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Climate Change

Responses at regional level

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EDITORIAL

Dirk Ahner

3

OVERVIEW

Climate change – reducing emissions today, adapting to tomorrow

4-7

8-11

INTERVIEWS

Jeremy Rifkin – Chitra Nadarajah – Alain Hubert – Dr Juergen Kropp

12-13

ACROSS THE BOARD

Güssing: Where the green dream pays

14-16

ON THE GROUND

La Réunion: an island with a mission

17

TROUBLESHOOTING

ERDF changes freeing up cash to boost energy efficiency

18-19

COMMON GROUND

Acting together on climate change

20

FIND OUT MORE

21

REGIO MATTERS

A new Commissioner takes over Regional Policy: introducing Dr Pawel Samecki

22-23

INSIDE OUR PROJECTS

Popakademie – Centre for NanoHealth

24-25

NETWORKING

Communication – good for the planet

26

LAST ISSUE, NEXT ISSUE

27

AGENDA

28

MAKE YOUR VOICE HEARD

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Climate change – universal impact, regional effects

The main challenge our planet faces today is the impact of climate change – a global threat with many different faces. From flood to drought the way we are touched by the changes that are hitting us today, and those which will affect us tomorrow, varies depending on the region in which we live. And it is at regional level that we need to be tackling the impact of climate change. While governments come together in Copenhagen at the 15th United Nations conference on climate change to forge deals on cutting back emissions, the regions are working now on helping people adapt to the inevitable changes to come.

As economist and political advisor on climate change, Jeremy Rifkin, explains, regional development is crucial in this context because it is here that the funding is spent. We interview Rifkin to hear more of his ideas on what needs to be done to curb the discharge of emissions and how the third industrial revolution based on distributed and not centralised generation, needs to get under way if we are to stand a chance of keeping emissions down to a safe level.

Also examined in this edition of Panorama are the recent changes made to the European Regional Development Fund which can now support energy-efficient domestic buildings. Should member countries choose, up to €8 billion could be freed up to further this vital goal.

The impacts of rising global temperatures are with us now. As weather patterns become more extreme and public health bears the brunt of heat waves and emerging diseases, it is Regional Policy that is flexible enough to support Europeans facing the challenge of adaptation to a constantly evolving situation.

A handwritten signature in black ink, appearing to read 'Dirk Ahner', written in a cursive style.

Dirk Ahner

*Director General, European Commission
Directorate-General for Regional Policy*

“ ...it is at regional level that we need to be tackling the impact of climate change ”

CLIMATE CHANGE – REDUCING EMISSIONS

TODAY, ADAPTING TO TOMORROW

62% of Europeans questioned believe climate change to be the most significant problem facing the world today, a threat Regional Policy and the European Commission as a whole, is taking equally seriously. The EU is putting in place a range of measures to build resilience to the effects of climate change and reduce emission levels.

Panorama examines these and considers the implications of climate change and how policies and action taken on the ground can combine to cope with the impact of emissions already released and to reduce future levels.

Energy for change

We are at a crossroads where the direction 'business as normal' is simply not an option. The way ahead involves a complete rethink of how we source, use and conserve energy and natural resources – key factors in slowing down climate change and in contributing to a more sustainable growth.

This radical reassessment can also provide the EU with a means to lift itself out of the economic downturn by harnessing what is starting to be seen as the third industrial revolution – the rapid development of an entirely new energy system.

Experts recommend a massive shift towards a low-carbon economy: clean electricity systems, much lower energy consumption and, greater use of renewables, also for powering our transport systems. So the question is, how can the EU turn the challenges of climate change into an opportunity?

Clean energy – invigorating the economy

Already today the push towards renewable sources of energy in Europe, has created over 300 000 jobs in the sector. To weather the economic downturn the EU is encouraging its members to invest more in energy efficiency, clean technologies, clean transport, energy connections and broadband networks.

Of the funding allocated under the Cohesion Policy, more than 65% (€230 billion) is earmarked for investment in four priority areas: people (jobs), business, infrastructure and energy, research and innovation. This focus is crucial as these priorities will contribute to a quicker recovery, improve competitiveness and help the Union adapt to a low-carbon economy.

It is clear that renewable sources of energy, smart electricity grids, electrical and hydrogen vehicles, battery

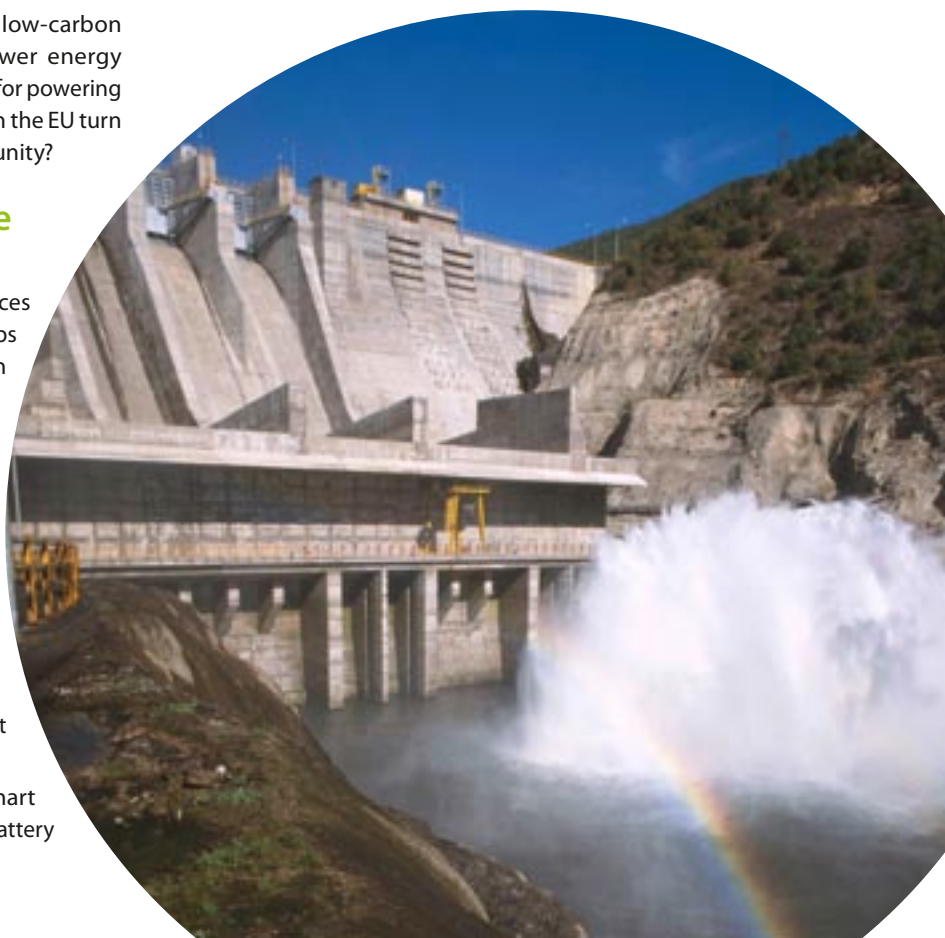
In May this year, the **European Regional Development Fund (ERDF)** was amended to extend the scope of its support to energy investments in buildings. It now includes investments in energy efficiency and renewables in the housing sector for all countries within the EU. This can reach up to 4% of the total ERDF allocation which means up to €8 billion could be dedicated to energy efficiency and renewables in the residential sector if Member States choose to reallocate funds to these priorities.

(See page 17 for more information)

technology and energy-efficient products and services will be the growth sectors of the next few decades.

EU at the forefront of this emerging market

The EU is well placed to take full advantage of this shift, having already been active in installing renewables. It is home to the world leaders in the field of renewable energy and has to use its head start as a spring board into low carbon technologies and further efficiencies. The key factor in realising this goal is research.



A recent Strategic Energy Technology Plan will work to coordinate funding and research in the field to maximise its potential. Already public efforts, European industry and researchers are being brought together under six European industrial initiatives: wind, solar, bio energy, carbon capture and storage, smart electricity grids and nuclear fission.

The promotion of energy efficiency and the uptake of green products is one of the key objectives of the European Economic Recovery Plan, which outlines the EU's response to the economic crisis, leading us to a creative, knowledge-based economy.

Cohesion Policy is investing €105 billion in:

- eco-innovation, including funding to SMEs for innovative production processes and products (€3 billion);
- the low-carbon economy, investing in sustainable transport and energy (€48 billion);
- and to help all EU countries comply with environmental legislation (€54 billion, €28 billion of which will be spent on waste and water management).

Energy supplies for a new century

We don't have to stay locked into a dependency on the energy that powered us in the past. The town of **Kistelek** in Hungary received almost €1.6 million (2004–06) from the regional development funds to exploit **geothermal energy**. As a result, eight public institutions are supplied with geothermal energy available at a price cheaper than the gas supply, and the project also serves as a good example for other local governments considering the installation of similar systems.

Operation of the system does not require major supervision, and it has been possible to replace the outdated gas heating with cheaper, environmentally-friendly technology resulting in savings of around 10% to ensure heating supply for the institutions concerned, while pollution emissions in the area have been reduced.

In **Brandenburg**, Germany, regional funding put almost €8 million towards building a factory for **Odorsun**, a company which makes **solar cells** and supplied those which powered Beijing's Olympic Park. The company specialises in thin-film solar cells on copper tape. The freedom of design and application this permits, has enabled the photovoltaics to be used more diversely, allowing more applications for solar power.

Adapting to climate change

Although policies and funding are in place to slow down the rate of greenhouse gas emissions, enough have already been released to have a significant impact on our climate. In April 2009 the Commission put forward a White Paper on adaptation to climate change to stress the way forward on reducing the EU's vulnerability to the impacts of climate change. Since many of the impacts will be dependent on local geography, the adaptation measures will often have to be carried out nationally or regionally.

