

EUROPEAN UNION



Committee of the Regions



**The EU's Assembly of
Regional and Local Representatives**



**Subsidiarity Monitoring
Network**

ACTION PLAN 2010 OF THE SUBSIDIARITY MONITORING NETWORK

ANALYSIS REPORT

**Fighting climate change:
Involving the public in sustainable energy solutions**

Lead partner:

Regional Government of Vorarlberg, Austria



Fighting climate change: Involving the public in sustainable energy solutions
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Key points

1. Background

The main ideas and targets necessary for fighting climate change have been gathered and agreed at international and EU levels, but they will become reality only if local and regional authorities also take them to heart and implement them. At the same time, the indispensable reduction of Greenhouse Gas (GHG) emissions through sustainable energy policy cannot be tackled by the local and regional levels alone. The political response must therefore be coordinated between all spheres of governance in order to achieve the best results at the level closest to the citizen.

The activities of the working group show that the principle of subsidiarity is not only a "defence mechanism" aimed at safeguarding the competences of the levels of governance closer to the citizens, but also a positive concept guiding the efficient exercise of shared competences within the EU and thus focusing on constructive synergies and solutions.

The working group's members highlight these synergies by their best practices, whilst demonstrating that ambitious climate goals cannot be achieved without the contribution of the local and regional levels: climate efforts must be supported by everyone. The relevant stakeholders including citizens, local and regional businesses and associations have to be convinced of the need for changes in the production and use of energy in order to reduce GHG emissions. Local and regional authorities work at the level closest to these actors and are thus in a privileged position to interact with them.

2. Group members and their best practices

- **Regional Government of Vorarlberg, Austria** (*lead partner*)
Best practice: Energy future Vorarlberg
- **Netwerk Stad Twente** (consisting of the municipalities of Enschede, Hengelo, Almelo, Borne and Oldenzaal), **represented by the municipality of Hengelo, Netherlands**
Best practice: Energy saving of minimum wage earners
- **City of Gothenburg, Sweden**
Best practice: Travel coach project
- **Municipality of Erlangen, Germany**
Best practice: Energy Alliance for efficiency and climate protection
- **Regional Government of the Basque Country, Spain**
Best practice: Electric Vehicle

3. Conclusions

The contribution which local and regional levels make to the achievement of EU climate protection goals is indispensable and the outcome of successful local and regional initiatives must be acknowledged and better utilised at EU level:

- The respect of the subsidiarity principle is particularly relevant in the fight against climate change. Since all levels of governance are involved, it has to be ensured that the relevant decisions are taken as closely as possible to the citizen by the most appropriate level, where the climate protection objectives can be most effectively achieved.
- EU initiatives must therefore leave the local and regional levels sufficient room for manoeuvre and flexibility to carry out their own efficient policies, complementing or even going beyond EU initiatives and therefore making a vital contribution to the success of the fight against climate change. In addition, the EU level should take existing local and regional activities into account when defining its objectives and initiatives.
- Not only the central level of the Member States, but also the local and regional levels, must be involved in shaping EU climate change and energy policy. The involvement of these levels in EU decision making, via the CoR's participation in this process, is thus essential.
- However, this must also be complemented by other kinds of effective and regular involvement by local and regional levels. For example, hearings with regional and local authorities on EU climate change and energy initiatives that have a direct impact on the regional and local level should be organised systematically by the relevant EU institutions. The results of every hearing should be comprehensibly taken into account by the decision-making institutions.
- Consultation of local and regional authorities in the pre-legislative phase of the EU-decision making process is vital: the EU level should assess the potential impact of its initiatives on the local and regional level systematically. Efficient involvement of these levels in the European Commission's Impact Assessments is thus essential. This can be achieved, inter alia, via the CoR's Subsidiarity Monitoring Network, which can contribute to Impact Assessments after having consulted its partners and other relevant local and regional stakeholders.
- Climate change and energy policy are part of the EU 2020 Strategy. They should also be among the main thematic priorities of EU Cohesion and Structural Funding Policy after 2013. Resources should be focused on a limited number of priorities.
- The EU must acknowledge the importance of the strategies and processes for changing public behaviour, which have been introduced and conducted successfully by local and regional authorities. Without these activities, the EU could not fulfil its ambitious climate protection targets. Accordingly, processes for involving local and regional authorities in climate protection issues should be fostered, either through an existing EU funding programme or through a new EU programme set up specifically for this purpose.
- With respect to climate protection and energy matters, the EU should step up its efforts to foster transnational networks and associations of local and regional authorities, such as the Covenant of Mayors. Such forms of enhanced cooperation give local and regional authorities the opportunity to set objectives which go beyond those set at national or EU level, thus helping to take the fight against climate change to deeper levels.

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1. The challenge

“If left unaddressed, by 2030 the energy situation in Europe will be one of increasing need and declining supply. Dependency on high priced imports of oil, gas and coal from third countries will increase from its current 50 per cent to about 60 per cent while fossil fuels could represent up to 80 per cent of Europe’s energy mix. On top of this, supplies will be drawn from some of the world’s most politically volatile areas. Given the sheer energy intensity of our economies, the scope for vulnerability and turbulence is immense.

As if this were not enough, the impact of climate change on the global economy could dwarf the impact of the current financial and economic crisis. Failure to take adequate measures could result in a significant rise in the planet’s temperature by the end of the century, leading to the disappearance of whole regions, huge flows of climate refugees and to billions being left without water. At best, we would face changing patterns of desertification, rising sea levels, severe drought and higher temperatures – with all their respective consequences”¹

2. Group Members

- Regional Government of Vorarlberg, Austria (*lead partner*)
- Netwerk Stad Twente (consisting of the municipalities of Enschede, Hengelo, Almelo, Borne and Oldenzaal), represented by the municipality of Hengelo, Netherlands
- City of Gothenburg, Sweden
- Municipality of Erlangen, Germany
- Regional Government of the Basque Country, Spain.

¹ Project Europe 2030, challenges and opportunities, a report to the European Council by the independent Reflection Group on the Future of the EU 2030, published in May 2010, see: <http://www.reflectiongroup.eu/2010/06/16/project-europe-2030-translations/>

3. State of play

3.1 The problems posed by climate change

Climate change or “global warming”² is the increase in the average temperature of the Earth's near-surface air and oceans since the mid-19th century and its projected continuation. According to the 2007 Fourth Assessment Report by the UN Intergovernmental Panel on Climate Change (IPCC), global surface temperature increased 0.74 ± 0.18 °C during the 20th century. Twelve of the thirteen hottest years on record have occurred since 1995. There is considerable scientific evidence that the risk of irreversible environmental changes will greatly increase if global warming reaches 2° C or more above the pre-industrial temperature (equivalent to around 1.2°C above today's level).³

The vast majority of the world's leading climate experts attribute this trend mainly to an increase of greenhouse gases (GHG) emitted by human activities, in particular the burning of fossil fuels and the destruction of forests. The effects of this warming, such as more frequent extremes of weather, rising sea levels, glacier retreat and disappearance, and the melting of polar ice, threaten the environment and our economy and will impact agriculture and food production.

Thus global warming is one of the most important challenges policy makers are facing nowadays. Limiting climate change requires action at international and EU level on the one hand, and at local, regional and national level on the other hand.

3.2 Action at international level

Two major international agreements have been adopted to address climate change: the UN Framework Convention on Climate Change (UNFCCC)⁴ of 1992 on the one hand and the Kyoto Protocol on the other hand. The UNFCCC establishes an overall framework for intergovernmental cooperation.

The Convention is complemented by the 1997 Kyoto Protocol⁵, which has 193 Parties and entered into force in 2005. Its major feature is that it sets binding targets for 37 industrialised countries and the EU for reducing greenhouse gas emissions. These amount to an average of 5.2 % against 1990 levels over the five-year period 2008-2012. The EU as a whole has agreed to reduce its GHG emissions by 8 %. Countries with commitments must meet their targets primarily through national measures.

² The current anthropogenic climate change is more generally known as global warming.

³ For further information see the documentation of the Intergovernmental Panel on Climate Change http://www.ipcc.ch/publications_and_data/ar4/syr/en/mains1.html

⁴ For further information see <http://unfccc.int/2860.php>

⁵ For further information see http://unfccc.int/kyoto_protocol/items/2830.php

The negotiations on an international climate agreement for the post-Kyoto period were due to be concluded at the UN Climate Change Conference in Copenhagen in December 2009. This agreement should take effect at the start of 2013 when the Kyoto Protocol's first commitment period will have expired. However, the Copenhagen Accord only represents a step towards a legally binding agreement as it does not include binding commitments to cut GHG emissions. The conference therefore mandated the relevant two ad hoc working groups to complete their work at the next United Nations Climate Change Conference. This conference was held in Cancún, Mexico, in November / December 2010 and led to the Cancún Agreements which outline a path to a detailed reduction agreement. Industrialised countries have to develop low carbon development plans and strategies. The parties agreed to continue negotiations with the aim of completing their work and ensuring there is no gap between the first and second commitment periods of the Kyoto Protocol. Furthermore, a Green Climate Fund consisting of \$30 billion from industrialised countries to support climate action in the developing world up to 2012 and the intention to raise \$100 billion by 2020 is included in the decision.⁶

3.3 Action at EU level⁷

The EU has been taking steps to limit its GHG emissions since the early 1990s. In June 1990, climate change was on the agenda of the European Council for the first time, with EU leaders calling for “targets and strategies” to be agreed for limiting GHG emissions. However, these targets were not specified. Thus the EU climate policy framework made little progress in the 1990s. In addition to harmonised energy efficiency standards for some consumer products⁸ the Member States were required to establish programmes to limit CO₂ emissions through energy efficiency⁹ and to establish monitoring mechanisms for CO₂ and other GHG emissions¹⁰.

At the beginning of the 2000s the EU accelerated its activities to curb GHG emissions. In March 2000 the European Commission launched the European Climate Change Programme (ECCP), a multi-stakeholder process to prepare common and coordinated policies and measures against climate change. One of the priority areas was the elaboration of an EU-wide Emissions Trading System (ETS).¹¹ Furthermore, the GHG monitoring mechanism was completely revised to implement the Kyoto Protocol¹² which the EU and its Member States ratified in 2002 announcing at the same time a burden-sharing agreement setting out reduction targets for the EU as a whole and for each Member State.

In March 2007 the European Council made the commitment that the EU will cut its emissions to 30 % below 1990 levels by 2020, provided other developed countries commit themselves to making

⁶ For further information see <http://unfccc.int/2860.php>

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⁸ For hot-water boilers: Directive 92/42/EEC, for household refrigerators and freezers: Directive 96/57/EC, for fluorescent lighting ballast: Directive 2000/55/EC

⁹ “SAVE” - Directive 93/76/EEC

¹⁰ Decision 93/389/EEC, amended by Decision 1999/296/EC

¹¹ Directive 2003/87/EC

¹² Decision 280/2004/EC amending the Decision mentioned in footnote 10

comparable reductions in the framework of a global agreement. At the same time, EU heads of state and government agreed on the 20-20-20 package, which in 2010 was integrated into the EU 2020 Strategy. They

- made the firm commitment to achieve at least a 20 % reduction of GHG emissions from the 1990 levels by 2020;
- agreed to increase the share of renewable energy sources in the EU energy supply to 20 % by 2020, including a binding minimum target of 10 % for the share of biofuels in transport by 2020;
- approved the objective of saving 20 % on the EU's projected energy consumption for 2020.

