of challenge:	**6**
Name of the challenge:	Citizen Engagement
Description of the challenge:	As you can see, the home garden has to be watered almost every day due to very little rainfall... The Lodzkie Region ranks last in terms of total waste in the country! Climate change is already felt by all citizens of the rural areas of this region. It is worth taking care of water management and taking actions to save and better manage water, especially rainwater.
Picture:	
Evaluation of reported challenge:	Extreme weather phenomena such as drought or excessive rainfall should be a priority in the region's ecological policy. At the moment, there is no strategy for counteracting natural disasters. This problem will continue in the coming decades. The sectors particularly affected by the problem are: agriculture, tourism and the inhabitants themselves.

Nr of challenge:	7
Name of the challenge:	Energy poverty
Description of the challenge:	Burning the wrong type of material used to heat a single-family house, which increases air pollution with dust and intensifies the phenomenon of low emissions.
Picture:	
Evaluation of reported challenge:	The problem of air pollution is one of the most important ones identified in the region. Point emissions identified in industrial areas are mainly responsible for the high level of greenhouse gases, primarily CO2. There is a great need to change production methods in large industrial plants to reduce their emissions.

Nr of challenge:	8
Name of the challenge:	Cross Institutional Cooperation
Description of the challenge:	There is drought in the Lodzkie Region, as in other parts of the country. It also affects the water level in retention reservoirs. Cooperation should be established within various types of institutions to cope with periods of rainfall shortages and water retention methods for the economy and people.

Picture:	
Evaluation of reported challenge:	Extreme weather phenomena such as drought or excessive rainfall should be a priority in the region's ecological policy. At the moment, there is no strategy for counteracting natural disasters. This problem will continue in the coming decades. The sectors particularly affected by the problem are: agriculture, tourism and the inhabitants themselves.

Nr of challenge:	9
Name of the challenge:	Citizen Engagement
Description of the challenge:	There is a big problem in the region with the storage and processing of municipal waste.

Picture/s:	
Evaluation of reported challenge:	Illegal waste dumps and the problem of their treatment often appear in the reported challenges. This issue should be taken into account when planning the shape of public policies. Apparently, existing solutions are not effective or very popular. This issue needs to be looked into. Local government authorities should be made aware of the need to solve this problem.

Nr of challenge:	10
Name of the challenge:	Cross Institutional Cooperation
Description of the challenge:	Adaptation to climate change, i.e. protection against the effects of sudden, heavy rainfall caused by a long rainless period. Development of river courses and floodplains. In the photo you can see a second-order river, the waters of which overflowed from the river bed after heavy rainfall caused by the lack of rain for three months.

Picture:	
Evaluation of reported challenge:	Extreme weather phenomena such as drought or excessive rainfall should be a priority in the region's ecological policy. At the moment, there is no strategy for counteracting natural disasters. This problem will continue in the coming decades. The sectors particularly affected by the problem are: agriculture, tourism and the inhabitants themselves.

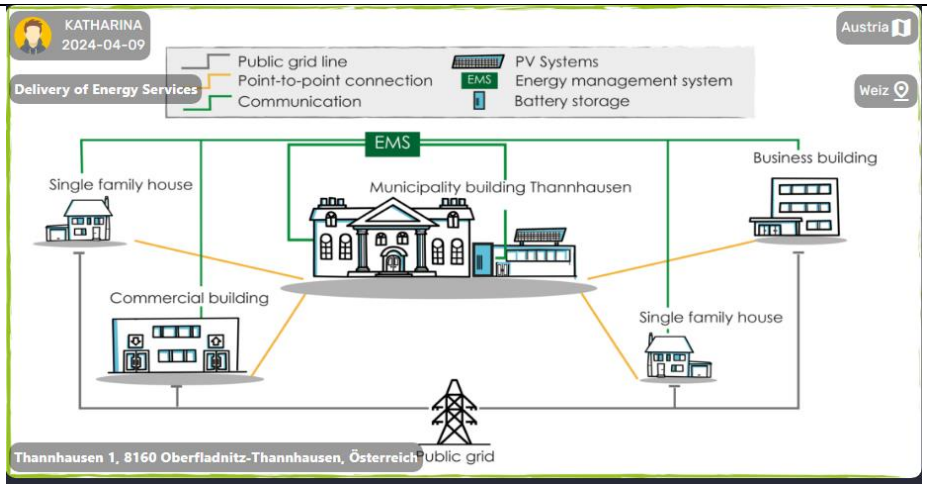
Nr of challenge:	11
Name of the challenge:	Delivery of Energy Services
Description of the challenge:	Lignite power plant in the city of Belchatow - the largest of its type in Europe, providing approximately 20% of electricity in the entire country! At the same time, it is the largest emitter of harmful CO_2 on the continent. The real challenge of the region is the modernization of the economy based on brown coal and the fight against both the elimination of air pollution caused by greenhouse gases and the prevention of ongoing environmental degradation.

Picture:	
Evaluation of reported challenge:	The problem of air pollution is one of the most important ones identified in the region. Point emissions identified in industrial areas are mainly responsible for the high level of greenhouse gases, primarily CO2. There is a great need to change production methods in large industrial plants to reduce their emissions. The Belchatow area is Poland's industrial center in terms of energy production from conventional fuels: brown coal. Due to the EU's climate policy, there is a need to modernize the economy to one based on green energy. Huge financial resources are needed to change the economic profile of the region and the country, as well as re-industry of approximately 20,000 people employees of the mining and energy sector.

