eu insight
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Climate change: a global problem requiring a global solution

That the global climate is warming is unequivocal.

That human emissions of greenhouse gases are causing this warming is considered very likely (90% chance) by the respected International Panel on Climate Change (IPCC) and a majority of scientists working in the field.

The IPCC delivered its Fourth Assessment Report in 2007 and projected that global average surface temperatures will rise within a range from 1.1 to 6.4 degrees by 2100, across several scenarios. Unfortunately, a considerable body of scientific work since the release of this report indicates that we are now tracking in the upper bounds or beyond many of the IPCC projections. For example, 'current estimates indicate that ocean warming is about 50% greater than had been previously reported by the IPCC'.[1] Scientists in Europe are seeing direct evidence of climate change in the form of shrinking glaciers, diminishing winter sea ice in the Arctic and measurable shifts in ranges of animal and plant species, to name a few.

The magnitude and speed of climate change will result in degraded ecosystems and threatens to severely test or exceed mankind's ability to adapt. Rising temperatures, altered precipitation patterns, sea level increases, altered bushfire dynamics and extreme weather events will retard economic development and pose increasingly severe threats to agriculture, international security, infrastructure, water security and energy systems. The poorest are most at risk.

We need to act. And act urgently. The world simply cannot afford to fail in Copenhagen.

A common effort

The notion that any one nation only contributes a certain proportion of global greenhouse gases and should therefore adopt a wait-and-see approach, or do nothing, would inevitably lead to the breakdown of international negotiations and a failure to solve one of the 'great challenges of our time'.

A 2 degree vision

The EU's agreed objective is to limit global warming to less than 2 degrees above pre-industrial levels. This is widely seen as the threshold beyond which climate change will become dangerous, bringing much greater risks of irreversible and potentially catastrophic changes in the global environment. Today, the world has already warmed 0.75 of a degree and even if emissions were to drop to zero, the world would continue to warm at least a further 0.6 of a degree, owing to inertia in the system. This underscores the urgency for action if we have any hope of achieving the 2 degree objective.

1. For a more detailed analysis, see, for example, the *Synopsis Report* from the *Climate Change: Global Risks, Challenges and Decisions* conference www.climatecongress.ku.dk

How do we achieve the 2 degree vision?

There is strong scientific evidence on the urgent need to achieve a peaking of global emissions before 2020 and a steep decline to less than 50% of 1990 emissions levels by 2050 if we are to avoid catastrophic climate change. Copenhagen is our chance for an effective global accord and this level of ambition will be the benchmark against which the world will measure success.

Developed countries need to take the lead and commit to collectively reducing emissions by 30% below 1990 levels by 2020 – by both domestic and international efforts. This is consistent with the IPCC range of 25-40% reduction.

This issue of comparability of developed country commitments is an important one and the EU proposes four criteria:

- the capability to pay for domestic emission reductions and to purchase emission reduction credits from developing countries;
- the GHG emission reduction potential;
- domestic early action to reduce GHG emissions; and
- population trends and total GHG emissions.

For developing countries, the latest scientific evidence indicates that they will need to limit their emissions growth to 15% to 30% below business as usual levels by 2020. Such a limitation would respect the principle of common but differentiated responsibilities and respective capabilities. It will still allow developing countries to continue to grow their economies rapidly and to reduce poverty.

The EU does not propose that developing countries commit to targets. Instead each developing country should draw up a Low Carbon Growth Plan which should map out concrete actions to limit their emissions, and indicate what support is required to implement those actions. The plans should provide the basis for a discussion between the developed country and donors that can support the implementation of those actions.

Historic EU Climate Change and Energy Package adopted in December 2008

The European Parliament and the European Council adopted an historic package of reforms in December 2008, in record time.

The deal will help Europe transform into a low-carbon economy and increase energy security. Agreement has been reached on legally binding targets, by 2020, to cut greenhouse gas emissions by 20% from 1990 levels (rising to 30% in the event of a global, comprehensive agreement in Copenhagen), to establish a 20% share for renewable energy, and to improve energy efficiency by 20%.