This commitment is being implemented by a package of binding legislation which was finally adopted in April 2009. The core of the climate and energy package consists of the following pieces of legislation:

- A Directive revising the ETS, which covers some 40% of GHG emissions¹³: A single EU-wide cap on emission allowances will apply from 2013 and will be curtailed annually, reducing the number of allowances available to businesses to 21% below the 2005 level in 2020. The free allocation of allowances will be progressively replaced by auctioning, and the sectors and gases covered by the system will be somewhat expanded.
- An “effort-sharing” Decision¹⁴: This Decision lays down binding national targets for emissions from sectors not covered by the ETS (e.g. households, buildings, transport, services, agriculture and smaller industrial installations). Under the above-mentioned Decision each Member State has to agree to a binding national emission limitation target for 2020. The targets take into account the per-capita GDP of the Member States and reflect therefore their relative wealth. The targets range from an emissions reduction of 20 % by the richest Member States to an increase in emissions of 20 % by the poorest Member States. Member States can also transfer part of their GHG emissions allocations to subsequent years or to other Member States, as well as acquire credits from Clean Development Mechanism (CDM) and Joint Implementation (JI) projects.
- The new Renewable Energy Directive¹⁵: This Directive lays down mandatory national targets for Member States' use of renewable energy sources in the energy mix (electricity, heating and cooling, transport sector) adding up to 20% of the EU's total energy consumption by 2020. Firstly all Member States are to increase the share of renewable energy by 5.5 %; secondly further binding increases were apportioned on the basis of GDP. The Directive also provides that by 2010 at least 10 % of each Member State's fuel consumption for all forms of transport must be renewable (e.g. biofuels, hydrogen, green electricity). Biofuels must meet agreed sustainability criteria.
- A Directive creating a legal framework for the safe and environmentally sound use of carbon capture and storage (CCS) technologies¹⁶: CCS is a bundle of technologies that capture the CO₂ emitted by industrial processes and store it in underground geological formations where it cannot contribute to global warming. The Directive establishes a legal framework aimed at the safe and responsible use of the technology.

¹³ Directive 2009/29/EC amending Directive 2003/87/EC

¹⁴ Decision 406/2009/EC

¹⁵ Directive 2009/28/EC

¹⁶ Directive 2009/31/EC

The individual elements of the climate and energy package together regulate the whole of the EU's GHG emissions, determine the division of the reduction efforts between ETS and non-ETS sectors and set the framework for how best to create synergy in achieving the objectives set by the European Council for 2020. Furthermore, three other measures relating to climate change were proposed by the Commission prior to 2008: the Directive amending the Emission Trading Directive with a view to including aviation activities in the ETS¹⁷, a Directive setting new harmonised specifications for liquid fuels aimed at curbing emissions not only of CO₂ but also of other air pollutants¹⁸ and a Regulation setting emission performance standards for cars¹⁹.

The legislative package does not directly address energy efficiency, but this is being done through a legally non-binding Communication of the European Commission, the Energy Efficiency Action Plan²⁰. The Action Plan outlines a framework of policies and measures with a view to intensify the process of realising the over 20% estimated savings potential in the EU annual primary energy consumption by 2020. The plan lists a range of cost-effective measures. On the basis of the Action Plan the Directive establishing a framework for the setting of eco-design requirements for energy-using products²¹ was established. Furthermore, a national programme for energy end-use efficiency and energy services²² has to be set up by the Member States. The programme has to include an indicative energy savings target for the Member States, obligations on national public authorities as regards energy savings and energy efficient procurement and measures to promote energy efficiency and energy services. Another important piece of legislation is the Directive on the energy performance of buildings²³. The Member States must apply minimum requirements as regards the energy performance of new and existing buildings, ensure the certification of their energy performance and require the regular inspection of boilers and air conditioning systems in buildings. In June 2009, the Directive on the promotion of clean and energy-efficient road transport vehicles²⁴ entered into force. The directive aims at a broad market introduction of environmentally friendly vehicles.

The report from the Commission on "Progress towards achieving the Kyoto objectives"²⁵ indicates that the EU-15 will reach its Kyoto targets. However, the Commission's latest projections indicate that the implemented policy measures would not be sufficient to reach the EU emissions reduction targets in the year 2020. Despite the positive trends towards the Kyoto Protocol commitment achievement, more effort and additional policies will be necessary to achieve the 2020 objectives. Furthermore, the report states that energy supply and use is the most important sector, accounting for approximately 60% of total EU-15 GHG emissions in 2008.

¹⁷ Directive 2008/101/EC

¹⁸ Directive 2009/30/EC

¹⁹ Regulation 443/2009/EC

²⁰ Action Plan for Energy Efficiency: Realising the Potential, COM (2006)545 final

²¹ Directive 2009/125/EC

²² Directive 2006/32/EC

²³ Directive 2002/91/EC

²⁴ Directive 2009/33/EC

²⁵ COM (2010)569 final

In November 2010, the European Commission adopted the Communication “Energy 2020 – a strategy for competitive, sustainable and secure energy”²⁶. The Communication defines the energy priorities for the next ten years and sets the actions to be taken in order to tackle the challenges of saving energy, achieving a market with competitive prizes and secure supplies, boosting technological leadership, and effectively negotiate with international partners. On the basis of these priorities and actions, the Commission will come forward with concrete legislative proposals. This communication also sets the agenda for the discussion of Heads of States and Governments at the very first EU Summit on Energy in February 2011. Furthermore, the Commission has adopted a Communication on energy infrastructure priorities²⁷.

3.4 Position of the Committee of the Regions

Since 2005, the CoR has adopted several opinions as well as a resolution covering a wide range of climate and energy-related issues. In the resolution “Climate change - The Road to Copenhagen”²⁸, the CoR emphasised that many local and regional authorities already make a key contribution to the success of European climate and energy policy initiatives and play a crucial role in implementing the respective policies, also through measures in the field of public communication. Furthermore, the CoR called on the European Commission and the Member States to apply the subsidiarity principle when developing and negotiating new policy on climate change-related issues that may have significant impact on local and regional authorities and their citizens.

In several opinions²⁹ the CoR has reminded the other EU institutions that local action is a key to meeting the 20% energy efficiency targets and highlighted the need for local and regional authorities to be recognised as pivotal actors in the struggle against the harmful effects of climate change, since they were ready to assume the co-responsibility and they were also taking action to adapt to the consequences. Further opinions of the CoR cover the following subjects: reforming the EU ETS³⁰, energy performance of buildings³¹ and reduction of industrial emissions³². Two outlook opinions were adopted in October 2010, one on the role of local and regional authorities in the future environmental policies³³, another on the upcoming Commission proposal for an “Energy Action Plan for 2011 – 2020”³⁴. Moreover, the Committee adopted an opinion on the Commission's Communication on international climate policy post-Copenhagen in December 2010 where it “draws attention to the particular role played here by sub-national levels of government, in particular local and regional decision-making bodies in Europe, whose closeness to ordinary people puts them in a key position

²⁶ COM (2010) 639 final

²⁷ COM (2010) 677 final

²⁸ Resolution on “Climate Change: the Road to Copenhagen”, CdR 176/2009

²⁹ For example: How regions contribute to achieving European climate change and energy goals, CdR 241/2008; Opinion on the Commission's White Paper “Adapting to Climate Change: Towards a European Framework for Action, CdR 72/2009

³⁰ Limiting global climate change to 2 °C and the inclusion of aviation in the Emission Trading System, CdR 110/2007; Emission allowance trading, CdR 161/2008

³¹ The energy performance of buildings in the Second Strategic Energy Review, CdR 8/2009

³² Industrial emissions, CdR 159/2008

³³ CdR 164/2010

³⁴ CdR 244/2010

when it comes to implementing climate protection measures”³⁵. Finally, an opinion on biomass sustainability was adopted in January 2011³⁶.

The CoR's consultative work is accompanied by various activities and events in the field of climate change. For instance, the CoR has given its full political support to the Covenant of Mayors³⁷, an initiative created by the European Commission in 2008 to reduce GHG emissions. In May 2010, the CoR launched a survey on “Sustainable Energy Policy by EU Regions and Cities: Good Practices and Challenges”. In association with the Covenant of Mayors, the CoR's Europe 2020 Monitoring Platform³⁸ collected information from local and regional authorities across Europe on how they are facing up to the challenges in the field of climate change. The objective of the survey was to understand the policy options being implemented at the local and regional level in sustainable energy, the challenges facing local and regional authorities and the main areas of success, as well as providing examples of good practice across European regions and cities. The conclusions, which are drawn from specific examples of initiatives and projects, show that sustainable energy initiatives follow an integrated approach and that multilevel governance is an essential element in most of them³⁹.

³⁵ CdR 245/2010

³⁶ CdR 312/2010

³⁷ <http://www.eumayors.eu/>

³⁸ The 2020 Monitoring Platform is a network of local and regional authorities and an electronic platform at the same time. It aims to assess the EUROPE 2020 Strategy from the point of view of EU regions and cities. <http://portal.cor.europa.eu/europe2020/Pages/welcome.aspx>

³⁹ <http://portal.cor.europa.eu/europe2020/news/Pages/2010/SustainableEnergySurvey.aspx>

4. Subsidiarity Reflections regarding the subject matter

4.1 Climate Change and Energy Policy – a multilevel playing field

Climate change is a global problem with increasing effects occurring at various levels. This means that decisions on how to fight climate change and on energy policy as a major part of the necessary measures in this fight involve multiple levels of governance. Multilevel governance, characterising the changing relationships between actors situated at different territorial levels, is therefore an essential element in sustainable energy policy making.

In the view of the Committee of the Regions, multilevel governance is meant to be coordinated action by the European Union, the Member States and their local and regional authorities. “It leads to responsibility being shared between the different tiers of government concerned and is underpinned by all sources of democratic legitimacy and the representative nature of the different players involved. By means of an integrated approach, it entails the joint participation of the different actors in the formulation of Community policies and legislation, with the aid of various mechanisms (consultation, territorial impact analyses, etc.). Therefore, multilevel governance is not simply a question of translating European or national objectives into local or regional action, but must also be understood as a process for integrating the objectives of local and regional authorities within the strategies of the European Union. Moreover, multilevel governance should reinforce and shape the responsibilities of local and regional authorities at national level.”⁴⁰

The successful implementation of multilevel governance depends on the respect of the principle of subsidiarity as a political principle of governance, designed to ensure that decisions are taken as closely as possible to the citizen by the most appropriate level where the intended objective(s) can be most effectively achieved. According to Article 5(3) of the Treaty on European Union, “in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central or at regional and local level, but can rather, by reason of the scale or effects of the proposed action be better achieved at Union level.”

4.2 Competences of the different governance levels

It is clear that the fight against climate change – with energy supply and energy use contributing to 60% of the GHG emissions – is a global issue that requires global solutions involving coordinated action by all major GHG emitters. It is essential, then, for the European Union to address the major energy challenges facing us today.

The EU has been gradually establishing a common energy policy over the process of time. Initially, EU initiatives in this area were based on Treaty provisions from a variety of different policy fields,

⁴⁰ Committee of the Regions’ White Paper on Multilevel Governance, CdR 89/2009

such as the environment and the common market. The Lisbon Treaty has now introduced a specific legal basis for EU energy policy: Article 194 of the Treaty on the Functioning of the European Union. Article 194 provides for the establishment and functioning of the internal energy market. It aims, in a spirit of solidarity between Member States, to ensure the functioning of the energy market, security of energy supply in the EU, promote energy efficiency and energy saving and the development of new and renewable forms of energy and promote the interconnection of energy networks. Energy policy is a shared competence between the EU and its Member States, hence the subsidiarity principle applies. Therefore, the EU's action in this field has to be necessary and provide a clear benefit, compared with action at national, regional or local levels.

In energy policy, Member States play an important role. Within the Member States, energy policy is often simultaneously conducted at various levels: the central, the regional and the local level.