The most vulnerable regions in the EU are in Southern Europe, the Mediterranean basin, some of the regions at the extreme borders of the EU and the Arctic. Flood plains, glaciers, islands and coastal areas also have to deal with particular problems.

People and organisations that would normally not work with each other are brought together by Regional Policy funding, resulting in cross-border, transnational and interregional co-operation. Floods, forest fires and other catastrophic events brought about by climate change do not stop at borders. It is here that Regional Policy brings particular added value.



Understanding how climate change is predicted

Proper information on the likely impact of extreme weather events is vital if we are to prepare for their consequences. Fortunately, research is becoming ever more sophisticated. Here is an explanation of the three scenarios most usually referred to:

- The A1 scenario is one in which we follow a 'business as normal' approach and continue to focus on rapid innovation and high turnover of capital with little concern for sustainability – it is the worst case scenario.
- The B2 scenario is the opposite. This would be the case if we put into action the concerns we voice and actually become a low-carbon, sustainable culture – the best case scenario.
- The A2 scenario is the one most European research uses, a world in which we still focus on free trade but work on becoming sustainable – it is a middle of the road scenario.

No choice but to adapt

At the start of the 21st century we are seeing, for the first time, that the way in which we use the earth's resources is having a fundamental, negative impact on the planet's physical cycles – the water, nitrogen, oxygen cycles and, above all, the carbon cycle are being affected by the 6 billion people the planet accommodates today.

Climate change will have an impact on each one of us, and also on the species with which we share the planet. Here are just three of the key areas which will be dramatically affected by climate change, and what the EU and Regional Policy is doing to help Europeans adapt to these effects:

WATER

Climate change is projected to lead to major changes in water availability across Europe with increasing water scarcity mainly in Southern Europe and a higher risk of floods throughout most of the continent.

At least 11% of the European population and 17% of its territory have been affected by water scarcity to date. Recent trends show a significant increase in water scarcity across Europe.

Since 1998 floods in Europe have caused some 700 deaths, the displacement of about half a million people and at least €25 billion in insured economic losses. The economic cost of coastal flooding is estimated at €18 billion under a scenario of a 50 cm sea level rise, but adaptation may significantly reduce damages, to €1 billion a year.

Adaptation strategies will depend on the scope of national and European water regulations along with how water management can be integrated into other policies such as those directing agriculture and energy. Short-term measures must be built in to all water and spatial planning policies and the EU will support the sharing of information, incentives to the private sector and public investment.

One example of where regional funding is making a real difference on the ground is the Danube Flood Risk 'Transnational

cooperation' project, part of the 'European Territorial Cooperation' programme for South East Europe (SEE). This brings together scientists, public servants, NGOs and other interested people to develop a system of flood risk maps for the river's flood plains and is a clear example of how regional funds can encourage international cooperation. Of a total budget of €6.5 million, €5.1 million has come as an ERDF contribution.

PUBLIC HEALTH

The impact of climate change on public health is wide-ranging. There are several factors which come into play, all of which are exacerbated by the demographic trend towards an aging population.

Firstly heat-related deaths. If temperatures rise by 2°C, we could see a 2–3 fold increase in deaths in urban areas. If we continue to adhere to free trade but pay some attention to sustainability, then we could be looking at an increase in heat-related deaths of 100 000 a year by 2100. Factoring in the decrease in cold-related deaths, the net effect is 86 000 more deaths a year.

The second factor is water availability and quality. By 2070 the number of people affected by water stress could range from 16 to 44 million.

The third is the increase in diseases related to food and animals carrying diseases in previously unaffected regions – diseases usually associated with the warmer climates of North Africa or the most southern parts of Europe are now on the move. The first detectable changes in human health may well be due to alterations in the geographic range (latitude and altitude) and seasonality of certain infectious diseases – including vector-borne infections such as malaria and dengue fever, and food-borne infections (e.g. salmonellosis) which peak in the warmer months.

Finally, the quality of the healthcare infrastructure, which is imbalanced throughout the EU. Mediterranean Europe has the lowest number of hospital beds per 2 000 inhabitants, and yet it will be the most exposed to the health risks associated with climate change.

FOREST FIRES

During the summers of 2003 and 2004, Spain, Portugal, France, Italy and Greece all suffered from massive outbreaks of forest fires. The cause of the increased risk is a complex matrix of urban sprawl, poorly controlled development of the countryside, badly managed forests, and more visitors to sensitive areas.

If you factor in climate change and its impact – hotter, drier months – it becomes evident that adaptation strategies that include enhancement of regions' biodiversity are vitally needed.

Adaptation to the threat of forest fires includes the need for public awareness-raising. One project which set out to inform the public and examine the way policies fight the threat of fire was the aptly named INCENDI project. Benefiting from over €4 million of regional



What are we up against?

Modelling results show that annual mean temperature in Europe is likely to increase more than the global mean temperature. Until the end of this century the average annual temperature in Europe is projected to increase by 2.5–5.5 °C for the A2 scenario, and 1–4 °C for the B2 scenario. Some regions may experience lower or higher temperature increases than average.

For the A2 scenario, temperature increase in some regions in Europe may be as low as 2 °C or even higher than 7 °C in the scenarios. Southern Europe will be most affected, with consistent temperature increases between 3 °C and more than 7 °C, with warming even greater in the summer. Northern Europe will experience temperature increases of less than 2 °C and up to 4 °C, depending on the scenario and the region, with mainly winters getting less cold. Temperature extremes will decrease in the winter, but increase in the summer.



development funding, INCENDI brought together high-risk regions from the Euro-Med area to support experimentation and improvement of regional policies regarding forest fires, and to organise the basis for a future policy on a Mediterranean scale.

Many European border regions have agreed on cross-border emergency plans and on sharing expensive fire-fighting and rescue devices in case of forest fires or flooding. The INTERREG and European Territorial Cooperation programmes have played an important catalytic role in this process.

The EU acts to cut back emissions

While we are having to deal with the effect of past emissions, the imperative is now to reduce current levels. The level of emissions is the key to mitigating global warming and reducing the impact of the crises outlined above.

The Energy and Climate Change Package demonstrates the EU's commitment to establishing ambitious targets for the reduction of greenhouse gas emissions. The package, agreed in December 2008, sees the EU signing up to a reduction in its greenhouse gas emissions by 20% compared with 1990 levels; increasing the amount of energy derived from renewables from 8% today to 20% and improving energy efficiency levels by 20%, which means reducing consumption by 13% in comparison to 2006 - all by 2020.

Central to the agreement is the recognition that energy and climate change policies should go hand in hand. The agreement stressed the need for "decisive and immediate action" on climate change and underlined "the vital importance of achieving the strategic objective of limiting the global average temperature increase to not more than 2°C above pre-industrial levels".

The approach to follow between 2012 and 2020, regarding emissions, has been clarified by a new proposal

which makes the trading scheme in which industry has to acquire credits to emit CO₂ more robust and transparent. Working alongside this is the new **Renewable Energy Directive** which makes obligations concerning the use of 20% renewables in the EU's energy mix and 10% of transport fuels from renewable energy sources biofuel by 2020 legally binding.

What is being done on the ground

While policy-makers lead the way in establishing targets, identifying how to achieve them and financing change, it will take a fundamental shift in lifestyle to truly bring about the reductions we need.

All over Europe people are waking up to the need to act now. Urban planners are creating 'green cities' recognised by the European Green Capital Award. Stockholm, which aims to be free of fossil fuels by 2050, and Hamburg, which aims to reduce its emissions by 80% also by 2050, are both proud winners.

In the East of England, the theme of 'Low Carbon Economic Growth' runs through the entire region's Competitiveness and Employment programme. The region recognises the programme's potential to be at the forefront of design and innovation. It covers the development of new ways to respond to the imperative of lower emissions, from low-carbon initiatives through to the stimulation of clean technology and renewable energy sectors. €73 million has been invested in their programme from regional funds.

The Covenant of Mayors intends to go beyond the ambitious targets set out by the Energy Package. 80% of the population lives in cities and it is here that up to 80% of the energy is consumed. Believing that local authorities have a central role to play in mitigating climate change, the Covenant of Mayors creates concrete projects in pioneering cities to reduce emissions through enhanced energy efficiency and cleaner energy production and use.

Cities which sign up, accept the notion of being monitored and of reporting back to their colleagues on how they are progressing. From Argentina to Ukraine, urban public bodies are working to change the pattern of their citizens' lives.



JEREMY RIFKIN

Advisor to the EU and Chair of the Third Industrial Revolution Global CEO Business Roundtable



Jeremy Rifkin is an Advisor to the European Union and lectures in the Executive Education Program at the Wharton School (University of Pennsylvania). Mr. Rifkin is the Chairperson of the Third Industrial Revolution Global CEO Business Roundtable. The CEO Business Roundtable is composed of 100 CEOs of leading North American and European global corporations that are committed to ushering in the four pillars of the Third Industrial Revolution to address the triple challenge of global economic recovery, energy security, and climate change.

“Think global, act locally”: what strategic changes do public authorities need to promote to ensure a more sustainable form of development in a world with limited natural resources?

The phrase “Think globally, act locally” has never been more relevant. We are facing three unprecedented challenges: the second industrial revolution on which our economy is based is in meltdown; we are at the sunset of the fossil fuel age and the real-time impact of climate change on agriculture means we have a billion people going hungry. The credit crisis is just an indicator that the current economic model is unsustainable. If we needed further proof, look what happens when oil goes over \$147 a barrel, the whole economy shuts down. We have to have a new economic vision and game plan powerful enough to address this triple threat.

