



SUSTAINABLE
REGIONS
IN ACTION

A Blueprint for Europe's Energy Future

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PART 1.

FEDARENE MANIFESTO

Regions and their Energy Agencies:

Europe's Change Agents for Climate Neutrality

EUROPE 2030 - A EUROPE READY FOR CLIMATE NEUTRALITY



Since 1990, FEDARENE has been bringing Europe and its regions closer together in overcoming their energy and climate challenges. As a federation of regions and energy agencies, we are witnessing how actions to achieve Climate Neutrality bring vitality to communities, stimulate economic development and alleviate social and environmental issues. We see from every corner of Europe that every step away from fossil and non-renewable energy is a step towards energy security. Europe's energy sovereignty can only be achieved through energy transition.

2024-2029 is the legislative term of the future, and the future is now. The energy transition and climate change challenges are now. The next 5 years are critical in turning these challenges into opportunities. The new representatives of the European Parliament and European Commission can make these next years be remembered in history as a turning point in Europe's global leadership.

The EU has proven its ability to overcome subsequent crises, putting the interest of its citizens before "business-as-usual" policy making. The European Green Deal established a comprehensive climate and energy policy framework to address the main challenges of our times. It is now time to implement it. More than 8 in 10 citizens think the EU should take action to increase renewable energy and support energy efficiency (Special Eurobarometer 538). Achieving the 55% reduction target by 2030 is Europe's first test on its way to Climate Neutrality.

In partnership with local and regional authorities, Europe can succeed if it embraces 3 main drivers:



TRUST that local and regional initiatives can lead the energy transformation



INNOVATION unleashed by local and regional change agents



LEADERSHIP of local decision-makers who take actions for radical change

Regions, Municipalities and their Energy Agencies stand ready to support the European Commission and European Parliament in leading the transformation.

REGIONS AND ENERGY AGENCIES, EUROPE'S PARTNERS FOR POLICY IMPLEMENTATION

In response to the first oil crisis of 1973, Europe's regions developed their first energy agencies to support them and their municipalities in managing their energy supply and demand. Since then, EU's Regions and Local/Regional Energy Agencies have become effective delivery agents of the energy transition and climate resilience in their territories. Regional and local Energy Agencies are the European Commission's territorial anchors. They ensure that European policies achieve their full potential in improving the lives of citizens, achieving climate neutrality and building a climate resilient society.

Why Regions?

Regions have the scale and governance power to aggregate local projects and develop ambitious funding programmes. They collect, process and provide data instrumental to implementation and monitoring. They provide cross-sectoral and integrated solutions by considering the entire energy system, including energy production, distribution, and consumption. They can identify local energy resources, infrastructure and demand, thus design tailored solutions to address specific needs. The regional level is also ideally placed to assess and address the climate resilience of a territory in its entirety.

Why Local and Regional Energy Agencies?

Over **320 Local and Regional Energy Agencies** from across Europe - representing a combined workforce of 4000 energy and climate experts - are trusted by cities, regions, citizens and companies to support them in achieving their Climate and Energy goals. These Energy Agencies upscale investments and help the EU implement its sustainability policies. They provide technical assistance and connect stakeholders and governance levels. With their in-depth understanding of regional specificities, they are ideally positioned to propose integrated mitigation-adaptation solutions and support islands in their particular energy/climate challenges. EU policies including the RepowerEU action plan and the Energy Efficiency and Energy Performance of Buildings Directive recognised the role of energy agencies in long-term planning, in mobilizing citizens towards clean energy actions and developing renovation one-stop shops.

THE 10 BUILDING BLOCKS OF A SUSTAINABLE EUROPE

- 1. Energy Transition First principle**

National governments who seek energy security should prioritise the use of sustainable energy alternatives before investing in non-renewable sources which are time-consuming and lead to stranded assets. Regions and Energy Agencies have already successfully implemented 100% renewable and energy-efficiency-based solutions, ready for immediate deployment without lengthy negotiations or costly infrastructure. Embedding this principle into European law must be the next step for a sustainable and independent Europe.
- 2. People-centric transformation**

The energy and climate crisis was created by people and will be solved by people. Europeans can become delivery agents of the Green Deal by mainstreaming renewable energy communities through stronger enabling frameworks. EU climate and energy policies must leave nobody behind and should focus on alleviating energy poverty, sustainable reskilling, facilitate behavioral and lifestyle changes with consideration to sufficiency, empower citizen-led initiatives and support vulnerable communities.
- 3. Empowering Local Leadership**

Climate leaders are individuals who do not fear the bold decisions needed to reach Climate Neutrality. The EU has been supporting such individuals and their organisations in developing large scale investments, action focused roadmaps and innovative services. European Commission initiatives such as [ManagEnergy](#), [Covenant of Mayors-Europe](#) and [REMARKABLE Climate Leaders](#) are building leadership capacity across Europe and should be scaled to the endgame goal of Climate Neutrality.
- 4. Climate Neutrality One-Stop Shops**

Renovation one-stop shops are upscaling energy efficiency investments and fuel-switch measures across Europe, but not fast enough. Such integrated services are being developed by Regions and their Energy Agencies for multiple objectives such as the development of energy communities, local/regional energy and climate data, renewable heating and cooling. They embed locally the economic benefits of the one-stop shops and design them to strengthen the social fabric across Europe. The EU must increase the support for one-stop shops and turn to local and regional energy agencies who roll-out these services with a focus on economic, social and urban development.
- 5. Empowering Youth for a Green Europe**

The youth, through their creativity and enthusiasm, are generators of sustainable energy solutions and act as multipliers of uptake in their communities. Greater engagement of youth in the sustainability sector could accelerate exponentially efforts on energy and climate. European initiatives such as the [International Clean Energy Challenge](#) and the [Yenesis platform](#) are demonstrating the innovation power of youth as well as how green jobs solve youth unemployment. Europe must upscale such initiatives and ensure young people have access to decision-making power.

- 6. Competitiveness through Energy Transition**

Regions and Energy Agencies across Europe are assisting SMEs and large industries in increasing their competitiveness through fossil fuel phase-out and innovation. Clean technology clusters such as the ones run in [Basque Country](#) or [Upper Austria](#) are proof that Europe's renewable energy industry can lead. In this context, the rapid digitalisation of the energy sector is an opportunity for the EU to support the public and private sectors in tapping into the power of data. Regional Energy Agencies can provide strategic guidance on how to support industrial players. Their feedback from powerful data tools such as [TerriSTORY](#) may also allow a better understanding of the role of artificial intelligence in Europe's climate and energy transition.
- 7. Enabling Regional Resilience**

The climate crisis demands immediate action as the costs of inaction escalate daily. With their experience in pushing fundamental change, Regions, Energy and Climate Agencies, in cooperation with municipalities, can build a climate resilient society which protects people. European governments must step-up urgently their efforts to adapt to climate change, integrate adaptation with mitigation strategies and prioritise the most vulnerable. For maximum impact, EU's Climate policies and programmes should support adaptation measures developed through participatory processes and mainstreamed across all sectors including the energy transition.
- 8. Recognition of islands as innovation leaders**

Islands experience the effects of climate change disproportionately, and their heavy reliance on fossil fuels burdens both the environment and their economies. This creates a strong incentive to accelerate their clean energy transition, serving as an example for mainland Europe. Islands possess inherent advantages like abundant renewable resources, strong communities, and the potential to be innovation testbeds. Energy Agencies act as the catalyst, providing technical expertise and community engagement to empower islands. The European Union must increase support for islands to unlock their full potential.
- 9. Sustainable heating and cooling**

Heating and cooling are more than mere commodities, they are human rights. As such they must be protected. Fuel switch to renewable energy is their best protection. Campaigns across EU regions are placing renewable based heating and cooling solutions in the homes of Europeans, but not fast enough. EU's heating & cooling policies must embrace a diversity of technologies and RES-based solutions adapted to a diversity of regional circumstances. Market facilitators such as Energy Agencies stand ready to design efficiently targeted programmes and activate the relevant value chains.
- 10. An Action focused EU Budget**

EU representatives must embrace their historic role as 2025 will kick off the preparations for the next Multiannual Financial Framework. The world needs them to lead the way with an EU Budget 100% compliant with the Energy Transition First principle. Programmes such as the LIFE Clean Energy Transition sub-programme, Coordination and Support Actions under Horizon Europe, or EIB's ELENA are showing the way on how EU funding can effectively leverage investments and support regions, cities and communities in translating their environmental and climate ambitions into action.

OUR COMMITMENTS

Transforming our economy and society requires agents of innovation. As such, we, the regions, islands and energy agencies of FEDARENE commit to:

1. Provide the European Institutions with our local knowledge and expertise to make the energy transition a reality in all of Europe's territories.
2. Make people aware and confident of Europe's policies and their unique benefits.
3. Uphold sustainable development as a European value as recognised by article 3 of the Treaty on European Union.
4. Demonstrate the concrete added value of the EU through its successfully co-funded projects, initiatives, and support at local and regional levels.
5. Continue to act as change agents and aggregators of investments for climate and sustainable energy, with the ambition of increasing the scale and quantity of such investments.
6. Stimulate local citizen-led initiatives taking ownership of their energy transition.
7. Make the energy transition a driver for inclusivity, security and competitiveness.
8. Implement pathways to make our cities and regions climate resilient.
9. Enhance our trans-European partnerships between regions and energy agencies, thus contributing to Europe's continuous integration.
10. Increasingly link our cities and regions with the European project, thus strengthening EU's legitimacy at local and regional levels.

OUR MEMBERS

Our members drive the energy and climate transition in their territories through ambitious policy development and strategic facilitation actions. FEDARENE has over 80 members across 24 countries.

Discover the complete list of our members and their profile on our website at: fedarene.org/members



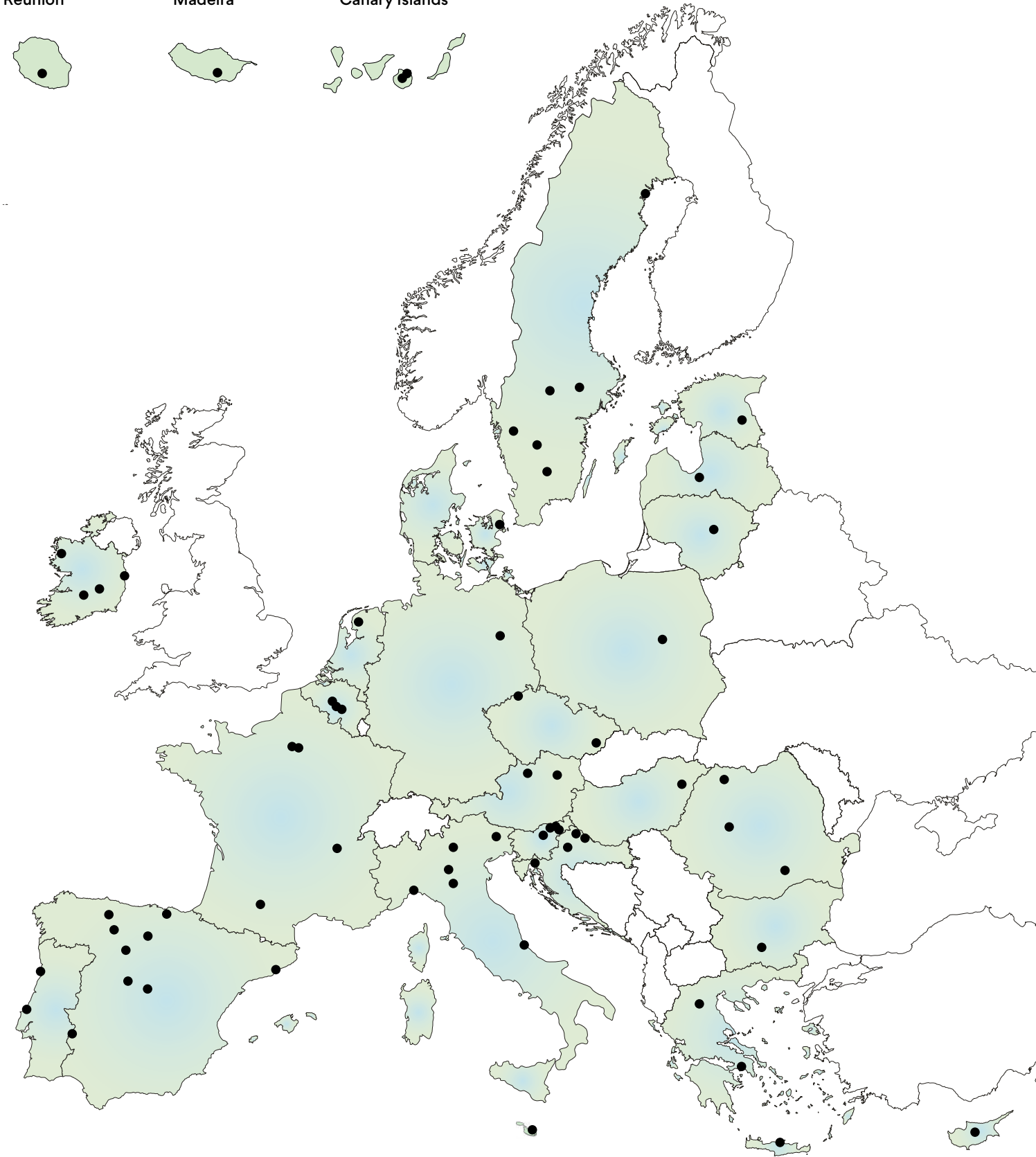
Réunion



Madeira



Canary Islands



PART 2.

INSIDE FEDARENE

A closer look on our activities

BOARDS OF DIRECTORS



Julije DOMAC
President



Seamus HOYNE
Secretary General



Jean VAN PAMEL
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Florin ANDRONESCU
Vice-President on Energy
Efficiency and Energy Poverty



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Action for Climate Neutral
Cities and Regions



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Vice-President on Circular Economy



Gerhard DELL & Christiane EGGER
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Marie-Laure FALQUE MASSET
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Thekla HEINEL
Vice-President on Climate Protection
in Municipalities and Regions



Vlasta KRME LJ
Vice-President on Financing
and Investments



Christel LILJEGREN
Vice-President on Mobility
and Transport



Serge NOCODIE
Vice-President on Climate Action



Savvas VLACHOS
Vice-President on Smart and
Sustainable Islands



WITH THE SUPPORT OF
Patrick BIARD
Deputy Secretary General

THE BRUSSELS OFFICE



Filip DUMITRIU
Director
filip.dumitriu@fedarene.org



Elodie BOSSIO
Deputy Director
elodie.bossio@fedarene.org



Irene BIANCANI
Project Officer
irene.biancani@fedarene.org



Christian GALLETTA
Project Officer
christian.galletta@fedarene.org



Mariangela LUCERI
Project Manager
mariangela.luceri@fedarene.org



Marta LUPATELLI
Project Officer
marta.lupattelli@fedarene.org



Mélissa MIKLOS
Communication Manager
melissa.miklos@fedarene.org



Diana PRSANCOVA
Project Officer
diana.prsancova@fedarene.org



Nadège SEGUEL
Project Officer
nadege.seguel@fedarene.org



Florine SERRAULT
Policy Officer
florine.serrault@fedarene.org



Matthias WATZAK
Project Manager
matthias.watzak@fedarene.org

OUR PROJECTS

FEDARENE participates in European projects and initiatives alongside its members and other European organisations. We are currently involved in 19 EU projects and initiatives:

CONNECTHEAT

ConnectHeat seeks to decarbonise heating and cooling systems in buildings at district level. It is the first European project aiming to develop heating & cooling communities in Europe.

connectheat.ambienteitalia.it



CRETE VALLEY

CRETE VALLEY aims to create 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



ENERGY EFFICIENCY WATCH 5

The overarching objective of EEW5 is to support enabling narratives for the European Green Deal, thus creating the necessary buy-in of larger groups of society across all EU Member States.

energy-efficiency-watch.org



(LIFE) EUROPEAN CITY FACILITY

The European City Facility (EUCF) is providing +400 local authorities with a lump sum of € 60,000 grant for the development of investment concepts for their clean energy projects.

eucityfacility.eu



GREEN HYSLAND

GREEN HYSLAND aims to deploy a fully-functioning Hydrogen (H2) ecosystem on the island of Mallorca, Spain.

greenhysland.eu



COVENANT OF MAYORS - EUROPE

The Covenant of Mayors for Climate and Energy - 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



CROSS

The CROSS project establishes and operates a regional one-stop-shop (OSS) to accelerate the renovation wave in the public sector covering a territory of four regional and 88 local authorities in Croatia.

regea.org/en/cross



EPLANET

ePLANET aims to improve the coordination between local authorities and regional governments by fostering the digitalisation of energy data available in dispersed data sources.

eplaneth2020.eu



EU PEERS

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



IN-PLAN

The objective of IN-PLAN is 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



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.ec.europa.eu



PLAN4CET

PLAN4CET's general objective is to support European regions and cities to design, develop, and implement Clean Energy Transition plans according to their needs and possibilities.

fedarene.org/project/plan4cet



REGILIENCE

REGILIENCE aims to foster the adoption and wide dissemination of regional climate resilience pathways, following a demand-driven approach and bearing in mind the expertise and knowledge acquired.

regilience.eu



REMARKABLE CLIMATE LEADERS

REMARKABLE Climate Leaders is building a Climate Leadership Programme in order to support leaders of public authorities and communities in implementing transformational roadmaps to achieve climate neutrality by 2050.

climateleaders.eu



ISLET

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

fedarene.org/project/islet



MIP4ADAPT

The Mission Implementation Platform (MIP4Adapt) supports European regional and local authorities to prepare and plan their adaptation pathways to climate resilience.

climate-adapt.eea.europa.eu/en/mission



REGIO1ST

REGIO1st provides guidance to regional authorities to embed the EU Energy Efficiency First principle in their decisions and in the implementation of their energy planning.

fedarene.org/project/regio1st



SMART EPC

Smart EPC aims to integrate energy efficiency services with other energy services and non-energy benefits, whilst focusing on energy performance contracting and the creation of new revenue streams for local authorities.

energy-cities.eu/project/smart-epc



PROSPECT+

PROSPECT+ enables capacity building in regional and local authorities in order to finance and implement effective and efficient sustainable energy plans.

h2020prospect.eu



EU ELECTIONS 2024: CHALLENGES AND OPPORTUNITIES FOR REGIONS IN TRANSITION

The next EU elections are just around the corner – on the 6th to 9th of June 2024, European citizens will elect the new representatives of the European Parliament. Our **Secretary General Seamus Hoyne** shares his view on key challenges and opportunities ahead.



