

# **The Economic Impacts of Climate Change in the ECE Region**

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Climate change will have a significant impact on the weather pattern in the upper latitudes of the Northern hemisphere, in the ECE region and this will produce significant economic costs and benefits for the region. Due to the fact that the region is in the temperate part of the globe and in the Northern hemisphere which has a higher concentration of land mass, the temperature increases which have occurred, and are likely to occur in the future, are higher in this region than the world at large, i.e. with an impact on the water regime of high mountains. In addition to temperature changes, there are also likely to be significant changes in precipitation with the drier areas becoming drier and the wetter areas becoming wetter. The different changes in weather across the various sub-regions of the ECE are discussed and their implications for various economic activities are highlighted. More specifically, the implications for agriculture and food security, water resources, ecosystems, human health and human settlements are outlined.

The 56 economies of the ECE, which currently account for approximately 51 per cent of global GDP, also account for 49.5 per cent of global green house gas (GHG) emissions. At the same time, the region is economically very diverse – together with the majority of the most developed economies we have 18 ODA-eligible member states and several land-locked countries with characteristics of LDC. As such many of the economies of the region bear a significant responsibility for the accumulation of GHG emissions in the atmosphere and their efforts towards mitigation are and will be central in limiting global warming over the coming century. Political and policy decisions, notably within the EU as well as higher energy prices, technological progress, and economic transformation in central and eastern European countries resulted in that emissions per capita and emissions per dollar of GDP have been declining (in some cases significantly) over the last 25 years in all three of the major sub-regions of the ECE – North America, Western Europe and the transition economies. Within the region there is tremendous variation in the levels of emissions which is due to several factors but primarily reflects the importance of economic policy in correctly pricing the costs of carbon emissions. There remain significant opportunities for reducing emissions from increasing efficiencies, sometimes with actually negative long-run costs.

All the major sub-regions of the ECE appear to be committed to significant declines in GHG emissions and have already implemented or have proposals in progress to implement far reaching curtailments of emissions. The European ECE economies have provided leadership on the mitigation effort undertaken under the United Nations framework and account for 30 of the 31 countries which made

commitments to reduce emissions under the Kyoto Agreement. The issues remaining to be resolved in Copenhagen are discussed.

The UNECE has been in rather practical and pragmatic way involved in climate change activities and every division of the organization has some part of its work program relevant for climate change adaptation and mitigation.. The Biennial Session of the Commission focused on this issue last spring and the member states of the ECE have strongly endorsed these activities. These diverse activities involve many different aspects of the climate change agenda including: reducing emissions by promoting energy efficiency and better land use policies, supporting the design and implementation of adaptation strategies including improved water resource management, strengthening institutions and regional environmental governance, financing climate change mitigation and boosting technological transfer, increasing advocacy and access to information, and improving the monitoring and analysis by upgrading statistical work. The UNECE is also working with the other agencies in the region as part of the Regional Coordination Mechanism to prepare a system-wide road map for implementing the outcome from COP-15 and to design a regional action plan for adaptation and mitigation activities.