

Dear {{ contact.FIRSTNAME }},

*Welcome to the first issue of the U2Demo project newsletter!*

*As we wrap up our first year, efforts will intensify around pilot demonstrations, market models, and community engagement strategies. We look forward to sharing more stories and results with you in this newsletter.*

*Thank you for following U2Demo—let's shape the future of energy together!*



## Editorial



## **A word from Hugo Morais, Project Coordinator, INESC ID**

We're excited to welcome you to the kick-off issue of the U2Demo Project Newsletter — your gateway to the latest updates, insights, and progress from this ambitious Horizon Europe initiative.

Launched in September 2024, U2Demo is a 42-month project that brings together a diverse and dynamic consortium of 17 beneficiary partners and 2 associated partners from 8 European countries. Together, we're working toward one shared goal: advancing innovative Peer-to-Peer (P2P) and energy-sharing solutions tailored to the evolving needs of energy communities across Europe.

Our first months have been focused on laying the foundations — mapping regulatory landscapes, crafting user engagement strategies, evaluating open-source tools, and sketching out the technical and operational architectures that will power tomorrow's energy communities. We're also diving deep into platform and data exchange requirements, ensuring that our solutions reflect both the realities of our four pilot sites and the broader European context.

It's a privilege for INESC ID to coordinate this project and draw on the collective expertise of all our partners. Out of eight Work Packages, seven are already well underway — a strong testament to our consortium's momentum. In March, we gathered in Paris for our 2nd General Assembly, where we outlined the course for the next phase of the project.

The U2Demo [website](#) is now live and fully up and running, and we're actively growing our presence on [LinkedIn](#) and [BlueSky](#). We invite you to stay connected by following our channels or subscribing to this newsletter — we have much more to share as we move forward.

Thank you for being part of the journey,  
Hugo



Project  
Overview

## About U2Demo

As Europe accelerates its transition to renewable energy, there is an urgent need to **empower local energy communities** and unlock the full potential of **peer-to-peer (P2P) energy trading and sharing**.

Challenges such as fragmented regulations, limited technological tools, and the complexity of integrating flexibility services into existing grid systems hinder the advancement of equitable energy sharing.

U2DEMO addresses these challenges by developing and implementing **open source platforms and strategies** to enable seamless P2P energy sharing across diverse [energy communities](#).

Guided by the principles of **openness, interoperability and scalability**, the project focuses on:

- **Open source platforms:** Building interoperable, technology-neutral tools that connect prosumers, consumers and energy providers.
- **Energy market integration:** Enabling participation in local and national energy markets through advanced decision support algorithms and dynamic pricing models.
- **Blockchain for transparency:** Leveraging blockchain technology to ensure credibility, traceability and trust in energy transactions.
- **Real world demonstrations:** Testing solutions across four pilot sites representing diverse community settings and governance models.

U2Demo was launched in September 2024 and will be running for 42 months, and brings together 19 partners from across 8 European countries to develop and demonstrate these **P2P energy trading and energy-sharing mechanisms**.

As U2Demo progresses, the focus is on **scaling its solutions** and **refining its business models** to maximise impact. The project aims to provide a **replicable and scalable toolkit by 2028**, ensuring that advanced P2P and energy sharing mechanisms contribute to a **sustainable, democratic and resilient European energy system**.



Internally, several key work packages have already begun laying the groundwork:

- **WP1** is defining the **regulatory framework, use cases** and **business requirements**
- **WP2** is developing the **framework, models and methodologies for the P2P and energy sharing**
- **WP3** is working on the **system architecture** and **digital backbone**
- **WP7** has launched U2Demo's **communication** channels, including our website and social media presence (see below).

[Explore All Work Packages](#)



## Launching Local Action Across Europe

**Four pilot sites** across Europe are being prepared to test U2Demo's open-source platforms and business models.

Together, these pilots reflect U2Demo's commitment to ensuring **geographical, regulatory, and social diversity**, validating the scalability and replicability of its tools under real-world conditions.



**Dutch  
Pilot**

In [The Hague, Netherlands](#), the Living Lab Scheveningen explores **privacy-focused, decentralised technologies** like edge computing and wallet systems, while also testing how grid factors influence P2P energy trading.