FEDARENE and its members are active at the European level but also at the local and regional levels. What role will energy agencies play in the European elections? What will be their key objectives and messages?

European elections represent an incredible opportunity to elect Members of the European Parliament (MEPs) and policymakers who share our objectives and values – people who stand for an ambitious energy transition and fossil fuels phase-out and will work to support it inside the EU institutions.

The 2019-2024 EU institutions have very concretely shown their ambition for a climate-neutral Europe which materialised through the EU Green Deal. Now, the new representatives will have to deliver this vision and make sure it is implemented on the ground. For this reason, it is of utmost importance to elect representatives who will take seriously the measure of the climate and

energy issue and help regional and local stakeholders in effectively implementing the Green Deal. Energy agencies, in this sense, will continue to act as multipliers of this message to all their partners and stakeholders. The EU is supporting and cooperating with the regional and local levels, therefore this election, its importance, and the opportunities it brings shouldn't be overlooked.

Apart from being multipliers raising awareness on EU elections as a lever for the energy transition, energy agencies stand ready to collaborate with upcoming policymakers. Energy agencies are available to provide their expertise as local and regional market facilitators and as independent bodies involved in implementing European legislation in the territories.

Overall, the EU Elections are a unique opportunity to vote for a democratic, socially fair and sustainable energy transition, including a complete phase-out of fossil fuels. That is the main message that we should spread.

After the European elections, a new group of 27 Commissioners will be chosen for the European Commission, pending approval by the newly elected European Parliament. What do you see as the potential benefits of this change?

This new momentum will bring new cooperation opportunities with new-coming policymakers. Since energy agencies are now officially mentioned in the Energy Efficiency Directive, the newly elected decision-makers will have an extra incentive to reflect on their role. We count on them to recognise that local and regional policy agencies act as independent market facilitators, and as main expertise providers on energy-related challenges in the regions – making them key actors for EU policies implementation.

This renewal in EU institutions might also open fresh paths for cooperation to build more ambitious policies in favour of an energy transition based on an immediate fossil phase out; policies that encourage multilevel governance and acknowledge the role of regional and local stakeholders in implementing the Green Deal and climate law; policies that better enhance adaptation to

climate change and enable the rapid development of renewable energy technologies. Scaling deployment of existing technologies for example in the field of bioenergy, heat pumps rollout in the short to medium term as well as new innovations in off-shore wind, hydrogen and smart energy systems will all need local/regional engagement. This will be of utmost importance to achieve the ambitious climate targets of decarbonising our societies by 55% by 2030 and achieving carbon neutrality by 2050.

Therefore, energy agencies are looking forward to upcoming EU policy developments enforcing the energy transition, like for example the revision of the regulation on multilevel governance, new provisions for 2040 climate objectives, wind package, and additional developments regarding the main energy directives (EED, RED, EPBD).

The new representatives of the European Parliament and European Commission have the chance to ensure that the next five years to 2030 will be remembered in history as a critical milestone in the fight against climate change. That's as much of an opportunity as a challenge.

Talking about challenges, which ones do you foresee from these institutional and political changes?

The Green Deal has brought unprecedented progress for the green energy transition. It has planted the seeds, let's unfold the leaves as rapidly as possible. This is the main challenge of the next institutions. Energy agencies stand ready to partner up and join forces!

It is not going to be easy, the balance of power in the European Parliament and in the European Commission might change with a risk of increasing conservative, less climate-ambitious, or even climate-detrimental forces sitting in EU institutions.

In addition to the challenge of implementing the Green Deal, there can be a risk of throwback on climate and energy policies, or at least of a break in the development of those policies, which would be quite concerning. This is a challenge for us all, including regions, and local and regional energy agencies, as it would send the wrong signal to local and regional stakeholders. Furthermore, the narrative on climate action must continue to focus on one of investment versus costs. There are social and economic implications of the

energy transition and the transformation of our energy systems. We must ensure that it is a just transition, that it enables individuals, communities and regions to gain from the transition and achieve the sustainability goals that we all aspire to deliver on.

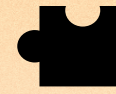
What are energy agencies main demands for the upcoming term?

The energy transition to renewable energies is a major challenge and one that can only be met in a coordinated and mutually supportive manner across the European Union: EU institutions and regional and local energy agencies hand in hand.

As energy agencies unite around the objective of a fast and clean energy transition, we call on the upcoming EU institutions to achieve together the expected European climate and energy objectives. To do so, efforts must be intensified in frontrunning energy efficiency, enhancing energy sufficiency, developing one-stop-shops in the renovation wave, fast-tracking renewables, supporting the rise of renewable energy communities, implementing adaptation to climate change, and alleviating energy poverty, among other action points. Our manifesto, available in the previous pages, provides more details on the ways of cooperation between EU institutions and local and regional energy agencies, and elaborates on the political priorities that should be undertaken to keep the energy transition on track.

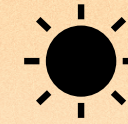
FEDARENE encourages the EU Institutions and the Member States to collaborate with and utilise the expertise of local and regional energy agencies and their approximately 4,000 staff across Europe to translate EU ambitions into concrete reality on the ground.

12 CATEGORIES



RIDING THE RENOVATION WAVE

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ELECTRIFICATION AND SOLAR PV

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COMPETITIVE BUSINESSES = SUSTAINABLE BUSINESSES

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ENERGY COMMUNITIES

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ENABLING REGIONAL RESILIENCE

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EMPOWERING THE YOUTH

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PART 3. REGIONAL ACHIEVEMENTS

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

TOP CONDOMINI: ACCELERATING RESIDENTIAL RETROFIT IN EMILIA-ROMAGNA

Modena Energy and Sustainable Development Agency – Modena, Italy

Energy consumption in the residential sector is one of the greatest challenges faced by regions in Italy if they intend to reach national and international CO₂ reduction targets. Inspired by their long experience in EU projects, the Italian Agency for Energy and Sustainable Development (AESS) has developed a solution called Top Condomini. This project acts as a **one-stop-shop** providing information and technical assistance to accelerate the retrofit of residential buildings in the Emilia-Romagna region.



Bologna – “San Ruffillo” – Social Housing building after the refurbishment works
© AESS

Co-funded by the European Investment Bank through the **ELENA Facility** (European Local Energy Assistance), the Top Condomini project started in October 2021 and will run for three years. It is a regional One-Stop-Shop with ‘two hubs’ that provide information and offer the initial technical assistance to mobilise investment in the residential sector. The retrofit interventions include the energy upgrading of existing residential buildings, through the following energy measures:

- insulation and improvements to the envelope (walls, roofs and floors);
- replacement of windows and glazing; heating, cooling and ventilation;
- domestic hot water;
- interior lighting and smart energy management applications;
- renewable energy solutions (solar panels, PV and heat pumps);
- charging points for electric vehicles.

Through the project website, private citizens or condominiums managers can candidate their buildings and request a preliminary screening for the building energy retrofit. Afterwards, they can request an energy audit and feasibility study of the retrofit intervention. To date, **more than 2,100 private dwellings** have benefited from the service.

Regarding public social housing, the technical assistance consists of preparing technical documentation for tenders. Three big tenders have been published, involving **more than 3,600 dwellings**.

In addition to providing energy diagnostics, feasibility studies and technical-decision support, Top Condomini accompanies participating parties through all stages of design, from bidding to contracting with companies that will physically perform the work.

The project also addressed the design and dissemination of **collective self-consumption scheme**: a model similar to the energy community, but on a condominium scale, consisting in local production of electricity from renewable sources. ESCos (energy service companies) have been involved to finance the PV plant installation in residential buildings.

Top Condomini is becoming a fundamental service to support energy investments in residential buildings. AESS has already identified a business model to continue the One Stop Shop activities after the end of ELENA contract, based on the involvement of ESCos providing the service to citizens. The initial third-party technical assistance will be covered by the ESCos investment costs.

AESS - Agenzia per l’Energia e lo Sviluppo Sostenibile

✉ info@topcondomini.eu
🌐 www.topcondomini.eu

TRANSFORMING KOZANI INTO A BEAUTIFUL AND CLIMATE NEUTRAL CITY

Cluster of Bioeconomy and Environment of Western Macedonia - Greece

The Cluster of Bioeconomy and Environment of Western Macedonia (CluBE) is developing a methodological structure to support cities in their built environment transformation. Implemented in collaboration with the Centre for Research & Technology Hellas (CERTH) and the Municipality of Kozani, the project makes use of existing good practices and complements them with the **New European Bauhaus** and **EU Missions** principles (Kozani stands among the 112 climate neutral cities supported by the European Commission).

The **EYES HEARTS HANDS Urban Revolution (EHHUR)** project benefits the community by improving the appearance of the city of Kozani and encouraging the energy transition in order to achieve its goal of carbon neutrality by 2030.

The Eyes Hearts Hands project received €4,9 million in funding under the HORIZON Europe programme. Throughout the project, which lasts from 2022 until early 2025, a key emphasis is placed on **upgrading both energetically and aesthetically** the buildings of the area and generating one of the few green spots near the centre of the city.

Two elementary schools in what we refer to as the ‘Lighthouse area’ have undergone upgrades, improving their building infrastructures both in terms of energy efficiency and aesthetics. This includes the installation of bio-based insulation, efficient frames, smart control and one autonomous solar charging station. Moreover, these schools have the opportunity to adopt an educational programme focused on energy saving, environmental protection, etc.

One of the most important successes of the “Eyes Hearts Hands” project was bringing together **Kozani’s residents** through various workshops and events. For example, a TEDx conference was organised for the first time in the city of Kozani, in collaboration with the University of Western Macedonia. TEDx events are locally organised events that bring people together to share their experiences. CluBE participated in this event while conducting a co-design workshop with university students and citizens of Kozani. The aim of the workshop was to co-create a vision for the future of the neighborhood with citizens and create an impact for decision-makers.



© CluBE

The next steps of “Eyes Hearts Hands” project include the upgrade and renovation of the city’s Cultural Centre to make it more energy-efficient, sustainable, environmentally friendly, more beautiful and accessible to all citizens. Finally, there are plans to aesthetically upgrade the park of Agios Dimitrios, which attracts numerous citizens of Kozani, by creating informational hotspots on the benefits of CO₂ emissions reduction along with electric vehicle chargers and e-sharing services. This initiative aims to promote environmentally conscious behavior among citizens and is likely to inspire similar ones, stimulating the artistic upgrade of the city.

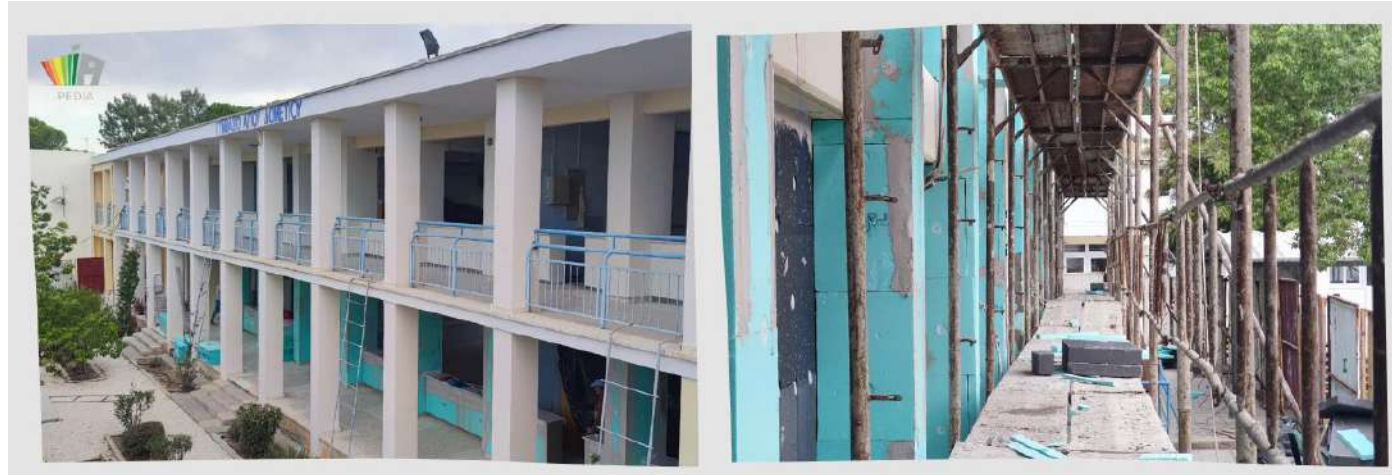
CluBE - Cluster of Bioeconomy and Environment of Western Macedonia

✉ info@clube.gr
🌐 eyesheartshands.eu

PROMOTING ENERGY EFFICIENCY & DEVELOPING INNOVATIVE APPROACHES IN SCHOOLS



Cyprus Energy Agency – Cyprus



© PEDIA

The Cyprus Energy Agency is coordinating the PEDIA project (Promoting Energy Efficiency & Developing Innovative Approaches in Schools) which is funded by the European Union through the Horizon 2020 framework programme. Implemented in collaboration with the Education and Sustainable Development Unit of the Ministry of Education, Sports and Youth in Cyprus, PEDIA aims to **improve energy efficiency and comfort conditions of at least 25 public school buildings** in the island. The project targets a minimum of **€7.5 million in public and private investments** and aims to develop a long-term energy renovation strategy for all public-school buildings, introducing a process framework for energy upgrades based on environmental, energy, and socio-economic criteria.

The proposed framework entails the selection of the pilot schools, the design and tendering phase for selecting the construction companies, as well as the implementation of the construction works. All these tasks are carefully monitored and supervised by the Cyprus Energy Agency.

Each of the 25 school buildings selected to participate in the project have previously undergone upgrades to improve their structural integrity and ensure that they can incorporate the energy upgrade measures without concerns regarding any additional loads. Currently, 5 schools (2 kindergartens, 2 primary schools, and a high school) in Nicosia district are undergoing energy renovations to achieve the “Nearly Zero Energy Building” (NZEB) level.

The **Agios Dometios** high school is the largest in the first phase, and covers 3,250 m² and includes

classrooms, labs, offices, a canteen, and a library. The estimated budget for the energy renovations of this school is approximately **€670,000**. This includes thermal insulation, roof and external wall enhancements, roof waterproofing, window, and door replacements, addressing moisture-related issues, and installing LED lighting. Additionally, efforts are being made to restore or replace the existing solar water heating system, covering the school’s needs for hot water.

The construction work has already shown positive results. The staff has noticed a **3-4°C decrease in indoor temperature** during September and October, which falls within the “hot season” in Cyprus. This progress highlights the significance of upgrading school buildings across Cyprus, not only for energy efficiency but also for enhancing the overall quality of educational spaces.

In conclusion, the Agios Dometios high school serves as an exemplary case for efficient energy renovations in Cyprus, emphasising the broader benefits of upgrading the entire school building stock. The positive impact on indoor spaces contributes to a better educational experience for both students and teachers. Additionally, financial savings from reduced utility bills can be reinvested for further energy upgrades in Cyprus’ school infrastructure.

Cyprus Energy Agency

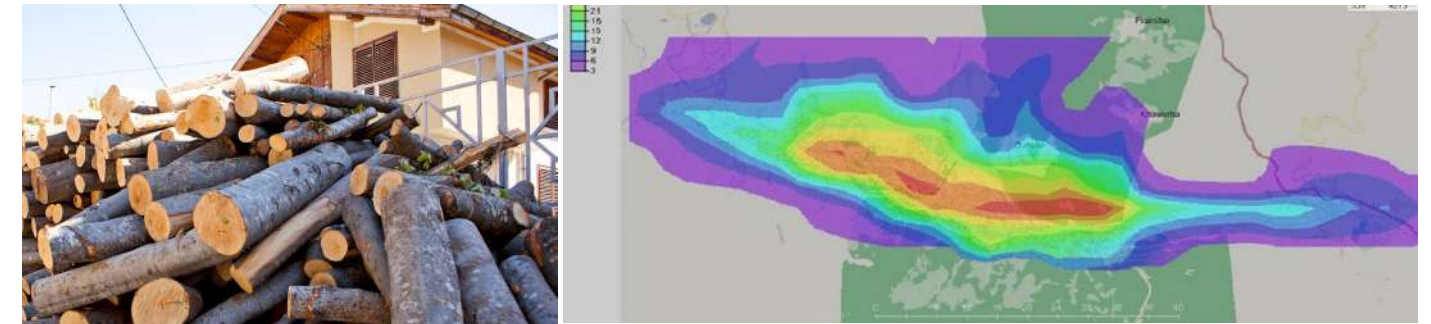
✉ andreas.pastides@cea.org.cy

🌐 www.cea.org.cy

CLIMACT CEE: PIONEERING CLIMATE-NEUTRAL ZONES IN THE CITY OF PLOVDIV



Energy Agency of Plovdiv – Plovdiv, Bulgaria



© EAP Plovdiv

The City of Plovdiv has been suffering exceedances of the particulate matter (PM) due to the use of firewood for domestic heating. Around 18,000 households heat on firewood and coal producing 539 tons of PM and 52,000 tons of CO₂. They cannot afford more environmentally friendly heating and thus become not only the primary cause of dramatic seasonal increases in air pollution, but also major contributors to CO₂ emissions.

