mag

INTELLIGENT ENERGY EUROPE

FOR A SUSTAINABLE FUTURE

4

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Energy efficiency & renewables

Making a future together

MAGAZINE
OF THE INTELLIGENT ENERGY-EUROPE PROGRAMME
N°4 - MAY 2012

EDITORIAL

BY **PATRICK LAMBERT**
Director EACI

"In this issue we have decided to emphasise the programme's five fields of delivery."

Welcome to the fourth issue of the Intelligent Energy - Europe magazine. Regular readers will find the usual mix of in-depth reports and interviews on all aspects of the programme inside.

In this issue we have decided to emphasise the programme's five fields of delivery.

*The first, **shaping policy development and implementation**, is covered in the lead feature, which looks at attempts to integrate solar energy in the planning of a town in the north of Spain, as part of the POLIS project. Implementing energy efficiency regulation is also one of the objectives of the ATLETE project, which is explored in some detail in our regular slot of Manager & Managed interviews.*

*This compliance project that focused on fridges also fits in nicely with the second field of delivery: **creating favourable market conditions**, as does PASS-NET, a project designed to spread knowledge about the benefits of passive housing.*

*PVTRIN, a photovoltaic installer training and certification project, falls under our third field of delivery: **building capacity and skills**. Read all about it in the lead feature, which goes into the state of the photovoltaic market in some detail.*

Passive houses and photovoltaic systems are two good examples of where the IEE programme promotes the uptake of solutions from European research.

*The fourth field of delivery is **preparing the ground for investment**. More on this can be found in this issue's country profile section. This time we're looking at projects taking place in Denmark, the current holder of the European Union's rotating presidency, as well as in Spain. In these countries, the GERONIMO II – BIOGAS project aims to support farmers willing to build their own biogas facilities.*

*The fifth and final field of delivery for the IEE programme is **informing stakeholders and fostering commitment**. How can we convince older people of the joys of active mobility? See our coverage of the AENEAS project for more. Enjoy the issue.*

Patrick Lambert

Patrick Lambert, Director,
Executive Agency for Competitiveness and Innovation

ec.europa.eu/intelligentenergy

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Editors: Andrea Pascal, Cindy Carolle, Gordon Sutherland, Gianluca Tondi, EACI

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More details on the IEE programme can be found at ec.europa.eu/intelligentenergy

Photovoltaic skills in high demand

An Intelligent Energy - Europe project is working to ensure that a shortage of skilled installers does not put the brake on the booming photovoltaic (PV) market.

PV power is booming, but how sustainable are the growth rates? There could be more than 600 GW of installed PV capacity by 2030, but will there be a sufficient number of skilled installers?

This is the main concern for the PVTRIN project partners, who are supported by the Intelligent Energy – Europe programme.

Poorly trained installers can lead to poor PV performance. If word gets around that modules are not generating the power expected of them, market confidence could suffer.

"If there's a small shadow the whole panel will not work properly."

There are as yet no freelance, certified PV installers who can take their skills from one European Union Member State to another.

"The lack of qualified installers is quite evident," says Stavroula Tournaki, PVTRIN project manager. While more than 1 400 000 jobs should be created over the next 20 years in various PV fields – research, production, wholesale, installation and supply – the industry is currently outgrowing the workforce.

Technicians who install PV modules might be competent electricians, but they often have little or no PV training.

"The PV industry is highly concerned about quality," says Stavroula.

Untrained installers might not know how to connect the PV unit to the grid properly and safely, says project coordinator Theocharis Tsoutsos. Potential shading problems are often not sufficiently taken into account, he says.

The PVTRIN team aims to train 160 installers. As an indication of the high demand, the pilot courses were oversubscribed by 100% at the halfway stage. The team's main goal is to promote the training and certification for PV installers incorporating the criteria set down in both EU legislation and national legislation.

PVTRIN's UK partner, BRE, certifies PV installers according to the standards laid down in the British micro-generation certification scheme (MCS), currently one of the only nationwide schemes in the EU. "The physics is the same across Europe, even if other schemes will need to be tweaked to take into account national regulations," says Dr John Holden, a principal consultant at BRE Global.

"When you certify you look for a number of things," John says. "The first thing is the competence to install on-site. The second thing you look for is consistency; the installer needs to have a quality management system in place that includes, for example, the preparation of quotations and estimates for the PV's annual energy performance."

A specific skill set is required for PV installations. Most modules are placed on pitched roofs. "Roofing skills are required, which means the ability to work at height," says John. "PV panels are heavy. Health and safety is very important. There needs to be a risk assessment before the installation takes place."

There are other important safety concerns. PVs work on direct current (DC) rather than the alternating current (AC) used by most appliances. DC is dangerous. "If you touched a live AC conductor you would be pushed backwards. A DC conductor on the other hand could make you clamp your hand around the conductor; the current makes the muscles contract. PV installers must be experienced in dealing with live DC systems."

John continues: "If there is a small shadow, people think that part of the panel might not work properly. But that's not the case. If there's a small shadow the whole panel will not work properly." For this reason, a site survey needs to take place prior to installation, taking into consideration objects such as TV aerials or even fast-growing trees.

A passive house demonstration project in Austria

When winter settles upon southern Germany, Franz Freundorfer need not worry about the cost of heating his passive house.

The 175-sqm property in Oberbayern, near the Austrian border, requires three cubic metres of logs a year for heating and hot water. "If this weren't a passive house, we would need ten times more," says Franz, who shares his house with his wife and three children.

