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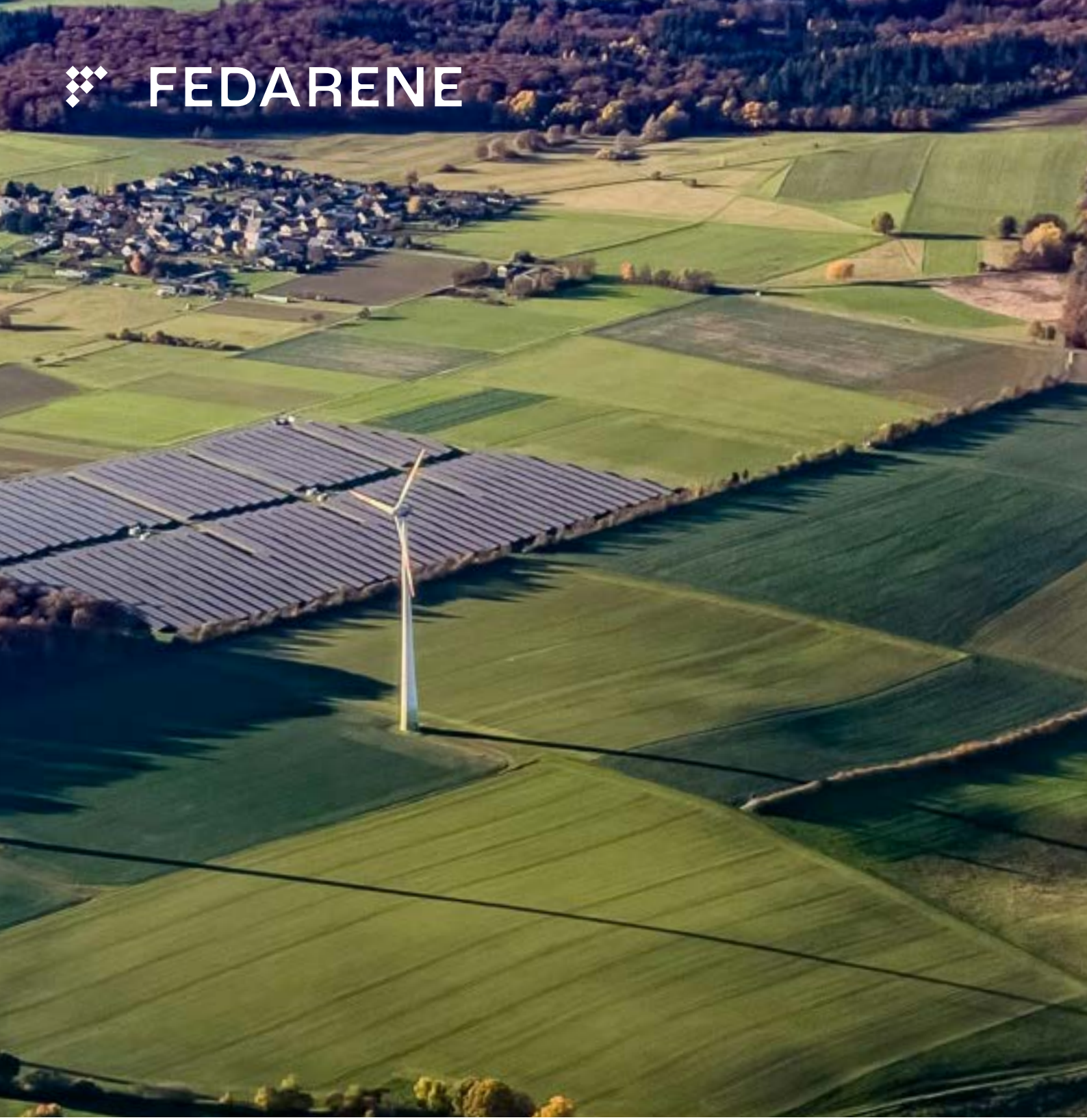

SUSTAINABLE REGIONS IN ACTION

A Blueprint for Europe's Energy Future

EUROPEAN NETWORK OF REGIONS AND ENERGY AGENCIES

FEDARENE

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Edition: March 2026

WORD OF THE PRESIDENT

Europe stands at a decisive moment.

Energy security, economic stability and industrial competitiveness are no longer separate debates. They are one and the same. Access to affordable, clean and reliable energy now defines Europe's strategic position in the world. The question before us is not whether we continue the transition — but whether we accelerate it with clarity, confidence and political courage.

The lesson of recent years is unequivocal: the **European Green Deal** is also a **European Freedom Deal**. Reducing dependence on imported fossil fuels is not simply a climate objective; it is a matter of sovereignty. Every megawatt of renewable energy installed, every building renovated, every grid modernised is a step away from vulnerability and a step toward resilience. Energy independence is built project by project, region by region, community by community.

But independence cannot be legislated from Brussels alone. European frameworks provide direction — delivery happens in territories. It happens where municipalities plan heating networks, where regions integrate renewables into spatial planning, where industries electrify their processes and where citizens invest in energy communities. Local and regional Energy Agencies are not peripheral actors in this transformation. They are its operational backbone. They connect European ambition with local execution, translating regulation into bankable projects and long-term strategies.

If Europe is serious about competitiveness, it must recognise this territorial dimension. The global clean-tech race is intensifying. Investment flows toward places that offer stable regulation, modern infrastructure and predictable energy prices. Decarbonisation is not a constraint on competitiveness — it is its precondition. Affordable renewables, efficient buildings and electrified industry are the foundation of Europe's industrial future. Without them, we risk dependency not only on fossil fuels, but on imported clean technologies as well.

This is why the current wave of legislative revision and simplification must be handled with strategic precision. Reducing administrative complexity is essential. Overlapping procedures and fragmented governance delay projects and discourage investment. But simplification must never mean dilution. We cannot weaken climate ambition in the name of speed. The objective is not less policy — it is better policy.

True simplification lies in clearer roles, stronger coordination and integrated planning. Aligning energy, climate, industrial and spatial strategies reduces bottlenecks and increases predictability.

Stronger multilevel governance ensures that European decisions reflect territorial realities from the outset. When local and regional expertise is embedded upstream, implementation becomes faster and more coherent.

The debate unfolds at a critical time, as legislative updates intersect with negotiations on the next Multiannual Financial Framework. Ambition must be matched with resources. Funding instruments must be accessible, predictable and designed for implementers on the ground. Absorption capacity depends not only on budgets, but on the ability of regional and local actors to structure viable investment pipelines.

For this reason, the voice of implementers must be heard clearly. Local and regional Energy Agencies, working daily at the interface between policy and projects, understand what accelerates delivery and what blocks it. Their experience is indispensable if Europe wants regulation and financing to reinforce — not complicate — progress.

Europe's energy transition is entering a new political phase. It is about sovereignty, competitiveness and democratic resilience. If we align European direction with territorial action, infrastructure with industrial strategy and simplification with ambition, the Green Deal will indeed become Europe's Freedom Deal.

The responsibility now is collective — and the time to deliver is now.

Julije DOMAC
FEDARENE President & Managing Director
of North-West Croatia Regional Energy Agency

ABOUT FEDARENE

Turning Europe’s energy and climate ambition into territorial delivery.

Almost 70% of EU climate and energy policies are implemented at local and regional level. Yet, this is also where delivery often slows, due to administrative complexity, limited capacity or fragmented responsibilities. FEDARENE exists to close this gap.

As the European network of Regions and Energy Agencies, FEDARENE strengthens Europe’s energy and climate security by accelerating delivery on the ground. Our members bring together strategic planning, financing and implementation capacity to translate policy objectives into effective, scalable solutions across territories and sectors.

+90 MEMBERS

25 COUNTRIES

+1000 EXPERTS

+90 PROJECTS

A NETWORK ROOTED IN REGIONS

Founded in 1990 by six regional authorities, FEDARENE was created to strengthen the role of regions and Energy Agencies in European energy and environmental policy-making. This regional anchoring remains central to the network today.

FEDARENE brings together local and regional Energy Agencies and regional authorities that act as trusted delivery partners for the energy transition and climate adaptation, ensuring that European policies are grounded in local and regional realities and implemented over the long term.

OUR MEMBERS: DELIVERING INTEGRATED ENERGY AND CLIMATE SOLUTIONS

FEDARENE’s members are non-profit organisations that support cities, regions, businesses and citizens in implementing sustainable energy and climate policies. They combine technical, financial and strategic expertise to design and deliver integrated energy solutions that operate at scale.

By removing regulatory, technical and financial barriers, our members de-risk investment, simplify renovation pathways and support industrial decarbonisation. Acting as neutral facilitators, they mobilise public and private actors, accelerate investment and strengthen Europe’s competitiveness, resilience and energy security.

CONNECTING LOCAL INTELLIGENCE WITH EUROPEAN POLICY

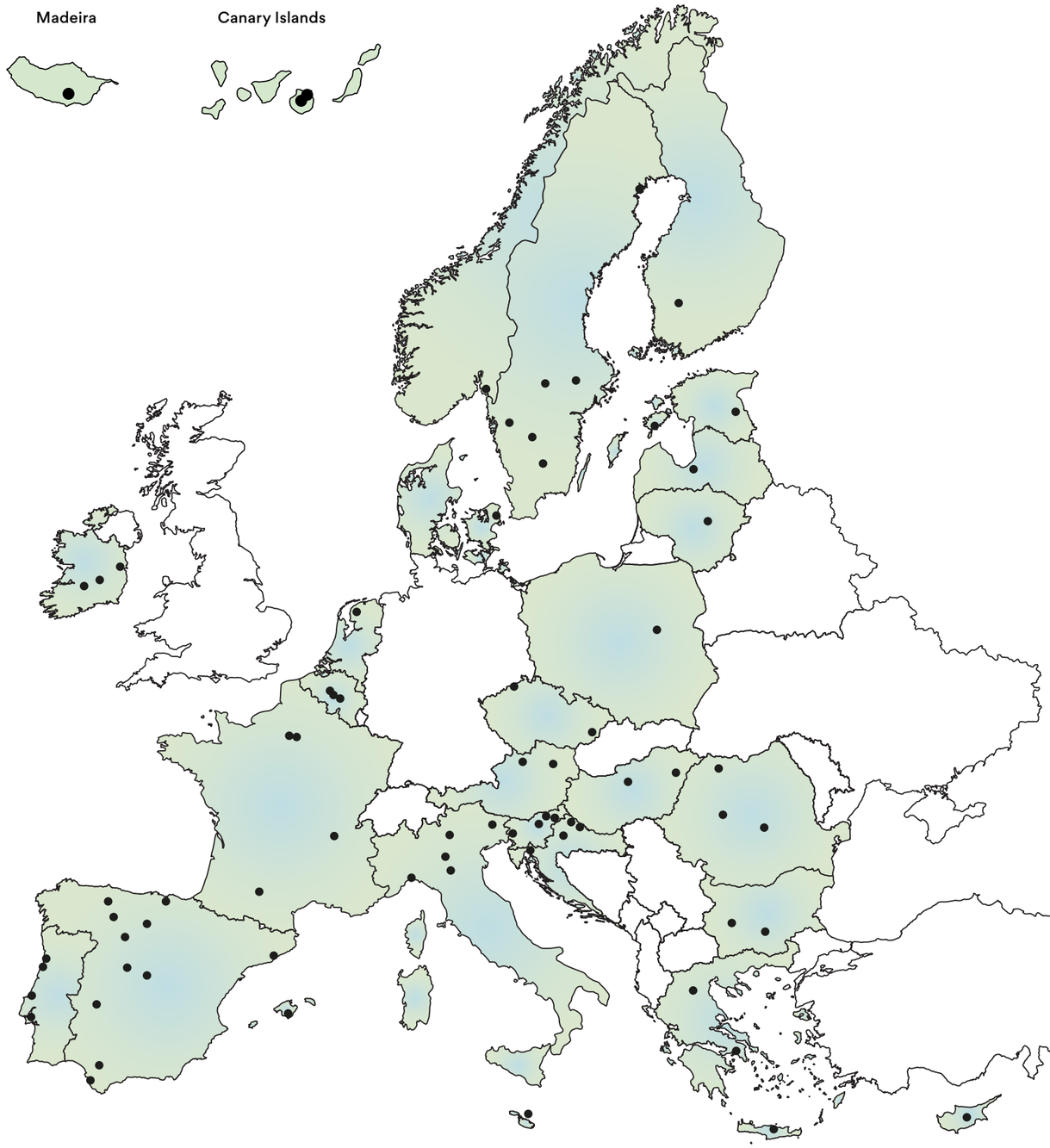
Across Europe, more than **300 Energy Agencies** employ around **4,000 professionals**, supporting local and regional authorities in delivering the energy transition. FEDARENE brings together a core part of this ecosystem, connecting Energy Agencies and regional authorities directly involved in territorial implementation.

Through daily interaction across regions and countries, FEDARENE’s members generate on-the-ground intelligence about what works, what doesn’t, and how solutions can be scaled fairly and efficiently. FEDARENE brings this practical experience to the EU level. By connecting Europe’s ambition with territorial delivery, our network contributes to a faster, fairer and more secure energy transition.

OUR MEMBERS

FEDARENE has over 90 members across 25 countries, namely: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden.

Discover the complete list of our members on our website at fedarene.org/members



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OUR PROJECTS

FEDARENE participates in European projects and initiatives alongside its members and other European organisations. We are currently involved in 26 EU projects and initiatives:

4ENERAGENCIES

Supports the creation and operation of four new Energy Agencies in Spain.

fedarene.org/project/4eneragencies

BIRTUOSS

Upgrades and expands the Opengela service for integrated home renovation, extending the service to the whole Basque Region.

opengela.eus

CRETE VALLEY

Creates a Renewable Energy Valley 'Living Lab' in Crete, combining leading-edge ICT technologies, digital solutions, social innovation processes, and sound business models.

fedarene.org/project/crete-energy-valley

ENERGIZE

Aims to demonstrate the feasibility of cooperative energy models in industrial areas across Europe to align with the Net Zero Emissions (NZE) by 2050 Scenario.

fedarene.org/project/energize

CITIZEN ENERGY ADVISORY HUB

Supports citizen energy with an advisory hub, technical assistance, and regulatory analysis to foster participation and active energy citizenship across Europe.

citizens-energy.ec.europa.eu

CITIZEN-LED RENOVATION (CLR)

Empowers existing and prospective energy communities to put citizens in the driver's seat for energy-saving renovation projects.

citizen-led-renovation.ec.europa.eu

ENERGY EFFICIENCY WATCH

Supports enabling narratives for the European Green Deal, thus creating the necessary buy-in of larger groups of society across all EU Member States.

fedarene.org/project/energy-efficiency-watch-5

(LIFE) EUROPEAN CITY FACILITY

Provides +400 local authorities with a lump sum of € 60 000 grant for the development of an investment concept, related to climate and energy action plans.

eucityfacility.eu

CROSS

Establishes and operates a regional One-Stop Shop (OSS) to accelerate the renovation wave in the public sector in Croatia.

fedarene.org/project/cross

COVENANT OF MAYORS - EUROPE

Brings together local and regional authorities voluntarily committing to implementing the EU's climate and energy objectives on their territory.

eu-mayors.ec.europa.eu

EUROPEAN ENERGY COMMUNITIES FACILITY

Provides financial and technical support to help emerging Renewable Energy Communities and Citizen Energy Communities grow.

fedarene.org/project/energy-communities-facility

EU PEERS

Aims to support the development and promotion of Integrated Home Renovation Services (IHRS) as key tools for accelerating residential energy renovation in the European Union.

fedarene.org/project/eu-peers

FACILITA

Establishes regional One-Stop Shops in Spain offering local and regional authorities support to renovate public buildings, drive investments, enhance energy efficiency, reduce emissions and more.

fedarene.org/project/facilita

GREEN HYSLAND

Aims to deploy a fully functioning Hydrogen (H2) ecosystem on the island of Mallorca, Spain.

greenhysland.eu

PLAN4CET

Aims at supporting European regions and cities to design, develop, and implement Clean Energy Transition plans according to their needs and possibilities.

fedarene.org/project/plan4cet

PLAN4COLD

Supports South European municipalities meet EED Article 25 requirements by developing resources, tools, and 10 Sustainable Heating and Cooling Plans in Italy, Greece, and Portugal, strengthening local authority capacity.

climatealliance.org/activities/plan4cold

ISLET

Aims at supporting the collaboration between public authorities, private investors, and citizens in order to develop renewable energy communities on small Mediterranean islands.

fedarene.org/project/islet

IN-PLAN

Aims to develop, test and roll out the IN-PLAN practice – a support structure enabling local and regional authorities to effectively implement their sustainable energy, climate, and spatial plans.

fedarene.org/project/in-plan

PLANTOACT

Turns ambitious clean energy transition plans into practical, on-the-ground action to create an innovative, integrated energy planning framework that aligns strategies across various levels of governance and different sectors.

fedarene.org/project/plantoact

PROSPECT CUBE

Provides a tested and robust capacity-building programme designed to equip local and regional authorities with the right skills to implement sustainable energy actions.

fedarene.org/project/prospect-cube

LEADNET

Empowering Local and Regional Authorities with comprehensive skills and advanced technical tools that will enable them to plan, implement and monitor ambitious CET programmes that are tailored to their local specificities.

fedarene.org/project/leadnet

MANAGENERGY

ManagEnergy is the EU initiative dedicated to regional and local Energy Agencies. It supports them in being leaders in the energy transition by providing information, promotion, training and networking opportunities.

managenergy.eu

REGILIENCE+

Strengthens the existing climate knowledge offered by leading climate adaptation platforms, while bringing the latest available information on adaptation solutions to local and regional authorities and supporting organisations.

fedarene.org/project/regilience-2

SPARKLE

Empowers 600+ local and regional authorities with skills, tools, and support for the clean energy transition through online learning, thematic schools, mentoring, and a transition modelling tool, fostering effective climate and energy planning.

fedarene.org/project/sparkle

NATIONAL ADAPTATION HUBS

Seeks to accelerate the Mission on Adaptation to Climate Change by supporting its roll-out and promoting effective collaboration across all governance levels within Member States and throughout the EU.

fedarene.org/project/national-adaptation-hubs

OCTOPUS

Unites six European regions to empower local stakeholders, influencing governance and driving large-scale sustainable energy actions through a bottom-up approach.

fedarene.org/project/octopus

REGIONAL ACHIEVEMENTS

Discover the diverse and remarkable projects carried out by our members across European cities and regions.

14 CATEGORIES

ENERGY EFFICIENCY IN BUILDINGS

Improving the energy performance of Europe's building stock is one of the most effective ways to reduce energy demand, cut emissions, lower energy bills and strengthen energy security. Buildings account for around 40% of Europe's energy consumption and more than one third of CO_2 emissions, making their renovation central to delivering the Energy Efficiency Directive and the Energy Performance of Buildings Directive.