In Austria, the Federal Constitution allocates energy policy responsibilities either to the federal level or to the *Länder* level or to the joint federal and *Länder* level. Legislative responsibilities of the federal level are supply of gas, taxation, statistics, metering and emergency supply. Joint responsibilities of the federal and the *Länder* level are the supply of electricity and heat, energy efficiency and conservation, subsidies and implementing regulatory control of energy companies. At the *Länder* level, the governments of the nine *Länder* have responsibility for policy making in energy-related areas such as construction law, land use planning etc. and setting subsidy levels. They also set up their own climate strategy programmes, e.g. the programme “energy future Vorarlberg”. The Austrian Energy Agency was established by the federal government to promote clean energy use in Austria. Most of the *Länder* have energy agencies undertaking activities similar to that of the Austrian Energy Agency, e.g. in Vorarlberg the Energy Institute was established. Local communities often adopt their own strategies for climate protection, e.g. strategies in the framework of the e5 programme for energy-efficient communities.

In Germany, the federal level has made use of its legislative competences concerning energy and climate protection and passed numerous laws covering these fields. The *Länder* are involved in shaping energy policy through the Bundesrat participating in the adoption of legislation. They are primarily responsible for the implementation of national law. In the framework of climate and energy policy, the *Länder* have a certain room for manoeuvre because they can set their own climate protection strategies complementing the national protection objectives with concrete measures tailored to their specific regional situation. Furthermore, through measures based on their own competences, for example regional impact assessments procedures and by defining funding priorities they can, to a certain degree, create their regional "energy landscape" concentrating, for instance, on specific renewables. Moreover, climate alliances, such as the Energy Alliance for efficiency and climate protection of the municipality of Erlangen (mentioned below, pt. 5.4) were initiated at local level intending to foster climate protection and sustainable development.

Finally, the German Energy Agency (DENA) promotes sustainable energy, mainly through providing technical and financial support for projects concerning energy efficiency and renewables. The DENA works in close cooperation with the energy agencies of the *Länder* and with local contact points that are active in energy efficiency.

Energy policy making in the Netherlands is centralised. The role of the provinces is limited to executing environmental policy by issuing permits and monitoring licences, and spatial planning policy by issuing licences. The Netherlands Agency for Energy and Environment (Agentschap NL) acts as the intermediary between the central government, local governments and market forces. Agentschap NL supports the government by managing energy and environmental programmes. The Energy Council (AER) – an independent advisory board for government and parliament – advises on energy policy, especially on strategic problems.

In Spain, energy policy is directed by the central government. However, the national government does not have the competence to totally exclude the intervention of the Spanish Regions (called “Autonomous Communities”). In this sense, the Spanish Constitution foresees the possibility for the regions to develop the legal base settled by the national legislator as a common framework. Therefore, the regions have their own regional legislation: a large number of regional rules have been adopted and own energy policies have been designed. Furthermore, regions apply and implement the national legislation in the field of energy in their territories.

Regardless of the national competences, the Spanish regions are also responsible for the promotion of renewable energies and energy efficiency in their respective territories. Therefore, regional grants in this field are established from their own budgets. Moreover, regions can manage the grants’ administrative procedures allocated in the general budget. This power is a consequence of the executive competences that these regions have on energy.

Beside the Spanish state and regions, there are other actors and organisations subordinate to the Spanish ministries or regions. One of them is the Institute of Energy Diversification and Saving “IDAE” attached to the Spanish Ministry of Industry, Tourism and Commerce. IDAE aims at implementing the objectives on energy efficiency and saving, and renewable energy as well. The Institute is working both with the central government, the regions and international organisations. Moreover, most of the autonomous regions have their own energy agencies with similar functions.

Sweden has a unitary government with active local authorities. Development of energy policy rests with the central government. The Swedish National Energy Agency is the central government body responsible for the main authority functions within the energy area. It is responsible for co-ordinating the energy policy programme and implementing its components. It also monitors the programme implementation. Additional government agencies dealing with energy include the Swedish Agency for Innovation Systems (VINNOVA) that promotes sustainable growth by financing research and development, and developing effective innovation systems and the Swedish Board of Housing, Building and Planning which responsible for promoting the efficient use of energy in buildings.

4.3 Contribution of local and regional authorities to the compliance with national and EU climate change objectives

Local and regional authorities have an important role to play for the success of the European energy and climate change strategy. On one hand, they are important players in the energy field due to their responsibilities in many areas where substantial CO₂ reductions and energy savings are possible. In the struggle against the effects of climate change many regions have their own legislative powers, some of which are exclusive while others are shared with their respective Member State. These legislative powers of the regional level range from the planning and drafting of their own legislative acts to the implementation of national and even EU law. The regional as well as the local level is responsible for the implementation of energy and energy-related policies, and they are thus likely to be a primary implementer of EU or national energy policy.

Furthermore, local and regional authorities, in the exercise of their responsibilities, may draw up strategies and take a leading role in instigating initiatives that have a direct effect on a successful compliance with European objectives, hence the local and regional levels contribute to compliance with the aims set out in the Europe 2020 Strategy. For example, Vorarlberg has integrated into its Constitution support for climate protection. For this purpose, Vorarlberg has, according to its Constitution, to promote measures to increase energy efficiency and commits itself to the sustainable use of renewable energy, while opposing the operation of atomic plants. In a common decision of all political parties, the regional parliament established the goal of Vorarlberg being an energy autonomous region by 2050.

Regional and local authorities may innovate in their response to challenges of sustainable development and climate change, either within a context of EU or national legislation or entirely independently. These levels are ready to comply with obligations on energy saving imposed by the European Union and some have even committed themselves to taking more steps and going further. Some regional and local governments have considerable experience in addressing environmental impacts in the field of energy management, and to reduce those impacts. Many have undertaken innovative measures, and these innovative regional or local activities may even anticipate relevant initiatives at the European level. This is the case for a project of the Basque Country concerning energy certification: CADEM, the Basque Centre for Energy Saving and Development and Mining (EVE Group) developed already between 1985 and 1993 a model for energy certification of buildings. The buildings that obtained the provisional certificate were supervised during the building process. After completion, an energy study of the building was carried out and, if appropriate, the definitive certificate was granted. Since 1993, 406 provisional certificates and 217 definitive certificates have been granted in the Autonomous Community of the Basque Country, which in terms of homes, represents 27 256 and 12 349, respectively. The PET (petroleum equivalent tonnes) saved amount to 8 576. In 2002, Directive 2002/91/EC on the energy performance of buildings entered in force at European level. Its aims and methods are similar to the Basque certification project.

Moreover, local and regional authorities play a leading role in encouraging changes in the behaviour of individuals as they are the closest level to local communities, and can therefore best encourage greater awareness among citizens. As the Committee of the Regions stresses in its opinion on the Commission's Communication on international climate policy post-Copenhagen⁴¹, a change in values in favour of resource-efficient and climate-friendly practices can only happen from within society. Ambitious climate goals cannot be achieved without their contribution. Citizens, local and regional business, associations etc. have to be convinced of the necessary change of production and use of energy in order to reduce GHG emissions. Local and regional authorities work at the level closest to these actors and thus are in a privileged position to interact with them. Therefore, the successful implementation of EU energy policy aimed at fighting climate change largely depends on the success of local and regional authorities' activities to communicate ideas and involve the relevant actors in this fight.

Through these different practices, local and regional authorities exercise a certain degree of influence on GHG emissions in ways that directly impact the ability of national governments and the European institutions to reach targets they have agreed to internationally.

4.4 Interaction between the different spheres of governance

It is essential for relevant levels to cooperate and orientate their policies in the same direction, towards a common objective shared by all. By aligning (this does not necessarily mean harmonising) objectives and priorities at a European, central, regional and local level, it is possible to intensify the action and to better contribute to the fight against climate change.

Within some Member States, such as for example in Austria and Germany, there is intensive coordination in the shaping of energy policy between the national and the regional levels. The regions are involved in policy making through several means, e. g. joint legislative responsibilities (Austria), joint agreements, the respective Bundesrat, ministerial-level conferences, joint committees and working groups.

The local and regional level is not acting in the field of energy policy in isolation. The growth of interregional and even cross-boundary and transnational networks and partnerships concerning environmental and climate change issues has been significant. Several local and regional authorities are part of networks or have partnerships with other municipalities and regions. An example of a strong network is the Bavarian Climate Alliance that integrates existing climate protection activities. The aim of the alliance is to raise awareness for climate protection.⁴² Within this alliance, agreements with different stakeholders are concluded, information and training courses are provided and joint actions of all climate alliance partners are initiated, such as the Bavarian Climate Week. These networks and partnerships may influence other regional and local authorities and facilitate similar activities to be carried out by these actors.

⁴¹ CdR 245/2010

⁴² http://www.stmug.bayern.de/umwelt/klimaschutz/klimaprogramm/doc/klimaprogramm2020_en.pdf

Furthermore, it is also essential for the EU to involve not only the Member States' central level, but also the local and regional levels in the decision-making processes of energy policy, both when designing major strategies that determine the framework of action to combat climate change and when agreeing on the objectives to be complied with.

According to Article 194 of the Treaty on the Functioning of the European Union, the measures necessary to achieve the objectives of EU energy policy are adopted after consultation of the Committee of the Regions. The local and regional authorities, represented by the Committee, are therefore in this way involved in the EU decision-making process. Furthermore, Article 16 of the Treaty on European Union provides that the Council of the EU shall consist of a representative of each Member State at ministerial level which means that regional ministers may represent their Member State. In some Member States, e.g. Austria, Germany and Spain, this possibility is fixed legally.

However, in the area of climate change and energy policy the time has come to act together: from a “local and regional” level to a “national, European and international level”. It is necessary to adopt a “bottom-up” approach, an approach that truly involves all levels in the decision-making process. While the EU level and Member States may be responsible for alleviating climate change risks, they cannot fulfil this task without addressing the source of risks – energy use – at local and regional levels. On one hand, the international, EU and national levels are important for the interpretation of climate change as a policy problem and for the setting of global objectives. Moreover, the EU level, but especially Member States, have influence on the capacities of local and regional levels to develop and implement climate protection policies. For example, the EU level and Member States are responsible for relevant sectoral policies (like transport, setting of standards for construction products) that influence climate policies, and Member States often provide financial means for regional and local authorities. On the other hand, the inter-, supra- and national levels increasingly rely on sub-national levels. Furthermore, climate and energy efforts must be supported by everyone.

4.5 The principle of subsidiarity as leading principle

As fighting climate change and energy policy are multilevel tasks, the application of the subsidiarity principle is perceived as very relevant in these fields. Therefore, it is logical that a framework of activities and common objectives in the EU shall correspond “a priori” to the two basic conditions that a concrete EU action taken on the basis of shared competences must respect in order to comply with the subsidiarity principle:

- The proposed EU action has to be necessary, in other words, it cannot be carried out at central, regional or local levels in order to achieve the intended objective(s).
- The EU action has to provide a clear benefit, by reason of its scale and/or effectiveness, compared with action at central, regional or local levels.

On the basis of these criteria, actions like the setting of common climate change objectives and energy standards, the completion of the common energy market and of the access for all users to affordable,

secure energy and the building of external energy policy capacities can only be carried out at EU level.

However, there are fields in the fight against climate change where action at EU and national level is not sufficient, but has to be completed by activities at the local and regional level: As climate efforts must be supported by everyone, citizens, business, associations etc. have to be convinced of the necessary change of production and use of energy in order to reduce GHG emissions⁴³.