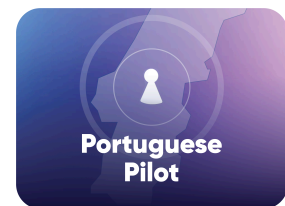
**Italian  
Pilot**

In [Italy's Valle vignale](#) [pilot](#) seeks to strengthen community ties through energy sharing among ten buildings, leveraging existing **solar, storage and EV charging infrastructure**.



**Belgium  
Pilot**

In [Mechelen, Belgium](#), the Klimaan project is optimising energy sharing in a **social housing neighbourhood**, using **gamification** to boost engagement and enhance financial viability.



**Portuguese  
Pilot**

In [Valverde](#), a rural Portuguese village with 450 residents, the focus is on integrating **P2P energy transactions** within a renewable energy community, comparing different trading algorithms.

Discover Our Pilots



## Pushing the Boundaries of Energy Innovation

Since the start of the project, U2Demo partners have actively contributed to **scientific research** in the field of smart and decentralized energy systems. Three notable publications demonstrate this ongoing work and are available for further reading.

- “[Day-Ahead Photovoltaic Power Forecasting with Limited Data](#)”, presented at IEEE URUCON 2024, explores adaptive learning methods to improve PV forecasting with minimal historical data.
- “[Leveraging Explainable Artificial Intelligence in Photovoltaic Power Forecasting](#)”, published in *Energies* (MDPI), investigates the role of explainable AI models to increase transparency and accuracy in energy forecasting based on weather data.
- “[P2P Markets to Support Trading in Smart Grids with Electric Vehicles](#)”, presented at EEM25, presents a decentralized P2P energy market using ADMM to enable secure, reliable trading with DERs, RES, and EVs.

These early contributions highlight the project’s strong academic engagement and its role in advancing open, data-driven innovation for peer-to-peer energy sharing.

[Read All Publications](#)

## From Concept to Conference: U2Demo Research on Stage



In November 2024, Ph.D. student Diana Estefanía Chérrez Barragán showcased her research at the [IEEE URUCON 2024 conference](#). Her paper, which was partially supported by the U2demo Project, introduces a novel methodology for predicting photovoltaic (PV) power generation using minimal historical data. [Read the full story on our website.](#)



In May 2025, Ph.D. researcher Diogo Antunes (Instituto Superior Técnico | INESC-ID) presented his latest work at the [EEM25 – International Conference on the European Energy Market](#). Supported by the U2Demo Project, the paper introduces a decentralized P2P energy market model using EVs and ADMM to enable privacy-preserving, cost-effective trading in smart grids. [Read the full story on our website.](#)



Meet our  
Partners

## From Innovation to Impact: Spotlight on Our Energy Partners



In this first issue, we'd also like to highlight the contributions of two of our project partners, EnGreen and R&D Nester. Keep an eye out for our upcoming "**Partner Spotlights**" on social media, where we'll showcase the expertise driving U2Demo forward.

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R&D NESTER is dedicated to driving innovation in energy solutions within the U2Demo project.

We focus on leveraging our expertise in developing advanced tools for DER integration to promote sustainable and efficient energy systems.



**Gonçalo Glória**  
Project Manager & Senior Researcher



**U2DEMO**

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EnGreen contributes to U2Demo by bringing its expertise in energy communities and renewables to the *Italian pilot in Vallevignale*.

At the site, EnGreen showcases tools for energy sharing with prosumers and consumers, integrating solar panels, heat pumps, batteries, and EVs.



**Roberta Alonzo**  
Project Manager



**U2DEMO**

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Meet Our Partners



# Milestones & Momentum: U2Demo kicks off and connects across Europe

U2Demo officially launched in September 2024 with a successful **Kick-off Meeting in Lisbon**, hosted by project coordinator **INESC-ID**. Partners gathered to align goals, timelines, and collaborative strategies across all work packages.

## First General Assembly in Paris

In March 2025, [the consortium met high above the Paris skyline for its first General Assembly](#), organized by [Exaion](#). The meeting was a chance to **review progress, strengthen collaboration, and define next steps**. As we build the foundation for a future-proof, community-led energy market, this in-person exchange was both energizing and productive.