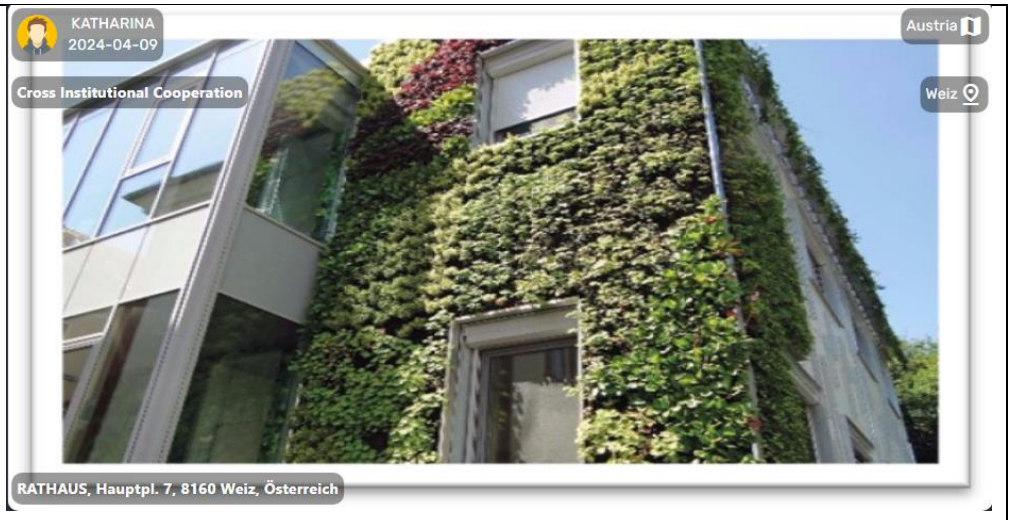
3.1.9 PP10-Weizer Energy and Innovation centre

Nr of challenge:	1
Name of the challenge:	Enlargement of the Biomass district heating system
Description of the challenge:	Enlargement of Biomasse district heating system, implementation of glass fibre power, new electrical grid and new streetlighting system. Savings of about 120 tons of CO2 per year because of this implementation in about 35 households in this protected area

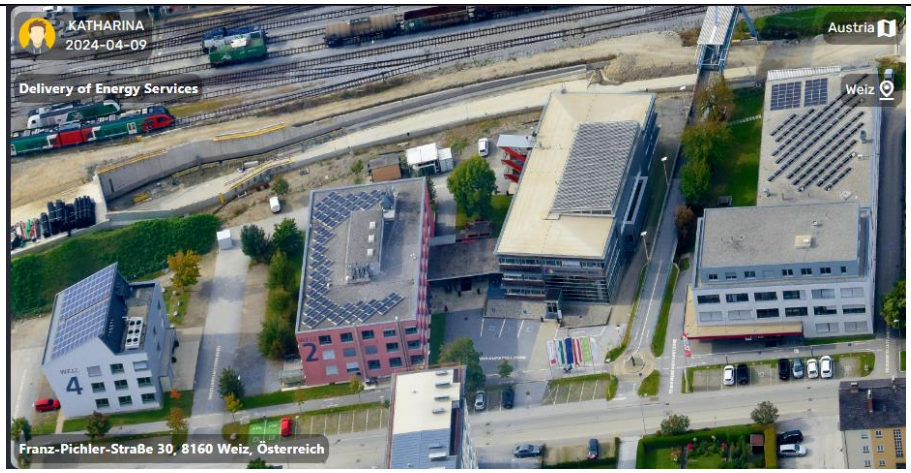
Picture:	
Evaluation of reported challenge:	This multi-faceted challenge addresses key energy infrastructure needs while supporting emissions reduction and sustainability goals. It highlights the potential of district heating systems and renewable energy sources to mitigate local emissions. To address this challenge effectively, securing funding and support from regional authorities is essential. Additionally, conducting workshops for the local community can help increase awareness and encourage households to transition to biomass heating. The project could also leverage local partnerships to maximize implementation efficiency and monitor the environmental impact over time.
Nr of challenge:	2
Name of the challenge:	Direct Line System Pilot Project Thannhausen
Description of the challenge:	In the municipality of Thannhausen a direct line system for sharing electricity with surrounding buildings was built in 2022. The motivation for submitting and implementing the project was that the municipality of Thannhausen was looking for a way to jointly use the generation from the 56 kWP PV system that had already been installed and operated on site before the project began. At the time of submission, direct lines were the only option for energy exchange across buildings;

Picture:	
Evaluation of reported challenge:	The direct line system in Thannhausen is a valuable initiative that optimizes the use of an existing 56 kWp PV system by allowing multiple buildings to share solar energy. This approach maximizes renewable energy utilization at the local level and fosters community-based energy sharing, contributing to local resilience and sustainability. However, as technology and regulatory landscapes evolve, there may be more efficient or flexible options than the direct line system alone for inter-building energy exchange. To further enhance this system, the municipality could explore integrating battery storage solutions, allowing surplus energy to be stored and used during peak demand times. Another potential action is to investigate emerging legal frameworks or technologies that could enable more flexible energy-sharing arrangements beyond direct lines. Conducting outreach to inform residents about potential savings and environmental benefits of the shared system could also encourage broader community engagement and potentially stimulate similar projects in neighboring areas.

Nr of challenge:	3
Name of the challenge:	Greening of Buildings to prevent heat islands in cities
Description of the challenge:	The "green façade" is the new part of the town hall and was built in 2017 and planted with 3,200 plants. The plants ensure that the building is cool in summer. In winter, the "green façade" acts as a heat reservoir. At the same time, such a façade is environmentally friendly and purifies the air - the plants absorb bad substances (pollutants) and convert them into clean air. (Picture: (C) Stadtgemeinde Weiz)

Picture:	
Evaluation of reported challenge:	The "green façade" on the Weiz town hall effectively combats urban heat islands and improves air quality, showcasing an innovative, eco-friendly approach to building design. Its dual function—cooling in summer and retaining heat in winter—demonstrates a sustainable solution that enhances both environmental and community health. Expanding green facades on other municipal and public buildings could amplify these benefits across the city. Further, community workshops could promote green building practices to residents, encouraging similar initiatives in private buildings and supporting citywide heat and pollution reduction.