The main goal of participation and communication processes involving the public in the fight against climate change is to make the relevant target groups feel responsible for their decision making and behaviour in the field of energy use. Local and regional authorities work at the level closest to the citizens, local and regional business and associations and are thus in a privileged position to interact with them. They can launch and carry out participation and communication campaigns which are tailored to the characteristics and needs of these target groups and can be “personalised”. Therefore, all of these actors can be involved more individually and thus in a very efficient way which is an essential condition and critical to the success of such processes. Furthermore, the more common the cultural background is, the easier it is in general to come to common concrete objectives to be achieved through the relevant process. Likewise, the Fourth IPCC Report recommends: “*Changes in development paths emerge from the interactions of public and private decision processes, involving government, business, and civil society. The process is most effective when actors participate equitably (...)*.”⁴⁴

Focusing on the five examples of “best practices” discussed in Chapter 5, it can be seen that regions and municipalities represent the appropriate level of governance to involve the public in the fight against climate change, and contribute to intelligent solutions in this fight, bearing in mind the local and regional conditions, the habits and patterns of behaviour of the relevant actors as well as their ability to change their behaviour in the required manner. Furthermore, these examples show that a successful implementation of EU energy policy aimed at fighting climate change largely depends on the success of local and regional authorities' activities in communicating ideas and involving the relevant local and regional actors in this fight.

The project of Vorarlberg “energy future Vorarlberg” is based on a broad participation process demanding a high degree of commitment and responsibility. This project framework was chosen due the conviction that ambitious climate protection targets can only be reached if all relevant actors are involved in the process and agree on the actions that have taken in the region. The whole process is constantly evolving and reached in the consensus of all regional political parties aimed at Vorarlberg becoming an energy autonomous region by 2050.

⁴³ More than 80 % of EU GHG emissions come from the production and use of energy and from transport.

⁴⁴ IPCC Fourth Assessment Report, Working Group III 4-5-2007, p. 33

The project of Netwerkstad Twente⁴⁵ combines in an integrated approach important social aspects concerning the improvement of the income situation and living conditions of low-income people and environmental aspects of climate change. Furthermore, it aims at the reintegration of people in the working-process. The project is therefore a very good example showing the integrative possibilities of local projects and processes. This kind of integrated approach combining related policies, in addition focused on the special needs of the local population is an approach which can be best set up at local level.

The City of Gothenburg started a broad communication and participation process that related to behavioural changes in mobility issues. The project aimed at increased acceptance and use of public transport. By the means of agreements including commitments for specific actions, a group of citizens was encouraged to implement lifestyle modifications. In addition, the project was accompanied by media activities and the participants served as role models for the city's population. This kind of project can only be most successful in a territorially limited and comprehensive reference area

The project of the Municipality of Erlangen is based upon the relevant actors that know each other and know the population concerned by the project. Furthermore, the actors involved in the project are responsible at local level for a policy or action relevant for climate protection. They engaged themselves in a participation process that led to binding and far-reaching agreements at local level and with local actors. The involvement of local actors in climate protection activities is an action that can best be achieved at the local or regional level.

Finally, the project of the Autonomous Community of the Basque Country shows how a technology – in this case, electromobility – can be introduced in a region. This provides experience for other regions as well as for the national and international level. The cooperation of the responsible regional bodies and the relevant regional and local actors is less complicated due to the knowledge of the specific regional conditions. Moreover, the administrative burden and implementing costs are probably lower in comparison to a similar national or EU-wide project. If successful, this project could be an example for the EU level.

⁴⁵ Represented by the Municipality of Hengelo

5. Best practices

5.1 Regional Government of Vorarlberg: Energy future Vorarlberg

Summary

In July 2009 the regional parliament of Vorarlberg defined energy autonomy as a long-term strategic goal for the state's policy. Currently a communication campaign is prepared in order to make the public aware of elements for a sustainable lifestyle. In addition, the elaboration of an action plan for the period up to 2020 is in progress.

Beforehand, a participation process had been organised resulting in the above-mentioned decisions. During this two-year long process which started in 2008, ninety experts from different disciplines elaborated a vision for 2050 together with recommendations for actions to be taken and a quantified path expressed by specific figures.

Background information

A reduction of CO₂ emission of at least 80% by 2050 is necessary for industrialised societies to reach the global 2°C target. This requirement implies nothing less than a decarbonisation of the economy meaning the transition to a non-fossil energy system. This influences individual, economic and political realities, respectively. Therefore, all sectors of the society are affected.

In this context it is of particular interest that the technical knowledge for such a transformation to a post-fossil system is available in almost all fields of energy use. However, most investment decisions still do not consider the global targets and life cycle assessments including energy price increase scenarios. Consequently, the generally implemented solutions of today typically do not consider the knowledge to reduce society's dependence on fossil fuels.

Most of the post-fossil concepts are mainly made by technical experts. They reveal possibilities but are not suited to initiate a change in society. This might be one reason why the majority of decisions ignore existing know-how in spite of the communicated threats which are already part of the common understanding. In addition, laws and new rules provoke opposition and less change. Thus, new approaches are required to initiate the necessary changes in a timely manner.

In order to achieve change three factors are needed:

- A threat as reason to change.
- A positive perspective, a vision that promises a high(er) quality of life and is thus worth pursuing. This perspective needs to be anchored in real, everyday situations (e.g.: how can I be mobile, how do I get to work, how do I travel to my holiday destination, how will I live and what will I eat, what job opportunities are made possible etc.?).

- The first step must be manageable. A person will decide as a first step to change when reasonable steps are known that are feasible and realistic from the individual's perspective.

Objectives of the policy initiative

In order to enable the necessary changes, knowledge, acceptance and cooperation of a significant part of the population is crucial. Therefore, the State Government of Vorarlberg initiated in 2008 the programme entitled "Energy future Vorarlberg" which is designed as a participatory process. This kind of approach is expected to break the doom loop thinking as it has the potential to reach the people and to evoke steps to change based on understanding of the necessary political actions. This requires the development, introduction and implementation of new communication strategies and communication engagement programmes.

One key to success in such a process is the exchange of best practice experience in order to improve the knowledge of the participants. As protagonists from politics and economics are part of the process the common knowledge generated among the participants is transferred at different levels of the decision-making process.

Description of the policy initiative

The process focuses on the generation of a positive vision for Vorarlberg as a region with a sustainable energy system in the year 2050. From that picture a draft of guidelines and basic actions is derived that specifies the necessary behaviour to reach the goal. Finally, the path towards 2050 is quantified by considering only available solutions.

The participants of the process agreed on only a few rules to enable the vision to emerge:

- Today's known restrictions and obstacles in terms of economic or political boundaries are to be ignored.
- Only today's available solution shall be taken into consideration.
- Only results that were reached through the workshops are to be taken into account.

Ten workshop groups were created to implement the assignment. Each group concentrated on a particular topic that belongs to either efficient use of energy, renewable energy sources or communication. More than ninety experts from different disciplines were invited representing respectively both the general and economic-related communities. Beside those expert groups, so-called Citizens' Councils were organised as sounding boards in which interested citizens could elaborate their concerns and solutions with regard to the results from the expert groups. The whole process was implemented from July 2008 to July 2009.

Role of the regional authority

In 2007, the State Government of Vorarlberg decided to launch the “Energy future Vorarlberg” process and provided the project with the necessary funds. The Government operated as initiator of the process and established a framework allowing participants to discuss in an open minded atmosphere without external influence. The workshop groups took the decision independently which ideas to discuss. The proposals for actions to be taken they agreed upon were the output of these independent discussions. However, the State Councillor responsible for Energy always emphasised that there was no guarantee that any idea would be realised.

Management

The project management was transferred to the Energy Institute of Vorarlberg, which merely organised the workshop setting and the communication platform in between the working groups. In addition, support with regard to required content was organised. In this respect specific studies were launched. Furthermore, speakers were invited to present and discuss particular topics within the working groups. Finally, the project management was in charge of the representation of the project and of the reports to the steering committee (State Councillor for Energy and energy speakers of the regional parliament) and an advisory group (representatives of different interest groups).

Resources

Over a period of almost two years the ten workshop groups were guided through a series of 70 workshops, each of which lasted four hour. In addition, five conferences were organised to exchange results among the ten workshop groups. The workshops were facilitated by employees of the Energy Institute. In total the participants and the employees of the Energy Institute contributed to the workshops with about 2 500 hours. The Citizen councils comprised two times three workshops in three different regions of Vorarlberg with about 100 participants. Three of those workshops took one and half days with a follow-up workshop that lasted two and a half hours. In addition about 3 000 hours were necessary for the management and organisation of the programme. The budget for external coaching, the communication campaign and process management was in the range of EUR 1 million.

Obstacles

Within the working groups doubts arose whether policy makers consider the generated ideas. In addition, the participants did not trust in their political power with regard to their influence on political decisions. This led to low attendance at some of the workshops and required motivation by the project managers, who empowered to participants to communicate towards policy makers.

Some of the participants struggled with the almost two-year long duration of the process and claimed that the results could have been achieved much faster.

Results and achievements

In July 2009 the members of the Regional Parliament of Vorarlberg defined “energy autonomy” as the long-term strategic goal of the State’s policy. In addition, this resolution referred to the guidelines and recommendations of the “Energy future Vorarlberg” programme as the basis for the development of an action plan to achieve that goal.

In January 2008 climate protection was integrated into the Constitution of the State of Vorarlberg as one of the objectives and principles of the States action.

“Step by step to energy autonomy” summarises the approach of “energy vision Vorarlberg”. It is an easily understandable positive slogan for the communication campaign which was planned to start in 2010.

Several studies revealed the regional potential for renewable energy sources or efficient use of energy if the best available knowledge is applied for e.g. industrial processes, households or office buildings. Within the working groups those studies were the basis to quantify the path towards energy autonomy.

Meanwhile, a lifestyle campaign for the general public was prepared. The latter aims at behavioural change and focuses on the specific experience with elements of an alternative behaviour. As a particular element the campaign is based on social networks and their influence on the behaviour of individuals. In this context a starter set of ideas in accordance with a sustainable society is further elaborated by the social network.

Keys to success

Contact between the programme management and the State Councillor for Energy including other policy makers during the whole process was very intensive. In addition, several meetings with the Governor of Vorarlberg took place. Furthermore, policy makers and members of the working groups met several times for discussion on the initiative. As a consequence, on the one hand policy makers could trust in the results of the working groups. On the other hand this decreased the possibility of independent decisions being taken within the working groups whilst this possibility had been a strong motivation for the people willing to participate in the process.

Expressing the path by means of figures allows it to be easily demonstrated how the target can be reached. In addition, the slogan “step by step to energy autonomy” underlines the graphs and can be used at different occasions for communication. It is a positive slogan containing the target as well as a description of the approach.

Potential for replication

Two similar processes have already been started in smaller regions of Vorarlberg comprising respectively nine and five communities.

5.2 Netwerk Stad Twente⁴⁶: Energy saving of minimum wage earners

Summary

The project focuses on energy savings of minimum wage earners. They received energy saving materials, were made aware of their behaviour according to energy use and efforts were made to improve this behaviour so that they can even save more energy without loss of comfort. The project was developed specially for Hengelo, a city of about 80 000 inhabitants in the eastern part of the Netherlands. The target group of the project are minimum wage earners, selected as households who live on unemployment pay (the 10% of lowest incomes). These households received support in order to save energy and thereby arrange some financial benefits. Project activities in order to save energy included:

- An energy consultation at home: The participants got a personal consultation on how to save energy. During the visit the consultant recommended some materials that could make their houses more efficient for energy saving.
- A special course to achieve behavioural change: a teacher tried to raise participants' awareness of energy use. The course got into their personal use of: gas, electricity and water and their waste of food and plastics. Participants gained long-term measurements to reduce their energy use.
- Installation of materials: after the consultations and the course, the participants received free energy saving materials. A team of mechanics installed the materials in their houses.