As Member States move from legislation to implementation, success will depend on the ability to translate EU objectives into concrete, accessible and socially inclusive renovation programmes at local and regional level.

Local and regional Energy Agencies are at the forefront of this delivery. Across Europe, they operate One-Stop Shops that guide households, public bodies and businesses through the renovation process.

Energy Agencies also structure investment pipelines, develop Energy Performance Contracting schemes and facilitate access to finance. As trusted intermediaries with deep territorial knowledge, they reduce complexity, build confidence and ensure that building renovation delivers efficiency, affordability and social benefits on the ground.

Building renovation does not have to be complex. Through their One-Stop Shops and tailored support, local and regional Energy Agencies make the renovation journey simple. Their efforts mobilise investment and build trust, ensuring that Europe's renovation wave delivers real benefits for people and communities.

Matteo MAZZOLINI

FEDARENE Vice-President for Energy Efficiency in Buildings

ADVANCING ENERGY RENOVATION OF PUBLIC TERTIARY BUILDINGS

Auvergne-Rhône-Alpes Energy and Environment Agency – Auvergne-Rhône-Alpes, France

© AURA EE

In the Auvergne-Rhône-Alpes region of France, **Auvergne-Rhône-Alpes Energy and Environment Agency (AURA-EE)** has been at the forefront of driving energy renovation for public tertiary buildings, such as schools, municipal offices and community facilities, through collaborative frameworks and European innovation projects.

From BAPAURA to BAOBAP: a continuum of support

A central pillar of AURA-EE's recent activities has been its involvement in two successive European projects: **BAPAURA** and **BAOBAP**.

BAPAURA (Building Energy Retrofitting Assistance by Public Authorities in Auvergne-Rhône-Alpes) was a European project funded under Horizon 2020 and coordinated by the French Agency for Ecological Transition (ADEME). Running from September 2020 to August 2023, BAPAURA sought to **test and demonstrate a support service for small municipalities** in their efforts to renovate existing public buildings.

The project focused on developing tools and services that helped local authorities navigate the **technical, financial and administrative challenges** of renovation, simplifying financing pathways and mobilising local stakeholders for energy efficiency investments. It targeted a portfolio of public buildings throughout the region and helped set up **One-Stop Shop services** for energy renovation assistance that could be replicated elsewhere.

Building on this foundation, the **BAOBAP** project began in 2023 under the European **LIFE programme**, again coordinated by ADEME and supported by AURA-EE and the **Regional Energy and Climate Agency of Occitanie (AREC Occitanie)** alongside partners in both Auvergne-Rhône-Alpes and Occitanie. BAOBAP extends BAPAURA's work by deploying the developed services more widely and adding new thematic innovations to address evolving needs.

Regional animation and knowledge exchange

In Auvergne-Rhône-Alpes and Occitanie, AURA-EE and AREC Occitanie play a key role as **regional facilitators** in BAOBAP. They support a network of territorial support structures (such as energy syndicates, local Energy Agencies and engineering associations) by organising webinars, workshops and training sessions. These activities focus on practical aspects of renovation services, such as financing mechanisms, engaging elected officials, and documenting successful approaches, while facilitating the sharing of lessons learned from both BAPAURA and current BAOBAP developments.

Importantly, BAOBAP enriches the assistance model with **innovative approaches** such as tools for **assisting user engagement (Assistance à Maîtrise d'Usage)** or Energy property management.

Looking ahead

At the end of BAOBAP in August 2026, all the work carried out through the project will be disseminated to regional stakeholders via the Regional Resource Centre for Tertiary Building Renovation, facilitated by AURA-EE.

This will ensure the long-term sustainability and widespread adoption of the tools and methods developed, empowering local authorities and energy actors across the region.

ZOOM ON – ENERGY PROPERTY MANAGEMENT INNOVATIVE APPROACH

Within the BAOBAP project, a key operational tool has been developed by AREC Occitanie and the Syndicat d'énergie de l'Allier (SDE 03) for small municipalities: **Energy Property Management Advice** (Conseil en Gestion Immobilière et Énergétique – CGIE), an adapted and simplified version of the **Schéma Directeur Immobilier Énergétique (SDIE)**.

Designed for municipalities with limited technical and financial capacity, CGIE provides a **rapid, structured overview of a municipality's building portfolio**. The approach combines energy consumption data, technical condition, regulatory constraints and actual building use into a **multicriteria analysis**.

Delivered by local support structures (Energy Agencies, energy syndicates), the method typically requires only a few days of consultancy. It includes data collection, targeted site visits and a participatory prioritisation workshop with elected officials and technical staff.

The result is a **clear, multi-year action plan** (often over five years) that helps municipalities prioritise investments, phase renovation works and align with national regulatory obligations.

Discover the method and tools in detail

AURA-EE – Auvergne Rhône-Alpes Énergie Environnement

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DRIVING SUSTAINABLE TRANSFORMATION IN IRELAND'S SOUTH EAST: HERITAGE, HOSPITALITY & COMMUNITY ENERGY LEADERSHIP

South East Energy Agency – South East Ireland

The South East of Ireland continues to demonstrate how local ambition and strong partnerships can deliver measurable climate impact. In 2025 two stand out projects supported by **South East Energy Agency (SEEA)**, the *Piltown Community Hub & Police Station* and the *Pembroke Hotel Kilkenny*, showcased best practice in sustainable renovation, energy efficiency, and community-driven climate action. Their recognition at the Sustainable Energy Authority of Ireland (SEAI) Energy Awards, alongside two Sustainable Energy Communities (SECs) from the region, highlights the South East's growing leadership in the national energy transition.

Revitalising a heritage landmark: Piltown community hub & police station

In Piltown, County Kilkenny, the restoration of the historic 1825 Police Station into a modern community hub has become a flagship example of conservation-led sustainable renovation. What was once a Market House and later a Courthouse and police station had fallen into disrepair after years of vacancy. Through close collaboration between SEEA, Kilkenny County Council, and Piltown Community Enterprise CLG, the building has been sensitively restored and transformed into a dual-purpose facility combining community services and remote working.

Jointly funded by Kilkenny County Council and the Office of Public Works (OPW), the project required carefully balancing heritage protection with modern energy performance. Breathable insulation systems, lime plaster, and calcium silicate materials were used to conserve the building fabric, while a high-efficiency air-to-water heat pump replaced outdated oil heating. The upgrade now delivers annual savings of **13,280 kWh**, **€ 3 984**, and **2.97 tonnes of CO_2**, demonstrating that protected structures can play an active role in Ireland's low-carbon future.

This project was recognised nationally as a finalist in the Energy in Buildings category at the SEAI Energy Awards 2025, evidence that rural towns and heritage assets can be at the forefront of Ireland's sustainable transformation.

© SEEA

Wexford SEC Winner – from left to right: Minister Darragh O'Brien T.D, Anne O'Reilly – Wexford Town SEC, Patrick Rochford – Chairman Wexford Town SEC, & William Walsh – CEO SEAI

Business leadership in action: Pembroke Hotel Kilkenny

In Kilkenny City, the Pembroke Hotel has set a new benchmark for sustainability in the hospitality sector. Supported by SEEA, the boutique hotel completed a comprehensive five-year energy upgrade valued at € 524 422.

The results speak for themselves: annual energy savings of **477,316 kWh**, **107.3 tonnes of CO_2** avoided, and **€ 36 090** saved in energy costs.

The improvements involved installing an air handling unit, redeveloping the kitchen, switching to induction cooking, upgrading glazing and water pumps, adding smart controls and a building management system, and installing 45 solar panels on the hotel's newly constructed fourth floor. These changes have significantly improved efficiency, comfort, and long-term sustainability for both guests and staff.

The project earned a place as a finalist in the Medium-Sized Business category at the SEAI Energy Awards 2025. Its success highlights how businesses can advance climate goals while enhancing operations and guest experience, especially when supported by expert guidance and grant management from SEEA.

© SEEA

From left to right: Sarah Cummins – Community Liaison Officer South East Energy Agency, John Ryan - Owner Pembroke Hotel, Michael Kinchella - Climate Action Development Lead South East Energy Agency

Empowered communities: SEC achievements

The South East region also saw strong representation from its Sustainable Energy Communities. Wexford Town SEC won the Inspirational SEC Award for its Warmer Homes Project, which helped over 100 households access retrofit supports, improve comfort, and reduce energy bills. Graiguenamanagh Energy Town was also a finalist, recognised for Ireland's first Community Virtual Power Plant and its ambition to reach 100% energy self-sufficiency by 2030.

These achievements reflect a wider movement of communities taking ownership of their energy future, supported by the Agency through planning, technical expertise, and capacity building.

A region stepping forward

Together, these award-winning & nominated projects illustrate the South East's commitment to innovation, collaboration, and long-term climate action. By supporting businesses, communities, and heritage buildings alike, South East Energy Agency is helping shape a more resilient and sustainable energy future for the region.

SEEA - South East Energy Agency

southeastenergy.ie

contact@southeastenergy.ie

HOW NEUVOO.FI IS UPDATING ITS ONE-STOP SHOP FOR TODAY'S NEEDS

EcoFellows – Tampere, Finland

Operating since December 2002, **Neuvoo.fi** is one of Finland's longest-running One-Stop Shops for home renovation. Managed by the **EcoFellows Energy Agency** in Tampere, it has provided independent, technology-neutral advice to homeowners and housing companies for over two decades well before One-Stop Shops became a recognised policy instrument at European level.

Neuvoo.fi supports residents throughout their renovation journey, from early planning to implementation. Its advisory services cover key renovation measures such as insulation upgrades, heating system replacement and overall energy efficiency improvements. In 2023–2024 alone, Neuvoo.fi delivered **180 personalised advice sessions** and produced **14 in-depth heat pump procurement guides**, reflecting sustained demand for trusted, expert guidance.

© EcoFellows

Strengthening services through digital innovation

To remain aligned with evolving user needs, Neuvoo.fi continuously integrates new digital tools into its service offer. An online pre-assessment form for single-family homeowners helps users structure their initial reflection and understand what information is needed before contacting an advisor, reducing uncertainty at the very first stage of renovation planning. A similar tool for housing companies is planned.

More recently, Neuvoo.fi has piloted **AI-supported search functionalities** on its website, improving access to renovation-related information. These tools allow users to search more efficiently across Neuvoo.fi content as well as selected, trusted external sources, making reliable information easier to find and compare.

© EcoFellows

From advice to action: practical support for implementation

Beyond guidance, Neuvoo.fi actively supports residents in turning plans into action. The service connects users with a **local contractor database**, helping them identify qualified professionals, request quotations and commission renovation works. Practical templates outline the information contractors typically require, streamlining communication and reducing friction in procurement processes.

To support informed investment decisions, Neuvoo.fi also maintains a **funding database** that compiles available grants and subsidies for home renovations, with particular attention to schemes supporting the replacement of oil heating systems.

In addition, residents can borrow **diagnostic equipment**, such as thermal cameras and hygrometers, to better understand energy losses and moisture issues in their homes. This hands-on approach empowers homeowners to identify concrete renovation needs before committing to investments.

Complementing Neuvoo.fi's public-facing services, EcoFellows also works directly with housing companies and professionals. Since 2002, the agency has trained **more than 200 energy experts** within housing companies. These experts have gone on to implement both major renovations, such as heating system replacements or solar installations, and smaller, cost-effective efficiency measures, from optimising heating controls in common areas to adjusting lighting and auxiliary systems. Together, these incremental and large-scale actions contribute to long-term energy savings and improved building performance.

EcoFellows

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RENEWABLES FOR ENERGY SECURITY

Accelerating the deployment of renewable energy is essential to strengthen Europe's energy security and competitiveness while advancing climate neutrality. By reducing dependence on imported fossil fuels, renewable energy sources make Europe's energy system more resilient to price volatility and geopolitical disruptions.

Delivering on this objective requires more than installed capacity targets. It depends on the ability to plan and deploy renewable energy projects in a way that reflects territorial realities, secures public support and ensures that the benefits of clean energy remain local.

Local and regional Energy Agencies are key actors in this delivery. Across Europe, they identify, design and develop renewable energy projects, and facilitate permitting and grid integration.

By acting as trusted intermediaries between policy, markets and communities, local and regional Energy Agencies ensure that renewable energy deployment strengthens Europe's security of supply while delivering economic and social benefits on the ground.

Energy security and independence start at the regional and local levels. By delivering renewable projects with clear local benefits, local and regional Energy Agencies cut reliance on imported fossil fuels and strengthen the resilience of Europe's energy system.

Christiane EGGER

FEDARENE Vice-President
for Climate Neutrality

PVMAX: ACCELERATING ROOFTOP SOLAR DEPLOYMENT IN CROATIA

North-West Croatia Regional Energy and Climate Agency - North-West Croatia

Between June 2021 and June 2025, the **Regional Energy Agency of North-West Croatia (REGEA)** coordinated the PVMax project, one of the most ambitious technical assistance initiatives for photovoltaic (PV) deployment in Croatia.

Financed through the European Investment Bank's ELENA facility, PVMax provided comprehensive support for integrated PV systems, battery energy storage systems (BESS), and electricity-related energy efficiency measures in buildings across the country.

© REGEA

Addressing barriers to solar deployment

Despite strong solar potential, the large-scale deployment of rooftop PV in Croatia has long been constrained by a combination of regulated electricity prices, limited grid capacity, complex permitting procedures, and a lack of bankable project pipelines. PVMax was designed to address these barriers by **offering integrated technical assistance to public authorities, commercial actors, and households**, with the aim of triggering concrete investments in renewable energy.

A One-Stop Shop for project development

Over the project's lifetime, PVMax supported more than **750 clients** across the public, commercial, and residential sectors. REGEA acted as a One-Stop Shop, providing technical, financial, and legal assistance covering feasibility studies, system design, permitting, financing models, procurement preparation, and applications for EU funding. These services were delivered by a dedicated team of **15 experts**, supported by **24 specialised subcontractors.**

As a result, the project generated a robust pipeline of nearly **200 MWp of PV capacity**. Of this pipeline, 255 PV projects totalling 64 MWp and nine energy efficiency projects were fully developed and implemented, representing more than **€ 50 million in eligible capital expenditure**.

Delivering measurable market impact

PVMax had a direct and measurable impact on Croatia's renewable energy market. By the end of 2024, the PV capacity deployed through the project accounted for **more than 10% of the total installed PV capacity at national level**. Beyond capacity figures, the project promoted integrated solutions combining PV generation, energy efficiency, and storage, contributing to reduced fossil fuel dependence and improved local energy self-sufficiency. By prioritising rooftop installations on existing buildings, PVMax also helped avoid additional land use.

Standardisation and bankability

A key innovation of PVMax was the development of **standardised documentation and procedures for PV deployment in both the public and private sectors**. The project supported a range of financing and delivery models, including "Design and Build", "Turnkey", and "Design, Build and Finance" schemes, such as corporate power purchase agreements. This standardised approach improved the bankability of solar projects, increased investor confidence, and demonstrated strong potential for replication and scaling across Europe.

Engaging citizens and building legacy

To strengthen community engagement, REGEA worked closely with one of its founding members, the City of Zagreb, to develop a digital platform for households. The platform provides automated PV feasibility assessments and guidance through the permitting process, significantly lowering entry barriers for residential solar adoption.

Following the project's completion, REGEA institutionalised the PVMax One-Stop Shop model as a **permanent advisory service**. Continued collaboration with the City of Zagreb is further enhancing the digital platform, with the ambition of scaling it up into a national reference model. In this way, PVMax has laid the foundations for sustained growth in rooftop PV deployment across Croatia's public and private sectors.

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PROCURE: PIONEERING 100% RENEWABLE ENERGY SOLUTIONS FOR PUBLIC BUILDINGS

South of Porto Metropolitan Area Energy Management Agency – South of Porto, Portugal

Portugal's National Energy and Climate Plan (NECP 2030) sets ambitious targets: cutting greenhouse-gas emissions by up to **55%** and reaching **47% renewable energy share by 2030**. Public buildings are a priority for action, with schools alone accounting for over **€ 0.5 million** in annual electricity costs. This focus aligns local efforts with national carbon-neutrality goals.

Funded under Horizon 2020, procuRE is accelerating the transition toward fully renewable energy systems in public buildings.

Through an innovative Pre-Commercial Procurement (PCP) process, the initiative helps cities source forward-looking technologies capable of supplying buildings with 100% renewable energy, while also stimulating market competitiveness and technological development.

In Vila Nova de Gaia, the project is led by the **South of Porto Metropolitan Area Energy Management Agency (Energaia)**, in close collaboration with the municipality, with the Manuel António Pina Primary School serving as the demonstration site.

© Energaia

Driving innovation through public procurement

Energaia has coordinated the full implementation of the project at local level, from identifying the funding opportunity and preparing the proposal to managing the PCP procedure, supervising refurbishment works and equipment installation and developing technical deliverables and reporting. With a total EU investment of **€ 7.68 million** across all participating regions, procuRE showcases how public authorities can strategically use procurement to unlock innovative clean-energy solutions.

As Luís Castanheira, Managing Director of Energaia, explains: *"procuRE shows that achieving 100% renewable energy in public buildings is not only possible, it's already happening. At Energaia, we are proud to lead this transition and turn innovation into real impact for our communities."*

Transforming a school into a renewable energy model

The Manuel António Pina Primary School has undergone a comprehensive energy transformation, featuring a **119 kWp photovoltaic system**, a **176 kWh battery storage unit**, and a modernised Building Technical Management System. Fossil-fuel water heating was replaced with a **high-efficiency heat pump**, and a cooling function was added to improve classroom comfort.

These interventions significantly improve energy performance while ensuring comfort and air quality for students and teachers. With a **local investment of approximately € 341 000** the project is expected to generate **annual savings of nearly € 24 000**, achieving a **financial payback of around 14 years**. Beyond economic benefits, the building now operates with a substantially reduced carbon footprint, demonstrating the feasibility of transitioning public facilities to renewable energy.

A European example of forward-looking energy procurement

procuRE demonstrates how municipalities can leverage Pre-Commercial Procurement to push the market toward innovative clean-energy solutions, enabling buildings to meet future climate targets. Vila Nova de Gaia's implementation stands as a replicable example for other European cities aiming for fully renewable, intelligent, and resilient public buildings. The initiative is fully aligned with Portugal's **NECP 2030** and **Carbon Neutrality 2050 Roadmap**, ensuring strong policy backing for innovation in public procurement.

Lessons learned and replicability

The PCP approach proved effective in driving innovation and engaging suppliers beyond traditional procurement. Success factors included strong municipal leadership and alignment with national climate policies. Challenges such as coordinating technical requirements and ensuring supplier readiness were overcome through clear communication and phased implementation.

Other cities can replicate this model by leveraging PCP frameworks, securing policy support, and starting with pilot sites to validate solutions. The initiative is ongoing, with plans to monitor performance and share results across the procuRE consortium. Vila Nova de Gaia also aims to scale up similar interventions to other schools and municipal buildings, reinforcing its commitment to carbon neutrality and inspiring replication across Europe.

