Bridging the gap in energy research

Energy efficiency and renewable energy sources are widely recognised as a research priority, with growing demand and environmental concerns putting current methods of supply under pressure. The ener2i project aims to find innovative and sustainable solutions to these challenges through collaboration between EU and Eastern European countries, as **Manfred Spiesberger** explains

The development of sustainable sources of energy is widely recognised as a research priority, along with improvements in efficiency as countries seek to deal with the emerging challenges of growing demand, energy insecurity and climate change. While many Eastern European countries have historically lagged behind the rest of the continent in their commitment to energy efficiency, the ener2i project is working to find innovative solutions that will help the region bridge the gap between research and industry. "The aim is to bring research players in the energy field together with business," says Manfred Spiesberger, the project's scientific coordinator. The project is working with four Eastern Partnership countries (EaP); Armenia, Georgia, Moldova and Belarus, aiming to strengthen links between the research and business sectors in these countries, as well as with their counterparts in the EU. "We run a range of activities including brokerage workshops, which we organise in the EU and in EaP countries. We held workshops in June and December last year in Brussels, in October in Belarus and in December in Moldova, where we invited colleagues from the EU and EaP countries. Around 60 participants attended each event and could establish contacts for developing joint projects" continues Mr Spiesberger.

Innovation capacity

This approach is designed to spread knowledge and enhance the innovation capacity of manufacturers, energy service companies and in particular of SMEs. The project organises a competition in the EaP countries for innovation vouchers, encouraging closer links between research and business. "We are allocating six such innovation vouchers per EaP country, which are worth 4,000 Euros each, offering small-scale support to business. In Moldova we will be able to allocate 11 vouchers in total, due to a top-up grant from the Central European Initiative. The money goes to SMEs, and they team up with research organisations," outlines Mr Spiesberger. Innovation vouchers have already been awarded to SMEs in Belarus, and some of the company representatives plan to travel to Lithuania to collaborate with researchers, which it is hoped will lead to significant improvements in energy efficiency. "We are working for example with a spin-off company from the Belarus State University in Minsk which produces organic cosmetics. They want to improve the energy efficiency of their production processes. Producing cosmetics involves an energy-intensive process, which is why they came up with the proposal for an innovation voucher."

Innovation vouchers are used in several EU countries, and Mr Spiesberger says it's important to share their experience of this approach to innovation support. "We work constructively and cooperatively with our colleagues, and discuss with them what is going on in the EU in terms of innovation support and energy research," he explains. "Luckily we have suitable and experienced partners in our consortium, which are able to manage such support tools. We have the Belarusian Innovation Fund, the Agency for Innovation and Technology Transfer from Moldova, the SME Agency of Moldova (ODIMM), the Technology Transfer Association of Armenia and the Energy Efficiency Centre Georgia on board."

While support mechanisms like innovation vouchers or science parks (in which research organisations often share buildings with private companies) are relatively common in the EU, they are a less familiar sight in the Eastern partnership countries. "We try to adapt such tools and know-how in a cooperative way to the local needs. We work closely with our colleagues and inform them about what is going on in the EU in innovation support, in energy research."

Research and innovation links can be established on either a domestic or international basis, with the wider goal of sharing expertise and strengthening cooperation. However, while the project's research agenda crosses national borders, the energy situation is far from uniform across the four EaP countries. For example Georgia is an important hydro-energy

producer, and they may become a net exporter of energy in the future, whereas the situation for Moldova is quite different; they are a huge importer of energy, and very much dependent on imports from Russia. Researchers are looking into these issues, and have described the energy sector in each country in individual reports available via the project website, along with a comparative cross-country report. "The important issue in each of these countries is to improve energy efficiency," stresses Mr Spiesberger. "In the former Soviet Union energy was abundant, and there was no regulation and no real thinking about using it efficiently. It's really a very important issue."

This importance is further heightened by geo-political considerations, which are a major factor in terms of each country's energy strategy. Each of the four participating EaP countries was part of the former Soviet Union, and while they have since gained independence, Russia still exerts considerable influence in the region.

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"Belarus is a close partner of Russia, and cooperates in the customs union Russia has established with Kazakhstan and Belarus. So they get preferential treatment for energy imports, whereas Moldova co-operates much more closely with the EU."

These countries are therefore following different development paths, in line with their own circumstances and wider goals. "Armenia is land-locked, and they are in a difficult geo-political situation, while Georgia has strained relations with Russia, and is trying to become more energy-independent. They aim to use their own renewable energy resources much more intensively," says Mr Spiesberger.

Twinning activities

The central task for the project is to build closer links between businesses and research organisations, helping them address common research problems and performing joint innovation activities. A stakeholder database has been built to help heighten awareness of the project's work. "When we organise brokerage events, either in the EU or in our partner countries, then we need a database of stakeholders that we can inform about our activities," explains Mr Spiesberger. Twinning activities between researchers and businesses and between EaP and EU countries have also been established in the frame of the project, which will encourage further knowledge sharing and collaboration. "Colleagues from the EaP countries have the opportunity to visit research or business organisations in EU countries that are involved in our network."

This allows them to visit prominent institutions in the energy field, organisations that are leading the way in terms of innovation. These include the Technical Universities of Twente, Hamburg and Graz, the SINTEF research organisation in Norway, the Centre for Social Innovation in Austria, the Energy Agency of North-Rhine Westphalia in Germany and others. "The stakeholder database is instrumental here – we look which representative could be interested in visiting a specific organisation. We try to match interests, and send the right people over for twinning visits." Researchers and energy stakeholders from within the EU also have the opportunity to visit EaP countries to study and widen their experience, and to establish contacts.

Twinning will form a key part of the project's agenda until it ends in September 2016. Certain quantitative goals were set out at the beginning of the project, while Mr Spiesberger hopes their work will also have a qualitative impact. "We aim to heighten awareness of energy efficiency issues among our colleagues in the EaP countries, what the situation really is in the EU and what techniques and technologies can be transferred. This is not only on the energy side, but also the innovation and stimulation side," he says. While the social and economic context of Eastern Europe is very different to much of the rest of the EU, and it's not always possible to transfer techniques and solutions between the two, Mr Spiesberger says there is still significant scope for improvements. "Much more can be done in terms of renewable energies, raising awareness of energy efficiency and installing energy efficient technologies," he says.

At a glance

Full Project Title
Energy to Innovation - Reinforcing cooperation with ENP countries on bridging the gap between energy research and energy innovation (ener2i)

Project Objectives
The main objectives of ener2i are to enhance the innovation capacity and to stimulate effective linkages between research and business actors from the EU and the EaP countries Armenia, Belarus, Georgia, and Moldova in the field of energy efficiency (EE) and renewable energy sources (RES).
See also: http://ener2i.eu/about/ener2i

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Mr. Manfred Spiesberger is researcher and project manager with ZSI since 2008. He is a social scientist specialised in R&D and innovation policies in Eastern Europe, in evaluations and foresight. Previously he was an Austrian national expert with the European R&D funding organisation for cooperation with the countries of the Former Soviet Union – INTAS, where he was responsible for the innovation programme.

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