The Energy Agency of Plovdiv (EAP) has applied an **integrated climate-screening framework** within the ClimAct CEE project to estimate the impacts of the firewood use on the emission status in a pilot urban zone thus proving that integrated, evidence-based climate policies may contribute to transforming the polluted area into energy-wise, climate-friendly, and clean air space for the citizens to live and enjoy.

The flagship initiative of the decarbonised and low-emission urban one is the **“Heating replacement programme”** which provides 100% state grant for 3,500 households to replace their old heating stoves with environmentally friendly alternatives.

The Energy Agency of Plovdiv provides technical support to the household applicants in the form of on-site home visits, energy and heating diagnostics, professional expertise on alternative heating devices, follow-up and quality control over the installation of new devices. So far, over 4,000 interviews with potential households were conducted, 3,200 contracts for replacement were signed and **5,000 new heating appliances deployed**. Altogether, this action will aim at around a 20% reduction in the polluting emissions.

Furthermore, EAP advocates for more intensive efforts in **ensuring sustainable biomass utilisation**. This means stronger biomass sustainability criteria than the ones introduced in 2016 by the Renewable Energy Directive (REDII), introduction of a ‘chimney sweep’ service, dedicated quality assurance and labels of the biomass-based fuels and heating devices, and dismissal of support schemes for fossil fuels and firewood.

The Energy Agency of Plovdiv aims to turn its heat replacement campaign into a showcase demonstrating how integrated decarbonised and low-emission policies can be a game-changer in our fight for climate neutrality and a sustainable energy transition.

EAP Plovdiv - Energy Agency of Plovdiv

✉ eap@eap-save.eu

🌐 www.eap-save.eu

REGIONAL AUTHORITY ACTIVE IN IMPLEMENTING RES PROJECTS IN MEDJIMURJE COUNTY

Medjimurje Energy Agency – Medjimurje County, Croatia

In the last six years, a total of **22 public buildings** owned by the regional authority of Medjimurje County were refurbished, where investments amounted to **more than €15 million** (60% of EU co-financing and 25% of national funding).

To continue improving energy efficiency in the region, in 2023 **renewable energy systems** were installed in four public buildings – primary school Štrigova and district schools Peklenica, Prekopa and Zebanec, all owned by Medjimurje County. The idea for those investments came during the spring of 2022, when the Croatian Environmental Protection and Energy Efficiency Fund issued a public call for financing the installation of renewable energy systems in public buildings.



© Medjimurje Energy Agency Ltd

After checking the building conditions, existing heating, cooling and electricity systems and calculating the potential energy savings, Medjimurje Energy Agency Ltd. (MENE) proposed several buildings to be refurbished and the regional authority Medjimurje County initiated the application coordinated by MENE to the above-mentioned public call. Eventually, those four buildings were approved for co-financing.

Previously used energy sources in these buildings (natural gas and fuel oil for heating) were replaced by energy efficient air to water **heat pumps** for heating and cooling and **photovoltaic power plants** for electricity production. The total power of photovoltaics installed on all four roofs of the mentioned school buildings is 80 kW and the total power of all four installed heat pumps is 310 kW. Average annual energy savings are estimated between 65% and 85%.

Investments for those projects are around €540,000, with a national co-financing rate of 40%. Thanks to these investments, the sense of comfort in the buildings for **around 250 students** was enhanced, energy independence of buildings was raised, and energy expenditures were reduced. In addition to the benefits enjoyed by the users, the renovations also contribute to achieving the goals set in the current Energy Efficiency Action Plan of Medjimurje County.

Design project documentation for several projects connected to energy refurbishment and installation of renewable energy systems in public buildings (mostly educational and health institutions) owned by Medjimurje County are also in preparation - some awaiting implementation and some anticipating opportunities for potential funding. This will be a step further for Medjimurje to become a greener and more sustainable region in the future.

MENE - Medjimurje Energy Agency

✉ info@menea.hr

🌐 www.menea.hr



CITY OF ZAGREB PROGRAMME OF PUBLIC BUILDINGS RETROFIT AND PV SYSTEMS

North-West Croatia Regional Energy and Climate Agency – Croatia

The City of Zagreb with the support of North-West Croatia Regional Energy and Climate Agency (REGEA) has, in 2023, started a highly ambitious programme of deep retrofit of its public buildings as well as continued activities aimed at installing building integrated PV systems. The preparatory phase of the building retrofit is being implemented through two EU funded projects, namely Croatian One-Stop-Shop (CROSS) financed through the LIFE programme and ZA-GREEN financed through the ELENA facility of the European Investment Bank (EIB). Preparation for the PV installations is financed through the PVMax project, funded by ELENA. The results will include **over 100 retrofitted public buildings and over 20 MW of installed PV capacity by 2026**.

Coordinated by REGEA, the LIFE CROSS project started in September 2023 and spans 36 months. Partners include the City of Zagreb, Karlovac County, Krapina-Zagorje County, Zagreb County, Faculty of Mechanical Engineering and Naval Architecture of the University of Zagreb, Croatian Chamber of Economy, Association of Croatian Cities and FEDARENE. The total project budget amounts to €1,4 million and has the main objectives of providing one-stop-shop type of support for the retrofit of public buildings.

Specific objectives include the preparation of comprehensive building registries, the development of at least 100 feasibility studies for building retrofit and the implementation of innovative financing mechanisms. The project aims to achieve at least €67 million of investment in building retrofit, 13,5 GWh of primary energy savings and 5,1 GWh/year of renewable energy generation.

The ELENA ZA-GREEN project started in May 2023 and lasts for 36 months, with the City of Zagreb being the applicant and REGEA providing expert support. The total project budget is €2,7 million, with the main activities being the development of main project designs for the retrofit of at least 50 public buildings and the preparation of a feasibility study for the upgrading of the Building Energy Management System of the City of Zagreb. ZA-GREEN aims to achieve at least €80 million of investment in building retrofit and PV system installations until 2026.



© City of Zagreb

The ELENA PVMax project is being coordinated by REGEA and has started in July 2021, lasting 36 months. The main aim is to achieve over €70 million of investment in building integrated PV systems (including public, commercial, and residential buildings) across Croatia, while a large part of the investment will be realised within the City of Zagreb.

In order to ensure the necessary level of financing, in 2023, the City of Zagreb has started negotiations with the European Investment Bank (EIB) regarding a **Framework Loan**, which includes components related to building retrofit (total planned amount of over €170 million until 2028) and PV installation (total planned amount of over €45 million until 2028). The EIB Framework Loan is planned to commence at the beginning of 2024.

REGEA - North-West Croatia Regional Energy and Climate Agency

✉ info@regea.org

🌐 www.regea.org

COACHCOPRO: A UNIQUE WEBSITE FOR RETROFIT OF CONDOMINIUMS

Paris Climate Agency – Paris, France



© Paris Climate Agency / CoachCopro

The Paris Climate Agency was created in January 2011 on the initiative of the City of Paris. With over 43,000 condominiums in Paris (1,2 million flats), their main mission is to follow co-owners through the retrofitting of their buildings. This is why CoachCopro was created in 2013. First developed in the Paris Metropolitan area.

CoachCopro is the **only national resource centre for energy retrofit of condominiums** and can be consulted by every French co-owner. It is also a tool that allows every territory to follow the retrofitting projects. Moreover, 28 territories are members of the CoachCopro network and use it as a management tool (CRM).

In 2023, **75% of the French condominium stock** is covered by CoachCopro, meaning that co-owners can subscribe to be supported by an advisor. In November 2023, 1 million apartments were involved with the platform. CoachCopro is the only platform fully dedicated to the energy renovation of condominiums in France.

CoachCopro for co-owners

Free for co-owners and trustees, CoachCopro is composed of:

- A **national homepage** containing all the essential resources to understand and carry out an energy retrofitting project. It contains technical documentation, news, events, feedback, or institutional resources. The home page offers to co-owners (or trustees) to enter a postal code to have access to personalised resources and to find the local France Rénov' (national public service for retrofitting) structure.

- A **“project” space** accessible by registering. Co-owners and trustees have access to a workspace with information of the condominium, the stakeholders, the retrofit project.

CoachCopro for advisors and professionals

CoachCopro is also a management tool, accessible only to the France Renov' adherent structures. Each advisor can fill up technical indicators (building year, number of flats, heating source etc.), information about the retrofitting project (work type, amount etc.), and log all calls and meetings with co-owners. On CoachCopro, there are **about 500 experience feedback** on retrofitted condominiums. All the data can then be analysed to improve public policies.

In the greater Paris area, CoachCopro supports a directory of professionals with **more than 500 professionals** from different fields (architects, project managers, technical officers...) registered to ease contact with co-owners.

CoachCopro, the network

CoachCopro is now a **national network** of people working on the retrofit of condominiums, including 150 advisors. The Paris Climate Agency employs one person full time for the facilitation of the network newsletter, webinars, national events, trainings etc.

APC - Agence Parisienne du Climat

✉ sinem.duzgun@apc-paris.com
🌐 www.apc-paris.com

LARGE-SCALE ENERGY RENOVATION PROJECTS IN PRIMORJE-GORSKI KOTAR COUNTY

Regional Energy Agency Kvarner – Primorje Gorski Kotar County, Croatia

When it comes to public buildings, Primorje-Gorski Kotar County demonstrated a strong commitment to putting energy efficiency principles into action in the past years. Primorje-Gorski Kotar County 2021-2027 Development Plan recognises the importance of these efforts, and this has been reflected in practice.

A few years ago, the County carried out a major investment in the **energy renovation of school facilities**, when eight school buildings and four gymnasiums were refurbished and equipped with energy-efficient lighting, heating systems, doors, and windows. These undertakings continued in 2023, when two additional buildings used by the Opatija Catering School, were renovated in order to improve their overall energy performance.

As an institution founded by the County to promote the rational use of existing energy resources and encourage renewable energy production, the Institution Regional Energy Agency Kvarner is continually involved in these endeavours. The Agency's engagement is sometimes more prominent during the project preparation phase, but in most of the previously mentioned cases, the Agency oversaw the implementation of the entire process as well.

Investments in the energy efficiency of the County's public buildings will continue in the upcoming years since a significant part of the required project and technical documentation has already been prepared for the renovation of the County's five health centers, two nursing homes, and premises used by a Medical Rehabilitation Center in Crikvenica.

A noteworthy example that should be highlighted, however, is the building used by the Maritime and History Museum of the Croatian Littoral in Rijeka. The Museum is located in a marvelous edifice called the **Governor's Palace** which holds the status of a protected monument of culture and is widely considered one of the main landmarks in the city. In October 2023, a grant for a comprehensive energy renovation of the Palace was signed, which will ensure an investment of almost €4 million for this purpose.



© Primorje Gorski Kotar County

A set of interventions will be carried out - in addition to installing thermal insulation and replacing the current internal joinery, heat pumps will be introduced to replace the existing fuel oil-based heating system. Photovoltaic modules for electricity generation will be installed as well, and energy-efficient lighting will be put in place of the current illumination. The implementation of this project was initiated in 2023 and is expected to be finalised in 2026.

REA Kvarner - Regional Energy Agency Kvarner

✉ info@reakvarner.hr
🌐 www.reakvarner.hr

MORE THAN €200 MILLION FOR INSULATION OF PUBLIC BUILDINGS IN WALLONIA



Wallonia Region – Belgium



© Fabrice Dor, Photographie SPW Territoire Logement patrimoine énergie

In recent years, the Wallonia region has issued several **calls for projects** for the energy renovation of buildings - the **UREBA grants**. These exceptional grants have allowed to finance more than 1,100 energy renovation projects.

The focus has been on insulation and ventilation to improve occupants' comfort. This work should significantly reduce the consumption of the buildings concerned and reduce greenhouse gas emissions.

For these calls, applicants had to enter the data of their building and indicate on which part of the building they intended to act. Thanks to a spreadsheet provided by the regional administration, they were then able to see the theoretical energy savings generated by this work and the amount of subsidy available.

Three calls for projects have been launched:

- UREBA exceptional 2019 – 576 projects for a grant amount of €50 million;
- UREBA exceptional 2021 – 281 projects for a grant amount of €24 million;
- UREBA exceptional 2022-2024 – wave one – 319 projects for a grant amount of €77 million.

Waves two and three of the 2022-2024 call are still underway and will allow to finance even more projects with respective amounts of €60 million and €31 million.

These calls for projects have been made possible by the provision of a significant budget from the various **recovery plans**. It will be necessary to see, in the future, if

other means are made available to relaunch such calls. For the beneficiaries, these calls made it possible to launch renovation projects that might not have been possible without intervention from the region.

Meanwhile, the UREBA classic subsidy is available on a continuous basis and enables projects to be financed – although with lower budgets.

In 2022, a reform of the UREBA classic scheme came into force. This reform aims to better support project

leaders in meeting long-term renovation objectives by integrating energy audits and a global real estate strategy. Insulation standards have been strengthened and support for fossil fuels has been stopped. Only the systems using renewable energy can be subsidised.

All these measures are established in order to achieve the EU energy savings target rapidly and efficiently.



Installing renewable heating systems and insulating public buildings is not just a matter of thermal comfort - it is a **commitment to the future**. By reducing the energy footprint of public buildings, we preserve the environment, save precious resources, and build a sustainable heritage for future generations.



Jean Van Pamel

Treasurer of FEDARENE and Inspector General at the Wallonia Region

SPW Energie - Energy and Sustainable Building Department of the Walloon Region

✉ ureba@spw.wallonie.be

🌐 energie.wallonie.be/fr/ureba-exceptionnel-2022-2024.html?IDC=10379

ELECTRICITY INTERCONNECTIONS IN THE EU: THE CHALLENGE OF THE IBERIAN PENINSULA

By Alfonso Arroyo Gonzalez, FEDARENE Vice-President for Renewable Energy Sources

A European objective

Regulation (EU) 2018/1999 on the governance of the energy union and climate action obligates Member States to draft integrated national energy and climate plans (NECPs) addressing the five dimensions of the Energy Union: energy security; internal energy market; energy efficiency; decarbonisation; research, innovation and competitiveness.

Regarding the internal energy market, Member States must include their desired level of electricity interconnectivity for 2030, considering the EU target set at minimum 15%.

The Spanish case

The interconnection of the Iberian electricity system with the rest of the European continent is below the targets set by EU regulations: the ratio is 2.8%. Thus, the Iberian Peninsula remains to a large extent an "electricity island".

If we just consider Spain, the interconnection ratio through Portugal and France is 7.2%. In 2020 Spain was actually the only country in continental Europe below 10%. Therefore, a target of 15% of interconnection by 2030 should be the only acceptable one, though the realistic goal is 10.7%.

To this end, the following key interconnections are envisaged:

- Bay of Biscay project, between Aquitaine (FR) and the Basque Country (ES). It will bring the interconnection capacity between Spain and France to 5.000 MW.
- Interconnections between Aragon (ES) and Atlantic Pyrenees (FR) and between Navarra (ES) and Landes (FR). They will increase the interconnection capacity to 8.000 MW.

The Bay of Biscay project has been listed as a Project of Common Interest (PCI) since 2013. The necessary permits to start construction should be obtained before the end of 2023.



The other two projects have also been recognised as PCIs since 2021, and should be implemented in 2030.

A key connection to make: France-Spain

Interconnections are the main infrastructure element enabling progress in the internal energy market, as they make it possible to exchange electricity with neighbouring countries at competitive and homogeneous prices and reduce the volatility of national markets.

They are important for energy security and improve the efficiency of electricity systems by contributing to a more efficient allocation of generation, reducing the need for duplicate facilities across borders.

Finally, they play an essential role in meeting energy and climate objectives by enabling greater grid integration of unmanageable renewable technologies.

The regional energy agency of Castilla y León (EREN) has made contributions to the Spanish NECP, indicating the capital importance of achieving the interconnection goals in order to avoid an unacceptable degree of curtailment in Spain. Of course, active EU implication in achieving these goals is fully necessary.

ZLÍN'S COMPREHENSIVE APPROACH TO THE ENERGY TRANSITION



EAZK – Zlín Region, Czech Republic

The Energy Agency of the Zlín Region (EAZK) has been actively involved in **implementing the energy policy** at both regional and local levels for the past 17 years in the Zlín Region.

In 2023, EAZK collaborated with various organisations in the Zlín Region to **replace an aging fleet of cars with electric vehicles (EVs)**. Simultaneously, a **network of charging stations** was established, which gets power from newly installed photovoltaic power plants located on the roofs of the institutions concerned.

The project involves a total of **42 organisations**, including the Regional Office of the Zlín Region, 32 schools, two cultural institutions, and seven social services organisations. In the first phase, 58 electric cars were purchased, and 57 charging stations were developed, covering the entire Zlín Region. These new EVs will replace a fleet of petrol cars between 19 and 22 years old.

The role of EAZK consists mainly of the coordination of **public procurement** and cooperation with the subsidy provider, the Czech National Programme Environment (NPE). The total value of this public procurement is 57.45 million CZK (approx. €2.4 million), while the grant amounts to approximately 23.83 million CZK (approx. €1 million).

In parallel, EAZK is processing activities to apply for the construction of **photovoltaic power plants** on the roofs of the participating organisations. These power plants will be used for energy consumption within the buildings as well as a power source for charging stations. The application is being processed within the 11th call of the OP Environment Programme (OPE), drawing on EAZK's extensive experience and data from energy management in the Zlín Region over the last 16 years.

Due to its synergy and wide coverage, the project resulted in various positive effects. Its innovativeness lies precisely in its comprehensive approach, as it aims to build an **energy community** using new photovoltaic power plants, in alignment with the recently approved legislation on energy communities in the Czech Republic.



© Zlín Region

Thanks to this project, citizens of the Zlín Region will be able to benefit from more comfortable and quality facilities related to social services, culture, and education. Beyond the indisputable economic benefits such as property renewal for public sector organisations from tailored programmes at the national level, there are also environmental benefits. This entire project significantly contributes to cleaner air in our cities and serves as an inspiring example to be followed by other public and private sector organisations.

