RGI Grid Awards

GOOD PRACTICE OF THE YEAR 2025

Foreword

In the past months, we have taken decisive steps in Europe's energy transition. With the **REPowerEU Roadmap** and the **Affordable Energy Action Plan**, we have come closer to making a true Energy Union a reality benefiting Europe's **energy security**, **competitiveness**, and **decarbonisation** in equal measure.

Yet is it possible to take the final steps in this transformative direction? And can we make our **grids the backbone of a resilient, independent, and climate-neutral Europe**?

The answer is a clear and confident "yes".

We make that leap building on solid investment. In our proposal for the EU's next **Multiannual Financial Framework**, the Commission has set out to substantially strengthen the Connecting Europe Facility, increasing its budget five-fold. This investment is not only about building grids – it is about building local communities and mutual-ly-beneficial European connections.

We can also ensure a true Energy Union through sound policy initiatives. I will soon present a **European Grids Package**, with concrete actions to deliver faster, smarter, and fairer grid development. We will ensure a more strategic, pan-European approach on planning. We will work to accelerate permitting and promote digitalisation. And we will encourage the efficient use of existing connections, while reinforcing cross-border cooperation to build new connections.

Finally, we can progress together. Hand-in-hand with regulators, operators, the Renewables Grid Initiative and civil society, we are now advancing **Public Engagement Plans**.

These plans will **ensure that citizens are not only informed but actively involved in shaping Europe's** energy transformation.

Initiatives like the RGI Grid Awards show that our vision is already taking root in real life projects. By **recognising innovation, environmental responsibility, and genuine public participation**, RGI and its partners demonstrate that building grids can go hand in hand with protecting nature and empowering people.

These projects are proof that when we engage early, plan wisely, and act together, we make the energy transition both faster and fairer for all. I warmly congratulate this year's winners and participants. You embody the spirit of cooperation and trust that defines our Energy Union and that will deliver a clean-energy future for Europe.

Dan Jørgensen

EU Commissioner for Energy and Housing

Introduction

2025 marks the 12th year of the **RGI Grid Awards**. This year, the Renewables Grid Initiative (RGI) is honoured to feature more than 20 innovative practices which all seek to improve the technical, environmental and social aspects of electricity grid deployment and renewables integration.

With trends towards including nature-inclusive infrastructure management and design; innovative digital tools harnessing artificial intelligence and advanced data analysis; cross-sector collaborations; and novel forms of engagement and outreach, the RGI Grid Awards continue to serve as the gold standard in our common mission to deliver a renewables-based energy system that improves lives and enhances biodiversity.

The jury has selected four winners of this year's **Good Practice of the Year** award, one for each of the three award categories – communication and engagement; environmental protection; and technological innovation and system integration – and one outstanding social achievement. The winners were announced during the RGI Grid Awards ceremony in Brussels on 2 December 2025.

Award Category	Winner	
Communication & Engagement	**WIMBY** Utrecht University & BOKU University	Open, science-based tools enabling citizens and stakeholders to plan and assess wind energy projects across Europe.
Technological Innovation & System Integration	**Unlocking 25%+ Grid Capacity** Arne Brufladt Svendsen (Siemens) & Tørris Digernes	Probabilistic forecasting tool enabling safer, more efficient, and climate-resilient electricity grid operation and planning in Norway.
Environmental Protection	**Seeking safe skies for the Bearded Vulture** Red Eléctrica	Installing bird diverters on grid infrastructure in Spain to support Bearded Vulture conservation.

Award Category	Winner	
Social Achievement	**AquaSol for Equity** Green Hope Foundation	Solar-powered water distillation and youth education improving health and resilience in Cambodia's floating villages.

We would like to cordially congratulate all the winners and express sincere gratitude to all those who participated in this year's competition.

We would further like to acknowledge the great work of our jury, who have contributed their time and expertise to this competition, as well as the valuable contribution of the international auditing and advisory company Forvis Mazars, who accompanied the evaluation process for the twelfth year in a row. Lastly, we would like to thank the European Commission for hosting the 'RGI Grid Awards' ceremony at the 6th PCI Energy Days in Brussels.

Renewables Grid Initiative

forvis mazars

Submit Your Practice

The RGI Grid Awards are an annual accolade granted by RGI, based on the expertise of our jury. We strongly encourage grid operators, project developers, NGOs and public authorities involved in grid projects, both European and non-European, to submit their entries and highlight their most original and successful practices.

The purpose of this award is to recognise, promote and commemorate practices that display extraordinary dedication and ingenuity. The jury thoroughly evaluates several factors, such as innovation, impact and outcomes, scope and transferability, and collaborative approaches to determine the three winning practices.

Learn more about the Awards and submission process here

Independent Jury of Experts

Our distinguished jury of experts selects one submission per category as the Good Practice of the Year. While the idea and the evaluation criteria were developed by the RGI Secretariat, the evaluation itself solely lies in the hands of this independent jury of experts.

Marie Donnelly

Chairperson | Climate Change Advisory Council Ireland

Marie chairs the independent advisory body tasked with assessing and advising on how Ireland is making the transition to a low carbon, climate resilient and environmentally sustainable economy by 2050. Previously, she served in the European Commission for thirty years.

Jean-Michel Glachant

Past President | International Association for Energy Economics; Professor | Florence School of Regulation and Politecnico di Torino; Chief Advisor | FSR Global

Jean Michel works on electricity markets and energy policy, is affiliated with MIT, has published leading books, advised European institutions and regulators, coordinated EU research projects, and previously served as editor in chief of Economics of Energy and Environmental Policy.

Gregg D. Ander

Managing Director | Gregg D. Ander, LLC; Senior Fellow | Navigant Consulting

Gregg provides consultative services on a variety of power and energy sector issues. Previously he was Vice President of Power Strategies at the Energy Foundation in San Francisco and had a 30-year career at Southern California Edison.

