

# Climate of Opinion

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## Commentary

### Achieving the unachievable? Getting a global deal in Copenhagen – Helen Disney and Meir Pugatch<sup>1</sup>

It has been almost two decades since the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil. The 1992 Earth Summit, as it became known, saw the heads of state of over 100 governments and representatives from over 170 states agree on a new UN environmental treaty: the United Nations Framework Convention on Climate Change (UNFCCC).

The UNFCCC focussed on cataloguing and, eventually, curtailing the emission of greenhouse gases. Since this meeting climate change and global warming have entered national politics and the public discourse in a way that previously would have been unimaginable. Today, an overwhelming majority of people around the world believe that global warming and climate change are happening and that this is a serious issue. Gallup polls conducted over the last two years show just how established and wide-spread these views are. In the UK over 70% of those polled believe that global warming is a very or somewhat serious threat.<sup>2</sup> In the US the figure is just under 65%, in France and India over 80%, and in Brazil close to 95%.

Politicians around the world have increased their efforts to deal – or at least to be seen to be dealing – with climate change. In the United States the election of President Obama last year was viewed by most pundits as hailing a new era in American leadership on climate change. As a presidential candidate, Obama had campaigned explicitly and frequently on the need to tackle environmental issues. In Europe, David Cameron, leader of the British Conservative Party, has also raised political interest in climate change by embracing it as a core policy area for the Tories early on in his leadership. Recently, France under Nicolas Sarkozy, introduced a limited carbon tax. Similarly, the Chinese, Indians, Brazilians and other developing countries and emerging markets have all introduced some measures to deal with climate change.

As a result of all this national and international activity, expectations are high with the ultimate goal of reaching a global deal and follow-up treaty to the Kyoto protocol limiting international carbon emissions at this month's United Nations Climate Change Conference in Copenhagen. Yet as always in international gatherings and meetings of this magnitude, reaching agreement on a unified, global approach to tackle climate change will be an arduous, if not impossible, task. This is especially true now, given the state of the global economy and the deep recession that many key countries are either still experiencing or are just now emerging from. So what can actually be achieved?

### The issue

In this special edition, the Stockholm Network team attempts to do the following. Firstly, to break down some of the big issues policymakers will be tackling at Copenhagen, and, secondly, to explain what the different expectations and positions of some of the key players will be. Understanding what is to be addressed as well as what key countries and regional blocs are bringing to the negotiating table, helps us understand what can realistically be achieved in Copenhagen.

Providing the broader context to the Copenhagen conference **Henry Beardsell** examines the history of the UN Conference on Climate Change and the wider issues of global warming. **David Torstensson** outlines the American position and explains what can be expected from the Obama administration. **Adrienne Cernigoi** will describe the EU's proposals for dealing with global climate change, as well as some of the sticking points and internal divisions within the EU camp. **Paul Healy** looks at China and the outcomes it is hoping for in Copenhagen. Finally, **Rachel Chu** examines the expectations of the developing world, with a particular focus on two increasingly important players: Brazil and India.

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<sup>1</sup> Helen Disney is the founder and CEO of the Stockholm Network. Dr Meir Pugatch is the Director of Research at the Stockholm Network.

<sup>2</sup> Gallup, 'In Major Economies, Many See Threat from Climate Change', July 8 2009,

<http://www.gallup.com/poll/121526/Major-Economies-Threat-Climate-Change.aspx>

## The UN Conference on Climate Change in context – Henry Beardsell<sup>1</sup>

### Background

#### The 1992 Rio Earth Summit and the United Nations Framework Convention on Climate Change

The first UN environmental summit since the 1972 Stockholm Conference, the Rio intergovernmental conference sought to help governments rethink economic development and establish solutions to prevent the destruction of irreplaceable natural resources. It established policy principles including alternative energy development, public transport systems, and the restriction of pollutants and chlorofluorocarbons. The Earth Summit influenced all subsequent UN conferences on the need for environmentally sustainable development.

The United Nations Framework Convention on Climate Change that emerged from the 1992 Earth Summit in Rio offers, with its amending successor, the Kyoto Protocol, the foundation to the 2009 UN Climate Change Conference in Copenhagen. The UN FCCC treaty sought to stabilise greenhouse gas concentrations. It sets no mandatory limits on emissions and unlike Kyoto it has no enforcement mechanisms or legally binding obligations. Copenhagen meanwhile aims to establish an ambitious global climate agreement from 2012, when the first UN commitment period expires, perhaps extending and developing the emissions cap and trade model emerging from the Kyoto Protocol.

#### UN Intergovernmental Panel on Climate Change

The IPCC is the UN body tasked with evaluating the risk of climate change caused by human activity. It does not carry out its own research nor does it monitor the climate itself, rather it

publishes reports on topics relevant to the implementation of the UN FCCC. Its assessments are based on peer reviewed and published scientific research. The IPCC seeks to establish a stated scientific consensus on climate change and thus provide a strong foundation on science for policymakers to deliberate.

The IPCC predicts an average global rise in temperature of 1.4 degrees Celsius to 5.8 degrees Celsius between 1990 and 2100. The prevailing scientific opinion on climate change concludes that human actions are the cause of substantial global warming from the mid-twentieth century. Continued growth in greenhouse gas concentrations caused by human-induced emissions would generate high risks of dangerous climate change.

In December 2007 the IPCC received a shared Nobel Peace Prize “for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change.”

### Global Warming

Global warming is defined as the increase in the average temperature of the Earth's near-surface air and oceans since the mid-20th century and its projected continuation. Most studies focus on the period up to the year 2100. Warming is expected to continue beyond 2100 even if emissions stop, because of the heat capacity of the oceans and the long lifetime of carbon dioxide in the atmosphere.

An increase in global temperature, and the consequent melting of the ice caps, would cause sea levels to rise and would change the amount and pattern of precipitation, potentially including an expansion of subtropical deserts and consequent human migration.

An increase in the intensity of extreme weather events and changes in agricultural yields are recognised as predicted effects of global warming. The economic consequences of global warming on countries without the resources to mitigate the effects are expected to be of greater damage than those of the developed world, slowing economic growth and preventing poverty reduction.