The EU is subscribing to ambitious mitigation targets of 400-450 parts per million by volume (ppmv) in the belief that in doing so, along with the rest of the world, the rise in temperature will be around 2°C. But new data is showing that this is wildly optimistic and, in fact, the rise will be more likely to hit 6°C which would spell the end of our species in the next century.

The biggest source of carbon emissions is buildings. That has to be turned around – every building has to become its own power generator. Every square foot of this planet offers some renewable energy source: solar, wind, geothermal, the heat generated by waste, tides, hydroelectric power to name some. And now we have the technology to store the surplus to keep supplies constant and we have the example of a distributed grid system in the way we use the internet and the computers attached to it. There is no longer any barrier to a completely distributed system.

You get revolutions when you converge new energy forms with new modes of communication: writing developed when we became agrarian, when we discovered steam we started to print, when we went to centralised sources of energy in the form of fossil fuels and uranium we went to centralised forms of communication with major telecommunications giants behind our telephones and faxes. But now we have the internet

and people really can think globally and act locally. A billion people act locally when they contact friends on the other side of the planet. So what we are looking at now is distributed energy evolving in parallel with distributed communications – the third industrial revolution and the only way out of the situation in which we find ourselves.

If you could make one, global change in the way we operate at the moment, what would it be?

One thing that has to be done immediately is to leverage public funds with private business to bring about a new economic vision – a coherent game plan setting out a new economic infrastructure aimed at distributing energy.

The entrepreneurial opportunities are considerable. A huge number of jobs are waiting to be created in the construction of new buildings, in hydrogen storage plants, in the development of new 21st century grid systems. And transport is plugging into that with major car manufacturers negotiating deals with electricity suppliers in the lead up to 2014 when we will start seeing the first electrically charged cars hitting the market. Plug it in at home, charge it off the energy generated by your building and you are good to go. Top it off using the surplus energy generated on your route, by other buildings. Smart distribution, local generation. The sum of billions of small generators contributing to a decentralised grid system generates vastly more power than the creaking old power stations that are bringing us to the brink of extinction.

And for once the developing world can be a real winner here, because solar power is often at their finger tips and 30% are not on any grid so there is no reinvention. They are best placed to embrace new, clean technology using north/south partnerships.

Can we do it in time?

I don't know if we are going to be quick enough. We need a change of human consciousness from geopolitical to biosphere awareness. Most of Europe had the Age of Enlightenment at the time of transition from the medieval period to industrialisation. And we need a new philosophical basis now. When communication and energy patterns shift at the same time you get a catalyst for a new consciousness and for those bought up with the internet, the world is an interconnected place. We live on a planet populated by deeply divided civilizations, the one thing we all have in common is the biosphere.

What we need is a hybrid economic vision based on the information technology systems of the 21st century. This vision needs to be made real through honoured commitments by governments to invest financial capital matched by equal commitments by society to invest social capital. And it has to start now.

CHITRA NADARAJAH

Chitra Nadarajah, Principal Environment Officer at Hampshire County Council



Chitra Nadarajah, Principal Environment Officer at Hampshire County Council, was previously the project manager of the ESPACE project, a groundbreaking, five-year INTERREG project on spatial planning and adaptation.

“Think global, act locally”: what strategic changes do public authorities need to promote to ensure a more sustainable form of development in a world with limited natural resources?

Public authorities have responsibility for spatial planning at a range of levels from national through to local. Spatial planning plays a crucial role in bringing together competing demands on the way our land and natural resources are managed and used, both of which are under pressure from a variety of sources including rapid economic development, population growth and most recently climate change. We need to start adapting today to these changing conditions, to ensure our social, economic and environmental systems are best prepared for the unavoidable impacts of climate change. Adaptation is most relevant at the local level, and therefore local public authorities are well placed to act as community leaders and champion climate change policy and action at a local level.

Recognising the vital role of spatial planning, a group of transnational partners came together to implement a groundbreaking five-year project – ESPACE (European Spatial Planning: Adapting to Climate Events) funded by the European Commission’s North West Europe INTERREG IIIB Programme, the ESPACE Partnership and the Department for Communities and Local Government.

ESPACE influenced the philosophy and practice of spatial planning by recommending how adaptation to climate change can be incorporated into spatial planning policies, processes and practices. The final project strategy ‘Planning in a Changing Climate’ sets out 14 recommendations on how adaptation to climate change can be incorporated into spatial planning. The three key principles of the strategy are:

- Make climate change adaptation a core objective of spatial planning;
- Look beyond the lifetime of your plan by understanding your climate risks;
- Combine change and risk management approaches for integrating adaptation into spatial planning.

If you could make one, global change in the way we operate at the moment, what would it be?

Although adaptation is a critical component in the response to climate change, adapting to climate change will become increasingly difficult and unsustainable as the impacts become worse. It is therefore vital that greenhouse gas emissions reduction is a key priority. Therefore the first regulation I would pass would be policy support towards the development and mainstreaming of low-carbon technology. Without strong government policy, leadership, support and funding the shift to low-carbon technology will not happen fast enough to reduce the risks of climate change. Low-carbon technologies are also unlikely to become commercially viable within the necessary timeframes without government intervention.

How do you think behaviour change can contribute to the response to climate change?

Behaviour change is a critical component in the response to climate change but it must be encouraged, supported and regulated. For example, a shift away from personal car use to public transport needs to be supported by a good public transport infrastructure that is both cost-effective and efficient (i.e. good geographical coverage, good links between different forms of transport, not excessively time consuming, etc.). I also do not believe that a large enough shift in behaviour will happen without some encouragement and regulation to drive it forward, e.g. tax incentives and penalties, new tariff structures.



ALAIN HUBERT

Founding President of the International Polar Foundation (IPF) and the author and initiator of the Princess Elisabeth Station project in Antarctica



“Think globally, act locally”: what strategic changes do public authorities need to promote to ensure a more sustainable development in a world in which natural resources are constrained?

The first thing public authorities should do in order to allow actions to be taken at a local level is give more power, means and independence to regions and cities, as these are the environments of the majority of the world’s inhabitants. Cities are definitely the front line in the battle for sustainability.

In cities of the developed world, energy consumption and energy production are major challenges. On the other hand, cities of the developing world have to accommodate rapid urban growth, control air pollution, provide essential infrastructure, and deal with inadequate sanitation.

Public authorities have to provide the means for city and town authorities to achieve precise objectives in the coming decade. People of the developed world who are responsible for a large part of global warming need to realise that taking action means participating in a new economic and social dynamic. Developed countries have to act and support the developing world without expecting them to follow the same tracks.

We must not forget that there is no global long-term solution without a drastic change in our energy consumption habits and that a long-term change in behaviour can only be achieved through education and positive campaigning, starting at a local level.

If you were in the position to take an executive decision today, what is the first regulation you would pass?

If the European Union wants to set an example, it needs an 80% greenhouse gas emission reduction target by 2030. Europe has all the means to bring about a green industrial revolution, from technologies available to a mature public opinion.

In order to meet these targets, it will require not only limits and trade but real incentives and disincentives which cannot be bypassed: impose gradually higher taxes on carbon dioxide emissions, and at the same time stimulate and encourage more alternative initiatives through targeted research grants and householder benefits.

“ Europe has all the means to bring about a green industrial revolution, from technologies available to a mature public opinion. ”

We also need incentives to promote investments in green businesses. Institutional investors are the people we need to target for change and not only company CEOs who, even if they have the vision and want to act, also have to generate profit for their shareholders.

March 2009 saw the inauguration of the Princess Elisabeth Antarctica research station, the first ‘zero emission’ station in the world. Why was it important for the International Polar Foundation (IPF) to opt for sustainable development in remote Antarctica?

Studying the Polar Regions is key to a better understanding of the Earth’s climate system.

Using available green technologies, the station functions on renewable sources of energy, passive housing techniques, a full water-treatment system and a smart grid to reduce its energy consumption and achieve zero emission targets. Following the Madrid Protocol, we minimise the impact on the environment by using cleaner energy which is cleaner for us and the planet.

By adopting this approach, we have shown that with the ambition, perseverance and know-how of our societies, we have the ability to answer and confront the climate challenge constructively. If it is possible to aim for zero emissions in the extreme climate of Antarctica, it should also be possible to do so anywhere else in the world.



DR JUERGEN KROPP

Head of the North-South Group of 30 scientists at the Potsdam Institute for Climate Impact Research working towards reconciling adaptation, mitigation and sustainable development



“Think global, act locally”: what strategic changes do public authorities need to promote to ensure a more sustainable form of development in a world with limited natural resources?

Frankly and briefly speaking: we need a new kind of decision-making. This should include a strategic environmental assessment considering long-term aspects of political decisions and climate change and thinking in broad terms instead of in explicit numbers.

The present style of decision-making is, at least ostensibly, based on explicit quantitative findings. Considering the complexity of nature and the environment it must be accepted that one may have to work with weak and soft prognoses only.

Climate change will constrain living conditions in a lot of regions worldwide. The dimension of the challenge can be made clear by a simple example: at the end of the last ice age some 18 000 years ago the global mean temperature went up by ~8°C over 5 000 years.

Now, as a worst case scenario, temperature could rise by up to 5-6°C within only 100 years – a change that is at least 25 times faster than the previous great warming. The question is whether or not our highly diversified societies, our infrastructure, agriculture, or ecosystems are able to cope with the adverse effects of such a rapid change. It is mandatory to be prepared for the things to come.

If you were in the position to take an executive decision today, what would be the first regulation to pass?

In general I would suggest organising policy-making and planning more dynamically. Today decision-making is too static to respond adequately to climate-related disasters. For example, we observe the rebuilding of settlements in the same risk-prone areas, frequently because legally binding development plans exist which cannot be changed easily. Here we need a paradigm shift, e.g. the development of compensatory elements which allow the relocation of settlements or industries from risk-prone to safer regions.

