



REGIONAL INVESTMENTS IN ENERGY PROJECTS

Report based on a survey among AER member regions



Assembly of European Regions
Committee 1 on Economy and Regional Development

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6, rue Oberlin
67000 Strasbourg
France

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Author: Justyna Podralska, AER Committee 1 Policy Coordinator
Coordination: Christina Diegelmann, AER Committee 1 Senior Policy Coordinator
Assistance: Aline Bartenstein, AER Committee 1 Assistant

Please note that the present report has not been drafted by a native English speaker.

ABBREVIATIONS & ACRONYMS

AER – Assembly of European Regions

CHF – Swiss franc

CHP – Combined Heat & Power

CIP – Competitiveness and Innovation Program

CO₂ – Carbon dioxide

ECSC – European Coal and Steel Community

EIB – European Investment Bank

EU – European Union

EUR – Euro

FP7 – 7th Framework Program for Research and Development

IEE – Intelligent Energy Europe

IT – Information technology

KWh - Kilowatt hour

NGO – Non-governmental organisation

R&D – Research and Development

SAs – Sectoral agreements

SEAP – Sustainable Energy Action Plan

SEK – Swedish corona

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CONTRIBUTORS

AUSTRIA

Niederösterreich
Steiermark
Wien

BELGIUM

Wallonie

BULGARIA

Ruse

CROATIA

Karlovac

DENMARK

Syddanmark

GERMANY

Baden-Württemberg

HUNGARY

Békés
Győr-Moson-Sopron

ITALY

Abruzzo

NORWAY

Oppland
Østfold

POLAND

Dolny Śląsk
Wielkopolska

PORTUGAL

Açores

ROMANIA

Alba

Braila
Prahova

SERBIA

Vojvodina

SLOVAKIA

Košice

SWEDEN

Norrbotten

SWITZERLAND

Bern
Fribourg
Valais

THE NETHERLANDS

Flevoland

AER thanks all the members who took part in the survey for sharing their successful experiences and stories from the field.

PREFACE



Energy has always been a major driver of economic and social changes. It is perhaps along the foremost factors that sparked progress throughout the history of mankind. The discovery of fire changed the life of our ancestors dramatically. It allowed tribes to migrate over long distances to colder continents, which led to a rapid geographical expansion. On the other hand, it also helped humans to ensure transition from nomadic

life to a life of settlement by offering protection against predators and by altering house construction techniques. The ancient Greeks invented the water wheel and were, along with the Romans, the first to use it for irrigation and milling purposes. Energy was also a key factor to the industrial revolution. The invention of steam-powered machines accelerated the industrialisation process and prompted mass production. Finally, energy lies at the origins of the European Union. The aim of the ECSC was to create a common market for coal and steel in order to prevent wars and ensure peace in Europe. The European Atomic Energy Community was set up to cover nuclear power.

Energy and economic changeovers are a continuous process. Especially today, energy plays a crucial role in fostering economic development. In much the same way that energy transitions encouraged a shift in economic and social structures in the past. So one now can ask: what does the future hold? What kind of future economic and political leap will new energy sources provoke in the coming decades? Will the current status-quo of predominant fossil fuels be affected? What will happen?

Green growth has already become one of the most popular catchwords of our times, and a new energy-economy era is emerging on our horizon. The financial crisis convinced many regions that a different kind of economic development is possible so as to secure Europe's green and prosperous future. It became clear that Europe should start thinking out of the box if it wants both environmental protection and economic prosperity to go hand in hand. New energy production and transmission technologies, the use of various renewable energy sources as well as investment in energy efficiency opened up new opportunities for entrepreneurial activity and job creation. Innovation is pointing the way toward a new non-fossil era. Many successful energy projects initiated during the economic downturn have actually shown that it is possible to combine energy technology and macro-economic dynamics and proved that energy savings can also contribute to financial savings. Even more projects of this kind are likely to

come as the recovery continues. In addition, a new European Union energy strategy by 2020, calling for investment of around €1 trillion proves that green revolution is forging ahead. Right now we have a real opportunity to transform our economy from the one that runs on fossil fuels to another – largely based on green energy.

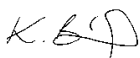
Regions will surely play a predominant role in changing the energy panorama of Europe. It will be up to the sub-national level to determine the mix of fuels – oil, gas, coal or renewable energy – which will be necessary to contribute to energy security and sustainable economic growth. This energy reform will be implemented through various instruments and will surely require large investments.

But regions already demonstrate success and creativity in using innovative financing solutions so as to push the green revolution forward. The AER study on regional investment in energy projects that I am happy to hand in today gives evidence of territorial leadership in boosting green growth. It shows that it is mainly regions that are able to turn political commitments taken at the European and national levels into concrete and vigorous action. Regions create the momentum needed for the development of clean economies in a complex and rapidly changing political environment.

While developing energy policies, regional governments foster investment by providing long-term signals to investors, offering predictable incentive schemes, developing partnerships and addressing at the same time non-economic barriers, such as administrative hurdles, obstacles to grid access, lack of information, training and social acceptance issues. If not accurately addressed, these barriers can increase the risk of losing investment, the overall costs of energy projects and ultimately limit the effectiveness of public support.

I therefore warmly invite you to explore the different financial and non-financial solutions that regions use to support the accomplishment of the EU 2020 energy objectives.

I wish you pleasant reading!



Kenneth Backgård
Chairman of AER working group on climate change & energy
Member of the Norrbotten County Council Board

EXECUTIVE SUMMARY

This is the second study by the Assembly of European Regions to review regional energy policies. While last year's edition sought to analyse different ways in which sustainable energy is produced and consumed at a regional level, the present report aims to analyse various barriers to investment in clean energy and energy saving technologies. It also highlights innovative funding solutions that regional authorities use to boost green development.

The report is based on an extensive survey conducted among AER member regions from December 2010 until February 2011. It draws on contributions from 27 AER member regions and contains several policy proposals for firm and coherent framework conditions to increase the rate of public and private investment in European territories.

In particular, the Assembly of European Regions would like to highlight the importance of the following recommendations:

- Fostering a long-term and coherent policy framework. Business is more eager to partner with policymakers when the legislation is laid down in a predictable way. One of the tools to enhance the stability of energy markets is a long-term regional energy strategy.
- Reaching out to different actors – public authorities, private companies, financial institutions and voluntary organisations – in order to increase joint capital, leverage investment and avoid debts while financing operations.
- Building up international and European co-operation networks for trans-boundary energy issues so as to effectively tackle key energy challenges.
- Making use of all cooperation opportunities at intra-regional level: working with legislators, business community, civil society, media and the scientific community.
- Tightening cooperation with municipalities, as most of harmful greenhouse gas emissions linked to energy production occur in our cities and towns.

- Supporting private companies to finance up-front investments costs and make preliminary payments. Regional authorities should encourage risk-takers in the business sector who are interested in advancing and rolling out new technologies.
- Using alternative and innovative funding and non-funding schemes to ease energy investment i.e. energy performance contracting, voluntary sectoral agreements and green public procurement procedures.
- Recognising the importance of EU policy-making and aid schemes in fostering energy innovation at a regional level. Streamlining and better explaining EU funds application procedures. Making eligibility conditions more transparent and indicating the weight different criteria has in selection procedures.
- Improving communication on financial engineering instruments such as Elena, Jessica and Jaspers, the new joint initiatives of the European Commission and European Investment Bank to fund pre-investment activities i.e. feasibility studies or market analysis. These revolutionary financing sources can increase the take up of structural funds and boost local investment in sustainable energy. However, they are still largely unknown at the regional level and the technical requirements to use them are high.
- Making sure that EU funds for regional and local energy agencies created under the Europe Intelligent Energy Program will be prolonged after 2013 and continued during a new financial period. If not, supporting the agency in creating partnerships that would allow them to develop commercial activities and achieve their financial autonomy.
- Pushing for further liberalisation of energy markets in the 27 EU Member States so as to avoid competition distortions.
- Stepping up regional support for R&D policies. The regions with well-developed R&D policies are more likely to demonstrate success in triggering a green revolution, strengthening their economic tissue and enhancing the attractiveness of their territory.