Energaia - Agência de Energia do Sul da Área Metropolitana do Porto

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RENOWABE: UNLOCKING OVER € 20M FOR ENERGY RENOVATION IN EXTREMADURA'S PUBLIC BUILDINGS

Extremadura Energy Agency – Extremadura, Spain

The RENOWABE project is driving energy renovation in Extremadura's public buildings at an unprecedented pace. Through specialised technical assistance from the **Extremadura Energy Agency (AGENEX)**, the regional government has **unlocked € 21.1 million in energy efficiency and renewable energy investments**, with an additional **€ 10.6 million** expected during 2026. This marks a major step in strengthening public infrastructure and advancing the region's energy transition.

The urgency for action was highlighted in the regional energy renovation strategy (E4PAREX) published in 2018: energy use in public buildings could be cut by 32%, with up to 29% **covered by renewables**. Yet without external support, these investments would have remained unrealised due to limited resources and expertise.

RENOWABE was created to overcome this challenge. Co-financed by the EU's **ELENA facility** under Horizon 2020 and coordinated by the Government of Extremadura, the € 1.4 million project began in April 2022.

AGENEX was tasked with providing technical assistance to move projects from planning to implementation.

© AGENEX

Technical assistance delivering concrete results

The first step was identifying **324 priority buildings**, including schools, health centres and administrative offices. AGENEX carried out audits, calculated energy baselines and assessed renewable feasibility. These analyses informed investment proposals for government decision-makers. Once validated, AGENEX supported tendering processes, drafting procurement documents and reviewing technical offers, crucial for overcoming administrative bottlenecks in a complex regulatory context.

Results are already visible: **94 buildings have undergone renovations**, including LED upgrades, improved energy systems and photovoltaic installations. These actions benefit thousands of citizens, improving comfort and service quality, especially for vulnerable groups.

Economic impacts include lower energy bills, freeing resources for other essential services. **Environmental benefits** are significant: renovated buildings achieve average energy savings of 30%, and those with photovoltaics meet nearly 70% of electricity demand through renewables, cutting emissions and supporting climate goals.

A scalable model for public buildings

RENOWABE demonstrates how strategic technical assistance can unlock major investments. With € 1.4 million enabling over € 30 million in works, the project proves the value of this approach.

As Jorge Rebollo, Director General for Accessibility and Centres, notes: "*The collaboration with AGENEX within RENOWABE has been key to overcoming administrative and technical barriers, enabling the tendering of numerous renovation actions that have significantly improved energy savings, system efficiency and the reduction of greenhouse gas emissions, contributing decisively to Extremadura's energy transition.*"

The project concludes in March 2026, but Extremadura plans to **continue renovating its public building** stock. With established methodologies and tools, the region is ready to scale up and replicate this model widely.

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CITIZEN-LED ENERGY

Europe's energy transition is more and more shaped by citizens taking an active role in how energy is produced, shared and consumed. From energy communities and collective self-consumption to participation in renovation programmes, flexibility schemes and energy-saving initiatives, citizen-led energy strengthens social acceptance and keeps the benefits of the transition rooted locally. By empowering people to act, it also contributes to resilience, affordability and trust in the energy transition.

Local and regional Energy Agencies are central to making citizen participation possible and inclusive. Across Europe, they provide technical guidance, support the creation and operation of energy communities and help citizens navigate complex regulatory and administrative frameworks.

Energy Agencies also design governance models, facilitate access to finance and ensure that citizen-led initiatives are aligned with local energy and climate strategies. Acting as trusted intermediaries between citizens, authorities and system operators, they lower barriers to participation and ensure that citizen-led energy becomes a scalable, fair and durable pillar of Europe's energy transition.

FROM THE MARGINS TO THE MAINSTREAM: SCALING UP ENERGY COMMUNITIES IN EUROPE

By Rui PIMENTA

FEDARENE Vice President for Renewable Energy Communities,
CEO of Porto Energy Agency (AdEPorto)

Energy communities are increasingly showing how they support the EU in meeting its objectives of improving energy affordability and energy security, while enabling active citizen participation. With energy prices remaining higher than pre-crisis levels, energy bills are taking a disproportionate share of the disposable income of households. Evidence increasingly suggests that energy communities, by unlocking a flexible use of electricity, storage capacities, energy saving measures, self-consumption, decarbonised heating and cooling systems, and building renovation, can contribute to lower energy costs and increased energy independence.

Successful models from Portugal, including ENNO and Agra do Amial, illustrate how organising an energy community around energy sharing can simultaneously advance renewable energy and social justice. ENNO leverages a regional waste-to-energy facility to supply cheap, stable power to public entities and plans to channel surplus benefits to struggling households. Agra do Amial, on a neighbourhood scale, shares locally produced solar power to directly reduce the energy bills of low-income families. In each case, vulnerable groups are given access to the clean energy produced, either through dedicated programmes or by making social housing residents part of the community. These projects are viewed as best practices in aligning an energy community model with energy poverty alleviation and energy sharing mechanisms. This approach, innovative technology paired with inclusive governance, is increasingly recognised as a template for a just energy transition, ensuring that the shift to sustainability also benefits those most in need.

Yet energy communities continue to operate at the margins of the energy system, with relatively few citizens choosing, or being able, to engage in them. SMEs are also slow to establish or join energy communities, despite growing evidence that Renewable Energy Communities (RECs) can develop power-purchase agreement with SMEs, ensuring not only sustainable and local electricity but also fixed tariff, hence long-term price stability, local employment, and increased energy independence. At FEDARENE, we have long supported energy communities with technical, legal, social, or financial expertise. For 2026 and further, we want to continue strengthening this expertise and integrate them into One-Stop Shops (OSS) for energy communities.

While a few of these OSS have started to emerge, deploying more of them would help us keep shaping a local energy governance where more citizens may find their place and participate in sustainable transformations.

The Citizen Energy Package aims to strengthen citizens' rights and shall deliver a set of steering measures that should support Regional and Local Energy Agencies in overcoming barriers faced by energy communities.

We will continue to advocate for the recognition of local and local Energy Agencies as key enabling actors in an increasingly decentralised, secured and citizen-led energy sector. We believe that our position, between the local and EU levels, gives us a perfect place to translate and communicate about EU priorities and adapt them to local specificities. Our proximity to citizens allows us to foster inclusiveness and build lasting trust, namely by ensuring citizens clearly understand how energy communities can benefit them, whether through lower energy costs, new economic opportunities, or greater energy independence.

ENERGY SHARING FOR INCLUSION: THE AGRA DO AMIAL RENEWABLE ENERGY COMMUNITY

Energy Agency of the Porto Metropolitan Area – Porto Metropolitan Area, Portugal

Growing evidence shows that citizen-centred energy initiatives can reduce energy costs and strengthen local resilience. Yet despite their potential, these solutions still sit at the margins of the energy system.

Limited awareness and accessibility mean that affordable, sustainable energy continues to be out of reach for many households.

In northern Portugal, the pioneering Agra do Amial Renewable Energy Community demonstrates how **energy sharing can directly benefit vulnerable groups**, providing stable and affordable renewable electricity while addressing energy poverty. By combining innovative technology with inclusive governance, the initiative shows how the energy transition can deliver both **climate action and social justice**.

© AdEPorto

A public-led energy community supporting vulnerable consumers

Located in a social housing estate in the **Municipality of Porto**, the Agra do Amial Renewable Energy Community was designed specifically to address energy poverty. Implemented under public leadership and funded through public grants, the project installs photovoltaic panels on the rooftops of municipal apartment buildings and shares the electricity generated among low-income residents.

AdEPorto played a central role throughout the entire project lifecycle, from the initial concept to day-to-day operation. The agency led the selection of suitable locations, coordinated the involvement of participating families, and managed the full licensing and registration process. It also carried out the technical and financial studies underpinning the project, ensuring its long-term financial stability during the operational phase.

Operational since mid-2024, the community now connects **82 housing units and a local primary school** within a collective self-consumption scheme. In its first year of operation, Agra do Amial produced around **134 MWh of solar electricity**, shared in real time among participants.

Delivering savings, innovation and scalability

The project was made possible through strong public-sector leadership, as its social focus initially made it unattractive to private investors. AdEPorto further strengthened the model by integrating **innovative solutions**, including electricity storage units and EV charging infrastructure connected to the renewable energy community.

Beyond implementation, the agency continues to support the project's operation, working closely with the distribution system operator and the national energy regulator. Agra do Amial is being used as a **pilot project** for these actors, helping to shape regulatory and operational practices for future energy communities. AdEPorto also plays a key coordinating role among the different community members, ensuring smooth collaboration and transparent governance.

The results are tangible. The 82 participating families have seen electricity bill reductions of approximately one third, alongside improved energy security. As residents observed these benefits, interest quickly grew, with dozens of additional households volunteering to join the scheme.

Encouraged by this success, Porto's city government is now preparing to replicate the model in at least four additional social housing neighbourhoods, extending solar energy sharing to around **1,400 more families**. This highlights the significant potential of renewable energy communities across Portugal's public housing sector.

Renewable energy communities linking sustainability and affordability

Agra do Amial illustrates how local authorities and Energy Agencies can step in where market actors may not, ensuring that the energy transition leaves no one behind. By organising energy sharing at neighbourhood level, the project directly reduces energy bills for low-income households while increasing local renewable generation.

Through its comprehensive involvement — from technical design to social engagement and regulatory coordination — AdEPorto demonstrates how Energy Agencies can act as **key enablers of inclusive energy communities**. The Agra do Amial Renewable Energy Community is now recognised as a strong example of how energy sharing, innovative technology and inclusive governance can be combined to deliver a **just and affordable energy transition**.

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BUILDING A NATIONAL ONE-STOP SHOP NETWORK FOR RENEWABLE ENERGY COMMUNITIES

Energy and Sustainable Development Agency of Modena – Modena, Italy

The development of energy communities is a central element of Italy's energy transition. However, their implementation at local level is often slowed by **complex regulations, fragmented information**, and **limited technical capacity** among both citizens and public administrations.

To overcome these barriers, the Italian Ministry of Environment and Energy Security launched **RENOSS**, a national initiative designed to create a coordinated network of One-Stop Shops dedicated to supporting energy communities. Within this framework, **the Energy and Sustainable Development Agency of Modena (AESS),** plays a key role in translating national objectives into practical local action.

RENOSS is coordinated by the **National Network of Energy Agencies (RENAEL)** and brings together local Energy Agencies across Italy under a shared operational model. From the start, agencies with different backgrounds and capacities collaborated to design a **common structure for service delivery**, ensuring that citizens and municipalities receive support that is consistent, reliable and adaptable to local circumstances. AESS, which currently holds RENAEL presidency, **contributed to mapping the full development pathway of an energy community**, from early awareness and engagement to operational management and tested this framework at regional level.

© RENOSS project

Renoss project meeting during ManagEnergy Expert Mission

Designing a trusted One-Stop Shop model

At the heart of the RENOSS approach is the creation of **One-Stop Shops able to offer integrated technical, administrative and legal support**. AESS provides a wide range of services based on its long-standing experience in local energy planning, all organised within a **shared national service portfolio** that other agencies can adopt and tailor. This structure enables AESS to respond efficiently to diverse local needs while remaining aligned with national rules and funding schemes.

To make service delivery more effective, RENOSS developed **standardised materials** such as templates, checklists, frequently asked questions and communication tools. These resources help AESS provide **clear, coherent and accessible information**, reducing uncertainty for potential initiatives and ensuring a high-quality user experience. The **RENOSS digital platform** further improves accessibility through guided decision paths that help users understand their possible role within an energy community and choose the most appropriate next steps.

A particularly innovative feature is the integration of an **AI-based chatbot**. Trained on **validated and institutionally approved content**, it ensures that users receive accurate and reliable information, without offering interpretations that go beyond recognised legal sources.

Scaling impact through coordination and learning

RENOSS demonstrates the value of structured **multi-level governance**. Regular coordination meetings between local agencies, RENAEL and the Ministry support the rapid circulation of regulatory updates and enable effective bottom-up feedback. This collaborative structure has proven essential in a context marked by **frequent changes in national incentives and regulatory frameworks**.

Since its launch, RENOSS has generated strong demand and **carried out hundreds of consultations, outreach actions and matchmaking activities**, reinforcing its role as a trusted intermediary for citizens and municipalities. Beyond quantitative results, the project has strengthened the visibility and credibility of local Energy Agencies and has shown how a coordinated One-Stop Shop model can accelerate the spread of energy communities.

The **RENOSS model is highly replicable**, in fact throughout the project, **AESS will serve as One-Stop Shops for the regions Emilia-Romagna, Puglia and Lazio**, offering a concrete example of how European and national policy goals can be effectively transformed into local energy transition actions.

AESS - Agenzia per l'Energia e lo Sviluppo Sostenibile

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BRINGING ENERGY COMMUNITIES CLOSER: CATALONIA'S COMUNITATENERGETICA.CAT PLATFORM

Catalan Institute for Energy – Catalonia, Spain

Energy communities are central to Europe's shift toward a cleaner, more sustainable and participatory energy model. They empower citizens, boost renewable energy deployment and ensure fairer local resource distribution. To support this transition, the **Catalan Energy Institute (ICAEN)**, together with the Catalonia Institute for Energy Research (IREC) and non-profit cooperative Cíclica, has developed **ComunitatEnergetica.cat**, a platform that removes entry barriers and accelerates citizen-led renewable projects.

© ICAEN

A user-centred platform connecting people, projects and resources

Promoted and financed by ICAEN, which defines the platform's strategic objectives, supervises the information published and promotes engagement across the ecosystem, ComunitatEnergetica.cat was launched in 2025 to **support citizens, businesses and public authorities in joining existing energy communities or creating new ones**. It offers three core functionalities:

1. Discover existing energy communities
Users can explore initiatives across Catalonia, classified as open (accepting new members) or closed. This helps citizens identify nearby projects and allows promoters to reach potential participants.

2. Simulate new energy communities
The simulation tool estimates rooftop photovoltaic potential and models how communities could be formed within the two kilometres regulatory radius. It combines producers and consumers to estimate how energy could be shared, guides early feasibility assessments and helps users understand their rooftop's potential. The tool maximises usable surfaces, sometimes doubling generation capacity compared to traditional approaches, and highlights shaded areas that may limit performance.

3. Connect with relevant stakeholders
Users can access a network of installers, legal and technical advisors and public administrations to obtain the resources needed to establish an energy community.

ComunitatEnergetica.cat is designed to be adaptable to different regulatory and territorial contexts. **To date, 82 energy communities and 128 supporting stakeholders have registered on the platform**.

Accelerating uptake: lessons learned and pathways for replication

Experience shows that many energy communities need direct follow-up and support to publish and maintain their information on the platform; training, communication and dissemination activities alone are often not enough to ensure long-term engagement. To address this, the public administration is promoting an official registry of energy communities that will also act as an access point to public support schemes and funding, helping to improve data availability and visibility.

Reaching end users is another challenge. While initial dissemination through traditional media was useful at launch, maintaining visibility over time requires more local and direct communication channels. In practice, energy communities in Spain mainly attract members through proximity-based networks, often within a geographical radius of around two kilometres.

For territories looking to replicate the model, it is important to build a strong participation network that brings together cooperatives and regional and local public administrations. It is equally important to consider the coexistence of privately developed platforms, often publicly funded but commercially oriented. When multiple registries operate in parallel, information can become fragmented and harder for citizens and energy communities to navigate. For this reason, a public platform should focus on core information and visibility functions, leaving operational and day-to-day management services to private sector tools.

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CLIMATE RESILIENCE

As climate impacts intensify across Europe, reducing emissions alone is no longer sufficient. Rising temperatures, extreme weather events and changing ecosystems are already affecting communities, infrastructure and energy systems, threatening security of supply and public services. Climate adaptation is therefore becoming a core pillar of Europe's climate agenda, requiring anticipatory action, risk preparedness and long-term resilience planning rooted in territorial realities.

Local and regional Energy Agencies are increasingly evolving into Climate and Energy Agencies to meet this challenge. Building on their expertise in energy planning and implementation, they support public authorities in climate risk assessments, adaptation strategies and preparedness measures.

Energy Agencies help integrate adaptation into energy and infrastructure planning, translate climate data into actionable insights and support coordination across sectors and governance levels. By combining technical expertise with deep local knowledge, they enable authorities and citizens to design measures that strengthen resilience, protect vulnerable populations and ensure continuity of essential services in a changing climate.

EDITO

HOW TO STRENGTHEN EUROPE'S CLIMATE RESILIENCE: THE KEY ROLE OF CITIES

By Benedetta BRIGHENTI

FEDARENE Vice-President for Climate Neutral Cities and Regions, President of AESS (IT)

Heatwaves, floods, droughts and other extreme events are becoming increasingly frequent and intense, while economic losses continue to rise. The European Climate Risk Assessment shows that many risks have already reached critical levels, with cascading effects that amplify pre-existing vulnerabilities. Without urgent action, these risks are set to turn into large-scale disasters by the end of the century. Europe can no longer afford to look the other way: without cities there is no climate transition. Urban areas and territorial systems must become the core of a stronger, more coherent and operational strategy.

Climate resilience is not only an environmental priority: it is a strategic condition for economic stability, sustainable prosperity and long-term competitiveness. Adaptation policies are therefore essential to strengthen Europe's preparedness, reduce structural vulnerabilities and consolidate the social and economic resilience of territories. In this framework, the European Union Adaptation Strategy and the European Climate Resilience and Risk Management framework represent key milestones of the European climate agenda, helping Member States prevent and prepare for the growing impacts of climate change.

But strengthening resilience requires more than new regulatory frameworks. It calls for a paradigm shift: moving from reactive responses to proactive and planned adaptation, guided by the principle of resilience by design. Effective strategies must be rooted in territorial realities, avoiding one-size-fits-all solutions and recognising the diversity of climate risks across the Union: from islands to outermost regions, from coastal zones to rural areas, and up to cities. Adaptation and mitigation must advance in an integrated way, overcoming policy silos and preventing maladaptation. Only in this way can Europe achieve faster, smarter and more systemic results.

This transformation depends on concrete implementation on the ground. Local and regional authorities, together with Energy and Climate Agencies, are decisive in translating objectives into tangible results. Their proximity to communities and their knowledge of territorial specificities place them on the front line of resilience action. As trusted facilitators, the Agencies provide expertise, coordination and capacity building, supporting regional observatories and technical networks among territories.

A key contribution comes from the opinion on climate change adaptation, signed by the Mayor of Bologna, Matteo Lepore, and adopted unanimously by the European Committee of the Regions. The opinion, to which I contributed as an expert, clearly states that European resilience is built starting from cities: urban infrastructures, services and communities are where risks materialise and where solutions can be designed, integrated and scaled. The unanimity achieved strengthens the political message: putting cities at the centre is not an option, it is a shared necessity.