Some scientists have argued that the focus on carbon weakens the effective design of policy. Achim Steiner, the executive director of the United Nations Environmental Programme and former director general of the International Union for Conservation of Nature and Natural Resources, has observed that 50% of climate change is caused by gases and pollutants other than carbon dioxide. The emission of nitrous oxide, methane, chlorofluorocarbons, low-level ozone formed by pollution and ecological pollutants solicit less criticism than carbon intensive activities. Steiner has pointed out that many of these less publicised pollutants need to be curbed because of their wider proven environmental impact on public health, agriculture and the planet's ecosystems, including forests. While carbon dioxide can remain in the atmosphere for centuries, other pollutants – including ozone – remain for relatively short periods, so that reducing or ending their emission promises almost immediate climate benefits.

### **The existing proposals for reducing carbon**

Leading proposed solutions to carbon reduction include cap and trade policies, carbon levies and green tax credits. (There are also a number of alternative methods to cut global emissions, such as upstream carbon regulation, land use changes, and limiting deforestation. However, for the purpose of this article we will focus on the main proposals now being discussed in international and national legislation.)

#### Cap and trade

Emissions trading is an administrative approach used to control pollution. It provides economic incentives for achieving reductions in the emissions of pollutants and limits the net quantity

of the given pollutant within a given jurisdiction. Companies or other operators are issued emission permits in licensing their trade and allotted an allowance of credits. These companies are required to hold credits equal to the amount they emit - one carbon credit being equal to one metric ton of carbon. Companies that need to increase their emission allowance have to purchase credits from those who emit less, conversely, those operators who emit less than their allotted allowance may sell their surplus of credits. The designs of cap and trade mechanisms create a market based system in limiting a jurisdiction's net total emissions. Uniquely, carbon credits, can act as both a deterrent and an incentive in effecting individual and corporate behaviour.

The European Union Emissions Trading Scheme (EU ETS) is the world's largest multinational emissions trading scheme. Large emitters of CO<sub>2</sub> must monitor and report their carbon dioxide emissions; they are required to return an amount of emission allowances to the government that is equivalent to their CO<sub>2</sub> emissions that year. The scheme covers over 10,000 installations, each received allowances for free from the EU member states' governments. An operator may purchase EU allowances from other installations, traders and governments. If a given installation enjoys a surplus of allowances it may sell its free allowances.

#### Carbon tax

Alternatively, a domestic emissions tax fixes the price of carbon while the emission level is allowed to fluctuate according to economic activity. However, the environmental outcome, i.e. a net cap and reduction in overall carbon emissions is not necessarily a guaranteed outcome unless the carbon tax can be varied and fluctuate. This is in contrast to the functional advantage of a cap and trade quantity system. Carbon levies, unlike emissions trading systems, directly affect the cost of fossil based energy irrespective of how much the purchaser consumes. Unlike emissions trading they act as an excise duty and therefore constitute fiscal revenue; their implementation serves as a behavioural deterrent. Carbon taxes fundamentally affect the price rather than the

quantity of carbon. The French President, Nicolas Sarkozy, earlier this year introduced a limited carbon levy at 17 Euros per metric tonne of carbon dioxide emitted. It applies to households and enterprises but not to heavy industries and energy companies already engaged in the EU ETS.

### Green tax credits

Environmental tax credits act as an incentive encouraging the individual person or business to follow an environmentally sensitive pattern. Green tax credits do not reward those who elect to pursue carbon intensive habits with tax deductions. Unlike a carbon levy, however, they are not designed as a deterrent. The price and quantity of carbon falls only if the individual or corporation chooses not to purchase it. For example, the US Federal Tax Credits for Energy Efficiency are available to purchasers of hybrid vehicles. The federal tax credit amount is based on a formula determined by vehicle weight, technology and fuel economy compared to base year models. In addition to tax credits there are also other means of incentivising individuals and businesses to use less carbon intensive fuels. For example, feed-in energy tariffs are thought to encourage consumers and businesses to make use of renewables and to sell any excess capacity back into the energy grid.

### **Global implementation**

The implicit contradiction of a low carbon development path and the developing world's appetite for economic growth alone makes a multilateral convention on emission reduction targets prohibitive. A recognition of post-Kyoto environmental progress, the very existence of green initiatives that have emerged from the politics and fashions of environmentalism, may be considered an achievement in itself. Persuading China and India that they, in fact, have most to gain by a reduction in not just carbon but other pollutants could offer a roadmap to reducing global climate change through coordinated domestic policies.

### **Proposals, objectives and stumbling blocks**

The salient issue preventing a truly global solution to reducing carbon emissions rests in the differing

aspirations and policy objectives between the developed and developing worlds. The reality of a treaty binding all industrialised signatories to cutting their emissions by a figure between 25 to 40 per cent of 1990 levels is highly unlikely.

The United States could potentially seek to amend any target deadline – set out by the UN IPCC – to 2050, declaring them as binding only nationally. The possibility of a multilateral agreement on short term reductions remains elusive. It is unclear, therefore, how domestic energy policies will differ post and indeed because of Copenhagen.

Notwithstanding American resistance, other key regional and country blocs are prepared to make greater sacrifices in a bid to initiate a binding convention. Japan is offering a 25 per cent cut, while the European Union will commit to 20 per cent, and if other important states were to follow suit, 30 per cent. China has also recently made a commitment to increase energy efficiency and reduce carbon emissions per unit of GDP.

In the bid to realise a convention and in an attempt to compensate the economic ambitions of the developing world, developed countries have designed a policy of direct aid to the developing world in exchange for a reduction in emissions. Whether this scheme secures a change of environmental and economic policy remains questionable. Therefore it is unlikely to be implemented on as broad and grand a scale as envisioned in the developing world. Furthermore, within the EU27 bloc, Central and Eastern European countries – whose economies are by and large in much worse shape than many of their Western neighbours – are not likely to make any large contributions. The financial burden is thus likely to fall on the European Union and the United States.

### **Summary**

Hitherto, the Framework Convention on Climate Change and the Kyoto Protocol have both exempted developing and BRIC countries, choosing to bind industrialised countries alone as those historically responsible. Up until now this has been the major stumbling block in any global negotiations on the issue. The following articles

will analyse if this is still the case – have the prospects for a deal on climate change changed? And are the main players ready to make the kind of concessions that would make a deal possible?

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## Understanding the American position – David Torstensson<sup>1</sup>

After a long and polarising presidential election, one of the first major decisions President George W. Bush took in the spring of 2001 was to reject the world's first major binding international agreement to tackle global warming: the Kyoto Protocol. To say the least, this course of action did not endear the new President to many other signatories or the environmental lobby. In fact, to his critics, Bush's rejection of Kyoto became a symbol of American intransigence, unilateralism and abdication of responsibility on the climate change issue. Eight years on and with a change in the White House, how has the US position changed?