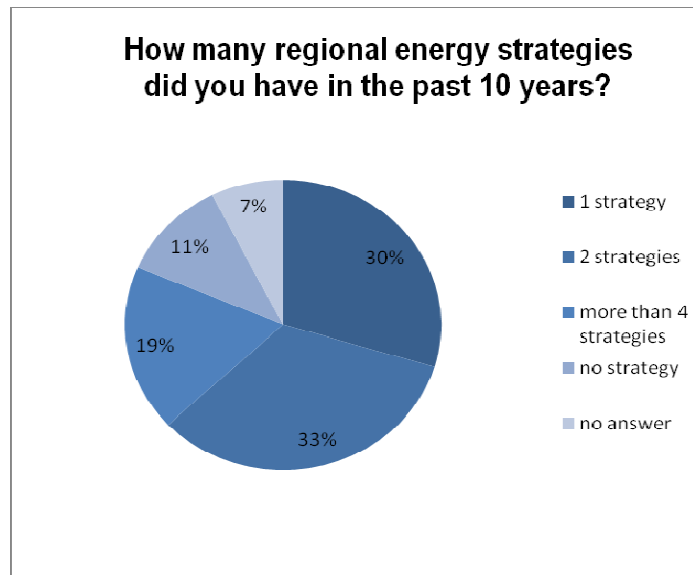
- Supporting energy clusters so as to push for corporate benefits and accelerate the delivery of new energy technologies to the market.
- Encouraging research activities that lead not only to new sustainable energy solutions but also help improve energy management i.e. smart grids and energy storage.
- Informing citizens about benefits of clean energies and new-energy possibilities: raising awareness of energy issues, improving educational programs and gaining social acceptance of alternative energy technologies. Resistance to change is one of the most important roadblocks to progress in green energy.
- Rethinking communication on sustainable energy by adapting it to different categories of the public. Adopting innovative and friendly information systems so as to uproot outdated ways of thinking about energy.

SMART ENERGY FIRST NEEDS A SMART POLICY

All the regions agree that whichever policies are adopted, the overreaching requirements are stability and simplicity, so that the industry is not burdened with unnecessary bureaucracy and can rapidly understand policy standards. 70% of the regions point at political complexity as a major factor that prevents private companies from investing in energy projects. Regional governments have therefore a crucial role to play in setting straightforward policies to increase energy spending. As the regions of Alba, Kosice, Ostfold and Steiermark underline there must be a clear and steady political commitment to alternative energy in order to secure investments and allow the business to innovate. The industry needs not only an effective set of support mechanisms but also a guarantee it can run business in a predictable environment. Good governance and effective institutional capacity are needed, as business is more willing to partner with policymakers when the legislation is laid down in a predictable manner.

This proves to be especially true when it comes to the energy sector. The life cycle is one of the main factors that drive industry decisions about funds allocation. Provided that energy projects are usually long-cycle initiatives, energy companies will always seek long-term planning regimes that can give a reasonable degree of certainty for their investment performance. No enterprise will invest in a region where the financial return is at risk due to a fluctuating political situation. As the province of Flevoland remarks, when a parliamentary body is periodically renewed, and a new scheme for renewable energy comes with, this unstable political change makes it unreasonable to spend money. Private stakeholders need to take a long view to justify their investment.

One of the tools to reinforce the stability and predictability of energy markets is a long-term regional energy strategy. Its aim is to increase a long-run security of supply by tapping domestic energy resources. It also helps ensure a coherent development of energy projects in compliance with other policies. Regularly updated regional energy strategies also serve as a basis for introducing new market trends and technologies into policy fields (Abruzzo, Karlovac, Norrbotten, Oppland, Ruse and Wielkopolska). According to the result of AER survey, 33% of the respondents had more than 2 energy strategies within the past 10 years. 19% of them established more than 4 energy strategies within the same span of time. This means that energy policy changed every 2 years and a half. One might assume that if those changes were too important, they offered no predictable market conditions and discourage investors from taking action. 11% had no energy strategy. 30% of regions developed only one strategy.



The county of Ostfold adds this political leadership of regions should be combined with sufficient research funds, national and regional development programs, appropriate partnerships and initiatives to develop relevant pilot studies. The voivodship of Wielkopolska reminds the regional political framework should be consistent with the EU regulations. Wallonia and Lower Austria recognize a special importance of the EU policy-making in fostering energy innovation. This is up to the pan-national level to forge a pathway to the future and provide roadmaps for new energy solutions the national and regional authorities might take inspiration from. Prahova and Kosice add these recommendations should be followed by appropriate funding schemes. The region of Ruse and province of Vojvodina say that political authorities should implement rules that do not hamper competitiveness rules and stay in line with environmental standards (land use, climate change, water pollution and air quality). Steiermark puts emphasis on liberalised market mechanisms.

HEALTHY FINANCIAL SUPPORT FOR A COST-COMPETITIVE AND LOW-CARBON ENERGY

The regional capacity to implement good-quality energy projects must always be backed by financial strengths. One might think the higher energy budget is, the more energy projects the region can finance. Paradoxically though, AER survey reveals the amount of energy budgets is not a determinant of a number and scale of energy initiatives the region can afford. In most of the regions, which took part in the survey, the amounts of energy budgets do not exceed 1% of the total regional budget.

ENERGY BUDGETS

In addition, many regions recognise a direct and negative impact the financial crisis has had on their energy spending. Energy investment has plunged in the face of diminishing cash flows in the regions of Alba, Gyor, Vojvodina and Wallonia. The global economic downturn significantly slowed regional efforts to meet renewable energy and energy efficiency targets. The bulk of projects were postponed or cancelled due to the lack of finance or because of revisions in expected profitability. In Lower Austria the energy budget has dropped sharply by 30%. National subsidies that complement the regional budget for energy were also significantly reduced in the province of Flevoland. Moreover, tighter credits made investment in energy financially less attractive and less profitable. This not only delayed the rollout of sustainable energy and more energy efficient equipment but also reduced investment in research activities. The decrease in spending seems to be more important in the regions where the industry is dominated by the small industry.

On the other side, many regions took the opportunity of energy investments as a way to get out of the financial crisis. The global economic downturn shook their determination to shift to green energy and forced them to take decisive actions to boost energy efficiency and reduce harmful gas emissions. Several authorities have announced recovery packages aimed at stimulating their economies and reforming environmentally harmful and energy unsustainable policies. The canton of Valais put in place an economic stimulus package directed at energy efficiency and clean energy. The region of Bekes targeted energy security, by directing additional funding to projects of strategic importance, in particular gas procurements. This decision contributed to the diversification of energy supplies and reinforcement of the regional autonomy in energy supply. Bekes also made important investments in energy efficiency. This brought additional employment benefits. In Karlovac, a reserve of EUR 100.000 per year was foreseen in 2009 and 2010 in order to stimulate private investment in energy projects. The region also increased specific support measures for small and medium-sized companies, which were mostly hit by the crisis. The other projects included measures to improve and expand existing energy infrastructure,

FINANCIAL CRISIS

such as electricity grids. In December 2008, the energy budget of the Fribourg canton was increased by CHF86 million so as to promote the use of renewable energy sources and support heat rejection projects.

AER survey demonstrates small regional budgets do not have to slow down clean energy investments. The part of public funding for energy obviously varies according to different regions, as a result of their economic particularities, historic developments and local energy industry performance. But even with limited budgets, regions rarely stay with crossed arms and actively shape new energy realities. They creatively look for additional funding sources so as to complement their energy budgets. They prove that if one thinks 'outside the box', one finds many non-standard ways to finance energy projects. Regions trigger investments by reaching out to different public institutions, private companies, voluntary organisations and research associations – those who already work in the area of energy and who might be interested in funding common initiatives. The financial resources at the pan-national level can also be catalysed in order to increase the volume of regional budgets.

