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CLIMATE ALLIANCE  
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ALIANZA DEL CLIMA

## Challenges in integrating climate change mitigation and adaptation

To limit climate activities to adaptation is not only morally unacceptable but also practically useless. Without mitigation – here the consensus of the scientists is clear – all **attempts at adaptation are bound to fail**. The limit the European Union **has set of a 2°C increase of temperature** will require an enormous **effort aimed at reducing greenhouse gases** in Europe and worldwide. Nicolas Stern **fears that the 2°C window is already closed**; he views a 3°C temperature **increase** as a more attainable number, but one which will still require **ambitious** programmes of mitigation worldwide.

Mitigation and adaptation present themselves as two new fields of activity for local administrations. The European project AMICA is built around the collaboration of a group of cities and regional governments, all victims of the 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.

European local governments have a century-old history of managing their territories and preventing the harm of their citizens – including under conditions of extreme meteorological events. This was true for the cities on the coasts and along rivers that were regularly forced to protect themselves from floods and create settlements that took into account the historical experience of natural **catastrophes**. In zones beset by periodical droughts, planning of **water supplies** always had to take into account the possibility of **water scarcity**. Similarly, modern health systems in communities have dealt with collective sanitary crises ever more effectively.

In a city like Venice, one can follow the evolution of a system of prevention against high water (acqua alta) with the result that, for decades, this event has not claimed a single victim. Hence, local communities are not confronted with challenges without precedence. New is the frequency and intensity of events that in the past had to be supported by every



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second or third generation. Also historically new is a model of development that is characterised by the use of large tracts of land for residences, transport, production and services, by a high consumption of natural resources, above all water and energy, and in general by a precarious relationship between man and nature. Climate change comes on top of unsustainable and badly adapted forms of settlement, production, distribution and lifestyle.

The growing necessity to take into account a changing climate increases the urgency to rethink a model of local development that in the last decades, under the illusion of feasibility and the weakness of the public authorities, has strayed ever more from a policy of providential adaptation. This model is meeting its limits; natural resources and services require a more conscious and conscientious management. As a first step, this presupposes an overall strengthening of the capacity to act of local governments. Before starting to plan specific policies and measures on mitigation and adaptation, to elaborate action plans and define priorities in the various fields of activity the challenge of climate change has to be met with a big step forward in the general planning, organizing and programming as well as operational capacities of the local and regional administrations. This is important because it will be these administrations, with all their offices and departments that will have to deal with a climate strategy that ensures the security and well-being of their citizens.

To render the territory resilient to climate change means to live well and safe with less water and natural resources, higher temperatures, more intense rain falls and more frequent storms. Scarcer water supplies have to be managed in a more rational way; building codes must include higher standards of protection against bad weather and heat waves and must require intelligent energy use; land use planning must foresee flood areas and minimize the consump-



tion of territory where rain water cannot enter into the subsoil and leads to flash floods.

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. The common ground of mitigation and adaptation does not exist yet today as a field of activity of local governments. Such an approach 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 a region that renounces a policy of anticipation and does not strengthen its capacities to react. The integration of mitigation and adaptation begins as a cultural innovation 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.

*Dr. Karl-Ludwig Schibel*

## Practical examples for integrated measures

### Use of wood from sustainable management in flooding areas

No matter what the form of construction, the planning process should consider the probable effects of climate change – potentially building in more adapted ways to weather impacts – and at the same time contributing to climate change mitigation. For areas threatened by heat waves, sea level rise, storm surges and flooding off rivers adaptations may include relocation of facilities and redesigning and/or retrofitting structures with appropriate protection.



There are possibilities to use construction and finishing materials that are resistant to flood damage in all new and substantially improved buildings. "Flood-resistant material" is defined as any building material capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage. Wood, if properly treated for water damage by pressure preservative treatment, can also be used as a flood resistant construction material. Hence wood is durable and will normally be structurally sound after severe water exposure during a flood.



The ability of forests to sequester carbon in living forest biomass, soils and wood products is one route to mitigation. The biomass in wood products is a carbon stock. In Germany, in furniture, roof truss and other wood products it is estimated that 10 Billion tons of CO<sub>2</sub> are fixed. One detached house is able to lock up 40 tons of CO<sub>2</sub> – of course only as long as the house is intact. Substituting wood products for energy-intensive materials, such as concrete or steel – that have much higher fossil fuel inputs – is another mitigation option.

### Using of green roofs for photovoltaic

Another win-win-situation is given by the following combination. As shown in these pictures, nearly one third of the flat roof is shadowed by the PV-panels. During sunny days, overheating of the roof will be reduced because of the shadowed areas. At the same time the water storage of the roof will be improved with lower temperatures and limited evaporation. On one hand the cooling effect of the roof reaches a higher effectiveness. On the other hand the efficiency of the photovoltaic elements will increase due to a reduced ground temperature compared to roofs with other surfaces.

## AMICA policy recommendations

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 the participation in the European Commissions consultation workshops in Helsinki and Lisbon on the Green Paper, following recommendations are made.

### 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 more 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 accept-



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able 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**.

Presently (December 2007) 1414 cities, municipalities and districts as well as 63 provinces, NGOs and further organizations are member of the Climate Alliance. The members are in Austria, Belgium, Bulgaria, Czech Republic, Denmark, France, Germany, Hungary, Italy, Luxembourg, Netherlands, Poland, Slovak Republic, Slovenia, Spain, Sweden and Switzerland.



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The “Climate Alliance of European Cities with Indigenous Rainforest Peoples / Alianza del Clima” is Europe’s largest city network dedicated to climate protection. The member municipalities have entered into a partnership with indigenous rainforest peoples to protect the world’s climate. The city network was founded in 1990 with the mission to elaborate and implement local climate protection measures especially in the fields of energy and mobility and to cooperate with indigenous peoples to protect the tropical rainforests. Cooperation partner is COICA, the Coordinating Body for the Indigenous Peoples’ Organizations of the Amazon Basin. The Climate Alliance represents 50 million citizens in Europe.