### From Dubya to the Chosen One

Chiefly negotiated during the mid 1990s by Bush's 2000 presidential opponent and then Vice President, Al Gore, the Kyoto agreement of 1997 was, and remains, a protocol to the UN's Framework Convention on Climate Change. The main function of Kyoto is to, firstly, *bind* a minority of its signatories (37 industrialised countries) to cuts in greenhouse gas emissions of four major pollutants (including carbon dioxide) and, secondly, *encourage* cuts in emissions amongst all other countries. Indeed, most of the signatories (labelled Developing Country Parties and numbering some 150 countries including China, Brazil and India) are not bound to make any cuts in their emission levels. Significantly, many of these economies have grown both in size and international heft since Kyoto was first agreed. In fact, today China is the world's largest total emitter of carbon dioxide, having overtaken the United States in 2005-6.<sup>2</sup> Crucially, this development actually compounds the original difficulties which any American administration will have with signing up to a new treaty. Indeed, the

distinction between the responsibilities of developed countries and developing countries – the former being bound to make cuts whereas the latter countries are not – was, and remains, the core hurdle in reconciling the United States with any global climate change deal.

While the administration of President Bill Clinton eventually decided to symbolically sign the Kyoto agreement in 1997, the United States Senate unanimously opposed it. In the run-up to the finalisation of the treaty, the Senate overwhelmingly voted (95-0) for a bipartisan resolution opposing Kyoto and the division between binding and non-binding cuts. Introduced by senators Robert Byrd (D-W.Va) and Chuck Hagel (R-NE) the resolution explicitly said the US should not be a signatory to any protocol or treaty which might harm the American economy, and which mandated new commitments to limit or reduce emissions without 'new specific scheduled commitments to limit or reduce greenhouse gas emissions' for Developing Country Parties.<sup>3</sup> Pointedly, after having signed Kyoto, for the final three years of his presidency President Clinton declined to present the treaty to the Senate for ratification knowing that the agreement was indeed anathema to the upper chamber. While President Bush did indeed cause an international outcry in 2001 when he flatly rejected Kyoto and also refused to present the treaty to the Senate for ratification, he was following the precedent, if not the tactics of his predecessor. Today, eight years on, how much of this dynamic has actually changed?

### New President, same old reality?

When he was elected last year, Barack Obama was hailed as a saviour in not only the United States, but in many parts of the world. Presented as the antithesis of his predecessor – both in style and in substance – expectations of the new President's environmental policy were, and remain, monumental. The President's own

rhetoric reflected and fuelled these hopes. On the eve of clinching the Democratic nomination, then candidate Obama proclaimed that ‘this was the moment when the rise of the oceans began to slow and our planet began to heal’.<sup>4</sup>

Yet twelve months to the date of his election the US Congress still has not passed any environmental legislation of note. Indeed, while the House of Representatives this summer passed a very watered down cap-and-trade bill (Waxman-Markey), its upper-chamber counterpart (Boxer-Kerry) continues to languish in the Senate. In fact, it is looking increasingly unlikely that that body (let alone that both chambers of Congress would eventually be able to reconcile Senate and House versions of a bill) will be able to pass any legislation prior to Copenhagen. More ominously, with the American economy still in real turmoil and unemployment hitting a twenty year high, the political winds are blowing against environmental legislation. Indeed, recent off-year local elections show a swing against the Obama policy agenda and specifically against proposals for cap-and-trade.

On November 3 Republicans won the governorship in both Virginia and New Jersey; the former being a state Obama carried in last year’s presidential election and the latter being a traditionally solid Democratic state. In Virginia – where the Republican candidate Bob McDonnell had explicitly campaigned against the President’s fiscal policies – the Democrat Creigh Deeds was trounced by almost 20 points.

While local issues invariably played a part in both of these major off-year races there were signs that voters were turning against the President’s policies and specifically cap-and-trade. Specifically, in Virginia’s gubernatorial election, the State’s union-dominated and traditionally Democratic ninth district (located in the rural, heavily coal-dependent southwest of the state) close to 70% of the voters went for the Republican candidate. Exit polls suggest a large part of this swing had to do specifically with the effects cap-and-trade legislation would have on polluting fossil fuels and the increased cost to coal-dependent states and areas.

Yet these adverse political winds do not necessarily translate into wholesale public disapproval of trying to mitigate the effects of climate change or limit air, land and sea pollution. Instead, opinion polls show a majority of Americans viewing climate change as a serious issue that needs to be addressed.<sup>5</sup> This is reflected by action at the State and local level, where, since the 1970s, the environment has been high on the legislative and regulatory agenda. For example, California has, since the late 1960s, regulated air quality and auto emissions standards. It currently has the strictest standards in the country. The Golden State has also passed some of the most ambitious carbon targets in the world: by 2020 the State has capped greenhouse gas emissions to 1990 levels and hopes to have reduced emissions to 80 percent of 1990 levels by 2050.<sup>6</sup> On the east coast 10 states have teamed up to form the Regional Greenhouse Gas Initiative (RGGI) which is a market-based cap-and-trade carbon reduction program. Other States, like Washington, are looking into establishing local or regional cap-and-trade systems for greenhouse gases.

Still, these examples aside, there is no denying that at the federal level the economic downturn has raised serious doubts among lawmakers that the short- and medium term increased cost of energy to consumers and businesses created by a cap-and-trade bill is a price worth paying. As the Virginia gubernatorial election shows, there are also real concerns among Midwestern and coal-reliant States – and their mainly Democratic senators – that cap-and-trade legislation would place an undue cost burden on their constituents.

It seems that while Americans, by and large, accept the need for action on climate change they fundamentally disagree amongst themselves – and their President and the Democratic leadership in Congress – over the means by which to do this.

### **Sealing a deal in Copenhagen?**

Although fighting global climate change was presented as a priority during the 2008 Obama presidential campaign, the severity of the recession, falling poll ratings and the considerable demands of passing health care legislation raises doubts over whether or not the Obama White

House has either the energy or the political capital to make a concerted effort to also pass a climate change bill in the near future. Yet without such a bill it is difficult to see how the United States will be able to exert the moral authority and international pressure to push through a global deal – whether at Copenhagen or at a later date – that includes binding cuts for China, India and the developing world. Conversely, without such binding cuts, it is difficult to see how domestic lawmakers would ratify any treaty. Because the dynamics which scuppered US participation in Kyoto are largely the same today as they were in 1997, first passing domestic legislation tackling climate change would be essential in convincing other countries to sign up to an international agreement of carbon cuts. While the President's recent announcements of specific carbon reduction targets – 17% less than 2005 levels by 2020, 42% by 2030 and 83% by 2050 – certainly will help move negotiations along these are not game changers. Indeed, even these announcements are targets, not binding commitments. Nor have they have been ratified by the Congress in the form of new legislation.