To move forward, Europe must build on what already works. Established instruments such as the Covenant of Mayors and the Missions on Adaptation and Mitigation of territories already provide solid and proven foundations. By capitalising on these tools, strengthening coordination across levels of government (multilevel governance) and supporting those who implement policies on the ground, including Energy Agencies, Europe can take a decisive step toward a more resilient, sustainable and future-ready Union, starting from one of its greatest assets: its cities.

ALBA IULIA ON ITS PATH TO CLIMATE RESILIENCE

Alba Local Energy Agency - Alba Iulia, Romania

Across Europe, cities are increasingly confronted with climate-related risks that place growing pressure on infrastructure, public services, ecosystems and residents' quality of life. Alba Iulia is no exception. Climate risk assessments have highlighted potential vulnerabilities linked to heatwaves amplified by the urban heat island effect, prolonged droughts, strong wind gusts and flooding caused by intense rainfall.

While the city has progressively strengthened the integration of climate considerations into its local policies, most notably through the development of a climate adaptation and mitigation plan, translating strategic priorities into concrete, finance-ready adaptation investments remains a key challenge.

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Supporting implementation through local facilitation

To help bridge this gap, Alba Iulia engaged in the **CLIMATEFIT LIFE EU project**, with **Alba Local Energy Agency (ALEA)** supporting the process as a facilitator and technical partner. The focus was on strengthening local capacities to better understand climate adaptation needs, explore financing options, and prepare investment-oriented outputs. ALEA coordinated the process at local level, ensuring continuity between existing climate strategies and the next steps towards implementation.

A central element of this work was the establishment of a **Local Resilience Taskforce (LRT)**, bringing together representatives from municipal departments, local stakeholders, and experts. ALEA supported the organisation and functioning of the taskforce, facilitating more than 20 meetings and experience exchange activities to date. The LRT provided a collaborative space to jointly assess climate risks, discuss adaptation needs and identify potential investment pathways.

Engaging financial actors in the process

Financial actors were involved early in the process to strengthen the investment perspective of local adaptation planning. Three financial investment entities participated in dedicated exchanges with local stakeholders, while four additional actors contributed insights into the Romanian financing landscape for climate adaptation. These discussions helped clarify financing conditions and highlighted the importance of aligning local priorities with investor expectations.

This engagement informed the development of an **investment strategy** and a corresponding **investment plan** for climate adaptation, elaborated through a co-creation process within the Local Resilience Taskforce following the CLIMATEFIT methodology. The documents prioritise key sectors such as municipal infrastructure, buildings, transport and agriculture, while focusing on vulnerable areas and social groups. Together, they provide a structured framework to strengthen Alba Iulia's capacity to prepare and attract financing for adaptation projects.

From strategy to pilot investment

Building on the investment plan, and with technical support from ALEA, the city identified and prioritised a pilot investment concept based on the **"Sponge City"** approach. This concept promotes nature-based and hybrid solutions to better absorb, store, and manage rainwater through green spaces, permeable surfaces, and multifunctional urban areas. Beyond reducing flood risks and mitigating heat, the approach contributes to improved public spaces and enhanced urban liveability.

Alba Iulia's experience demonstrates how structured collaboration, local facilitation, and early engagement with financial actors can help cities move from climate strategies to concrete adaptation investments, strengthening resilience at local level.

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FROM VULNERABILITY TO RESILIENCE: AUVERGNE-RHÔNE-ALPES AT THE FOREFRONT OF CLIMATE ACTION

Auvergne-Rhône-Alpes Energy and Environment Agency – Auvergne-Rhône-Alpes, France

The Auvergne-Rhône-Alpes region is experiencing rapid and intensified climate impacts: accelerated warming, retreating glaciers, declining snow cover, unstable water cycles, and thawing permafrost that destabilise mountain slopes. These changes threaten ecosystems and biodiversity, with knock-on effects for tourism, agriculture, forestry, and hydropower.

To address these challenges, the region has strengthened its adaptation efforts through the **Auvergne-Rhône-Alpes Energy and Environment Agency (AURA-EE)**. AURA EE brings together more than 70 members, including local authorities, NGOs, energy producers, and research organisations, to coordinate regional action on climate adaptation, mitigation, sustainable energy, and the circular economy. Its role is to connect stakeholders, provide technical expertise, and support evidence-based decision-making.

European cooperation has been instrumental in this progress. EU-funded projects such as ADAPTNOW, X RISK CC, and NACAO have enhanced regional capacities, enabled knowledge exchange, and supported the development of new tools and methodologies.

TerriSTORY®, for example, gives decision makers access to local data on energy, emissions, and climate impacts, while ClimaSTORY® uses role play and storytelling to co-design adaptation pathways rooted in local realities. Together, these tools help bridge scientific knowledge and local experience, ensuring that strategies are both technically sound and socially grounded.

Driving impact through European collaboration

The **ADAPTNOW** project (2021–2027) has transformed **ClimaSTORY®** from an engagement tool into a decision-support platform, adding indicators from **TerriSTORY®**, creating a digital interface, and training facilitators.

Tested in highly affected and exposed territories such as Baronnies en Drôme Provençale, it has already engaged more than **700 participants** and trained **75 facilitators**.

"*The ADAPTNOW project has significantly advanced climate adaptation in our region. It provided a platform for testing the ClimaSTORY® 'support' formula in the Baronnies, which led to the creation of a new training module for local facilitators,*" explains Laurence Monet, Project Manager at AURA-EE.

In parallel, the **X RISK CC** project (2021–2027) addresses compound and cascading risks such as droughts, wildfires, and rainfall-triggered landslides that can disrupt local economies. By developing harmonised data on climate extremes and working with practitioners in cross-border areas, the project translates insights into local action and regional policy in collaboration with networks like EUSALP and the Alpine Convention.

Complementing these efforts, the **NACAO** project (2023–2027) focuses on mitigation through nature-based solutions, enhancing carbon sinks in ecosystems such as forests and wetlands. It brings together six European regions to promote governance models and market mechanisms that scale carbon offsetting in ways that are environmentally sound and socially fair.

Together, these initiatives deliver multiple benefits: stronger risk management systems, improved community engagement, and nature-based measures that preserve biodiversity. They also generate positive economic effects by safeguarding tourism and agriculture, supporting local capacities, and fostering competitiveness across the Alpine region.

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Building on success: lessons and next steps

The region's experience shows the importance of **strong governance, stakeholder collaboration, and tools** that combine scientific data with local knowledge. Integrated approaches linking adaptation to local hazards with mitigation, such as enhancing natural carbon sinks, have proved effective and replicable. Programmes like the ADAPTNOW Promoting Organisation initiative further support replication through training, peer visits, and tailored coaching.

While territorial diversity remains a challenge, facilitation and co-creation have helped ensure that solutions remain adaptable to different local contexts. Looking ahead to 2027, the region aims to expand replication, strengthen cross-border cooperation, and scale nature-based offsetting, continuing to build resilience across the Alpine area.

AURA-EE – Auvergne Rhône-Alpes Énergie Environnement

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COORDINATING NATIONAL, MUNICIPAL, AND EUROPEAN EFFORTS FOR FLOOD PROTECTION AND URBAN RENEWAL

Energy and Climate Agency of Podravje – Podravje, Slovenia

Maribor, Slovenia's second-largest city, faces growing climate risks: extreme heat, poor air quality, and flooding linked to heavy rains. As the regional **Energy and Climate Agency of Podravje**, ENERGAP supports local authorities with climate risk assessment, adaptation planning, and the integration of nature-based solutions into urban development and investment processes. In 2024, ENERGAP prepared a regional climate risk and vulnerability assessment that identified heat stress in the built environment as one of the most significant emerging risks for Maribor. Based on these findings, the city has been working to **strengthen urban resilience to extreme heat, complementing flood protection and green infrastructure investments** such as the Pekre Stream restoration.

© ENERGAP

From flood protection to urban renewal: a three-step journey

The Pekre Stream restoration unfolded in three coordinated phases.

1. National investment in flood protection
The Slovenian Water Agency undertook major works on the Pekre Stream, including reshaping the riverbed, stabilising banks with nature-based materials, planting riparian vegetation, and restoring habitats. A newly constructed dry retention basin captures flood peaks during heavy rains. Completed in early 2025 under *Reducing Flood Risk in the Drava Basin – Ptuj Drava Area*, this state-level investment enhanced flood safety for nearby neighbourhoods and created the ecological foundation for further development.

2. Municipal upgrade – Park Pekrski potok
Building on the national investment, the City of Maribor transformed approximately 2,3 km of the stream corridor into Park Pekrski potok, a multifunctional green park combining ecological restoration, recreation, and landscape design. Investment and design documentation was prepared in coordination with planners, environmental experts, and local stakeholders, aligning the project with the sustainable urban strategy and municipal spatial plans.

3. European pilot and community engagement – UPSURGE
The Horizon 2020 UPSURGE project complemented these efforts with innovation and soft measures. On a 500 m demonstration section, partners introduced biofiltration concepts, planted 216 trees with high air-purification capacity, and installed microclimate monitoring stations. Residents participated in co-designing small green areas, selecting planting sites, and contributing to surveys that helped adapt measures to local needs.

Transforming risks into opportunities

The restoration is already delivering visible benefits. The river corridor has been ecologically revitalised; flood risks have been reduced; and urban cooling has improved through tree planting and water-sensitive design. New recreational spaces provide accessible areas for sports, leisure, and socialising in one of Maribor's most densely populated districts.

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Governance and replicability insights

Blended financing and strong municipal leadership were essential. The city aligned national, municipal, and EU-funded projects to ensure continuity and integrated planning across phases. The initiative also reflects a broader governance and capacity building framework in the Podravje region. ENERGAP plays a strategic role by connecting municipalities, national institutions, and European initiatives such as the EU Mission on Adaptation to Climate Change. Through knowledge transfer, replication of good practices, and monitoring of adaptation outcomes, the agency helps ensure that local climate actions are evidence based, coordinated, and scalable. This support enables cities like Maribor to move from isolated interventions to a long-term, integrated approach to climate resilience.

The restoration continues with plans to complete park development and expand participatory greening. Together, these efforts offer a replicable model for European cities seeking to combine flood protection, ecological restoration, and social inclusion.

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FINANCING THE TRANSITION

Delivering Europe’s energy transition requires massive and sustained investment, yet many local and regional projects still struggle to access finance. The challenge is not a lack of ambition or need, but the difficulty of turning fragmented, small-scale initiatives into investment-ready projects. Financing the transition therefore depends on the ability to aggregate demand, reduce risk and align public objectives with private investment conditions.

Local and regional Energy Agencies are key enablers of this process. Acting as trusted intermediaries, they structure project pipelines, aggregate investments across sectors and territories, and connect municipalities, businesses and citizens with financial partners.

They design financing models adapted to local realities, help standardise projects and support long-term planning that increases investor confidence. By lowering transaction costs and improving project bankability, they enable sustainable energy investments to reach scale. In doing so, Energy Agencies ensure that both public and private capital can be mobilised effectively to deliver a resilient, low-carbon and competitive European energy system.

Financing the energy transition is not only about capital, but about making projects investable. Local and regional Energy Agencies aggregate initiatives, reduce risk and turn fragmented ideas into viable investments that deliver results on the ground.

Vlasta KRMELJ

FEDARENE Vice-President for Financing and Investments

FINANCING POLAND'S LOCAL ENERGY TRANSITION: CITIES' PARTNERSHIP INITIATIVE

Mazovia Energy Agency – Warsaw, Poland

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Poland's Cities' Partnership Initiative (Partnerska Inicjatywa Miast, PIM) is a flagship programme of the Ministry of Development Funds and Regional Policy designed to translate national urban policy goals into finance-ready local projects. Building on two previous editions and methodologies adapted from URBACT, the EU programme dedicated to expanding cities' competences, the third edition of PIM began in 2024 and runs until April 2026.

It is co-organised with the World Bank as a strategic partner, which supports project activities while providing expert assistance to all participants. Throughout the process, the **Mazovia Energy Agency (MAE)** contributes technical expertise to help ensure project feasibility and coherence with broader energy efficiency goals.

Transforming urban ideas into actionable investments

PIM offers municipalities hands-on support along their path toward sustainable development, while fostering peer-to-peer learning across Poland. Each edition works through three thematic networks that group municipalities facing similar challenges. Following earlier emphases on digitalisation, green transformation, city mobility, climate adaptation and public-private partnerships (PPP), the current edition focuses on **affordable housing, compact city and energy efficiency**.

The model combines a top-down policy framework with bottom-up problem-solving. Cities and functional urban areas develop tailored solutions, refine technical scopes, set KPIs and align their projects with national and EU instruments. Working in networks, the **29 participating cities and functional urban areas**, from regional capitals to small municipalities and multi-municipal areas, translate their concepts into bankable pipelines supported by realistic delivery models, including blended finance, ESCO/PPP options and robust evidence packages. Leading the energy efficiency network, MAE supports this process by assessing feasibility, advising on cost-effective measures and mapping funding opportunities to facilitate later due diligence.

Structured workshops, study visits and a growing alumni community ensure that knowledge circulates and strengthens the wider ecosystem of urban practitioners.

Building stronger cities and smarter national policy

Each municipality prepares two core outputs: an **Improvement Plan and an Urban Action Initiative (UAI)**. The UAI sets out a roadmap to address local challenges identified at the start of PIM and outlines concrete actions and priority projects. As one participant, Aleksandra Gałuszewska from the municipality of Rumia, noted, cooperation within PIM and the exchange of experiences with other local governments "*revealed how much potential lies in Rumia's team working on the energy transition and helped shape the Urban Action Initiative by turning intentions into concrete steps.*"

Improvement Plans, prepared for each network, serve as a bridge between local insights and national policy-making. Drawing from the experience of participating cities, they provide recommendations for central authorities on how to fine-tune regulatory and financial instruments to better support urban development. With methodological assistance from the World Bank, these plans help ensure that lessons from the ground influence future legislation and programmes.

What PIM has delivered and how it moves forward

Over the past two years, PIM has delivered substantial outputs: **national and international study visits, five in person working sessions and a set of energy efficiency individual plans.** These include projects on district heating modernisation, energy management systems in public buildings, and an energy efficiency manual for public and private buildings. The network also identified three common challenges and developed two national pilot plans offering comprehensive legal, financial, administrative and organisational recommendations.

By the end of PIM, the participating entities will have durable cooperation networks, finance-ready UAIs for priority investments, and Improvement Plans that strengthen national frameworks. The result will be replicable roadmaps enabling cities to build internal capacity, assemble credible funding mixes and bring forward mature, scalable projects that accelerate Poland's local energy transition while reducing investment risk. The programme's outcomes are already proving to be inspirational for municipalities across the country facing similar challenges.

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AI, DIGITALISATION & DATA

Artificial intelligence holds significant promise to accelerate Europe's transition towards a cleaner, more decentralised and efficient energy system. By improving the use of data, they can support better planning, enhance energy efficiency, strengthen system reliability and enable more effective flexibility and demand-side management. Realising this potential, however, depends on the availability of high-quality, interoperable energy data and on governance frameworks that ensure digitalisation serves public objectives and territorial needs.

Local and regional Energy Agencies play a central role in making this promise tangible. Across Europe, they support public authorities in accessing, interpreting and using energy data for energy and climate planning, monitoring and investment decisions. Acting as trusted intermediaries, Energy Agencies translate complex datasets into actionable insights that guide renewable deployment, grid optimisation and efficiency measures. They also help identify data gaps, promote data sharing and build capacity within administrations.

AI offers a powerful opportunity for Europe's energy transition, but its impact depends on who uses it and how. Local and regional Energy Agencies provide the public, territorial expertise needed to turn these tools into trust, resilience and sustainable benefits for all.

Serge NOCODIE & Etienne VIÉNOT

FEDARENE Vice-Presidents for Digitalisation and AI for Energy and Climate

THE RENOVATION TWIN: A DIGITAL BREAKTHROUGH TO UNLOCK LARGE-SCALE ENERGY RENOVATION

Energy Agency of Plovdiv - Plovdiv, Bulgaria

The Energy Agency of Plovdiv (EAP) is redefining how cities can accelerate residential energy renovation through its **Digital Renovation Twin for Plovdiv City**. Built on a robust Geographic Information System (GIS), this pioneering platform combines dynamic 3D visualisations of residential buildings with interactive decision-support tools, empowering homeowners while strengthening the city's renovation ecosystem.

Over the past decade, renovation rates in the Plovdiv Region have remained critically low, with fewer than 0.5% of dwellings upgraded. Progress has largely depended on national grant schemes, leaving limited room for informed private investment and proactive decision-making by homeowners. The Renovation Twin was developed to break this deadlock. By placing reliable, building-specific information directly in the hands of citizens, EAP aims to transform renovation from a complex, opaque process into a clear and actionable pathway.

At the centre of the platform is an intuitive self-service tool called the **Renovation Motivator**. It allows homeowners to instantly visualise their building's current energy performance and explore the impact of different renovation scenarios. Through simplified outputs and clear visual comparisons, users can understand potential energy and cost savings in just a few clicks. In doing so, the tool lowers entry barriers, builds confidence, and supports more informed renovation decisions at an early stage.

The innovative character of the 3D Renovation Twin has already gained international recognition. In 2025, it was awarded at the **City Lovers** competition, which highlights pioneering urban solutions. The jury recognised the platform as a concrete example of how digital tools can modernise residential renovation markets and support a new generation of data-driven urban planning.

© EAP

A living energy performance model built for scale

Developing the Renovation Twin required overcoming significant data gaps. To do so, EAP consolidated building-level information from multiple sources into individual **Digital Building Logbooks**, creating a comprehensive and evolving repository of the local building stock. These logbooks integrate basic characteristics such as construction year and building type with spatial, technical, and occupancy-related data.

At the core of the system lies an advanced, "living" **smart Energy Performance Certificate (EPC) algorithm**, developed entirely in-house by EAP. Unlike conventional static EPCs, this algorithm continuously improves as new data is added to the logbooks. It dynamically refines performance estimates and renovation scenarios, ensuring increasing accuracy over time. By translating complex datasets into accessible insights, the algorithm powers the Renovation Motivator and provides homeowners with realistic previews of energy, cost, and emission savings.

From digital innovation to renovation acceleration

As the Renovation Twin moves into public deployment, EAP is already expanding its functionality through a modular and scalable architecture. New modules can be added to respond to evolving policy priorities and market needs. A recently introduced solar module, for example, enables homeowners to simulate rooftop photovoltaic production and assess the potential for creating citizen energy communities.

The Renovation Twin also marks a new phase in the digitalisation of **EAP's One-Stop Shop renovation services**. By centralising data and automating technical and financial pre-assessments, it significantly reduces the time required for initial consultations. What previously took over an hour can now be achieved in minutes, benefiting homeowners, renovation professionals, and public authorities alike. More broadly, the platform demonstrates how digital tools can make renovation processes more transparent, scalable, and accessible, a prerequisite for increasing renovation rates at city level.