Nr of challenge:	4
Name of the challenge:	Expanding Renewable Energy and Smart Storage at the Innovation Campus
Description of the challenge:	The innovation campus consists of four buildings which are mainly used as offices or laboratory offices. All buildings are equipped with PV Systems. The building itself will have potential to increase the PV power up to 100%. This means actually the campus and neighbour buildings have 120kWp installed. In the next years the plan is to upgrade the power up to 250kWp. Therefore, we would like to use standard PV systems mounted on the roof but also innovative systems for example PV systems mounted on the noise barrier of the campus and other innovative locations. Additionally, to the PV power upgrade the pilot should shift the harvested power into low load times. Therefore, storage systems will be required. The W.E.I.Z is planning to install a 100kW innovative storage system at the campus. With this new storage system it will be possible to learn more about battery characteristics like number of load cycles. According to this requirement

	monitoring is utmost important. W.E.I.Z will set up a monitoring platform and integrate this monitoring and built a “smart city monitoring platform”. Therein prosumer like PV systems as well as battery storage systems and other information data will be collected through the platform. The goal of the actions will help to rise the awareness of the municipality and their inhabitants but also policy and decision makers will use the important data and visual aids of the monitoring platform.
Picture:	
Evaluation of reported challenge:	The Innovation Campus' plan to expand its PV capacity and integrate advanced storage and monitoring systems represents a comprehensive approach to energy sustainability. This initiative not only enhances renewable energy production but also supports research on energy storage and consumption patterns, making it valuable for both operational efficiency and educational purposes. The development of a smart city monitoring platform will offer actionable insights for the municipality, helping to optimize energy management and foster an informed community. To maximize the impact, the campus could pilot educational events or live demonstrations for local residents and stakeholders, showcasing the benefits of renewable energy and smart storage. Expanding partnerships with local schools and universities for data sharing could further promote sustainability literacy. Additionally, maintaining close collaboration with local policymakers will ensure that data gathered informs future energy regulations and encourages wider adoption of renewable systems across the region.

Nr of challenge:	5
Name of the challenge:	Fighting Heat Islands on the main square in Weiz
Description of the challenge:	Weiz's main square struggles with challenges such as heat islands in summer and inner-city blight in general, as well as high traffic congestion. To counteract this, biologically active mosses are being researched for use in urban greening, which, however, require special consideration due to their high requirements. In order to meet the requirements and thus achieve a considerable advantage for the local microclimate, an automated irrigation system based on measurement data will be established, which will significantly reduce the water requirement and the effort required for irrigation. The measures of the project will be integrated into the development plan for the redesign of the main square, whereby the greening and irrigation measures will be implemented in the project, while the redesign of the main square will be carried out in parallel but partly at a later date.
Picture:	
Evaluation of reported challenge:	The initiative to use biologically active mosses and automated irrigation in Weiz's main square addresses both urban heat and aesthetic improvements effectively. This approach can enhance the local microclimate by reducing heat and improving air quality, while the automated system ensures efficient water use, making it a sustainable solution with minimal upkeep. Expanding this project to other high-traffic or heat-prone areas in the city could further reduce urban heat. Additionally, public education on the benefits of green infrastructure could increase community support and engagement. Collaborating with local environmental organizations could help ensure the mosses' requirements are met, supporting the long-term success of the project.

Nr of challenge:	6
Name of the challenge:	Developing Improved Hail Protection for Apple Orchards
Description of the challenge:	The apple trees are damaged by the storms and the heavy hail. We need better ideas for hail nets.
Picture:	
Evaluation of reported challenge:	Recent severe storms and hail have caused significant damage to apple trees, highlighting the need for more resilient hail protection solutions. Current hail nets may be insufficient under increasingly extreme weather conditions, affecting crop security and local agriculture. Exploring new materials or designs for hail nets, such as reinforced or flexible structures, could offer better protection against severe hail. Collaborating with agricultural research centers and local farmers to test innovative prototypes may lead to more effective solutions. Additionally, implementing pilot projects could provide valuable data to refine hail protection strategies across the region.

Nr of challenge:	7
Name of the challenge:	Flood Management and Resilient Infrastructure for the Weizbach Stream
Description of the challenge:	In Weiz, we are constantly struggling with extreme flooding. The Weizbach stream overflows its banks and floods the entire streets. The sewers can no longer cope with the volume of rainwater.

Picture:	 
Evaluation of reported challenge:	Extreme flooding from the Weizbach stream, worsened by inadequate sewer capacity, poses significant risks to infrastructure and public safety. Addressing this challenge requires comprehensive flood management strategies to improve resilience against increasing rainfall and overflow events. Installing advanced flood barriers along vulnerable sections of the Weizbach stream and expanding the sewer capacity to handle larger water volumes are critical steps. Additionally, implementing green infrastructure solutions, such as rain gardens and permeable surfaces, can help absorb excess rainwater. Partnering with hydrological experts to model flood risks and optimize drainage systems will support long-term flood resilience for the Weiz area.

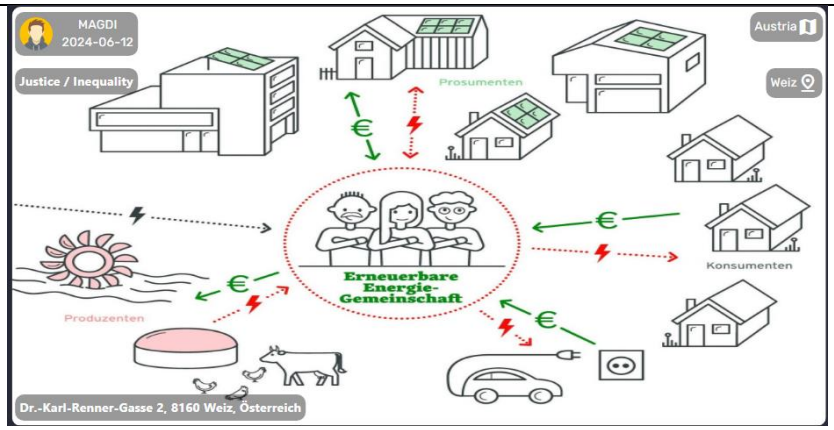
Nr of challenge:	8
Name of the challenge:	Integrating Solar Systems into Biomass Heating Plants
Description of the challenge:	We would like to integrate solar systems into our biomass heating plant. Can/would anyone like to share their experience regarding technical data/subsidies etc.?
Picture:	
Evaluation of reported challenge:	Integrating solar systems into the existing biomass heating plant can enhance overall energy efficiency and reduce carbon emissions by utilizing renewable energy sources simultaneously. However, it requires careful consideration of technical specifications and regulatory frameworks to ensure compatibility and optimal performance. To move forward, it would be beneficial to connect with other municipalities or organizations that have successfully integrated solar systems into biomass plants. Sharing experiences, including technical data, operational challenges, and information on available subsidies, can provide valuable insights. Additionally, attending workshops or forums focused on renewable energy integration could facilitate knowledge exchange and collaboration among stakeholders. Engaging with local energy agencies may also help identify potential funding opportunities for the integration project.