EAZK – Energy Agency of the Zlín Region

✉ info@eazk.cz
 🌐 www.eazk.cz

PV SELF-CONSUMPTION IN PUBLIC BUILDINGS IN CASTILLA Y LEÓN



Ente Regional de la Energía de Castilla y León - Castilla y León, Spain



© EREN

The Regional Government of Castilla y León has appointed EREN, the regional Energy Agency, to manage some **European Regional Development Fund (ERDF)** funds for the period 2021 – 2027. **€20,5 million** have thus been allocated to carry out **PV solar installations in Regional Administration buildings** (60% co-financing).

Using their **database**, EREN analysed the electricity consumption and contracted access rates of all these administrative buildings, discarding those with a consumption of less than 65.000 kWh/year. The resulting list included 349 buildings.

The average annual PV production of these buildings is 1.250 net hours. An average ratio of 1,25 MWp/MW is considered. Regarding self-consumption, the rate varies between 10% and 65% depending on the building type (hospitals, residences, administrative or educational buildings).

Based on this analysis, EREN developed a **software** for pre-dimensioning the power of the PV production installation for self-consumption, resulting in a maximum power to be installed of 22,24 MWp, represents a total investment of €30 million.

Priority was given to investments in **public hospitals**, estimated at €8,25 million, which represent a power of 8,62 MWp. For the rest, EREN considered that 56,3% of the potential investments will be executed, representing €12,25 million of investment in residences, administrative and educational buildings, and corresponding to a power of 8,65 MWp. With these projections, the total planned execution is €20,5 million and 17,27 MW_p.

The following installations have been executed to date:

- **Río Hortega University Hospital** in Valladolid: 1.146,6 kWp and an investment of €975.415.
- **Hospital Clínico Universitario** in Salamanca: 506 kWp and an investment of €485,431.

The 397,1 kW_p installation at the Hospital Clínico Universitario in Valladolid, with an investment of €377.726, is currently in the bidding period.

In addition, execution projects are being drafted for the installations at the Monte San Isidro Hospital (183,3 kW_p) and Santa Isabel Hospital (117,97 kW_p) and at the Eras de Renueva Health Centre (116,48 kW_p).

EREN - Ente Regional de la Energía de Castilla y León

✉ eren@jcy.es

🌐 www.energia.jcy.es

ENHANCING PUBLIC TRANSPORT ELECTRIFICATION: BASQUE COUNTRY'S INNOVATIVE COLLABORATION



Ente Vasco de la Energía – Basque Country, Spain



© MEDUSA

After analysing the electrical recharge market, the regulatory framework and considering the difficulty that power distributors have to offer the required power for recharging, especially in the case of electrically saturated urban environments, **EVE, REPSOL and ASE Group** have joined forces to fund the company **MEDUSA ALTERNATIVES FOR ELECTRIC SUPPLY, S.L.** The company specialises in **smart recharging services for electric vehicle fleets**. This is done by connecting mainly to railway electrical infrastructure but also through other consumers who already have high power available and do not need it 24 hours a day.

MEDUSA operates between the railway operator and the manager of the electric vehicle fleet. It manages the recharging service, controlling energy and economic flows on an hourly basis, ensuring that the energy needs of both the railway electrical infrastructure and the electric vehicles are met.

The first project implemented by MEDUSA involved **Bilbao's metro** and the **local bus company Bilbobus**. The railway power network of the metro is used to power the upcoming intelligent charging infrastructure at the Bilbobus garage in Ribera de Elorrieta. This solution allows the use of an existing and high-powered infrastructure, such as that of Metro Bilbao, to provide a complementary service to another public transport, Bilbobus, during night hours when both services reduce their activity.

This solution minimises investments in new electrical connections and optimises the use of contracted power. The designed system makes it possible to recharge the bus fleet without affecting the rail service. Power to trains will always take preference over recharging to buses if there is a metro service at that time, reducing the recharging of buses at the time of passing trains. At night times where there is no metro service, the recharge of the bus fleet will be more intensive. This optimises the whole system.

To summarise, the main advantages of MEDUSA are the following:

1. **Availability of high-power** during bus charging hours, mainly between 00:00 and 08:00 am, and maximum flexibility in the remaining hours. The typology of the railway service means that they need to contract high power at night when the passenger service decreases.
2. **Cheaper electricity price:** the railway operator already pays the term of power in its contract, while at the same time providing high volume and therefore more competitive energy procurement.
3. **Simpler administrative procedures:** as no additional point of access and connection to the distribution network has to be requested, nor an increase in the currently contracted power.
4. **Connection to a rail network** also has the advantage of being able to **progressively increase the power demanded** by the charging facility as new bus units are incorporated, always within the maximum capacity that the rail infrastructure can offer.

EVE - Basque Country Energy Agency

✉ international@eve.eus

🌐 medusa-alternativas.es

LOCAL AUTHORITY ASSETS: A SOLAR RESOURCE TO BE EXPLOITED



Horizon Réunion - La Réunion, France

Horizon Réunion is the regional agency for energy and climate of the Reunion Island. It plays a crucial role in **implementing the energy strategy of the island's local authorities**, with a focus on the development of renewable energies.

A key element of the region's energy transition goals is **maximising the value of local authority assets** through photovoltaic projects. This strategic initiative aligns with the targets set out in the Pluriannual Energy Programme to install **500 MW of photovoltaic power by 2028**. Pierre-Vincent PAYET, head of the solar department at Horizon Réunion, estimates that local authority assets will contribute at least 20% to this target.

Horizon Réunion: Tailor-made support

The agency's Solar Department Team is actively involved in the **key stages** of local authority photovoltaic projects, from defining project requirements to optimizing electricity use. Their responsibilities extend to the implementation of tender procedures via competitive bidding processes. Furthermore, their expertise extends to the financial field.

+ over 400 projects launched

In response to rising energy costs and growing profitability of photovoltaics, local authorities are following the lead practices, such as the Réunion region. Supported by Horizon Réunion, the region is deploying rooftop power plants on 14 high schools. Similarly, the city of La Possession has undertaken the deployment of power plants on approximately 20 municipal buildings.

"Since 2017, Horizon Réunion has facilitated the implementation of 43 projects. Today, nearly 400 projects are in the process of being contracted for these same local authorities", Pierre-Vincent PAYET, head of the solar department at Horizon Réunion.

Supporting electric mobility

Horizon Reunion also supports local authorities in the installation of solar carports and electric charging stations.



© Horizon Réunion

"A rooftop installation connected to charging stations allows a saving of 40% on the investment compared to the installation of carport" confirms the head of the Solar Department. A good example of this rationalisation approach is the project has been undertaken with the southern inter-municipal community "CIVIS" to install 9 vehicle charging stations powered by a roof-mounted photovoltaic plant at the local authority's head office. Since 2020, this installation has been charging the local authority's fleet of electric vehicles, while reducing the building's electricity consumption by 50%. The electricity is directed first and foremost to the vehicles. When vehicles are not on site, it supplies the building's electricity needs. When there is no consumption, the energy is fed back into the grid.

Horizon Réunion spl

✉ contact@spl-horizonreunion.com

🌐 www.energies-reunion.com

BRIDGING THE GAP BETWEEN MUNICIPALITIES AND ELECTRICITY NETWORK COMPANIES



Mälardalen Energy Agency – Mälardalen, Sweden

More and more electricity network companies looking to establish themselves in East Middle Sweden are being told to go elsewhere, taking hundreds if not thousands of potential jobs with them. The reason? Most municipalities are struggling to meet the demand for network capacity that has only begun to increase. Aiming to address the current shortage of network capacity, Malardalen Energy Agency (MEA) is helping both municipalities and electricity network companies in jointly planning for future energy distribution.



© Hanna Maxstad

Electrification is key to phasing out fossil energy sources and creating an environment where sustainable businesses can thrive. However, it is no easy feat. Electrification will require that we produce, distribute, and use electricity in new ways.

Collaboration across three regions

The Malardalen Energy Agency (MEA) has launched a project to accelerate electrification across three regions. The first goal is to increase collaboration between municipalities and network companies and support them in planning network expansions efficiently. The project also aims to increase the production of fossil-free energy and to spread the know-how to increase network capacity through flexibility.

"We see that municipalities need support to handle questions regarding electricity network capacity shortage, it is not uncommon for them to contact us because they have to turn new businesses away", says Lina Gellermark, CEO of the MEA.

"We need tools, resources, and guidance"

Increased knowledge, communication and collaboration are key. MEA is arranging events, both digitally and in-person, and creating platforms for the parties concerned to discuss challenges and solutions.

"We are working actively with The Malardalen Energy Agency to avoid the risk of prolonging the process of extending and upgrading the electricity grid. We need tools, resources, and guidance to handle the question as professionally and proactively as possible", says Ricardo Dojorti, Public Works Director in Arboga Municipality.

Based on learnings from a previous project

Elsmarta Östra Mellansverige is an EU-funded project that will run until October 2026 in collaboration with four neighbouring regional energy agencies. Actions taken are based on learnings from a recently finished project on regional electricity network capacity shortage, Elkapacitet och effektanvändande i Östra Mellansverige.

MEA - Energikontoret i Mälardalen

✉ lina.gellermark@energikontor.se

🌐 www.energikontor.se

AGGREGATING SOLAR PV INSTALLATION DEMAND IN SMALL MUNICIPALITIES TO BOOST CLEAN ENERGY TRANSITION

REA North - Northern Croatia



© REA North

Motivated by years of experience, in 2021 Regional Energy Agency North (REA North) decided to extend its portfolio for **joint public procurement by aggregating the demand for solar PV installations on the roofs of public buildings**.

The start of this aggregation process was triggered by the announcement of the Call for proposals within the Energy and Climate Change programme - a financial mechanism of the European Economic Area. The call provided co-financing for solar rooftop PV installations with the main condition that the total amount of support should not be lower than €200,000. This condition posed a challenge to many local governments and public institutions who could not meet the threshold on their own.

To involve small(er) local governments in the project application, REA North engaged in **project development assistance** activities over a period of six months - hundreds of phone calls, email correspondence with decision-makers and public servants to motivate them, providing **technical support** in the complex preparation process that involved procurement and development of technical documentation, negotiations with local branches of the national DSO, coordinating diverse local challenges.

In total, **21 Croatian public institutions** became partners, ranging from small municipalities and cities to the county hospital and regional water distribution company.

The main challenge in the implementation phase was the preparation and execution of the joint public procurement procedure. Surging prices, problems in supply chains, lack of installation companies, payment terms were all considered during the market research. The insight into the **market conditions** proved to be crucial for the preparation of the documentation. Although installation companies were overwhelmed with orders, the agency managed not only to raise interest from suppliers, but they also received very **competitive prices and bids**. PV capacities ranged from 3.6 kWp to 400 kWp.

In addition to financial savings, **standardisation** allowed to streamline part of the activities, **simplify project monitoring and reduce risks**. The knowledge and experience gained resulted in replicable (and further improved) procurement documentation that REA North used in similar projects.

Ultimately, the Solar Roofs for Green Virovitica and One Sun Connecting North & South projects were funded by a **€1.7 million budget**, resulting in the installation of **36 solar PV installation** on the roofs of public buildings such as hospitals, kindergartens, schools, faculties, utilities, sports, and cultural heritage buildings in 17 Croatian municipalities and cities.

REA North - Regional Energy Agency North

✉ info@rea-sjever.hr

🌐 rea-sjever.hr

EDITO

GREAT POTENTIAL, BUT MONEY RULES

By Christel Liljegren, Vice-President for Mobility and Transport



Great potential, but money rules! The experiences from our various projects aimed at companies in recent years show that there is still **significant potential to make energy use more efficient** in this target group, with measured efficiency improvements ranging **between 15 and 35 percent**.

In Sweden, the rise of energy prices in the fall/winter 2022 led to a **growing demand for the expertise and knowledge of the energy agencies** and for participating in different support initiatives. Numerous connections were established with companies throughout the regions, revealing the **influence of financial considerations** on the willingness to transition. This insight is valuable for future efforts, especially when the impact of lower energy prices can lead to decreased engagement and implementation of green transition in businesses.

It is fundamental to increase businesses' understanding that the connection to structured energy work and the optimisation of energy use in their operations creates a **business opportunity**, providing space for **profitability**.

As we transition from merely responding to high electricity prices by shutting off energy to optimising usage, the need for **energy coaching in businesses** remains crucial. Efforts must persist in raising awareness about structured energy work and energy efficiency. While the recent surge in electricity prices has heightened awareness, maintaining interest in energy efficiency initiatives is essential, especially as prices normalise.

Recommendations gathered from small and medium sized businesses in our area to policymakers:

- **Create incentives** and establish incentive systems for corporate personnel to participate in energy efficiency initiatives, aiming to enhance involvement and performance. Clear communication about savings and motivation is crucial.
- Recognise the significance of **energy audits** by offering support and subsidies for companies to engage experts. Emphasise the reduction of expensive energy items and encourage the shift to sustainable alternatives.
- Support companies in **strategic energy management** by establishing internal organisations and appointing energy managers. Provide resources and incentives to fortify internal structures.

NETWORKING, A SUCCESSFUL METHOD



Energikontor Syd - Southern Sweden



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In recent years, efforts targeting businesses have revealed **significant potential for enhancing energy efficiency**. A standout methodology involved **organising companies into networks** and providing support through lectures, individual consultations, and knowledge exchanges.

Over the past two years, 33 companies in southern Sweden **region Skåne** participated in Energy Efficiency Networks. The results showcase substantial **improvements of 15-25% in the energy efficiency** of these businesses. Several companies attest that the network played a pivotal role in prioritising energy efficiency amid the myriad challenges they face. They emphasise that their initiatives wouldn't have materialised without support from the project.

“The personalised and unbiased expert guidance, coupled with the knowledge we acquired, deepened our understanding of both new investments and routines for achieving greater energy efficiency”, says Oscar Karlsson, a production technician at Press Kogyo in Oskarshamn. “We are very grateful for the invaluable assistance we received from Energikontor Syd.”

Participation in webinars and events organised by Energikontor Syd facilitated new insights and connections. Oscar explains that they have invested in **new equipment and enhanced energy-related procedures**, gaining better control over their power and energy consumption. This enables **smarter decision-making** regarding energy use in both the short and long term.

The results indicate that between August 2021 and the end of October 2023, a total of **95 companies** received individualised support to initiate energy-related efforts, with a focus on energy efficiency. Two notable examples include the Växjö-based restaurants Massimo, which reduced energy usage by 35%, and Keun Joo, which reduced energy consumption by 25%.

Throughout the project, approximately **1500 companies** and individuals participated in webinars, seminars, and training sessions organised by Energikontor Syd or other business-promoting entities where the energy office contributed as lecturers. Participants gained information, knowledge, and practical tips on transforming their energy situations, fostering a clear understanding of what a green transition entails.

This best practice showcases the successful implementation of an energy efficiency network, emphasising its pivotal role in **catalysing positive changes in the energy landscape of businesses** in southern Sweden.

Energikontor Syd - South Sweden Energy Agency

✉ info@energikontorsyd.se

🌐 energikontorsyd.se

BOOSTING RENEWABLE ENERGY USAGE: CONTACT POINT EMPOWERING INVESTORS IN SLOVENIA



Spodnje Podravje Local Energy Agency, Slovenia

The **seven Local Energy Agencies of Slovenia** have partnered with **BORZEN d.d.** - a Slovenian company that operates in the field of energy - to establish **Borzen's contact point**, dedicated to promoting the use of renewable energy sources (RES). This initiative aims to provide investors with crucial information and expedite investments in the renewable energy sector.

The contact point operates as a dual-function resource:

1. The contact point assists investors in navigating the complexities of obtaining **permits and necessary approvals** for the construction, reconstruction, renovation, or operation of production facilities. This includes facilitating their connection to the grid.
2. It also **guides investors through the intricacies of support programme processes** related to renewable energy. Assistance is provided for a series of different applications - all using renewables: electricity and heat production, production of gaseous fuels (including hydrogen) and biofuels, cogeneration with high efficiency, utilisation of excess heat in district heating systems, and energy storage.

To enhance the support offered, a comprehensive **series of guidebooks** has been developed, covering different topics (production sources and technologies; procedures for construction, grid connection, and operation; legal organisational statuses and tax-financial aspects; etc). While some sections are still under development, such as the implementation of RES in cultural heritage buildings, the [guidebook for the installation of small RES power plants](#) is already available in the Slovenian language.

The initial set of guidebooks was collaboratively developed by **Borzen and SODO** (Slovenian Electricity Distribution Operator), with subsequent contributions from the consortium of energy agencies, serving as experts in the energy field. These guidebooks help public and private investors in **establishing energy power plants through renewable energy sources**. They encompass every step, from documentation and legal requirements to the available technology in the market.



© Mihaela Kiselač

While concrete figures and effects on communities are yet to be fully realised, a promising development has emerged. From the perspective of the Local Energy Agency Spodnje Podravje (LEASP), 16 municipalities in the Spodnje Podravje region have either initiated or are in the process of documenting the setup of solar photovoltaic systems on public buildings.

In conclusion, this RES contact point for promoting renewable energy usage stands as a pivotal resource for investors in Slovenia. It provides essential **free-of-charge support**, guidance, and a wealth of information to **propel the renewable energy sector forward**, contributing to a sustainable and green future.

Lea Spodnje Podravje

✉ info@lea-ptuj.si

🌐 www.lea-ptuj.si

🌐 www.borzen.si/sl/Domov/menu1/To%C4%8Dka-OVE

ENERGY COMMUNITIES ARE HERE TO STAY!

By Christiane Egger, FEDARENE Vice-President for Climate Neutrality

A lot has been said about putting the consumers at the centre of the energy system. However, in most cases, this remained an empty slogan. A concept that is now really unleashing the power of a **new decentralised energy world** in which citizens play a key role are Renewable Energy Communities.

What is new? Traditionally, the exchange of electricity between two consumers – be they households, businesses, or public bodies – was only possible with the involvement of an electricity retailer. In 2018, the **Renewable Energy Directive** brought a new concept: in **Renewable Energy Communities (RECs)**, citizens, SMEs or public bodies are allowed to produce, consume, store, sell and share renewable energy in local proximity without an electricity retailer. The main purpose is to provide environmental, economic or social benefits rather than financial profits.