"The Renovation Twin is a first-of-its-kind solution in Bulgaria and a genuinely ground-breaking development. It combines a full-scale building stock observatory with intuitive, user-friendly tools for both homeowners and experts. Our ambition is for this model to inspire more citizens to renovate and to be replicated well beyond Plovdiv."
Liyana Adjarova, Executive Director, Energy Agency of Plovdiv

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VIREAS: AN AI-POWERED VIRTUAL ENERGY ASSISTANT SUPPORTING EUROPE'S ENERGY TRANSITION

Regional Energy Agency North – Northern Croatia

Despite the availability of financial incentives and increasingly accessible technologies, many citizens still face significant obstacles when starting energy renovation projects. The complexity of technical, administrative, and legal information often leaves homeowners uncertain about eligibility for support, technical requirements, and the steps needed to carry out renovation measures.

Recognising these challenges and the growing demand for clear, reliable, and user-friendly information, the **Northern Croatia Regional Energy Agency (REA North)** developed **VIREAS**, a virtual energy assistant created within the EU Interreg Euro-MED project BauNOW.

© REA North

An accessible virtual energy assistant

VIREAS provides citizens with personalised, comprehensible, and trustworthy guidance when planning energy renovation measures or investing in renewable energy technologies for their homes. Accessible at vireas.rea-sjever.hr without installation and adapted for both computers and mobile devices, the assistant offers an intuitive, conversational interface that helps users navigate the often complex renovation journey.

The tool is built on a structured knowledge base drawing from official regulations, technical guidelines in construction, energy and renewables, current funding criteria, and documentation used by experts and consultants. Insights gathered through interactions with a pilot group of citizens were also integrated. While relying on advanced AI capabilities, VIREAS does not replace qualified professionals; instead, it provides initial orientation before users seek formal technical or legal advice.

Interactive and user-oriented features

Unlike static online guides, VIREAS enables two-way communication in everyday language. At this stage, it provides guidance exclusively in Croatian, with multilingual expansion planned for future development phases. After a simple registration process requiring only the user's domicile county and email address, citizens can ask specific questions, receive detailed answers based on verified sources, and continue the conversation with further clarifications. Conversations can be exported in PDF format, and basic usage statistics are available within the user profile. Typical queries include how to start renovating a house, understanding ETICS facades (External Thermal Insulation Composite System) and their costs, or applying for a public support scheme for solar PV installation.

A robust AI-based approach

VIREAS was developed through collaboration between an external expert specialised in large language model (LLM) solutions and the engineering team of REA North. The agency led the collection and structuring of regulatory, technical, and funding documents, which were transformed into a vector-based knowledge database and integrated with the Gemini 2.5 Flash language model. Multiple prototypes were tested by the staff and a pilot group of citizens, allowing response accuracy and reliability to be continuously refined prior to public deployment.

Scaling up at local level

VIREAS is designed as a scalable solution that REA North will continue to maintain and further develop beyond the project's lifetime. Future versions will be adapted to local and regional contexts, enabling citizens to access guidance that reflects locally applicable rules, incentives, and funding schemes.

By simplifying access to complex information and empowering citizens to make informed decisions, VIREAS contributes to accelerating the energy transition of Europe's building stock.

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DECARBONISATION FOR COMPETITIVENESS

Europe’s industrial transformation is unfolding on the ground, in regions where companies operate, infrastructure is built and supply chains are anchored. Decarbonising industry is not only about reducing emissions, but about modernising production systems, securing affordable energy, and reinforcing Europe’s economic resilience. For many territories, this transition determines employment, innovation capacity and long-term competitiveness. Success therefore depends on coordinated action that links energy systems, infrastructure planning and industrial strategy.

Local and regional Energy Agencies are increasingly playing a central enabling role in this process. Working directly with companies, industrial parks and regional authorities, they assess energy needs, support electrification and fuel-switch pathways, and help finance and integrate renewable energy and efficiency solutions into industrial operations. They also facilitate collaboration between industry, utilities and research actors, helping align investments with territorial energy strategies.

EDITO

TURNING THE ENERGY TRANSITION INTO A COMPETITIVE ADVANTAGE: THE BASQUE PERSPECTIVE

By Mikel Amundarain LEIBAR

FEDARENE Vice-President for Industrial Competitiveness in the Energy Transition, General Manager of the Basque Energy Agency (ES)

Europe’s energy transition is accelerating, and regions are stepping forward with ambitious plans to decarbonise their economies while strengthening long-term competitiveness. In the Basque Country, this twin objective is not only compatible, it is essential. As one of Europe’s most industrialised territories, with 25% of our GDP directly linked to manufacturing, our commitment to climate neutrality must go hand in hand with preserving, modernising, and growing our industrial base.

In the current geopolitical and economic context, the growing importance of strategic autonomy and energy security cannot be overlooked. These factors reinforce the need to intensify electrification, leveraging our own energy resources, and to scale up the production of decarbonised fuels, where renewable electricity generation increasingly becomes a critical input.

A competitive, decarbonised industry is not only in our regional interest; it is a strategic asset for Europe. Our industrial fabric (steel, automotive, machine tools, cement, and other energy-intensive sectors) supports thousands of high-quality jobs and sustains value chains that extend well beyond our borders. This industrial strength is a core pillar of the European economy, underpinning its quality of life, and it must be safeguarded throughout the energy transition, ensuring it remains just.

The Basque Country faces challenges that are common across Europe. On the electricity side, grid capacity constraints limit the pace of industrial electrification, with congestion already affecting critical hubs. This in turn hinders the development of new industry and further electrification. The operational cost of electrification is also a key matter. While electrification is technically feasible for many low-temperature processes, today’s electricity costs often make it economically unviable when compared to natural gas. Without a competitive cost base, even the most advanced technologies will struggle to scale.

At the same time, molecule-based solutions are indispensable for high-temperature and hard-to-abate processes. But here affordability again poses a structural challenge: operational expenditures remain high, and the infrastructure needed for production, storage, and transport is still emerging.

Europe’s industrial transition will not succeed if either vector is neglected. The future energy system is unambiguously dual: electrification wherever possible, and renewable fuels wherever necessary. For regions like ours, both vectors must advance in parallel, supported by robust and anticipatory infrastructure planning for electricity, hydrogen, CO_2, O_2, heat, and recycled water.

To address these challenges, several actions are urgent. First, we need improved regional governance of existing grid capacity and accelerated permitting for both renewable projects and industrial connections. Second, Europe must mobilise greater investment to ensure infrastructure is built ahead of demand, enabling industry to make long-term decisions with confidence. Third, affordability must be tackled head-on: industrial electricity bills must become competitive, and support mechanisms for low-carbon fuels must reflect the real cost structures faced by businesses.

Our message is clear: the energy transition must reinforce Europe’s industrial strength, not weaken it. We are committed to proving that decarbonisation and competitiveness are mutually reinforcing, and that regions with strong industrial ecosystems can lead the way toward an industrial, climate-neutral and competitive Europe.

ENABLING THE DECARBONISATION OF INDUSTRIES IN OCCITANIE AND BEYOND

Occitanie Regional Energy and Climate Agency – Occitanie, France

Regional industries are under growing pressure to reduce energy use and emissions while maintaining competitiveness. For many small and medium sized enterprises, **the main obstacle is not a lack of ambition but a lack of capital, technical and financial expertise, and time to manage complex decarbonisation projects**. This reality led to the creation of Fiteo, a pioneering initiative launched in 2021 by the **Regional Energy and Climate Agency of Occitanie (AREC Occitanie)**.

Fiteo was designed to help companies invest in energy efficiency and low-carbon technologies without needing to mobilise their own capital. Rather than leaving firms to navigate technical assessments, funding opportunities and administrative procedures alone, AREC Occitanie plays a central enabling role at every stage of the process.

An innovative financial solution

Fiteo is a third-party financing mechanism that turns complex decarbonisation ideas into concrete investments. **It builds solutions for companies that cannot easily finance projects on their own**. Instead of taking out loans or using internal resources, AREC Occitanie finances the investment directly and remains owner of the installed equipment.

"For many companies, the barrier to decarbonisation is not ambition but complexity. Local and regional Energy Agencies have a key role to play in removing that barrier by structuring projects, securing finance and enabling investments that strengthen both performance and competitiveness."

Stéphane Péré, Vice-President for Industrial Decarbonisation & Director General of AREC Occitanie (FR)

This de-risks the investment for the company by enabling them to repay it over time through a leasing or service contract, with payments broadly aligned with the energy savings achieved.

The process starts with the company, which identifies a need such as reducing energy costs or modernising equipment. AREC Occitanie works with the beneficiary to define the project and takes on the full development burden. Specialised technical partners then carry out feasibility studies and design appropriate solutions to ensure real and measurable savings.

Once the technical basis is established, AREC Occitanie builds the financial architecture. Several types of partners are mobilised:

- **Public funding bodies are involved to reduce the overall cost of the project.** AREC Occitanie identifies available subsidies and integrates them into the financing plan.
- **Financial institutions and banks provide long-term debt.** The agency negotiates directly with these partners to secure appropriate financing conditions.
- **Complementary financial mechanisms can also be activated when relevant**, such as the use of carbon compensation schemes or targeted support from local authorities.

The innovation of Fiteo lies in its capacity to aggregate and coordinate a wide range of partners around each project while providing confidence to investors. As a neutral and trusted public actor, AREC Occitanie brings together technical expertise, public support and private financing into a single coherent framework, ensuring that projects are both technically robust and financially viable.

This integrated approach allows companies to benefit from the combined expertise of engineers, financiers and public authorities without having to handle the complexity of these interactions themselves. For many beneficiaries, this support is decisive.

Without Fiteo to structure the project, assemble the financing and manage the process from start to finish, **these decarbonisation investments would simply not be feasible**.

Lessons learned and how to reproduce it

A key insight from the implementation of Fiteo is that enabling structures matter as much as financing. **Simply offering capital does not guarantee investment.** Companies need practical support to navigate technical and administrative complexity and to access diverse funding sources.

Several lessons from Fiteo worth considering to enable similar approaches:

- √ **A trusted intermediary unlocks value:** Regional Energy Agencies with a public mandate and technical capacity can bridge the gap between public incentives, private capital and company needs.
- √ **Combine technical and financial support:** Projects often stall due to uncertainty and complexity rather than cost alone. Integrating engineering expertise with financial structuring is essential to move from ideas to implementation.
- √ **Build flexibility into project structures:** Each company's situation is unique. Tailored financing arrangements and adaptable support frameworks are key to success.
- √ **Simplify regulatory and administrative requirements:** Streamlined procedures at national and EU level would make replication faster and more cost-effective.

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SATYS X FITEO: DECARBONISATION AS A COMPETITIVENESS STRATEGY

The collaboration between Fiteo and SATYS demonstrates how regional third-party financing and de-risking can translate European energy and climate objectives into concrete industrial investments. SATYS, a French aeronautics subcontractor specialised in the external coating of aircraft, needed to improve the energy performance of several industrial sites while maintaining its competitiveness in a highly demanding supply chain. Through Fiteo, AREC Occitanie provided the structured support required to make this transition possible.

The partnership began in 2022 with a first series of projects on SATYS sites in Toulouse, Le Bourget and Châteauroux. Fiteo financed € 1.7 million of practical energy efficiency measures, including high-efficiency lighting upgrades and targeted technical improvements. These investments are already delivering around 3,500 megawatt hours of energy savings every year, directly contributing to EU energy efficiency and decarbonisation objectives while reducing operating costs for the company.

For SATYS, decarbonisation has become a strategic requirement. Major aerospace clients, including Airbus, increasingly expect their suppliers to demonstrate measurable progress on emissions reduction and energy performance. The ability to meet these expectations is now a decisive factor in securing contracts and remaining competitive.

Fiteo combined public subsidies, bank debt and complementary mechanisms into a single coherent package, allowing projects to be implemented without any upfront expenditure by the beneficiary. This aggregation of partners and resources shows how Regional Energy Agencies are particularly fit to de-risk investments, mobilise private capital and unlock projects that standard financing channels struggle to address.

Building on the success of the initial projects, a new decarbonisation programme of around € 2.5 million is now being developed on a SATYS site near Marseille. Although outside Occitanie, AREC Occitanie is supporting this project because strengthening the overall performance of a strategic industrial actor ultimately benefits the regional and European value chain. This capacity to follow companies across sites and regions is key in the strategic capacity of Fiteo.
The SATYS case confirms that targeted public facilitation is an essential lever to acceleration industrial decarbonisation. It shows how Energy Agencies can help companies meet rising energy and climate expectations, strengthen their competitiveness and contribute in accelerating the clean energy transition in Europe.

STRENGTHENING THE BASQUE INDUSTRIAL TRANSITION: THE ENERGY INTELLIGENCE CENTRE

Basque Country Energy Agency – Basque Country, Spain

The Basque Country has built a very strong industrial and technological ecosystem, supported by a mature network of clusters, research centres and advanced manufacturing companies, as well as a long-standing culture of public–private collaboration. This ecosystem is particularly effective in electrification technologies, materials, engineering and offshore renewables, giving the region a solid foundation for the electricity vector of the energy transition. However, on the renewable fuels side, a coordinating structure was needed.

Filling the Strategic Gap: The Role of the Energy Intelligence Center

The **Energy Intelligence Centre (EIC)** fills this gap by providing the strategic alignment and support needed to keep our dual strategy competitive: electrification and renewable fuels.

The EIC was formally presented at the end of 2024. It is a public–private foundation that institutionalises co-decision between industry and public authorities, with the purpose of promoting and leading the energy transition while preserving the competitiveness of Basque industry and positioning the region as an international reference in low-carbon technologies.

The EIC brings together the actors best placed to develop and deploy renewable fuel technologies: Petronor (the Basque refining and industrial company within the Repsol Group), the Energy Advanced Engineering Foundation (AMPO, TUBACEX, Vicinay Marine and Tubos Reunidos Group), the Basque Hydrogen Corridor (BH2C), Nortegas (the main gas distribution operator in northern Spain), the **Basque Energy Agency (EVE)**, and the Diputación Foral de Bizkaia (the regional government responsible for industrial development and territorial strategy in Bizkaia). This Board composition ensures representation across the full industrial and energy value chain.

© EVE

The public side (Diputación Foral de Bizkaia and EVE) ensures alignment with policy, planning and territorial priorities, while industry partners steer technological and deployment decisions from both the supply and demand perspectives.

A Hub for Advanced Energy Manufacturing and Innovation

The centre is designed to serve as a hub for advanced energy manufacturing, carrying out applied R&D, developing technology projects directly with industry, and attracting initiatives that strengthen the Basque industrial and energy ecosystem. Its strategic focus includes renewable hydrogen, synthetic and biobased fuels, components for advanced energy systems and technologies for hard to abate industrial sectors, ensuring that Basque companies maintain technological leadership throughout the transition. In practice, this means aligning innovation with industrial needs and building the capabilities required for the next generation of low-carbon technologies.

The model is framed around three pillars of decarbonisation: the ability to produce low carbon hydrogen at scale and at competitive cost; the deployment of transport infrastructure that efficiently connects supply and demand; and the development of synergies that use oxygen and CO_2 to optimise industrial processes and enable the creation of new products.

ABOUT THE BASQUE COUNTRY

Emissions in the Basque Country are geographically concentrated in a limited number of industrial hubs, creating a unique opportunity: by decarbonising where emissions are highest, delivery can be rapid, high impact reductions at scale.

This has led the Basque regional government to adopt an ambitious energy and climate law that sets clear 2030 targets: achieving 32% renewable energy in final consumption and reducing overall demand by 12%.

The recently approved Industry Plan 2030 reinforces this vision, seeing the energy transition not as a constraint, but as a driver of competitiveness, technological renewal, and strategic autonomy.

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SMENERGY: EMPOWERING SMES TO LEAD THE ENERGY TRANSITION IN THE DANUBE REGION

Local Energy Agency Spodnje Podravje - Spodnje Podravje, Slovenia

SMEnergy is showing that small and medium-sized enterprises can play a decisive role in Europe's energy transition when provided with the right kind of support. Launched in 2023 under the Interreg Danube Region Programme, the project developed and piloted an integrated model that helps SMEs plan and implement concrete energy transition measures.

By combining local One-Stop Shop services with transnational digital tools, SMEnergy is closing a persistent gap in SME decarbonisation: the ability to make informed, confident, and well supported investment decisions. The partnership is led by the **Local Energy Agency Spodnje Podravje (LEASP)**.

© SMEnergy project

Consortium meeting of the SMEnergy project in Liberec, Czech Republic

A regional challenge requiring tailored support

Energy intensive SMEs across the Danube region face rising costs, tightening regulations, and pressure to decarbonise, yet many lack the knowledge, capacity, or trusted guidance to act. Fragmented advisory services, limited expert access, and uncertainty around funding have long hindered progress.

By recognising this structural market failure, SMEnergy offers a publicly anchored model designed to ensure neutrality, reduce transaction costs, and strengthen regional economies.

At the core are GEKOS hubs, **regional One-Stop Shops providing tailored mentoring, audits, workshops, and Energy Transition Roadmaps** that translate diagnostics into prioritised investment plans. Across the consortium, partners, including LEASP in Slovenia, have piloted this approach with direct SME engagement: assessing current energy use, identifying savings potential, and preparing recommendations from soft measures to investments such as PV and e-mobility. The hubs are complemented by the SMEnergy digital platform with tools, knowledge resources, and a cross-border Green Energy Database and Marketplace.

Driving measurable results for SMEs

Pilot activities have already delivered significant results. More than **70 energy intensive SMEs have been engaged** across eight countries, with **52 completing structured roadmap processes**. Suggested measures range from low cost behavioural improvements achieving around 5% savings to deep investments capable of reducing energy use or costs by up to 70%.

In Spodnje Podravje, LEASP's pilot showed how personalised mentoring helps SMEs move from assessment to action, planning PV installations, preparing funding applications, or commissioning feasibility studies. As Tea O. Potočnik, Project Manager and EU Project Coordinator at LEA Spodnje Podravje, notes: "*The SMEnergy project demonstrates that SMEs are willing to engage in the energy transition when support is practical, trusted, and tailored to their real capacities. The combination of digital and local advisory services proved essential for turning interest into concrete investment plans.*"

These outcomes translate into real world benefits: lower energy costs, improved competitiveness, easier navigation of funding, increased demand for local service providers, and direct contributions to emission reductions and energy security. Anchoring services in trusted institutions ensures neutrality, supports long term uptake, and aligns SME action with national climate goals.

Looking ahead: ensuring long-term impact

Running until June 2026, partners are embedding GEKOS hubs and the digital platform into regional structures, developing follow up proposals to ensure continuity, and refining tools based on pilot feedback, including insights from Spodnje Podravje. A key policy message is emerging: **One-Stop Shop models like GEKOS should be recognised as essential public infrastructure for SME decarbonisation**, requiring stable institutional support to maximise climate and economic benefits.