Obviously, private energy investment is expected to expand as the EU continuously pushes the market liberalisation forward. An increasingly higher number of companies will be attracted by the constantly growing renewable regional energy marketplaces. Even though most of the regions do not track the amounts of private investments, they already recognize the predominant role the private sector plays in boosting their local energy sectors, in particular in the sectors of building insulation, window replacement, solar panels and heating boilers (Lower Austria, Kosice and Prahova).

Private companies must however be supported by public authorities, especially when it comes to financing high up-front costs of renewable energy projects. It is important to help them make preliminary payments. A green energy changeover will not happen without public effort. Governments will need to make it happen through strong measures, including a range of regulatory and market based interventions.

Subsidised energy prices remain a key part of regional financial support policies. The main objective of these subsidies is to keep prices for consumers below market levels and for producers above market levels so that the development of energy remains beneficial for both sides. When correctly assigned, subsidies actively contribute to reforming energy landscapes through their effects on the level and composition of energy produced and used. But they can also act in the opposite way and steer markets in the wrong direction, away from the most effective energy solutions i.e. while supporting

environmentally harmful energy policies. It only shows how important is the selection of criteria to be used in granting procedure. If subsidies are expected to trigger a positive change, the environmental protection should be given the top priority amongst the other eligibility criteria. Our survey however shows that environmental standards are not always taken into account, and still, in some cases, the urgency of projects prevails over its benefits in terms of energy savings or creation of jobs.

Mobilisation of renewable energy sources and improvement of energy efficiency are the key eligibility criteria in calls for projects organised by the region of Vienna. Within the framework of the “Green Innovation 2011 Call“, the public authority takes commitment to support projects with clearly perceptible positive environmental effects. The following areas are eligible:

- Recycling technologies
- Life cycle management, optimized use of resources and cleaner production of energy
- Measurement and early warning systems, as well as environmental monitoring
- Green IT
- Energy management
- Sustainable solutions for mobility

INVESTMENT PROMOTION

The other instrument to stimulate the private sector is a system of green certificates. Wallonia offers them to private companies for the installation of photovoltaics and cogeneration projects. The region also set up a special energy fund through which rehabilitation works in private households can be conducted, in particular insulation of roofs, walls, floors, as well as the installation of heat pumps. The regional authority offers grants to refurbish municipal, provincial and regional buildings as well as schools and hospitals. A 50% subsidy rate applies to energy accounting projects, 30% to energy audits and 30% to Combined Heat and Power initiatives (CHP). In Wielkopolska, innovative energy investment is supported by the Regional Fund for the Environmental Protection and Water Management. This fund allows local entrepreneurs to apply for preferential grants and facilitates reimbursement of bank credits. The similar grant called SIDER is operated by the region of Açores.

Many regions also use their agencies for energy investment promotion. Attracting investors to Norwegian regions is one of the competencies of the INNOVATION Norway. The agency has recently replaced and taken over the tasks of the other institutions, namely Norwegian Trade Council, Norwegian Tourist Board, Regional Development Fund and the Government Consultative Office for Inventors. Its offices are located worldwide and offer a wide range of services for Norwegian and foreign clients.

General advice is given to exporters free of charge. A fee is charged for all specific marketing services. The agency has an explicit funding program for bio-energy in the agricultural sector. It develops strategies for export promotion projects, organises symposiums and seminars, and provides technical assistance for start-up projects.

The role of the “Invest in Norrbotten” agency is to play an active role in attracting business start-ups to the county with the aim of creating more job opportunities. The project is co-financed by the County Council, twelve municipalities and the European Regional Development Fund. The investment planned by the agency by 2020 accounts for SEK 200 billion. Energy investment is the largest part of this plan. The development of clean energies accounts for 32% of the planned spending. The “Invest in Norrbotten” is also tasked analyse and raise the understanding of the county assets, and to sell its natural, technological and commercial opportunities to both national and international investors. The agency can provide private companies with information not only about investment opportunities of the region but also about any single municipality.

The investment plan of Açores for 2010-2014 foresees EUR 116.7 million for the energy sector to boost electricity production based on renewable energies, whose weight will represent 52% of the total production by 2014. The sector of clean energies still remains the area with untapped business development potentials on the island. In order to speed up the investment in this area and unlock existing potentials, the government has set up an APIA agency. Its main is to attract foreign investors from all over the world and increase their participation in energy-related projects. The APIA helps private business not only to find relevant investment possibilities but also contact the government for further financial support.

The Government of Vojvodina established the so-called VIP Fund with the purpose of strengthening local entrepreneurship. In addition, regional development agencies have been created in every larger city so as to promote investment in clean energy projects. All these agencies are connected to the SIEPA - Serbia Investment and Export Promotion Agency.

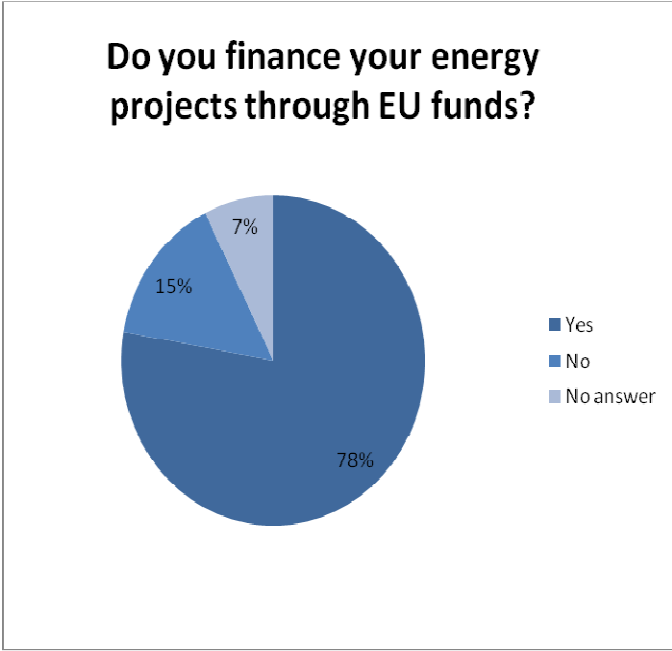
Another solution to boost the take up of energy projects is the so-called energy performance contracting. The region of Prahova is currently setting up such a system. The aim of energy performance contracting is to increase the rate and pace of financial investment with money obtained from energy savings offered by private companies. Benefits this system may bring to the regions are enormous. By updating or replacing equipment that is obsolete with newer and more efficient

technologies, regions put in place higher-quality energy technologies that are more reliable and require a reduced maintenance cost. Energy performance contracting allows the regions to tackle energy efficiency projects even though no public funds are available. This means regions can still afford even improvements when faced with budget cuts. Moreover, modern and efficient energy systems may increase the property value of regional buildings and improve their marketability. This also contributes to increased attractiveness of the territory.

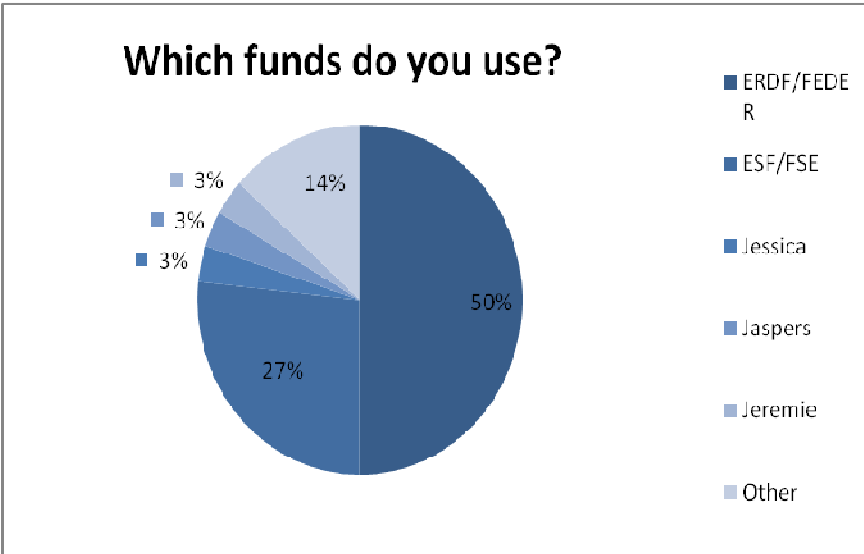
Energy efficiency in the industry can also be obtained through voluntary sectoral agreements. Since 2000, the Wallonia has negotiated voluntary branch agreements meant to enhance energy efficiency of the main industrial sectors in the region (SAs). These agreements set out the efforts made by the industry to reduce CO₂ emissions and improve its energy performance. In return, private companies can benefit from financial and administrative support offered by the region. This initiative contributes to implementation of the EU Emissions Trading Scheme, in which 127 companies from the region are already involved.