Deals were hammered out on revisions to the emissions trading system, the distribution of the reduction effort outside of the emissions trading system, a legal framework for environmentally safe carbon capture and storage (CCS) as well as on the related proposals on CO_2 emissions from cars and on fuel quality. As the first region in the world to commit to such far-reaching and unilateral legally binding emission reductions, Europe is leading the fight against climate change. The package is an important contribution towards an ambitious international climate agreement to be reached in Copenhagen by the end of 2009.

An improved EU emissions trading scheme

Emissions trading[2] is a system whereby an absolute cap is placed on the total quantity of greenhouse gases allowed to be emitted by certain sectors in the economy. Parties are then free to trade in rights to emit within that cap. Advantages of this system are that governments place a limit on total emissions, giving greater environmental certainty, and that the scheme provides flexibility to companies, so emissions are achieved at the lowest cost to the economy.

The EU ETS is the cornerstone of the EU's strategy for fighting climate change. It is the first international trading system for CO_2 emissions in the world and has been in operation since 2005. As of I January 2008 it applied not only to the 27 EU Member States, but also to three members of the European Economic Area – Norway, Iceland and Liechtenstein. It currently covers over 10,000 installations in the energy and industrial sectors which are collectively responsible for close to half of the EU's emissions of CO2 and 40% of its total greenhouse gas emissions.

An amendment to the EU ETS law agreed in July 2008 will bring the aviation sector into the system from 2012.

Auctioning is both more allocatively efficient and consistent with the 'polluter pays' principle. It is also widely acknowledged that power companies across Europe reaped windfall profits during the first phase of the EU ETS after they received emissions permits free of charge. Instead of receiving emission allowances for free, businesses covered by the system will now have to buy a progressively higher share at auction. From 2013 around 50% of total allowances will be auctioned and the goal is to reach full auctioning by 2027. However, in the absence of a satisfactory global climate agreement, certain energy-intensive sectors whose competitiveness is judged to be at risk would continue to receive up to 100% of their allowances for free, provided they use state-of-the-art technology.

From 2013, new industrial sectors such as ammonia, petrochemicals and aluminium will be added to the ETS and the current system of fixing 27 national caps on emissions from the ETS sectors will be replaced from 2013 by a single EU-wide cap.

Emissions from sources not covered by the European emissions trading scheme

Importantly, as part of the Climate Change and Energy Package, member states have taken on binding targets out to 2020 to cover greenhouse gas emissions not captured in the ETS. Individual countries within the EU have implemented and will continue to implement measures to increase efficiency and limit emissions in concert with the ETS. EU-wide initiatives such as efficiency standards for cars, product energy consumption labeling schemes and building standards also target sectors not covered by the ETS.

Renewables target

To ensure that the EU target of obtaining 20% of energy consumption from clean, renewable sources by 2020 is met, differentiated national targets have been agreed based on national wealth and renewables potential. The targets range from a renewables market share of 10% for Malta up to 49% for Sweden. Achieving this will both reduce greenhouse gas emissions and increase the EU's energy security.

Adaptation

We are locked into a certain amount of warming even if emissions ceased immediately. Therefore, adapting to these changes is imperative for the developing and developed world alike. In April 2009 the European Commission presented a White Paper which outlines the framework for adaptation measures and policies to reduce the European Union's vulnerability to the impacts of climate change. At the international level, it proposed a Framework for Adaptation Action aiming at helping developing countries to address climate change impacts. For more information on adaptation, visit:
http://ec.europa.eu/environment/climat/adaptation/