Nr of challenge:	9
Name of the challenge:	Expanding Moaktbus Services
Description of the challenge:	I have heard about the great Moaktbus from the city of Weiz and would like to use it more often, as would my neighbors. We have to drive to Mitterdorf

	every time. It would be great and above all energy-saving if the Moaktbus would simply extend its stops to Kumberg so that we don't always have to use the car. Thank you!
Picture:	 
Evaluation of reported challenge:	The Moaktbus serves as an innovative mobile farmers' market, bringing fresh food and local products directly to the community. However, the current route limits accessibility for residents in areas like Kumberg, who wish to benefit from this service. Expanding its stops could enhance community engagement with local agriculture and support healthier eating habits. To address this challenge, the city could evaluate the demand for Moaktbus services in Kumberg through community feedback. Implementing additional stops would not only promote local produce but also reduce reliance on cars for grocery shopping, contributing to sustainability efforts. Marketing campaigns highlighting the benefits of supporting local agriculture and the

	convenience of the mobile market might further encourage residents to utilize the service.

Nr of challenge:	10
Name of the challenge:	Transitioning to District Heating Solutions
Description of the challenge:	We would like to convert our heating to district heating. What options are there for us at this location and what subsidies can we get?
Picture:	
Evaluation of reported challenge:	The interest in converting to district heating reflects a commitment to improving energy efficiency and sustainability within the community. District heating can provide significant environmental benefits by utilizing centralized, renewable energy sources and reducing individual heating costs. However, understanding the specific options available and any financial assistance is crucial for successful implementation. To explore this transition, residents should first consult with local energy providers or municipal authorities to assess the feasibility of connecting to the district heating network. Gathering information on available subsidies or incentives from governmental bodies or energy agencies is essential. Participating in community forums or workshops focused on district heating can facilitate knowledge sharing and provide insights into successful case studies. Additionally, collaborating with energy consultants can help outline potential costs, savings, and technical specifications needed for the transition.

Nr of challenge:	11
Name of the challenge:	Expanding Energy Community Initiatives in Weiz-Nord
Description of the challenge:	I have heard about the energy community that is being set up in Weiz-Süd. As I'm attached to the other substation, I unfortunately can't participate there. Are such measures also planned for the Weiz-Nord substation?
Picture:	
Evaluation of reported challenge:	The establishment of the energy community in Weiz-Süd represents a significant step toward enhancing local renewable energy use and community engagement in energy management. However, the inability for residents connected to the Weiz-Nord substation to participate highlights the need for inclusive energy solutions across different areas. Ensuring that residents in Weiz-Nord have access to similar initiatives is essential for maximizing the benefits of local energy production and sustainability efforts. To address this challenge, it would be beneficial for local authorities to assess the feasibility of creating an energy community for the Weiz-Nord substation. Engaging with residents to gauge interest and identify specific needs can help tailor the initiative. Additionally, collaboration with energy providers and local organizations can facilitate the planning and implementation of such measures. Promoting awareness of the benefits of energy communities and exploring potential funding or subsidies for establishing similar projects in Weiz-Nord can further encourage community participation and investment in renewable energy solutions.

3.2 Addressing collected challenges for better policy design

One the of the JETforCE goals is to engage citizens, stakeholders and PPs in influencing better policy design, and this is particularly relevant for the activities that are foreseen in the third JETforCE work package for the development of:

- JETforCE Strategy (D.3.2.1&D.3.2.2)
- JETforCE Action Plans (D.3.3.1) for your region
- Local/regional policies in your region

In this chapter, all the partner contributions on how the collected challenges can be furher used in WP3 will be presented.

In the provided final report, LP stated that all their reported challenges can be experienced on local level; however, above all, they all need central, governmental decisions in order to be improved/solved. Therefore, in the JETforCE strategy, they propose to mention all these challenges that need to be solved to more effectively move towards JET in their region. In the JETforCE Action Plan they propose to focus on those issues, that can be solved on their local level. E.g. by planning a local awareness-raising campaign for the public online for JET information distribution and to promote and encourage the community approach to solve common problems. For the local and regional policies in their region, they are proposing to prepare a set of recommendations regarding the better uptake or more focus on community-driven JET related initiatives by the local policies, based on the challenge mapping tool findings and partners' good practices as well as the already existing participatory decision-making possibility on municipal-level.

For Emilia-Romagna, PP4 notes that some of the most urgent issues related to the just transition include the need to foster a shift to sustainable energy, enhance the circular economy, and address environmental challenges, particularly related to transportation and industrial emissions. The region is focusing on promoting green innovation, improving infrastructure, and reducing the environmental impact of its manufacturing sector. Additionally, strengthening water resource management and resilience against climate change impacts, such as floods, is a priority.

PP5 in their review states that there certainly is a real need for targeted funding support, especially concerning the municipal heat planning and privately owned energy storage devices. Many challenges also directly or indirectly call for more flexibility and a less onerous legal framework, which threatens to stifle many projects and is often propped up by traditional energy providers unwilling to give up their place in the market and modify their business strategy. Furthermore, while small-scale measures like building an EV charger are possible, in many municipalities and even counties, the financial situation does not remotely allow for the realization of even slam-dunk sensible projects like public parking PV without outside help. On the federal level, funding programmes are unlikely to materialize before the next election in 2025, due to the severe dysfunction of the governing coalition. A European solution could in theory provide some reprieve here. As

already mentioned above, the issue of coal-related job loss is often sold as a much bigger threat to the regional economy than it actually is, but there is still a need for more opportunities here.

LEASP in their PA1 review have emphasized that the reported challenges gathered through the Challenge Mapping Tool will for sure trigger policy improvements in the upcoming months. LEASP and the Municipality of Dornava will conduct a detailed review of each reported issue, which will shape the JETforCE Strategy (D.3.2.1 & D.3.2.2) and JETforCE Action Plans (D.3.3.1). This analysis will help in pinpointing immediate priorities and long-term actions, aligning local energy transition goals with community needs. As LEASP and the Municipality assess these challenges, they will focus on practical, community-oriented solutions.