Many Member States have been taking their time in fully transposing this new instrument. Both the paradigm shift towards a new decentral energy system (in which RECs are only a first step) as well as creating the technical services needed for them proved to be challenging.

Austria was among the first Member States to fully transpose the relevant articles and made the establishment of RECs possible in 2021. We at the **ÖÖ Energiesparverband**, the regional energy agency of Upper Austria, launched a **One-Stop-Shop (OSS)** for Energy Communities on the day the new legislation came into force (the OSS was developed in the context of the H2020 project UP-STAIRS).

Two of our initial assumptions were proven to be true. Firstly, from the very beginning, there was a high interest in RECs and the high potential for local energy sharing was evident. Secondly, however, as a completely new instrument, a **high need for information and guidance** existed which still exists today after 2.5 years of intense support action. Within our OSS, we have held over 1,100 advice sessions for citizens, municipalities and other stakeholders, and we personally informed and trained over 3,200 participants in 57 events – of which 21 events were dedicated only to RECs (training courses, conferences, workshops etc.).



Also, our own learning curve was steep: advice on RECs covers a wide range of issues! Regulatory questions often concern the geographic boundaries of the REC, the legal form, the membership and what a REC is allowed to do and what not. Financial aspects often relate to funding programmes, grid tariffs or tax questions. Technical and organisational issues typically concern grid connection and interaction with DSOs, load optimisation, internal accounting systems, service providers and in general what to do at which step in setting up a REC.

Despite the high level of complexity and the slow start, RECs and other forms of energy sharing **have already taken root in our energy system**. Today in Upper Austria, there are over 500 shared PV installations in larger buildings, over 170 RECs with over 3,000 members and more than 20 citizens energy communities (which will be the next step).

The journey towards a truly decentralised energy system has just begun, and we are only starting to understand how it will transform the way we produce, share and use energy. One thing, however, is already crystal clear: Renewable Energy Communities are here to stay!

INTERNATIONAL PLATFORM FOR THE SUPPORT OF ENERGY COMMUNITIES



Beratungs- und Service-Gesellschaft Umwelt mbH - Berlin, Germany

Renewable energy communities play a crucial role in enabling citizens to actively contribute to and advocate for the ongoing energy transition. Given the current situation, the successful involvement of citizens becomes an essential element in securing a sustainable energy supply and reaching European and national targets for renewable energy shares.

However, the comprehensive requirements for the establishment and implementation of community energy cooperatives pose challenges, demanding extensive expertise. This ultimately translates into **different starting conditions** for getting involved. On the one hand, those who possess the knowledge and resources to actively participate in a citizens' energy community, and on the other, those who neither have the resources, know-how, nor the time to take advantage of new opportunities.

Recognising this disparity, it is essential to **support citizens** who are interested in setting up or expanding energy communities and to **enable them to benefit from existing experiences**.

B.&S.U. - Beratungs- und Service-Gesellschaft Umwelt, along with nine partners from six European countries, is part of the EU-funded project **SHAREs** under the HORIZON 2020 programme.

The SHAREs project focuses on supporting local actors in the establishment and expansion of energy communities, with a specific emphasis on reaching target groups that previously had little access to the topic of citizen energy. Each partner country has a **gateway in its respective national language** which is available as a central contact point. Gateways where all information, templates, and tools required for the establishment or expansion of energy communities, are available.

The content of the gateways was developed in cooperation with municipalities, stakeholders and pilot energy communities and is constantly updated.



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Municipalities and regions interested in promoting citizen energy communities can leverage the comprehensive information provided by SHAREs. This resource serves as a starting point for informing and activating citizens and supporting existing initiatives.

SHAREs enables **widespread dissemination** of the necessary knowledge, regardless of their background or previous experience, making it accessible to all interested parties. This approach facilitates broad mobilisation at the municipal and regional levels, fostering the establishment of energy communities and ensuring that the benefits of the energy transition are accessible to all citizens.

B.&S.U. - Beratungs- und Service-Gesellschaft Umwelt

✉ theinel@bsu-berlin.de
 🌐 sharerenewables.eu

LOCAL ENERGY COMMUNITY TRANSFORMATION OFFICE

ESCAN SL - Madrid, Spain



Participation of neighbours and associations of Rivas. June 2023. © ESCAN

Rivas Vaciamadrid, a municipality situated near Madrid with approximately 100,000 residents, has embraced a strategy for energy management aligned with the principles of the European Green Deal.

The municipality, backed by the Next Generation EU programme and the Spanish Institute for the Diversification and Saving of Energy (IDAE), has established a Community Transformation Office. Launched in 2023, the office serves as a catalyst, empowering associations, citizens, cooperatives, and small businesses toward the creation of sustainable energy communities.

The Community Transformation Office offers a range of **services to create energy communities of citizens using solar technologies in buildings**. These services include expert advice on energy community creation, self-consumption, energy efficiency, and public aid. The support is carried out in-person, by telephone, email and through videoconferences. The Office also provides technical regulatory and economic support with courses, coaching workshops, and conferences. So far, these activities have generated engagement from 210 citizens. Over 600 people have already visited the information office.

Rivas boasts an impressive **solar infrastructure**, with 2,300 solar panels installed on public buildings. This solar array produces 1.9 MWh annually, contributing **19% of municipal consumption**. The city council makes the direct purchase of energy, reducing the bill by €2.5 million annually that is dedicated to other public services.

Although solar infrastructures in public buildings are being developed in Rivas, energy communities with direct participation of citizens are still in a design phase. Recently, a **solar neighbourhood** was launched, involving 500 homes and based on a group of buildings using locally produced PV power for self-consumption. Named “La Pablo Renewable”, the neighbourhood represents a first step for the development of an energy community in Rivas.

Looking ahead, Rivas has ambitious plans to explore the potential of additional solar PV sites within municipal domains. Rivas Vaciamadrid’s innovative approach to fostering sustainable energy communities and the success of this initiative could be replicated for other cities in the Madrid Region and beyond, demonstrating its commitment to future generations.

Related to energy communities, “we continue to make Rivas a smart sustainable and intelligent municipality through actions that promote energy efficiency and energy savings” commented the mayor, **Aída Castillejo**, emphasizing that “thanks to projects like this, the public sector shows its level of commitment and responsibility towards future generations.”

ESCAN Energy Consulting SL

✉ escan@escansa.com

🌐 www.escansa.com



TESTING ENERGY SHARING MODELS IN EXTREMADURA

Extremadura Energy Agency – Extremadura, Spain

During 2023, Extremadura’s Energy Agency (AGENEX) successfully completed the implementation of **INNOINVEST**, a project including a pilot initiative of shared renewable self-consumption between public buildings in the city of Badajoz. The benefits of this scheme are multiple, from the economic benefits of optimizing the amount of energy self-consumed to the environmental benefits of replacing the energy taken from the grid by renewables.

Funded by the EU cross-border programme Interreg POCTEP, INNOINVEST aims to promote the use of renewable energy, energy storage and innovative technologies for building insulation. The pilot action developed by AGENEX includes these 3 fields of work.

The use of solar energy for electric self-consumption is a well-known technology that achieves significant savings, but it also has an important downside: it must be consumed at the time of generation. A solution is to include a storage system, but it increases costs and implies energy losses. So, the optimal solution is to **find complementary patterns of consumption** and use the maximum amount of the energy produced. This is the approach followed to design the AGENEX pilot.

This pilot scheme gathers **7 public buildings** located nearby: several administrative buildings, a hall of residents, and a data processing centre. 4 buildings have PV panels on their roof and one has PV panels on its façade. In addition to the vertical panels, this building has an External Thermal Insulation Composite System (ETICS). Finally, a small lithium-ion battery was installed. Due to the complementarity of the buildings and their energy demand, they are able to consume almost all the energy produced. The monitoring system allows to obtain the maximum benefit of the energy produced, providing also very valuable data related with their habits and allowing to modify their behaviours.

A very positive impact is the **optimised performance of the installations**. The innovative insulation system has reduced the energy demand of the archive building by

15%. Overall, the shared scheme is achieving **30 to 40% of energy savings** and has reduced the electricity bills by more than 50,000 EUR/year.



© AGENEX

The positive results highlight the benefits of shared schemes and will be a demonstrative action to implement this model in other administrative buildings which are currently under analysis. It also proves the potential for energy communities. Therefore, AGENEX is setting up an **advisory office (OTC)** in the region to provide support and enable their creation. Additionally, the agency has just kicked-off the **TRANSCOM** project to transfer this initiative to a cross-border scope, establishing a network of energy communities on both sides of the Spanish-Portuguese border.

AGENEX - Agência Extremeña de la Energía

✉ agenex@agenex.org

🌐 www.agenex.net



CITIZEN AND COOPERATIVE RENEWABLE ENERGIES IN OCCITANIE



Occitanie Regional Energy and Climate Agency – Occitanie, France

In 2014, the Occitanie Region adopted an ambitious strategy for the development of Citizen and Cooperative Renewable Energy (EnRCC), aiming to reach **500 projects and 100,000 citizen shareholders by 2030**.

Citizen and Cooperative Renewable Energy is one of the responses to strengthen the ownership of projects by citizens and communities, to involve them in the energy transition, and to optimise the economic benefits for the territory.

The Occitanie Regional Energy and Climate Agency (AREC Occitanie) is actively supporting the development of EnRCC in the region through several activities. In 2019, they carried out a **regional study** which demonstrated the economic impact of local and citizen renewable energy projects. 39 supported projects are going to generate **€66 million in local economic benefits** for the Occitanie Region (over the average 20 year operating period).

The study demonstrated the considerable **leverage effect of public aids**: for each euro of public subsidy invested, €50 of economic benefits are generated for the territory. The study also highlighted the societal impacts generated by citizen projects. The inhabitants, local authorities and local actors who invest in these initiatives are the decision-makers who will implement them. They decide how to distribute the economic benefits. As a result, **100% of the profits generated remain in the territory**, mainly to finance other local projects and to a lesser extent to remunerate those who have invested.

AREC Occitanie also moderates a **collaborative internet platform** that lists initiatives, provides tools, and facilitates feedback. At the same time, they manage a network of project leaders to facilitate the emergence of new initiatives and increase the skills of stakeholders.

In 2023, two new regional schemes were launched by the region which are managed by AREC. The first is the **CoTOITurage platform**. It connects owners wishing

to equip their roof with photovoltaic installations with project leaders active in local governance. A few months later 40 roofs were already available.

The second is a new **regional funding tool**. This tool aims, by taking a financial stake, to build renewable energy production projects carried out by citizens and/or local authorities. The tool concerns projects with a size lower than 500 KW and 100% supported by citizens and/or local authorities. In November 2023, several project leaders showed interest in the tool.

In December 2023, 65 installations have been supported, mobilising 5,300 citizen shareholders.



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AREC Occitanie - Agence Régionale Énergie Climat Occitanie

✉ arec@arec-occitanie.fr

🌐 www.energie-citoyenne-occitanie.fr

OVER 170 RENEWABLE ENERGY COMMUNITIES IN UPPER AUSTRIA



OÖ Energiesparverband - Upper Austria

OÖ Energiesparverband (ESV), the energy agency of the region of Upper Austria, has added a One-Stop-Shop (OSS) for Energy Communities to its service portfolio. Since 2021, it has successfully supported the development and establishment of Renewable Energy Communities (RECs) – there are now already over 170 RECs with more than 3,000 members in operation.



In 2021, the Austrian Parliament adopted the legal framework that enables the establishment of RECs in Austria. Seeing the great potential of this new and complex instrument, it was clear to ESV that significant support would be needed in order to get things moving and that they, as regional energy agency, could have a key role in making this happen.

ESV is well-equipped to run an OSS and support RECs: it has extensive experience through its existing OSSs for building renovation (homes) and energy performance contracting, as well as its range of other programmes for citizens (10,000 energy advice sessions, housing programmes), municipalities and SMEs. The Energy Communities OSS was developed in the context of the H2020 project UP-STAIRS.

The new OSS service provides support to municipalities, households and SMEs in Upper Austria on the technical, regulatory, financial and organisational aspects of energy

communities. The agency also succeeded in convincing the regional government to launch a dedicated small financial support programme for the preparation of RECs (if specific legal or technical support is needed). The national government then adopted this programme on the national level.

Impact so far:

- Advice and support to municipalities, households and SMEs in Upper Austria on regulatory, technical, financial and organisational aspects of Energy Communities. **Over 1,100 individual advice sessions** (on-site, by phone, video meetings) have already been carried out.
- Information on RECs in **57 events with 3,200 participants**, of which 21 were own ESV events dedicated only to Energy Communities (training courses, conferences, roundtables, workshops), target groups: citizens, municipalities and other key stakeholders.
- In December 2023, there were already **over 500 shared PV installations in larger buildings, more than 170 RECs with over 3,000 members**, and more than 20 citizens energy communities in the region.

More forms of energy sharing will follow in the Austrian legislative framework. That will allow to take energy sharing to the next level in the coming years!

OÖ Energiesparverband

✉ office@esv.or.at

🌐 www.esv-en.at

CLIMATE RESILIENCE THROUGH REGIONAL APPROACHES

By Thekla Heinel, FEDARENE Vice-President for Climate Protection in Municipalities and Regions



Communities and regions play a central role in providing essential services and protecting citizens and local economies from harm. There is thus a growing emphasis on developing local and regional strategies to mitigate the impact of extreme weather events. Implementing effective resilience measures is not a stand-alone activity but requires participatory and process-orientated development that integrates seamlessly with wider climate change initiatives. This approach ensures that risks are accurately identified, continuously minimised and maladaptation is avoided.

For this reason, the **European Climate Adaptation Award (eca)** was launched in Germany - a pioneering quality management and certification programme for municipalities to proactively adapt to climate change. With its three components - instrument, stakeholders, and process - the eca programme offers local authorities a comprehensive catalogue of measures for the most important fields of action, which is based on the German Adaptation Strategy. Steps such as climate impact analysis, policy programme development, project implementation and a systematic review support the efforts of participating municipalities to strengthen resilience.

But it is becoming increasingly clear that beside targeted actions on municipal level, regional cooperation is essential to assure resilience in a consistent and holistic way. **Challenges must be tackled beyond municipal boundaries** to ensure sustainable protection and comprehensive resilience. This is why a pilot project was started by the German eca office to extend the programme to districts. The central task here is to work out the different options for action and responsibilities and to provide a specific catalogue of measures for districts. The synergies between the municipal and regional level expand the scope of action and lead to a more comprehensive picture.

The central target is to **embed adaptation activities firmly into municipal and regional processes**, promote continuous development and save resources to ultimately pave the way for sustainable resilience.

The [EU Copernicus Climate Change Service \(C3S\)](#) stated that the year 2023 is on track to be the hottest year ever. On this background and in view of the global impact of climate change, whether through the direct effects of heat waves, heavy rainfall or the consequences of disasters, the need for urgent measures to mitigate and adapt to climate change is obvious.

Tackling this **dual challenge** requires an **integrated, structured, and targeted approach** to curb global warming in a timely manner and at the same time protect municipalities and its citizens from the effects of climate change.

ADVANCING CLIMATE RESILIENCE: HIGHLIGHTS FROM THE FEDARENE CLIMATE ADAPTATION WORKING GROUP



In 2023, the Climate Adaptation Working Group held three meetings initiated by B.&S.U. and FEDARENE gathering more than 35 participants. During these meetings, we shared experiences, informed about ongoing projects and initiatives, and discussed our aspirations and possible activities for the coming years.

Furthermore, as a result of our members' willingness to step up action on climate adaptation, we also collectively drafted [FEDARENE's first position paper on climate adaptation](#). The position paper's objective was threefold. First, to **position regions and agencies** as central stakeholders in implementing climate adaptation measures and becoming climate resilient. Second, to show our competence and work to potential members and potential partners and finally to raise awareness of the urgency of the topic in all regions. To support the promotion of the paper, some members recorded videos that will feed a communication campaign on social media in 2024.

Taking a broader look at our activities in the field of adaptation to climate change we can mention our involvement in several EU projects and initiatives.

To begin, FEDARENE has been part of the [Covenant of Mayors – Europe](#) initiative for many years now. The initiative has been pioneering by pushing cities to commit to climate adaptation actions since 2015 and

by providing support to local and regional authorities through a Policy Support Facility (PSF) dedicated programme from 2022 to 2023. The PSF work will be scaled up in the EU Mission on Adaptation.

FEDARENE has become an official Friend of the Mission already in 2022 and is supporting its implementation as partner of the [Mission Implementation Platform \(MIP4ADAPT\)](#) in which we are developing the peer learning programme and focusing on funding and financing opportunities for regions.

[REGILIENCE](#), the first coordination and support project of the Mission Adaptation is completing our main activities on climate adaptation. It supports regions and communities in their efforts to develop climate-resilience pathways. FEDARENE is more particularly in charge of the knowledge and experience-sharing activities and the coordination of the regional actions.

Finally, our **members' early commitment and involvement** in climate adaptation were well reflected in [Transform4Climate](#) project led by REGEA, IRE Liguria, and CEA. The aim was to reflect on how energy agencies can transform into energy and climate agencies.

2024 will see us develop even further our climate adaptation activities, stay tuned!



All stakeholders at all levels of governance can count on FEDARENE and its members' competencies, experience, and contacts to step up adaptation to climate change.

Thekla Heinel

FEDARENE Vice-President for Climate Protection in Municipalities & Regions



INTEGRATED ACTION FOR CLIMATE RESILIENCE IN ALBA IULIA



Alba Local Energy Agency - Alba Iulia, Romania



© apulum.ro

Alba Iulia, the county seat of Alba County, began its climate planning in 2018 alongside the elaboration of the **Sustainable Energy and Climate Action Plan (SECAP)**, conducting a Risks and Vulnerabilities Assessment, and formulating an initial action plan for **climate change adaptation**.