Financing

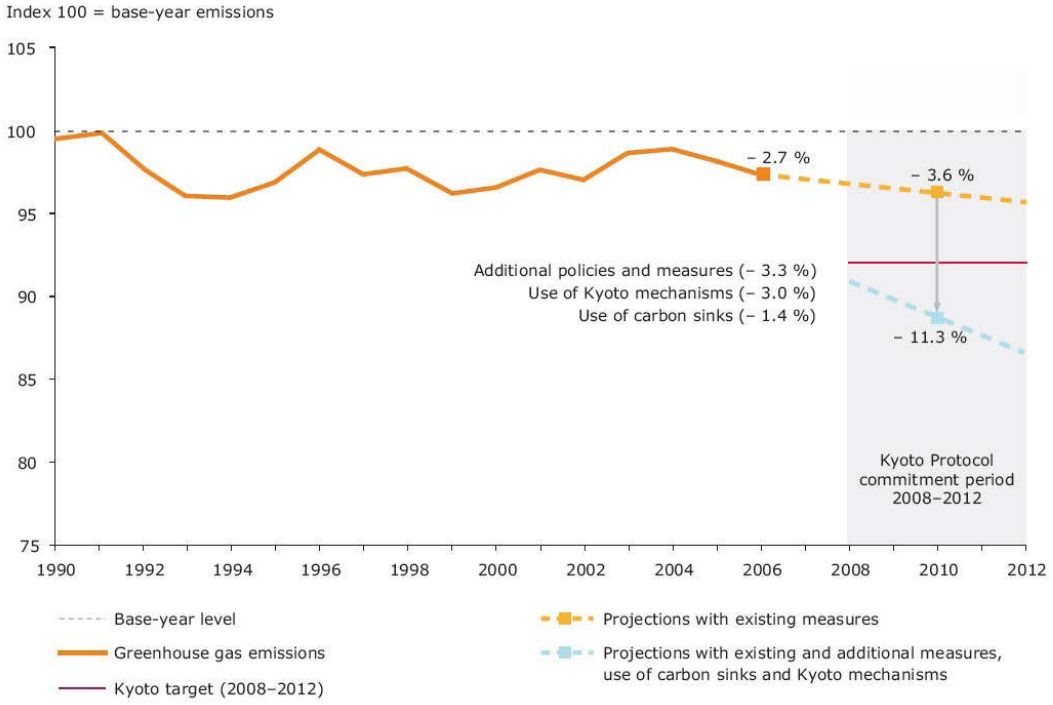
The issues of financing will be crucial in forging a global response and in building consensus between parties in Copenhagen. In September, the European Commission put forward a blueprint for scaling up international finance to help developing countries combat climate change. By 2020 developing countries are likely to face annual costs of around €100 billion to mitigate their greenhouse gas emissions and adapt to the impacts of climate change. Much of the finance needed will have to come from domestic sources and an expanded international carbon market, but international public financing of some €22-50 billion a year is also likely to be necessary. The Commission proposes that industrialised nations and economically more advanced developing countries should provide this public financing in line with their responsibility for emissions and ability to pay. This could mean an EU contribution of some €2-15 billion a year by 2020, assuming an ambitious agreement is reached in Copenhagen. As a next step, the European Parliament and Council will consider the Communication.

2 For more detailed information on the EU ETS, see *Questions and Answers on the revised EU Emissions Trading System* http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/796

Kyoto commitments

The European Union is firmly focussed on securing a successful outcome at Copenhagen in December 2009. However, new and existing measures continue to drive emissions down. The 15 countries which were member states at the time of the Kyoto agreement have a collective target of reducing emissions 8% below 1990 over the period 2008 – 2012. Projections indicate that the EU 15 will exceed this level of reduction. Our analyses also indicate that the EU 12 (the newer member states) will also meet their individual targets. (Though Malta and Cyprus are not Annex 1 countries and do not have binding targets under Kyoto.)

EU-15 greenhouse gas emissions and projections for the Kyoto period 2008–2012



Note: The full effect of the EU Emission Trading Scheme is not reflected in all Member States' projections.

Source: EEA, based on EU Member States greenhouse gas inventories and projections.

Some Q&A

How are Australia and the EU cooperating on climate change?