As an engineer specialised in energy efficiency, Franz did not hesitate to opt for a passive house back in 2006. The extra cost involved for passive house components – around €30 000 – is a sound investment, he believes.

The property includes cellulose wall insulation, a heat-recovery ventilation system and locally built energy-efficient windows. "It is cheaper to live in a passive house from day one," says Franz.

When asked if there are any disadvantages to living in a passive house, he pauses for thought. Houseguests can mistakenly leave the bathroom window open because they are unaware of the automated ventilation system, he says.

Is there advice he can pass on to others considering building a passive house? Make sure the architect is familiar with the technology, he replies.

The Intelligent Energy – Europe project PASS-NET has been drumming up interest across Europe with the help of annual Passive House Days and is reporting an "avalanche" of interest, according to project coordinator Gerhard Bayer.

The PASS-NET team has built up a database containing around 2 300 demonstration projects in 16 countries. "This helps enormously if you are looking for passive houses near you to visit in order to convince a decision-maker about the functionality of this technology," says Gerhard.

Defining joint standards across borders was one of the main hurdles project partners had to overcome. "The trust of the consumer in the 'passive house' quality standard is very important," says the project coordinator.

PASS-NET partners discovered that "political forces" had a major impact on the roll-out of passive housing. "In the same region, differences can be very large," says Gerhard. As an example he points to Austria and Hungary, which while geographically similar are at very different stages of development. The former is one of the most advanced economies for passive housing. "In Austria, the law establishes minimum energy efficiency requirements. Subsidies are linked to energy efficiency." Energy prices and energy security can also be a major factor in the take-up of passive house technology. "Austria depends on natural gas imports from countries such as Russia and Ukraine. In the past there have been cuts in supply. Passive housing can be a way to break away from political, economic dependence."

Public entities such as Lower Austria and Vorarlberg in Austria have adopted the Passive House standard as a minimum requirement for their own buildings, including schools, nurseries and social housing.

FOR MORE INFO
www.passivehousedatabase.eu

In the UK, only PV systems installed by an MCS-certified installer can sell excess power into the national grid, a system known as "clean energy cash-back" or the "feed-in tariff."

The link between the certified installer and the feed-in tariff is crucial, according to Joseph De Jonghe, a PV consultant in Belgium. Such a link does not exist in Belgium's southern region, Wallonia, where poorly installed modules are not uncommon. "For photovoltaic power the qualification process is a lot less structured than for solar thermal," Joseph explains. "Certified instructors in solar thermal energy are required to take a 56-hour course, sit a certification exam and spend a day with a manufacturer. For PV, there is a one-week course. Installers are recommended, not certified." He continues: "We have seen poorly calculated module sizes and orientations. Sometimes the system stops working and the clients ask why."

With its Europe-wide qualification approach, the PVTRIN project should hopefully help developing markets avoid problems such as these.

"With the latest change in the law you could say that we are on the way!"

"We have good news," says Camelia Rata, the PVTRIN project coordinator in Romania. Legislation has recently been passed enabling private dwellings, companies and public administrations to connect their PV installations to the national electricity grid. "This is the first time it has been clearly allowed by law for a capacity up to 50kW," says Camelia, who is executive director of ABMEE, a non-governmental organisation. She hopes that a Romanian installer certification scheme will be in place by the end of 2012. There is also hope that the Romanian Government might consider state support for PV. "The environmental support fund has co-financed solar thermal but not PV," says Camelia. "Most of the talk about PV has been purely theoretical, but with the latest change in the law you could say that we are on the way!"

State support has undoubtedly kick-started the photovoltaic market across the EU. But with state budgets under severe strain there is no guarantee the same level of support will be available in the future.

Under budget pressure, the Spanish Government has already cut incentives. The retroactive nature of these cuts, which apply to producers who had already signed contracts, risks damaging the credibility of the Spanish system, warns Eduardo Roman, the PVTRIN partner who works in the energy unit of Tecnalia, a company specialised in PV research. State incentives have been cut from around €0.25 per kWh to around €0.13 for ground installations.

While this is worrying, in the not-too-distant future PV power is expected to stand on its own two feet, without subsidies, thanks in part to the research undertaken by companies such as Tecnalia.

"By 2020 we expect that there will be no incentives and that PV installations will be profitable without them," says Eduardo. A PV module bought in 2011 cost around half the price of a unit bought in 2009, he points out. "The technology will continue to advance," he says. "The modules will become more efficient and cheaper, as will the whole system, including the connection between the PV installation and the grid."

Spain is of course blessed with some of the best weather in Europe. Many Spanish towns are keen to harness the sun's potential.

One such town, Vitoria-Gasteiz, is participating with other European cities like Paris, Malmö, Lisbon, Munich and Lyon in another Intelligent Energy – Europe project, POLIS, which in Vitoria-Gasteiz aims to assess and to mobilise the solar potential that can be extracted from both residential neighbourhoods and industrial areas. "Our first pilot action is in Lakua, a northern residential area," says Xabier Marrero, project manager in the Vitoria-Gasteiz City Council's environmental and public space department. The objective is the creation of a 'solar map' that highlights issues such as the shadows cast by antennas and chimneys. By 2015 the City intends to integrate solar requirements in the Urban Master Plan encouraging residents to invest in PV roof installations.

"By 2020 we expect that there will be no incentives and that PV installations will be profitable without them."