However different in tone and reputation on this issue from his immediate predecessor, it is also highly doubtful that President Obama would accept any international agreement based on a premise similar to that of Kyoto. Only recently Todd Stern, the administration's Special Envoy for Climate Change, stated categorically that developing countries had to agree to binding emission cuts: 'We don't in the US deny that we have real historical responsibility but the IEA [International Energy Agency] in Paris will tell you that 97 per cent of the growth in emissions between now and 2050 will come from the developing world. The US has to act and the EU and Japan but also the developing countries. It's the only way to solve this problem.'<sup>7</sup> Acknowledging these realities, the Obama team has downplayed expectations for the summit hoping to merely set the political tone for a future framework, as opposed to a binding treaty. In fact, until recently it was looking unlikely that President Obama would even attend the Copenhagen meeting himself.

### US policy post Copenhagen

Although a grand global deal seems off the table for this week's meeting in Copenhagen, there are positive signs that the climate change issue can be tackled internationally and that the US will play a constructive role in this. Just as for other countries – see the accompanying articles on China, Brazil and India – the impetus for battling climate change will more likely come from domestic rather than international pressure. Indeed, the need and desire for rebalancing the American economy away from fossil fuels – whether it be for reasons of battling climate change or national security by relying less on foreign-produced oil – is becoming more and more evident. Although hopes that a bipartisan solution will emerge in this Congress are fading, a change in political circumstances brought about by the 2010 midterm elections or a sharp uptick in the economy over the next few years could change the political landscape and pave the way for a bill. Recent bilateral negotiations between the United States, China, and India could also, conceivably, address many of the thorniest issues and sidestep the need for an international binding agreement. This may prove a more fruitful route to unified action by the world's current (and future) largest economies than international conferences.

The Copenhagen conference will most likely not be remembered as the point at which the perceived need for American engagement on climate change trumped its domestic concerns and divisions on how to deal with this issue. But environmentalists and critics of past US policy should take heart from the fact that both the American public and politicians are engaged in a way they were not in the past. Climate change legislation is likely to appear in the not too distant future. Still, when action and legislation does arrive it will be uniquely American. Whether or not it will live up to the expectations or needs of the international environmental movement is a separate issue.

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<sup>2</sup> *The Economist*, 'The price of cleanliness', part of a special report on China and America, October 24 2009.

<sup>3</sup> Byrd-Hagel Resolution, 105 Congress, 1<sup>st</sup> Session, S.RES.98

<sup>4</sup> Barack Obama, Speech St Paul Minnesota, June 3 2008.

<sup>5</sup> Gallup, 'In Major Economies, Many See Threat From Climate Change', July 8 2009, <http://www.gallup.com/poll/121526/Major-Economies-Threat-Climate-Change.aspx>

<sup>6</sup> 'California Climate Change Policy and Programs', <http://www.climatechange.ca.gov/policies/index.html>

<sup>7</sup> *The Times*, 'President Obama may not attend Copenhagen climate summit', October 20 2009

## The EU27 and Copenhagen – Adrienne Cernigoi<sup>1</sup>

Going into the Copenhagen negotiations, the EU has claimed the moral high ground on taking action to tackle climate change compared to its international partners. The block of 27 countries has so far enacted the most far-reaching legislation to cut down greenhouse gas (GHG) emissions, adopting what became dubbed its “green package” in December 2008. The Energy and Climate Package sets out tangible targets for each of the EU countries to reduce their emissions and is to form the EU’s negotiating base from which it hopes to encourage other OECD countries to do the same. However, the intense negotiations within the EU27, which coloured the debate over the green package, have again surfaced in the run up to Copenhagen, with fierce discussions taking place over financing and burden sharing. As high hopes for a comprehensive deal at Copenhagen give way to talk of a political declaration, the EU bloc may well be split between disappointment and relief.

### The EU’s Plan

In December 2008, the European Council announced triumphantly that a deal had been reached on a set of measures to achieve the headline goal of 20-20-20 by 2020: a 20 per cent reduction in GHG emissions compared to 1990 levels; a 20 per cent improvement in energy efficiency measures; and a 20 per cent share for renewable energy in the EU’s energy mix. It was also agreed that the EU would upgrade its overall emissions reduction target to 30 per cent by 2020 if a satisfactory climate deal was reached in Copenhagen – meaning if other developed countries, such as the US, committed to comparable reductions.

The 20-20-20 targets were always intended as cards for the EU to bring to the negotiating table, as the European block tries to establish its leadership over green policies and work towards keeping global temperature increases to below 2°C compared to pre-industrial levels. But while laudably ambitious, European businesses fretted that such targets - and the costs incurred in trying to meet them - would put them at a disadvantage in comparison to global competitors (the problem of “carbon leakage”). Therefore, aside from the main objective of tackling disastrous climate change, the EU27’s negotiators are under the added pressure of needing to get a global deal in order to establish a level-playing field for European businesses. Nicolas Sarkozy’s threat of imposing carbon tariffs on other countries reflects this concern.

Drawing on the 12 October preparatory negotiations in Bangkok<sup>2</sup> and the EU heads of state Summit conclusions of 29-30 October<sup>3</sup>, the EU has set out what it considers essential elements for a satisfactory deal to meet the 2°C objective and to agree a global emissions reduction of at least 50 per cent by 2050 compared to 1990 levels.

### ***Binding emissions reductions by all industrialised countries based on comparable efforts:***

In order to share the responsibility for tackling climate change, the EU is looking for a commitment from all developed countries – OECD countries, EU member states, EU candidate countries and potential candidates – for an aggregate reduction in emissions of 25-40 per cent by 2020 and by 80-95 per cent by 2050 over 1990 levels. Realising that not all industrialised countries have contributed to climate change to the same extent, the Commission formulated four criteria to allocate emissions cuts. A country’s contribution would be determined by its GDP per capita, emissions per unit of GDP,

emissions trends from 1990-2005 and population trends from 1990-2005. In particular, the EU is looking to the US to show more leadership and to commit to more ambitious goals.