Finally, EU funds provide extra means to feed regional energy budgets and reinforce the regions' financial capacity to implement energy projects. These funds might serve either to fill up the financing gap or to maximise the leverage of already available funds. 75% of survey respondents declare to use EU money in order to secure the development of cheaper, cleaner and more reliable energy technologies in their territories. Only 14% of the surveyed regions have no recourse to any of EU financial mechanisms.

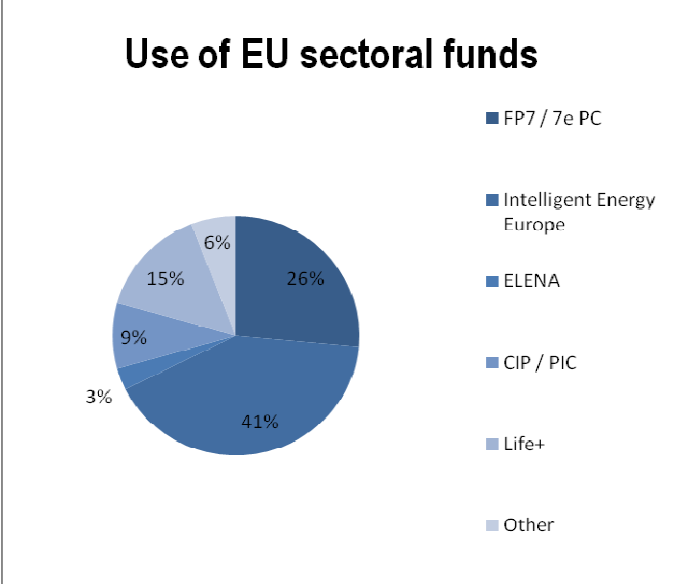
Amongst the EU structural funds, the European Regional Development Fund appears to be the most used support mechanism, followed by the European Social Fund. Respectively 80% and 45% of the regions acknowledge financing their energy initiatives throughout these schemes. It must however be noted that structural funds are unequally used in various regions. 60% of energy projects are funded by structural funds in 25% regions that contributed to the survey. 46% of respondents say that structural funds finance not more than 20% of projects in their region. Structural funds are a vital source of funding mainly for the South and East European regions, which throws light on the importance of sustainable energy projects in removing economic disparities between European territories and ensuring a balanced and harmonious development of the EU. The county of Prahova recognises that the number of energy projects the region can afford is strongly correlated to the availability of structural funds.



The survey also unveils joint technical assistance initiatives such as Jaspers, Elena or Jessica, set up by the European Commission and the European Investment Bank, are still largely unknown by many regions. The role of these programs is however of crucial importance in facilitating projects appraisal. These initiatives fund a variety of activities that must be conducted prior to investment, i.e. feasibility studies, technical advice, cost-benefit or market analysis or increase the amount of money available for investment. They therefore allow regions to cover the cost of all activities that basically cannot be financed through structural funds but which should be conducted in order to prepare a good project. With regard to this, they might increase the take up of EU funds for energy.

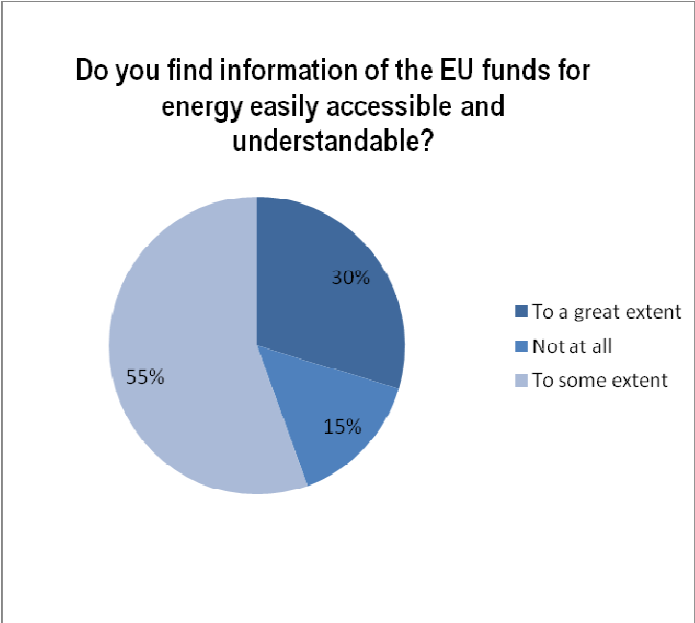


Even though 24% of regions say they lack the expertise and knowledge about energy projects that could be established in order to apply for EU funds, only 5 % of respondents say having the experience with using Jaspers or Jessica. This situation might be explained in various ways. In the first place, the joint initiatives are recent programs, and as far as their efficacy and efficiency have not been evaluated, regions might be reluctant to use them. Moreover, these programs finance projects with heavy technological content and require intensive knowledge in financial engineering. If the regional council runs out of technical experts, joint technical initiatives by the EC and EIB might appear as too complex for ordinary administrators. Finally, the communication about the initiatives should be definitely improved. Many regions are still not aware of their availability and possibility to finance energy projects by means of these programs.



As for the sectoral programs, the results of the survey shows that the 7th Framework Programme for Research and Development (FP7) is more popular with regions than the Competitiveness and Innovation Programme, with 50% respondents reporting that their region had successfully accessed FP7, compared to only 17% for CIP. Regions also use the Intelligent Energy Europe Program and Life + (respectively 78% and 28% of respondents)

The survey also throws light on a variety of obstacles that prevent regions from using EU-funds for energy. The first factor is a lack of understandable information. Only 29% of regions find the information on EU funds for energy projects understandable and easy to find. 54% find this information is easily available to some extent while 14% of them think it is incomprehensive and hardly available. As of today, there is a wide spectrum of EU money available for funding different phases of project development and implementation, which are dedicated to different beneficiaries. The question is therefore not whether Europe has enough money to finance energy (since it does), but we should rather ask if this money is accurately used, and if the information about this money is easily reachable. As Steiermark underlines, since the portfolio of funding opportunities for energy projects is highly complex and covers a high number of programmes, it is necessary to obtain a comprehensive overview that would highlight the differences between various funding options.



Moreover, each of the options is associated with an application process that consists of a set of complicated requirements and strict rules that must be fulfilled in order to access the EU money successfully. Thus, eligibility criteria and rules that are used all along the project selection procedures should be clear and straightforward. Lower Austria says that the selection process should be guided by three rules: simplicity, rapidity and non-bureaucracy. Flevoland, Lower Austria and Ostfold recommend setting up a comprehensive guide that would explain what eligibility conditions are taken into account in the selection procedure and what is the weight of different criteria in the evaluation process.

The survey shows that 32% of regions that apply for EU funds for energy encounter problems with setting up a good project and filling-in application forms. This is mainly due to the lack of information what a good project should basically look like and what standards it should comply with. If selection procedures are improved and become more transparent, this would surely allow regional authorities to set up better and more relevant projects. According to the county of Ostfold, this would also rationalise further decisions whether to join different projects or not. While being fully aware of eligibility criteria, regions could rapidly evaluate their capacity to set up a good project and say whether it is worth applying or not. This may allow them to save the important amounts of time they would otherwise have spent on completing applications and projects that have little chance for success.