In the town's main industrial area, Jundiz, the project is focusing on rooftop potential rather than ground installations. In the past years, in Spain, there has been a solar business model based on ground installations, but we believe that this soil needs to be preserved for better uses such as agriculture," says Xabier. "Ground installations are an opportunity in degraded or arid areas as in the south of Spain but here in the Basque Country the soil is much richer and needs to be preserved."

The town's sustainable policies on renewable energy, climate change, air quality, water management, mobility and biodiversity have been recognised with the European Green Capital Award for 2012.

FOR MORE INFO
PVTRIN
www.pvtrin.gr
POLIS
www.polis-solar.eu

"Awareness of the value of clean energy produced by renewable energy sources has grown exponentially."

ON THE GROUND

Putting the sun to work

From Serbia to Spain, young people are helping bring solar energy to the market through two Sustainable Energy Europe Awards 2011 winners.

Since 2010, the Strawberry Tree in the centre of Belgrade has attracted users of all ages.

Free power for mobile devices

In Belgrade, solar-powered charging points called "Strawberry Trees" serve a double purpose: they provide a free service while drawing attention to the benefits of sustainable energy.

Miloš Milisavljević was just 17 years old when the inspiration came to him. He asked himself if there was a potential link between his school sustainable energy project and the world's five billion mobile telephones. "We wanted to find a way to promote renewable energy, and knew that to catch people's attention we needed to deliver a personal benefit."

The idea for a public station where people could use solar power to recharge mobile devices was born – and is now a reality. After building an initial model, Miloš proposed the idea to Belgrade City officials who quickly recognised the value of the project. They installed the first station in late 2010.

Since then, the popularity and usage of the Strawberry Trees has soared. At the end of 2011, the three existing Strawberry Trees had counted 100 000 charges. Twenty new models will be installed in Serbia in 2012.

"We compared the number of charging sessions on the first day of operation for the first two Trees. The second Tree, which was installed about one year after the first, registered 10 times more charges," Miloš says. "Awareness of the Trees and the value of clean energy produced by renewable energy sources has grown exponentially."

Miloš is now 23 and working towards a master's degree in electrical engineering. Meanwhile, his company Strawberry Energy is in negotiations with dozens of other cities interested in building and installing charging points.

FOR MORE INFO
Miloš Milisavljević
www.senergy.rs

Racing the Solar Decathlon

Hundreds of university students are now hard at work preparing entries for the "Solar Decathlon Europe" 2012 competition. Teams have to design and build homes that consume as few natural resources as possible while producing a minimum amount of waste over their lifecycle. Obtaining all required energy from the sun is one of the key goals.

Over 10 days next summer, around 20 homes will be built on the banks of the Manzanares River in Madrid. "The homes use nothing but solar energy. Everything from the hot water heater to the home cinema system relies on the sun," says Ismael Martínez, Director of Communications for Solar Decathlon Europe.

Why Solar "Decathlon"? The homes are evaluated according to 10 criteria. Points are awarded for architecture, engineering, comfort conditions, functionality and innovation. Teams must also demonstrate that the home has the potential to be scaled up for industrial production: is it viable for their home market? Communication and social awareness are among the evaluation criteria, as well as sustainability, energy efficiency and electrical energy balance.

"These are not dream homes," Ismael says. "They are buildable, marketable and realistic."

The Solar Decathlon Europe competition is promoted across Europe by the Intelligent Energy – Europe project 10ACTION, which has been designed to engage five different target groups: children, teenagers, university students, professionals from the buildings sector and the general public.

FOR MORE INFO
Ismael Martínez
www.sdeurope.org
www.10action.com

"We should try to strike a balance between fundamental research and applied 'innovation'."

IN THEIR OWN WORDS

MARIA DA GRAÇA CARVALHO
Member of the European Parliament

Low carbon economy requires paradigm shift

The IEE Magazine talked to Maria Da Graça Carvalho, a member of the European Parliament's industry, research and energy committee.

In the European Parliament you have talked about the need for a "radical transformation" of the energy sector. Are you satisfied with the pace of change?

In the future, it will be essential to radically transform Europe into a low carbon economy, something that will require a paradigmatic change in our ways of producing, storing, distributing and using energy. The 2008 EU Strategy for Energy and Climate Change was a bold step forward. However, it can still be improved on and accelerated through the following measures: we need further research into affordable clean technologies; we need to speed up the renewal of obsolete energy infrastructure across Europe despite the current lack of liquidity; finally, Member States must transpose European legislation more quickly, enabling more rapid reform.

As an MEP how do you see the role the IEE programme has played so far in promoting energy efficiency and renewable energy?

Amongst a raft of other measures, the IEE programme has contributed to enhanced energy efficiency in the EU and to a welter of innovative projects alongside the creation of new markets and jobs in the field of renewable energy and energy efficiency. It has also promoted the involvement of stakeholders in the active implementation of EU legislation at local and regional level. Here, activities such as the Covenant of Mayors and the Pact of Islands have been particularly valuable and innovative and should be continued and intensified. Indeed, decentralised, bottom-up activities are crucial to encouraging the involvement of EU citizens.

How much of the Horizon 2020 programme budget do you think should be devoted to university researchers, and how much to applied "innovation" activities, such as those detailed in the IEE programme?

Horizon 2020 will cover the whole chain from frontier research to technological development, demonstration and innovation. This is one of the reasons that I have called for a doubling of the Horizon 2020 budget by comparison with FP7. This doubling was approved by the EU Parliament. As for the allocation of resources across different stages in the research chain, we should try to strike a balance between fundamental research and applied "innovation". However, the last stages in the chain of research and innovation tend to be costly and this is something that should be taken into account when budgeting.