Joachim Balke

Head of Unit for Infrastructure and Regional Cooperation | DG Energy

Joachim has served in his current position since 2019. Previously, he held posts in the Cabinets of EU Energy Commissioners Guenther Oettinger and Miguel Arias Cañete, as well as in the units dealing with Renewable Energy and Energy Taxation (DG TAXUD).

Michael Hogan

Senior Advisor | Regulatory Assistance Prject (RAP)

Micheal works on electricity decarbonisation policy, particularly in matters related to market design. He previously led the power programme at the European Climate Foundation and has 35 years' experience in the electricity industry.

PJ Stephenson

Conservation & Sustainability Consultant; Research Fellow | University of Lausanne; Chair | IUCN SSC Species Monitoring Specialist Group

PJ advises organisations on planning, monitoring and evaluation to improve conservation impact. He advances biodiversity data use through IUCN SSC and the University of Lausanne, authored RGI guidance on offshore wind monitoring, and previously worked with Conservation International, IUCN and WWF.

Susana Batel

Integrated Researcher | University Institute of Lisbon (ISCTE)

Susana examines responses to and engagement with renewable energy generation and associated infrastructures, and, she aims to better understand energy transitions as socio-technical processes.

Humberto Delgado Rosa

Director for Natural Capital | DG Environment, European Commission

Humbertro is experienced in European and international environmental policy, particularly in biodiversity and climate change issues. Before his current position, he was the for Mainstreaming Adaptation and Low Carbon Technology in DG Climate Action.

Carl Zichella

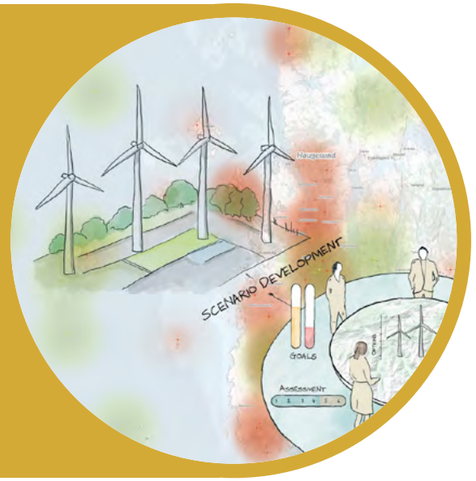
(Ret.) Director for Western Transmission| Natural Resources Defense Council (NRDC)

Carl was the NRDC's lead western U.S. renewable energy transmission siting expert and served on a nationwide team working on climate and clean energy issues. Carl also served as a director of the Center for Energy Efficiency and Renewable Technology (CEERT).

COMMUNICATION & ENGAGEMENT

WIMBY

Utrecht University and BOKU University



WINNER

Good Practice of the Year
Communication & Engagement

Open, science-based tools enabling citizens and stakeholders to plan and assess wind energy projects across Europe.

Learn More

WIMBY (Wind in My Backyard) is a research and engagement initiative led by the Copernicus Institute of Sustainable Development at Utrecht University, developed to enable transparent, inclusive, and science-based planning of wind energy projects across Europe. The practice provides a suite of interactive tools - a web-based map, an online discussion forum, and an immersive 3D platform - that help citizens, policymakers, and developers collaboratively explore potential wind farm locations, impacts, and trade-offs.

The initiative responds to growing social, technical, and environmental challenges in the energy transition, where local opposition and fragmented data can delay renewable deployment. WIMBY combines geospatial, environmental, and social datasets to visualise where wind energy can be installed sustainably. Users can explore scenarios that reflect both technical constraints and social preferences, improving understanding of how planning decisions affect communities and ecosystems.

The WIMBY interactive map and forum allows planning of Wind farms at any location in 28 European countries. The tool optimises the location of individual turbines and assesses multiple societal and environmental impacts. Projects can be shared and discussed in the dedicated forum. The only requirement is a browser and an internet connection.

The 3D virtual environment transforms complex energy data into interactive experiences, enabling people to "see and feel" potential wind farms in realistic landscapes. The platform facilitates structured dialogue among residents, developers, and public authorities, creating a shared evidence base and building trust.

The tools were developed and tested in Italy, Austria, Portugal, and Norway, with stakeholders from local governments, NGOs, universities, and energy companies. Results show that interactive visualisation helps bridge the gap between expert knowledge and public perception, leading to more informed, democratic, and locally accepted decisions.

WIMBY exemplifies how research-driven innovation can empower citizens and improve planning outcomes. Its open-source design ensures scalability and transferability across Europe, providing a free resource for both education and professional use. By making wind energy planning more transparent and participatory, WIMBY fosters acceptance, reduces conflict, and advances a just and inclusive energy transition.

Noteworthy

The 3D platform received unanimously positive feedback from participants, including wind energy sceptics.

Early landowner engagement

Amprion

Confidential, early-stage meetings with landowners to discuss grid planning, improve understanding, and reduce future conflicts.

Amprion's Landowner and Stakeholder Engagement Conversations provide affected property owners with the opportunity to discuss grid planning directly, early, and confidentially. Before formal negotiations, Amprion invites landowners and leaseholders to individual 20-minute meetings near their properties to review transmission tower positions using satellite imagery. This early dialogue allows suggestions to be documented in writing, assessed for feasibility, and, where possible, integrated into final plans.

The meetings are held with experts from several Amprion departments, ensuring that technical, legal, and environmental questions can be answered immediately. The approach was first applied to the Hanekenfähr–Gronau (HanGro) grid project in 2025. **By giving landowners a platform to express concerns and share local knowledge, the practice reduces misunderstandings and fosters trust long before official procedures begin.**

The format marks a clear improvement over traditional public fairs by allowing focused, respectful, and individual conversations. **Feedback from participants was highly positive, including from those critical of grid expansion, who valued being heard and informed early.**

The concept is transferable to other grid projects that involve private land. By reducing potential conflicts and increasing acceptance, it contributes to faster planning and approval of urgently needed transmission infrastructure.