According to the survey, the largest obstacle for regions to use EU-funds is however the administrative burden. Most of the regional councils cannot afford creating an extra unit that would do all necessary work: collect information on available EU funds, transfer this information to relevant stakeholders and help them with filling-in applications. 40% of respondents admit they lack appropriate human resources to successfully lead or participate in a project, as most of those projects require a solid commitment. Another problem consists of finding suitable partners for projects (40% of regions) within pretty short deadlines (36%). Regions say the AER, as the largest inter-regional network in Europe, could be of special help in finding relevant project partners.

Moreover, regions feel restricted by the eligibility rules and a tough co-financing rule. Many complain that EU funds make it difficult to cooperate with private sector while setting up energy projects. A further interesting point is raised by Braila County and Kosice that criticise the suitability of funds and find the eligibility conditions inappropriate to energy projects.

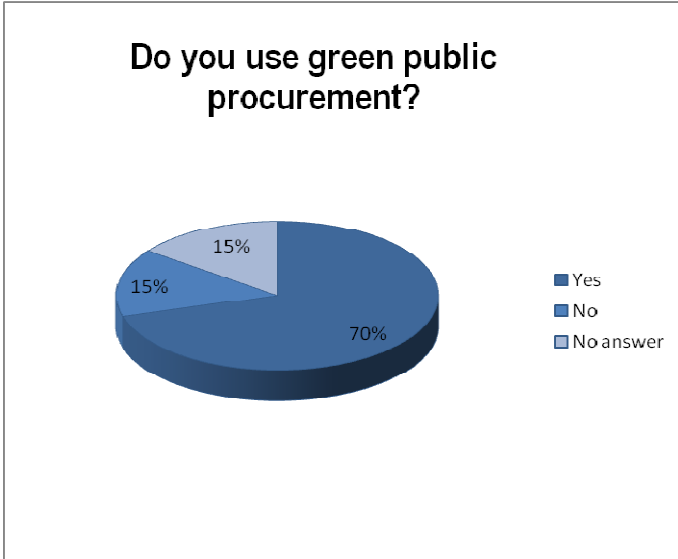
FRAMEWORK CONDITIONS TO PROMOTE ENERGY INVESTMENT

Apart from financial support mechanisms, the amount of energy spending and economic prosperity that this investment is supposed to trigger strongly depends on a set of other factors. The development of free and open energy markets is one of them. A well-designed and non-discriminatory market regulatory framework reinforces the competition and helps avoid different types of distortions. However, despite the progress made in opening energy markets in the past years, drawbacks remain, and the liberalisation process is not yet fully completed at the European level. As most of the regions say, if the competition rules are applied in all the countries in the same way, this should eliminate all market barriers, enhance a sound economic rivalry and prompt new investment solutions. A wider use of market mechanisms should be therefore sought.

Pricing policies may also indirectly affect the investment in clean energy, by increasing or lowering energy demand for different fuels and their supply. Energy pricing policies should therefore become key part of the regional policy set for the development of clean energies. Our survey unveils however that energy pricing policies in the EU-27 are still far from perfection. In some EU countries, the State still retains control over electricity and gas prices charged to end-users. That prevents energy markets from using competition forces. However, as electricity and gas markets slowly open up, EU countries with fixed pricing policies will come under growing pressure and let market forces to decide prices.

The other non-financial way to promote private energy investments is through the so-called green energy procurement in the public sector. According to AER survey, 68% of the regions already apply green criteria in their public procurement schemes. Public purchase is of crucial importance for gearing up green investment, as it stimulates deeper changes in both, demand and supply sides of the energy market. As the largest buyers of different products and services in Europe, regional and local governments create a demand for energy efficiency and send positive signal to its suppliers. This helps establish a mature, predictable and reliable market. As private companies benefit from important public support, they are strongly encouraged to further develop their commercial activities and lower the cost of products and services. If energy efficient products and services are more affordable, citizens take interest in them, and the public demand is again increased.

In addition, the public procurement procedures allow the regions to make important energy and CO2 emissions savings, which should subsequently allow for financial gains and further public economies. This helps regional communities create a positive internal and external image and position themselves as leaders of green revolution.



RAISING ENERGY AWARENESS

Raising awareness of energy efficiency and renewable energy sources among a wide range of regional stakeholders should also become a key direction for regional policies that intend to speed up energy investments. Institutional capacities must be built to increase the local knowledge about leading practices for energy efficiency as well as environmental, economic and social effects of renewable energy sources. Innovative and tailor-made approaches should also be used to disseminate information on energy-related issues to different publics. Furthermore, regions recognise that greater effort should be made to use all kinds of media in order to make citizens more conscious of energy issues and to stimulate their demand for energy efficient products and cleaner energy. Many successful examples about how to raise awareness of energy issues and communicate on this subject have been provided by AER survey respondents.

Abruzzo seeks for example to raise awareness of renewable energy through creative educational programs. The regional authority holds an annual school competition for promotion of clean energy and energy efficiency. In the framework of the "Energiochi" project, young students are asked to produce short movies, paintings or other art works related to the issue of energy. The initiative turns out to be more than successful. The students quickly embrace the energy challenges that come out as a result of their projects. The contest allows them to gain more knowledge on energy poverty problems and

effective energy saving methods. Many benefits are also drawn from the project by local teachers. They learn how to convey information on complex energy-related issues to their students in a friendly manner.

The objective of the “Energy is all around us” project in Vojvodina is to foster, popularize and systemise the knowledge of energy problems. The project was conducted in the school year 2009 / 2010 and sought to raise the interest of the youth in the issue of energy scarcity. The target audience has been carefully chosen. The province is convinced that a new energy changeover must start with the youth, as it is this generation that will have to tackle the energy supply challenges we create today. Students from primary and high schools were asked to explain through creative works such as essays, visual arts or multimedia presentations - how to overcome energy security problems. Online support was provided to all interested schools via a modern Internet distance learning system.

Regions also recognise the importance of effective communication policies in triggering private energy investments. On one hand, the demand for clean energy must be stimulated by information passed on to citizens about energy benefits. On the other, private business needs to understand the energy opportunities that exist in the region in order to evaluate the scale and nature of investments that could be undertaken. This being said, communication appears as the actual engine that turns the gears and wheels of energy spending. However, it would be wrong to think communication itself is enough. It is equally important to know how to communicate. Poor or overgenerous and thus complex information may prevent companies from making important investments. Therefore, it is crucial to use innovative communication solutions to make information easily understandable.

In particular, modern communication means play a crucial role in achieving smart energy economy. The most popular and favourite communication channels such as the Internet have become important part of our lives and can effectively stimulate the energy demand and supply sides. One therefore cannot deny their importance. 88% of regions that took part in the AER survey already put IT at the forefront of their energy policies and use Internet to quickly spread information on what they do in the domain of energy to different stakeholders. 54% of regions declare using their official journals to provide industry professionals with information on new energy legislation or open public procurements.

Moreover, Lower Silesia says that energy communication strategy should involve frequent interaction with individuals from various levels. This is why the region organises meetings with municipalities and industry so as to inform them about available energy funds. Roundtables are a form of co-operation the region of Braila so as to allow regional decision-makers and energy specialists to benefit from a fruitful

dialogue. Roundtables are meant to create better understanding of interests, fears and concerns expressed by different stakeholders.

58% of regions already have recourse to energy roundtable. The other energy communication methods are: regional energy agencies (58% of regions), public campaigns (50%), activities carried out by regional chamber of commerce (42%), local media (38%), as well as exhibitions and fairs (38%). Gyor, Flevoland and Wallonia stress that information should be always adapted to the target-audience: simple for the large public and technically more precise for professional and specialised groups. To this end, Wallonia instaurated the so-called energy information points (“guichets de l’énergie”), offering personalised energy advice to professionals and individuals.

FROM LAB TO MARKET: A EUROPEAN OUTREACH TO DELIVER ALTERNATIVE ENERGY PROJECTS

The support for state of the art technologies is a key element of sustainable growth policies. Any energy project the industry will decide to place on the market must be in the first place technologically mature and offer smooth guarantees of commercial exploitation. If energy products or services are not technologically and commercially viable, companies might be reluctant to make investments.