Practical jobs in the project, like the consults, the course and the installation of the materials were accomplished by clients of an organization for reintegration.

The project serves three goals in sustainability. First, financial benefits for minimum wage earners in Hengelo are arranged. Second, on account of the cooperation with the organisation for reintegration, we serve our policy for that. And third, the project serves the climate goals by a behavioural change and creating support for energy measures and thereby reducing CO₂ emissions.

Background information

A couple of years ago one of the national ministries had created a subsidy for minimum wage earners, because these people are seldom able to use subsidies meant to reduce the use of energy. In order to get that subsidy we conducted a project to save energy in Hengelo. The project had a dual purpose. On the one hand we tried to reduce energy use by applying energy saving materials. On the other hand

⁴⁶ Represented by the Municipality of Hengelo

we tried to make participants aware of their behaviour and aimed to change this pattern. The project was carried out for two years until the subsidy ended. It was a great success. More than 300 households completed the project successfully. The mayor and aldermen, and the city council were very positive, especially because of the combination: minimum wage earners, behavioural change and the improvement of energy saving materials in the house. They asked for a follow-up. But this time organised in such a way that it becomes a part of the social policy for minimum wage earners. A few changes in organisation were made. For example, the number of households. This was reduced to a maximum of 50.

Objectives of the project and Hengelo's sustainability policy

Hengelo's sustainability policy focuses on three areas: People, Planet and Profit. Objectives aimed at improving the people's situation, our environment and the economy. On account of the connection with the area's people, planet and profit, this project can be considered as an instant project and very appropriate for implementation in Hengelo's sustainability policy.

- Saving of money by households

The social policy in Hengelo municipality supports the minimum wage earners. It contains several ways to help these families (policy for minima). For example, to save money, to help them organise their income, to avoid debts or to advise them to get out of their debts, and facilitate them by replacing domestic input equipment like a washing machine. In this case, households were stimulated to save energy and thereby decrease their energy bill. Households got lessons on changing their energy use behaviour and they received some energy saving materials to make their homes more energy efficient. In that way they will be able to save more money on energy use.

- Reducing CO₂ emissions

According to our climate goals, Hengelo is committed to achieving a CO₂ emission reduction of 30 % in 2020. Therefore, reducing CO₂ emissions caused by energy use is a means of action.

- Improving employment for reintegration clients

In this project Hengelo cooperated with an organisation for reintegration, called the 'SWB Group'. This local organisation provides the social return of people who have a distance to the labour market, or a slight work disability. The project gives employment to these people. Selected clients received special training and became official energy consultants and/or coaches. This brings knowledge and expertise and improves their employment chances.

Description of the project

The project took place from September 2009 to March 2010. Preparations started in May 2009. The first job was to recruit participants. The municipal unit of social security used a list of people who live on unemployment benefits. They contacted the target group and sent them an invitation to participate in the project. After registration they received a confirmation and an introduction to the programme.

The process consisted of two interventions: a consultation at home and a special energy course. When the participants successfully completed the course, they received free energy saving materials to the value of about EUR 300. The first intervention (consultation at home) was meant to obtain a clear insight of people's domestic situation and their energy saving behaviour. Based on that situation the consultant suggested some measurements to improve their behaviour and recommended some energy saving materials. The second intervention (the course) focused on participants' behaviour. In six meetings we tried to raise their awareness of energy use and aimed at a behavioural change.

Each meeting had a theme:

Meeting 1: Introduction

Meeting 2: Gas (what is gas? utilisation of gas, saving of gas)

Meeting 3: Electricity (what is electricity? utilisation of electricity, saving of electricity)

Meeting 4: Water (what is water? utilisation of water, saving of water)

Meeting 5: Waste (what is waste? dealing with waste, saving of waste)

Meeting 6: Final. Evaluation of "lessons learned"

One course team consisted of approximately seven participants. They had to complete the course (attendance of at least four meetings) to get their free energy saving materials. In that case a team of mechanics visited the participants and installed materials.

Especially for this project we made up an optional package of materials, which contains for example: draught excluders, energy efficient lamps, applied isolation, water-saving faucet, etc.

Role for the local authority

Hengelo municipality was the creator, organiser and supervisor of this project.

Resources

Finances and resources for this project were available from subsidies and regular budget:

The used subsidies in this case were the so-called SLOK subsidy a national subsidy intended for CO₂ reduction. Furthermore, the energy company Essent had for all their local government costumers an amount of money available per inhabitant. This money was used to start up this project

To finance the employees from the reintegration organisation we used the budget from the municipal social security unit.

Management

The sustainability unit of Hengelo municipality was responsible for the coordination and the administrative tasks. The municipal unit for social security was responsible for the recruitment of the participants. Practical tasks including consultancy, coaching and installation jobs were executed by clients of the local organisation for reintegration.

Obstacles

The target group originates from the lower socio-economic groups. These people are very hard to motivate to start searching for a job or to participate in an obligatory course. They lack the intrinsic motivation for learning, or to develop themselves, along with problems of accepting rules and commitments when they start the course. In accordance with that, most of the dropouts did not complete the project because they did not show up at the course for several reasons. Obviously it takes extra effort to motivate the participants. That makes the project very job-intensive and relatively expensive.

Estimation of financial saving and environmental saving, i.e. CO₂ reduction, is based on data obtained from the participants. They had to gather their own data. This procedure is highly sensitive for errors of observation. Therefore, our estimation of results may be inaccurate.

Results and achievements

About 650 people received an invitation to join the project. 65 actually did so, which means exactly 10 %. This percentile comes up to our expectations based on early similar projects.

65 families subscribed. 44 participants completed the project successfully, which means that 70 % completed the course and received energy saving materials. This is quite a high percentile considering the fact that the target group is hard to motivate.

44 households reduced their energy use. Participants' energy use was measured during a given period. A specially developed calculation tool calculated their estimated annual energy use. This data was compared with their earlier energy bills to get an insight in participants' savings. Comparisons showed that they decreased their energy bill by an average amount of EUR 300 a year (based on energy prices on 1-1-2010). Total (44 households) environmental savings correspond to 25 000 kg of CO₂ a year.

The project received some public attention in the local media at two selected moments. First, on completion of the employees' training, Hengelo's alderman for sustainability handed over the certificates to the new energy consultants and coaches. Second, the alderman dropped into one of the meetings of the participants' course. The local newspaper paid some attention to both events. Thereby the alderman functioned as an eminent person and generated media attention. Two newspaper reports followed.

At the end of the project the participants completed a survey. Results show that their attitude about the whole project was very positive. In that way it is reliable to think that some positive word-of-mouth publicity occurred.

Keys to success

The project is very effective because of the combination of people, planet, and profit. First, the project improves the situation of the minimum wage earners in Hengelo. They learned to save more energy and money on an annual basis. Besides, the course provided social contacts between the participants. Second, the project provided reintegration of employees. And third, the project served Hengelo's climate goals on energy use. Despite their distance from society, social and environmental problems, the target group could work on these problems in a tangible and accessible way by means of this project. Obviously, it would be recommended to continue with this format.

Saving occurred in two ways: on the one hand by energy saving materials, and on the other hand by behavioural change. It is important to mention that both ways contribute to the total saving. Energy saving materials can be very efficient. But behavioural change can be a crucial in that way. Note that a draught excluder will not work when you forget to close the door.

Potential for replication

The project can be suitable for other municipalities. It is likely that every European city has to deal with environmental and social problems as stated in this best practice. On the level of the households, problems i.e. their financial situation and their marginalisation from society, are very probably the same. Besides, every municipality has at its disposal a databank of people earning minimum wages. They are therefore easy to trace.

Obstacles

There are some obstacles that may make replication less efficient.

Climate: the weather and climatic conditions and the corresponding need for energy in the Netherlands may be different from other countries.

Calculation tool: to estimate savings of energy, we used a special calculation tool. That tool must be accustomed to situations.

(Annual) investment: the project needs an annual investment in time and money. Municipalityies need to have the infrastructure at their disposal and must be willing to pay for the running costs.

5.3 City of Gothenburg: Travel coach project

Background information

Between August 2006 and February 2007, 68 people in Lundby, Gothenburg, took place in a travel coach project. The aim was to leave the car behind and to walk, cycle or take public transport at least three times a week.

The project is part of Lundby Mobility Centre's EU project BUSTRIP. The project involves 12 European cities in countries around the Baltic Sea.

Objectives of the project

In April 2006, motorists in Lundby were given the chance to take part in a new travel coach project. The innovative aspect of the project was that the goal was to change behaviour rather than just changing attitudes to travel. The target group for the project comprised motorists who used their car 5–7 days a week, i.e. people who basically used no other means of transport than their car.

Description of the project

Most of the participants joined the project because they were curious about it, needed help getting started exercising more, and because they had become too dependent on the car. Many could see the connection between sitting still in a car and poor fitness levels. They needed someone to help them move around more. Many were very interested in starting to cycle, or cycling more.

Participants were assisted by a coach to set their own goals and keep their motivation up. 68 people participated actively in the project, which ran between August 2006 and February 2007. Participants signed an agreement with the Traffic & Public Transport Authority/ Lundby Mobility Centre whereby they undertook to leave the car behind and to walk, cycle or take public transport at least three times a week. In turn Lundby Mobility Centre agreed to support and encourage the participants to help ensure they managed to fulfil their side of the agreement. In addition to the coach, two coordinators were available day-to-day for practical issues and to encourage and challenge the participants. 20 people were coached individually. They started the project with a private talk with the coach and their coordinator. 45 people met in group sessions also involving a coach and coordinator. The participants divided themselves into three sub-groups based on what type of people they considered themselves to be: Challenge me, Put pressure on me or Lazy/comfortable

Participants tested their fitness, weight and muscle mass at the start and end of the project, and kept a travel diary to clarify their travel behaviour. They were offered lectures on diet, movement and personal motivation, as well as help in finding public transport routes and getting around to visiting the cycle repair shop.

Role for the local authority

The idea of the mobility coaching project was born at Lundby Mobility Centre, a part of the Local Traffic and Public Transport Authority of the City of Gothenburg. A project leader at the authority was responsible for budgeting and follow-up of the project. A person with experience from the Lundby Mobility Centre was engaged as coordinator and responsible for the implementation. A coach was hired to interact with the project participants, but was also involved in the planning of the project.

Resources

The project turned out to be quite costly, primarily because of two reasons. Firstly, most of the work of the authority was carried out through consultants instead of in-house employees. Secondly, the coaching was aimed directly at the citizens. Nowadays the coaching is offered indirectly through employers, so that some employees are trained to act as mobility coaches towards the rest of the employees. This has proven to be more cost efficient.

Management

The project was run with a small management group, consisting of a controller and a project coordinator from the city and a coach on a consultancy basis.

Obstacles

An obstacle which many bikers mentioned was that they did not have the possibility to shower and get changed at work. This is something that future participants should be encouraged to discuss with their employers or the project management if the whole workplace is involved in the project.

Participants that are not motivated anymore ought to be released from the course more quickly. Because if they are not motivated enough to take part actively their travel habits may not last long beyond the end of the project in any case.

Several participants that expected a negative result in the final test did not turn up at the final test. This could be avoided if the second test instead takes place after a year to ensure the results are not misleading due to seasonal variations, which was also the organisers' experience.

The lazy/comfortable group required the most input from the coach, and there were more from this group than the others among those who dropped out of the project. Even so, the lazy/comfortable participants who saw the project through to the end did manage to change their travel habits significantly. It is also in this kind of group there is likely to be the greatest potential for health improvements, even though the people in question need more support.