If I were responsible for energy, I would clearly bring into force transition strategies which pave the way towards a sustainable production. It must be clear that today's emissions will be tomorrow's problems.

“ I expect that governments will assume their responsibility with regard to these issues and progress can be made at the Copenhagen summit later this year. It is necessary – humankind has no alternatives. ”

If I were responsible for development issues I would like to guarantee that developing countries have fair access to sustainable technologies.

If I were responsible for regional planning I would suggest an infrastructure which supports information sharing and exchange. Stakeholders often have similar problems with regard to climate change, but they do not share experiences and knowledge. This generates costs for data screening and interpretation which can be reduced considerably, e.g. by a web platform providing information in an interpretable and transferable way.

What is your hope regarding the climate challenge for the next decade?

Certainly that we are able to avoid going beyond the 2°C target and can guarantee safe living conditions for everyone. This is not an easy undertaking, although the goal not to transgress a 2°C temperature increase by the end of the 21st century is now accepted by around 100 countries. Nevertheless the time span for action is narrow, because we have to solve a lot of things in parallel.

An international research team, including scientists from our institute, has just estimated that not going beyond the 2°C target implies two things: that we have to stabilise emissions in 2010 and, post 2010, we will have to reduce them by 2%/year. This seems to be manageable if the Copenhagen conference mandates this – which is what I sincerely hope. If we are only able to stabilise emissions around 2020 already a reduction of 6% per year is needed to keep us below the 2°C target – more than one Kyoto protocol per year.

Considering the roles of the different countries, fairness implies to look at per capita emissions. A US citizen emits ~24 tons CO_{2eq}/capita a year, a Chinese only 4, a European 10-12, while a resident in the poorest least developed countries emits only ~0.1 tons CO_{2eq}. A per capita emission of 2 tons CO_{2eq} a year should be achieved by 2050 to stay below the 2°C target. The numbers show where action is needed.

I expect that governments will assume their responsibility with regard to these issues and progress can be made at the Copenhagen summit later this year. It is necessary – humankind has no alternatives.



GÜSSING: WHERE THE GREEN DREAM PAYS

In 15 years, the town of Güssing in Burgenland in Austria has been transformed from a state of economic decline to a thriving, forward-looking town, based on renewable energy. The town became self-sufficient in the field of heat and electricity and can earn additional revenue by selling any surplus. In 2005 this reached €13 million. Cutting-edge technology, and the commitment of the local authorities, especially the Mayor Peter Vadasz, have driven the pace of change and made a name for Güssing around the world.

The Biomass Energy Register (BEn) for sustainable site development in European regions will help local communities plan their energy supply in a sustainable way based on locally available biomass resources. This project is being rolled out first in four model regions in the UK, Poland, Germany and Italy.

Renewable energy programmes in Güssing

Duration 2000–06

- €15.8 million from the ERDF
- €20.9 million from participating organisations/authorities
- €5.1 million from national funds

The 'Make It Be' initiative supports the development of integrated bio-energy chains across Europe. The focus here is on enabling the full potential of bio-energy to be realised.

In addition to being a practical example of success, Güssing's status now assures the EEE an advisory role in many different networks and international projects. Here are four leading examples.

Aside from the economic strength built through renewables, the area is also enjoying many knock-on benefits from eco-tourism.

Maintaining the momentum locally

Güssing - How does it work?

Güssing took careful stock of its natural resources and based its renewable energy programme on the plentiful local supplies of wood and agricultural output. It took the lead in research and development by founding the European Centre for Renewable Energy (EEE) in 1996. The EEE now has a worldwide reputation for its excellence in this field. It coordinates all energy-related activities in the Güssing region, and organises lectures and training in the field of renewable energy and tours through Eco Energy Land, the surrounding region of 10 municipalities. The Güssing model is a network of decentralised power plants, based on biomass. Between them they generate electricity for the town and heat properties and communal buildings.

The total reliance on local raw materials ensures a high level of value-added for local producers, as well as sustainable woodland management. Overall, this network of plants in Güssing has a capacity of 24 thermal Megawatts and 4 Megawatts of electricity, supplying ca. 50 000 MWh of heat and ca. 30 000 MWh of electricity per year.

The Güssing model is eminently transferable to other countries and indeed other parts of the world. It is a straightforward combination of local resources with sustainable, innovative technology. EEE director Reinhard Koch recently presented the model to a meeting of the United Nations in Vienna and there has even been interest from the government in Sri Lanka.

The success story of the last 15 years has been an inspiration to other areas in Austria. There is an ambitious target to achieve carbon neutrality and an 85% reduction in CO₂ emissions in the surrounding region, home to 28 000 inhabitants, by 2010 using several dozen biomass plants.

The Güssing model is a dynamic process where there are always new goals to achieve in know-how and efficiency. The next challenge for the town is to develop new agri-fuels which do not compete with food production.

RENEWED is all about establishing a European network of bio-energy districts. Feasibility studies and development projects will involve local communities and boost awareness of the potential at all administrative levels.

Coach Bioenergie, part of the INTERREG IVB programme, is a new project launched in January 2009 to promote the sustainable use of biomass in the Central European Region.

LA RÉUNION - AN ISLAND WITH A MISSION

The French island of Réunion is still considered to be a tropical paradise – a paradise under threat. The impact of global warming will be felt keenly here but the islanders are meeting the challenge head on. Far from complacent or resigned, they are going full steam ahead into the world of renewable energy.

Panorama visits Réunion, considers how feasible the island's goal of reaching energy independence by 2025 is and takes a look at its claim to be a world leader in photovoltaic energy. A claim that has its origins in one man's vision.

Regional funding – backing a dream, creating an industry

Alain Orriols has been on the island for 21 years, having established his own electrical company shortly after he arrived. As the population and the island's commercial sector grew, so did his business and it wasn't long before he expanded, taking on more staff, fulfilling an ever increasing number of contracts. But although retirement beckoned, Orriols had developed a new passion, renewable energy sources. He sold up and reinvested everything in an innovative project. "Photovoltaics seemed like a good idea, we had roof space, sunshine and the need for electricity. I thought – let's put the whole thing together," says Orriols.

So he knocked on the doors of industrial installations, wanting to use their roof space. Immediate enthusiasm was not forthcoming, but he persisted, part of the fun being in turning around a situation and making something work. Not getting far with the big roofs he decided to focus on what he could get his hands on, and before long, friends, family and various warehouses started sprouting photovoltaic panels, shipped in by Orriols and installed by himself and a small team. Investing all he had in his new passion, he still couldn't break even and when it came to make or break time, he took his idea to the top and presented it to the President of the Region of Réunion, Paul Verges.

Two days later he had his funding, and a year later he was in partnership with the French multinational SIDEC with whom he won the 2009 RegioStars Innovation

award for what was for a while, the largest concentration of photovoltaic panels on French territory. Generating 999 kWc over a surface of 13 000 m², the electricity created by the panels represented that consumed by 750 island households.

Cleaner energy employs people

Since 2000 more than 600 people have been employed by the sector on the island. As Philippe Berne, vice-president of the Regional Council points out, that might not seem like a lot, but scaled up to the size of France it would work out at 50 000 jobs. "It's a creative way of employing people," he explains.

Berne is impatient with the idea that renewables are a more expensive source of energy. "You need to consider the wider picture, the jobs the field creates, the growth, must also be factored in. One needs to do a global analysis. It is not about just looking at one, dry balance sheet." He believes the island can see where it needs to be going. "At a first glance it might look more expensive, but it is the future," says Berne.

Challenges - topography, climate and infrastructure

The push for energy independence presents its own particular challenges on Réunion. Ravines, ranges of hills and other features make it hard to connect the electricity to the grid. Early installations, set up in the 80s and 90s were relatively modest and served isolated families. The island is also in a cyclone zone so all the equipment on the roofs must be able to tolerate extreme weather and winds that can reach 280km/h, and be fully insured.

In the 90s operators and technical partners grew familiar with the technology. They were also more motivated as increasing numbers of factories and new industry put pressure on the grid and petrol prices mounted. It was at this point that the island recognised the potential of using the local operators and installers who had been working with photovoltaics for a decade.

They also had to work out how to harness the electricity generated. French electricity provider, EDF, was not ready, locally, to receive energy from photovoltaics into the grid, the tariff for purchase wasn't well defined and the cost of the technology was significant.

"Without the tax break and European funding I can honestly say this project would never have got off the ground," says Orriols. "Tax measures and the ERDF funds





allowed us to reduce the cost of the installations and start to make a profit.” Every year sees substantial new installations and 10 to 15 megawatts now come from photovoltaic cells. In a relatively short time the available area has been harnessed and now the challenge is to find new places on which to install the cells.

So why Réunion?

The island has the best motivation possible, a realisation of its own vulnerability in the face of global warming. There are things experts agree on: extreme weather patterns mean a greater number of cyclones, many of which will be more violent than at present. “We have to consider water run-off and flooding”, explains Philippe Berne – vice-president of the Regional Council.

The rise in sea temperature and level is also bad news. It will not take an increase of many degrees to cause the coral to start bleaching and becoming weaker. “We have to have our reefs in good order,” Berne continues. The reason is not only to support biodiversity, but because behind every reef lies a beach and behind every beach, a village. “To keep the reefs in as good an order as possible, we have to manage the water run-off, both flood water and waste water,” says Berne.

Agriculture will also be hit by rising temperatures and experiments are underway to determine the full effect on the sugar plantations.

Finally there are also diseases to consider. The 2005/6 outbreak of Chikungunya, a disease causing extreme joint pain which can be fatal, saw 1 722 cases reported. Mathematical modelling suggests 110 000 may have been infected. Berne wonders if this is one of the first signs of climate change on the island – diseases appearing in new territory, emerging disease vectors and worst of all, predicted high rainfall which favours disease vectors such as the *Aedes aegypti* mosquito, carrier of Chikungunya.

