



CLIMATE ALLIANCE
KLIMA-BÜNDNIS
ALIANZA DEL CLIMA

Climate Alliance represents more than 1400 local governments in 17 European countries active in local climate policies.

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Introductory remarks

The world's climate system has such long response times that experts now agree that, to some extent, climate change can no longer be halted completely. Hence the adverse experiences with weather extremes - floods, storms, extreme heat and drought - are a clear sign of the severe impacts of climate change. Even if we were to stop all green house gas emissions today, we would still feel the impacts of climate change for decades to come. However, if we do not stop increasing the amount of carbon dioxide in the atmosphere we run the risk of changing the climate in unforeseen ways that we will be unable to adapt to.

For more than 15 years, Climate Alliance municipalities across Europe have engaged in local level climate protection activities, committed themselves to voluntary greenhouse gas emission targets and set up action programmes to combat climate change. However, the weather extremes make it only too apparent that decision makers – at all levels – need to be aware of the risks and be able to appropriately consider possible impacts and consequences of the changing climate. Therefore Climate Alliance welcomes the EU Green Paper on Adaptation to Climate Change and the start of a European debate on the issue.

1. Integrated mitigation and adaptation strategies

Addressing climate change and its effects presents a twofold challenge: firstly, “mitigation”, that is limiting further climate change by reducing the production of greenhouse gases and secondly “adaptation”, which means preparing for the impacts of inevitable climate change. We would like to encourage the European Commission to tackle mitigation and adaptation in an integrated way in order to achieve effective and comprehensive climate strategies.

Due to the increasing frequency of climate change related disasters, policy making – also at the local and regional level – could potentially shift to concentrate mainly on risk management and adaptation measures, drawing the focus away from the precautionary strategy of mitigation. And when financial resources are limited, adaptation and mitigation measures are potentially in competition. Therefore it is of vital importance to develop coherent approaches to mitigation and adaptation. For example the local and regional governments can benefit from integrated mitigation and adaptation strategies through increased energy efficiency and lower energy costs, improved environmental performance and air quality, better quality of life and lower health costs, new employment and training opportunities and better protection of the citizens to the threats posed by the changing climate. An integrated, cross-sectoral and holistic approach to mitigation and adaptation can be an excellent point of departure from which to transform a threat into an opportunity for the sustainable development of the territory not only in terms of the climate but also of the economy and quality of life.

2. Climate change is happening - priority areas for local governments

Climate change is a global issue, which is affecting many local and regional governments in Europe (and in other parts of the world). The impacts of climate change include extreme events such as severe gales and hailstorms, flooding, heat waves and drought, all of which dramatically symbolise the ongoing change in climate. These extreme weather events often destroy infrastructure within a short time, lead to injuries and deaths and disrupt the ecological balance.

The extreme weather events affect buildings and infrastructure, cultural heritage, business, ecosystems and agriculture, and have financial consequences (high economic losses and financial burdens). For example, the heat wave of 2003 caused damage of 17 billion euros. In France especially, it demonstrated the need for a health system that can quickly react to major emergencies and always has enough staff available. The previous year, 2002, a once in a 100 year flood caused severe damage across Europe. Thousands of people lost their homes, dozens died and damage of billions of Euro was caused.

During the last few years Climate Alliance has been coordinating an European project titled AMICA (Adaptation and Mitigation - an Integrated Climate Policy Approach). The project is built around the collaboration of a group of cities and regional governments, all victims of extreme weather events that occurred in the last years. The AMICA governments, together with the European and national coordinating bodies of Climate Alliance, feel a great urgency to re-elaborate their response in view of climate change. Therefore the AMICA project was set to develop comprehensive local and regional strategies to climate change. This objective includes enhancing the efficacy of local climate policies, producing optimal combinations of short and long term precautionary and responsive measures, and encouraging resilient local planning strategies to reduce future risks to local and regional development. The project concentrates on 4 impact areas which are particularly relevant for local governments: flooding of rivers, flooding of coastal areas, overheating of urban areas and drought and flooding in rural areas.

The AMICA project has been developing a series of practical tools for local governments to help the implementation of integrated strategies. An adaptation tool¹ with series of key measures is available on-line. This tool includes more than 40 adaptation measures covering impact types such as flooding, droughts and overheating, and looks at different policy areas such as planning, construction, energy systems, water management and transport. Tools such as this one are very valuable for public authorities to develop their local strategies and help them to identify and prioritise necessary actions.

3. Integrated measures to mitigate climate change and to alleviate adverse impacts

Factors such as land-use patterns, coverage of urban trees and vegetation, integration of transport modes and systems, as well as the materials and heating systems used in building construction can be directly affected by decision makers. This is where integrated policies and programmes to mitigate climate change and to alleviate adverse impacts of climate change can be most effective. Hence, the AMICA project has identified three policy fields where synergies for adaptation and mitigation are particularly relevant: These three aspects – urban planning, construction and decentralised energy production – are of their nature very local or regional.