With a proven model, strong institutional anchoring, and practical results on the ground, SMEnergy is helping SMEs turn decarbonisation intent into competitive, lasting change across the Danube region.

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GRID CAPACITY & FLEXIBILITY

As Europe's energy system becomes increasingly decentralised and electrified, flexibility is emerging as a decisive condition for successful renewable integration. Variations in production and consumption, local congestion and temporal mismatches between supply and demand require new ways of managing the system. Storage, demand-side flexibility and coordinated grid planning allow energy systems to adapt dynamically, reduce curtailment and make better use of existing infrastructure.

Local and regional Energy Agencies contribute directly to making flexibility and storage operational on the ground. They support public authorities in identifying flexibility needs, developing local storage and demand-response projects, and aligning investments with territorial energy strategies. Energy Agencies also facilitate cooperation between system operators, municipalities, businesses and citizens, helping to unlock local flexibility potential.

EDITO

EUROPE'S GRID BACKBONE NEEDS STRONG DELIVERY MUSCLES

By Raúl GARCÍA BRINK

FEDARENE Vice-President for Grid Capacity and Flexibility, Environment, Climate, Energy & Knowledge Counsellor at Cabildo de Gran Canaria (ES)

Electricity grid infrastructure is increasingly recognised as the backbone of Europe's energy system, but also of its economy, competitiveness and security. Without modern, resilient and flexible grids, Europe cannot deliver affordable energy, scale up renewable energy, electrify industry or reduce its dependence on imported fossil fuels. The EU Grids Package reflects a long-awaited shift in perspective, finally treating grids as a strategic priority. Significant political attention and financial resources are now being mobilised at European level to enable the upgrade of Europe's electricity networks and support the energy transition.

Yet investment alone will not deliver the grid infrastructure Europe needs, nor will it guarantee delivery at the required speed and efficiency. Grid development is not solely a technical exercise. It is a systemic challenge that requires coordination across governance levels, alignment with territorial energy planning and strong public acceptance. Grid infrastructure must evolve in parallel with renewable deployment, storage, electrification and flexibility, while responding to the realities of local energy systems. This requires actors that understand the grid as part of a broader energy ecosystem and can act across institutional and sectoral boundaries.

The Grids Package recognises the essential role of independent facilitators in ensuring the delivery and public acceptance of Europe's renewable energy and grid infrastructure. Energy Agencies are uniquely positioned to fulfil this role. As trusted and independent actors with a public mandate, regional and local Energy Agencies combine territorial expertise, technical capacity and a holistic understanding of local energy systems. They support planning and modelling, facilitate dialogue between stakeholders and embed grid investments within wider regional strategies. Their proximity to citizens, municipalities, SMEs and industries enables them to anticipate bottlenecks, address concerns early on and strengthen public acceptance, all of which are essential to accelerate grid deployment.

Permitting remains one of the most significant barriers to grid deployment. While efforts to streamline procedures are necessary, faster timelines alone will not be sufficient. Grid investments require transparent, predictable and user-friendly processes that reduce administrative complexity and clarify responsibilities.

Local and regional Energy Agencies are well placed to act as One-Stop Shops for grid-related permitting, supporting project developers, coordinating stakeholders and guiding projects through complex regulatory frameworks. By doing so, they can significantly accelerate investments in grids, storage and renewable energy infrastructure.

Islands provide particularly valuable lessons in this respect. In territories such as Gran Canaria, grid planning has long been approached in an integrated manner, combining grid reinforcement with storage, flexibility, digitalisation and community engagement. Limited interconnection and high vulnerability to disruptions have made it clear that grids cannot be planned as standalone assets. Energy Agencies on islands have played a central role in coordinating stakeholders, ensuring that grid investments deliver security of supply, affordability and public support. Initiatives like for instance the "100% Sustainable La Gomera" programme illustrate how digital tools can connect generation, storage, demand and system operation into a single, coherent framework, allowing grids to be actively managed rather than passively reinforced.

As Europe seeks to strengthen its competitiveness and energy autonomy, grid infrastructure stands out as one of the decisive investments of the coming decade. Failing to deliver these investments at speed and scale would undermine Europe's industrial strategy and energy security. Empowering local and regional Energy Agencies to fully contribute to planning, permitting and flexibility is therefore not optional, but essential to deliver the integrated, resilient and citizen-centred grids that Europe urgently needs.

SALTO DE CHIRA PUMPED STORAGE HYDRO PLANT: A SYSTEM LEVEL SOLUTION TO AVOID CURTAILMENT IN GRAN CANARIA

Gran Canaria Island Energy Council – Gran Canaria, Spain

Gran Canaria is facing structural curtailment and grid saturation due to rapid growth in solar and wind generation. Between January and May 2025, renewable curtailment reached 19%, with peak months exceeding 24%. At the same time, 61% of the island's substations report zero available connection capacity.

These constraints limit citizen-led and private projects and weaken investor confidence, highlighting the urgency for a large scale flexibility solution.

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The strategic role of Salto de Chira

The Salto de Chira pumped storage hydro plant, developed and operated by Red Eléctrica de España (REE) together with the **Gran Canaria Island Energy Council (CIEGC),** is the island's flagship flexibility and storage project. It is designed to absorb surplus renewable production and deliver essential system stability in an isolated grid.

Construction began in February 2022, and the plant is expected to be operational in 2027. With 200 MW of power and 16 hours of storage, it will become the **first large-scale energy storage facility in the Canary Islands.** The project received € 90 million from the European Regional Development Fund (ERDF) and will be connected to the 220/66 kV Santa Águeda substation through a 20 km, 220 kV transmission line.

Pumped hydro provides over 90% of global long duration storage capacity, making Salto de Chira a mature, reliable and proven solution. By enabling a 37% increase in renewable penetration, the project will **substantially reduce curtailment and cut annual CO_2 emissions by around 20%.**

The system uses the existing Chira and Soria reservoirs, linked by an underground hydraulic circuit. The Soria reservoir acts as the lower basin, while Chira serves as the upper one. Surplus solar and wind energy pumps water uphill for later release through turbines when renewable output drops or demand rises.

Main system benefits

- **Higher renewable penetration:** Energy storage will allow solar and wind generation to increase by 51% to 70%, eliminating most curtailment events.
- **Avoided curtailment and improved investor confidence:** Around 20% of renewable energy currently lost due to grid constraints will be recovered.
- **Grid stability and security of supply:** The plant will provide inertia, voltage support and frequency regulation, critical services for an isolated, non-interconnected system.
- **Integration into the Eco Island vision:** Salto de Chira supports broader goals for energy sovereignty, local industry development and climate resilience.

Technical and environmental improvements

Following CIEGC's interventions, the final design incorporates major enhancements compared with the original 2012 proposal. These include extensive **underground construction**, tunnels, a cavern for hydraulic equipment and buried sections of transmission lines, to minimise visual and landscape impact. A larger **desalination plant** ensures sufficient water for pumping operations and provides surplus for agricultural use. Additional measures include **ecological restoration**, the removal of invasive species, and optimised access and tunnel designs to **reduce surface disturbance**.

Adaptation, environmental restoration, and social dimension

Salto de Chira is not only a major mitigation project through long-duration energy storage; it is also a significant adaptation measure for the island. The system will provide 1 000 000 m^3 of surplus water to **support agriculture, wildfire prevention, reforestation and drought resilience.** At the same time, the project is enabling the largest **environmental restoration programme** currently underway in the Canary Islands, replacing invasive species with 14 endemic plant species characteristics of the island's ravines. This ecological restoration is irrigated using reclaimed water from neighbouring districts, reinforcing a circular and resource-efficient approach.

The initiative includes **strong social and economic components.** Two community coordinators ensure ongoing dialogue with local residents during construction, helping to minimise disruption. Economically, the project is expected to **create around 3 500 green jobs** and generate approximately **€ 122 million in annual savings** for the island's electricity system.

CIEGC - Consejo Insular de la Energía de Gran Canaria

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FLEXIBILITY AS A COMPETITIVE ADVANTAGE. TROLLHÄTTAN'S MODEL FOR THE ENERGY SYSTEM OF THE FUTURE

West Sweden Energy Agency – West Sweden

As electricity demand continues to rise across Europe, cities and regions are under growing pressure to accommodate industrial transformation, electrification of transport, new housing developments and economic growth, often without the possibility of rapid grid expansion. In Trollhättan, southern Sweden, a real-life experiment shows that flexibility can be a powerful alternative.

In a dynamic industrial area of the city, a Living Lab brings together businesses, property owners, energy actors and researchers to explore how local energy systems can operate more intelligently.

Coordinated by local and regional partners, including **Energikontor Väst**, the **Energy Agency of West Sweden**, hosted within Innovatum Science Park, together with **Trollhättan Energi**, and supported at regional level, the initiative shows how peak electricity demand can be significantly reduced without compromising operations, electrification or growth.

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Testing flexibility in real-world conditions

Living Lab Trollhättan is located in the Kardanvägen area, which on a typical day hosts around 5 000 people, 3 000 vehicles and more than 700 parking spaces. The area has an annual electricity demand of approximately 40 GWh, with peak loads reaching up to 10 MW, a clear illustration of the pressure placed on local grids.

By monitoring and actively managing electricity use during critical periods, mainly on weekday mornings, the project achieved double-digit reductions in peak demand. This freed up capacity for additional electric vehicles, charging points and industrial activities, all without exceeding existing grid limits.

"*This is flexibility in practice. It's not about switching off electricity, but about using it more intelligently, when it's really needed,*" says Magnus Kuschel, Innovation Leader at Energikontor Väst.

Optimising the system, not individual assets

A key feature of the Living Lab is its scale and diversity. Rather than focusing on single buildings or installations, flexibility is tested at area level, combining factories, housing and services.

More than 1 500 smart sensors collect real-time data from machines, buildings, vehicles and EV chargers. Each asset has its own load profile, but together they form a collective demand pattern that determines grid stress. By optimising the system as a whole, several megawatts of capacity can be released without investing in new infrastructure.

"*Testing practical solutions for a flexible industry of the future enables more than transition; it creates conditions for growth,*" says Lars Borgström, Business Developer at Assemblin El.

Collaboration as a precondition for electrification

The project underlines that technology alone is not enough. Human collaboration, new working methods and capacity building are equally important. Living Lab Trollhättan acts as a learning environment, helping companies and organisations understand data management, visualisation and agile energy control.

"*We show that electrification and fossil-free solutions are possible through smart control and co-development, rather than new power lines,*" emphasises Jenny Andersson, Project Manager at Trollhättan Energi.

A model with wider relevance

Living Lab Trollhättan is part of the project **Fyrbodal for Future Flex**, funded by the Swedish Energy Agency and driven by Trollhättan Energi, Innovatum Science Park, Kraftstaden, University West, Fyrbodal Association of Local Authorities, and local partners.

The ambition goes beyond Trollhättan itself: the project aims to demonstrate how local, smart power control can reduce the need for costly grid expansion while enabling large-scale electrification. By combining digital solutions with strong local cooperation, the Living Lab offers a replicable model for other cities and regions facing similar challenges.

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SUSTAINABLE HEATING AND COOLING

Decarbonising heating and cooling is as much a governance and coordination challenge as it is a technological one. Aligning building renovation, grid development, local heat sources and infrastructure investments requires structured territorial planning and long-term implementation capacity. The transition cannot rely on isolated measures. It depends on coherent local roadmaps that connect energy, spatial planning and public investment decisions over time.

Local and regional Energy Agencies enable this coordination in practice. They support municipalities in structuring heating and cooling plans, sequencing investments and aligning infrastructure development with building renovation strategies.

Acting as neutral facilitators, they bring together utilities, public authorities, housing providers and financial actors to design integrated and financially viable programmes. Local and regional Energy Agencies also help clarify roles, streamline procedures and reduce administrative fragmentation. By ensuring continuity between planning, financing and implementation, they transform heating and cooling strategies into operational frameworks that can be replicated and scaled across territories.

SUSTAINABLE HEATING AND COOLING: FROM EUROPEAN AMBITION TO REGIONAL DELIVERY

By Alfonso ARROYO GONZALEZ

FEDARENE Vice-President for Renewable Heating and Cooling
General Director for Energy and Mining of the Regional Government of Castilla y León and EREN's Director (ES)

Reaching Europe's 2030 climate and energy targets will be extremely challenging without a fundamental transformation of how buildings are heated and cooled. Heating and cooling account for around 50% of the EU's final energy consumption. This alone makes the upcoming EU Heating and Cooling Strategy a cornerstone for delivering the Energy Efficiency and Renewable Energy Directives and the EU's broader climate objectives.

Despite its importance, progress remains too slow. While the share of renewables in heating and cooling reached 26.7% in 2024, growth is uneven across countries and within their regions, and is still insufficient to meet 2030 targets. Bridging this gap requires policies that are not only ambitious but also firmly anchored in territorial realities and capable of delivering results on the ground.

This is where local and regional Energy Agencies play a decisive role. Embedded at local and regional levels, they combine technical expertise, long-term vision and trusted relationships with public authorities, businesses and citizens.

Experiences from the Walloon region, Friuli Venezia Giulia Energy Agency (APE FVG) and the Castilla y León Regional Energy Agency and Public Company (EREN and SOMACyL) show that when local and regional authorities and their Energy Agencies are fully integrated into the design, planning and implementation of heating and cooling policies, regions are better equipped to unlock their potential and move from strategy to action.

A clear lesson from these experiences is that data is a critical enabler. Mapping, segmenting and characterising local heat demand, renewable heat sources, surplus heat and proper equipment and services suppliers are essential for informed planning and sound investment decisions.

Local and regional Energy Agencies need reliable access to this data and a comprehensive, integrated perspective to translate strategic objectives into concrete, bankable projects.

On the other hand, they are ideally placed to analyse these information, converting them into operational investment plans aligned with regional development strategies, citizens and companies' interests.

In broad terms, several challenges still need to be addressed to accelerate the deployment of decarbonised heating and cooling solutions, in particular to:

- **Systematically integrate waste heat recovery at scale.** This resource alone could cover a significant share of Europe's heat demand if properly identified, mapped and utilised, yet it remains largely underexploited.
- **Expand the deployment of geothermal energy.** Despite its ability to provide secure, renewable baseload heating and cooling, geothermal energy remains significantly underused. The European Commission estimates that, under the right market and policy conditions, it could meet up to 25% of the EU's heat demand. Unlocking this potential will require stronger efforts to de-risk investments, streamline permitting procedures and provide long-term policy certainty.
- **Support the development of biomethane and renewable hydrogen** to decarbonise gas networks that continue to supply heating to many households and businesses.
- **Fully harness the potential of increasingly efficient heat pumps**, which can deliver both heating and cooling. Their deployment is particularly relevant as electricity generation becomes progressively more renewable, especially when combined with renewable self-consumption systems.
- **Prioritise collective and district solutions**, alongside the wider deployment of both short- and long-term thermal storage systems to enhance system flexibility and efficiency.

Fuel switching is unavoidable. At local level, this calls for the smart design of **cost-effective and results-oriented incentive frameworks** that clearly favour efficient, renewable-based solutions over inefficient fossil heating technologies.

With empowered local and regional Energy Agencies, robust data and targeted investment frameworks, Europe can turn its heating and cooling transition into a driver of resilience, competitiveness and climate neutrality.

INTEGRATING LOCAL RESOURCES FOR ENERGY INDEPENDENCE: GEMONA DEL FRIULI'S BIOMASS DISTRICT HEATING PROJECT

Friuli-Venezia Giulia Energy Agency - Friuli-Venezia Giulia, Italy

Gemona del Friuli is demonstrating how mountain territories can harness local resources, integrate innovative technologies, and steer energy independence. Through the advancement of its biomass district heating plant, the municipality is securing infrastructure that converts forestry resources and waste heat from a nearby crematorium into sustainable energy.

As a flagship action of the Green Communities initiative, funded under the National Recovery and Resilience Plan, the project shows how short supply chains can support decarbonisation and prepare the ground for a future thermal Energy Community.

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From local challenges to an integrated heating solution

Launched in 2023, the project responds to the need to decarbonise heat supply demand in public buildings. It also addresses the fragmentation of private forestry surfaces in a region where forest cover has more than doubled since the 1950s. The chosen solution combines a district heating network fuelled by local wood biomass with an innovative waste heat recovery system, now delivering renewable heat to key public users and stimulating local economic activity.

Building an integrated, future-proof system

The Gemonese Mountain Community, which if formed of six municipalities, and the Municipality of Gemona del Friuli manage the institutional and administrative framework, while the **Friuli Venezia Giulia Energy Agency (APE FVG)** plays a decisive technical role through the **QM Holzheizwerke** certification process, ensuring high-quality planning, monitoring, and system performance.

Fully publicly funded, the project represents approximately **€ 3.5 million**, including **€ 2 216 051,42** from the National Recovery and Resilience Plan and **€ 1 326 833,46** from regional grants, with additional support from Entrain (Interreg Central Europe) and ConnectHeat (LIFE).

The plant includes **two 450 kW** biomass boilers, a heat recovery system estimated to supply **1 500 MWh/year**, and **45 m³** of thermal storage that covers summer base loads with recovered heat. The network currently delivers around **1 650 MWh/year** to public buildings, enabling a **100% conversion from fossil fuels**, specifically natural gas, to renewable energy.

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Results and impact: energy, environment, community

The transition to renewable heat yields **1 056 MWh/year** of primary energy savings and avoids **270 tons of CO_2 equivalent/year** from methane replacement, plus an additional **366 tons** through avoided electricity consumption and enhanced heat recovery. Benefiting facilities include the Palazzetto dello Sport, Piscina Atlantis, Palestra GemonAtletica, two school gyms, and a middle school, all receiving lower, stable prices through a non-profit model.

To reinforce energy independence, partners are developing a short, certified woodchip supply chain via a future **Forestry Community**, which will aggregate forest owners, create stable local jobs, and improve forest management.

Prepared for expansion and community governance

The network has been strategically oversized to **1,5-1,8 MW**, enabling future private connections and the possible installation of an additional **450 kW** boiler. The next phases foresee the creation of a **Thermal Renewable Energy Community** paired with a Production/Forestry Community and long-term contracts.

A replicable model for mountain regions

The Gemona model is highly replicable thanks to three structural elements:

- **QM Holzheizwerke** to ensure robust planning, accurate sizing, and long-term bankability.
- **Community governance**, combining a Forestry Community for biomass production with a Consumption Community, which together share decision-making.
- **Infrastructure oversizing**, enabling phased growth even under tight funding timelines.

By integrating local resources and planning for future flexibility, Gemona del Friuli offers a practical, scalable pathway for mountain territories seeking energy independence through sustainable heating.