Analysis has shown that 48% of the greenhouse gases produced by Réunion come from traditional electricity generation. The islanders see a clear connection between the emission of greenhouse gases and the troubles that they are going to have to deal with in the decades which lie ahead.

Berne feels other factors are driving the entrepreneurial, innovative spirit the current boom in renewables is testament to. “We are very lucky. We benefit from European funding which is something our neighbouring islands cannot receive,” he says.

15% funding and a 30% tax exemption make the project profitable
ERDF support for the project comes to €750 000
Total budget: €5.5 million

One result is the level of education, training and research. 11 000 students attend the university and many French research organisations have a presence on the island.

Another factor is the tolerant, multicultural climate in which all races and religions mix freely and in comfort. “We are remarkable,” says Berne, “we have a sentiment of belonging to a people who are tolerant and an inter-religious way of life which is very important. There is a unity here.”

Finally, the islanders are proud of their natural heritage. Marine reserves and parks are being established and there is an awareness of the importance of the species indigenous to the island, some of which appear nowhere else.

All these factors come together to make Réunion a logical place for such an exponential growth in the use of renewable energy sources. The islanders’ desire to go still further and become energy independent in 15 years’ time is also explained.

Where to now?

SITAR is a company with a lot of roof space, 13 000 m² of which has been rented out to Orriols. Connected to the grid, the plant will be operational for 20 years. Many companies are launching themselves into this booming business with tens of thousands of panels being installed on the sea front alone.

Joël Dumont, head of the industrial development division at the Ministry of Economy, Finance and Industry has been on the island for nine years and has his sights on new locations. “We haven’t exploited all the sites,” he explains.

At the moment most of the panels are on industrial, commercial and public roofs. Some are being placed on landfill sites that are at the end of their lives. Full, but too unstable to build over for thirty years, they provide the photovoltaic panels with much needed surface area. Exploiting old landfill areas avoids using agricultural land or that which has been earmarked for construction.

Tomorrow the panels could be on the airport, parking areas and the open fields used for vegetable cultivation, working side by side with agriculture. They could be placed on the available land and play a double role as shade generators or cover passages.

Dumont flags a problem that is occupying the minds of those pushing for solar and wind power: stocking energy. "There is a limit for the production of renewables because if you talk about solar or windmills they will only produce energy when there is sun or wind, which is the thing that we have to deal with."

So the push is on to find ways of generating power when the primary sources are not available. One intriguing idea Dumont puts forward is to use the excess power during the day to pump water up a certain altitude to a reservoir. For a few hours in the morning and evening, when there is a need for power but no sun, the water can flow back down to power a turbine. A neat combination of solar and hydroelectric power.

Réunion, leading the way with the help of regional funding

The island forms a perfect, living laboratory. "We are a little microcosm that can represent a laboratory in which results can be analysed relatively easily," explains Dumont. Its small scale

makes the island perfect for pilot projects. Applications which work can then be replicated in other places which share some of the island's features. As Dumont says, the island has a role to play in the exportation of know-how. Already Réunion is working closely with both Iceland and Hawaii. Dumont is clear about what the island is aiming for: "We want to set an example for the planet."

SOLAR PANELS EXPLAINED

Monocrystalline Solar Panels

The first and most widely used type are monocrystalline solar panels. Since they were the first to be produced, they have dominated the solar market for quite some time. They are typical blue iridescent panels with rounded cells packed in uniform rows and visible from all directions. Monocrystalline solar panels tend to be very costly to produce since they require a single silicon crystal grown in a very complicated process. This results in higher prices for consumers. The advantage of these photovoltaic panels is that they take up the least room, making them a good choice for people with not much space. And although the cells are very fragile, they are secured in a rigid frame and can last for over 25 years.

Multicrystalline Solar Panels

The second type to be produced is multicrystalline solar panels. Also known as polycrystalline solar modules, they are manufactured from a large block of numerous silicon crystals. This gives them a mosaic-like or shattered glass look. And since they are not made from just one silicon ingot, they are slightly less efficient but also cheaper than monocrystalline solar panels.

Amorphous Solar Panels

Better known as thin film solar panels, the third and latest type is very thin and flexible, making it lightweight and easy to handle. At first amorphous solar panels were made by fixing thin silicon material to glass or stainless steel, which made them rigid. But to make them flexible and durable, the silicon is now applied between flexible laminate material. This has the added advantage of being able to fix the panels to almost any surface. In fact, thin film solar is so versatile and aesthetically appealing that it can completely replace traditional shingles or steel roofing. Another advantage is they are the cheapest panels for manufacturers and consumers because they require the least silicon and the simplest production process. This also results in the lowest cost per watt of power. However, since they are very thin, amorphous solar panels are over 40% less effective than mono- and multicrystalline panels at turning the sun's rays into electric power.



ERDF CHANGES

BOOSTING ENERGY INVESTMENTS IN BUILDINGS

Affordable, accessible and reliable energy is essential for achieving Cohesion Policy goals. Increasing energy efficiency and the use of renewable energies brings social, economic and environmental benefits and should be integrated into all regional development strategies.

Using Cohesion Policy funds, regions can support various activities, including the production and distribution of renewables, R&D, advisory services and energy efficiency for public, commercial and industrial buildings. The policy however had limited scope for intervention in housing until recently.

As part of the recovery measures recently adopted, the key funding mechanism of Cohesion Policy, the European Regional Development Fund (ERDF) has been modified to allow more support for sustainable energy in housing. All Member States can now invest up to 4% of the total national ERDF allocation in energy efficiency and renewables in the residential sector. National authorities will define eligible categories of existing housing in a way that supports social cohesion.

The challenge for Cohesion Policy is now to encourage Member States and regions to fully harness this potential contribution to jobs and energy savings by putting policy into practice.

What support can be provided to regions in the structuring and implementation of public schemes supporting energy efficiency and renewables?

Regions can use their technical assistance budget for guidance on setting up public schemes. Regions should explore both the mechanisms for providing financial assistance and the technical requirements that will guarantee that schemes result in concrete energy savings.

Energy agencies and advice centres exist in many countries and can support regions in designing appropriate schemes.

Success factors for ERDF supported schemes for sustainable energy in buildings

1. **Ensure budget for technical assistance.** To put together an effective package awareness raising, training, energy advisors, and methods to aggregate demand may be needed.
2. **Tailor schemes** and define well targeted categories of eligible housing. Fully involve the local community, market actors & industry to meet the local conditions and needs of different target groups;
3. **Explore opportunity for financial engineering** – explore a combination of loans and grants to increase the volume of resources available and maximise leverage of Cohesion Policy funds.
4. **Guarantee energy savings** – integrate certificates and provisions for monitoring & verifying energy savings in line with the requirements of the Energy Performance of Buildings Directive (EPBD).
5. **Exploit public-private synergies;** explore possibilities for involving various relevant institutions, partnerships with civil society groups, including energy service companies and financial institutions
6. **Encourage complementary support to renewables** to meet remaining energy needs.

EU Policy for energy efficient buildings:

An ambitious recast of the Energy Performance of Buildings Directive is under discussion. Its scope is broadened to ensure that all existing buildings undergoing major renovation meet certain efficiency levels. The energy performance certificate will also become a real energy label for houses, included in all adverts for sales or renting.

Why is it important to encourage more energy efficiency and renewables in the residential sector?

The building sector is responsible for approximately 40% of EU final energy consumption and 36% of EU CO₂ emissions with residential buildings accounting for 2/3 of this.

Sustainable energy in the building sector can stimulate investment, and innovation, improving competitiveness and supporting jobs. Increasing possibilities for Cohesion Policy interventions in the residential sector presents win-win opportunities, particularly in this time of economic crisis.

Investment needs are great and funds are limited, how can Cohesion Policy be used for maximum impact?

Many different public schemes can achieve energy savings and promote renewables. Funding can be provided in many forms (eg loans, grants, guarantees, fiscal measures, equity etc).

Regions are encouraged to explore the different options to increase the volume of resources made available and maximise leverage of Cohesion Policy funds.

COHESION POLICY SUPPORT FOR SUSTAINABLE ENERGY: 2007–13

Wind energy	€788 million
Solar energy	€1.1 billion
Biomass	€1.8 billion
Hydroelectric, geothermal and other	€1.1 billion
Energy efficiency, co-generation, energy management	€4.2 billion
Total	€8.9 billion

This does not yet show the impact of the modified ERDF regulation which is likely to increase interventions in the residential sector.

ACTING TOGETHER ON CLIMATE CHANGE

As the Commission focuses on policies designed to reduce future emissions and develops programmes to deal with the consequences of those released in the past, its work is complemented by a wide array of organisations and businesses. The goal they all share, to make our future environmental record better than our past.

The run up to Copenhagen – the European Commission's perspective

Climate change being such a vast problem, most of the Directorates-General at the Commission are involved in dealing with the effects of global warming as they appear today, carrying out work to help member countries to adapt to future extremes and fighting to reduce emissions now.

Panorama talked to the **Directorate-General for the Environment** to get an idea of what the priorities are in this critical time, the lead up to the United Nations Climate Change Conference (COP15) to be held in Copenhagen, this December.

The Copenhagen Conference is of particular importance since it will set down the rules of engagement in the fight against climate change, as the Kyoto Protocol comes to an end in 2012. The Protocol commits only industrialised countries to reduce their emissions, and by an average of only 5.2% below 1990 levels by 2012. This reduction is nothing like enough to keep within the 2°C temperature limit, so a new international agreement is needed on deeper, global emissions reductions for the period after the Kyoto targets expire in 2012.

The EU's concrete and legally binding commitments to emissions reductions have made it a world leader among governments. In 2007, the European Union Spring Summit saw Member States unanimously agree to be bound by law to a unilateral reduction of emissions by 20% in comparison with 1990, by 2020, and a willingness to take that to 30% if other countries came on board.