What more could be done at EU level to help EU Member States ensure that the 2020 targets for energy efficiency, renewable energy and climate change will be delivered?

In the post-2014 general budget, the Commission and the EU Parliament have called for a considerably increased budget for research and innovation within Horizon 2020. They envisage an increase in the percentage of the structural funds devoted to energy and climate change, on the one hand, and research and innovation, on the other hand. Finally, they have proposed the creation of a new "Infrastructure Fund".

The different public financial institutions in Europe – such as the EIB – might act as a catalyst in creating financial packages in which private sector money is able to ensure adequate financing for clean energy projects. Project Bonds, in particular, might help to ensure that these projects actually manage the often costly transition from the world of science into the market.

Finally, many investors today tend to seek out low risk and low return investments in mature sectors. The advantages and benefits of investing in the clean energy and innovative sectors should be actively promoted whilst encouraging a more entrepreneurial spirit amongst venture capitalists.

"It is the responsibility of the manufacturer to declare the energy label."

MANAGER & MANAGED

Would your fridge pass the energy test?

The ATLETE team discovered that in some cases fridges do not comply with their energy label.

Christophe Coudun, EACI project officer, ATLETE

ATLETE, a market surveillance project using fridges as a test case, was one of the first of its kind supported by the Intelligent Energy – Europe programme.

"It is the responsibility of the manufacturer to declare the energy label. There needs to be surveillance to make sure that a product declared as A is not in fact a B or a C," says project officer Christophe Coudun.

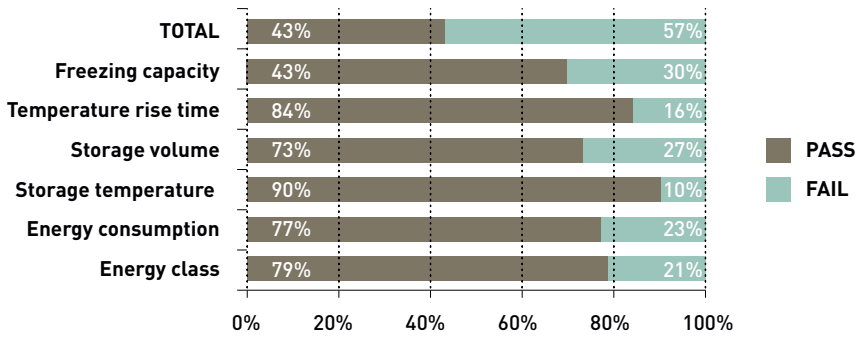
Market surveillance does exist in Member States, but is patchy. Surveillance authorities act as a network and meet with the European Commission, but many are suffering from a lack of resources. As a result, they rarely enforce existing legislation with sanctions such as fines. "There are front-runners such as for example Sweden, Denmark and the UK," says Christophe, "but the tests are considered expensive, excellent laboratories seem to be difficult to find, and surveillance authorities lack resources."

Christophe praises the ATLETE team for its "strong methodology". ATLETE showed that market surveillance is important, technically possible and cost effective, the project officer says.

Christophe was impressed by the project partners' engagement with industry. The ATLETE team put together a 'voluntary protocol' which gave fridge suppliers a chance to take remedial action in cases of non-compliance. "This was signed by 27 manufacturers," Christophe points out. The consortium agreed to let the results of the compliance tests be published. While this could appear to be 'naming and shaming', going public works both ways, says Christophe; manufacturers whose appliances passed all five test parameters (energy consumption, storage volume, storage temperature, freezing capacity and temperature rise time) could use this fact in publicity material. Some, such as Bosch-Siemens, Whirlpool, Liebherr, Beko and Miele, did.

By IEE standards, ATLETE was a small consortium of five partners; the average is between eight and ten. It nevertheless had a "high impact" with a lot of communication in the press and TV media, even beyond the partner countries.

The project was extended from 24 months to 26 in order to give the team more time to find additional fridges to test in cases of non-compliance, and more time to disseminate the results. Such an extension is unusual in the IEE programme. ATLETE was unusual for another reason: the programme supported the costs of purchasing equipment and testing. In most cases, subsidies are designed to cover costs such as staff time and travel. "Similar market surveillance activities are likely in the future, as a specific funding priority was published in the 2011 and 2012 IEE Calls for Proposals," says Christophe.



"We recommend publishing the results as widely as possible via consumer associations."

MANAGER & MANAGED

Uncovering unfair commercial behaviour

Energy efficiency compliance tests on fridges suggest we should pay more attention to market surveillance activities.

Stefano Faberi, ATLETE project coordinator

"One of our main objectives was to come up with a common methodology for carrying out surveillance for the Ecodesign Directive," says ATLETE project coordinator Stefano Faberi. "The other was to conduct field tests on one appliance – fridges. Eighty models of fridge from 40 manufacturers were tested, including imported appliances from Korea, Turkey and China."

Of the 80 models tested, 80% passed the energy consumption tests but under half passed all the test parameters. "This was a big surprise," says Stefano. "Some manufacturers were declaring higher volumes than they actually sold in order to enter into the higher energy class; the consumption was compliant but the volume was not. This is basically unfair commercial behaviour."

Compliance tests were designed as a two-step process. If the first unit of a model failed it was re-tested and only found to be non-compliant if the three additional units tested in the second step failed.