APE FVG - Agenzia per l'energia del Friuli-Venezia Giulia

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UPPER AUSTRIA: OVER 70% HEATING FROM RENEWABLES AND WASTE HEAT

OÖ Energiesparverband – Upper Austria

Upper Austria has established itself as one of Europe's frontrunners in the decarbonisation of heating and cooling. In a highly industrialised region of 1.5 million inhabitants, over 70% of space heating already comes from renewables and waste heat, while greenhouse gas emissions from buildings have fallen by more than 30% over the past decade. This transformation did not happen overnight: It is the result of more than 30 years of consistent regional policy, strategic market development and citizen engagement, driven by the regional Energy Agency, **OÖ Energiesparverband (ESV)**.

At the core of this success lies a simple but powerful principle: energy efficiency and renewable heating must progress together. In Upper Austria, roughly half of the emissions reductions achieved in buildings come from improved efficiency, and the other half from renewable heat, a balance that has proven both technically effective and socially acceptable.

© OÖ Energiesparverband

A diversified renewable heating mix, rooted in local strengths

Upper Austria's heating transition stands on three complementary pillars: clean bioenergy, heat pumps, and district heating based on bioenergy and waste heat. Bioenergy plays a particularly central role. Today, 15% of the region's primary energy comes from sustainable biomass, and 35% of all dwellings are heated with modern bioenergy systems.

More than 350 bioenergy district heating networks operate across the region, most of them owned by cooperatives of farmers and forest owners, generating local income and jobs.

This strong market position is underpinned by a thriving industrial ecosystem. Upper Austria is home to leading biomass boiler manufacturers, accounting for over 25% of all modern small-scale biomass boilers installed in the EU. Through the Cleantech-Cluster, managed by ESV, around 250 partner companies active in energy and environmental technologies cooperate across the value chain, from technology providers and installers to ESCOs and construction companies, supporting innovation, skills development, and market uptake.

Turning strategy into action: carrots, sticks, tambourines and skateboards

Upper Austria's approach is often summarised as a combination of **"carrots, sticks, tambourines and skateboards"**: financial incentives, regulation, information, and innovation support. Investment grants support renewable heating, with up to 100% funding for low-income households. At the same time, strict emissions and efficiency standards ensure that only high-performance technologies enter the market. Oil and gas heating have been banned in new buildings since 2019.

Information and activation complete the picture. Every year, ESV delivers **around 20,000 energy advice sessions**, alongside training programmes, outreach campaigns and targeted communication. Innovation and market development, the "skateboard", are addressed through structured support to companies and installers, ensuring that policy ambition is matched by real-world delivery capacity.

A flagship example is **AdieuÖl** ("Goodbye oil"), a large-scale campaign launched in 2019 to accelerate the replacement of oil and gas boilers. Rather than focusing on climate arguments, it addressed late adopters with messages around convenience, modernity and simplicity. The result: **more than 21 000 oil boilers replaced in the last two years.**

From regional leadership to European inspiration

Upper Austria's experience shows that decarbonising heating and cooling is not about a single technology or instrument, but about building coherent policy packages, strong local markets and trusted advisory structures over time.

As Christiane Egger, Deputy Manager of OÖ Energiesparverband, puts it: "*Successful heating transitions depend on good narratives, clear market segmentation and close cooperation with installers and businesses. People need to see tangible benefits, economic, social and practical, if we want change to happen at scale.*"

With rising ambitions under EU climate and energy legislation, Upper Austria shows how climate action, energy security, industrial leadership and social acceptance for the energy transition go hand in hand.

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DEPLOYING GEOTHERMAL ENERGY IN WALLONIA: A CROSS-SECTORAL APPROACH

Wallonia Region – Wallonia, Belgium

Despite strong potential, geothermal energy remained largely underdeveloped in Wallonia for many years. High upfront investment costs, regulatory complexity and limited market maturity hindered deployment across sectors. To address these barriers, the Walloon Region chose to actively structure the geothermal sector, with a strong operational focus on **shallow geothermal energy** as a scalable and widely applicable solution.

Building the foundations: knowledge first

A key milestone was reached in 2019, when a study was conducted to evaluate the shallow geothermal potential in Wallonia.

The study demonstrated that **closed-loop shallow geothermal systems** could be deployed almost everywhere in the region, while **open-loop systems** showed strong potential in areas with suitable aquifers. This evidence-based approach significantly reduced uncertainty and provided a robust foundation for public intervention.

© Mundo Lab

Boosting projects across sectors

On this basis, the Walloon Region launched two calls for projects in 2021 and 2022 as part of its **Recovery and Resilience Plan**. With a combined budget of approximately **€ 31 million**, the calls supported projects along the entire value chain, from feasibility studies and drilling to heat pumps and heat distribution networks.

© Mundo Lab

Mundo enterprise building in Louvain-la-Neuve during and after the works.

In total, **34 shallow geothermal projects** were selected, spanning a wide range of sectors including healthcare, public facilities, real estate, tourism, industry and services. Most installations involve drilling depths below 200 metres and are designed to provide renewable heating and cooling tailored to local needs.

Active regional steering and project governance

A defining feature of the Walloon approach is the hands-on role assumed by the regional administration. Rather than limiting its involvement to funding allocation, the region acts as a programme manager throughout the project lifecycle. Feasibility studies are mandatory and validated before projects can proceed. Each subsequent phase, drilling, installation and commissioning, is subject to intermediate approvals. Once operational, projects must report production and performance data for five years, allowing the region to monitor results and build long-term knowledge. Project timelines were also adapted to account for public procurement constraints, with deadlines extended until 2028.

Early results across sectors

Several projects are already delivering tangible results. At the **Namur Regional Hospital Centre (CHR)**, a shallow geothermal system supplying the hospital's emergency department has been operational since August 2023, covering nearly all cooling needs through an open-loop installation.

"We extract groundwater just ten metres deep and use a heat pump to recover the energy needed to heat or cool the building. With the Walloon Region's subsidy, the payback period has been reduced from nine to just two years." Pierre Debruyne, Director of Infrastructure, Meuse Site, CHR Namur.

In the tertiary sector, the **Mundo enterprise building in Louvain-la-Neuve** has been fully supplied by a closed-loop geothermal system since November 2023. With twelve boreholes, the installation covers **100% of annual heating (27,2 MWh) and cooling (18,1 MWh) needs**, illustrating the suitability of shallow geothermal energy for office and service buildings.

Financing and regulation enablers

Financing remains a central challenge for geothermal deployment, as the high upfront investment requires dedicated support mechanisms to enable projects to move forward in both the public and private sectors.

"Considering the immaturity of the Walloon market, geothermal installations require significant upfront investment, even though operating costs are low and stable over time. Public support plays a crucial role in de-risking projects and enabling actors to expand forward." Sonya Chaoui, head of Renewable Energy, *Walloon Region administration*

Regulatory reform also proved decisive. For open-loop systems, permitting rules previously required complex environmental impact assessments for reinjection wells, despite the absence of pollution risks. By reclassifying these permits, the region significantly simplified procedures and improved conditions for investment.

A pragmatic pathway for regional shallow geothermal deployment

By combining geological knowledge, targeted investment, active public steering and regulatory reform, the Walloon Region has created a coherent framework for scaling up shallow geothermal energy.

While the programme focuses on shallow geothermal energy, Wallonia has also taken steps to structure **deep geothermal development**, with two project proposals currently under examination for a potential launch in 2026.

The approach illustrates how regions can move from untapped potential to concrete projects, while progressively preparing the ground for more advanced geothermal applications. These efforts have also contributed to **local economic development**, creating employment opportunities within Walloon engineering consultancies.

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SUSTAINABLE ISLANDS

Islands face some of the most demanding conditions of Europe's energy transition. Isolated energy systems, limited space, high energy costs and strong exposure to climate impacts leave little room for incremental change. These constraints have pushed islands to adopt integrated approaches that combine renewable energy, storage, flexibility, energy efficiency and demand-side management. As a result, islands have become strategic testing grounds for solutions that prioritise resilience, autonomy and security of supply, while ensuring public acceptance and local value creation.

Local and regional Energy Agencies play a central role in enabling this transformation. Across Europe's islands, they support integrated energy planning, coordinate stakeholders and translate innovation into operational solutions adapted to local realities. By acting as trusted intermediaries between public authorities, system operators and communities, they turn islands into living laboratories of sustainable energy systems, generating lessons that are increasingly relevant for the European mainland.

The EU's shift towards integrated approaches finds its proof on islands. With the support of local and regional Energy Agencies, they demonstrate how holistic energy and climate planning can deliver resilience, autonomy and public acceptance.

Savvas VLACHOS

FEDARENE Vice-President for
Smart and Sustainable Islands

THE TYLLIRIA ENERGY COMMUNITY: A MILESTONE FOR COMMUNITY-LED ENERGY IN CYPRUS

Cyprus Energy Agency – Cyprus

The **Tylliria Energy Community** has emerged as a flagship example of community-led energy action in Cyprus. Backed politically by national government, public-private funding and supported technically by the **Cyprus Energy Agency (CEA)**, it marks a decisive shift toward community-owned renewable energy systems. As an island with **isolated energy systems and high dependence on imported fuels**, Cyprus faces unique challenges in achieving energy security, making decentralised, community-based solutions especially impactful. A **€ 2.2 million public – private grant** allocated to the Tylliria region has enabled the establishment of the Energy Community and initiated the procedures for its first renewable energy projects.

A central component of this funding is the installation of **solar photovoltaic panels and energy storage systems across approximately 200 buildings**, a **€ 2.2 million** project will be delivered through a combination of public financing and private co-funding from donors such as OPAP. CEA has guided the **techno-economic assessments and site planning** that shape the rollout, ensuring the installations are technically and environmentally sound, financially viable, and sequenced effectively. Complementary national grant schemes will further strengthen the Energy Community's organisational capacity, equipping local actors to manage community owned renewable energy over the long term, a crucial asset on an island where **grid stability and energy resilience** are central concerns.

© Cyprus Energy Agency

A Community Owned Structure with Strong Local Participation

Formally established in **September** 2025 (and officially registered in November of the same year), the Tylliria Energy Community brings together the local councils of Kato Pyrgos, Pano Pyrgos, Pachyammos, Mosfili and Pigenia in a **not-for-profit organisation**. Its goals are to:

- Generate renewable energy locally through new renewable energy installations;
- Improve energy efficiency in homes and public buildings;
- Support sustainable mobility and climate resilience efforts;
- Reduce energy poverty through inclusive access and shared benefits.

Community engagement has been exceptionally strong: **more than 200 residents** have expressed interest, and **over 100 applications** for photovoltaic and storage systems were submitted during Phase A. Throughout this process, CEA has provided **day-to-day advisory guidance** to streamline governance, manage member recruitment, and coordinate public procurement, support that is particularly valuable for **remote island regions where technical expertise and resources are often concentrated in urban centres**.

CEA also brings national-level experience to the project. As Cyprus's coordinator for local climate and energy planning, the agency supports **286 municipalities** in developing joint strategies, expertise that strengthens Tylliria's ability to integrate local renewable energy action into broader island-wide sustainability efforts. Local leaders have praised CEA for helping turn a complex, pioneering initiative into a workable community project.

A Blueprint for Sustainable Islands

The Tylliria Energy Community illustrates how **public–private funding, local participation, and specialised-technical support** can reinforce one another to create a durable model for energy democracy. For islands like Cyprus, where **energy independence, resilience to external shocks, and local value retention** are critical, community-owned renewable energy offers a powerful pathway to sustainable development.

By combining strong citizen engagement with island-appropriate technologies such as distributed solar and local storage, Tylliria stands as a leading example of how sustainable islands can accelerate their energy transition while strengthening economic and social resilience. Its success offers a replicable model not only for other communities in Cyprus, but for **islands across Europe** seeking to build a more autonomous, climate-resilient energy future.

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TILOS: A PIONEER ISLAND IN ENERGY STORAGE AND ZERO-WASTE MANAGEMENT

DAFNI Network of Sustainable Greek Islands - Greece

The Greek Island of Tilos has become a leading European example of sustainable innovation. Once solely reliant on electricity produced at the thermal power plant on the neighbouring island of Kos, Tilos now operates **one of Europe's first hybrid renewable microgrids**, combining solar and wind generation, advanced battery storage, and smart grid management.

Since 2022, Tilos has been virtually a **zero-waste island** through the implementation of a circular approach to waste management focused on reusing, sorting and recycling.

© DAFNI

The Tilos hybrid energy station: solar, wind, and battery storage

At the core of the island's transition is its hybrid energy station, the first of its kind in Greece, developed under the **Horizon 2020 TILOS** project. The system integrates an **800 kW** wind turbine, a **160 kWp** solar PV field, an **800 kW / 2 800 kWh** battery storage system, and advanced smart-grid and demand-response management, including **smart meters, real-time forecasting** and **intelligent scheduling**.

Together with additional municipal PV capacity (**11 kW**) and new municipal solar (**49,7 kWp**) operating under the **virtual net-metering** scheme and expected to generate **~80 MWh annually**, Tilos can meet most of its electricity needs, reaching full renewable coverage during the low-demand winter months. The batteries store excess energy, stabilise fluctuations, and maintain supply even when the submarine cable to the **Kos–Kalymnos** grid is offline; surplus green energy can be exported to the regional grid.

Electrification of the municipal transport sector

As part of its transition, the Municipality allocated **€ 1 million** in national funds to procure **five electric vehicles (EVs)** for waste collection, general municipal services (repairs, technical works, etc.), and public transport, and installed **one fast charger** and **four wall-mounted EV charging points.**

Tilos just go zero: a circular approach

Through the **Just Go Zero** programme, the island reached **90% recovered materials** with no landfill and no public dustbin, **20% total waste reduction** and **30% plastic waste reduction.** Full at-source separation and door-to-door collection classify waste into four main streams: organic waste is composted into fertiliser; recyclables are sorted, packaged and sent for recycling; special waste currents (e.g., appliances and fabrics) are composted or upcycled for reuse; non-recyclables are processed for waste-to-energy conversion. This circular approach also created **10 permanent and seasonal jobs**.

Socioeconomic and environmental benefits

Energy security has improved significantly, with blackouts, once common under diesel-based systems, now largely eliminated. Economic resilience has increased through reduced dependence on volatile fuel markets. Modernised public infrastructure includes the EV fleet and charging network, smart street lighting, and energy-efficient municipal buildings. Sustainable tourism has grown, drawing visitors interested in low-impact travel. Community sensibilisation and engagement campaigns have ensured local buy-in, enabling residents and local authorities to actively participate in planning and decision-making.

Future pathways and ongoing innovation

Building on its pioneering achievements in renewable energy, green mobility and circular economy, Tilos, with DAFNI's active support, continues to advance its sustainability journey, participating in key European and national initiatives.

More specifically:

- Through **HiHELIOS** (*Demonstrating A High-Energy and High-Power Hybrid Battery Storage Solutions Platform for Multiple Grid Services*), a project funded by **Horizon Europe**, next-generation hybrid Battery Energy Storage Systems will be deployed from DAFNI in Tilos, increasing energy security, grid stability and flexibility, contributing to the island's full decarbonisation.
- Through **ISLET** (*Innovative Supporting Schemes for Community-Led Energy Transition)*, **co-funded** through the **EU LIFE** programme, Tilos receives support from DAFNI to establish a **Renewable Energy Community (REC)** with the participation of local businesses and citizens, spearheaded by the Municipality.
- In the frame of the **GReco Islands**, a national initiative promoting Greek islands as lighthouse sustainable destinations, Tilos is developing, with DAFNI's support, its holistic **Local Action Plan**. Tilos' vision is to further the island's innovation actions in the fields of clean energy and digital transition, water and waste management, while promoting sustainable entrepreneurship, but also securing affordable housing and social services for all.

Today, Tilos stands as a holistic model of community-driven sustainable destination and a blueprint for islands seeking to enhance circularity and move away from fossil fuel dependency.

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UNLOCKING SOLAR POTENTIAL WITHOUT LAND TAKE IN THE BALEARIC ISLANDS

Balearic Energy Institute – Balearic Islands, Spain

© IBE

Deploying renewable energy at scale is particularly challenging in island regions, where land availability is limited and environmental pressures are high. To address these constraints, the **Balearic Energy Institute (IBE)** has developed a complementary approach that combines **strategic planning tools** with **innovative photovoltaic (PV) deployment solutions**, enabling the Balearic Islands to significantly expand solar energy production without consuming additional land.

Mapping rooftop solar potential at territorial scale

A first cornerstone of this approach is the **Photovoltaic Atlas of the Balearic Islands**, an interactive and publicly accessible digital tool covering all islands of the Balearic Autonomous Community.

The Atlas allows users, including homeowners, building managers, municipalities, and installation professionals, to quickly assess the photovoltaic potential of rooftops and terraces.

For each building or property, the tool provides clear information on the maximum and optimal number of PV panels, estimated investment costs, expected annual savings, self-sufficiency rates and payback periods. By mapping rooftop solar potential across the entire territory, the Atlas enables photovoltaic deployment **without additional land consumption**.

The tool supports municipalities in planning local renewable energy strategies and helps private actors make informed investment decisions, lowering barriers to solar uptake at both individual and collective levels.

Expanding solar capacity through floating photovoltaics

Beyond rooftops, IBE has also implemented **floating photovoltaic plants on irrigation ponds**, further increasing solar capacity while preserving land and water resources. These installations make use of existing water infrastructure, avoiding competition with agriculture or natural habitats. Floating PV systems also reduce water evaporation from reservoirs and benefit from improved panel efficiency thanks to the cooling effect of the water surface.

Four floating PV plants are currently under construction in the irrigation ponds of Santa Maria del Camí, Consell and Ariany and Capdepera, with a combined installed capacity of 3.5 MW. Their electricity production will be equivalent to the **annual consumption of a municipality of around 4 000 inhabitants**. With a total investment of approximately **€ 5 million**, these installations are expected to reduce CO_2 emissions by around 2 800 tonnes per year, comparable to planting nearly 280 000 trees.

Scaling up integrated solar solutions on island territories

Building on these results, IBE plans to develop additional floating PV plants in **Inca, Artà, Ciutadella and Santa Eulàlia des Riu**, representing a further **5,2 MW** of installed capacity.

In Ciutadella, the project will also include a **pioneering direct-current battery storage system** with a capacity of **4 000 kWh**, strengthening grid flexibility and local energy resilience.

Together, the Photovoltaic Atlas and floating PV projects demonstrate how regional Energy Agencies can combine **data-driven planning** with **innovative deployment models** to accelerate renewable energy uptake. By maximising existing surfaces, rooftops and water reservoirs, the Balearic Energy Institute shows how island regions can advance the energy transition while addressing land-use constraints and reinforcing sustainable, resilient energy systems.

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ENERGY SUFFICIENCY

Energy sufficiency places people, practices and needs at the centre of the energy transition. Beyond technological efficiency gains, it addresses how energy is used, why it is consumed and how demand can be reduced without compromising quality of life. By tackling overconsumption and avoidable demand, sufficiency contributes to lowering emissions, reducing pressure on energy systems and improving social equity. Yet despite its relevance for affordability, health and climate objectives, sufficiency remains under-integrated in policy frameworks and planning processes.