It has set out clear proposals to reach a global agreement on stabilising and then reducing emissions, the three key priorities being:

- Targets met by developed countries and appropriate actions taken by developing countries
- Addressing the financing of actions by developing countries (both to mitigate greenhouse gas emissions and adapt to climate change)
- Building an effective global carbon market

There has been a 9.3% greenhouse gas emission reduction in comparison to 1990 within the EU-27.

For the European Commission, one of the deciding factors will be how to finance support for developing countries, from whom it is hoping to see a meaningful contribution. They should start to slow the rate of growth in their emissions as soon as possible, and then reduce their emissions in absolute terms from 2020–25 onwards. As things stand, developing countries will account for 50% of global emissions by 2020.

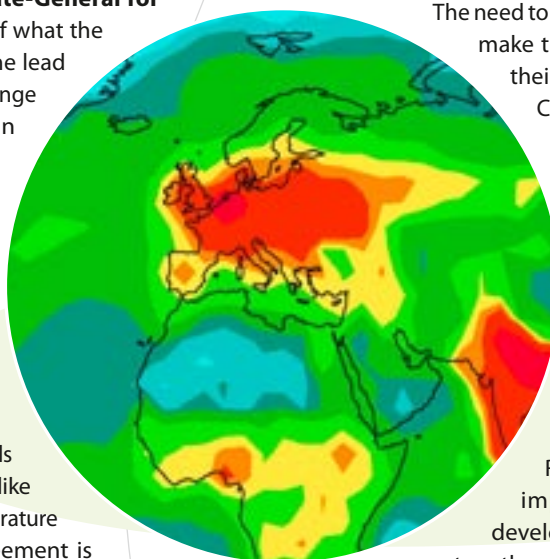
Many policy options are available to developing countries where the benefits can outweigh the costs, for example by increasing energy efficiency, promoting renewable energy, improving local air quality or capturing methane from sources such as landfills as a cheap source of energy. Such policies can be strengthened by sharing good practice in policy design and planning and technology cooperation. The EU will continue and increase its cooperation efforts in this respect.

The need to find a way to help developing countries make the vital changes through support for their economies is clear, and the European Commission is hoping to see a significant package on the table to aid the poorest countries. They see a clear need to establish how to finance emissions reduction and how much money needs to be spent in the next three years to start with, and then to work out how much will be needed in subsequent years. Sums that can only be decided on once it is known what policies are to be implemented.

Research & development is also an important component for helping developed and developing countries work together. The EU budget for climate, energy and transport research is expected to increase again after 2013, as has been the case for the Community's Seventh Research Framework Programme.

When asked if they are optimistic, the Commission points out that if we are to have a fair chance of keeping the average temperature rise under the 2°C mark then the emission of greenhouse gasses will have to peak before 2020 and then be reduced by 50% on 1990 levels by 2050. Without action the global average temperature is likely to increase to 4°C this century – something, they maintain, that simply cannot be allowed to happen.

Whether it does or does not may well be decided this December.





Decisions based on dependable data

When the stakes are so high, negotiations have to be based on uniform and reliable data and this is where the **European Commission's Joint Research Centre JRC** steps in. With its headquarters in Brussels, the centre is also present at different locations around Europe including Ispra in Italy and Seville, Spain. Its origins lie in the early days of nuclear research, but in the 60s its remit broadened to cover a wider range of issues including environment and economy.

This background means that the JRC's Climate Change Unit is ideally placed to develop and analyse the latest computer models and build accurate climate change scenarios. The data they generate is used by the United Nations and various directorates within the Commission, among others. Speaking from the Unit, Dr Frank Dentener explained the centre's role: "We want all the key policy-makers and negotiators to have access to the same data. From the US to Japan and China, we analyse the results of climate change modelling to make sure the data are comparable."

In the run up to Copenhagen, several of the JRC's institutes are hard at work developing scenarios for energy use and agriculture, to name but two. The projections they generate will show what needs to be done in order to achieve emissions targets, what the best and worst aspects of certain proposals are and how to share the burden for countries and world regions.

The tools of the trade – satellite images, computer modelling and advanced quantitative data analysis. The result – when world leaders meet in Copenhagen, their discussions will be increasingly based on independent, transparent, comparable data such as those supplied by the JRC's Climate Change Unit. Any loopholes or disparities will be more easily identifiable.

Offshore wind power, a sea change in attitude

Duration	01/07/2008 – 30/06/2011
Total Eligible Budget	€5 million
ERDF Grant	€2.3 million

While policy-makers decide on our planet's future, a project supported by regional funding is doing what it can to make a difference now.

The **POWER cluster project** focuses on some of the key challenges facing offshore wind energy development in the North Sea Region: social acceptance, business cooperation and skills development. As climate change gains recognition as a problem that has to be brought under control, the project is seeing the beginning of a change of attitude in the oil and gas industry towards renewable energy, especially in the offshore wind sector.

To further this communication and cooperation, the project brings together the sectors at conferences and fairs. It also hopes to obtain funding for a study investigating the experiences of the oil and gas industry in the North Sea Region, looking in particular at the oil and gas industry in the UK, Norway and Denmark and considering the lessons learnt and the concepts that can be transferred to the offshore wind industry in the partner regions of Denmark, Germany, Norway and the UK.

Long-term achievements and shaping policy

The project has delivered positive results in all the countries involved – experience which will potentially feed into national and international decision-making. The British government's consultation for its Energy White Paper heard from the project as did the revision of the Erneuerbare-Energien-Gesetz (Renewable Energy Source Act) in Germany.

The POWER cluster project has also worked closely with the BALTCOAST project in the Baltic, exploring what is rapidly becoming a central issue in the management of maritime use: spatial planning. It co-operated on a framework for an international coordinated use of offshore water areas, the concept behind a transnational spatial register and use strategy.





European Commission links

The home page of the Directorate-General for Regional Policy

http://ec.europa.eu/regional_policy/index_en.htm

Strategic Energy Technology Plan

http://ec.europa.eu/energy/technology/set_plan/set_plan_en.htm

European Green Capitals

http://ec.europa.eu/environment/europeangreencapital/index_en.htm

ERDF regulation after modification on energy efficiency

<http://www.europarl.europa.eu/oeil/FindByProcnum.do?lang=en&procnum=COD/2008/0245>

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:126:0003:0004:EN:PDF>

http://www.greenovate-europe.eu/content/press_release

EU climate change links

http://ec.europa.eu/environment/climat/home_en.htm

<http://ec.europa.eu/environment/climat/campaign/index.htm>

http://ec.europa.eu/climateaction/index_en.htm

Links to projects/organisations mentioned in this issue

Economist Jeremy Rifkin explains the notion of a Third Industrial Revolution

<http://www.foet.org/lectures/lecture-hydrogen-economy.html>

<http://thirdindustrialrevolution.ning.com/>

Odersun – thin film photovoltaic cells

<http://www.odersun.de/index.php?lang=en>

INCENDI project – fighting forest fires

<http://www.interreg3c.net/pdfdata/3S0132R.pdf>

La Réunion, photovoltaic solution for energy self-sufficiency

http://ec.europa.eu/environment/etap/inaction/showcases/france/415_en.html

Joint Research Centre

<http://ec.europa.eu/dgs/jrc/index.cfm>

ESPACE project – European Spatial Planning: Adapting to Climate Events

<http://www.espace-project.org/>

The POWER cluster project

<http://www.power-cluster.net/>

Carbon-neutral Antarctic research station

www.antarcticstation.org

POWER cluster project newsletter

<http://www.power-cluster.net/Newsandevents/POWERclusternewsletter/tabid/694/Default.aspx>

North Sea Region Programme

<http://www.northsearegion.eu/ivb/home/>

Popakademie

<http://www.popakademie.de/index.php?id=1115>

Swansea University Centre for NanoHealth

<http://www.swan.ac.uk/nanohealth/>

Musikpark Mannheim

<http://www.musikpark-mannheim.de/web09/>

Information about ex post evaluations can be found at

http://ec.europa.eu/regional_policy/sources/docgener/evaluation/rado2_en.htm

European Centre for Renewable Energy

<http://www.eee-info.net/cms/>

Regional Policy networking organisations

<http://www.interreg4c.eu/>

<http://www.espon.eu/>

<http://urbact.eu/>

Other useful links

Fun, green, networking site

<http://www.play4climate.eu/index.php?lang=en>

Link to key websites for the next issue

DG Regio's Inform Network

http://ec.europa.eu/regional_policy/country/commu/index_en.cfm

A NEW COMMISSIONER TAKES OVER REGIONAL POLICY

– INTRODUCING Mr PAWEŁ SAMECKI



Dr Samecki is an economist by background and is former Member of the Management Board of the National Bank of Poland where he was responsible for the bank's external relations. He has also been Poland's alternate governor for the World Bank, member of the Economic and Financial Committee and member of the International Relations Committee of the European Central Bank.

In his own words...

"European Regional Policy promotes the balanced development of the Union and aims to reduce socio-economic disparities among its regions.

With a strong focus on less developed areas, the policy invests across the EU to improve the functioning of the Single Market and enable our citizens, regardless of where they live, to enjoy the full benefits of economic integration. The policy invests in

modernising infrastructure, innovation, support for small and medium-sized enterprises and the 'green economy', with a view to increasing the global competitiveness of Europe.

Regional Policy helps regions to grow and to create jobs by maximising their strengths and potential. This policy is also a key instrument for supporting the real economy in the present time of crisis.