But by the time the second test was due, the model had in some cases disappeared from the market. "We couldn't find some of the models from the smaller suppliers," Stefano recalls. Among the ATLETE project recommendations is the possible purchase of multiple appliances before testing begins.

What is the solution as far as non-compliance is concerned? Project partners considered a variety of recommendations, including fines and prosecution, but settled on what they thought would be a softer and more effective solution. "We recommend publishing the results as widely as possible via consumer associations. The manufacturers fear this. I think some of them would prefer to pay the fine than see their reputation damaged."

Given this sensitivity, manufacturers were kept informed as testing progressed. In most cases factories collaborated with ATLETE partners, says Stefano. "Remedy action was taken and in some cases the model was kept off the market."

ATLETE has produced guidelines for surveillance authorities and other stakeholders. Project partners believe there is a need for a list of approved laboratories. "We suggest an EU pool of good laboratories is put together," says Stefano. "Not all Member States have laboratories able to test all the products covered by Ecodesign Regulations."

Given the high level of non-compliance for fridges, questions could be asked of other appliances. "Can we extrapolate our results?" asks Stefano. Are manufacturers' declarations regarding the efficiency of TVs honest? How about washing machines or dishwashers? "You could see what we have done as a warning," he says. Market surveillance authorities are used to dealing with safety issues but are less aware of the need to look at the energy efficiency and performance parameters.

FOR MORE INFO

www.atlete.eu

FOCUS ON

"ENGAGE has proved to be a great initiative to get the local community involved in concrete sustainable actions."

Giving power to the people

Sustainable energy has plenty of official support, but European cities could roll out better plans more quickly if they got local citizens onboard too.

Across Europe, local and regional authorities are rolling out Sustainable Energy Action Plans (SEAPs) to improve energy efficiency, increase use of renewables and encourage sustainable mobility. SEAPs encompass everything from building codes to transport to public procurement, but they can be complex or costly to set up, especially for smaller authorities.

Under the Covenant of Mayors, since 2008 more than 3 000 towns and cities – from Aachen in Germany to Zhmerinka in Ukraine – have pledged to meet or exceed the EU's 20% greenhouses gas emissions reduction goal. Around 1 000 of them have also submitted their own SEAP to the European Commission.

The Intelligent Energy – Europe programme is supporting projects to boost the number of Sustainable Energy Communities (SEC). Each project aims to get more citizens involved in the planning and implementation of their local SEAPs.

These projects also target public authorities, pushing them to adopt a coherent approach to every aspect of energy use when developing a SEAP. Partners are also expected to have carried out at least some of the planned measures before the end of their project.

Fully engaged citizens

The IEE project ENGAGE involves 12 European cities that have signed up to the Covenant of Mayors. All aim to meet or exceed the EU's 3x20 goals (20% emissions reduction, 20% of energy from renewables, and 20% increase in energy efficiency by 2020), but still need help implementing their new SEAPs.

"With ENGAGE, European cities have a powerful local governance approach to make the Covenant of Mayors a success," says coordinator Jean-Pierre Vallar. So besides municipal departments, the 12 cities are reaching out to their citizens and other stakeholders to get them involved in local energy policy making.

Public servants, families, schools and businesses can make their own practical commitments to sustainable energy, such as "I will be only using public transport," via the ENGAGE online tool. This quickly creates attractive posters featuring participants' own photos and words, for display in city halls, market places, schools and banks. More than 2 200 commitments have already been made in the 12 cities across Europe.

One year after the campaign's start, half of the residents of Bielsko-Biała (Poland) are familiar with the issues presented, and almost 3 000 people have actively participated in the project. "ENGAGE has proved to be a great initiative to get the local community involved in concrete sustainable actions," says Zbigniew Michniowski, the City's Deputy Mayor.

Being ambitious but realistic

Regions have a vital role to play in the achievement of the EU's 3x20 objectives, by helping to facilitate sustainable energy action at a local level. That's the goal of ENNEREG, involving 12 regions of every size and type – from small islands in Greece and Portugal to the whole of Wales. Each will become either an official Covenant Supporter or Coordinator by the project's end.

Nils Daugaard, project coordinator, says creating SEAPs at regional level gives authorities a good overview of energy resources and potential across a wide area. This allows coordination of activities, benefiting everyone.

Nils notes the positive contribution to the development of region-wide SEAPs by regional energy agencies in the project's "established" regions, such as Rhône-Alpes in France. He also praises similar work being done by the agencies in several "informal" regions, among them Kaunas in Lithuania. "This underscores the potential for new groups of small and medium-sized cities or areas around the EU to cooperate on sustainable energy plans," he adds.

"Our 12 pioneer regions aim to lead the way to a sustainable energy future. They will inspire replication, exchange experiences

"Twinning and peer-to-peer support were key factors in building administrations' internal capacity."

FOCUS ON

"Our 12 pioneer regions aim to lead the way to a sustainable energy future"

A Helsinki citizen highlights his ENGAGE commitment to sustainable energy.

and interact with other EU local and regional energy actions," says Nils. Each of the 12 will twin with a less experienced region outside the project, sharing sustainable energy ideas and providing assistance where required. The Regions 202020 Network website also serves as an informal platform for EU regions and others to discuss their experience and best practice of SEAPs.

SustainableNOW started before the launch of the Covenant of Mayors and partially influenced some of its guidelines. The project targeted local authorities and developed an energy guidance package with valuable information and practical instruments for cities wanting to develop and implement a SEAP. Five partner cities – in Bulgaria, Germany, Hungary and Italy – used this tool to develop their own SEAPs.