**Appropriate action by developing countries to limit emissions:** The EU has laid out steps for developing countries to limit their growing levels of emissions, without stunting economic growth. The EU wants a 15-30 per cent reduction in emissions below projected “business as usual” levels by 2020 for developing countries, including China and India, but excluding Africa’s least developed countries (LDCs). This should include a rapid decrease in emissions from tropical deforestation. In addition, the EU would like developing countries, except LDCs, to commit to adopting low-carbon development strategies covering all key emitting sectors by 2011 in order to qualify for international public finance to help with adaptation and mitigation measures.

**Create a Framework for Action on Adaptation:** EU negotiators want all developed and developing countries to be required to elaborate national adaptation strategies. However, considering the precarious position of developing countries most affected by climate change, financial support for adaptation should be provided to the most vulnerable LDCs and small island developing states (SIDs).

**Stimulate private financing:** For industrialised nations, the EU proposes to raise funds through an international carbon market. By linking the EU’s own Emissions Trading System (EU ETS) with comparable cap-and-trade systems, the EU hopes to establish an OECD-wide carbon market by 2015, gradually extending to all major emerging economies by 2020 with a view to building a global carbon market. The funds generated by buying and selling carbon credits would then be spent on fighting climate change in developing countries. The Commission estimates that a well-designed, expanded international carbon market could generate financial flows to developing countries of as much as €38 billion a year by 2020.<sup>4</sup>

For developing countries, private finance could be obtained through significant reform of the Clean Development Mechanism (CDM) to enhance its

effectiveness and environmental integrity. In addition, the EU would like to introduce sectoral crediting – creating specific carbon markets in highly competitive economic sectors in advanced developing countries. Companies would be obliged to participate and could earn extra credits if their emission reductions went beyond pre-set ambitious benchmarks.

**Provision of international public finance to developing countries:** By the EU’s estimates, €100 billion a year is needed by developing countries to finance climate change adaptation and mitigation. The remaining money not generated from private finance, between 40-20 per cent, would come from international public finance. The latter should be provided by all countries, except LDCs, with each nation’s contribution reflecting ability to pay and responsibility for emissions (with a considerable weight on emission levels), to which the EU will contribute its “fair share”.

**Technology cooperation to accelerate development of a low-carbon global economy:** While preliminary negotiations on the transfer of new, clean technologies had been a sticking point, a deal now seems to have been agreed. Reports from EU officials suggest that developing countries are willing to drop demands for the unconditional transfer of intellectual property on clean technologies developed in rich nations, in return for rich world companies co-developing technology with developing country partners.

### Internal Stumbling Blocks

While the EU demands for a climate deal seem clear, the detail is a lot murkier. The reality is that the EU’s own 20-20-20 headline goal was hard won, with clear divisions emerging between those (mainly Northern European) countries who wanted ambitious, binding targets and those (Italy and mainly Central and Eastern Europe, particularly Poland) countries that dragged their feet about committing to even this much. Therefore the divisions that were exposed by the green package negotiations – financing and targets – remain sticking points for a united European front at the Copenhagen talks.

The divisions over public financing for adaptation and mitigation measures in developing countries are evident in the lack of figures issued by the Commission. In September, the Commission released figures amounting to an EU contribution of €2-15 billion a year by 2020, reflecting the understanding that a global climate deal required industrialised countries to come up with credible figures. However, these calculations were conspicuously absent from later communiqués and Summit conclusions<sup>5</sup>, as Central and Eastern European (CEE) countries, Germany, France and Italy raised objections.

In addition, although a fast-track fund of €5-7 billion a year from 2010-12 advocated by Sweden, Denmark and the Netherlands to kick-start adaptation measures in developing countries was finally agreed, these contributions have been made voluntary after CEE states pointed out that they could not afford it in light of the financial crisis.

The controversy over financing also extends to the calculations for burden sharing of contributions. Poland strongly opposed plans to calculate contributions on the basis of historic emissions arguing that this would disadvantage poorer member states (particularly Poland, as it relies on coal-fired power plants for its energy) instead favouring calculations based on the ability to pay. This placed Poland, among other CEE countries, at odds with fellow member states who point out that the EU is responsible for 15 per cent of global emissions, but 31 per cent of world GDP. The divisions within the EU27 resulted in the vague promise that the EU will contribute its “fair share” of the burden.<sup>6</sup>

When it comes to targets, both the timetable and what the target should be have caused problems. Getting agreement on the EU climate package’s 20 per cent goal has been described by EU officials as “like drawing teeth”, with negotiations regularly testing diplomatic stamina. These divisions resurfaced over the commitment to upgrade the target to 30 per cent should a deal be done at Copenhagen. The UK, Belgium and the Netherlands are in favour of the increase. France, Germany, Italy and CEE states are more cautious, saying the increase to a 30 per cent target is not automatic and would depend on a

strict assessment of other countries’ commitments at the talks.

The CEE countries also expressed a preference for a less stringent timetable and a longer transition period. From the latest EU Summit conclusions, differences appear to have been smoothed over with an increased emphasis on the ultimate 2050 goal and less weight given to the interim 2020 target range. In addition, Poland and other CEE countries are hoping to reduce the costs of a climate deal over the so-called “hot air” issue, by pushing for the right to sell unused emissions rights leftover from Kyoto, even after Kyoto expires in 2012. Other member states say the existing permits must be cancelled or else the price of carbon would fall dramatically with the availability of so many credits. The result is the EU’s demand that the issue of unused permits “must be addressed” at the climate talks.

### **A workable global solution?**

Even if the EU’s negotiating position remains coherent in Copenhagen, obstacles remain to a global deal. The nuts and bolts of agreements to administer the proposed global carbon market and an international public fund for developing countries have not been set out. The EU itself stipulates that the EU ETS will only merge with similar cap-and-trade systems if the other systems are comparable in ambition and design, making establishing a carbon market between OECD countries alone a mammoth task.

EU proposals are also likely to meet resistance over private and public funding for developing countries for adaptation and mitigation. Although the EU advocates setting up a high-level forum under the aegis of the UNFCCC, involving the international financial institutions, to oversee the funds, such bodies have historically not had a good track record of effectively channelling resources and would suffer from an enforcement deficit to implement and design adaptation programmes. Moreover, it is hard to see such a fund getting approval from other nations. Much of the financing (public and private) would initially come from OECD country pockets, leading either to resentment from industry on an additional tax on their output, or to consumer

anger at increased energy bills or to a raiding of development aid budgets, or all three.