In 2022, further proving its engagement in climate resilience Alba Iulia Municipality, in collaboration with Alba Local Energy Agency (ALEA) as technical partner, elaborated the **Climate Change Adaptation and Mitigation Action Plan - CCAMAP** within the CRESC project, implemented with support from EEA grants for climate resilience and decarbonisation.

The Plan played a crucial role in **advancing local research** on climate hazards, exposing vulnerabilities such as flash floods, urban heat islands (UHI), a low percentage of green spaces, limited institutional capacity, and the (lack of) local networking for climate adaptation. Also, it provided **data-based solutions** as:

- Resizing the urban water drainage system based on field studies and rainwater volume simulation during heavy precipitation, considering the terrain specifications in affected areas;
- Extending green spaces in areas affected by UHI and heat waves considering road/pedestrian traffic and the density of inhabitants in the affected areas;
- Optimising traffic on local roads based on flash flood vulnerability map.

The elaboration of the CCAMAP has generated other useful outputs such as climate hazard scenarios, prioritisation of measures according to the costs of damage incurred by the occurrence of the hazards, and identification of key institutions and their roles in the calamity intervention process. It also generated an **updated list of adaptation actions**, including retrofits of the urban water drainage system and intensified data acquisition/studies on local climate hazards.

The **weather and climate analyses** conducted within the CCAMAP helped create an **UHI map**, serving as a **best practice example** for other Romanian municipalities. UHI maps help local authorities to identify the high-risk areas and can provide data on the causes that contribute to the hazard and even suggest feasible measures for local UHI mitigation.

With the Climate Change Action Plan starting its implementation in 2022, the challenge is **securing suitable financing sources** for climate resilience actions. ALEA, together with Alba Iulia Municipality, is actively involved in CLIMATEFIT (Horizon Europe project) to make climate resilience financially sustainable, by identifying adequate financing solutions. Alba Iulia CCAMAP represents a comprehensive, collaborative approach to climate planning, significantly impacting the municipality's resilience and sustainability.

ALEA - Alba Local Energy Agency

✉ contact@alea.ro

🌐 alea.ro/portofoliu/planul-de-atenuare-si-adaptare-la-schimbarile-climatice-al-municipiul-alba-iulia-paasc-cresc

ADAPTATION TO CLIMATE CHANGE: CARTOVIZ AND OTHER TOOLS TO ADVISE THE PARIS REGION'S LOCAL AUTHORITIES

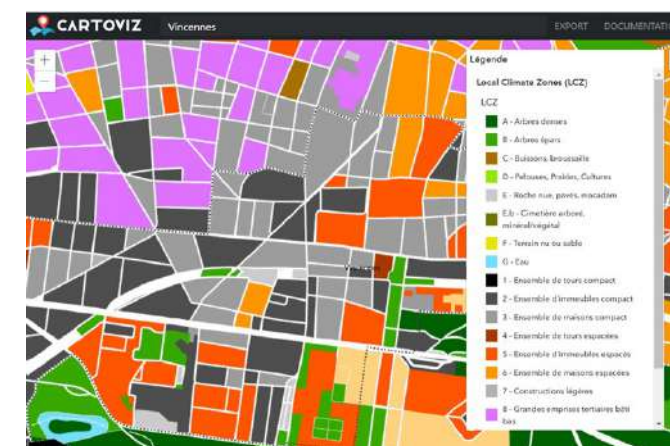


L'Institut Paris Region - Ile de France, France

While the Paris Region Institute (IPR) has been involved in adaptation to climate change projects for many years, in 2023 the issue gained real momentum.

The **effects of climate change** are already visible in the Paris Region: droughts, heatwaves, flooding, shrinking and swelling of the clay... Local and regional authorities need to **integrate these issues into their public action**, with the participation of local stakeholders to ensure a shared vision of vulnerabilities and the solutions to be deployed.

Since 2020, IPR has developed a **GIS tool named Cartoviz on urban heat islands** that facilitates the territorial diagnosis. IPR has carried out a detailed characterisation of the urban and rural areas of the region to determine their international Local Climate Zone (LCZ): dense trees, scattered trees, bush, low plants, bare rock or paved, bare soil or sand, water, compact high-rised, compact midrise, compact low-rise, open high-rise, open midrise, open low-rise, lightweight low-rise, large low-rise, sparsely built, heavy industries.



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The tool enables professionals to **measure the impact of climate change on the urban morphology** of each building block in the Paris Region. It will be used to provide an overview and some recommendations to

local authorities for their local climate, air and energy masterplan (PCAET) such as:

- Increase plant cover (on the ground, on buildings and on flat roofs);
- Increase water surfaces (limit soil sealing, develop cooling areas like aquatic areas, pools, fountains);
- Increasing the shaded area and/or solar gain (more trees for more shade, more solar protection for buildings etc.)
- Use materials with more suitable thermal and optical properties (light colour for soil and pavements, light colour for roofs, insulation of buildings and materials to increase inertia of materials)
- Reducing human activities heat sources;
- Adapting the ventilation of the blocks.

The Paris Region Institute and its different departments deploy their know-how on climate change at local and regional level through three axes:

1. Raising skills and awareness events;
2. Technical studies;
3. Implementation of the regional strategy.

Cartoviz is playing a role in each area as a pedagogical tool for local authorities, a decision-making tool for vulnerability assessments studies and a tool for disseminating knowledge.

L'Institut Paris Region

✉ info.arec@institutparisregion.fr

🌐 www.arec-idf.fr

GREEN DEAL IS LOCAL!

By Vlasta Krmelj, FEDARENE Vice-President for Financing and Investments

Through its Green Deal, the European Union is leading the way towards carbon neutrality. Many new regulations adopted within this framework will be implemented at local level. The **consequences of climate change are also local**: heat waves, heavy rains, floods, landslides... these phenomena are now affecting our daily lives.

When a disaster occurs there are only local civil protection groups, firemen and local politicians that have to face the fear and damage caused. It is certainly not easy to tell a family they have to leave their home.

Many municipalities have faced such situation in August 2023 when an unprecedented **storm** hit Slovenia. The cost of damage is €9 billion, representing around 70% of Slovenia's budget.

The municipality of **Selnica ob Dravi** took matters into its own hands. We are working on new measures to help cleaning the water streams; maintaining the roads – with right angles and drainage system to be more resilient for flooding; organising civil protection groups to be operative even if roads are damaged or without telecommunications. We are looking for public spaces and other locations to welcome people who lost their homes and installing photovoltaics to be independent of the grid.

As long-term action we are building carbon neutral kindergarten. And last but not least, we are making a lot of efforts to inform and educate people of all age to understand the situation and know how to behave.

Many people are asking where to find the money for the action needed. There is a lot of **financial mechanisms** available for climate projects. Many cannot be implemented at local or regional level because finance ministries have not adopted them at national level. This issue calls for action. The EU must work actively with national financial authorities to be faster in implementing all possible instruments – energy communities, crowdfunding, green bonds etc.

The importance of the Green Deal at local level was also pointed out by the **Committee of the Regions**. Without



using all financial potential, the implementation and work towards climate neutrality will be difficult. **Investing in a green, digital, resilient and carbon neutral future is the only solution for sustainable development.**

The **Coalition for Disaster Resilient Infrastructure** is calling for investments in climate resilient projects. Not investing will cost more and more in the future. The future is in the hands of our generation. We have to share the responsibility, knowledge and experiences and cooperate for the good of our planet.

PODRAVJE REGION: LEADING THE WAY IN CLIMATE RESILIENCE AND SUSTAINABLE PRACTICES IN SLOVENIA

Energy and Climate Agency of Podravje - Podravje, Slovenia

As the impacts of climate change intensify, there is an increasing need for urgent action to bolster efforts, plan, and implement measures for both mitigation and adaptation. It is in response to these pressing challenges that the **ADAPTNOW** project was developed.

Funded under the Interreg Alpine Space programme, this project works on **strengthening the adaptive capacity of Highly Affected and Exposed Territories in the Alps**. A consortium of 12 partners from five EU countries collaborate to develop tools, methods, and practices for climate adaptation and risk mitigation.

ENERGAP leads the project implementation in the **Podravje region**, North East of Slovenia. Having faced three natural disasters in May, July, and August 2023, the region experienced significant economic and environmental damage. In response, many stakeholders engaged in consultations to enhance the region's resilience, including the local fire brigade, civil protection groups, national forest management authority, national water management authority, and citizens. Measures such as the restoration of roads, cleaning of water streams, and tree-cutting were put forward to mitigate the impacts.

Furthermore, the region is also proactively developing a **Climate Adaptation Strategy and Action Plan**. This strategic framework follows the PLAN-DO-ACT-MONITOR-REACT-PLAN sequence, incorporating actions that are both financially and technically feasible. The goal is to not only respond to the immediate challenges but to establish a long-term strategy for climate adaptation. The 21 municipalities of the region are engaged in the strategy and leverage various climate adaptation tools and methods to implement the action plan.



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Under ENERGAP's guidance, the Podravje region has also been selected as a supporter of the **EU Mission on Adaptation to Climate Change**. In this capacity, it will actively participate in mission-related activities and communities, sharing the valuable information gained with the municipalities it collaborates with. As part of this effort, ENERGAP has been rewarded with the title of "Friend of the Mission".

By sharing knowledge, implementing strategic plans, and actively participating in EU Missions, we can contribute to building resilient communities that can withstand and adapt to the challenges posed by climate change.

ENERGAP - Energy and Climate Agency of Podravje

✉ info@energap.si

🌐 www.energap.si

EMPOWERING COMMUNITIES: HARNESSING ENERGY EFFICIENCY AGAINST ENERGY POVERTY

By Florin Andronescu, FEDARENE Vice-President for Energy Efficiency and Energy Poverty

In the post-pandemic era, with war near us and knocking on the EU's doors, a very complicated situation is emerging in the European energy landscape: the **precariousness of energy security and the volatility of energy prices**. For small and impoverished communities in Eastern European regions, energy poverty is becoming an arising phenomenon, and **vulnerable citizens are the most affected**.

The initial response at the state level in many **Eastern European countries** was to limit energy prices by law (suspending the role of energy markets) and provide social subsidies for housing energy consumption. As a result, national budgets are under strong pressure, and inflation is starting to increase; economic growth is under discussion, at least for the short to medium term.

The **REPowerEU initiative** comes as a comprehensive response from the EU leadership to address all these threats and keep the EU on its path to climate neutrality by saving energy, producing green energy, and diversifying its energy supplies. Simultaneously, the **Just Transition Mechanism** ensures that the transition to a climate-neutral economy takes place in a fair way, leaving no one behind.

“We must show solidarity with the most affected regions in Europe, such as coal mining regions and others, to ensure the Green Deal receives everyone’s full support and has a chance to become a reality,” says Frans Timmermans, the former Executive Vice-President of the European Commission.

The national plan for Recovery and Resilience for Romania contains important chapters for financing the **renovation wave** (especially for a significant number of old condominiums) and promoting greener energy. In our regions, extensive energy efficiency works are needed to transform a large number of old buildings into energy-efficient ones, providing good indoor living conditions.

Simultaneously, many citizens are initiating projects to install photovoltaic panels and heat pumps in their houses using dedicated national programmes financed by EU



funds or the Romanian Environment Fund. These citizens will become prosumers and will contribute directly to the EU targets for energy and climate. For example, in the last two years, up to 80,000 small prosumers have emerged, and the trend is to double the number in the next year.

In our city – **Alba Iulia Municipality**, ongoing and planned works for the current period aim to transform several thousand homes into modern and energy-efficient ones.

The **Alba Local Energy Agency** is currently working with many municipalities to support them in introducing and implementing dedicated packages of measures to green their energy consumption and address energy poverty in their territories. One of our latest initiatives is the start of the EU Life **CEESEN BENDER** project to create a pilot action to address energy poverty in the Municipality.

FINANCING SUSTAINABLE MOBILITY FOR LOCAL COMMUNITIES THROUGH ENERGY SAVINGS

Auvergne Rhône-Alpes Energie Environnement - Auvergne Rhône-Alpes, France

In January 2023, Auvergne-Rhône-Alpes Energie Environnement, in association with three other nationwide organisations, was awarded a grant to support sustainable and inclusive mobility projects throughout France. The originality of the TIMS programme lies in its financing method - energy saving certificates - which, moreover, is applied to projects at the crossroads of sustainable and inclusive mobility (generally in sparsely populated areas). In addition, it is a large-scale programme, with a budget over €30 million.

The **Energy Savings Certificates (CEE)** scheme, created in 2005, is one of the main instruments of France’s energy demand management policy. Set up to finance the energy transition, the scheme binds energy suppliers to finance energy savings, and in return - via work undertaken by homeowners or awareness-raising programmes - they obtain White Certificates, issued by the Ministry of Transition.

After 6 years of experience with the **PEnd-AURA** and **PEnd-AURA+** programmes, the Auvergne-Rhône-Alpes regional energy agency (AURA-EE) decided to embark on a new adventure, this time with three major partners in the energy transition: the national network of regional energy agencies (RARE), the CLER network for energy transition and Mob’In, the national network dedicated to inclusive mobility. Together, they created TIMS.

To be eligible for this type of funding, the programme’s promoters had to commit to quantifying the energy-saving effects of the actions carried out in the regions, and to setting up a precise governance structure - a complex undertaking, given the number of stakeholders involved and the funding involved!

“In a nutshell, TIMS is about **offering eco-mobility solutions** to households that are prevented from getting around, and to landlocked areas. This concerns those who have no mobility solutions, such as **struggling households** without a car and dependent on public transport that is too expensive or unavailable in their area,” explains Bouchra Zeroual, one of the programme’s coordinators. “Sustainable mobility already exists (car-sharing, public transport). Inclusive mobility too (bike schools, driving license assistance). But the meeting of



© AURA-EE

these two types of mobility needs to be fully structured. That’s our goal with this programme”.

TIMS relies on **90 regional project leaders** who have been selected via a call for interest. Coordination is organised at both national and regional level. They are also supported in terms of capacity-building and capitalising on their actions and experience.

Although the TIMS just launched, AURA-EE has already achieved a major change of scale and won the confidence of its partners and institutions alike.

AURA-EE - Auvergne Rhône-Alpes Énergie Environnement

✉ info@auvergnerhonealpes-ee.fr
 🌐 www.auvergnerhonealpes-ee.fr

TACKLING ENERGY POVERTY IN RESIDENTIAL CARE HOMES IN IRELAND

South East Energy Agency - South East Ireland



© South East Energy Agency

In 2023 there was a great emphasis placed on addressing energy poverty within the residential sector. Energy poverty refers to a situation where certain individuals or communities face challenges in accessing affordable, reliable, and modern energy services. While Ireland is a developed country with a well-established energy infrastructure, energy poverty can still be an issue, particularly for certain demographic groups such as elderly or low-income households.

The South East Energy Agency completed **deep retrofits on 15 properties** at the Holy Ghost Residential Home in Waterford City as part of the Irish SEAI Community Energy Grant scheme. The centre provides residential care for elderly tenants, providing a service of supported self-care, with all tenants classified as living in energy poverty. The Holy Ghost Residential Home was built in the 1970's and was in drastic need of energy upgrades, the homes were cold, draughty and also had mould on the internal ceilings and walls.

Numerous surveys were completed which resulted in **energy audit reports** provided for each of the residential units. This highlighted the specific measures required to reduce the buildings energy consumption and carbon emissions, but also to improve the thermal comfort of the tenants post works.

A fabric first approach was used, firstly upgrading walls, roof, windows, and doors. The airtightness was improved to reduce draughts, then mechanical ventilation was installed to remove stale air and provide fresh air into the home. Renewable energy incorporated in the project included heat pumps, Air to Water heating systems with fully integrated heating controls and solar PV.

All units had a Pre BER rating of C, E, G or F. Following the deep retrofit all units have received an A BER rating. The deep retrofit works completed have thus led to a huge improvement in the energy efficiency of the homes, raising its elderly tenants out of energy poverty and improving their comfort and health.

South East Energy Agency, Energy Engineer, Colm O'Mahony said: "With the ever rising energy costs, addressing energy poverty is of critical importance. By deploying efficient and renewable energy solutions, we **empower communities to break the cycle of poverty**, fostering economic growth, education, and healthcare. This not only improves quality of life but also aligns with our global responsibility to mitigate climate change. As energy engineers, we play a key role in designing and implementing solutions that uplift underserved populations, promoting a more equitable and sustainable world".

SEEA - South East Energy Agency

✉ contact@southeastenergy.ie

🌐 southeastenergy.ie

EDITO

CAN ISLAND LIVING BE POSSIBLE?

By Savvas Vlachos, Vice-President for Smart and Sustainable Islands

Islands are borne out of the sea - and it's the surrounding sea that defines islands in our minds. Living and working on an island as I do, have given me insights into the various facets of both the **challenges and opportunities** that come from being surrounded by the sea.

The **geographical isolation** of islands results in the heavy reliance of air and sea transport for the movement of both people and goods. Our energy isolation, which results in the dependence on other regions and states for the supply of energy resources, and the need for interconnection, poses a significant challenge with complex political, economic, and environmental parameters. These in combination with our small scale, seasonal fluctuations in the number of visitors and use of resources, create socioeconomic challenges that impact the available **employment opportunities and wellbeing of island communities**.

At the same time, climate change is impacting our daily lives. We cannot overlook the fact that last summer was the hottest on record, leading to extreme weather events, that added to the existing challenges on island ecosystems.

Yet, European Islands are an integral partner in our joint efforts towards climate neutrality and climate adaptation. They are committing one after the other to the energy transition. Through an increase in energy efficiency, exploitation of local renewable energy sources, promotion of sustainable transport, energy storage and interconnections, **islands are charting a pathway forwards**.

Adaptation and resilience to climate change offer new opportunities. Nature-based solutions, ecosystem restoration, use of innovative construction materials, are just a few of the opportunities available to island communities.