"Cities find it easier to roll out SEAPs if they adopt an integrated environmental management approach, based for example on the EC guide 'Integrated Environmental Management'," says project coordinator Holger Robrecht.

An integrated approach assists local governments which have good experience in developing such plans, but fall short on their implementation and evaluation. It can also bring together different municipal departments or governments, expand beyond the energy sector to mobility and housing, and potentially help cities to bridge the gap between sustainable energy projects and ambitious EU climate and energy goals.

Project partners enhanced their local energy skills through study visits, workshops, staff training and exchanges. "Twinning and peer-to-peer support were key factors in building administrations' internal capacity," notes Holger, pointing to experienced 'Circle of Excellence' cities guiding other local authorities in a 'Circle of Learning'.

ENERGY FOR MAYORS provides additional help for Supporters of the Covenant of Mayors as well as for local authorities, especially small and medium-sized cities. "It is one thing to sign the Covenant. Our project supports local authorities every step of the way on the tougher part of that pledge – from planning through to practical action," says project coordinator Dario Miroglio. Support comes in the form of networking, specific training, and exchange of experience and information.

The project has further developed the SustainableNOW tool, mainly addressing regional-level public bodies that help local authorities with their sustainable energy goals. Available online in several languages, the Toolbox of Methodologies on Climate and Energy includes guidance for users to assess or improve their SEAPs. It now has around 80 registered users, allowing them to rate existing data or upload new data.

The partners are also testing an Energy Management System in eight different European cities, helping them to develop a SEAP using the latest EU standard on best practice in energy management. Dario Miroglio adds that the project intends to enrol a further 180 new signatories to the Covenant, while supporting over 165 municipalities with their SEAP development and roll-out.

FOR MORE INFO

ENGAGE
www.citiesengage.eu/
ENNEREG
www.regions202020.eu
ENERGY FOR MAYORS
www.energyformayors.eu
SustainableNOW
www.sustainable-now.eu

COUNTRY **PROFILE**

"We already know of seven farmers in Hungary and five in Poland planning to start biogas production as a result of our training activities."

Tapping biogas and sustainable mobility

Danish and Spanish partners in three IEE projects highlight efforts to capitalise on livestock manure and improve movement around cities.

Biogas plants on farms are still relatively rare in Europe. Two IEE projects aim to give them a boost.

The five-partner FARMAGAS project promoted anaerobic digestion of agricultural waste and biogas production in Poland, Romania and Hungary by sharing expertise. All three countries have high potential for biogas production on farms, but face challenges such as lack of funding, knowledge and supportive legislation. In each country, three training courses were organised: one to train the trainers, one for farmers, and one involving other key stakeholders.

"We already know of seven farmers in Hungary and five in Poland planning to start biogas production as a result of our training activities," says Pilar Zapata Aranda, from the Spanish partner Bioazul. "That is very promising, given these countries today have almost no such plants on their farms."

The Danish, German and Spanish partners adapted their software tools, manuals and guidelines to the type of biomass and conditions typically found in the three target countries in Eastern Europe. "Yes or no decisions to set up an agricultural biogas plant often depend on a good pre-feasibility study. This is where FARMAGAS software and guidelines played a key role," adds Thorkild Qvist Frandsen, from the project's Danish partner.

Benefits of biogas cooperatives

Biogas has huge potential as a cost-effective and environmentally friendly way of treating livestock manure. GERONIMO II-BIOGAS aims to raise the awareness of 5 000 dairy and pig farmers across Europe of that potential. Project partners will also support farmers willing to build their own biogas facilities.

Over 70 energy audits will be done on dairy and pig farms EU-wide, to identify biogas potential. From these, at least nine biogas plants will start implementation before the end of 2013, generating at least 4 230 MWh of energy. Also, biogas-friendly policy frameworks will be defined in close collaboration with relevant policymakers, who will be encouraged to adopt them.

According to Bitten Lorentzen, from the Danish partner KomTek Solutions, Denmark's unofficial goal is for half of all animal manure to be turned into biogas. Around 60 of the nation's biogas plants are based on farms. "Small livestock farmers benefit from creating a cooperative to build biogas plants," she says. "We shared this advice with some of our colleagues in Spain, where most livestock farms are relatively small."

The project's coordinator in the Spanish region of Catalonia, Montserrat Balcells Boix, works for a federation of 400 dairy farmers. "Manure passing through biogas plants brings lots of added value. Farmers can produce gas, electricity, hot water and manure suitable for spreading on their land," she says. "But Spanish biogas laws are generally unhelpful. We need biogas-friendly

Cycle study tour in Odense, Denmark

COUNTRY PROFILE

"Our goal was to raise older people's awareness that they can leave their cars at home and easily get around the city by public transport or walking."

policy for on-farm plants and must raise awareness of this technology's benefits."

Sustainable mobility for seniors

Older people's mobility is a key consideration for Europe's cities, with 20% of the EU population expected to be 65 or older by 2020. In the AENEAS project, partners assessed the mobility needs and expectations of older people – many of whom still prefer the private car. It concluded that urban transport systems must offer them independent mobility and an accessible environment. This matches the 'sustainable active ageing culture' promoted in the 2012 European Year for Active Ageing and Solidarity between Generations.

Odense is Denmark's third-largest city; about 39 000 of its residents are 60 or over. It has an active policy to encourage older people's mobility and boasts an extensive walking and cycling infrastructure. Under AENEAS, the city tested three concepts: guided cycle trips, safe walking tours and walking campaigns.