This highlights the importance of stepping up regional support for R&D policies. Research and development should be a critical area of governmental action, as they help bolster innovation, concentrate all efforts on promising products and improve their technological and commercial viability.

SUPPORTING EU COMPETITIVENESS

Raising investments in clean energy and energy efficiency research is also expected to give a kick to constantly deteriorating European competitiveness. Green investment has recently seen a huge geographical sprawl. A couple of years ago, clean energy meant wind in Danish regions, solar power in Spain and biomass in Norway. Since then however, the development of green industry has shifted away from Europe towards other countries such as China or India. It is therefore crucial to fuel the competitiveness of the European energy sector by enhancing our research capacity and developing green energy markets. No one doubts that innovation is the best driver of economic growth, productivity and jobs creation.

The results of our survey confirm that innovation and green economic development go hand in hand. The outcome shows that investment in energy is usually higher in regions with well-developed R&D policies. These regions demonstrate success in boosting green revolution, strengthening their economic tissue and enhancing the attractiveness of their territory. They also prove that research policies in the area of energy should not only be smart but also local. A few successful examples are presented below.

The government of Açores carries out together with the State authorities and the Massachusetts Institute of Technology the “Green Island” project, a groundbreaking initiative that intends to develop new methodologies and identify cost-effective solutions to favour domestic energy resources, namely wind, biomass and geothermal energy. The overall aim of the project is to minimise the archipelago’s dependency on imported fuels. With the help of renewable energy, the two islands, namely Flores and São Miguel, shall shortly become electricity auto-suppliers. Moreover, the project puts a great emphasis

on the improvement of energy efficiency to achieve energy security goals and avoid fuel supply disruptions. It also aims to promote the use of public and private electric vehicles. Due to short distances, the development and commercialisation of electricity fuelled cars makes more sense in island regions. This is also why the General Motors company is strongly involved in the implementation of the project.

In order to increase the number of research activities in the region, Vojvodina closely cooperates with local and international universities and finances projects to evaluate domestic energy potentials. The province also supports the participation of local universities in FP7 projects.

Also Nordic regions demonstrate their leadership in energy-related research. The county of Oppland was part of the Arena Bio-energy Cluster. The objective of this initiative was to assess biomass energy potentials in the heavily forested inland regions. This goal was meant to be achieved by strengthening cooperation between universities, business and public authority. The project also sought to adopt and diffuse innovative bio-energy technologies, analyse the interrelated nature of technology and fuel markets, assess a variety of risks related to the use of bio-energy and prepare regional strategies to balance energy, food and sustainable development priorities.

The University College of Ostfold supports the ERA-net project, a European initiative aiming to coordinate smart grids research. The project enables the region to enter into productive cooperation with strong expertise environments abroad and helps to establish key centres of smart grids expertise in Europe. Even though Norway stays outside the European Union, this project proves how regional level can effectively contribute to the achievement of European goals. Smart grids are recognized as an important prerequisite for reaching the ambitious EU goals of 20 % reduction in emissions of greenhouse gases, 20 % increased energy efficiency and 20 % of the energy usage from renewable energy sources by 2020. No one doubts that only new and fully digitally-enabled grid architecture will be able to meet these objectives.

The region of Wallonia recently launched “ERable” program with the aim of supporting research in the field of renewable energy sources and energy efficiency. With the budget of EUR 10 billion, the initiative encourages the cooperation between regional universities, research centres and private companies in order to create new energy solutions and trigger new employment opportunities in the region. This concerns not only technological projects (new ways of producing energy and monitoring energy

consumption) but also non-technological initiatives, aiming to increase the social acceptance of energy systems.

Finally, AER member regions highlight the importance of the EU action in facilitating a large scale transfer of technology and boosting pan-European research activities. They are convinced that as the EU market gets increasingly larger, cooperation on a bigger-scale should contribute to a more rapid development of new energy technologies and decrease in their production cost. It should also calm the debate over the intellectual property rights which are an important roadblock in promotion of green energy systems all over Europe.

STIMULATING A DEMAND-SIDE OF ENERGY INVESTMENTS

The availability of financial resources and long-term capital returns are not the only challenges behind energy investments. Social and cultural matters also strongly affect the viability of sustainable energy projects. The so-called human barriers should be therefore better understood and included in the development of regional energy policies and investment plans. AER member regions present a big variety of solutions for building social acceptance around the issue of alternative energy sources and making citizens more convinced about pros of new energy technologies.

GAINING PUBLIC TRUST

The region of Açores provides for example small incentives to families so as to encourage them to invest in solar collectors for water heating. The canton of Fribourg offers energy audits to building owners. A public campaign accompanies this initiative so as to convince building tenants about the need to carry out energy performance analysis.

However, public policy should not be only about convincing about benefits of alternative energy sources but also about anticipating problems that are likely to flow out of social concerns. Citizens resistance to renewable energy might delay or even prevent some projects from proceeding and should be therefore of main concern to both policy makers and investment community. The examples of how public opinion might influence decisions about energy investment are numerous. The regions of Abruzzo and Steiermark met the public opposition while deciding to construct new waste disposal and waste energy recovery areas. The authorities of Vienna were allowed to build the Freudenuau hydropower plant only after the public referendum in which 73% of the citizens voted in favour of the construction. The plan to roll out photovoltaic fields onto agricultural fields in Abruzzo was not enthusiastically received by local farmers and forced regional authorities to engage in further negotiations with land owners.

Public opposition might be particularly strong toward regional plans to develop wind energy. Wind is one of the leading renewable energies in Europe. It is also one of the most mature and most quickly developing energy markets in regions. However, as the construction of windmills has a harsh impact on the environment, its rollout still stirs an animated debate. The fears commonly identified are that the wind farms will spoil the scenery, be a noise nuisance and adversely affect house prices and tourism.

The development of wind posed many problems in the regions of Abruzzo, Lower Austria, Lower Silesia, Flevoland, Fribourg, Valais, Vojvodina and Wielkopolska. In 2010, several communities in Wielkopolska organised public protests against the construction of wind farms in the region.

These challenges are also reported by the Dutch regions. As of today, 95% of renewable energy in Flevoland comes from wind. The strong growth of wind energy has led to what many feel is the 'uglification' of the landscape. For this reason, the Provincial Executive called in 2005 for a temporary halt to the placement of wind turbines and requested the development of a new wind energy policy. The policy came into effect with the 2006 Environmental Plan. According to the plan, the original open landscape should be restored by concentrating wind turbines within one location, and the existing wind turbines must be replaced with the new ones. Due to up-scaling, new wind turbines have a greater capacity. By 2020, the number of wind turbines will have to decrease by 50%. All new projects must meet the requirements for wind turbine capacity.

The DaWindSchi project in Styria aims to meet the challenge of developing wind energy while satisfying needs of both citizens and energy sector. In the regional ski resorts, the existing infrastructure is used to construct new wind turbines. The height at which the region is located promises ideal conditions to gain wind energy. The acceptance of citizens is guaranteed, as the area is already technically equipped with the ski lift and snow cannons. In addition, as the amount of snow constantly declines, new canons must be built up to produce artificial snow. As the sport infrastructure might be combined with the energy equipment, wind energy allows for a sustainable preservation of ski areas in the region.

The first windmills in Abruzzo were installed at the beginning of the 80s, so the region has quite a lot of experience in harnessing wind energy. Recently, most of the old wind turbines were replaced by the modern ones with higher capacity, the tendency being to reduce the number of wind fields and obtain more power. The wind projects are monitored by the regional energy agency called ARAEN. Before the construction of wind mills even started in Abruzzo, the public opinion about the project was highly negative, and much effort had to be made by the regional authority to convince the citizens and landowners about the advantages of wind power production. The Region issued guidelines that regulate the placement of large-scale wind projects. The guidelines have defined the areas where wind turbines cannot be located and have provided directives to ensure a quick environmental impact assessment process. As of today, the environmental aspects must be taken into consideration during the installation of new wind mills, in terms of cable installation (underground) construction, decommission and

reclamation of roads and wind turbine pads. The regulation also prescribes to watch bird migrations so as to avoid a high rate of bird mortality.