Most of the collected challenges in the Istria Region, were shared by PP7-IRENA to the local authorities under which jurisdiction reported challenges are. IRENA will organise additional bilateral meetings with each of them in order to proper plan measures for the JETforCE Action Plan (D.3.3.1) and related Strategy (D.3.2.1 & D.3.2.2).

PP8-EAV provided comprehensive review on how the challenges identified by the Challenge Mapping Tool can provide valuable insights into local issues that can be leveraged for the JETforCE Strategy (D.3.2.1 & D.3.2.2), JETforCE Action Plans (D.3.3.1), and local/regional policy design.

The examples and ideas how to use outputs of challenge mapping tool proposed by PP8-EAV are listed below:

JETforCE Strategy (D.3.2.1 & D.3.2.2)

1. Fostering Public Participation: Challenges like non-functional streetlights, damaged roads, and traffic-related issues highlight the need for improved citizen reporting mechanisms. Including these tools in the strategy can ensure consistent and reliable feedback for infrastructure maintenance.
2. Promoting Sustainability: Examples such as "PV power plants in Jihlava" and "Green urban area" illustrate innovative ideas for reducing energy consumption and promoting renewable energy sources. These practices can form case studies within the strategy to inspire other regions.
3. Encouraging Community Energy: Proposals for photovoltaic installations in public spaces and the Zoo emphasize the importance of community energy projects. Including such examples will support legislation and funding prioritization for renewable energy solutions.

JETforCE Action Plans (D.3.3.1)

1. Actionable Insights for Pilot Projects:
    - **Challenge: Non-functional buttons at traffic lights**: Use as a case study to deploy IoT-based smart city solutions for real-time monitoring of public infrastructure.
    - **Challenge: Parking zones and payments**: Highlight the potential of smart parking solutions and the expansion of P+R systems in urban mobility strategies.

2. **Energy Efficiency and Resource Optimization:** Challenges like "Energy wasting for promotion" underscore the need for stringent **energy efficiency policies** in commercial spaces, particularly targeting lighting and HVAC systems.
3. **Zero Waste Practices:** Social media-driven initiatives like "Obal není odpad Vysočina" can serve as models for embedding **circular economy principles** into action plans.
4. **Sustainable Urban Development:** Suggestions such as "Green façades" and "Green urban areas" reinforce the need for **greening urban spaces** to combat urban heat islands and reduce cooling energy demands.

Local/Regional Policies

1. **Infrastructure Modernization:** The repeated reporting of infrastructure challenges (e.g., road damage, streetlights) calls for a **comprehensive audit and modernization plan** for municipal services.
2. **Public Transport and Parking Management:** Challenges related to parking and traffic lights highlight the urgency to improve **urban mobility systems**, particularly:
    - Expanding **P+R parking** facilities.
    - Implementing **smart traffic control systems**.
3. **Renewable Energy Integration:** The proposals for photovoltaic panels in public spaces align with the **National Energy and Climate Plan** and should be integrated into **local energy strategies** to meet decarbonization goals.
4. **Environmental Education and Awareness:** Practices like reusable cups and the zero-waste Facebook group can be integrated into **public awareness campaigns** to foster sustainable consumption behaviors.

Policy Design Recommendations

- **Legislative Support for RES Projects**: Challenges like "PV power plants in Jihlava" underscore the need for tailored **subsidies or incentives** supporting renewable energy investments in municipal and community-owned buildings.
- **Smart City Technologies**: Incorporate IoT solutions for challenges like non-functional streetlights and traffic management into smart city initiatives.
- **Sustainable Urban Planning**: Policies should prioritize **urban greening projects**, integrating green façades and public parks to enhance livability and environmental resilience.
- **Energy Efficiency Standards**: Develop regulations for commercial establishments to curb **unnecessary energy consumption**, informed by "Energy wasting for promotion" examples.

- **Circular Economy Incentives**: Support grassroots efforts like zero-waste social media groups with **local grants or partnerships**.

In their review, PP9 noted that JETforCE Strategy as well as JETforCE Action Plan will preferably focus on following priorities described in Slovak Just Transition Plan for Banská Bystrica self-governing region:

Transformational challenges

Economic challenges: monoindustrial character of local economy dependent on high intensity CO_2 industries; need for large-scale investments in research, new technologies and innovation, including hydrogen and CCS;

Environmental challenges: low energy performance of buildings still relying on heating with solid fuels, significantly contributing to air pollution; increase the use of available forest potential for carbon capture; given the industrial nature of the region, there is a need for reclamation and change of use of abandoned industrial sites.

Social challenges: region is facing to a problem of brain drain – which a need for energy transition of the territory may further deepen; mismatch between the education sector and the needs of practice creates a shortage of suitable workforce;

Expected results:

Economic diversification

- Improving the economic diversification of the local economy, especially in rural areas, leading to an increase in the quality of life;
- Creating new jobs in rural areas in traditional or promising sectors such as tourism, forestry or agriculture;
- Increasing the activity of SMEs in the region and a higher share of SMEs in employment;
- Reducing unemployment, including structural unemployment related to the transition to climate neutrality;
- Improving connections and cooperation between universities, research and development and businesses;
- Increasing the transfer of innovative solutions and technologies to local businesses;
- Reducing the negative migration trend by creating higher value-added jobs in the region;

Sustainable environment

- Increased use of sustainable, zero-emission transport;
- Improved energy efficiency of public buildings;
- Better use of the region's potential in the use of renewable energy sources, which will lead to a reduction in the risk of energy poverty;

- Brownfields prepared and repurposed;
- Increased use of green technologies;

Quality of life and social infrastructure

- Reducing the trend of depopulation of the region;
- Improving the quality of the education system, including vocational education and training;
- Improving the skills matching of the unskilled workforce with the needs of the labour market in order to reduce structural unemployment;
- Increasing the preparedness and resilience of the workforce to rapid changes in the labour market;
- Increasing digital, circular and financial literacy;
- Improving connections and cooperation between SMEs, universities and secondary vocational schools.