*Project leader Hugo Morais (INESC-ID) welcomed the partners in Paris.*

## Conferences in Europe

The last months, you could find members of the U2Demo consortium at both [ENLIT Europe](#) and the [BRIDGE General Assembly](#), engaging with the wider energy innovation community. These events provided valuable opportunities to share insights from the project, connect with fellow Horizon Europe initiatives, and

contribute to discussions on the future of decentralized and citizen-driven energy systems. U2Demo's participation underscores our commitment to **collaboration, knowledge exchange, and building synergies** across the European energy ecosystem.

Belgian consortium partner Thomas Heylen from Klimaan represented U2Demo at the BRIDGE General Assembly in Brussels and returned inspired by the insights shared among fellow European-funded projects.

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*The technology for a 100% renewable energy system is already here. Europe is really a frontrunner when it comes to the development of new technologies. What we need now is to empower citizens and communities to truly take part in that energy future.*



-Thomas Heylen, [Klimaan](#)



*Clockwise, from top to bottom:*

- *The consortium in Paris*
- *Inspiring views from the window*
- *An ideation session: collaboration is key*
- *Project partners Thomas Heylen (Klimaan) and Ana Rita Nunes (INESC-ID) met in Brussels at the Bridge General Assembly.*





## Also Featured In

U2Demo was recently highlighted in [a new article on Enlit.World](#), which explores how the project is advancing peer-to-peer energy sharing and supporting citizen-led energy communities across Europe. The article covers our project goals, pilot sites, and the open-source tools we're developing — and will also appear in *The List*, Enlit's newsletter reaching over 7,600 energy professionals.

Additionally, [U2Demo is included in the 2025 BRIDGE EU Brochure](#), which outlines the initiative's mission, working group structure, and showcases over 120 European energy projects. You can find U2Demo's factsheet on page 112.

## Otterbeek Project Wins EU Award for Local Energy Action

We're proud to share that the **Otterbeek project**, led by **Klimaan** in collaboration with **Stad Mechelen** and **Woonmaatschappij Rivierenland – Woonland**, has won the **Local Energy Action Award** at the **European Sustainable Energy Week (EUSEW) 2025!**

This citizen-financed initiative brings affordable solar energy to 200 social housing units, demonstrating the power of community-led solutions in the energy transition.

The project was strengthened by Klimaan's active role in the **U2Demo partnership**, which supports inclusive energy initiatives through tools like **gamification to engage citizens and empower participation**. By integrating playful, interactive approaches, U2Demo helps ensure that all community members — including those who are often left out — can take part in the energy transition.

As Bart De Bruyne (Stad Mechelen and REScoop.Vlaanderen) emphasized: *“Without inclusivity, the energy transition risks deepening inequality and triggering resistance.”*

Otterbeek’s success reflects growing European momentum for fair, inclusive energy systems rooted in local ownership and participation.

We also celebrate **Sophie Loots** (REScoop.Vlaanderen), who was a finalist for the **Women in Energy Award**. Her continued leadership in citizen-led climate action remains a powerful example for communities across Europe.

At the ceremony, **European Commission Vice-President Teresa Ribera** reminded us: *“It’s often the small, local projects that show us the way forward. We need more women. More courage. More imagination.”*

This recognition energizes the entire U2Demo community to keep building a clean energy future — by and for the people.



*Steven Laurijssen (Klimaan) & Bart De Bruyne (Stad Mechelen & REScoop Vlaanderen) proudly accepted the award.*

Revisit Our  
Milestones

Relive Our  
Events



Next  
Events

## Upcoming Webinar: Legal and Regulatory Frameworks for P2P Energy Sharing

How can EU regulation support community-driven energy models?

Join us on **4 September 2025**, 14:00–16:00 CEST, for a **U2Demo webinar** hosted by the **Florence School of Regulation**. Experts from across Europe will explore legal and regulatory conditions for peer-to-peer (P2P) energy sharing platforms.

Full details & Registration

## Don't Miss What's Next – Follow Us

Since early 2025, the **U2Demo website** is live and we're now active on **LinkedIn** and **BlueSky**. Don't miss updates, publications, and events:



If you'd like to **stay informed** about U2Demo's progress, insights, and upcoming events, feel free to subscribe to the newsletter or **share it with others** who might be interested.

Subscribe here

## U2Demo

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