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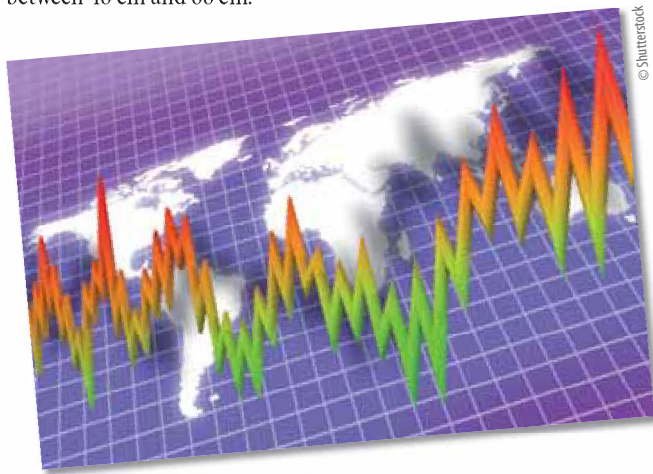
Publications Office

Europe to feel economic crunch from climate change

The European Commission's Joint Research Centre (JRC) has issued a report outlining how the EU would lose between EUR 20 billion and EUR 65 billion if we were to experience the climate projected for the 2080s today, with a temperature rise of between 2.5° and 5.4°C.

The detailed study presented diverse regional impacts of climate change across the EU: southern and central Europe would sustain diverse damages, while northern Europe would be the only region to benefit from climate change, especially in terms of the economy and the four elements.

Besides the increase in temperature, the report predicted that the sea level will rise between 48 cm and 88 cm.



The study, entitled 'Projection of economic impacts of climate change in sectors of the European Union based on bottom-up analysis' (Peseta), evaluated the annual economic impacts of climate change in Europe in coastal systems, river flooding, agriculture and tourism — four elements that are sensitive to climate change. Adaptation policies were not considered in the assessment.

On the whole, the EU's economy would contract substantially each year, according to the study. And global warming would have an adverse impact on the level of economic growth for Europeans. It should be noted, however, that the overall cost of global warming could be higher since the Peseta study did not take into account non-market variables including natural disasters or biodiversity. The report suggested that

welfare could drop by 0.2% if the temperature increases by 2.5°C. However, a 5.4°C increase could slash EU welfare growth by half.

Impacts on coastal systems (sea floods and migration costs) would decrease annual welfare by 0.46% and affect up to 5.5 million people.

River flooding would decrease annual welfare by 0.24% and affect up to 400,000 people. Agriculture would sustain 10% losses in crop yields each year. Tourism is considered the only sector that would not really be affected, but officials speculate variances across the regions will emerge.

From a regional perspective, southern Europe — in particular Bulgaria, Greece,

Spain, Italy and Portugal — is expected to sustain the biggest welfare losses (between 0.3% and 1.6% per year), and agriculture could post a 25% loss in yields. The tourism sector in this region could lose up to EUR 5 billion each year.

Central Europe's northern countries, such as Belgium, Germany, the Netherlands and Poland would report around 0.3% and 0.7% welfare losses. The region's coastal systems would sustain damage, with up to 2.4 million people affected by rising seas, and river flooding costing up to EUR 5 billion. The tourism sector, on the other hand, would be expected to report growth (up to EUR 4 billion in extra revenue).

Central Europe's more southern members, including the Czech Republic, France, Hungary, Austria, Romania and Slovakia, would sustain between 0.1% and 0.6% in welfare losses, and its coastal and river systems would feel a considerable crunch due to flooding. Tourism, on the other hand, would not; experts speculate that this sector would post EUR 10 billion in additional revenues.

Meanwhile, northern Europe — Denmark, Estonia, Latvia, Lithuania, Finland and Sweden — would be the only region to profit from these changes, according to the report, with its agricultural sector posting the most positive results. The only sour point is that sea floods could potentially affect over 250,000 people each year.

The European Commission has used the Peseta project's preliminary results for the White paper 'Adapting to climate change: towards a European framework for action'.

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Restoring Nabatean monuments to their former glory

Special mortar mixtures have been developed to facilitate the restoration of monuments built by the Nabateans nearly two millennia ago.

Europe and the Middle East are home to a number of ancient structures that constitute an important part of the cultural heritage of all humanity. Unfortunately, natural disasters, wars and simply the passage of time have all taken their toll on these monuments.

Restoring a building to its original appearance and structural integrity while maintaining its aesthetics often proves to be a difficult challenge. In the context of the

'Nabatean mortars - technology and application' (NAMO) project, European and Middle Eastern experts came together to develop restoration techniques for Nabatean mortars.

One of the project participants, the Institute for Restoration and Conservation Techniques in the Czech Republic, investigated repair mortars, sacrificial plasters and grouting mortars. Experiments in the laboratory and field were followed by tests on actual

Nabatean monuments located in the ancient cities of Petra and Bosra, both of which are UNESCO World Heritage Sites.

The modified mortar mixtures exhibited improved characteristics. For example, aggregate particle size was successfully manipulated to reduce crack formation. The mortar formulas and experience gained during NAMO will be of considerable value to museums, public institutes and engineers engaged in restoration projects.

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(Confirming the international role of Community research).
Collaboration sought: information exchange/training.
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