3.1 Urban planning

¹ Materials (e.g. adaptation tool and a list of evaluated adaptation measures) developed in the AMICA project are available at <http://www.amica-climate.net>

Urban planning and design of infrastructure can play a key role in minimising the climate-related risks to the human environment. Moreover there are many opportunities for local councils to use the urban planning process to reduce greenhouse gas emissions. However, understanding of both mitigation and adaptation is essential: for example, higher housing densities are a way of improving the overall energy efficiency of the urban area. General urban consolidation, and more intensive mixed use (housing, services, employment opportunities) situated close to public transport nodes help restrict the amount of land used for building and are likely to reduce travel as well as emissions from transport. However, responding to climate change adaptation requires space around buildings. But if planned well, with the use of tree cover and landscaping, this can provide parallel opportunities to lower carbon emissions. Medium density housing, including mixed-use and sufficient green areas, is likely to lead to a reduction in greenhouse gases and contribute to adaptation.

Integrating uses within existing urban areas brings further adaptation benefits – such as the reduction of direct heat from individual cars. The planning of housing areas can significantly affect living comfort during heat waves. Innovative cooling systems contribute to limitation of emissions. Orientation and arrangement of buildings and built-over areas makes it possible to ensure that conventional air conditioning be replaced and solar cooling, district heating systems or geothermal energy be used for cooling comfort. Planting trees around buildings to shade urban surfaces, and green roofs to reduce their temperature, leads to substantial reductions in energy consumption for air-conditioning and the trees also absorb carbon while growing. Trees can also shade roads and parking lots reduce emissions of precursors of urban ozone. Biomass from urban trees and shrubs can be used as wood energy to replace fossil fuels, thus contributing to climate protection.

3.2 Construction

In Europe, optimisation of the energy consumption of buildings offers the largest potential for long term CO₂ reduction strategies. Buildings are also important for adaptation measures against climate extremes such as floods, storms and overheating in summer. Risk prevention for buildings and cooling comfort during heat-waves are two areas in which synergy effects for climate change mitigation can be achieved. Combining mitigation and adaptation strategies in construction should be considered as one of the key areas of action also in the future work of the Commission on climate change.

For example, buildings with high standards of thermal insulation in walls and windows reduce energy demand during winter. Reduction rates of 80 to 90 percent in relation to current average heating demand of existing buildings are possible. In addition energy-efficient buildings are more adapted to heat waves and require less or no air conditioning. Using green roofs for photovoltaic installations or shading steep roofs with solar panels contributes to further cooling comfort during heat waves. In order to prevent risks to buildings during flooding, wood from sustainable management can be used as flood-resistant material for constructions (adaptation), since wood is durable and will normally be structurally sound after severe water exposure during a flood. It can replace construction materials that require more fossil fuel input such as steel, concrete, plastics etc. (mitigation).

3.3 Energy production

The energy sector is one of the biggest sources of the greenhouse gas emissions and therefore an important sector for mitigation measures. In the energy sector, mitigation benefits such as improving energy efficiency and enhancing the use of renewable energy sources can be merged with adaptation benefits such as risk prevention and security of supply during extreme weather events, such as storms and droughts. For example, power stations can only produce electricity if there is enough water for cooling the process. During heat waves and droughts, energy efficiency and electricity supplies will be reduced. During the drought in the

summer of 2006, power stations - producing both nuclear and fossil fuels – could not deliver full energy supplies, especially in France, Germany, Spain and Italy. Severe storms and flooding can also create problems for energy supplies as a result of interruptions to the electricity grid.

Decentralised energy supply based on renewable energy sources is more adapted to climate extremes and black-outs than big centralised power plants. At the same time it contributes to mitigation to climate change. On a consumer level, using renewable energy sources for cooling and saving energy as well as the corresponding reduction in internal heat sources is a way to prevent low energy buildings from overheating (adaptation). In flood-risk areas, exchanging oil-fired heating for some form of biomass heating can help to reduce greenhouse gases and also to minimize damage caused when heating oil seeps into and contaminates floodwater. For example, in Upper Austria more than two-thirds of homes are now heated with biomass, heat pumps, and local and central district heating, after fuel tanks contaminated the water system during flooding.

Security of supply can therefore be an important factor for both mitigation and adaptation. Strengthening the resilience of local energy should be regarded as a critical factor both in day to day basis but also when increasing amount of disaster situations is expected. The high centralisation to big units can be seen as a weakness of the current electricity supply system. Utilities and local governments pay a crucial role in creating a less vulnerable, more decentralised energy system.

4. The roles of different levels of government and opportunities for action at the EU level

Urban planning, construction and decentralised energy production are of their nature very local or regional. Therefore municipalities and regions should take on a leadership role in adaptation, and developing integrated mitigation and adaptation strategies. Examples of advanced 'beacon' local governments exist, but further awareness raising among local and regional decision makers is still needed. The common ground of mitigation and adaptation has to be developed consciously by the administrations as an anticipatory strategy based on the vision of a territory resilient to climate change that takes up the challenge of a low carbon model of development. There is little good to be expected in the future for regions that renounce a policy of anticipation and do not strengthen their capacities to react. The integration of mitigation and adaptation begins in the minds of administrators, department heads, businessmen, opinion makers, and citizens as a crucial element in a strategy of economic, social and environmental sustainability in the territory.