As the Commissioner responsible for Regional Policy, I see two main tasks ahead of me. First, to continue to simplify the policy and to accelerate project implementation on the ground, so that regions are able to mitigate negative consequences of economic recession, building the foundations for long-term, sustainable benefits. Second, to prepare a reference document on the way ahead for the policy, building on the debate initiated by my predecessor, Commissioner Danuta Hübner. I strongly believe that this policy needs to continue to evolve to ensure the regions of the EU are equipped to address the challenges we face today and in the years to come."



Ex-post evaluation

First results of the ex-post evaluation of European Cohesion Policy's 2000–2006 programmes are available. DG REGIO launched the evaluation of the ERDF in 2007, with 12 inter-linked work packages on different aspects of the policy. A synthesis to be published early in 2010. An evaluation of the Cohesion Fund will be launched shortly, with results in 2011.

The objective of the evaluations is to generate evidence on the effects of the policy and to understand what works, what doesn't and why. This evidence is debated by the Commission, Member States, regions and other stakeholders so that the policy can be improved in future.

In June 2009, DG REGIO invited evaluators of three work packages to present findings on implementation systems, effects of the ERDF on gender and demography and efficiency of major projects. The discussion involved Member State representatives and academics. This is the start of a debate which will continue at the OPEN DAYS – European Week of Regions and Cities (on environment, transport and URBAN programmes) and other events later in the year.

The Regi Parliament Committee

The new members of the Regi Parliament Committee have now been announced. The committee will be chaired by Danuta Hübner, former Commissioner for Regional Policy. Vice presidents are: Georgios Stavrakakis, Markus Pieper, Feliz Hyusmenova and Michail Tremopoulos.

The Committee is responsible for both Regional and Cohesion Policy, in particular:

- the European Regional Development Fund, the Cohesion Fund and the other instruments of the Union's Regional Policy;
- assessing the impact of other Union policies on economic and social cohesion;
- coordination of the Union's structural instruments;
- outermost regions and islands as well as cross-border and interregional co-operation;
- relations with the Committee of the Regions, interregional co-operation organisations and local and regional authorities.

Our regular update from... In each edition, Panorama finds out how two projects are unfolding from the perspective of the people managing them. We look into the highs and lows of managing ERDF funded projects: identifying the problems and sharing solutions.

PROJECT 1

INSIDE POPAKADEMIE

Mannheim, not only home to the 2 000 m² Musikpark but also to the only German university offering BA courses in modern music – Popakademie, the University of Popular Music and Music Business. For this edition Panorama visits the Popakademie, sister project to the Musikpark, our normal destination.

Facts and figures

ERDF contribution: €2.6 million
National cofinancing: €776 000

Mannheim – a town that reinvented itself

Faced with the problem of how to make the transition from industrial heartland to a town based on a modern, viable economy, Mannheim had the foresight to embrace the music industry and is now home to both the Musikpark and Popakademie. The move from manufacturing to music was a plan thought up by the mayor of culture, Dr Kurz, now the mayor of the city.

The city lends itself to the shift in emphasis, as Udo Dahmen, Popakademie's principle explains, "Mannheim has always been favoured by musicians and some of Germany's biggest acts live here." The civic authorities recognise the importance of talent, tolerance and technique. The town has the talent, the tolerance is manifest in the way it has absorbed the biggest immigrant Turkish population in Germany outside Berlin and is home to 160 different nationalities. So now they are fostering the technique, which is where the Popakademie and its connected project Musikpark come in.

Competition stiff for Popakademie courses

With around 700 hopefuls chasing 200 places, the Popakademie only opens its door to the best, "We are looking for the most talented, special people," explains Dahmen. The pop industry is unusual and the university only selects those it feels have the insight to be able to deal with it.

A look at what is on offer explains the university's popularity with two courses on offer. The music business course is the way in for event and label managers and covers marketing and artist developers. Germany's biggest record company, Universal, has moved its education programme from Berlin to Mannheim, and the department also works with MTV, Sony and AOL. For those more interested in being on stage, a course in pop music design is also on offer. This course sets out to support artists in their creative development but also gives them a firm grounding in business – none of the Popakademie's alumni are likely to fall prey to unscrupulous managers. Finally, moving with the times, there is also a course on digital

innovation management which gives students a grounding in the digital industry, intellectual property issues and internet marketing. This course is part of the business department.

"The fact that we are a university in our own right means that we can be flexible and keep in step with the industry we are preparing our students for," explains Dahmen.

And the three years do pay off: two students are on tour with British singer Sarah Brightman, another has a mix in the US top 40, and 90% of the first year's business graduates are in permanent work. It is harder to assess the situation for the musicians but it appears 85% are employed in the industry they have chosen.

Running the Popakademie

So popular is the university proving that they will also extend their primary building by adding two more floors, to house post graduate courses. "It's clear we need to go in that direction," he explains.

Dahmen is quite clear that without the help of the European Regional Development Fund (ERDF) the Akademie could not have been established. Funding for the university's main building came in at €1.7 million and they are now benefiting from a second building which has received just under €1 million from the ERDF. Overall this is 2 500 m² and houses rehearsal rooms and studios which use the latest technology. "A private investor would not invest to this extent and yet a university must invest in research. The quality of the equipment and facilities is vital," Dhamme explains.

The Akademie is a private/public partnership with 75% owned by the town and the state and the rest shared between a pool of businesses. Among the sponsors is BASF. "We have close links with them. They have 32 000 employees and have always felt the need to invest in their workers. This often takes the form of cultural activities including concerts," explains Dahmen.

Although certain the support has been vital for the success of the initiative, Dahmen is equally sure that the process of application for European funding could be simplified.

"I have to employ clerical staff just to keep track of the paper work," he says. And while the paper chase can get voluminous it can be a trial just to get the project to fit the framework of what the EU is looking to fund. "Sometimes we can't just let the project speak for itself. Perhaps because this is an unusual setup I find I often have to shape what we are doing to a pre-existing set of criteria."



PROJECT 2

INSIDE THE CENTRE FOR NANOHEALTH (CNH) AT SWANSEA UNIVERSITY

State-of-the-art building now approved

Confirmation through at the start of July means work will begin later this year on a state-of-the-art building to house the CNH. €34 million will be invested in the Life Sciences Institute, €14.8 of which was contributed by the European Regional Development Convergence Fund. Panorama's regular contact Dr Tim Claypole, member of the executive committee, is busy crunching numbers. "It is fantastic to be able to get going and feel that this next phase is secure," he explains. "Now we have to be certain about the specifications and how best to ascribe the budget".

While the building remained tantalisingly on paper only, the exact number of ventilation ducts and how to apportion floor space to the square metre were not in question. But with the building about to transform itself from architects' concept to builders' reality, suddenly each shaft matters and precise room size becomes crucial. "I have known of cases where major industrial plants have been made fractionally too small to take the equipment they have been designed to house," Claypole says.

Now they have a clearer idea of what they need, the specifications are changing slightly – bigger clean rooms and extra ventilation can push the prices up and Claypole is juggling the results of tenders. "Some can be as much as 30% lower than the highest bid, but then you have to be aware of potential hidden costs. So something that looks cheaper on paper could work out as more expensive in the long run."

It will be a demanding two years, by the end of which, the university will boast a life sciences centre to equal any other in Europe.

Old budget, new funds – revising the allocations

When you have earmarked the funding and it then takes two years to arrive you can be sure of one thing, your figures are going to be out and it'll be time to rework your budget. "It's a question of matching equipment to deliverable" he explains. Responsible for assisting a specified number of companies and the creation of certain products, Claypole is concentrating on bringing in the priority equipment to meet those targets.

One very pleasant surprise was the fact that some pieces of necessary equipment could be found on Ebay. "Since it is a competitive auction we are complying with EU rules and the result is good machinery at excellent prices." Even when the cost of repairs is factored in, the equipment still comes out cheaper than buying new. "In the current economic climate, specialist silicon foundries are going bust or moving on to other processes so surprising pieces are coming up", explains Claypole. At a time when he is busy cutting his cloth to fit his budget, this unexpected source of material is a delight.

By bringing together the worlds of academia, the private sector and the National Health Service, the CNH works to apply nanotechnology to the detection of disease and identification of appropriate treatment.

Facts and figures

Just over €21 million is to be invested in the Centre for NanoHealth under the Convergence Objective. The funding started in 2009 and runs over five years.

While the funding may be established, the search for the right people to employ on the team is never easy. When it comes to finding people in the field of printing plastic for electronics, the need for specialists can be a challenge. The project has headhunted a few of its members but the search is on for others, with approaches being made in the States and elsewhere. As Claypole puts it, "we have to ferret out the people we need."

A job description – turning concepts into reality

Those who are recruited will be playing a crucial role in the development of cutting-edge technology in Europe. Where the universities develop the concepts, it is the Centre for NanoHealth which acts as a lynchpin between theory and mass production. It is the Centre's job to take an idea developed theoretically, and turn it into a product. Businesses then take the concept, which has been proven at the Centre, into mass production.

Claypole's team is also looking at low-energy lighting in connection with the Holst Institute in Eindhoven.

Funded under the EU's Seventh Framework Programme for Research, it involves work with Philips on printing polymer-based electronics as an alternative to silicon. "One of the really interesting developments will be the potential to integrate polymer electronics into the medical field," he explains.

For Claypole it is the exploration of advanced technological theory through the sharing of know-how between research institutes that makes dealing with the builders worthwhile.

"To develop something by pooling expertise and then getting the technology out of the labs and into companies which can then be shown how to produce the item themselves is what it is all about," he explains.



COMMUNICATION – GOOD FOR THE PLANET

Communication – good for the planet

The climate change agenda has been incorporated into every aspect of EU Regional Policy and is a key part of how programmes operate and interact with one another. Various networks and programmes cover different aspects of Regional Policy, helping people pool their knowledge and creating a common link between diverse types of investment. In this edition of Panorama we take a look at ESPON, URBACT and INTERREG.