Regions also try to overcome the problems linked to the wind energy by organising awareness raising campaigns at early stages of projects (Vojvodina, Abruzzo). Open debates with citizens are organised in order to challenge the myths that surround wind energy.

COOPERATION AND NETWORKING – TURNING CONTACTS INTO CONTRACTS

It is of crucial importance for the region to bring all energy players together in order to increase investment in energy and start the transition toward new energy landscape. Legislators, business community, civil society, opinion makers, media and the scientific community should work together to deliver ambitious energy projects. Facilitating a comprehensive dialogue and broader engagement on all – political, environmental, technical and commercial - dimensions of energy projects should become crucial component of regional energy policies.

Cooperation between public authorities and private entrepreneurs is one of the most effective means to progress energy technologies and tap into energy investments. The province of Flevoland works for example closely with farmers by helping them to produce high-quality, biomass-based energy. The region encourages farmers to grow energy crops and tries to overcome their initial fears by providing clear information on the opportunities presented by biomass energy and by offering attractive financial incentives. Without being properly informed about how to produce biomass energy in a sustainable way, farmers might remain reluctant to run the risk of producing a crop whose yields are unproven, which might damage the soil and for which there is not yet an established market.

The public-private networks in the field of energy might also be strengthened by regional participation in various fairs. The province of Flevoland takes part in the Nordic Business Development Network, a platform to initiate business between the Nordic countries and new markets in developing countries. The province of Vojvodina participates each year in the Energy Fair in Arad (Romania) and regularly organises domestic seminars and energy fairs in Novi Sad. Wielkopolska actively contributes to the organisation of a major international trade fair “Poleko” for environmental protection, held each year in Poznan. The event brings together the most important exhibitors from the industry, widely recognised experts in ecology as well as regional and municipal servants. Poleko fair covers the following sectors: water and treatment of waste water, renewable energy, climate change, waste and recycling, air, as well as noise measurement and control equipment. The region of Bekes organises the Csaba EXPO exhibition during which the energy sector is invited to present its latest technological and commercial solutions.

Clusters might also play an important role in boosting regional energy investments. The region of Alba participates in the RenERg EuReg project that aims to enhance regional capacity to plan and use local

and regional renewable resources as a solution for a sustainable economic development. The objective is to promote innovation and strong connections between the research and industry sectors. The applicant consortium is an association of two research clusters from Brandenburg-Germany and Centru region in Romania. It brings together local and regional authorities, research institutes and companies active in the field of renewable energies. The project will develop five work packages targeting the following objectives:

- Bringing benefits of research closer to the business environments
- Strengthening the regional stakeholders research and innovation capacity and technological transfer for the benefit of local economic development
- Ensuring inclusion of regional research and innovation policy in the other regional policies and programmes (i.e. Regional Development Plan, Regional Action Plan for Environment, etc)
- Developing a common framework for know-how transfer and research co-operation in order to increase an absorption rate of national and EU funds for innovation.

Benefits regions can draw from energy clusters in terms of delivery of new energy solutions and jobs creation are of great importance. This is evidence that another Austrian cluster confirms. The Green Building Cluster of Lower Austria is a network of 178 regional partners: the most innovative Lower Austrian companies, public authorities, R&D institutions and NGOs active in all areas of energy efficient and sustainable buildings: refurbishment, energy management, and use of ecological materials. The cluster employs 9173 people, and the global turnover of all members accounts for EUR 3.425 million. The main mission of the cluster is to ease the access to information on energy-efficient buildings and fosters projects related to this topic. It contributes to the improvement of low energy and passive house standards and development of the timber buildings market in the region. One of the major achievements of the cluster is the construction of the Business Centre Niederösterreich, which is an office complex located south of the St. Pölten government quarter. The complex was built to utilize passive energy and was opened in February 2008.

Clusters however might aim not only at the development of new energy solutions but also at preservation of a dominant position the regional energy industry already occupies in the global market. With its geographical location, shallow water, available ports and established skills in offshore engineering, the region of South Denmark represents ideal preconditions for the better use of wind energy. That is why a growing emphasis is put by the region on the development of offshore wind energy in order to meet the country's long-term renewable targets. Moreover, Danish companies

accounts for approximately 90% of the worldwide market for offshore wind turbines. In order to preserve this dominance, the region decided to join the Power Cluster Project, a partnership to tackle crucial challenges for the further roll out of offshore wind technology in Northern Europe. The project seeks to develop cooperation beyond borders so as to identify the future markets for wind energy and strengthen regional excellence in this field.

Regions also closely cooperate with municipalities in order to speed up green investment. Lower Austria is strongly involved in the “e5 program”. Established in 1998, this initiative supports communities that wish to develop sustainable energy policies and new urban development plans through the rational use of energy and an increased use of renewable energy. The target of e5 program is the identification of energy saving potentials within a community, as well as realisation, documentation and evaluation of saving measures. Communal action programme is developed and adopted annually. All energy-related policy fields in municipalities, namely spatial planning, buildings, mobility, internal organisation, communication and co-operation are considered. Internal structures to steer the process were set up, including all relevant municipal stakeholders: politicians, administrators, citizens and enterprises.

Energy efficiency of each community is labelled with different numbers of “e”. The higher number of “e” the region reaches, the better energy efficient measures have been introduced in the municipality. The best communities achieve up to 5 “e”, which corresponds to 75 % of all possible energy measures.

The most important tool within the program is the e5-catalogue, which is a standardized set of 84 possible measures in six energy areas. It is used as an assessment tool during the consultation as well as auditing process. Each measure is described in the catalogue in a very detailed way. The auditor evaluates the community's progress within each measure. Thereby the community progresses in many areas and evolves from a “normal” community into a best-practise example for other communities. The catalogue is also an important document for the communal energy team. The team can use the catalogue as a “check-list” for energy reviews. The catalogue is a catalyst for the improvement of the community as the community always sees the gap between the measures undertaken and potential measures. Therefore it acts as a guide towards the ideal community in energy terms.

Benefits the “e5” program for the municipalities are multiple. The program not only supports communities in identifying potentials and setting energy goals but also helps political decision makers in taking right actions to reach these goals. It provides tools and standards for improved implementation of projects and measures and creates a positive competition between communities.

In what concerns intra-regional cooperation, Steiermark and Vienna stress the importance of Interreg projects to make municipalities and regions work together on energy issues. Within one of Interreg project the region of Vienna helps the municipalities of Breclav (CZ) and Malacky (SK) to develop performant municipal energy monitoring systems.

The Swiss cantons of Bern and Valais are involved in the so-called “SwissEnergy programme” aiming to promote energy efficiency and the use of renewable energy. Its main strength lies in a close co-operation between the federal government, cantons and municipalities, and numerous partners from trade and industry, environmental and consumer organisations, as well as public and private agencies.

“The bio-villages” is the concept developed and financially supported by the state of Baden-Württemberg. Mauenheim is the first village in the region to meet its electrical and hot water needs completely locally from renewable sources. Electrical generations from biogas combusted in the cogeneration unit as well as electrical power from several solar power stations are fed into the local electrical grid. Biogas station produces green energy that exceeds the village’s needs by almost 900%. In addition to the environmental advantages, the project also has a high regional economical value: locally purchased power that increase the income of the community. Mauenheim was the first bio-village in Baden-Württemberg in 2005 but since many other have been created.

Wallonia creates the posts of energy advisors in communities that specifically requests for that. The Assembly of Vojvodina intensively cooperates with all municipalities in the establishment of energy management systems. The project is conducted together with the experts from GTZ, Ministry of Mining and Energy, Provincial Secretariat for Energy and financially supported by the Kingdom of Norway. 21 municipalities of the county of Oppland also cooperate with each other in the areas of low energy consumption buildings and energy education, waste management, bio-energy and district heating.

The region of Açores has laid down a common energy project with Corvo, which is, with its 17 square kilometres, the smallest and also the northernmost island of the archipelago. The joint initiative is meant to replace the use of butane by solar power. The regional energy agency of Alba helps local authorities in obtaining EU funds for their energy projects.