Results and achievements

An evaluation of the participants' travel habits after the travel coach project reveals that car driving has decreased significantly. Instead participants like to cycle or walk, or take public transport. The effects have been less expenditure on fuel and lower emissions. The number of participants who drive to work every day has decreased from 25 to 2. The number of people who cycle or walk to work at least two days a week has increased from 18 to 49. Both the people coached individually and those coached in groups have reduced their car driving dramatically. Some have reduced the number of owned cars in the household (6 out of 45 participants), and several said this was a direct result of the project (4 participants). All the participants believe they will continue with their new travel habits.

The project must therefore be viewed as very successful in the present situation. However, the definitive results will be discernible after a longer period, when it will become clear whether or not the established new habits last in the long run.

According to the health checks, some individuals have improved their health considerably with better oxygen absorption and weight loss. The lazy/comfortable participants who saw the project through to the end did manage to change their travel habits significantly. It is also in this kind of group that there is likely to be the greatest potential for health improvements, even though the people in question need more support.

However, for the group as a whole the health checks reveal no distinct changes between the start and end of the project. One reason is probably that the before-check was carried out in August-September, while the after-check was in March-April. Both checks should have been conducted in the same month with at least a year in-between to avoid seasonal variations. The interviews also revealed other positive effects which also influence well-being, but which the participants had not foreseen. The participants' contribution to negative environmental effects has decreased considerably now that their travel habits have changed. The average emission of nitrogen oxides per person on work-related trips decreased to one-third, while the average emission of carbon dioxide virtually halved. The project has therefore contributed to a better environment, especially as those with older cars in particular have left the car behind.

The project has received a lot of attention both in the media and at the participants' workplaces. Several of the participants mentioned the attention they have received at their workplace. This was partly because some of them had featured in the media, such as the newspaper *Göteborgs-Posten* and on the regional TV news programme *Västnytt*. Participants also received attention when they walked or cycled to work. There were many questions regarding travel routes, but also about the project, and participants saw themselves as ambassadors. Several colleagues have also started, which meant a pleasant subject of conversation during break times. In fact these people had become so committed that they even evangelised to others around them. Some saw themselves as ambassadors for their new lifestyle/travel habits. This positive spin-off effect of the project is hard to quantify but should not be underestimated from a local perspective, be it Lundby as a city district or an individual workplace. One of the participants had a similar thought: this idea of concentrating a project on a workplace should be developed further, something the project leaders also had some ideas about for the future.

In summary, the now completed project can be considered a great success. There is always room for improvement, but there is no doubting that several participants now have a better quality of life while their environmental impact has also decreased.

Keys to success

The project's strong point was the dedication shown primarily by the participants but also by the organisers. The fact that the participants felt involved in forming the project meant that not many people dropped out along the way, believes the coach. The three organisers were also very dedicated

and had devoted a lot of time to the project, which probably had a positive effect on the results. Although this is not sustainable moving forward if the same type of project is to be conducted on a larger scale without an increased budget.

The coach believes that a key to succeeding with a similar project is to be open to people's reasons for taking part. The reason why people want to participate is not an important consideration, but primarily the goal, which was to reduce dependency on the car.

Another key is that the marketing of the project should be closely analysed before the projects begins, in order to achieve the greatest possible impact and participation.

Also the planning process should be formalised to save work time.

The coaching is based on the fact that people work differently. The coach thinks the best part of the project was the way participants in the individualised group were taken care of and that they formed strong relationships. It is important to consider whether to start off with interviews like in the individualised group, which the coach thought was important for building relationships in the initial stages, and if so to budget for this work input. The project manager thinks that a personal discussion with each participant at the very start should be considered: it may be more resource demanding initially but could profit the project overall.

The process of helping participants find the 'best' routes to and from work by cycle and public transport could be developed. This would increase credibility for the project as well as the sense of community within the group, particularly with the organisers, which ought to boost the end results. At the same time though this work would have to be weighed up against costs, but certain individual measures are worth focusing on.

The lectures and the health checks were particularly appreciated by almost all the participants interviewed. Half of the interviewed participants thought the travel diary was a good idea and even an incentive, as it was a reminder that they were taking part in the project. This fits in well with the travel diary as part of the coaching, according to the project's coach. The organisers agree that no individual aspect alone was decisive, but all the project's components taken together as a whole. The project components were the coaching, the agreement, the travel diary, the lectures, the health check and the trial travel card.

Potential for replication

There is a great potential for replication. The City of Gothenburg is the lead partner of CARMA (Cycling Awareness Raising and Marketing) through which the experiences from Mobility Coaching are shared. The manual used by Gothenburg will also be translated into English.

The concept advocated now is the indirect coaching through employers rather than the direct coaching. A brochure in English about this version on Mobility Coaching is attached.

5.4 Municipality of Erlangen: Energy Alliance for efficiency and climate protection

Summary

This project is a motivated and coordinated approach to climate protection goals. To take advantage of as many partners as possible, it focuses on the existing institutions, the local businesses, associations and others by involving them by building a joint long-term climate protection plan that will raise awareness for the necessity of climate protection in housing and business activities.

The heart of the project is the energy efficiency steering group (EnergieeffizientER), which guarantees that information and awareness are dispersed throughout the city. At the level immediately below this steering group, there are three permanent working groups (WG): the Energy Supply WG, the Energy Group of GEWOBAU Erlangen⁴⁷ and the Energy Management WG; they define standards in local planning, building, and energy use. Besides these, there are cooperative agreements with the local skilled trades businesses, the property owners' association, the housing industry, the local savings bank, the local energy advisors and others. Within the Nuremberg metropolitan region, the municipality of Erlangen is a member of the EnergieRegion Nürnberg e. V. association.

The action programme is chiefly implemented through voluntary agreements with all relevant bodies such as the housing industry, businesses, public institutions and other institutions as part of the Erlangen Climate Alliance. The agreement with each participant comprises a preamble assessing the initial situation, the action programme and a declaration by the participant. The participants in this agreement and the municipality of Erlangen acknowledge the action programme and its aims as the basis for specific measures and plans in their respective fields. The participants provide at least one service as part of the action programme or undertake to provide such services.

In May 2009, the first five institutions or businesses signed the agreement. In September 2009, Erlangen skilled trades, two large contractors, one of the largest construction companies and developers in Erlangen, and a large bakery company were the next to join the Erlangen Climate Alliance. More partners are soon to follow.

The aim is to persuade as many institutions and businesses as possible to subscribe to energy efficiency measures. The municipality of Erlangen stages events for this purpose, offering motivational advice and broker contacts for in-depth advice.

⁴⁷ GEWOBAU Erlangen is a municipally owned housing company in Erlangen with around 8 000 housing units.

Background information

The municipality of Erlangen has been a member of the European Climate Alliance since 1991. Important trends have been set for many years to improve climate protection in Erlangen throughout the energy and transport sectors.

Already at the beginning of 1991/1992, two experts had reported extensively on the energy and CO₂ balance in the municipality of Erlangen with projections for the future. This auditing continues regularly to the present day. The last energy and climate protection report was published in 2004. Binding statements on the minimum targets are made in the action programme.

To achieve the climate protection targets of the German Federal Government, further measures and steps are necessary in the short and long-term in Erlangen, too, and all of the relevant organisations in the municipality can and should make their contribution.

Objectives

During the past few decades Erlangen has had a leading role in environmental protection in Germany. The project is included in Erlangen's sustainability policy, which has been evolving from the 1980s to the present time and includes water and air pollution management as well as the conservation of nature, the reduction of waste and saving resources. In the mid-1990s a forerunner of this project, the "Erlangen environmental pact", was established; its concerns were waste management, avoiding water and air pollution, and saving energy.

Following the actual professional knowledge of environmental issues, one of the main challenges will be reducing the consumption of energy to control climate change. Therefore, energy consultations for households are permanently offered by the municipality of Erlangen. The requests are frequent and contain information about changing behaviours in regard to energy use, modernisation of heating systems, and the planning of low-energy use houses.

This project is promoting the goals of sustainability and especially of energy consultation to institutions, businesses, and other organisations.

In the short and long-term, the city is setting targets for the reduction of total energy consumption and CO₂ emissions. To achieve these targets, measures that have been implemented will have to become more stringent, particularly in the following areas: electricity consumption, heat usage and transportation. In 2004/2005, total energy consumption in Erlangen increased only slightly due to increased consumption of electricity and growth in motor traffic. A decrease by 11% from 2007's level is Erlangen's target for total energy consumption to be achieved by 2025. From 1991 to 2004, a decline of 8 % of annual CO₂ emissions was recorded in all areas of energy use. The target for Erlangen for 2025, taking into account the effect of the combined cycle power station (combined heat

and power station of Erlangen's municipal utility company - Erlanger Stadtwerke), is a reduction by 14 % from the 2004 level or 22 % from the 1991 level.

Description of the project

The EnergieeffizientER steering group was formed on 21 January 2003. The members of the steering group are representatives of Erlangen's municipal utility company, of the municipality of Erlangen, the University of Erlangen-Nuremberg, the University Hospital, the State Land and Property Office, the local umbrella organisation for skilled trade guilds, SIEMENS AG, the Chamber of Industry and Commerce, Erlangen Committee (IHKG), GEWOBAU Erlangen, as well as AGENDA 21. The primary objective of the steering group is to initiate measures to improve energy efficiency. The participants meet twice a year with the aim of developing, initiating, and coordinating ideas and projects in the field of energy efficiency in Erlangen. Implementation of the projects is performed and supported by organisations and institutions of the parties involved.

For continuous coordination of all parties involved, the Energy Supply working group was founded as early as 2002. Its permanent members are: the chairperson of the board of Erlangen's municipal utility company, representatives of the environmental office of the municipality of Erlangen, representatives of the city planning office, representatives of the city land and property office, representatives of the building management of the municipality of Erlangen, and one representative of the AGENDA 21 advisory council. The coordinated discussions of the working group are usually held four times a year. The topics focused on are the compatibility of innovative energy supply concepts with the requirements for building energy efficient buildings and the use of renewable energy, the coordination of energy concepts for all new building areas, the development of energy supply concepts into energy service concepts, the promotion of renewable energy sources, and the coordination of energy efficiency measures in city institutions and other projects with relevance to energy.

At the recommendation of the EnergieeffizientER steering group, the Energy Management Working Group was formed in 2003 with the aim of sharing experiences with energy management from businesses and public institutions, getting to know exemplary examples of the members on site, and holding events on relevant topics. The members of the Energy Management WG include representatives of the energy management of Siemens Real Estate, of the energy management of the University Hospital, of the building management of the University of Erlangen-Nuremberg, of the State Land and Property Office (responsible for the university's building activities), the energy manager of the local savings bank (Sparkasse Erlangen) and representatives of the building management of the municipality of Erlangen.

GEWOBAU Erlangen is one of the most committed housing building companies in the metropolitan region of Nuremberg. In GEWOBAU Erlangen alone, buildings containing around 3 500 housing units have undergone energy renovation over the past fifteen years, so that now more than half the company's housing units have a good energy efficiency rating. In particular, two model projects are

worth mentioning, the “four-litre house” and a project within the DENA⁴⁸ project “Low-energy house in existing housing stock” with primary energy savings of 85 per cent. Further measures are being planned by GEWOBAU over the next few years for approximately 500 existing housing units. The Energy Group of GEWOBAU Erlangen has existed since 2000. Its members are GEWOBAU itself, planners, representatives of AGENDA 21, Erlangen's municipal utility company (Erlanger Stadtwerke), members of the city council and a representative of Erlangen's environment office. The Energy Group has therefore become an institution at GEWOBAU: a committee that supports all measures relevant to energy in a critical and constructive way, that provides new impetus for the housing industry in the region and that is committed to sustainable housing in Erlangen and the region as a group with a practical approach.