Both applications developed within the project JETforCE themselves contribute to fulfilling the priorities of the local policy document entitled: Concept of applying SMART principles in the creation of public policies of the Banská Bystrica Self-Governing Region. The applications can also help to select priority areas of interest or preferred technologies to be focused on, in upcoming regional framework strategic document "Energy concept of the Banská Bystrica self-governing region", being currently drafted by the team of Slovak Digital Ambassador Mr. Juraj Šipula.

According to the mapped challenges in the Lodzkie Region, the most urgent problems related to just transition identiefied and listed by PP10 are:

- lack of adaptation to ongoing climate changes,
- extreme weather phenomena, in particular hydrological drought,
- high level of air pollution,
- poorly functioning waste management,
- slowly progressing energy transformation using renewable energy sources.

Not all of these problems are sufficiently emphasized in existing public policies, such as the Regional Development Strategy of the Lodzkie Region 2030, air protection programs and the Territorial Just Transition Plan for the Lodzkie Region. These issues should be examined in detail in the resulting Action Plan and JETforCE Strategy. PP10 would like to focus on the problem of extreme climatic phenomena and the surplus of waste. This will allow appropriate financial resources to be allocated in this direction in program documents, e.g. the regional program European Funds for the Lodzkie Region 2027 (and future documents). These studies will be the basis for drawing the attention of local authorities to these issues.

For the WP3 activities, namely the JETforCE Strategy and Action Plan, PP11-Yunus Foundation will be focusing on how to finance technologies/investments that will be able to address the collected challenges. Therefore,

the nature and complexity of these challenges are important factors to consider, as each challenge might require different financing options. For example, some challenges need to be tackled nationally or at least regionally. In such cases, the financing might be public. On the other hand, some challenges require private financing. Thanks to the vast number of banks and other financial intermediaries in Yunus's network, the Foundation can ensure a just energy transition by scouting appropriate financing.

PP12 in their overview on how the detected challenges can be further used in WP3 have divided by categories presented in the Challenge Mapping Tool as follows:

- **Justice / Inequality**

Expanding Energy Community Initiatives in Weiz-Nord can be addressed by fostering inclusive policies that encourage participation from all community segments in energy initiatives. Providing financial incentives or grants to support energy projects in marginalized neighborhoods can ensure equal access to benefits.

- **Delivery of Energy Services**

The challenges related to the Enlargement of the Biomass District Heating System, the Direct Line System Pilot Project in Thannhausen, Expanding Renewable Energy and Smart Storage at the Innovation Campus, and Transitioning to District Heating Solutions highlight the need for investment in upgrading and expanding existing energy infrastructure to improve service reliability and efficiency. Promoting the integration of renewable energy solutions and smart technologies in energy systems will meet growing demand, while encouraging public-private partnerships can facilitate the development and financing of these initiatives.

- **Cross Institutional Cooperation**

The challenges related to Greening of Buildings to Prevent Heat Islands in Cities, Fighting Heat Islands on the Main Square in Weiz, Developing Improved Hail Protection for Apple Orchards, and Flood Management and Resilient Infrastructure for the Weizbach Stream underline the necessity of establishing collaborative frameworks involving local governments, businesses, and community organizations. Sharing knowledge and resources among stakeholders will facilitate effective greening and flood management strategies. Joint initiatives that integrate multiple objectives, such as urban greening and flood resilience, can enhance overall community well-being.

- **Energy Poverty**

Integrating Solar Systems into Biomass Heating Plants addresses energy poverty by developing financial assistance programs to support low-income households in transitioning to renewable energy systems. Encouraging community solar initiatives will allow residents to benefit from solar energy without the need for individual investments in technology.

- **Citizen Engagement**

The Moaktbus is a mobile farmers' market that travels to various stations, selling fresh products sourced from local farmers. This initiative not only provides convenient access to high-quality, locally produced goods but also promotes sustainable consumption practices and strengthens community ties. By expanding the Moaktbus services, the community can enhance access to fresh produce, reduce reliance on cars for grocery shopping, and encourage healthier eating habits. Engaging local residents in the planning process can help identify additional stops and optimize routes to better serve the community's needs.

4. Challenge Mapping Tool

By taking into account that JETforCE project consortium in the scope of the Transnational Pilot 1 have tested a new solution in the form of Challenge Mapping Tool, it was essential to collect final partner feedback regarding:

- How PPs rate Challenge Mapping Tool after the pilot testing?
- What would PPs suggest for future improvements?
- To what extent PPs will share the tool with their stakeholders/citizens?
- How citizens can use the tool more, particularly those identified as the most vulnerable ones?

In this chapter will be present PPs answers, provided through their final reports on the Transnational pilot 1.

LP in their review stated that they find the concept of the tool fundamentally very exciting and important. The format and content also have improved a lot, based on the partners' feedback and thanks to the dedicated effort of the developer team from IAAI. However, somehow in their case it is not as useful as we they thought it would be, partially because the mentality of the Hungarian population. They generally do not like to report any issues, are not community-solution minded (of course there is a few exemption) they do not like to initiate things, because of the potential failure, so rather they expect other people, or the government to solve all their problems. Besides, most of the population is struggling with their everyday issues; thus, they are not really open to actually see, what can they do in their surroundings in order to improve their living environment. Therefore, in their case, the future use of the tool will depend on whether these few community-minded people, who are also sensitive about helping vulnerable groups will put their spare time and valuable effort in collecting such local challenges with the support of the tool, or not? Because if they will use it, then they will definitely expect urgent solutions to their challenges. And if there won't be adequate response from the responsible organizations/people, then most likely they will stop using the tool altogether.

For future improvements, LP suggests the following:

- Adding modification and delete buttons as well, so accidentally duplicated or already solved challenges can be removed from the tool.
- Having the possibility to report challenges without adding exact locations, because if there is a wider issue, it is not advisable to add just any random address to the challenge, which is currently the case.
- To ensure widespread use of the tool they suggest inserting a one-page, very simple user guide for the tool as a pop-up, after entering the tool, because project partners won't be there to explain it later on to the users, who come across the tool over the internet and would like to try it.