Some 20% of participants on the safe walking tours said they would walk more in future. Participants in the cycle trips were more enthusiastic about their experience. One in four said they would cycle more in future, even though almost all of those aged up to 75 hold a driver's licence.

In Donostia-San Sebastian, the Council of which is the Spanish partner of the project, walking is a common means of travel. So it was essential for this city of 184 000 people to include pedestrian mobility when promoting greater sustainable mobility. Twenty walking tours were developed for people 60 and over, emphasising independence, health, leisure and social activity.

"Our goal was to raise older people's awareness that they can leave their cars at home and easily get around the city by public transport or walking," says local coordinator Andrés Martínez Aranburu. He adds that some of San Sebastian's hilly areas are now served by minibuses, a major incentive to older citizens to make more use of public transport.

San Sebastian and Odense, plus other partners, shared their mobility experience at project workshops. Andrés recalls two useful lessons from one of these: "Odense recommends older men use women's bikes with step-through frames, and it has seen a reduction in cycling accidents even though the number of cyclists there has increased."

FOR MORE INFO

AENEAS www.aeneas-project.eu
GERONIMO II-BIOGAS www.energy4farms.eu
FARMAGAS www.farmagas.eu

SENIORS ENJOY MOBILITY AND THE GREAT OUTDOORS

"Thanks to AENEAS, we realised that we mostly do not need a car to move around the city," say Irene and Manuel, from the Gure Barbesa Seniors Club in Donostia-San Sebastian, Spain. "We have an excellent public transport system, so don't always have to stay in our home. The project also included valuable training on pedestrian behaviour, including advice on avoiding accidents."

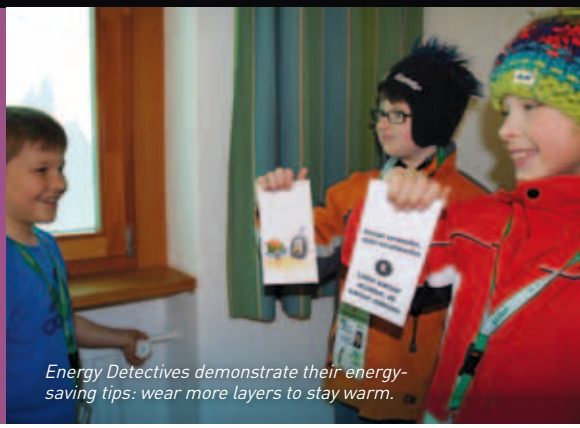
According to Hans Mønster Christensen, a 'bike captain' in Odense, Denmark, seniors have enjoyed organised bicycle tours for the last four years. "The tours came under AENEAS for the first two years, but are now run by local volunteers. They take place in early or late summer, stick where possible to car-free roads and bike paths, and are planned by a team of eight bike captains – two of whom accompany each tour. Many participants say they now regularly ride bikes and take part in other organised tours."

"It's never too early to start teaching about the importance of turning appliances off."

ON THE GROUND

Schools play the energy game

A rise in energy education projects across Europe proves students care about energy use in their schools.



Energy Detectives demonstrate their energy-saving tips: wear more layers to stay warm.

Competing for energy efficiency

The U4energy initiative is creating healthy competition in schools across Europe.

"While only in its second year, U4energy has already attracted a large number of schools. They are finding out about becoming more energy efficient and sharing their good practices with others," Martin Eibl explains. Martin follows energy education projects for Intelligent Energy – Europe, and is closely involved in U4energy, the first European energy efficiency competition for primary and secondary schools.

Many of the latest entries focused on reducing energy use. Teams looked at improving consumption habits and analysed their schools' energy bills, asking, "Is my school wasting energy?"

Entries also include lesson plans that motivate children to use energy more wisely. "It's never too early to start teaching about the importance of turning appliances off," Martin says.

Entries focusing on spreading the word about energy efficiency in the community are also encouraged.

"The U4energy competition is gaining traction, and within the next year we hope to engage even more schools. Saving energy is easy to do and has many benefits for schools, their students and the communities," says Martin.

U4energy is funded through the Intelligent Energy – Europe programme which has also contributed over €17 million to other energy education projects.

Schools are invited to shout out about their success stories on saving energy. Submit your U4energy entry before 16 May 2012.

FOR MORE INFO
www.u4energy.eu

Hunting down elusive savings

Students are tracking down ways to reduce energy use in primary and secondary schools in Austria. Thanks to an Energy Detective programme in place in an environmentally-aware network of schools called ÖKOLOG, "energy scouts" are changing attitudes across the country.

ÖKOLOG comprises 350 schools following a specific curriculum covering waste, water, energy and environmental protection. Teachers in the network are specially trained, and school buildings themselves must meet energy efficiency criteria.

Students lead the Energy Detective challenge. About eight students in each participating school are appointed as Detectives. First, they take a climate change and protection training course. The students are then empowered to detect ways that allow their school, their peers and their families to use energy more intelligently. The teams also raise general energy awareness, informing others about the importance of renewable sources, and how to save energy and use resources more wisely.

"Becoming an Energy Detective is an honour," explains Helga Spitzer, Headmistress of ARGE ÖKOLOG Carinthia. "Each year it becomes more competitive, which is a great indication that students care and want to get involved."

FOR MORE INFO
Helga Spitzer
www.oekolog-kaernten.at/

"Making our community 'go neutral' is our collective dream, and we will make it come true."