Despite these divisions, the EU's blueprint for a climate deal remains ambitious. But if the lessons of the EU's experience over the green package and negotiating position for Copenhagen are anything to go by, the battle at Copenhagen to secure a clear, effective framework for action will be a diplomatic marathon.

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<sup>1</sup> Adrienne Cernigoi is a former research intern at the Stockholm Network.

<sup>2</sup> [http://www.europa.eu/articles/fr/article\\_9083\\_fr.htm](http://www.europa.eu/articles/fr/article_9083_fr.htm)

<sup>3</sup> <http://europa.eu/rapid/pressReleasesAction.do?reference=DOC/09/5&format=HTML&aged=0&language=EN&guiLanguage=en>

<sup>4</sup> <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1297&format=HTML&aged=0&language=EN&guiLanguage=en>

<sup>5</sup> <http://www.reuters.com/article/latestCrisis/idUSLG415874>

<sup>6</sup> <http://www.europeanvoice.com/article/imported/member-states-split-over-climate-change-strategy/66126.aspx>

## China's role – Paul Healy<sup>1</sup>

Twenty percent of the world's people now live in China and now 21 percent of all carbon dioxide emissions in the world are released there too. China has recently overtaken the United States to become the planet's biggest polluter with 6,200 million tons of CO<sub>2</sub> emitted annually, a 105 percent increase since 1996 – one year before the Kyoto protocol was signed – and a mammoth increase since 1950 when China emitted only 79 million tons. The cause is simple: carbon and greenhouse gas emissions have risen as a consequence of the staggering economic growth the country has experienced in the last few decades.

It is therefore no surprise that China will attract much of the attention in Copenhagen, as the international community seeks to secure a global deal to reduce GHGs. But China will not allow itself to be penalised for its economic growth and is determined to ensure that any future obligations are shared among other emerging economies, such as Brazil, India and Indonesia. It is also unwavering in its belief that in a global deal the lion's share of action should fall on the developed world, which contributes to significantly more emissions per capita.

Yet, the World Bank, which launched the most comprehensive report on the economic and health costs to China from pollution, has suggested that 460,000 Chinese people die prematurely a year as a consequence of air and water pollution. In total, the report found that the combined cost of air and water pollution for China's economy is around US\$100 billion per year, or 5.8% of Chinese GDP. While pollution and climate change are distinct phenomena, the World Bank's findings reflects the larger reality that pollutants – whether carbon or others – have a direct harm on domestic populations.

It is no surprise therefore that China is increasingly waking up to the threats that are posed by climate change and it is no longer the case that global warming is seen as the elephant in the room, which Beijing has in the past been keen to ignore. Instead, the Chinese Government has developed a national strategy that focuses on

engaging with environmental issues head on. As such, the biggest challenge at Copenhagen will not be getting China to acknowledge the severity of climate change, but rather to convince it of bringing its national approach in line with global strategies and targets.

China launched its National Climate Change Program (CNCCP) in 2007, laying out an approach that focused among other things on three main strategies for reducing CO<sub>2</sub> emissions: energy efficiency, renewable energy and deforestation.

### Saving their Energy

Like most countries, China's main source of CO<sub>2</sub> emissions comes from burning fossil fuels, such as coal, oil and natural gas. Faced with this fact – as well as concerns about energy security – China has placed a large focus on trying to reduce its fossil fuel consumption by encouraging more efficient use of energy without slowing economic activity or growth. As a result, China this year proposed car fuel economy standards compelling car manufacturers to improve fuel economy by levels that are stricter than those put forward by President Obama in the United States. (This also makes sense economically, with China being the third largest importer of oil in the world.) Car fuel efficiency has been part of ten specific programmes dealing with energy consumption under the current Chinese five-year plan. Expiring in 2010, the plan also includes upgrading coal-burning industrial boilers, making use of exhaust heat and pressure, environment-friendly lighting, and conserving energy in buildings, in particular government sites. Indeed, existing coal power station fleets are some of the most efficient in the world.

Overall, the Chinese government has committed itself to reducing energy consumption per unit of GDP by 20% by 2010 and recent data shows some success in achieving this goal. Indeed, 2006 saw a year-on-year reduction in energy consumption per unit of GDP of 1.79%, 2007 saw a further reduction of 4.04% and the latest figures for 2008 show a reduction of 4.59%.

### New Energy

In addition to trying to restrict the unproductive use of energy, China has also targeted the need to develop new renewable energy sources. The world's leading generator of hydroelectric power, China spends more than US\$100 billion a year on developing clean energy. In a recent address to the UN General Assembly, President Hu Jintao reported that China was committed to having a 15% renewable energy output by 2020; a target some analysts predict should be easily reached. To achieve this, the Government has set targets which compel large power companies into generating 8% of their capacity from renewable sources, excluding hydropower, by 2020.

A recent study by the China Greentech initiative indicated that environmental technologies in China could become a US\$1 trillion market by 2013. However, if this investment and innovation in green technologies is going to be encouraged and reach this level of development, significant progress needs to be made in the protection of intellectual property. China has for a long time supported calls for the compulsory licensing of existing, patent-protected green technologies arguing this would speed up the development and use of these technologies. However, poor IP protection could not only prevent the acceleration of private investment in the research and development of green technologies in China, but may also discourage private investment around the world as potential innovators will be left uncertain of the safeguards afforded to their products in one of their biggest potential markets.

### **Deforestation**

China has long identified the threat posed by deforestation, the effect of which has been severe sandstorms and summer floods across the country. On average, 2,460 square kilometres of vegetated land in China is lost to desert per year, whilst another one million hectares suffers from serious land erosion. One of the biggest threats to China's remaining natural forest is from paper plantations, where indigenous trees are chopped down to make way for eucalyptus plantations that make pulp for paper. Deforestation and forest degradation has a doubly damaging environment effect, with logging and the burning of forests

representing around 20 percent of global GHG emissions at the same time as the numbers of CO<sub>2</sub> absorbing trees are reduced. China's national tree planting day has been in place for 20 years with an estimated 35 billion trees having been planted since. Yet, the problem still remains.

China has made a pledge to cover around 20% of its land with forest, where currently 16.55% is covered. Attempts to achieve this have seen the imposition of tough laws to protect forests. However, as China is the world's second largest consumer and importer of wood products, many of these regulations are having a destructive effect on forests around the Southeast Asian region in countries that have more lenient forestry laws.