Learn More

Noteworthy

Early engagement reduced conflict risk and improved project acceptance.

CleanerGrid competition

EirGrid

A national student competition inspiring innovation and awareness for Ireland's clean energy transition and net-zero future.

EirGrid's CleanerGrid competition is an annual initiative that engages third-level students across Ireland in the national clean energy transition. Participants submit projects responding to a yearly theme, such as envisioning the energy sector in 2050, for the chance to present their ideas at a live final hosted at EirGrid's Dublin headquarters and cash prizes for their team and their third-level institution.

Developed by EirGrid's Energy Research Team, CleanerGrid supports the company's Innovation and Research Strategy by fostering creativity, early academic engagement, and future recruitment opportunities. Students work individually or in teams over a 20-week period, after which five finalists are selected to present to a judging panel of internal and external experts, including academics, journalists, and climate professionals.

The competition bridges education and industry by turning complex energy challenges into accessible, research-driven opportunities for young innovators. Participation has expanded rapidly, with entries coming from a diverse range of disciplines across eight Irish universities to date. Engagement was amplified through national and regional media, radio broadcasts, and social media campaigns.

CleanerGrid has proven a scalable and transferable model of engagement, offering a transparent, credible platform that elevates student's voices and supports EirGrid's wider mission to decarbonise Ireland's electricity grid. Future editions aim to refine timelines and expand outreach to strengthen its impact further.

Learn More

Noteworthy

Participation grew 4.5 times between 2024 and 2025, with students from 66 degree programmes, representing eight universities.

Interactive wind energy exhibition

Elia Transmission Belgium

Exploring offshore wind energy through an immersive and playful exhibition for families at Fort Napoleon in Ostend.

Learn More

Going Like the Wind (GLTW) was an immersive exhibition designed to help children aged 6–12 and their families understand how offshore wind energy is generated, transmitted, and used. Hosted at Fort Napoleon in Ostend, it focused on the Princess Elisabeth Island, the world's first energy island, as an engaging entry point to Belgium's blue economy and leadership in offshore renewable energy.

Developed by Elia Transmission Belgium in collaboration with Toerisme Ostend, DEME, Jan De Nul, Stratier, and Little Harry, the exhibition blended storytelling, physical play frames, 3D models, and digital displays. Visitors followed a seagull narrator through interactive installations and could purchase an illustrated companion book.

The exhibition turned complex technical concepts into an accessible, playful, and family-friendly experience that inspired curiosity and learning. By mid-August 2024, it had attracted over 11,300 visitors, leading to its extension until December and the receipt of the B2C award at the 2024 Belgian Event Awards.

Its creative, multilingual, and inclusive design has proven highly transferable, inspiring Elia and Toerisme Ostend to explore a permanent blue economy exhibition hosted by Technopolis and reuse interactive elements at events such as Nerdland.

Noteworthy

Over 11,300 visitors by mid-August 2024 led to an extended exhibition run.

Spanish TSO launches new website

Red Eléctrica

The TSO Red Eléctrica has launched a new website aimed at improving its external communication and outlining its role in Spain's energy transition.

Learn More

The Iberian Peninsula blackout in April 2025 led to intense speculation around its causes, demonstrating the need for reliable, science-based information on the region's electricity system. The TSO Red Eléctrica has launched a new website aimed at improving its external communication, providing interactive and informative tools, including a map of the TSO's under-construction transmission projects and datasets with indicators on the performance of the Spanish electricity system.

The new website – launched in 2024 after approximately one year of preparation – outlines the role of Spain's TSO, Red Eléctrica, in the country's energy transition. It also includes a new section on ecological transitions, with content on renewables, energy storage and inter-connections. Web traffic has grown following the launch.

Red Eléctrica used quantitative and qualitative data in conceptualising the new website. **They also employed a new, collaborative working method, drawing on the experiences of a large group of internal staff from the TSO and its parent company, Redeia, to gather broad-based consensus for the new website.** It also drew on best practices from other TSOs and companies in Europe.

Noteworthy

The new website features interactive tools, including a map showing Red Eléctrica's under-construction transmission projects and datasets with indicators on the performance of the Spanish electricity system.

App for real-time grid insights

TransnetBW GmbH

Enabling citizens to use electricity more sustainably through real-time grid insights and smart behavioural nudges.

Learn More

StromGedacht, developed by TransnetBW, is a pioneering communication and engagement tool supporting Germany's energy transition. The app visualises the real-time status of Baden-Württemberg's electricity grid using a traffic light system, helping users adjust consumption to match renewable generation.