Community-driven change

Citizen involvement in two sustainable energy projects shows that action is the key to changing local energy landscapes.

Burgos relies on community education to change attitudes about sustainable transport.

Sustainable public transport

In northern Spain, residents of Burgos are reaping the benefits of an eight-year effort to transform their transport network and change public attitudes towards traffic.

Starting with the fleet of city buses, the aim was to make transport more sustainable. Today 75% of Burgos buses run on biodiesel and 25% on compressed natural gas, thanks partly to the contribution from the IEE project "Probio" led by the local energy agency. Through better route information and an easy-access system, the overall bus experience was made more inviting: this has helped increase use by 8%.

Efforts did not stop with the bus fleet. "We realised that by making our city centre more pedestrian-friendly, we could solve a lot of problems," says José María Diez, project coordinator for the Strategic Plan City of Burgos. "So we restricted traffic. We created a new space that is accessible, friendly and safe. And 98% of our citizens say they are happy with it."

Simply enabling alternative methods of getting around is part of the change. By encouraging cycling, traffic emissions are reduced. Burgos implemented a free bike-loan system, built more than 18 kilometres of bike lanes, and installed 200 new bicycle racks. Recent figures show that 4% of Burgos' citizens are using a bicycle as a daily means of transport. This is up from a rate of just 0.4% five years ago.

"Our success is largely based on community education," says José. "We have promoted carpooling and educated more than 4000 schoolchildren and 500 elderly people about cycling and public transport. By getting citizens involved, we are changing attitudes."

FOR MORE INFO
José María Diez
www.burgosciudad21.org

Energy-neutral dreams

Residents of the De Stoere Houtman home-owners' association in Arnhem, the Netherlands, have banded together to prevent the destruction of their homes, which were threatened by city building plans. They changed energy use habits and renovated houses with energy efficiency in mind. At the same time residents pushed for the community's energy infrastructure to become more reliant on renewables such as solar and wind, even arranging for co-ownership of a windmill. As a result, De Stoere Houtman is becoming energy-neutral.

"Making our community 'go neutral' is our collective dream, and we will make it come true," says Jaap Huurman, the original founder of the association.

The Communities of Sustainable Europe (CoSE) network has grown out of Jaap's efforts. CoSE, which encompasses seven communities, is a platform for sharing ideas on energy-neutral infrastructure.

"Community level change that lasts must start at grassroots level. More than ever before, citizens understand that concept when it comes to energy production and use," says Jaap. "People are joining together and making change happen."

FOR MORE INFO
Jaap Huurman
www.communities-of-sustainable.eu

Around 2 000 long-term unemployed individuals have been trained as energy-savings advisors.

Lessons for low-income households

Helping low-income households reduce energy costs is the goal of two sustainable energy projects.

58 000 in-home energy savings checks have been conducted across Germany.

Creating jobs in Germany

"Who knew that both unemployment and excessive energy use could be tackled by a single programme?" asks Eva Marx, the coordinator of a consumer-focused energy-savings programme called Stromspar-Check.

Thanks to this programme, which has been rolled out across 100 German cities and communes since 2008, around 2 000 long-term unemployed individuals have been trained as energy-savings advisors. Groups have carried out Stromspar-Check in-home consultations in low-income households, checking energy and water consumption and providing advice. Since the programme began, 58 000 energy-savings checks have been conducted.

"During the first visit to the home, the advisor checks data and determines what devices might help reduce energy use," Eva explains. Tap water aerators and energy-efficient plug connectors and bulbs are possibilities. "On the second visit, at no charge to the resident, the energy advisor installs the devices, explains how they work, reviews a usage report and discusses the potential savings."

A central database is maintained with all data, enabling organisers to track energy savings. Officials estimate that each Stromspar-Check household has reduced its annual electricity bill by €83, its water bill by €36, and – through savings in hot water – its heating bill by €9.

FOR MORE INFO
Eva Marx
www.stromspar-check.de

Learning about energy efficiency

In England, a sustainable energy project plans to decrease 'fuel poverty' by teaching residents how to reduce energy consumption. Under the banner 'Warm Homes Peterborough', the Peterborough Environment City Trust conducts home visits and other one-on-one activities to educate the community's most at-risk social tenants. Residents are given guidance on how to reduce energy use in the home. They can also call an energy advice hotline to ask questions or seek information on local grants.

Community 'energy events' are also a component of the project. At 13 events held in Peterborough since 2010, more than 1 000 energy packs have been distributed to tenants. The packs include energy-saving light bulbs, thermometer cards and power-down plugs.

"Spreading information and getting tools into the hands of local tenants is making a difference," says Janine Starling, Resources Manager. "We have achieved great results. We estimate that tenants will jointly save around €20 000 per year by turning down their thermostats."

FOR MORE INFO
Janine Starling
www.pect.org.uk

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Dates for your diary

> The EU Sustainable Energy Week takes place between 18 June and 22 June 2012.

> The Week hosts several hundred Energy Days across Europe and in Brussels.

> A three-day policy conference kicks off Tuesday 19 June 2012 in Brussels.

> Join us on www.eusew.eu and also on

INTELLIGENT APPLICATION

Are you taking part in the 2012 call for proposals?

> Remember that the deadline for submissions is 8 May.

> June / October 2012 - Evaluation of proposals.

> November 2012 - You will be informed of the results of the evaluation.

> November 2012 / January 2013 - If your proposal is recommended for funding you will be invited to begin contract negotiations.

> February 2013 onwards - Your grant agreement will be signed. You can start work!

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