Role for the local authority

The municipality of Erlangen is initiating and coordinating all the activities of the project and its working groups mainly by collecting, selecting and distributing information and by managing discussions and solutions. This includes activities such as events and publishing, for example publication of the guidelines on “energy-optimised building of non-residential buildings” (in cooperation with the ENERGIEregion Nürnberg e.V.), events for the regional housing industry, and publication of the guidelines “energy management of existing multi-story residential buildings” for the regional housing industry, combined heat and power events for the organisations concerned, and publication of information on building renovation and the building of new detached and semi-detached houses, compilation of a study on renovation of detached and semi-detached houses in Erlangen in cooperation with the Faculty of Architecture of Georg Simon Ohm University of Applied Sciences Nuremberg.

The municipality of Erlangen is also an important player in the field of energy efficiency because it is partly responsible for land development plans and is an owner and occupant of buildings itself.

Resources

The project requires a full-time employee for management, information transfer, and networking.

Management

The project is managed by the Office for the Environment of the municipality of Erlangen.

Obstacles

Most of the partners that are involved in the project represent organisations with hundreds or thousands of employees. Since the partners of the project are the persons who deal with energy professionally, the project may be ignored by some of the other employees.

⁴⁸ See point 4.2 Germany

Additional work is anticipated inside the organisations that are contributing to the project. This work should focus on understanding climate change, taking personal responsibility, and seeking changes of innovation.

Energy efficiency also depends on behavioural change. This will take more time than initially expected.

Results and achievements

An action programme is chiefly implemented through voluntary agreements with all relevant bodies such as the housing industry, businesses, public institutions and other institutions as part of the Erlangen Climate Alliance. The agreement comprises a preamble assessing the initial situation, the action programme and a declaration by the participant.

The participants in this agreement and the municipality of Erlangen acknowledge the action programme and its aims as the basis for specific measures and plans in their respective fields. The participants provide at least one service as part of the action programme or undertake to provide such services. This concerns the sectors of efficiency in electricity, energy efficiency in all areas concerning buildings, in the energy supply, in the use of renewable energies, and promotion of means of transport with low environmental impact in urban traffic. The participant also declares its willingness to define further the targets for its area within working groups, working discussions or working forums. The agreement is voluntary and based on self-responsibility and cooperation. The municipality of Erlangen contributes information and advice, coordination, promotion and planning and implements measures in the city institutions and companies. Recently (in October 2010), an action programme was signed with twelve institutions and companies, including the largest. Four partners will join soon. Three others are interested in the project.

The action programme is further specified for the individual action fields:

- Energy renovation of municipal institutions: Over the next few years, an extensive school renovation project of almost EUR 50 million that has been passed by the city council will take place, energy renovation being a major focus of this work.
- Energy efficient street lighting.
- Energy efficiency measures in municipal companies: municipal companies for parks and gardens, waste disposal and street cleaning and the water drainage company; for example coordination in the field of draining (waste water treatment plant), energy efficiency measures in the area of information technology at the municipality of Erlangen.
- Energy supply measures such as expansion and construction of district heat networks with combined heat and power, energy supply in the public restrooms.
- Energy efficiency in urban planning.
- Additional measures in the housing industry: with new buildings, developers and housing companies, architects and planners, energy advisors, banks.
- Increase in the proportion of sustainable transport within the city, incoming and outgoing traffic.

The involvement of committed groups such as working group New Energy (Part of an NGO environmental protection group) in the AGENDA 21, and the Initiative “Sonnen nutzen auf jedem Dach” (“solar energy on every roof”) is a tradition in Erlangen and is assured partly by their participation. Moreover, the administration hosts forums on important planning projects with the participation of the aforementioned initiatives to tap into their expertise and to take their suggestions and ideas into consideration.

The professional energy advisors, with whom the urban energy advice cooperates continuously, also play a key role in encouraging owners of detached and semi-detached properties to take action, so that here even better cooperation has been achieved between the skilled trades within the Climate Alliance.

Keys to success

For developing such a project there has to be strong support throughout the city for climate protection among citizens, city council and business owners. This was fairly easy to achieve in Erlangen because environmental issues have been very influential and important during the last decades.

This motivation was enhanced by other projects conducted by the municipality of Erlangen simultaneously, like an annual “environmental festival” and an “Environmental Protection Year” (in 2007, with about 110 events).

The partners of this project will also save money, which would otherwise have to be spent on electricity and oil. These savings are part of the motivation, too. Preferably the partners will use their savings for further improvements in the reduction of their energy consumption.

Networking is also an important factor.

Potential for replication

Since the project is a reproduction of the structures of administration and business, people involved in replication efforts will have few problems finding and choosing contact persons; these will be the experts of energy, housing, planning, and architecture. Therefore, it should be possible to initiate such a project with moderate efforts, and if the responses turn out to be positive and engaged, the project will be performed with full efforts.

5.5 Basque Government: Electric Vehicle

Summary

Over recent years, energy consumption deriving from transport is developing in a negative and uncontrolled manner. Figures show 100% increases over the last 15 years. In the Basque Country, transport has become the second highest consumer of energy, after the industrial sector.

In line with the guidelines set by the European Commission and in order to put into practice the energy policies of the Basque Government, in 2009, the Basque Energy Board (EVE) initiated a project to introduce the electric vehicle as a more rational mobility solution over the coming years.

In January 2010, EVE set up a specific electric vehicles department, responsible for putting into motion the actions included in the four strategic areas identified. Moreover, sufficient economic funding has been provided for the coming years in order to set into motion subsidy programmes to stimulate the purchase of electric vehicles and for the installation of charging points, as well as the realisation of investments associated with the creation of new electric car-sharing charging companies.

Background information

Over the last decade, we have witnessed the extensive modernisation of the automobiles currently in use. In this way, there has been a reduction in energy consumption and emissions per kilometre travelled. However, on the other hand, the number of vehicles in use has increased as well as the number of kilometres travelled per vehicle. The road infrastructure has improved leading to a greater use of private vehicles and but, on the other hand, major advances have been made in the promotion of public transport. Heavy investments have been made in rail infrastructures and the modernisation of coaches.

Over recent years, biofuels have had a great impact and obligatory targets have been established successfully in accordance with European strategies. Those European Directives that have already been approved guarantee improvements in the use of energy in this sector over the coming years, both with regard to the reduction of the specific consumptions of vehicles and in the introduction of renewable energies (which will represent 10% in 2020 in this sector).

Action is required in other fields such as increasing awareness, improving public transport, the accelerated renewal of the cars currently in circulation and the introduction of electric vehicles in order to reduce energy consumption even further as, otherwise, this will continue to grow.

Objectives of the project

In line with the guidelines set out by the European Commission and in order to put into practice the energy policies of the Basque Government, in 2009, the EVE initiated a project to introduce the electric vehicle as a more rational mobility solution over the coming years.

The general aim is to encourage the introduction of electric vehicles (EVs) in the Basque Country as a means of improving energy efficiency in transport and as a strategy to promote new business opportunities within the Basque industrial fabric.

The specific aims of the project are:

- Create a network of charging points within the Basque Country.
- Support the Basque electrical and electronic equipment sector in the development of industrial and technological capabilities in the area of EVs.
- Support the Basque automotive sector in the development of systems and components for the EV.
- Facilitate the access of Basque organisations and the public to EVs.
- Foster the development of a legal framework to favour the introduction and use of EVs at all levels and in all geographical areas.

Description of the project

Four strategic lines of action were defined:

- Foster the automotive sector through a support for the design of a new electric vehicle produced in the Basque Country and the creation of opportunities for Basque companies in the sector to design specific components.
- Develop a battery charging point infrastructure to cover the entire region, thus guaranteeing the mobility of electric vehicles within the Basque Autonomous Community.
- Creation of a critical mass of vehicles in circulation in order to avoid market collapse.
- Adaptation of the legal framework, proposing modifications to the regulations in order to facilitate the rapid incorporation of electric vehicles.

Role for the local or regional authority

- Promoting the automotive sector

The aim of this strategic line of action is to promote and encourage the manufacture in the Basque Country of electric vehicles and components designed for this new transport mode. In order to fulfil its objectives the Basque Government signed a cooperation agreement with Mercedes-Benz Spain in December 2009, according to which the German company undertook to adapt the installations at its Vitoria-Gasteiz facility by 2010. The agreement also commits Mercedes-Benz to the Basque automotive sector and to the realisation of innovation and research projects of mutual interest, designed to develop components to be used in electric vehicles, as well as joint actions to generate know-how and exchange experiences.

The development of new components for electric vehicles will have the support of the Basque Government through programmes designed to foster innovation and R&D in this field, and will also attempt to stimulate collaboration between companies in the automotive and energy sectors. For this purpose, a collaboration framework agreement was signed in Donostia-San Sebastian between the Automotive Cluster Association of Euskadi (ACICAE) and the Energy Cluster Association in February 2010. The aim of the agreement is to foster a collaboration framework between both cluster associations in order to increase the competence of their companies in the realm of electric vehicles and of the charging systems associated with them, through the performance of joint actions in areas associated with these activities, that offer added value for both organisations and their associate members.

- Development of a battery charging point infrastructure to cover the entire region

In order to fulfil its objectives, through the EVE, the Basque Government identified REPSOL as the most appropriate partner in order to start out on this project. In October 2009, EVE and REPSOL signed a protocol of intentions to collaborate in the introduction of an electric vehicle charging network within the Basque Autonomous Community.

From the date the agreement was signed until June 2010, both companies worked in order to draw up technical specifications for the charging installations to be introduced over the coming years, the design of the network and the preparation of the business plan of the company to be set up in order to see the project through. For this project, two working groups were set up with representatives of both companies, one of a technical nature and another to carry out management tasks. The working groups also had the technical support of the TECNALIA Technology Corporation for technical aspects and the Boston Consulting Group for business issues.

The Basque electrical and electronics equipment industrial sector also took part the design and implementation process of the network, with the participation of technology centres, town halls, the Energy Cluster Association of the Basque Country, automotive manufacturers and suppliers. The Basque Government provided support to foster research and development in the area of charging stations.

Once the aims of the initial stage have been fulfilled, EVE and REPSOL set up during the second half of 2010 a company, Ibil, to build and run the electric charging installations defined during the initial stage. Deployment of this charging network will begin in 2011 and will gradually extend to every part of our territory according to the established investment plan.

With this project, the Basque Government and EVE intend to provide the Basque Country with an electric vehicle charging infrastructure to provide incentives and foster the progressive introduction of this kind of vehicle in this country.

- Creating a critical mass

Under the strategic aim of creating a critical mass, activities designed to fulfil two fundamental objectives will be put into motion: reduce the extra costs currently involved in the purchase of an electric vehicle compared to a conventional one and to provide the public with access to this new mobility solution. It will therefore be necessary to carry out actions such as the introduction of subsidies, instigate pilot projects with public and private fleets and create a car-sharing company with electric vehicles. This company will provide electric vehicles with a great amount of publicity and allow their use by any member of the public at a low, affordable cost.

Any kind of aid programme defined will require a prior TCO analysis (Total Cost of Ownership) to clearly identify the extra costs, not in the purchase of the vehicle but during its service life.

The involvement of the town halls of our larger municipalities is also considered necessary here.

EVE has already initiated contacts with the main manufacturers, negotiating with them the reservation of consignments for users in the Basque Country. In this sense, the agreement signed between the Basque Government and Mercedes-Benz includes, in addition to the actions described in Strategic Premise 1, an undertaking by Mercedes and Smart to provide transport fleets and potential uses with facilities to purchase E-Smart and E-Vito models produced prior to the mass production of a commercial model. The agreement also contains an undertaking by EVE to identify and select the most appropriate users, establish the necessary aid programme and collaborate with Mercedes-Benz in the monitoring and evaluation of results concerning the use of electric vehicles during the first three years of operation.