### **Conclusion**

It is certainly the case that China will play a much more active role in the Copenhagen Conference than it did in the negotiations leading up to Kyoto. At that time, China was not only not the world's largest polluter, but it also had not fully acknowledged the reality of global warming. This is no longer the case and now China will be keen to be central to any dialogue on climate change solutions.

Still, it is yet to be seen whether China is ready to accept the need for a global response and if its leaders are ready to accept the fact that the Chinese environment is affected just as much by the conduct of other countries of the world, as its own behaviour domestically. In particular, China will need to appreciate that, as the world develops, its role and its CO<sub>2</sub> emissions will increase and so this Copenhagen conference, as well as subsequent meetings, allows China to set the tone for the long and testing journey ahead. Will the Chinese take the chance and participate fully? And, above all, what will they want? That is the question on the minds of policymakers and climate change negotiators in capitals around the world.

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## Show us the money! India, Brazil and the Developing World – Rachel Chu<sup>1</sup>

The 130 or so countries not considered “Annex I” parties in the UN Framework Convention on Climate Change face many of the same challenges introduced by global warming and ensuing climate change. Broadly speaking, they are also looking to achieve many of the same outcomes at the upcoming conference in Copenhagen. These include developing countries agreeing to bear their share of the burden for existing levels of carbon emissions and the subsequent consequences of climate change by committing to sufficient global emissions targets; to not impose binding targets on developing nations; and most importantly, to help finance developing countries’ efforts to curb emissions and deal with the effects of climate change on their populations and environment.

Nevertheless, the decade following the 1997 adoption of the Kyoto Protocol has created distinctions among the non-Annex I nations in terms of their specific interests and bargaining positions for a new agreement. The group differs widely in their levels of economic development, levels of CO<sub>2</sub> emissions, the nature and the extent of the impact climate change is having on their surroundings and their capacity and incentive to respond. India and Brazil have emerged as strong voices, especially because they appear to have some of the most acute potential for increasing global emissions. (China has an even greater potential, and for this and other reasons, it is addressed separately.) However, other cases are also discussed here to demonstrate the diverse interests and positions held across developing and other non-Annex I countries.

### Seats at the table

From developed countries’ perspective, developing countries, particularly India and Brazil, are key players in achieving a UN climate change agreement. First, they are among the next generation of high carbon emitters; developing countries will reportedly represent 90% of all future emissions growth, based on their population size and potential for growth. Brazil is already a relatively high emitter – mostly because

of deforestation activity in the Amazon, the world’s largest tropical forest, which is a major perpetrator of global CO<sub>2</sub> emissions – but India represents only 5% of global emissions at this time.

Therefore, developed countries, most notably the US, need them at the negotiating table – the US is finding it difficult to obtain national support for reducing its CO<sub>2</sub> emissions when its efforts risk being derailed in the future due to the increased emissions expected from developing countries.

The second reason is mostly altruistic. India and Brazil, among other developing countries, do and will increasingly feel the effects of climate change more than many developed countries. This is partly due to geography and partly to the fact that their capacity to deal with these effects and adapt their economies and livelihoods is also less than developed countries. However, the extent to which this boosts their negotiating position probably depends on their individual capacities to cope with these negative effects.

### Sustained growth

When it comes to climate change, developing countries’ primary interests lie in ensuring that they achieve or continue to achieve high levels of economic growth, with the aim of lifting their populations out of poverty. However, they are also seeing the impact that climate change is having and will have on traditional growth models, and are already incorporating alternative fuel sources and fuel efficiency technologies. India has the world’s fifth largest installed wind capacity and is reportedly contemplating a range of “green” plans, including a carbon cap-and-trade scheme and solar and nuclear power projects. Brazil, along with the US, leads the world in fuel ethanol production<sup>1</sup> and Brazilian President Lula da Silva has indicated he is considering a commitment to cap Brazil’s emissions at 2005 levels. Around half of the reduction would come from deforestation (reducing it by 80-90% by 2020 has been mentioned) as well as the planting of trees, improved farming practices and increased use of (its own) biofuels. Indonesia has said it is aiming to cut emissions by 26% by 2020,

primarily through deforestation efforts. The Maldives have also announced plans to build a wind farm which will power the capital and tourist areas and reduce CO<sub>2</sub> emissions by 25%.

Nevertheless, developing countries do not want to impede growth disproportionately by diverting finances to developing and installing energy efficient technologies and alternative energy sources, which are quite costly relative to traditional usage of fossil fuels. Instead, they want developed countries – who they view as the main contributors to current climate trends through past economic development – to help fund these measures and to aid them in developing new technologies. Although in some instances the latter has taken the form of calls for technology transfer and compulsory licensing of patented technologies (most forcefully from India), lately demands are leaning more towards collaboration with governments and private companies.

In addition, developing countries are looking for financial aid in mitigating and adapting to the effects of climate change in their countries. India, for example, faces more frequent and more severe droughts, floods and storms. According to the NGO, Germanwatch, it has lost the most lives globally due to extreme weather events, with an average of 4,532 people killed and \$12 billion lost every year. Many nations in sub-Saharan Africa and Latin America, such as Tanzania, Kenya, Ethiopia, Barbados and Costa Rica are experiencing much drier conditions and need support for diversifying their crops and water sources. Indonesia and Brazil are saying that meeting global demand for curbing or halting unsustainable forestry practices requires outside financial support, not only for changing industrial practices (i.e. cutting down forests in order to increase grazing land feeding into the beef and leather industry), but also for adapting livelihoods (i.e. of farmers).

Developing nations want developed countries to compensate them for the structural changes they will be forced to make in order to survive and to continue to grow at a rapid pace. In fact, bilateral support through the UN's Clean Development Mechanism (CDM) and other arrangements already exists. Currently, India hosts around 400

CDM projects (second in the world to China) involving a range of sectors, including fuel switching, municipal solid waste and energy efficiency. Brazil is the third largest site of CDM carbon credits, particularly in agricultural methane and biomass, and has also received direct financing for deforestation, most notably from Norway (\$1 billion last year). However, developing countries are saying they need much more financial support in order to undertake a full transition to new energy sources and adapt to their changing environments.

From this it would seem that the biggest hurdle in getting India and Brazil on board as part of a global deal is ensuring they receive greater financial support and access to new green technologies. Moreover, they wish to ensure that the immediate burden of emissions reduction is shifted away from them, and they are willing to commit to nationally-determined actions that incorporate low carbon measures if that helps convince developed countries to sign up to their part.