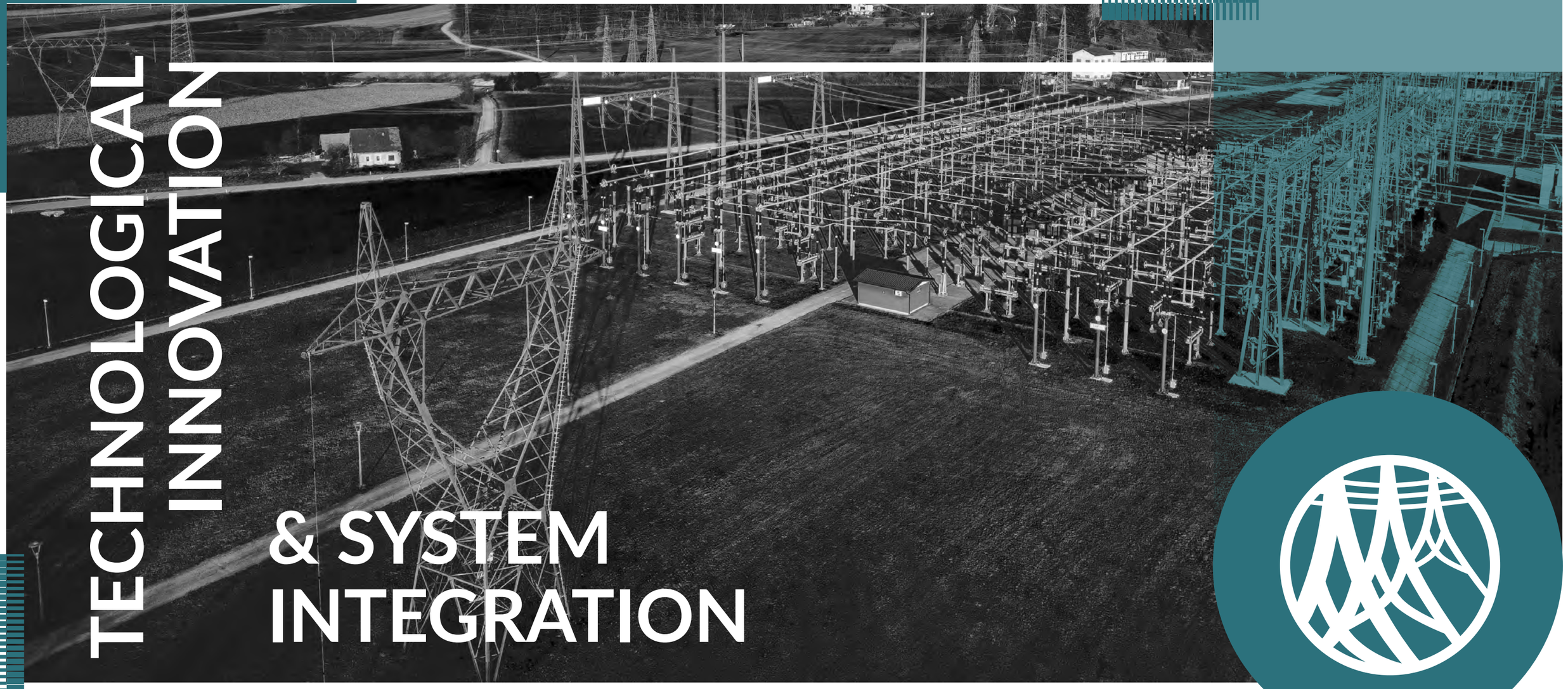
Launched in 2022, StromGedacht bridges the gap between grid operators and citizens through simple, transparent signals and actionable recommendations. It promotes conscious electricity use when renewable energy is abundant and reduces demand when the grid is under strain. Through open API access, smart homes and industrial systems can automatically respond to grid needs.

The app democratises grid stability by enabling everyone to contribute directly to climate-friendly energy use. TransnetBW collaborated with partners such as Mercedes-Benz, Octopus Energy and Reutlingen University.

The project has achieved broad visibility and built an active user community. It has also attracted interest from other grid operators in Europe exploring similar communication and engagement approaches. Future development focuses on expanding the app beyond Baden-Württemberg, improving the precision of local grid signals, and integrating additional data sources to enhance usability and impact.

Noteworthy

First German app providing real-time grid load and demand-response signals.



TECHNOLOGICAL INNOVATION & SYSTEM INTEGRATION

Unlocking 25%+ grid capacity

Arne Brufladt Svendsen (Siemens)
& Tørris Digernes

WINNER

Good Practice of the Year
Technological Innovation & System Integration

Probabilistic forecasting tool enabling safer, more efficient, and climate-resilient electricity grid operation and planning in Norway.

Learn More

Promaps Realtime and the mathematical foundation, developed by Arne Brufladt Svendsen (Siemens) and Tørris Digernes as part of Norway's Maksgrid initiative solution, delivers real-time probabilistic forecasting of grid risks, helping operators manage congestion, faults, and weather-induced stress. **It enables the Norwegian power system to increase grid utilisation by more than 25% without major reinforcements, supporting a safer, faster, and more cost-efficient energy transition.**

The system forecasts operational risks by combining probabilistic methods, such as Markov processes, Kronecker product and advanced aggregations, with geospatial mapping. These simulations quantify uncertainty, allowing operators to assess not only what might happen, but how likely it is. The tool visualises critical transmission and distribution nodes and branches, enabling earlier and better-informed interventions while improving coordination between TSOs, DSOs, and large consumers.

The mathematical breakthrough and foundation of Promaps Realtime enable real-time probabilistic simulation of grid reliability and capacity, forming the core of its predictive capabilities. Promaps Realtime integrates seamlessly with existing SCADA and planning systems and can operate using only historical data or within secure firewalls, ensuring cybersecurity and data protection. It supports climate scenario modelling and spatial planning for renewables, storage, and flexibility, identifying the most valuable locations for investment and operation.

The tool's probabilistic forecasting and visualisation of uncertainty represent a paradigm shift in how grids can be managed and expanded. It empowers system operators to act before failures occur, strengthens resilience to climate variability, and helps optimise the use of existing infrastructure.

The platform has been validated through pilot deployments and accuracy testing against historical events, successfully predicting congestion scenarios up to 48 hours in advance. Feedback from grid operators confirmed enhanced situational awareness, greater confidence in decision-making, and improved system coordination.

Promaps Realtime is scalable, transferable, and applicable beyond Norway, providing a science-based and practical solution to a global challenge: ensuring secure and reliable grid operation under accelerating electrification and renewable integration.

Noteworthy

Enables TSO–DSO coordination and climate-aware planning for renewables and flexibility.

Boosting renewable energy integration using grid-enhancing technologies

Artelys

Integrating greater shares of renewables by using innovative technologies to make better use of existing grid infrastructure.