- Establishing an adequate framework of regulations

It is necessary to create a framework to ensure the feasibility of electric vehicles with regard to official approvals, maintenance, technical inspection, warranties, safety and the commercialisation of electrical power as part of the energy services, overcoming, in order to do this, any regulatory, legal and standardisation barriers that might block their development.

It is for this reason that, under this strategic premise, the necessary regulatory developments will be analysed, basically in the establishment of charging points, both at a private and public level, proposing any modifications to the regulations that might facilitate their rapid incorporation, as well as proposals for the adaptation of electricity tariffs.

Collaboration will also be provided in the creation of new municipal bylaws (or modification of existing ones) in order to favour the use of an electric vehicle.

It is especially interesting to monitor the progress being made by the existing or newly formed standardisation committees that are working in this field in the pertinent standardisation organisations (ISO, IEC, etc.).

Resources

EVE set up a specific electric vehicles department, responsible for putting into motion the actions included in the four strategic areas identified. Moreover, sufficient economic funding has been provided for the coming years in order to set into motion subsidy programmes to stimulate the purchase of electric vehicles and for the installation of charging points, as well as the realisation of investments associated with the creation of new electric car-sharing charging companies.

Management

The project is being directed entirely by the Electric Vehicle Department of EVE.

Obstacles

The following obstacles or challenges over the coming years have been identified. On the one hand these are technological challenges, such as:

- Optimisation of current batteries; Increase their energy density (kWh/kg) in order to increase the operating range of electric vehicles
- Reduction in price
- Increase in service life
- Reduction in charging times
- Increase in the offer of electric vehicles
- Construction of the charging point infrastructure
- Adequate regulations in order to optimise the existing electrical network

On the other hand these are non-technological challenges, such as:

- Adaptation of applicable legislation/regulations (electricity sector, municipal bylaws, neighbourhood communities, connecting and charging standards, etc.)
- Proposal of preliminary, imaginative solutions for financing by the government in order to promote the market penetration of electric vehicles
- Creation of an initial critical mass to stimulate further growth
- Increase the social awareness of sustainable mobility increasing the amount of knowledge about and confidence in electric vehicles

Results and achievements

As of the date this report was drawn up (August 2010) and due to the fact that the project had been in operation for only a short time, it is not possible to assess the results obtained.

Keys to success and potential for replication

In each of the areas identified as strategic, actions have been taken to facilitate the introduction of electric vehicle in the Basque Country. In the table below there are mentioned some of the key actions in these early stages of the initiative.

Strategic lines of actions	Related activities	
Foster automotive sector in the Basque Country	Dec. 09, Agreement Basque Government-Mercedes-Benz July 10, Manufacture of the E-Vito Van in Vitoria-Gasteiz	Financing of R&D projects for development of equipment and components for electric vehicles and for the development of fast chargers
Develop a battery charging point infrastructure	Oct. 09, Agreement REPSOL-EVE Oct. 10, Creation of Ibil company Dec. 10, Pilot project of charging posts Jun. 11, Charging point infrastructure implementation	
Creation of a critical mass of vehicles in circulation	Grant programmes for EV acquisition Up to EUR 12 000 per EV Dissemination activities Agreements with EV manufacturers (Mercedes-Benz, Smart, BYD, Tata etc.) Seminars, workshops & exhibitions on EVs Acquisition of 3 EVs by EVE	
Adaption of the legal framework	Proposals for the adequacy of legislation and cooperation for the creation of municipal bylaws	

6. Conclusions and suggestions for policy actions

6.1 Conclusions

Climate protection policy is often assumed to take place only at the global level. There is no doubt that the main targets for fighting climate change have been and have to be gathered and agreed at the international and EU levels. However, the regional and the local levels are also important sites for governing global environmental problems and fighting climate change. Thus, the fight against climate change and sustainable energy policy are multilevel playing fields. Not only have various levels of governance to act together and to orientate their policies in the same direction to reach the common goals. Moreover – and what makes the interactions even more complex – the involvement of the private sector is particularly relevant in this context.

That is to say that the increase of public awareness and the provision of information for the citizens are essential for the realisation of the objectives and policies set out by the EU and the international levels. A change in values in favour of resource-efficient and climate-friendly practices can only happen from within society. Citizens, local and regional business, associations etc. have to be convinced of the necessary change of production and use of energy in order to reduce GHG emissions. Ambitious climate goals cannot be achieved without their contribution.

In general, local and regional authorities are an important arena to address specific climate policy and energy problems according to their responsibilities in many areas where substantial CO₂ reductions and energy savings are possible and due to their closeness to the citizens and other relevant actors:

- Many regions have their own legislative powers, also in fields that relate to climate change and energy policy. Even without legislative competences, regions and local authorities have to some degree influence on processes that rely to energy consumption, e.g. land use planning, waste management etc.
- Regions and communes may draw up strategies and take a leading role in instigating initiatives that have a direct effect on a successful compliance with EU objectives. For example in *Vorarlberg*, in a common decision of all the political parties, the regional parliament established the objective of Vorarlberg being an energy autonomous region by 2050. This political decision is able to mobilise the relevant actors and to bring resources together to concentrate on that aim.
- Local and regional authorities may innovate and experiment in their response to challenges of sustainable development and climate change, either within an EU or national context or entirely independently. Some may even taken further steps and go beyond existing policy initiatives, thus initiating demonstration projects. For instance *Netwerkstad Twente* combined in its project social, environmental and energy aspects; this is an integrated approach that can serve as model for other regions and local authorities.

- These innovative activities may not only be a basis for new experimentation of the local and regional levels. They may even influence and encourage the European level, because local and regional activities show what is possible in the fight against climate change. For example the decision of the *Basque Government* to introduce electro-mobility may be an example even for national or EU-wide similar action.
- Local and regional authorities may encourage changes in the behaviour of individuals as they work at the closest level to local communities, they are thus in a privileged position to interact with them and can therefore best stimulate awareness among citizens. For instance the *City of Gothenburg* showed with its project aiming at mobility changes how the local level can encourage lifestyle modifications of its citizens.
- Local and regional authorities may set up participation and communication processes and foster partnerships with all relevant stakeholders, the private enterprises, NGOs and citizens. For example the Energy Alliance set up by the *municipality of Erlangen* involves as many local businesses and institutions as possible. They commit themselves to far reaching climate action measures.
- Regions and local communities may be part of international, transnational or national networks and partnerships. These networks and partnerships may influence other regional and local authorities and facilitate similar activities to be carried out by these actors.

Therefore, local and regional authorities represent the appropriate level of governance to draw up strategies, to start innovative and experimental processes and projects, to set up participation processes with the aim to involve the public in the fight against climate change. They are able to contribute to intelligent solutions, bearing in mind the local and regional conditions, the habits and patterns of behaviour of the relevant actors as well as their ability to change their behaviour in the required manner. Furthermore, a successful implementation of EU energy policy aimed at fighting climate change largely depends on the success of local and regional authorities' activities to communicate ideas and involve the relevant local and regional actors in this fight.

6.2 Suggestions for policy actions

As various levels of governance are involved in the fight against climate change it is necessary to recognise the roles of the international, EU, national and the sub-national levels, and the interactions between them. Collective goals have to be defined at international and EU levels. However, these goals have to be pursued and implemented by all the governance levels involved and by private actors as well. The contribution of the local and regional levels to the achievement of the climate protection goals is indispensable, and the outcome of successful local and regional initiatives must be acknowledged and better utilized by the EU level.

Therefore, not only the central level of the Member States, but also the local and regional levels have to participate in the shaping of the EU climate change and energy policy. The active involvement of

these levels in the EU decision making through the participation of the CoR in this process is thus essential. Moreover, the “Structured Dialogue” on specific EU initiatives, organized by the CoR and held between the relevant Commissioner and associations of local and regional authorities provides a forum for them where to express their views.

However, this has to be complemented by other kinds of effective and regular involvement of the local and regional levels: hearings with regional and local authorities on EU climate change and energy initiatives that have direct impact on the regional and local level should be organised systematically by the relevant EU institutions. The results of every hearing should be comprehensibly taken into account by the deciding institutions.

Furthermore, it is vital that there is a consultation of local and regional authorities in the pre-legislative phase of the EU-decision making process: the EU level shall assess systematically the potential impact of its initiatives on the local and regional level. The administrative and financial burdens which its initiatives generate for regions and local entities have to be specified and measured as well in this framework. An efficient involvement of the local and regional level in the European Commission's Impact Assessments during the pre-legislative phase is thus essential. This can be achieved inter alia via the CoR's Subsidiarity Monitoring Network which can contribute to Impact Assessments after having consulted its partners and other relevant local and regional stakeholders.

It is demonstrated through this report that the respect of the subsidiarity principle in the fight against climate change is particularly relevant: all levels of governance being involved, it has to be made sure that the relevant decisions are taken as closely as possible to the citizen by the most appropriate level where the climate protection objectives can be most effectively achieved. Despite a possible tension between the comprehensive approach of an integrated energy and climate policy and the subsidiarity principle, EU initiatives shall thus leave sufficient room for manoeuvre and flexibility to the regions and municipalities to carry out their own efficient policies, complementing EU initiatives and contributing essentially to the successful fight against climate change. In addition, the EU level should take into account the activities that already happen at the regional and local levels when defining its objectives and initiatives.

Climate change and energy policy are part of the EU 2020 Strategy. They should also be among the main thematic priorities of the EU Cohesion and Structural Funding Policy after 2013. Resources should be focused on few priorities. As regional and local authorities are the appropriate arena for innovative and experimental projects, the EU administrative framework for the funds should not prevent the regional and level from innovation and experimentation. Thus, EU administrative and financial provisions have to be adapted to their needs.

Moreover, the fact that local and regional authorities are important players in the fight against climate change and energy action, based on their own competences, has to be taken into account and to be fostered. As shown earlier, local and regional authorities have initiated policies and programmes for managing GHG emissions in addition to the activities of their national governments and the EU level. For that aim, regions need on one hand – as mentioned before – a sufficient room for manoeuvre so

that they can adopt major commitments and go ahead in the fulfilment of the EU and international objectives.

On the other hand, the EU should strengthen its activities in fostering transnational networks and associations of local and regional authorities in climate change and energy matters. An example of such a network is the Covenant of Mayors. Such forms of enhanced cooperation give local and regional authorities the opportunity to set objectives which go beyond those of the national or the EU level, thus pursuing deeper levels of policy integration and contributing to a higher degree of the fight against climate change.

The EU has to acknowledge the importance of strategies that are set up and of processes for behavioural changes involving the public that are successfully carried out by local and regional authorities. Without these activities, the EU could not fulfil its ambitious climate protection targets. The existence of a multitude of regional and local processes is thus in the interest of the EU level. Therefore, the fostering of local and regional participation processes in climate change issues should be either introduced in an existing EU -funding programme or set up as an own new EU programme.

Furthermore, the exchange of experiences, the dissemination of ways of proceeding and of good practices concerning such participation programmes could be useful. To support these efforts, a series of conferences focused on the specific interests and needs of local and regional authorities could be organised by the European Commission in cooperation with the CoR.

In order to disseminate outstanding regional or local programmes and experiences, successful regional or local authorities could become “official consultants” for a limited period of time in order to provide advice for other regions or local authorities.

Finally, one of the next editions of the European Sustainable Energy Week in Brussels could be dedicated to the question how to run regional and local participation and information programmes aiming at behavioural changes in order to reach ambitious climate protection goals.