The European level has a great potential in pushing forward the integrated mitigation and adaptation approach through awareness raising, integrating climate issues in their existing and new policy initiatives and in supporting future research and concrete projects in this field.

On the basis of the AMICA project and our participation in the European Commissions consultation workshops in Helsinki and Lisbon on the Green Paper, we would like to make the following recommendations.

The EU should

- Require national governments to prepare national adaptation plans by 2010 with a particular emphasis on creating common ground between mitigation and adaptation and thus creating coherent and integrated approaches. The European Commission could also encourage cooperation between the different levels of government in drafting these plans.

- Continue pushing strong mitigation policies, such as increasing the energy efficiency (in different sectors such as buildings, electric equipment, and vehicles); increasing the share of renewable energies, and working towards cleaner transport.
- Modify existing EU policies that influence planning decisions and investments and work towards making sure that these integrate mitigation and adaptation issues adequately. Such policies include for example the EIA and SEA directives. These should be revised to include adaptation and mitigation objectives explicitly.
- Consider setting new building standards on insulation and modifying the Directive on Energy Performance of Buildings to take into account smaller buildings.
- Ensure the policy coherence between the different policy initiatives of the European Commission, especially the common EU agricultural policy, biofuels policy, and reorienting EU funding (in particular structural funds) to take into account adaptation and mitigation criteria. As well as link the adaptation policies with new initiatives such as the Communication on water scarcity and droughts as well as the Global Climate Change Alliance.
- Use the EU funding programmes to
 - Improve knowledge about regional impacts of climate change with the aim to raise awareness of the need to adapt and create a basis for assessing vulnerabilities and adaptive capacities at the local level.
 - Help to develop practical tools (such as the AMICA adaptation tool), which can help decision makers in their planning decisions; assessing what is an acceptable risk and how to define it; as well as defining what land uses can be located and where etc.
 - Boost the knowledge of adaptation measures between the member states, regions and municipalities
 - Support the exchange of experience area and use the help of experienced regions and cities to spread their knowledge (e.g. on droughts and overheating).
 - Ensure better funding possibilities for complex and integrated climate projects in particular in the framework of structural funds.
 - Avoid supporting adaptation projects and measures that increase the greenhouse gas emissions and therefore are in conflict with climate mitigation.
- Increase capacities for disaster management as well as financing emergency interventions at the European level (e.g. using the European Solidarity Fund).
- Since many of the adaptation measures will be implemented at the local level, strengthen in general the fourth pillar (involving European society, business and public sector) and thus recognise the vital role of local stakeholders in adaptation efforts. In addition development of public-private-partnerships should be encouraged also as means of financing local climate projects.

Ensuring a good cooperation between the different levels of government is essential. The national level has an important role in coordination of the roles and responsibilities as well as in creating an enabling environment for climate mitigation and adaptation. Mixed institutional settings – with different bodies, hierarchies, overlapping responsibilities – can make climate mitigation and adaptation an ambitious task.

The EU could also facilitate networking between the national adaptation plans/strategies, as well as encourage national governments to ensure that the “lower levels of government” are involved in the preparation and implementation of these plans. The EU would then be able to

use these networks, and learn from the national plans as well as from interesting local initiatives.

5. Conclusions

Adaptation to climate change is a new challenge, and, as such, requires new approaches, and integration to the existing climate change policies. Currently the making of these strategies still include many aspects of uncertainty. Better understanding of synergies, conflicts and tradeoffs between mitigation and adaptation measures is still needed.

Even if Europe as a whole has experienced some similar extreme weather events, the risks are different based on local circumstances. For example the problems faced in Netherlands are different to the ones in Austria. This only shows that solutions need to be developed locally or regionally with a high amount of flexibility. Tools such as the AMICA adaptation tool can help local governments in assessing the risks and deciding on relevant actions and measures.

The climate is changing and adaptation strategies are necessary. However, mitigation should still be the central pillar of European climate policy. The Energy and Climate Package agreed by the heads of state and government in March this year is a strong signal for ambitious European policy in this field. Reaching the 20-20-20 targets by 2020 will require cooperation of all relevant actors – including municipalities and regions.

The green paper includes a section on involving society, business and public sector in preparing comprehensive adaptation strategies. It also proposes to set up a European advisory group for adaptation to climate change. Climate Alliance calls upon the European Commission to invite local government organisations to participate in the advisory group and to establish a group with a long term mandate and objectives. We would also like to propose (when necessary) the organisation of separate meetings with representatives of local governments to be able to look – in an integrated way – the different areas where local governments can contribute to the EU adaptation agenda.

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