Learn More

This project by the data science and modelling company Artelys uses advanced simulation tools to address the challenge of how to integrate increasing volumes of renewables while avoiding delays, high costs and public resistance associated with traditional grid expansion. **The project focuses on deploying cost-effective technical solutions – including curative redispatch, dynamic line rating, FACTS and BESS – strategically to boost renewable energy integration in existing grid infrastructure.**

The Latvian TSO AST commissioned Artelys in 2023 to evaluate how much renewable energy the Latvian transmission network could accommodate in the coming decades. The TSO sought to assess which grid-enhancing technologies (GETs) can provide a credible and cost-efficient alternative to costly grid expansion. New transmission lines can take 10 years to build and cost up to one to two million euros per kilometre.

Artelys developed a simulation-based planning methodology combining advanced power system modelling with targeted use of GETs, providing insights into how to boost renewables integration using the technologies. **Their analysis showed that innovative grid technologies can improve renewable energy integration in the Latvian grid by up to 40%.** The practice is translatable to other regions facing similar challenges with renewable energy integration.

Noteworthy

Artelys found the Latvian grid could improve renewable energy integration by up to 40% using grid-enhancing technologies (GETs).

Detecting nesting boxes on electricity transmission infra-structure using AI

Amprion

Using AI to detect bird boxes on electricity transmission infrastructure, supporting conservation goals and preventing electrical faults.

Learn More

This project by German TSO Amprion uses AI to detect bird boxes on electricity transmission infrastructure, enhancing ecological oversight while supporting compliance with environmental legislation and infrastructure maintenance.

Transmission infrastructure intersects with natural habitats and therefore often requires mitigation measures to balance grid reliability with biodiversity conservation. **Bird boxes support conservation goals by increasing nesting opportunities, which can reduce electrocutions and electrical faults on the lines.**

Traditionally, the location of the boxes has been documented only partially in manual reports, which lack specific spatial and visual data leading to data inconsistencies. To address this, existing aerial images from helicopter flights, drones and field uploads are used to create a training dataset for deep-learning models. **Once trained, the model detects nesting boxes on new images automatically, enabling rapid mapping and assessment across the grid.** The deep learning model helps to ensure compliance with environmental regulations and ecological monitoring.

Amprion is sharing the methods and findings with other TSOs in workshops. The models show potential to be reused for other use cases, such as identifying bird nests on energy infrastructure or other ecological features.

Noteworthy

Amprion applies deep learning models to existing aerial images to detect the location of bird boxes.

Knowledge-sharing platform for DSOs and TSOs

DSO Entity and ENTSO-E

Promoting knowledge sharing on the use of technologies in the electricity transmission and distribution system.

Learn More

Commercial technologies with potential to enhance electricity grid performance and contribute to decarbonising the energy system are available. **In this context, DSO Entity and ENTSO-E, the associations for DSOs and TSOs in Europe, have developed an accessible information platform on technologies used in the electricity transmission and distribution system, showing commercially available technologies that enhance the utilisation, stability, security and resilience of the electricity grid.**

The collaborative platform, DSO/TSO Technopedia, allows stakeholders, including technology providers, policymakers and the broader public, to contribute information and share experiences from their own countries, fostering innovation and supporting the transition to a low-carbon grid.

Information submitted is reviewed by electricity grid experts from DSO Entity and ENTSO-E to ensure accuracy, inclusivity, fairness and relevance. It is updated annually. The project contributes to the European Commission's Action Plan for Grids, which highlights the role of digitalisation and innovative grid solutions in the energy transitions and achieving climate targets.

Noteworthy

The platform provides open and accessible information on technologies supporting the transition to low-carbon grids.

Enabling circular and resilient grids

RTE

Advancing grid sustainability with circular design and locally sourced recycled aluminium conductors.

Facing rising global demand for aluminium and the urgent need to cut emissions, RTE has launched a first-of-its-kind circular project to recycle material from its decommissioned overhead lines. Instead of relying on energy-intensive primary aluminium, the French transmission system operator tested whether recovered conductors could be remade into new, high-performance lines.

The goal was to reduce environmental impact, secure strategic resources, and demonstrate that circular solutions can meet strict technical standards. **Working with French partners including MTB Recycling, Trimet and Nexans, RTE recovered, remelted and re-manufactured 40 kilometres of ageing lines into new conductors that matched the mechanical strength and electrical conductivity of conventional ones.**

The process used only 5% of the energy needed for primary production and cut seven tonnes of CO_2 per tonne of aluminium. **The recycled conductors were successfully installed on the national grid in 2023, confirming industrial feasibility.**

RTE now plans to expand this approach to underground copper cables and transformers, **creating a sustainable, local supply chain for critical materials** and setting a European benchmark for circular energy infrastructure.

Learn More

Noteworthy

Recycled 40 kilometres of conductors using 5% of the usual energy, cutting emissions and proving large-scale circularity.

Offshore wind toolbox for developers

Elia Group

The practice offers a roadmap to bridge the gap between current offshore capacity and future targets and provides a ready-to-use toolbox of models and workflows.

Learn More

The practice was developed to address key issues for the achievement of the EU's climate targets: How can Europe connect up to 500 GW offshore wind to supply customers with affordable green electricity and anchor its industry on the continent? How can we onboard nature protection in the strategic planning of projects? **Elia Group saw a gap between targets and actual project implementation**, impeded by spatial planning constraints, financing, funding challenges, cost sharing discussions, supply chain readiness, and efficiency (e.g. wake losses). **Their practice starts with acknowledging these challenges are interlinked and tackles them in a holistic manner.**

This practice has **developed a toolbox** to address the fact there is no one-size-fits-all solution for offshore analyses. It aims to solve key issues, such as bridging the capacity gap and addressing a lack of overarching development framework for offshore wind projects, high project costs, and disparate national planning and funding mechanisms. **With input from over 50+ external stakeholders, they developed new tools and workflows for GIS analyses for spatial planning and routing of cables. Elia Group's overall holistic approach aims to to push the topical boundaries of what a TSO traditionally would do to meet the EU's offshore wind targets, with two scientific publications on the approach published.**

Noteworthy

Shows that Europe's energy transition costs could be **reduced by over €1,000 billion** from 2030-2050 with international collaboration, investment de-risking, and coordinated spatial planning.