The regions of Alba, Abruzzo and Wielkopolskie joined the Covenant of Mayors. Within this initiative regional authorities should support municipalities in submitting their Baseline Emissions Inventory and Sustainable Energy Action Plans (SEAPs) within the year following adhesion. The Sustainable Energy

Action Plan is a key document that shows how the local government will reach its CO₂ reduction target by 2020. Since the Covenant's commitments concern the whole geographical area of the city/town, the SEAP should include actions concerning both the public and private sectors.

In principle, it is anticipated that most SEAPs will include actions in the following sectors:

- New buildings and major refurbishment;
- Municipal infrastructure (district heating, public lighting, smart grids, etc);
- Land use and urban planning;
- Decentralised renewable energy sources;
- Public and private transport policies and urban mobility;
- Citizen and, in general, civil society participation;
- Intelligent energy behaviour by citizens, consumers and businesses.

South Denmark joined the project LoCaRe aiming to reduce CO₂ emissions regionally and locally. The objective is to develop low carbon solutions in cities and regions such as local energy systems, carbon capture and carbon storage, procurement practices, low carbon territorial planning and awareness raising campaigns.

The region of Ruse does have no cooperation projects with municipalities yet but plans to set them up in the near future. The fields to be covered by such projects are: the use of biomass for energy purposes, sustainable and energy-efficient tourism and energy recovery from waste management.

As of today, intra-regional cooperation in the area of clean energy is also facilitated by the regional and local energy agencies created by the European Union. Each year between 40 and 60 public authorities apply for establishment of an energy agency under the Europe Intelligent Energy Program. This high demand obviously reflects the need for them. The role these agencies play in changing a European energy landscape is of crucial importance. First of all, they provide assistance, advice and information on energy technologies, programs and funding opportunities. They also oversee the implementation of EU laws and set up local energy standards. Thereby, they strongly contribute to the introduction of European energy policy at the regional level and to their endorsement and translation into local contexts and particularities. Finally, regional and local energy agencies bring together all stakeholders concerned by the issue of energy in order to initiate and pilot innovative energy projects. If agencies are part of the

regions' long-term strategies, they can act as intermediaries between private companies and local authorities, as they can help to build trust as independent partner for both sides. In this way, they can prompt the development of new regional markets in energy efficiency and renewable energy.

The funds provided by European, national, regional and local level constitutes the biggest part of income for most of the agencies. In case of the first agencies created within IEE, the financial help of EU accounts for 75% of their budget. The agreement signed between the agencies and IEE foresees to keep them operating 5 years upon closure of the program. According to the contract, the public authority should help the agency find alternative sources funding so as to replace the EU financial aid. The assumption is that as the portfolio of activities and services provided by agencies keep growing, new income from sales of products and delivery of services will slowly substitute the contribution of public funds. However, as the region of Prahova notices, most of the agencies will encounter difficulties financing their operations from commercial activities. It is therefore expected from the European Union either to prolong its financial support beyond the initial program life cycle or to help establish partnerships with organisations which could provide them with extra-funding.

CONCLUSIONS

In November 2010, the European Commission published its new energy strategy by 2020, calling for investment of around €1 trillion to secure EU energy needs in a sustainable way. “Structural changes in energy supply, partly resulting from changes in indigenous production, oblige European economies to choose among energy products and infrastructures. These choices will be felt over the next 30 years and more. To enable these decisions to be taken, (the European Commission) urgently calls for an ambitious policy framework. Postponing these decisions will have immeasurable repercussions on society in regard of both longer-term costs and security”, the paper says. Europe seems to begin an exciting journey in a completely new direction: toward a sustainable energy future. Green growth appears to become a totally new way forward. Over the next decades, our generation will be witnessing a momentous shift in the way we respond to energy challenges and operate our business, which will tremendously change our economies and societies.

Green growth is the way forward but there is a long way to go. If we want this vision to come true, all levels of governance will have to commit to it. We all need to increase our investment in leading technologies and develop new multi-level and multi-stakeholders partnerships to improve economic and environmental outcomes.

Green growth is the way forward but challenges remain. How to boost energy investment? Where will the money come from? Are structural funds and other EU programs enough to stimulate demand for greener products, services and technologies? What alternative energy resources should be adopted to replace harmful fossil fuels? How to overcome obstacles that might foster or impede both public and private investment? The regional level is expected to play a crucial role in providing answers to these questions and consequently shaping new Europe’s energy profiles. It will be up to the regions to make our communities livable and help industries take advantage of lucrative green opportunities.

But one should also bear in mind that green growth is not just a lofty concept, “dictated” by the EU strategies and regulations. On the contrary, it is an imperative for all our territories. Green-oriented policies can unlock private funding, which will lead to creation of new jobs, foster economic development and subsequently increase the attractiveness of our regions. Sub-national authorities know it and already show excellence in driving sustainable changes. Regions clearly show that they do not want to work for short-term superficial prosperity. By putting in place long-term political strategies to

support tangible investments in clean energy projects, they try to avoid problems linked to fractured governance, short political timeframes and constantly disrupted energy investments. The energy peer reviews, which the Assembly of European Regions has successfully implemented over the recent years, have contributed to development of such strategies all over Europe.

Effective financial and non-financial instruments complement this strong regional commitment to green energy investment. 68% of the regions that took part in AER survey already apply green criteria in their public procurement schemes. Energy performance contracting, voluntary sectoral agreements and green certificates, supported by effective R&D policies are also widely used by regions in order to trigger green energy reforms. Moreover, regions took opportunity of the economic and financial crisis to roll out performant stimulus packages for clean energy. They also strongly push for further liberalization of energy markets at the European level.

Regions also build international and co-operation networks for trans-boundary energy issues in order to take up energy challenges. Energy clusters rapidly arising all over Europe provide cooperative platforms that facilitate the promotion of entrepreneurial innovation in the field of green energy. Cooperation with municipalities has also been developed across Europe to tackle the issue of harmful greenhouse gases emissions whose tremendous portion is linked to energy production and consumption and which occurs in our cities and towns. In the recent years, sustainable community programs accompanied by energy label schemes have been born in many regions all over Europe.

European regions recognize the importance of EU aid schemes in increasing the rate of private and public investment. 75% of regions which took part in AER survey declare the use of EU funds to secure the development of cheaper, cleaner and more reliable energy sources. But they also point out a variety of obstacles that prevent them from using this money more effectively. Only 54% of regions find information on EU funds for energy projects understandable and easy to find while 14% of them think it is incomprehensible and hardly available. The other frequently quoted factors that impede the use of structural funds are complicated administrative procedures, opacity of evaluation and selection process, short deadlines to complete applications and a tough co-financing rule. The survey also shows that communication on financial engineering instruments such as Elena, Jaspers and Jessica should be improved. These financing programs can increase the take-up of structural funds and boost local investment in sustainable energy. However, they are still largely unknown at the regional level and the technical requirements to use them are high.

Shaping a demand-side of energy usage is another important vehicle of investment in green projects. Social acceptance is one of the crucial factors, which will decide over the success of energy projects. Our report highlights an extraordinary ability of European regions to convince citizens about benefits of green energy and draw new social contexts that offer a great scope for positive change and relinquishment of old energy 'status quo'. Since reliable knowledge of investment potentials for energy is essential, regions also put in place effective information programs in order to make citizens and investors more familiar with energy challenges and funding opportunities to tackle the latter. Furthermore, they organize and participate in various domestic and international fairs to attract green business investment to their territory. Finally, they provide a fresh take on energy awareness campaigns in order to drop the usual array of energy clichés.

All in all, regions demonstrate a great success of territorial action in the face of unprecedented energy crisis: dwindling supplies of fossil fuels, risk of energy scarcity and climate change. They offer a variety of experience in harnessing green potentials and speeding the transformation of economy. While nations fail to address these challenges, regions, acting side-by-side with the industry, take them up fruitfully. When it comes to advancing smart growth and turning promise into practice, Europe should definitely take inspiration from regions.