As regards the transferability of the solution, LP will keep sharing the tool with relevant stakeholders (including those, who are working with vulnerable groups), on their website, discussions, and also on events somehow related to JET, but most likely not directly with citizens. To reach citizens, they will cooperate with the City

Municipality of Miskolc, to evaluate the possibility of somehow using the tool in the participatory decision-making process, which the Municipality runs already.

As regards the involvement of citizens, LP opinion is that vulnerable citizens won't be able to use the tool on their own. However, if PPs can effectively reach those organizations (e.g. Red Cross, elderly care organisations, NGOs), who directly deal with these groups, there is a possibility that the vulnerable groups will be reached somehow.

PP4-MCBO in their review on how the Challenge Mapping tool can be improved, proposed to provide a clear explanation of the challenges the tool aims to address, including a pre-filled outline for users, whether citizens or local businesses. To engage a broader audience, promoting the tool at universities could be effective, as students have shown interest and could provide valuable feedback. The data collected, reflecting diverse users, can also help public administrations, like the Metropolitan City of Bologna, to engage in discussions and shape policies with different perspectives. To encourage the use of the tool by vulnerable citizens, it is crucial to simplify the interface and provide clear instructions. In addition, promoting it through local counters or awareness-raising programmes could raise awareness. Engaging local leaders or trusted organisations to explain the benefits of the tool and how it can address local challenges would be another effective way to reach these groups.

PP5 has put significant effort in improving the Challenge Mapping Tool by providing numerous suggestions to the tool developer IAAI and they have made a significant improvement. However, there are still several technical issues which make the use very difficult. PP5 in their review states that the tool for sure does what the project application says it should do, but if it is to be actually used by anyone besides a quick, curiosity-driven check in and then never again, that is not really enough. They therefore propose the following list of additional improvements:

- Invent a better name for the application.
- Switching to the "Home" tab from any other tab displays a loading circle for up to 20 seconds before any content appears, which is too long.
- Images attached to posts are stretched to fit the aspect ratio of the preview window, leading to completely mangled photographs. A better solution must be found.
- The default user icon is a young man in a hoody – this should be replaced with something more ambiguous.
- When opening any individual challenge on a desktop PC, the vote button is no longer available.
- Some UI elements don't respect boundaries and interfere with others in certain aspect ratios.
- The country filter in the "Home" tab doesn't seem to update very often.
- It would be preferable to add some additional challenge categories.
- When a new user is first logging in, it would be great if the software could take them on an automated guided tutorial and introduce them to the functionalities.

- Possible presentation of the content available to logged out users in some way. For example, the login page could dynamically display a gallery of recently added challenges. This would allow people to form a more concrete idea about what the platform offers before creating an account.

At the end of the review, PP5 regarding the possible future involvement of the citizens state that they will of course continue to host the material which already exists on their websites, but for any renewed publicity campaign, they feel that a sharper, more focused message is needed – which could, for example, come in the form of an actual success story a problem that was solved with the tool as an intermediary.

PP6 in their report have emphasized that the Challenge Mapping Tool has been instrumental in collecting citizen input on energy transition needs, enhancing community engagement, and assisting municipalities in identifying local priorities. PP6 continues its review with the statement that pilot action 1 revealed a particular need for support among vulnerable groups, who often required assistance in navigating the tool or reporting challenges effectively. Moving forward, recommendations include expanding the tool's accessibility and offering targeted training for vulnerable groups to increase their participation. Regular updates based on feedback will ensure the tool remains effective and integrated into regional energy planning processes, fostering inclusive, long-term community engagement.

After the first session of the Challenge Mapping Tool use in the Istria Region, the impressions are mixed. Overall, the idea of collecting inputs from citizens regarding the energy transition challenges which they are facing is valuable, but during the piloting process, there was a gap on how to convince citizens to use the tool and what are their benefits. As most of the partners have mentioned, a proper user friendly guideline should be established, but then there should also be a direct link to the local municipality which will evaluate reported challenge and provide citizens with concrete answers on their doubts or reported issues.

PP8-Energy Agency Vysočiny reported that Challenge Mapping Tool proved to be a valuable platform for identifying and collecting local challenges that might otherwise go unnoticed. It has facilitated a more transparent and participatory approach, allowing citizens to report issues directly, thus bridging the gap between stakeholders and the public.

PP8 has listed the following strenghts and limitations:

- **Strengths:**
    - Real-time data collection provided actionable insights for municipalities.
    - The tool successfully captured a wide variety of challenges, ranging from infrastructure issues to renewable energy opportunities.
    - Enhanced public engagement by giving citizens a voice in addressing local problems.
- **Limitations:**
    - Some challenges reported were outside the scope of the JETforCE project.

- Inconsistent reporting quality (e.g., incomplete descriptions, lack of pictures).

To enhance the tool's effectiveness and usability, the following improvements are recommended by PP8:

1. **Categorization and Filtering:**
   - Introduce predefined categories (e.g., infrastructure, energy, environment, social) to make reporting more structured and actionable.
   - Add filtering options for easier navigation and analysis by stakeholders.
2. **Enhanced Reporting Features:**
   - Require mandatory fields for detailed descriptions and photo uploads.
   - Allow users to rate the urgency or importance of the challenges reported.
3. **Feedback Loop:**
   - Include a progress-tracking feature where citizens can see updates on the resolution of their reported challenges.
4. **Incentives for Engagement:**
   - Introduce gamification elements, such as badges or rewards, for active participants.

General evaluation after pilot testing by Slovak Innovation and Energy Agency-PP9 is that the tool Application is quite easy to understand and to use for professionals and the general public. Users would welcome a short explanatory note on home page – containing some information such as: what is it just energy transition, as well as brief general explanation of challenges to be inserted. PP9 in their report noted that in Slovakia at the moment they have not succeeded yet in motivating vulnerable residents to use the application.

Lodzkie Region in their report noticed that the improved version of the tool works without any problems, is clear and intuitive. The service does not cause any problems for any user who wants to submit a challenge. In the future, they propose to create a tool that would group all reported challenges and initially analyse the results. This would provide feedback to users and make the application more interesting. The weakest point of the tool is the low interest of residents in using it. It is difficult for them to see the benefits for themselves from reporting challenges. Individual residents do not feel responsible for creating public policies to the same extent as regional authorities.