Strategically planning the energy transition

National Energy System Operator (NESO)

Creating a blueprint for Great Britain's energy infrastructure to enable an optimised, secure, sustainable and affordable system.

In response to growing demand and the UK's net zero goals, NESO developed the Strategic Spatial Energy Plan (SSEP) methodology — a blueprint for optimising electricity and hydrogen generation and storage planning from 2030 to 2050.

The SSEP combines economic, spatial, environmental, and societal analysis to identify the optimal zonal locations for electricity and hydrogen generation and storage. Developed through extensive engagement with over 130 stakeholders, the methodology ensures transparency, inclusivity, and scientific rigour.

It is the first plan in Great Britain to map zonal opportunities for energy generation and storage across land and sea. **This integrated approach brings clarity for government, industry, and communities, enabling coordinated and timely infrastructure delivery.**

The SSEP represents a major cultural shift from reactive to proactive energy planning. It strengthens public trust and policy coherence, providing a shared vision for clean, secure, and affordable energy. The methodology sets out how NESO will **balance cost, impact, and opportunity and help forge the path to a sustainable future for everyone.**

Learn More

Noteworthy

The methodology consultation received over 900 comments from 130+ stakeholders.

Vegetation management using AI

E.ON

Using AI for nature-conscious vegetation management below overhead lines in Sweden.

Learn More

The Sustainable AI-driven Management of Vegetation and Ecological Systems (SAMS) project by E.ON focuses on using AI to manage vegetation below power lines in Sweden. The project combines open-source species observations, habitat data, weather information and GIS mapping to detect biodiversity hotspots, predict vegetation growth, and identify risks. **This allows the grid operator to make more targeted ecological interventions, reduce maintenance costs and avoid power outages caused by vegetation growth.**

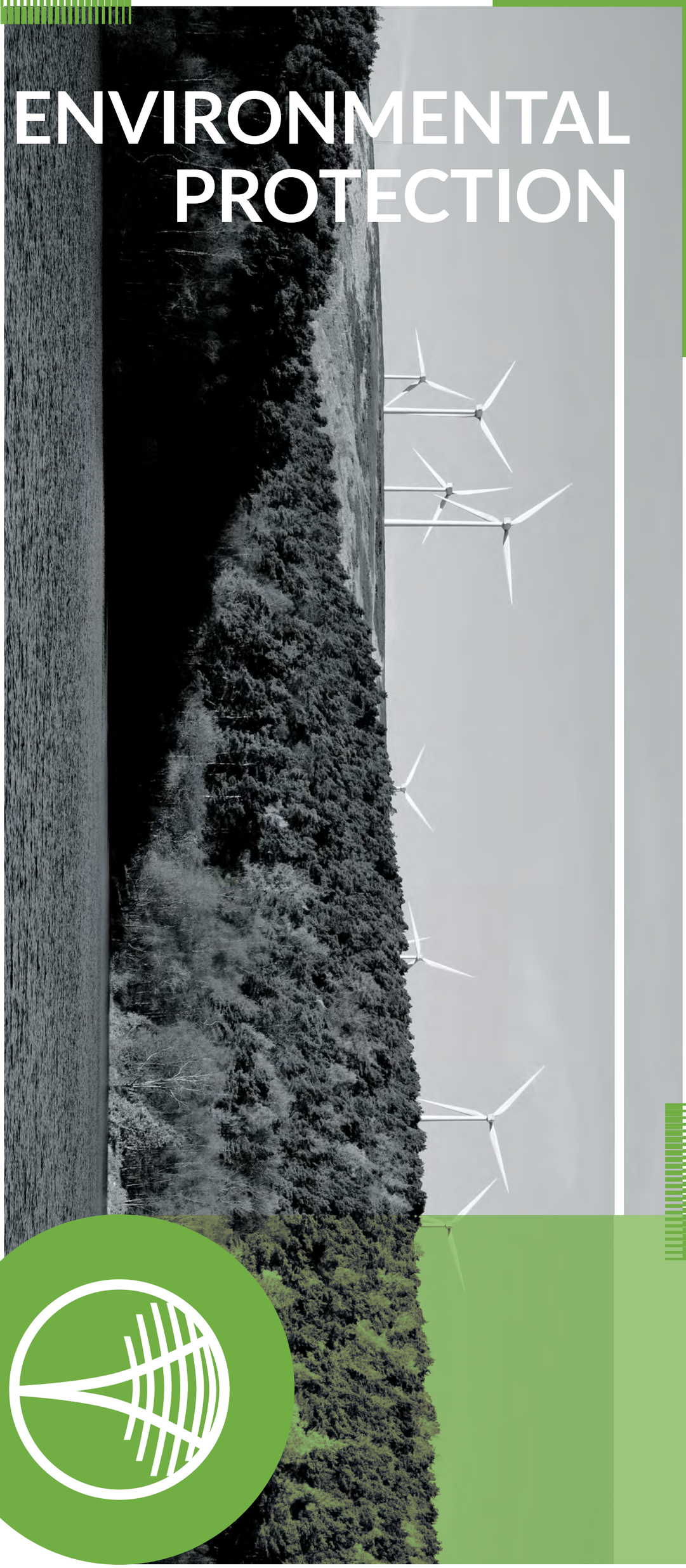
Power and grid operators need to maintain clear corridors for safety and reliability but maintenance can conflict with ecological goals, if not conducted carefully. **Conventionally, this has followed fixed schedules with limited site-specific data and reactive interventions, whereas SAMS uses available information to support predictive management and proactive planning.** It also improves decision-making and maintenance activities on the ground by providing additional tools and insights.