So, can island living be possible? Yes, island living is not only possible, but can be wonderful. Despite the challenges, islands are endowed with tight-knit communities, an outstanding environment, and an abundance of local renewable resources - the **key ingredients to sustainable island living**. The energy and climate transition offers a wealth of opportunities, which our local communities can grasp to build future sustainable and smart islands. Yes, island living is not only possible; it is wonderful!

FEDARENE ISLAND COLLEGE: A NETWORK WITHIN THE NETWORK!



© Evangelos Mpikakis on Unsplash

FEDARENE is not just a network of energy agencies and regions – it is also a network of islands. Its ‘Island College’ currently counts 14 members - 10 based on islands and four continental members active on islands. It aims to kick-start the Energy Transition of European Islands and highlight their role of pioneers for innovative and sustainable solutions to be replicated in mainland Europe.

To achieve this, FEDARENE activities for islands rest on three pillars:

- **Networking & Capacity-Building:** organise study visits and staff exchanges between island members. Encourage the development of new energy agencies in islands;
- **Policy & advocacy:** highlight the creativity and resourcefulness of islands towards EU Institutions and propose policy recommendations;
- **Communication & promotion:** promote islands best practices. Share useful resources within the group to further raise their skills and create new opportunities.

Savvas Vlachos, FEDARENE Vice-President for Smart and Sustainable Islands, acts as Chair of the islands groups, ensuring the implementation of the three axes. FEDARENE’s involvement in the EU-funded projects [Green Hysland](#), [ISLET](#) and [Crete Valley](#) also generates opportunities for islands and generates visibility for these remote territories.

The Island College aims to meet regularly to share experiences, and ultimately achieve the objectives mentioned here above. An online meeting organised on 14 November 2023 reaffirmed the will of island members to sustain group interactions, but also to raise their skills in all areas of the green transition: energy efficiency, renewable energy technologies, energy communities, financing, circular economy and more.

Are you interested in learning more about the FEDARENE Island College and its activities? Contact fedarene@fedarene.org.

RETAINING SKILLS IN SMALL ISLANDS OF EUROPE



European Small Islands Federation

For the members of the European Small Islands Federation (ESIN), the issue of population retention is essential. The good news is that involving small islands in the Clean Energy Transition offers a pathway to retain young islanders through green jobs and upskilling. To do this however, education needs to be tailored to the islanders’ needs.

“Entrepreneurship is in our DNA” stressed local businessman Gerard Sullivan of **Bere Island Boatyards** in the south of Ireland, “but we have lost a lot of our young people to the city and US tech. We need to turn this round: training needs to be spread to all in the community; it has to be worth something to all members of the community! Unlike tourism where the benefits only go to a few.”

To this end, **Cork Education and Training Board** offers a compelling example of skill retention with their innovative **island training programme**. The training takes place on the islands and includes a new modular «micro-credentials» accreditation scheme, allowing islanders to build on their learning at their own pace. The programme allows the capture of the older generations’ knowledge through apprenticeships alongside the introduction of new knowledge. Another key to the adaptation of local communities to the renewable industry is the re-skilling and upskilling of existing maritime skills through the **West Cork Strategic Plan for a Maritime Training Centre**, which promotes cluster collaboration rather than competition.

The Island of **Eigg** also offers a strong model for providing jobs to young islanders. It delivers a comprehensive programme of health and safety modules and on-the-job training to meet the requirement of a micro-grid running on hydro, solar and wind power. Eigg it is now seeing a new generation of islanders being trained, as its electric system set up with EU funds is now entering its sixteenth year of operation. Six part-time Eigg Electric employees are in charge of monitoring and maintenance.



© Eigg Electric

13 small European islands have been selected for the newly launched “**30 islands for 2030**” challenge offered by the Clean Energy for EU Islands (CE4EUI). For ESIN, training and upskilling has to be at the heart of the initiative. Most small islands are run by voluntary boards and require facilitators and coordinators to spread organisational and relational knowledge alongside technical skills.

ESIN is keen to inspire a new generation of islanders to get involved with renewable energy and carbon neutral strategies from primary school onwards. Island educational establishments have to be key stakeholders for young islanders to see that the new energy strategies can and will provide them with the means to stay and thrive on their islands.

ESIN - European Small Islands Federation

✉ rhoda@esin.ngo

🌐 www.europeansmallislands.com

POWERYOUTH: ENGAGING THE YOUTH IN THE ENERGY TRANSITION



AdEPorto – Porto, Portugal



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POWERYOUTH is a project coordinated by SingularLogic and implemented by the Porto Energy Agency (AdEPorto) in **Asprela** (Parish of Paranhos, Porto, Portugal), that aims to empower young people between 15 and 30 years old to play an active role in the energy transition, namely **energy communities**.

POWERYOUTH has received €1.5 million in funding from the LIFE programme and will provide a participatory democracy platform for young people to express their opinions, as well as a tool to support collective decision-making and a tool to promote innovative business models and funding schemes.

The project builds on AdEPorto's experience from the ASPRELA +Sustentável – a project funded by the EEA Grants which aims to help the city of Porto mitigate climate change and achieve carbon neutrality. To this end, a **Living Lab** - a space for testing innovative services and technologies - is being developed in Asprela, promoting decarbonisation in several areas: circular economy, sustainable urban mobility, energy, buildings, literacy and community participation.

With a population of 30,000, Asprela brings together around 60,000 people every day. The area boasts seven universities, three primary schools, 82 business incubators, 53 national and international research centres, a central hospital (S. João), 121 technology companies and innovation centres, and several service buildings.

In Asprela, through POWERYOUTH, it will be possible to improve renewable energy communities with youth participation.

By the end of the project, a comprehensive and easily replicable capacity building programme will be in place to train young people in green energy skills and promote their participation in energy communities, creating a strong cohort of **Youth Energy Community Leaders**. In addition, POWERYOUTH will actively engage youth organisations and young leaders in energy and sustainability (through the participation of YES-EUROPE and its local offices across the European Union as well as local authorities and policy makers (through the participation of the ALDA network) to trigger the replication of the Energy Communities approach.

AdEPorto - Porto Energy Agency

✉ info@adeporto.eu

🌐 www.adeporto.eu

YENESIS - YOUTH EMPLOYMENT NETWORK FOR ENERGY SUSTAINABILITY IN ISLANDS



Madeira Regional Agency for Energy and Environment – Madeira, Portugal



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The YENESIS project, co-funded by the EEA and Norway Grants Fund for Youth Employment, runs from 2018 to 2024 and involves 10 partners from 8 countries (Norway, Spain, Cyprus, Greece, Estonia, Italy, Croatia, and Portugal). Its main objective is to **tackle youth unemployment on islands by promoting green competences and jobs** in the areas of energy efficiency, renewable energy resources, sustainable tourism, sustainable mobility, business innovation, adaptation to climate change, circular economy, efficient water management, sustainable food systems, and soft skills. Besides the environmental contribution, according to the International Labour Organisation, green employment must be fair, with equal access to opportunities and paid according to the duties performed, contributing to social inclusion.

The project partners received €2.9 Million in funding, of which approximately €370.000 was allocated to **AREAM, the Regional Energy Agency of the Autonomous Region of Madeira**, to develop the foreseen activities. These include the development of learning materials in the areas addressed by the project, the organisation of two one-week workshops, the development of an [online course](#) based on the learning materials, one-month paid internships, showcasing trips, a [guide for the school community](#) on skills and professions with

high employability potential in the future and a [guide for employers](#) on the advantages of sustainability for companies' competitiveness.

Dissemination and capitalisation actions targeted local stakeholders including regional authorities, political decision-makers, the school community, public and private companies and citizens. These initiatives involved online workshops, in-person sessions, and bilateral meetings.

The project outputs were presented in schools for students and teachers, municipalities, employment institutes, Regional Government Departments, employers, and Engineer Associations, among others. This not only showed the work carried out in the YENESIS project but also, raised awareness for the benefits of replicating the project's activities, meaning, **leveraging the educational materials and e-courses** within schools and businesses to elevate the skill sets of employees, students, teachers, and the broader youth community.

In this scope, AREAM gave training to approximately **32 participants**, 12 of whom took part in a month-long **internship** in Porto Santo Island and 13 went to Norway for a one week **showcasing trip**. The online course is available in all partners' regions' languages and is open source, allowing everybody to update their knowledge in the areas covered by the project. The materials developed were presented in the dissemination and capitalisation actions, reaching **around 400 beneficiaries**, not counting the people who gained access to the materials through posts on social media and interviews in the regional media.

AREAM - Regional Energy Agency of the Autonomous Region of Madeira

✉ <https://aream.pt/contactos>

🌐 aream.pt

ENERGY SUFFICIENCY: THE MISSING WORD

By Marie-Laure Falque Masset, FEDARENE Vice-President for Energy Sufficiency



The 15 min city: a structural change solution

The 15 min city is a concept first defined by Carlos Moreno in 2015. It is based on the idea that people should have access to all essential services and daily needs within 15 minutes of active transportation (walking, cycling). Services that may be included in the 15 minute city encompass public schools, parks, libraries, grocery stores, retail, employment places, basic healthcare, and places for entertainment or recreation. The concept is proposed to create **livable and walkable neighbourhoods**, promote economic growth, support social cohesion and sustainability, and improve the health and well-being of residents.

In **Utrecht**, the fourth-largest city in the Netherlands, 100% of people can reach all city necessities in a 15 minute bike ride, and 94% in a 10 minute bike ride. In **Paris**, the city has included a similar yet different approach in its resilience strategy. Instead of setting up new facilities for each neighbourhood, Paris aims to **transform existing spaces** so that they can be used for several activities rather than just one. I see this transformation taking shape around three main themes:

- **Schools:** Renovated and greened - a project that has already begun under the name of "oasis courtyards" - they will be open outside school hours to welcome residents, who will be able to take part in recreational, sports, and cultural activities.
- **Culture:** developing local artistic platforms to bring culture closer to residents.
- **Participatory democracy:** Paris wants to roll out "citizens' kiosks", new local spaces where citizens can meet, help each other, ask for advice and have access to city staff or associations.

This will be facilitated by the development of a bicycle paths network and pedestrian streets.

By bringing people closer to their activities, sufficiency contributes to a better quality of life while helping to reduce greenhouse gas emissions.

Energy plays a key role in the Commission's European Green Deal roadmap. Its hard work on the updates of the Energy Efficiency and Renewable Energy Directives is a testament to this. Although both texts go in the right direction with higher targets for energy efficiency and renewables, **energy sufficiency is not yet acknowledged as a key instrument of decarbonisation.**

Energy sufficiency aims to reduce energy and resource consumption (raw materials, water etc.) and GHG emissions through voluntary changes in behaviour, lifestyle and collective organisation. It is the first pillar of the energy transition before energy efficiency and the development of a clean, secure, and sustainable energy supply.

EMBRACING FRUGALITY: ÖVERKALIX'S JOURNEY TOWARDS SUSTAINABLE ENERGY IN NORTHERN SWEDEN



Energikontor Norr – Norrbotten, Sweden

The North Sweden Energy Agency, Energikontorr Norr, is taking part in the **FEEL project** under the umbrella of Interreg Europe. The project seeks to develop **frugality** by implementing good practices, emphasising frugality, sufficiency, and community cooperation in their energy plan. It aims to influence policymakers to re-evaluate their energy use, focusing on how one can reduce carbon dioxide emissions using strategies where it is only used what is needed.

In Sweden, Energikontor Norr has chosen to collaborate with the municipality of **Överkalix** to test and develop sufficiency and cooperation approaches. Given its northern location, a lot of energy is consumed to keep citizens warm through a district heating system developed in the 1980s. This makes it even more important for the town to think about frugality and sufficiency, to save resources.

The municipality has already implemented energy-efficient practices in the supply, distribution, and consumption of energy. To further enhance its energy plan, the region is expected to incorporate frugality and sufficiency principles. This will involve the adoption of **low-tech solutions** and **community engagement** at various stages, including energy production localisation, monitoring energy-intensive industries, and the development of new plans and future projects.

"The Överkalix Municipality in the North of Sweden is embracing the Frugal City approach in energy planning to enhance the quality of life for its residents. (...) With a focus on involving elected officials and the community in frugality and sufficiency, the municipality aims to strengthen its journey toward climate neutrality." Mayor **Niclas Hökfors**.

Leveraging interregional learning with eight European partners, the FEEL project aims to bring additional good practices and ideas to the Norrbotten region, which includes the Överkalix municipality.



© Energikontor Norr

The project runs from March 2023 to May 2027 with the last year acting as a monitoring phase to evaluate the actions implemented.

"By participating in international projects together with Överkalix municipality, we bring several good ideas back to our region to contribute to climate neutrality and speed up the energy transition." **Isabella Katsimenis**, project manager from Energikontor Norr.

Energikontor Norr

✉ jorgen@energikontornorr.se

🌐 www.energikontornorr.se

SUSTAINABLE TRAVELLING MADE POSITIVE AND MODERN

Örebro County Energy Agency – Örebro, Sweden



© Örebro County Energy Agency

Travelling sustainably by bicycle offers benefits for both the environment and individual health. **How can we incentivise people to switch from traveling by car to cycle instead?** The Örebro Energy Agency, through its project **Fossilfritt 2030 – Rena resan** (Fossil free 2030 – a clean journey), has implemented activities to spur behavioural change and raise awareness about sustainable traveling.

Thanks to the project, participants were able to experience sustainable travel alternatives - cargo bikes or electric bikes - for specific periods of time. Exposing people to new modes of travel that they for various reasons would not have tried otherwise increases greatly the potential for **permanent behavioural changes**.

Participating municipalities, leveraged project activities to implement and **test novel travel solutions** in their daily work. One example is the substitution of cars with cargo bikes in the delivery of laundry to users. This action was a success and has become a permanent part of work and travel policies in Karlskoga municipality in Örebro county.

“The cargo bike is now integrated into the municipality’s carpool. The involvement of employees who underwent the trial, from planning to testing and evaluation, played a crucial role in the success and subsequent implementation of the cargo bike,” states the project manager.

In addition to trial periods, the project has also developed an active **marketing plan**. Campaigns used throughout the project were grounded in factual information, but also strategically presented to appeal to emotions. An illustrative example was the cargo bike campaign. Recognising that individuals are more susceptible to change at different life stages, such as moving to a new location or becoming parents, the campaign chose to address specifically new parents. To appeal to their emotions, the campaign focused on highlighting the benefits this mode of travel had for the children, presented from the children’s point of view.



© Örebro County Energy Agency

This multifaceted approach not only showcases the project’s accomplishments but also underscores the importance of combining experiential activities, effective marketing, and strategic planning to drive sustainable travel initiatives.

Örebro County Energy Agency

✉ linda.svensson@regionorebrolan.se

🌐 utveckling.regionorebrolan.se/sv/energikontoret/vara-omraden/resor-och-transporter/hallbara-transporter/

EDITO

NAVIGATING THE COMPLEXITIES OF MULTI-LEVEL GOVERNANCE IN EUROPE’S ENERGY LANDSCAPE

By John Carley, Vice-President for Circular Economy

Multi-Level Governance (MLG) refers to systems of governance where there is a dispersion of authority upwards, downwards and sideways between levels of government – local, regional, national and supra-national – as well as across spheres and sectors, including states, markets and civil society. It is a relatively recent concept, having first entered the lexicon of political science in the early nineties, largely as a result of European integration when authority was shifting, not only from central states up to Europe, but also down to subnational authorities.

Within the European Union **nearly 100,000 local and regional authorities** currently have significant powers in key sectors such as education, the environment, economic development, town and country planning, transport, public services and social policies. These local and regional authorities **implement nearly 70% of EU legislation**. The range and diversity of actors requires a greater degree of co-ordination. However, beyond a broad consensus that effective governance increasingly requires continuous negotiation across multiple levels and sectors, there is **little convergence on best practice models** of how to design and effectively operate MLG systems for different contexts and policy issues.

The **South East Energy Agency** is involved, on a daily basis, in dealing with EU, National, Regional and Local authorities across many sectors including energy infrastructure, resource efficiency, and the environment. We can only deliver services and activities effectively if we recognise and involve those authorities in a structured and collaborative way.

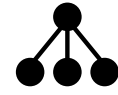
A good example of this is our involvement in **REGIO1st**. This is an EU LIFE project, in which the MLG process is a crucial part of the delivery of the project. Based on **COOPENERGY: Multi-Level Governance in Sustainable Energy Planning**, which was a previous EU funded



project in which FEDARENE was involved, the **three stages of MLG** include 1) Initiating the collaborative process, which identifies the regional authority’s needs, key stakeholders, their level of participation and develops a common vision and objectives, 2) Developing the MLG model, to define the coordination and governance processes, develop the engagement strategy, define responsibilities and decision-making process and the evaluation process, and 3) Implementing the MLG model.

But what should this MLG model look like? The **European Commission** is ideally placed to develop, adopt and recommend such a model which would be appropriate for the energy planning sector, as the OECD has done with its Multi-level Governance and Public Finance model.

EIB-ELENA INTERVENTIONS MONITORING AND VERIFICATION IS HELPING LOCAL AUTHORITIES IN THE GREEN TRANSITION



Liguria Regional Energy Agency – Liguria, Italy



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An initiative launched by IRE is successfully helping eight Municipalities and one Province in Liguria Region in the post-ELENA phase to make sure all resulting awarded contracts and works remain on track.

Back in 2015, the Province of Savona and 33 of its Municipalities were awarded the “PROSPER – PROvince of Savona Pact for Energy and Renewables” investment programme by the European Investment Bank’s ELENA instrument. Developed by the regional energy agency IRE, PROSPER had a budget of €1.46 million and aimed to mobilise €42 million of private investments in the public sector using Energy Performance Contracting (EPC). By the end of the three-year project and after long and intense work, EPC contracts were completed for the Energy retrofitting of **91 public buildings and eight public street lighting systems**.

However, once the project phase was over, it became evident that the Local Authorities needed support for the **evaluation, monitoring and control** of the interventions as stated in the contracts, making sure that all the envisaged projects are carried out properly and efficiently by the winning economic operators. So IRE, the regional energy agency that was involved at the project phase, jumped in once again to help.