Local and regional Energy Agencies play a key role in turning energy sufficiency into concrete action. Working closely with municipalities, citizens and local actors, they design and implement measures that promote behavioural change, shared solutions and demand reduction at community level. By embedding sufficiency into local energy and climate strategies, they help guarantee that everyone has enough energy to live well, while staying within planetary boundaries.

Smart individual choices are a system lever. Energy sufficiency turns behaviours into collective resilience and strengthens Europe’s energy independence.

Marie-Laure FALQUE MASSET

FEDARENE Vice-President
for Energy Sufficiency

OSCAR: GAMIFYING SUSTAINABLE SCHOOL MOBILITY IN BRAȘOV

Agency of Brașov for the Management of Energy and Environment – Brașov, Romania

OSCAR – Șarpele Hoinar ("Oscar the Wandering Snake") is an interactive school mobility campaign that encourages primary school children to adopt sustainable and active travel modes, walking, cycling, public transport, or car-pooling, when travelling to school. In Brașov, the campaign is coordinated by the **Agency of Brașov for the Management of Energy and Environment (ABMEE)**, which leads its local implementation in close cooperation with schools.

Like many European cities, Brașov experiences congestion and air pollution around schools during peak hours, driven by short car trips, safety concerns, and established family routines.

OSCAR addresses these challenges by promoting sustainable mobility habits from an early age and by making such behaviours visible, attractive, and easy to adopt within the school community.

In autumn 2025, the **10th edition of OSCAR** took place over two weeks (22 September–3 October) in Brașov, involving four schools and kindergartens, 31 classes, and 634 pupils. Through a playful and inclusive approach, the campaign transformed everyday school travel into a collective challenge with tangible local impact.

© ABMEE

Turning everyday travel into a fun challenge

The Brașov edition relied on a gamified format, where pupils earned points for each sustainable trip to school. Teachers and pupils tracked daily travel modes, while educational discussions addressed mobility, health, road safety, and environmental topics. Visual tools, such as banners and stickers, made progress visible to the entire school community and helped engage parents through their children's enthusiasm.

The campaign operated with a light governance model, coordinated by ABMEE in close cooperation with participating schools. Material costs were calculated per pupil and covered at a symbolic level by the schools, ensuring affordability, local ownership, and easy replicability. This simple, low-cost gamification model translates abstract climate objectives into concrete, everyday actions. By targeting children, the campaign indirectly influences family behaviour, creating a visible and lasting impact on the school environment.

Measurable change and lasting inspiration

OSCAR achieved notable outcomes in Brașov: pupils travelled **over 2 300 km using sustainable modes**, saving approximately 330 kg of CO_2 during the two-week period. Sustainable trips to school increased from 68% before the campaign to 76% during, and reached **79% after the campaign**, demonstrating behavioural change that extended beyond the campaign itself.

Beyond emissions reductions, the initiative contributed to calmer school surroundings, improved road safety, and increased physical activity among children. It also raised awareness of climate-friendly mobility among families and teachers, reinforcing the role of schools as entry points for wider behavioural change.

Building on these positive results, ABMEE plans to expand OSCAR to additional schools in Brașov and its metropolitan area, reinforcing its role as a recurring, long-term tool for sustainable school mobility.

From local action to national scale

OSCAR was originally launched as part of the European Traffic Snake Game Network (2014–2017), funded by the European Union's Horizon 2020 Programme. Following the end of the project, the campaign was continued at national level by Energy Cities Romania (OER), enabling its rollout in multiple Romanian cities.

Nationally, OSCAR has been implemented in 15 educational institutions across five Romanian cities, demonstrating its adaptability and replicability across different local contexts. Thanks to its flexible, low-cost design, the campaign can be easily integrated into Sustainable Urban Mobility Plans (SUMPs) and local climate strategies, linking local action with national and European mobility objectives.

ABMEE - Agenţia pentru Managementul Energiei şi Protecţia Mediului Braşov

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CIRCULAR ECONOMY

Moving from a linear to a circular economy is essential to reduce Europe's resource dependency, cut emissions and strengthen long-term resilience. By extending product life-cycles, reusing materials and minimising waste, circular approaches address the root causes of environmental degradation while supporting innovation, competitiveness and local value creation. Although the EU Circular Economy Action Plan sets a common framework, progress remains uneven, and delivery depends on the capacity to translate principles into practical solutions adapted to territorial realities.

Local and regional Energy Agencies play a key role in accelerating this transition on the ground.

Working with municipalities, businesses and citizens, they support the development of circular energy and resource systems, including biogas and bioenergy value chains, waste heat recovery and sustainable resource management. Energy Agencies facilitate cooperation across sectors, help design local strategies and guide behavioural change among consumers and economic actors.

By connecting stakeholders and embedding circularity into local energy and climate planning, they act as drivers of a more resource-efficient, climate-neutral and resilient European economy.

“Energy from the circular economy is home-grown energy. By turning local resources, waste and by-products into value, circular approaches reduce dependence on imports while strengthening Europe's resilience, competitiveness and local value chains.

John CARLEY

FEDARENE Vice-President
for Circular Economy

POGGI CARDUCCI SCHOOL: LIGURIA'S PILOT FOR CIRCULAR, SUSTAINABLE SCHOOL RECONSTRUCTION

Liguria Regional Energy Agency – Liguria, Italy

Sarzana's Poggi Carducci school in Liguria, Italy, consisted of three large reinforced concrete buildings from 1960, catering for 29 classes and around 700 children from elementary and middle school. By 2018, the site was outdated, extremely energy inefficient, and not earthquake resistant, but it also posed structural and environmental challenges that made renovation incompatible with circular economy principles. The buildings' materials, design and condition offered limited potential for meaningful reuse or upgrading, hindering the creation of a safe, modern and resource efficient learning environment.

The Municipality of Sarzana asked the **Regional Agency for Infrastructures, Urban Regeneration and Energy of Liguria (IRE)** to develop a feasibility study, which showed that renovating the existing buildings was not advisable from a cost–benefit standpoint. The analysis also demonstrated that attempting to retain or retrofit the structures would result in excessive use of new materials, inefficient energy performance, and long-term environmental burdens. This confirmed the need for a full reconstruction and created an opportunity to develop an exemplary circular economy pilot project for the entire Liguria Region.

© IRE Liguria

Circular design through demolition and rebuilding

IRE entrusted a group of professionals, headed by GPProject Srl, to develop a new project based on **demolishing the old structures and reconstructing modern buildings on the same footprint**, ensuring no additional land take. The reconstruction was designed as a circular process, with a strong focus on selective demolition, material recovery, and low-impact construction. The site was rebuilt in phases using dry prefabricated technology and integrated several key features:

- **Earth-quake resistant construction**, ensuring full seismic safety.
- **Circular and sustainable design**, prioritising certified eco-materials such as wood and thatch and **reusing all recoverable waste materials** from the demolished buildings.
- **Nearly Zero Energy Buildings (nZEB)** with high energy performance and integrated renewable energy sources, mainly photovoltaic systems.
- **Speed of execution**, thanks to prefabricated panels preassembled offsite.
- **Green infrastructure**, including rainwater collection for toilet use, woodland areas with tall trees, edible fruit trees, vegetable gardens, and nature-based noise barriers.
- **Urban regeneration**, with the creation of a cultural hub to revitalise the surrounding neighbourhood.

The project was financed through a mix of national and regional resources. The Liguria Region provided over 50% of the total budget, designating the intervention as a regional pilot for circular public school redevelopment. Additional funds came from the **national Recovery and Resilience Plan** (School Construction funds) and the Thermal Account for energy renovation of public buildings.

A new school that gives more than it takes

Construction works began in 2021 and were completed in 2025. Throughout the entire process, IRE acted as the central purchasing body and contracting authority, supporting the Municipality in planning, management, procurement, and implementation. IRE staff served as Procedure Managers in all phases.

Fully operational since September 2025, the new Poggi Carducci school site is now a modern, energy efficient, and safe learning environment for the local community. Its circular economy approach, including the strategic decision to demolish non-recoverable buildings, the reuse of construction materials, and the incorporation of renewable and nature-based solutions, significantly improves environmental performance and reduces waste. Beyond improving safety and energy performance, the project strengthens community well-being through new public green areas and a cultural hub that fosters social interaction and neighbourhood regeneration.

I.R.E. S.P.A. - Infrastrutture Recupero Energia Agenzia Regionale Ligure

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EMPOWERING SAAREMAA'S ENERGY TRANSITION: THE TAHULA BIOGAS PLANT

Estonian Islands Energy Agency – Estonian Islands, Estonia

A new biogas plant is set to open in spring 2026 in Tahula, on Estonia's largest island, Saaremaa. The facility will convert agricultural by-products into biomethane, electricity and heat, supporting the island's energy self-sufficiency while reducing reliance on imported fossil fuels.

The **Estonian Islands Energy Agency (EISEA)** has been closely involved throughout, guiding investment, technical planning, and community engagement to ensure the project delivers maximum local benefits.

© EISEA

Turning local resources into renewable energy

The plant will produce around **58 GWh of biomethane annually**, equivalent to roughly 5 300 tonnes of diesel, alongside 23,2 GWh of electricity and 23,2 GWh of heat. This will cover nearly 15% of Saaremaa's electricity needs and a quarter of its heating demand. Biomethane can be used across transport, industry, and district heating, demonstrating the potential of locally produced renewable fuel to meet multiple energy needs.

The total cost of the project is approximately **€ 14.5 million**. EISEA supported the developers in identifying funding sources, resulting in the Environmental Investment Centre allocating € 5 million to the project.

The process also generates digestate, a nutrient-rich by-product that can replace synthetic fertilisers, supporting sustainable agriculture. Excess heat and CO_2 captured during biomethane purification can be redirected to local industrial processes or used as a feedstock for carbon-based products, illustrating the plant's potential to contribute to a circular economy. EISEA worked with the project developers to identify these cross-utilisation opportunities and explore investor interest in scaling them.

Engaging the community

As with many infrastructure projects, the Tahula plant initially raised questions among residents about odours, groundwater safety, and technological risks. EISEA supported public information and engagement efforts, ensuring that local concerns were addressed with fact-based explanations and clear descriptions of mitigation measures. This helped foster trust, constructive dialogue, and informed decision-making within the community.

Creating a replicable model

The Tahula biogas plant demonstrates how integrated renewable energy solutions can deliver multiple benefits: clean fuel, electricity, heat, fertiliser, and CO_2 reuse, all while engaging stakeholders and supporting sustainable local development. By combining technical expertise, investment advisory and stakeholder facilitation, EISEA has helped transform the project from concept to a well-prepared, finance-ready initiative.

The plant stands as a best-practice example of energy transition on islands, showing how careful planning, local engagement, and circular approaches can maximise the impact of renewable energy projects. With the support of EISEA, Saaremaa is moving towards energy independence, cleaner energy use, and a more resilient, circular economy.

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SUSTAINABLE MOBILITY

Transforming Europe's transport system is essential to reduce emissions, cut fossil fuel dependence and improve air quality and quality of life. Transport accounts for more than one third of final energy consumption in the EU and remains heavily reliant on fossil fuels.

Delivering the EU's climate objectives, including the ambition to reduce transport emissions by 90% by 2050, requires an integrated approach that combines electrification, renewable fuels, efficiency and behavioural change across all modes of transport.

Local and regional Energy Agencies play a key role in making this transition happen on the ground.

Working with public authorities, businesses and citizens, they support the deployment of electric mobility infrastructure, promote renewable fuels and help integrate transport into wider energy and climate strategies. Energy Agencies also encourage modal shift and smarter mobility choices through awareness-raising, planning support and pilot projects.

By translating European objectives into practical, inclusive and territorially adapted solutions, they help ensure that sustainable mobility becomes accessible, efficient and affordable across Europe's regions and communities.

Decarbonising transport means creating the conditions for everyday mobility to change. Local and regional Energy Agencies help turn European ambition into inclusive, practical solutions that reduce emissions, cut fuel dependency and improve quality of life.

Christel LILJEGREN

FEDARENE Vice-President for Sustainable Mobility for Climate Neutral Regions

SUSTAINABLE BUSINESS TRAVEL: CUTTING EMISSIONS THROUGH CORPORATE MOBILITY IN SOUTHERN SWEDEN

Energy Agency Southern Sweden – South Sweden

Reducing emissions from business travel and daily commuting remains an underused lever in the transition towards climate-neutral regions. In southern Sweden, the nationally funded initiative **Hållbara företagsresor 2.0** (Sustainable Business Travel) demonstrates how structured engagement with companies can translate climate ambitions into concrete changes in everyday mobility.

Implemented between September 2021 and December 2024, the initiative involved **12 companies in Lund and Helsingborg** and was facilitated by the **Energy Agency of Southern Sweden (Energikontor Syd)**, in close cooperation with the municipalities of Lund and Helsingborg, the County Administrative Board of Skåne, and Lund University.

© Johanna Wallin, Energikontor Syd

Compared to the pre-pandemic baseline year of 2019, participating companies achieved a **38% reduction in CO_2 emissions** from business travel and commuting, delivering benefits for both climate performance and organisational efficiency.

From strategy to everyday practice

The initiative supported companies throughout their transition towards more sustainable mobility practices. Each participating organisation began with a workshop and tailored coaching to develop a company-specific action plan. These plans were revisited and refined through ongoing coaching sessions during the project period.

To ensure progress was measurable, companies received customised results from **three staff surveys**, covering business travel, commuting habits, remote working practices and employees' expectations regarding sustainable mobility support. The companies also met regularly through **network meetings in Lund and Helsingborg**, where they exchanged experiences, challenges and lessons learned. Webinars and knowledge-enhancing sessions complemented these meetings, providing practical insights on topics such as travel policies, digital meetings and low-carbon transport options.

Based on their specific contexts, companies implemented a wide range of measures. These included replacing company car fleets with electric vehicles, encouraging train travel instead of flights, introducing internal carbon fees for air travel, improving access to public transport passes, prioritising low-carbon travel options in booking systems, and relocating offices closer to public transport hubs. Several companies also invested in cycling infrastructure, charging facilities and campaigns to encourage more sustainable commuting.

Inspiring change through visible role models

A distinctive element of the initiative was the use of **employee ambassadors** selected for their existing sustainable travel habits. Acting as visible front figures within their organisations, they demonstrated that low-carbon mobility choices are realistic, rewarding and compatible with everyday working life.

Through storytelling and an inspirational short film produced within the initiative, ambassadors shared their own experiences and encouraged colleagues to try alternative ways of travelling. As one ambassador explains:

"The perceived obstacle is often greater than the real one. When I cycle part of my commute, I arrive more focused, I've already processed my workday on the way home, and I don't need to find extra time to exercise."

Another ambassador highlights the importance of patience and experimentation:

"Changing habits can feel difficult, so it helps to decide when to start and give it time. Try it for a month. You gain energy, save money, and it feels good knowing you're doing something positive for the environment."

By making sustainable mobility visible and relatable, ambassadors helped normalise new behaviours and strengthened peer-to-peer engagement within their organisations.

Measurable impact and wider benefits

Beyond the significant emissions reductions, participating companies reported additional benefits, including increased efficiency, improved employer branding and greater attractiveness for employees and customers who value sustainability.

By acting as a **neutral competence centre**, the Energy Agency of Southern Sweden successfully linked policy objectives with practical implementation at company level. The initiative shows how Regional Energy Agencies can support businesses in cutting emissions from mobility while reinforcing progress towards climate-neutral regions.

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INTEGRATED PLANNING

Delivering effective climate and energy action increasingly depends on the ability to move beyond siloed approaches. Energy, climate, spatial planning, transport and infrastructure decisions are deeply interconnected, and misalignment between them can slow down decarbonisation, increase costs and weaken resilience. Integrated planning provides the framework to align these policies, translate long-term objectives into coherent pathways, and ensure that climate and energy targets are embedded in territorial development choices.

Across Europe, they support municipalities and regions in developing and implementing integrated planning tools and in aligning them with wider spatial and infrastructure strategies. Energy Agencies facilitate coordination across departments and governance levels, bring together stakeholders, and translate complex data into place-based scenarios and investment priorities. By connecting energy, land use, mobility and urban development, they help ensure that climate and energy objectives are delivered efficiently, inclusively and in line with local realities.

FROM OUTDATED PLANS TO ACTION: TRANSFORMING ENERGY PLANNING IN ÖREBRO COUNTY

Örebro County Energy Agency – Örebro, Sweden

Supported by funding from the Swedish Energy Agency, the Örebro County Energy Agency and the County Administrative Board of Örebro have launched the **Integration of energy planning into spatial planning** to help municipalities strengthen the energy dimension of local planning.

Launched in December 2024 and running until December 2026, the initiative aims to build local capacity, increase expertise, and support the development of more sustainable and resilient energy systems.

The programme brings together municipalities and stakeholders from across the energy sector, including producers, distributors, and major users, to drive progress in energy efficiency, renewable energy, and grid capacity.

© GettyImages

Strengthening municipal capacity through collaboration

Information-sharing activities, peer-learning sessions, and **five multi-stakeholder workshops** have enabled municipalities to begin or significantly advance their energy planning processes. Four municipalities are now in the final stages of completing new energy plans, six have formally initiated their processes, and two additional municipalities have joined, meaning all **12 municipalities in the region are now involved**. This support has helped accelerate the adoption of statutory energy plans in a county where most municipalities have not actively worked with energy planning during the 21st century. The situation has shifted from only one municipality having an outdated plan to many now completing or developing new ones, marking substantial progress at the project's halfway point.

Clarifying the role of energy plans in municipal planning

A central challenge has been determining how municipal energy plans should address energy issues when municipalities have **limited authority** in this area. Communication has been more straightforward where municipalities own district heating companies, while privately owned providers require stronger knowledge-building and dialogue to deepen understanding of the wider energy system. Despite these differences, energy plans have proven valuable as a knowledge base that encourages dialogue, strengthens collaboration, and supports the comprehensive plan governing land use issues. A methodological guide based on lessons learned will be developed to support municipalities with limited resources and will be shared regionally and beyond.

Understanding regional energy needs and looking ahead

In Örebro County, electricity grids can currently accommodate normal increases in power demand, although local bottlenecks and vulnerabilities persist.

The project is already improving regional capacity for agile and effective energy planning, supported by enhanced stakeholder collaboration and stronger cross-municipal cooperation. One key insight is that energy planning is only one of many responsibilities municipal planners manage within a complex workload. Emphasising the importance of reliable energy and electricity supply for local businesses and industry has proven effective in strengthening municipal competitiveness within and beyond the region.

Looking ahead, there is strong interest in continuing to develop energy-related issues, and these efforts are expected to extend into future projects and long-term regional cooperation frameworks.

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FEDARENE 2025 General Assembly

Thank you to all our members for their contributions