ESPON (European Spatial Planning Observation Network)

ESPON has three key aspects to its work related to climate change. It monitors the impact of climate change on different types of landscape across the EU, ensures climate change is built into policy-making decisions and supports renewable energy projects.

“Climate change is an integral part of the ESPON 2013 Programme, as it is a global trend affecting territorial development throughout Europe,” says Peter Mehlbye, Director of the ESPON Coordination Unit. “Our climate change project will be looking closely at the impact of climate on regional competitiveness and cohesion across different types of territories as well as Europe as a whole.”

Future Orientation for Cities (FOCI)

ERDF funding: €748 000

Total budget: €999 000

Duration: September 2008 – September 2010

In this study, ESPON is looking at how large cities and agglomerations develop and the impact this has on the environment. Large urban areas are a focal point for economic growth and are vital for meeting many of the Lisbon Strategy goals for jobs and improvements in living standards. At the same time they are viewed with more concern by those implementing policies linked to sustainability, such as the Leipzig Charter on Sustainable Cities.



RegEnergy

Facts and figures:

- ERDF contribution: €831 000
- Total budget: €1.2 million

Running from April 2005 – September 2007

Take a look at your boiler – food for thought about how European heating systems need to progress. Today we see rising demand for heating and cooling, reflecting climatic factors and higher expectations for living standards. But this demand is also driving costs higher and testing the environmental credentials of our main supplies.

RegEnergy, a RegioStars finalist in 2009, is helping everyone in the heating sector benefit from innovative ideas and new technology around the EU. It is an information network bringing together 18 partners in 11 countries to promote secure supplies of renewable energy sources, and at the same time narrow regional disparities relating to energy supplies and usage.

The project’s main objectives were:

- The creation of a network of regions that are innovators in the field of heating and cooling;
- The dissemination of good practice policies and information on available financing as well as supporting replication of the project in other areas;
- The identification of innovative, municipal test-cases and model policies aimed at the sustainable restructuring of the heating sector.

The people they were trying to reach included municipal and regional policy-makers and planners, regional and municipal energy utilities and companies, regional development authorities and agencies as well as those who could further the possibility of replication elsewhere, such as municipal and regional associations.

One notable success was the development of a web tool for municipal and regional decision-makers, reg-energy.org, helping them to search for examples of good practice covering policy and financing, and to develop good ways of putting sustainable heating and cooling projects into practice in their regions and communities.



The FOCI study will look at the environmental impact of inner city development, but crucially too at growth on the outskirts of urban areas and the challenges this raises. Experience of urban sprawl from the past will be combined with new concepts on sustainability to promote urban development that is positive for the economy and the environment.

ReRISK

ERDF funding: €524 000

Total budget: €700 000

Duration: July 2008 – July 2010

This two-year study focuses on opportunities to develop more renewable energy sources. It is set against the background of rising energy prices and potential energy poverty and picks up the sustainability goals agreed by EU ministers in the Territorial Agenda 2007. It will be delivering sound, balanced evidence on the regional impact of rising fuel costs and how this in turn affects the competitiveness and cohesion of European regions over the long term.

URBACT

In the field of urban development, URBACT is making sure project Lead Partners have the chance to communicate and exchange information, as they apply innovative ideas in their own specialised projects.

The work itself is entirely in the hands of the towns receiving EU funding and the priorities are set by local communities and businesses. URBACT comes into play higher up the policy chain, financing 28 networks that create communication opportunities between 181 cities and 5 000 participants across the EU, as well as in Norway and Switzerland. Each network covers economic, social and environmental themes and is headed up by a Lead Partner organisation and a Lead Expert.

INTERREG IVC

ERDF budget: €321 million

The INTERREG Programmes continue to pioneer cooperation between regions and Member States, as part of the EU's

commitment to achieving more value-added for taxpayers. This particular programme focuses on innovation and the environment for 2007–13 and is closely linked to the focus at EU level on sustainable growth, innovation and employment, known as the renewed Lisbon Strategy. Part of the gains come through a mutual exchange of knowledge, while in other cases less experienced regions can be matched with more advanced ones. Above all, this co-operation pushes best practice into the management of mainstream development programmes. "Given that the effects of climate change do not respect borders, it is clear that interregional cooperation can bring added value," says Michel Lamblin, INTERREG IVC Programme Director. "Regions can share experiences, take stock of what is already in place elsewhere, and devise the most appropriate response for their region. For the region involved, it's an obvious saving of time and money."

Two broad themes characterise INTERREG IVC projects; firstly those relating to innovation and the knowledge economy and secondly, projects concerning the environment and risk protection. In this second category many groundbreaking issues are being considered including the latest forest management and renewable energy sources.

FUTUREforest

Forests play a vital role in maintaining environmental balance and can also be the route to many improvements. The FUTUREforest project is bringing together forest management authorities in eight regions to share information on many practical issues, such as extending biodiversity, improving water balance and soil structure and building revenue from forestry products. Their collaboration will boost the level of good practice between them and provide strategic guidance for future policy decisions. Overall €1.9 million (ERDF €1.5 million) is available for this project over three years.

RegioClima

Climate change is happening whether we like it or not and the RegioClima project is bringing good out of adversity by finding ways to adapt to the changes. Just under €2 million (ERDF €1.6 million) has been allocated to the eight partners in this project, as they identify how best to accommodate climate change and how to build new approaches into their regional development programmes.





LAST ISSUE

The last edition of Panorama covered the EU Strategy for the Baltic Sea Region. With 8 000 km of coastline shared by eight EU Member States, the environmental condition of the Baltic Sea continues to deteriorate. In June 2009 the Commission adopted the EU Strategy for the Baltic Sea Region, which seeks to make this unique part of Europe environmentally sustainable, prosperous, accessible and attractive, and safe and secure. The Strategy also constitutes an important first step towards the regional implementation of the Integrated Maritime Policy. Although the Strategy itself does not have its own financing, more than €44 billion will be allocated to the Baltic under EU Regional Policy and other EU funding between 2007 and 2013. New projects will coordinate the work of a large number of people and organisations involved across the area. Touching on many aspects of day-to-day life in the region, projects will, for instance, contribute to reducing high levels of pollution in the sea, improving transport systems and energy networks and reinforcing protection from major emergencies at sea and on land. The EU Strategy for the Baltic Sea Region has been sent to the Parliament and the Council for discussion and agreement.

http://ec.europa.eu/regional_policy/cooperation/baltic/index_en.htm

NEXT ISSUE

The next edition will be on 'Communicating EU Regional Policy'. Increasing the policy's transparency and visibility of the policy has been a key element of the reform of Cohesion Policy 2007–13. In our next edition of Panorama, we will show innovative and successful examples of communication activities across the 271 regions of the EU. How to successfully communicate on a small budget, making the most of the latest media, what the communications requirements are and the reason effective communication is so important to Regional Policy will all be explored. Two regional journalists will tell you what kind of information they need to tell your story and a programme communication officer on a tight budget will share ideas on how to pull in media attention.

Write to regio-panorama@ec.europa.eu and tell us about your most successful communication action, alternatively just let us know what elements of Regional Policy are demanding your attention at the moment.

DATES	EVENT	PLACE
1 October 2009	Conference 'How does Cohesion Policy support rural development?' http://ec.europa.eu/regional_policy/conferences/agenda/index_en.cfm	Brussels (BE)
5–8 October 2009	Open Days – European Week of Regions and Cities: Global challenges, European responses http://ec.europa.eu/regional_policy/conferences/od2009/	Brussels (BE)
15 October 2009	Swedish Presidency Conference on Environment, Climate Change and Security – Facing the Challenges http://www.se2009.eu/en/meetings_news/2009/10/15/conference_on_environment_climate_change_and_security	Stockholm (SE)
15 October 2009	Workshop 'Cohesion Policy, innovation and Baltic Sea Strategy at local level' http://www.in.ee/	Tallinn (EE)
15–16 October 2009	International conference 'Ecological network in the Alps – a response to climate change that will conserve biodiversity?' http://www.alparc.org/event-calendar/events-of-alparc	Berchtesgaden (DE)
27–29 October 2009	International Symposium 'Strategies for Adapting to Climate Change in the Regions of Europe' http://www.regional-climate.eu/	Düsseldorf (DE)
30 October 2009	Workshop 'Growth and competitiveness through renewable energy resources' http://www.pohjois-savo.fi/	Kuopio (FI)
30 November – 1 December 2009	Conference 'New methods for Cohesion Policy evaluation: Promoting accountability and learning' http://ec.europa.eu/regional_policy/conferences/evaluation2009/index_en.htm	Warsaw (PL)
7–18 December 2009	United Nations Climate Change Conference (COP15) http://en.cop15.dk/ http://unfccc.int/	Copenhagen (DK)
10–12 December 2009	Swedish Presidency Conference on Cohesion Policy and Territorial Development http://www.se2009.eu/kiruna10december	Kiruna (SE)
21–22 May 2010	Annual Regions for Economic Change conference and RegioStars Awards 2010 http://ec.europa.eu/regional_policy/cooperation/interregional/ecochange/index_en.cfm	Brussels (BE)

Find out about key Regional Policy events at http://ec.europa.eu/regional_policy/conferences/agenda/index_en.cfm

MAKE YOUR VOICE HEARD

Panorama welcomes your comments and questions. The topic of the next edition will be on 'Communicating Regional Policy'.

We want to hear from you. Tell us about your communication achievements, efficient communication tools or even less successful experiences or difficulties you encountered when trying to make co-funded projects visible. We will select some of your comments and questions and put them to experts on the subject in our new Troubleshooting section. Alternatively let us know what aspect of Regional Policy is attracting your attention at the moment. So if you have something to say, say it. Get in touch to ask questions or express your views on this or any other Regional Policy issue by contacting:

regio-panorama@ec.europa.eu

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