IRE has a long experience in the monitoring and evaluation of energy contracts, having done this job for all health structures in the Liguria Region for many years. Various members of its staff are certified experts in

energy management (Italy’s EGE certification) as well as in the measurement and verification of energy efficiency performance (international IPMVP certification).

Today, IRE is supporting Savona Province and eight Municipalities in the implementation of their ELENA contracts, working as a **Verification Committee** to evaluate the results achieved by the concession holders. Annually, IRE verifies the achieved energy savings (which in the case of street lighting amounts to over 75%), based on the available data and by performing random checks on-site.

This experience highlights the need for energy agencies to keep working alongside local authorities involved in ELENA projects in the long term, namely in the post-project phase. Monitoring energy contracts is a highly technical and very tricky business. With their high competencies and care for the public interest, local and regional energy agencies can ensure that works remain on track, hence speeding up the green transition at the local level.

Energy agencies are the ideal subjects to guide local authorities in the post-ELENA phase, namely in the monitoring and control of the awarded contracts, to make sure that all interventions and works remain on track



Maria Fabianelli

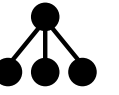
Member of the board of IRE Liguria

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

✉ energia@ireliguria.it

🌐 www.ireliguria.it

BETTER GOVERNANCE OF ENERGY TRANSITION IN ŠALEŠKA, SAVINJSKA AND KOROŠKA REGION



KSSENA - Savinjska, Šaleška and Koroška, Slovenia



© Municipality of Velenje www.velenje.si

The Energy Agency KSSENA became one of the partners in the **National Programme of Contact Points for Energy Efficiency and Renewable Energy Sources (RES)**. The main purpose of the contact point is to actively promote and advise on the use of renewable energy sources for energy purposes. The target groups are mainly public buildings, companies and private persons. In order to implement the activities on the whole territory of Slovenia, the support centre, which operates under the auspices of the National Energy Market Operator - **Borzen**, has involved all energy agencies in the country (seven energy agencies) and the EnSvet network of energy consultants.

Several activities are carried out within the framework of the Contact Point: the identification of ongoing RES projects, the identification of potential sites for RES projects, the design and training of consultants, best practice case studies for community self-sufficiency, best practice case studies for energy communities, the organisation of 10 workshops on RES investments and an analysis of the installation of solar electricity generation on cultural heritage sites.

One of the main objectives of the contact point is to provide an overview of investments in renewable energy or energy efficiency, to **establish a comprehensive planning and management of future investments** and thus to ensure a more efficient use of funds and resources earmarked for the energy transition.

Another instrument promoted by KSSENA in the municipalities of Šaleška, Koroška and Savinjska to improve the governance and implementation of the energy transition is the **European Energy Awards (EEA)**. In recent years, the municipalities have developed local energy strategies with concrete measures to achieve ambitious climate targets. To help them implement these strategies, KSSENA is introducing the EEA in Slovenia. The process is based on continuous improvement, which ensures that local governments continually increase their energy efficiency, use of renewable energy and sustainable mobility practices. With the help of the **EXCITE project**, the municipalities of Celje, Slovenj Gradec and Velenje have successfully completed the process of becoming an EEA municipality.

Furthermore, the core infrastructure for the EEA process has been established. The tools and methodology have been adapted to Slovenian legislation and national specificities, allowing us to offer the internationally recognised methodology to other ambitious municipalities.

KSSENA - Energy Agency of Savinjska, Šaleška and Koroška region

✉ info@kssena.velenje.eu

🌐 www.kssena.si

THE HIGH POTENTIAL OF DATA AND IA TO SUPPORT THE ECOLOGICAL TRANSITION

By Serge Nocodie, FEDARENE Vice-President for Climate Action



But to be effective, such a decision-making tool requires the integration of a very large volume of data. While open data is now widespread, we want to see this trend accelerate! **Open source solutions should be highly promoted, and all data related to energy transition and climate change needs to be easily accessible.** The private sector, when collaborating with the public one, should also open their data. The urgency of climate change demands that local authorities receive the best possible support from the agencies, their digital tools and their local expertise.

In the very near future, this data will be used to feed **artificial intelligence (AI) models to facilitate decision-making.** For example, by grouping territories according to their diagnostic similarities, in order to identify correlations between the impacts of actions and trajectories. AI would then provide territorial stakeholders with a transition simulation tool, highlighting trends through retrospective analysis to help prioritise, in consultation with local authorities, the most appropriate actions to deploy on their territory.

The recent political agreement in December 2023 between the EU parliament and the Council on the AI legislation proposed by the commission in April 2021, recognises the role of AI in the fight against climate change. The development of artificial intelligence in support of the energy transition has only just begun, and energy agencies, whose role has been strengthened by the latest energy efficiency directive, will be a key contributor.

Territories and public authorities are at the heart of the energy transition. They are drawing up climate plans and decarbonisation strategies, implementing measures to promote energy sufficiency and efficiency, to reduce greenhouse gases emissions and to develop renewable energies. These initiatives are framed by recent updates to European directives as part of the Green Deal and Repower EU.

Energy agencies support municipalities by providing them with the data they need to draw up and monitor their planning documents.

In Auvergne-Rhône-Alpes, we have developed **TerriSTORY®**. Thanks to a dynamic and interactive visual interface, TerriSTORY® enables local authorities to understand their territory, identify its potential and the priority action levers. On the basis of this analysis, the tool simulates prospective scenarios, by measuring their socio-economic and environmental impacts, in order to build a territorial path that meets the challenges ahead.

EMPOWERING MUNICIPALITIES: THE TRANSFORMATIVE IMPACT OF ISO 50001 AND SECAP MEASURES

Ekodoma Ltd. – Latvia

In the ever-evolving landscape of sustainable practices, the implementation of an **Energy Management System (EnMS)** according to ISO 50001 has traditionally been associated with the industrial sector. However, the success of the Compete4SECAP project, financed by Horizon 2020, has demonstrated that this powerful tool can be effectively used in municipalities as well.

The project counts the journey of **28 municipalities** that, within a year, not only implemented but also certified an energy management system, resulting in an impressive **8% reduction in energy consumption** during the first year of EnMS implementation, all accomplished without the need for substantial investment projects.

One of the key strengths of EnMS lies in providing a clear structure and set procedures to guide municipal employees to navigate energy-saving initiatives, delegate responsibilities, and to manage data efficiently. This framework not only streamlines operations but also ensures a sustained and focused effort toward energy efficiency. The advantages extend beyond mere energy savings. The saved resources can be reallocated to address other municipal needs, creating a positive ripple effect throughout the community.

Recognising the need to further empower municipalities, an online **energy monitoring platform** was developed as part of the Compete4SECAP project. This tool caters to energy managers and municipal personnel who may lack experience in handling substantial amounts of data. The tool, successfully employed by more than 20 municipalities in Latvia and other EU countries for over five years, includes modules for public buildings, public lighting, municipal transport, and public transport. It performs necessary calculations to identify changes in energy consumption over time, with readily usable data organisation for energy managers.



© Ekodoma

Since 2023, the implementation of an energy management system in all the municipalities has become mandatory by the **Energy Efficiency Law** in Latvia, underscoring its importance and recognising its positive impact on both the environment and local economies.

Following the success of EnMS in municipalities, new methodologies are being tested, incorporating EnMS principles into the wider SECAP implementation process within the framework of the **OwnYourSECAP** project (co-funded by LIFE programme). By embracing these practices, municipalities can both contribute to a greener future and also enhance their resilience, reduce environmental impact, and promote economic growth, ultimately creating thriving and sustainable communities.

EKODOMA Ltd.

✉ Ekodoma@ekodoma.lv
 🌐 www.ekodoma.lv

WAVER VIRTUAL POWER PLANT ENGAGES LOCAL COMMUNES IN THE ENERGY TRANSITION

Mazovia Energy Agency – Warsaw, Poland

We have become accustomed to the fact that virtual things only exist in the digital world. However, this is increasingly intertwined with the real one. We do not realise how many areas of our comfortable lives depend on invisible digital and virtual applications that optimise strategic areas of for instance logistics, food production or medical care.

One of these applications is led by the Mazovia Energy Agency (MAE) in the **Waver District of Warsaw**. MAE first created the Waver Energy Cluster which allowed to establish in 2021 the **local government virtual power plant (VPP)**. It aims to monitor energy in public buildings, but also to convince residents to invest in their own PV sources and report their results. Thanks to this, the system includes private households, local government panels installed on office buildings, cultural centers, as well as local schools, kindergartens and other municipal roofs. This is the first stage on the way to creating a city-wide system to monitor installations of renewable energy sources from various districts, contributing to the gradual increase in the share of renewable energy sources (RES) in the city's energy mix.



VPP monitor on Waver District Council. © Mazovia Energy Agency

The Waver Virtual Power Plant uses the most innovative technological solutions in telecommunications and measurement. Thanks to this, we can see that the quality of energy is not only maintained at the highest level, but the access to such information is at our fingertips. The VPP collects a lot of real-time information regarding the generation and consumption of electricity in individual facilities. Currently, **over 30 public buildings and individual private buildings** are connected to the network. The information processed there is necessary for intelligent energy production planning - and therefore - cheaper energy and reliable supplies at our hand.

An **energy monitor** of the Waver Virtual Power Plant has been integrated into the mural on the district council office building. It shows how much energy has been generated, how much money has been saved and how much carbon dioxide has been reduced thanks to renewable energy sources in the area. The monitor therefore helps promote the VPP.

In the near future Warsaw districts will also be able to “fight for the climate” by comparing their own achievements based on VPP meters. Residents will see the benefits of all the PV installations from various perspectives and how they influence their lives. This will help translate the ambitious goals of climate policy into concrete implementation thanks to interdisciplinary digital technologies in the areas of construction and energy.

MAE - Mazowiecka Agencja Energetyczna

✉ biuro@mae.com.pl

🌐 mae.com.pl/vpp

VIRTUAL SOFTWARE FOR ENERGY MANAGEMENT

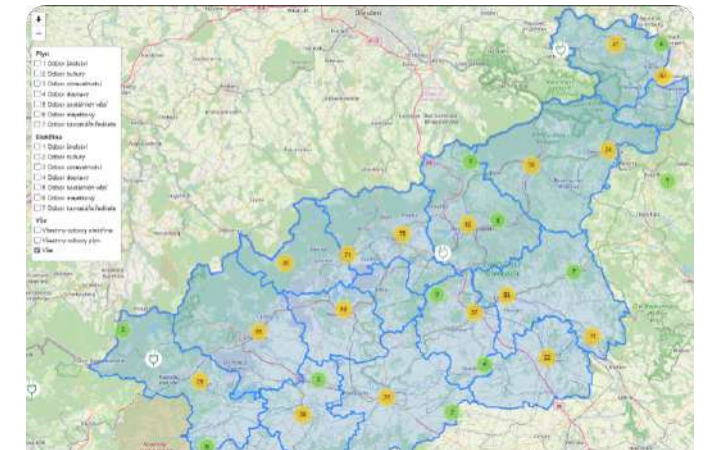
Ústí Energy Centre - Ústí Region, Czech Republic

The **Energy Centre of the Ústí Region (ECUK)** is a state-funded institution by the Ústí region, established in August 2022 that focuses on optimising the regional energy economy. One of its primary goals is to enhance energy efficiency and systematise regional energy management measures.

ECUK's key activities concentrate on **optimising energy performance** in all buildings and facilities owned by the Ústí region. Additionally, it aims to increase energy production from **renewable sources**. ECUK plans to extend its services primarily to public administration, with a particular emphasis on municipalities and cities within the region.

A key tool for managing the energy system is the **Regional Energy Management (KEM)**, a virtual software designed for **data collection and analysis**. Launched as open-source software in 2023, KEM covers activities ranging from monitoring energy and water consumption to collecting and analysing data. Moreover, it seeks to integrate the collected data with associated documents such as project documentation, passports, equipment revisions, Energy Performance Certificates (EPCs), and more, for all buildings owned by the Ústí region. This comprehensive data will be centralised within KEM, providing ECUK with a holistic view of every building/facility.

The Regional Energy Management tool is offered to cities and municipalities in the Ústí region (352 municipalities in total). ECUK is actively working on the implementation of the **Regional Energy Management System (EnMS)** according to the EN ISO 50001 standards. This effort includes obtaining certification for all organisations affiliated with the Ústí region, notably the Regional Office of the Ústí Region. EnMS implementation has already started in 52 out of 132 organisations, marking the next logical step in the practical implementation of the Regional Energy Management System, of which KEM is part of.



© ECUK

The system is intricately connected to the portal of measured data from electricity/gas/water/heat distributors and allows for the automated integration of billing data from energy traders. The functionality of the Regional Energy Management provides users with benefits such as consumption trend analysis, comparisons between similar buildings/facilities, and the ability to define austerity measures and positive economic solutions.

ECUK – Energetické centrum Ústeckého kraje

✉ office@ecuk.cz

🌐 www.ecuk.cz

HYMANTOVALLEY: GREEN HYDROGEN ECOSYSTEM IN THE PO VALLEY



Mantua Local Energy Agency - Mantova, Italy

AGIRE, the Energy Agency of the Province of Mantova (Italy) is the Coordinator of HYMANTOVALLEY, an EU co-financed project with 16 Partners, currently under development which aims to decarbonise the Italian Po Valley by building a replicable green Hydrogen Ecosystem.

The project will be implemented as an integrated model of hydrogen production, high pressure storage, distribution and utilisation for heat, power and mobility, including the development of hydrogen-fed and zero-emissions ships, trains, buses and heating and cooling systems for buildings.



© AGIRE - elaboration on Map data ©2023 Google

HyMantoValley is part of a bigger €75 million Programme, the **Mantova Hydrogen Valley**, to be developed in Valdaro Inland Port area, lying on the crossroads of two TEN-T corridors, to implement and exploit the hydrogen value chain in Mantova:

- Helping the transition of a plant producing low-carbon hydrogen to green hydrogen. The facility, property of SAPIO Group, will be equipped by a new modular PEM electrolyser for a total of 10 MW, powered by a photovoltaic plant of 13MW with 4MW accumulators, able to produce 1.500 t/year, saving 14 kt CO2 per year.
- New Hydrogen Refuelling Station (HRS) near the port area.
- Hydrogen local distribution by pipelines, innovative Mobile Tank Wagons and one Hydrogen Refuelling Station, included a 500 bar High-Pressure Compressor System, being applicable to several end-users.

- Zero-emission Vessels: refitting a barge pusher to start hydrogen-propelled transport of bulk materials on the inland waterway from Mantova to Venice Sea Port.
- Zero-emission Trains: development of a new locomotive platform through the design of a new chassis, able to host hydrogen-propelled engines to be used for railway freight.
- Zero-emission Buses: using hydrogen as a native propeller for a fleet of six buses already funded by the Local Public Transport Company.
- Zero-emission Buildings: new heating & cooling system of a public school.
- Zero-emission off-grid distribution: piloting the power supply to off-grid end-users through hydrogen fuel cell power generator integrated to innovative transportable high-pressure hydrogen storage solutions.
- H2 Hub: a Centre of Applied Research and Advanced Training on hydrogen, managed by relevant Universities.

Valdaro Port Valley, with its Tri-modal transport solutions and all relevant transshipment processes perfectly running, will soon become the Mantova Hydrogen Valley. Its Green Hydrogen production will be used in the logistic system, public transports, heating and cooling and industrial processes.

AGIRE - Agenzia per la Gestione Intelligente delle Risorse Energetiche

✉ musci@agirenet.it

🌐 www.agirenet.it/en/hymantovalley

CREATING AWARENESS, INSPIRING ACTION: THE INTERNATIONAL EXHIBITION CLIMATE & ME



Energy and Environmental Agency of Lower Austria - Lower Austria

The exhibition Climate & Me was conceptualised and produced in 2022 as a **roll-up exhibition** for the international stage. It explains the **causes and consequences of climate change**, highlighting everyone's possible contribution to climate protection and adaptation. So far, its journey has crossed Europe from east (Trebinje, Bosnia and Herzegovina) to west (Golm, Austria). It has been **showcased in a total of 20 locations** in Austria, the Czech Republic, Hungary, Bosnia and Herzegovina, and Slovakia, presented in three different languages.

The exhibition comprises 15 colorful roll-ups and explores **six central thematic areas**: Travel and Mobility, Electricity and Energy, Construction and Housing, Waste and Recycling, Food and Drink, and Consumption and Lifestyle. The presented data and figures illustrate how **personal behavior** influences the climate. The vibrant design makes these complex topics especially accessible.



© eNu

Climate & Me not only informs but also motivates and inspires individuals to **take active steps** within their spheres of influence. Therefore, the exhibition is an effective tool for raising awareness and presenting concrete alternatives for action. For this reason, it is often booked by communities and organisations. The exhibition Climate & Me succinctly presents the key facts about climate change. It speaks to everyone personally and provides tips for everyday climate-friendly actions.

As a **versatile instrument for environmental and awareness education**, the Climate & Me exhibition proves particularly useful as an inspiring platform for discussions and engagement at events and meetings, in schools and universities, museums, and other educational institutions.

After consulting with the Energy and Environmental Agency of Lower Austria (eNu), a translation of the international exhibition into your local language can be coordinated in collaboration with the Austrian Ministry of Foreign Affairs. **Presentations of the exhibition are possible until June 2025. eNu warmly invites you to book this inspiring exhibition.**

Photos and information about the traveling exhibition (in German): www.umweltgemeinde.at/wanderausstellung-klima-und-ich

eNu - Energie- und Umweltagentur des Landes NÖ

✉ tino.blondiau@enu.at

🌐 www.enu.at/ausstellung-klima

THANK YOU TO OUR MEMBERS
FOR THEIR CONTRIBUTIONS!



*FEDARENE 2023 General Assembly in Kilkenny, Ireland
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www.fedarene.org
fedarene@fedarene.org

