



AMICA - Adaptation and Mitigation - an Integrated Climate Policy Approach

The world climate system has such long response times that experts now agree that, to some extent, climate change can no longer be halted completely. The adverse experiences with climatic extremes are a clear signal of the severe impacts of climate change even in Europe, making it only too apparent that there is a substantial need for mitigation and adaptation measures. However, once climate change related disasters are accumulating, local and regional policy will be tempted to concentrate on risk management and adaptation measures, shifting the focus away from the precautionary strategy of mitigating climate change. In doing so, municipalities and regions would not only disregard their own responsibility for climate change, but would, moreover, neglect the opportunities connected to mitigation. Within the context of limited resources, a set of climate policy actions that takes into account the synergies and trade-offs between mitigation and adaptation will have important benefits. Therefore, a combination of adaptation and mitigation strategies would lead to optimal results in terms of resilience, environment, and local economy. The aim of the European project AMICA is to develop local and regional strategies which adopt a comprehensive approach to climate change.

Adaptation and mitigation

Adaptation and mitigation represent two options to respond to climate change. They both seek to avoid the potential damages of global climate change, and they both seek to support the development of present and future generations in a sustainable manner. Adaptation can be defined as adjustments in ecological, social or economic systems in response to actual or expected climate change stimuli, their effects or impact to reduce vulnerability, to moderate damages and to realise opportunities (Stock, 2005). Mitigation is the act of reducing the cumulation of greenhouse gases in the atmosphere, whether by reducing the emission of these gases or increasing the absorption through creation of sinks.

The choice between climate protection (mitigation) and adaptation to climate change is comparable with the choice between mending a broken brake on a bicycle or buying a cycle helmet instead. Functioning brakes help to prevent accidents (mitigation), whereas the helmet is intended to avert disaster if an accident does occur (adaptation). Most people would probably opt in favour of both. This comparison also makes it clear that both mitigation and adaptation measures - in other words, spending money on both the brakes and the helmet - are relatively cheap compared with the damage likely to occur in an accident or disaster.

The Measures

The innovative element of AMICA is a completely new approach to combine long-term climate protection and short- and midterm adaptation measures on the local level as a means to improve coherence of decisions and allocation of financial means. Both targets have a stimulating effect on each other, there are impressive synergies between both. e.g. replacement of oil boilers by biomass based heating systems will reduce greenhouse gas emissions and also avoid oil spills in case of flooding, thus limiting damages. Conversely, mitigation practices can also enhance the adaptation potential. For example, carbon sequestration in agricultural soils leads to more stable soil-water dynamics, enhancing the ability of crops to withstand drought and floods, both of which may increase under changing climate conditions. Another classic example is the planting of trees in urban areas: they sequester carbon as they grow and they reduce urban heat stress in summer. More synergies between mitigation and adaptation will be explored and described systematically by the Partners of the AMICA project.



Upper Austria - Less heating oil in flood areas

In many houses in Upper Austria, the 2002 floods caused inundation of heating-fuel tanks and hence contamination of flood water, despite the introduction of legislation to prevent this scenario. An evaluation programme undertaken subsequently found that groundwater had not been adversely affected, but even after the oily substances had been removed, there was a lingering problem with offensive smells. As a result of falling subsidies and increasing fuel costs, the proportion of subsidised oil-fired heating systems being newly installed in family houses in Upper Austria fell from 30 percent to below 1 percent within a few years. More than two-thirds of homes are now heated with biomass, heat pumps, and local and central district heating.

Stuttgart - Green roofs for a better city climate!

In Germany, the city of Stuttgart - the capital of Baden-Württemberg - has been promoting green roof-planting on private buildings within the city limits for almost 20 years. Unlike the monotonous gravel, bitumen or tin roofs, roof greening benefits the climate, filters out harmful substances and, above all, evens out temperature extremes throughout the year. With a green roof, heat in summer and frost in winter do not penetrate the roof surface, or do so only to a limited degree. These roofs can continually improve the climate, filter pollutants, and save heating energy.

Netherlands - Living with water

Experience in the Netherlands has shown that adaptation measures which work against the natural conditions - such as higher dykes and larger pumps - are not sufficient in the long term. The Dutch therefore base their measures on the principle: "Living with water - not fighting against water". The national programme launched in the Netherlands prioritises measures such as widening river beds, restoring rivers to a more natural state and forming temporary flood plains. Instead of battling against the water, floating houses, greenhouses and even floating roads are being planned in high-risk areas.



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The partners are aiming at a broad exchange of experiences among municipalities and regions to identify integrated and practical climate policies in order to maximise economic, social and ecological benefits. Local and regional authorities will have to learn from other regions already coping with resulting problems as well as using the chances. Transfer of best practice is indispensable to improve concepts. More information is available on the website:

www.klimabuendnis.org

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Supported by the Ministry of Environment
of Baden-Württemberg