E.ON is partnering with Greensway AB as a consultant on ecological corridor management, also connecting the energy company with universities for research on landscape ecology.

Noteworthy

SAMS has supported 400 interventions in corridors below power lines and 100 hours of ecological enhancing measures.

ENVIRONMENTAL PROTECTION



Seeking safe skies for the Bearded Vulture

Red Eléctrica

WINNER

Good Practice of the Year
Environmental Protection

Installing bird diverters on grid infrastructure in Spain to promote Bearded Vulture conservation.

Learn More

This project, by Spanish TSO Red Eléctrica (REE) and the NGO Foundation for the Conservation of the Bearded Vulture (FCQ), aims to provide safer habitat for the Bearded Vulture, by placing diverters on grid infrastructure.

The project involves installing rotating and cross-shaped bird diverters to ward birds away from dangerous infrastructure such as power lines. **The diverters use movement and light reflection to direct birds away from the infrastructure and are the type proven to be the most effective, preventing collisions by 70%.**

The initiative began following the collision of a reintroduced Bearded Vulture with an REE power line located outside the Natura 2000 network. This prompted REE to better understand their flight patterns and design a plan for bird markers along the power lines.

They then worked with the FCQ on a plan to support the conservation of the species, which is classified as Near Threatened on the IUCN Red List. FCQ provided REE with over 3.4 million geolocation records for Bearded Vultures, which REE combined with grid infrastructure information. The subsequent GIS system they created helped REE to identify areas covering 446 km deemed higher risk for vultures and therefore the priority spots for the conservation measures. **Between 2022 and 2025, they placed diverters along all 446 km, providing an example of evidence-based conservation planning.** Additionally, the signaling strategy has been expanded based on a new data analysis. As a result, Red Eléctrica will proceed with installing diverters in newly identified high-risk areas for the bearded vulture.

The practice is highly transferable. **Several regional governments have already replicated the model developed by REE and FCQ in Andalusia, Extremadura and Gipuzkoa (Basque Country).** They have shared data on other soaring bird species, including eagles and other vulture species, so that REE can develop similar action plans. The initiative has also received attention internationally, with Cyprus' electricity company and Birdlife Cyprus beginning the marking of 16 km of power lines in a Special Protection Area inspired by the REE-FCQ model.

Noteworthy

The project involved identifying and placing bird diverters along 446 km of grid infrastructure deemed higher risk areas for Bearded Vultures.

Biohuts for nature-friendly offshore turbines

Ecocean

Biohuts create homes for wildlife, boosting marine biodiversity through nature-inclusive design.

Learn More

Offshore wind energy is expanding in the Mediterranean, but floating turbines planned for the region currently offer limited ecological benefits. Unlike bottom-fixed turbines, they lack complexity and fail to support natural habitat formation.

To address this gap at the EFGL pilot windfarm, Ecocean and Ocean Winds applied nature-inclusive design (NID) principles by installing biohuts – modular steel cages filled with oyster shells, stones, and coconut fibres that mimic rocky nursery habitats. **These units add essential complexity to floating infrastructure, enabling marine species to colonise areas that would otherwise remain barren.**

Launched in 2012, the biohut project pursues several goals. Beyond creating refuges and feeding grounds for ground-dwelling fish, invertebrates, and filter feeders, it also aims to establish a replicable NID model for the floating offshore wind sector. Long-term ecological monitoring provides evidence of performance and informs future innovation. Finally, the project engages stakeholders in co-design, deployment and communication of biodiversity benefits.

Early results are promising: baseline trials showed greater species richness and nursery use by fish. The project partners intend to conduct further monitoring up to 2030 to better understand the environmental benefits.

Noteworthy

This is the first floating offshore wind farm to integrate biohut modules, the only nature-inclusive design tailored to floating infrastructure.

Fish hotels

TenneT

Providing shelter and habitat for juvenile fish on offshore high-voltage stations in the North Sea.

Learn More

The North Sea is in poor ecological condition due to pressure from overfishing, industrial activities, oil and gas extraction and shipping. As such, marine actors are taking action to address their impacts and respond to the recently adopted EU Nature Restoration Law. The TSO TenneT (Netherlands) has launched a project aimed at supporting marine biodiversity by attaching 'fish hotels' to their offshore high-voltage stations in the North Sea. **The fish hotels provide protection from marine predators and foraging opportunities for juvenile fish species like cod, pouting and pollack.**

The hotels are attached to the jackets during the production phase, before installing them in the North Sea, reducing health and safety risks. **The hotels are now a standard part of TenneT's offshore high-voltage stations.**

The project includes technical, ecological and monitoring knowledge. Monitoring activities are ongoing. Specific results are unavailable so far but initial findings show an increase in biodiversity around the offshore high-voltage stations using the fish hotels. TenneT intends to share the findings publicly. The results may be scalable, providing insight into how fish hotels can integrate with other maritime structures.

Noteworthy

The fish hotels are integrated into the design of the offshore high-voltage stations' supporting jackets, reducing health and safety risks from installation.

Modular mycelium habitats for insects

MycoNest

Rewilding infrastructure and turning energy sites nature-positive through biodegradable mycelium habitats.

Learn More

MycoNest is a project launched in Hungary which provides refuges for insects made from mycelium – a root-like structure of fungi – and agricultural residues. The refuges can be attached to various forms of renewable energy infrastructure, including fences, substations and solar parks, supporting local biodiversity. The use of biodegradable materials and, optionally, biochar enriches nearby soils and the inclusion of wildflower seeds promotes the growth of pollinator-friendly vegetation. **The project's lightweight, hook-shaped design allows quick, tool-free installation on existing infrastructure by maintenance staff, making it highly transferable across diverse sites.** Its controlled biodegradation eliminates long-term maintenance and pest buildup while restoring soil health.