Climate change and energy feature prominently in the EU-Australia Partnership Framework – a living document, which is currently being reviewed and updated.

The EU and Australia are working together bilaterally towards a successful UNFCCC summit in December in Copenhagen and the two parties continue to exchange ideas and expertise on topics such as emissions trading and carbon capture and storage. The European Commission has also become a founding member of the Global Carbon Capture and Storage Institute, initiated by Australia.

Is there any prospect that the EU ETS will be linked to any future Australian emissions trading scheme?

Yes. Subject to certain criteria, both the EU and the Australian Government have expressed an interest in eventually linking compatible schemes. One of the key means to reduce emissions more cost-effectively is to enhance and further develop the global carbon market.

The Commission sees the EU ETS as an important building block for the development of a global network of emission trading systems. Linking other national or regional cap-and-trade emissions trading systems to the EU ETS can create a bigger market, potentially lowering the aggregate cost of reducing greenhouse gas emissions.

The increased liquidity and reduced price volatility that this would entail would improve the functioning of markets for emission allowances. This may lead to a global network of trading systems in which participants, including legal entities, can buy emission allowances to fulfill their respective reduction commitments. In fact, the EU would like to see the establishment of an OECD-wide carbon market from 2015.

When will the EU decide whether to move to a 30% reduction? What criteria will this decision be based on?

When approving the Climate and Energy package, the EU confirmed its objective of moving to a 30% emissions reduction target by 2020 as reflected in the European Council Spring 2007 conclusions, provided that other developed countries commit themselves to comparable emission reductions and economically more advanced developing countries to contributing adequately according to their responsibilities and respective capabilities.

Is the EU ETS working?

Yes. The ETS has been in operation since 2005- that's just over 4 years. That doesn't give much time for a big impact through change of capital stock/ investment in new technologies. These are longer term developments.

But independent analysis suggests that people are factoring the ETS price signal into their decisions on the shorter term. One study suggests that companies covered by the EU scheme reduced their emissions by up to 7% in the first year to 18 months of its operation. Several analyses also show significant emissions reductions under the EU ETS from 2007 to 2008, when emissions fell by 3%. This was due in part to fuel switching towards lower-carbon fuels in the power sector as a result of the carbon price.

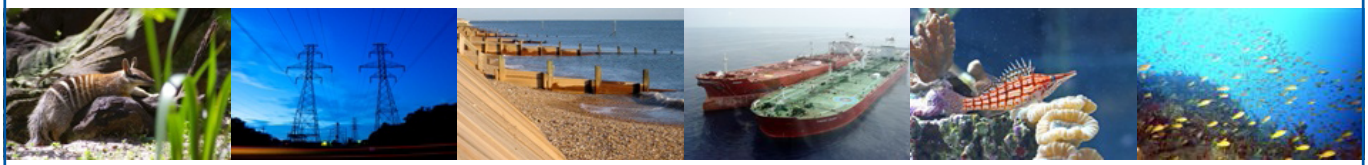
Will the EU implement border measures?

Not at present. They will remain part of our toolbox if needed in the future, but we firmly believe that the best way of avoiding carbon leakage and competitiveness problems is to get a comprehensive global agreement in Copenhagen.

We also believe that there are better ways of addressing competitiveness concerns. We have opted to do so through the approach to allocating allowances, by allowing more free allocation of allowances, with a slower phase in of full auctioning for energy intensive sectors and sub-sectors.

Ocean acidification

Another vitally important aspect of increasing emissions of carbon dioxide (CO_2) is that of ocean acidification. This is a chemical process whereby rising levels of CO_2 cause changes in ocean chemistry. Thousands of species of marine organisms, such as those that form the Great Barrier Reef, or that underpin important marine food chains and fisheries, are sensitive to ocean chemistry and we may see profound changes to these systems as a result. According to the Australian Antarctic Climate and Ecosystems Cooperative Research Centre, the Southern Ocean '… is a biogeochemical 'harbinger' for the impacts of acidification that will spread throughout the global ocean…'



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