Yunus foundation-PP11 as the technical support of the JETforCE project consortium, in their review of the Challenge Mapping tool reported that the tool is quite user-friendly, with an easy-to-navigate layout. The division by country and challenge make sense and make it easy for citizens of different countries to familiarize themselves with the JET challenges in their region. For future improvements, they noted that if the tool had a built-in (AI) function that translates on the spot, perhaps the transnational characteristic of the tool would be

more pronounced as it would allow people from different countries to learn about challenges in regions other than their own without having to exit the tool to translate descriptions on another website.

As mentioned in their report, the user-friendliness of the tool makes it possible for even non tech-savvy citizens to use it. Other stakeholders (in the case of the Yunus Foundation, private banks, universities, and other NGOs) will also be able to utilize the tool with ease. The main challenge is to incentivize citizens and shareholders to (continuously) use the tool to ensure their involvement in the transition.

As regards the question on how citizens could use the tool more, particularly those identified as the most vulnerable ones, in their review, PP11 states that the most vulnerable groups of citizens might not necessarily be concerned about the just energy transition. However, this transition impacts their lives directly and indirectly. Therefore, to ensure that they will use the tool, they first need to know more about its purpose. One way to do this is for representatives of each project partner to collaborate with stakeholders in their network to raise awareness specifically for these vulnerable groups. To give an example, the Yunus Foundation has been working with various NGOs that assist migrants, financially challenged individuals, and the elderly for a long time. It would be beneficial for the Foundation to hold short webinars or in-person workshops to bring these vulnerable groups directly in the loop and teach them about the various functionalities of the tool.

PP12-WEIZ in the review have reported that their participants appreciated the tool potential to facilitate discussions around energy transition challenges and its capacity to engage a diverse range of stakeholders. The tool effectively gathered insights, leading to the identification of several specific challenges within the community. However, feedback from the users highlighted areas for improvement, particularly regarding its user interface and ease of navigation.

For future improvements, based on the feedback received, several enhancements were proposed by PP12:

- **User Interface Redesign:** Streamlining the layout to improve accessibility, making it more intuitive for all users, particularly those with limited technical skills.
- **Interactive Features:** Introducing interactive elements, such as real-time polls or discussion forums, to encourage more active participation from users.
- **Multi-Language Support:** Adding multiple language options to cater to the diverse demographic of users, ensuring inclusivity in participation.

As regards the future sharing of the tool with citizens and stakeholders, PP12 reported that the intention is to share the Challenge Mapping Tool widely among their stakeholders and citizens to foster collaboration and inclusivity in addressing energy transition challenges. PP12 proposes:

- **Stakeholder Workshops:** Conducting targeted workshops to introduce the tool, explain its functionalities, and gather further input from stakeholders on how it can be refined.

- **Community Forums:** Organizing community forums and public meetings to demonstrate the tool and encourage citizens to participate in mapping challenges.
- **Online Platforms:** Utilizing social media and local community websites to promote the tool, share success stories, and encourage broader engagement.

To maximize the engagement of vulnerable citizens, PP12 proposes:

- **Targeted Training Sessions:** Implementing training sessions specifically designed for vulnerable groups, focusing on accessibility and the importance of their input in energy transition discussions.
- **Peer Support Networks:** Establishing peer support groups where individuals can assist one another in using the tool, fostering a sense of community and shared learning.
- **Accessible Resources:** Providing easy-to-understand guides and simplified versions of the tool that can be accessed via mobile devices to enhance usability for all community members.

5. Conclusion

The Transnational pilot 1 was a first test for the JETforCE consortium on how the planned idea for addressing the need for just energy transition in Central Europe (CE) can be implemented by developing and testing digital tools and engaging citizens to contribute to measures affecting their life, work and opportunities.

The process was implemented by nine project partners and it has officially started at the end of February 2024. During the first months, partners have used the first version of the Challenge Mapping Tool (D.1.3.3). The developer of the tool IAAI-PP3 according to the valuable inputs from the partners has put significant effort in improving the tool according to the platform possibilities which triggered the work on the field and PPs started to collect more and more energy transition challenges as the end of the piloting process was approaching.

By testing the Challenge Mapping Tool, PPs have demonstrated its ability to enhance public participation and identify challenges relevant for their area. The tool provides a platform for citizens to report a wide range of issues, fostering collaboration between the public and stakeholders. The tool effectively captured actionable data, highlighting both immediate concerns (e.g., infrastructure issues) and long-term opportunities (e.g., renewable energy projects). The piloting process resulted with the identification of 101 challenges in nine regions, ranged from enhancing the biomass district heating system and implementing renewable energy solutions to addressing urban heat islands, waste issues and improving citizen engagement through different initiatives. The pilot phase of the Challenge Mapping Tool showcased its potential to drive community engagement and inform decision-making processes. The tool empowered citizens by providing a platform to report issues and contribute to local governance, resulting in the resolution of several challenges and providing valuable insights for stakeholders.

Project partners have put significant effort to motivate citizens, stakeholders and other interested parties to test the tool and to report most relevant challenges which they are facing and that are related to the energy transition process. However, the pilot also has resulted with some areas for improvement. The quality of the reports varied from case to case and some of the reported challenges weren't focused on the energy transition process. The engagement of vulnerable groups was also limited and there is a need to plan more tailored approach if their contribution will be included. The feedback from the end users and respectively from the PPs have shown that most of the users need more precise explanation on how the reported challenges will be addressed and which entity will take care of them. However, the idea for having a central solution for collecting, discussing and addressing challenges which local citizens are facing, for sure has a potential and will be used also beyond the project partnership.

In conclusion, the Transnational pilot 1 implementation process has established a framework for ongoing cooperation between different target groups also beyond the project's lifecycle. The collective efforts of the JETforCE project team demonstrated a commitment to fostering a sustainable and equitable energy future,

ultimately contributing to the broader goals of a Just Energy Transition. The commitment to engage citizens and stakeholders, combined with the innovative use of digital tools, positions the regions involved in the JETforCE as a proactive model for sustainable development and energy resilience.