Field trials confirmed full utilisation of installed units by insects, particularly solitary bees and pollinators. Several pilots are underway across European solar parks, with additional demonstrations launching in Australia, testing MycoNest under various climates and infrastructure types.

By integrating regenerative design with renewable energy systems, MycoNest advances nature-positive, rewilding infrastructure that contributes to EU sustainability targets, corporate ESG strategies, and emerging biodiversity credit frameworks. The project was named a finalist for the Changemakers Exhibition at the IUCN World Conservation Congress 2025 and selected for the EIT Jumpstarter Grand Final 2025 as one of Europe's most promising early stage nature-tech innovations.

Noteworthy

The use of mycelium, agricultural residues and, optionally, biochar, allows the structures to biodegrade, enriching nearby soils, while embedded wildflower seeds boost pollinator-friendly vegetation.

Nature-based climate resilience

E-REDES

Turning power line corridors into resilient green spaces that boost resilience, protect infrastructure, enhance biodiversity, and create socio-economic value.

Portugal faces growing wildfire risks as climate change intensifies, posing a major threat to biodiversity in the country. E-REDES has responded by developing Integrated Vegetation Management (IVM) into their operations, enabling a nature-based approach that protects infrastructure while regenerating ecosystems.

In partnership with CoLAB ForestWISE, E-REDES identified 107 fire-resilient, low-flammability species suitable for fuel management strips beneath power lines. These species combine biodiversity, carbon capture, and local economic value. A digital platform now supports landowners and municipalities with management models, biodiversity data, and business cases.

IVM transforms traditional fuel clearance areas into multifunctional landscapes that promote resilience, safety, and rural development. Supported by national authorities ICNF and AGIF, the practice has mapped over 43,000 hectares for compatible flora and launched pilot projects across Portugal.

The initiative offers a replicable model for Mediterranean and fire-prone regions worldwide. Future work will focus on scaling implementation, improving monitoring through remote sensing, and securing incentives for large-scale adoption. **By linking grid safety to biodiversity and local value creation, E-REDES seeks to redefine how energy infrastructure coexists with nature.**

Learn More

Noteworthy

Mapped 43,000 hectares and identified 107 resilient species to create biodiverse grid corridors.

SeaLab

Vattenfall

SeaLab integrates scientific research and communication, making the Hollandse Kust Zuid offshore wind farm a platform for biodiversity, circularity, and sustainability.

Learn More

SeaLab at the Hollandse Kust Zuid offshore wind farm was launched to show that offshore wind farms can contribute not only to fossil-free energy production but also to environmental innovation and biodiversity. In collaboration with a broad network of partners, including universities, research institutes, NGOs, and communications agencies, **SeaLab develops environmental pilot projects, analyses data, and generates awareness through targeted stakeholder engagement and communications campaigns.**

The core environmental and sustainability themes investigated at HKZ include bird collision monitoring using AI-powered thermal cameras; nature-inclusive design to enhance marine biodiversity; blade recycling to address circularity challenges; seaweed farming and passive fishing for multi-use of marine space; and underwater noise mitigation using air bubble curtains.

Targeted communications and stakeholder engagement play a crucial role in SeaLab. Vattenfall promotes SeaLab through targeted LinkedIn campaigns and highlights it internally via workshops, newsletters, and stakeholder briefings. Key initiatives are further showcased at industry forums and conferences.

SeaLab aims for its concept to be replicable in other offshore wind installations. Scientific partnerships, standardised pilot frameworks, and a flexible, locally adaptable communications model ensure transferability while maintaining a coherent sustainability message. **The initiative's success has already inspired interest in replication in Denmark and Germany.**

Noteworthy

The initiative identifies core environment and sustainability themes to explore at HKZ, including measures to enhance marine biodiversity, recycle blades, and reduce underwater noise.

Tackling water insecurity in Cambodia's floating villages

Green Hope Foundation

WINNER

Good Practice of the Year
Social Achievement

Solar-powered water distillation and youth education improving health and resilience in Cambodia's floating villages.

Learn More

AquaSol for Equity by Green Hope Foundation is a community-driven initiative that tackles acute water insecurity in the floating villages of Siem Reap, Cambodia. These communities rely on surface water that is frequently contaminated and increasingly scarce due to climate change. **The project provides a renewable, low-maintenance solution by integrating solar-powered water distillation with youth-led education and capacity-building, offering safe, sustainable drinking water where traditional purification systems are not feasible.**

Each modular solar unit produces 100–125 litres of clean water daily, supplying around 900 people and avoiding 12 tons of CO_2 emissions per year. The system purifies river, rain, and contaminated groundwater, ensuring a continuous supply even in remote, off-grid settings. Co-designed with residents, the project reflects local needs and cultural practices while fostering ownership and long-term sustainability.

Ten local youth ambassadors under the age of 24 have been trained as Water, Sanitation, and Hygiene (WASH) educators, leading outreach and hygiene campaigns across their villages. **Within six months of installation, waterborne diseases were reduced by 50 percent, and school attendance rose to 90 percent.** Additional solar panels now power lights and fans in classrooms, improving learning environments and reducing absenteeism.

AquaSol for Equity demonstrates how renewable technology can advance social inclusion, gender equality, and environmental protection simultaneously. It provides tangible public-health improvements while building resilience to climate change through education, awareness, and community engagement.

The practice's modular, replicable design enables expansion to other water-stressed regions. It has already been implemented in the Small Island Developing State of Kiribati and showcased internationally at COP 29 and sustainability forums. By merging solar innovation with social equity, AquaSol for Equity offers a holistic, scalable model for clean-water access, youth empowerment, and climate adaptation, proving that community-based, renewable-energy solutions can transform lives and strengthen resilience worldwide.

Noteworthy

50% reduction in waterborne diseases within six months of installation.

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Group photo of the 2024 winners of the RGI Grid Awards, taken at the award ceremony during the 5th PCI Energy Days in Brussels, Belgium.