### Shopping lists

With these interests in view, developing countries, especially India and Brazil, are mainly looking to get three specific commitments from the Copenhagen conference. First, they would like to see a renewed obligation to emissions reductions by developed countries, including the United States. More specifically, they want the target to be proportionate to developed countries' share of emissions, which has been quantified as cuts in the range of 25 to 40% of 1990 levels. This figure is higher than what most developed countries have agreed to; the top cuts are in the EU (20%, up to a possible high of 30% if other countries follow) and Japan (25%). The different proposed targets in the US range from 17 to 20% in emission cuts, and crucially, these would be cuts on 2005 levels. Furthermore, they would like to see developed countries agree to an international target, rather than individual national targets. This is aimed at preventing developed countries from in future watering down their commitments.

Second, while most developing countries do not seem willing to commit to binding emissions

targets, many appear willing to pledge to national action plans, including those already announced. According to India's Environmental Ministry, this could involve international measurement, reporting and verification of its mitigation actions, but "only when such actions are enabled and supported by international finance and technology".

Finally, developing countries want global pledges to financially support both emissions reductions and adapting to their changing environment, and to link them with green technology development efforts. They have said that given the burden that developed nations should be bearing, this should not only involve private companies, but real financial commitments from public coffers (figures up to \$100 billion annually have been mentioned).

### **Copenhagen outcomes**

Given that many developing nations are willing to pledge to carbon reducing actions, this may satisfy developed countries demands for future emitters to commit to cutting emissions. Also, developing countries may be urged into being more flexible towards developed country targets if they get international guarantees on finance and technology. However, this is the real sticking point. While the EU has already committed £90 billion annually, the US and other major countries have yet to bring forward pledges.

Brazil (with the Amazon as a prime global mitigation strategy and with limited domestic incentive to curb deforestation) seems to be in an especially strong negotiating position in terms of achieving financial support, compared to other developing countries. "Western" support for anti-deforestation efforts already exists, not only from countries like Norway but also from private industry – after international food and footwear manufacturers threatened to cancel their contracts, last month four of the biggest meat companies formally agreed to halt expansion into the Amazon.

However, countries like India are in a more precarious position. Given the impact climate

change is already wreaking on their populations, it is undoubtedly in their best interest to pursue

emissions reductions. They probably have to act with or without outside financial support.

Perhaps seeking to ensure that it receives a share of any future funding, India has recently agreed to partner with China in climate change negotiations and in low-carbon technology development. Strategically, this partnership could be viewed as creating a critical mass for developing countries to resist calls for binding reductions from developed countries. However, from India's perspective, it could also be a method of ensuring that it is targeted as a funding recipient. China is by far the largest emitter among developing countries and in this sense, the one with the most urgent need of incentivising and enabling emissions reductions. If China is the primary focus of financial commitments among developed countries in the new agreement, India could miss out on funding in the short-term. Therefore, this arrangement may be an effort to guarantee that India receives funding along with China.

As long as India is not made to agree to higher emissions standards by being linked to China, this partnership may increase its bargaining power. However, it is also important that India (indeed all developing countries) articulate specific, achievable emissions abatement plans, including their estimated impact on CO<sub>2</sub> emissions. The countries that do this will probably have the most success in attracting international funding and technology.

### **The money?**

For developing countries the principal question surrounding the Copenhagen conference is whether international money will be "shown" and to whom? Both India and Brazil have a particular bargaining tool in their possession that may make them a key target of funding. However, it remains to be seen if developed countries, especially the US, will take their bait, as well as if other developing nations will see much support. If developing countries want the full package, i.e. guarantees on finance and technology, and satisfactory emissions targets from developed countries, they will probably have to be more flexible on both counts.

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Network.

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## Microclimates – Top stories in energy and environment

### Smart Start

The UK Department of Energy and Climate Change (DECC) is set to release details on how smart meters will be installed. Smart meters will change how energy is consumed in the UK. Once the blueprint is announced Britain can begin to implement its nationwide smart grid. Smart meters, to be blanketed across the UK by 2020, allow plug-in electric vehicles to recharge when power is cheapest. The DECC intends to back a central hub model, as framework for smart meter installation, with accurate readings sent to a central office using SMS or GPRS communications technologies. The policy will constitute one of the largest IT projects the UK has ever seen. The central office will pass energy data to energy companies, allowing homeowners to change energy suppliers without having to substitute the meter.

### World's first salt-powered generator in Norway

Europe's first osmotic power generator has been unveiled in Norway. The system, built by the state-owned Statkraft, harnesses the energy produced when fresh water and sea water mix. The company hopes to be able to build "a commercial osmotic power plant within a few years." It has been estimated that salt power could produce 1,600 to 1,700 terawatt hours globally. It is considered carbon neutral- its only waste product being brackish water. Whether the brackish water emitted could affect local marine ecology is unknown, however. The technology relies on osmosis, the migration of water from one side of a porous division to the other in balancing the salt concentration on either side. The pressure created can be harnessed to generate a turbine. Owned solely by the Norwegian government, Statkraft's

prototype is located where a river meets the Oslo fjord.

### New warnings about oil shortages

A study by Uppsala University, Sweden, estimates that by 2030 the world will be able to rely on only 75 million barrels of oil a day, as peak production of oil has already been reached. The release of the study comes amid suggestions that there are divisions within the International Energy Agency (IEA) about when the world will run out of oil supplies. The IEA predicts that by 2030 global oil demand will reach 105 million barrels a day, up from 85 million in 2008. In the UK, warnings over oil supplies have been raised by the UK Industry Taskforce on Peak Oil and Energy Security, which has called on the government to "urgently" reassess its view of the potential threat of oil shortages on the economy. Will Whitehorn, chairman of the taskforce that includes Virgin and Yahoo, said that he hoped this latest study would prompt the government to review its "complacent approach to peak-oil risk" and encourage better preparation for the potential economic damage of a sudden rise in prices of crude oil. In addition, John Hess, chairman of US oil company Hess Corporation, warned a conference in London of a devastating oil crisis, but added that fuel efficiency and building efficiency standards could save "over five million barrels per day of incremental supply over the next ten years".

### Carbon rationing

Lord Smith of Finsbury, the Environment Agency's chairman, has proposed that every citizen in the UK be provided with a "carbon account" including a unique number that they submit when buying carbon-intensive items. The agency will advocate that carbon rationing is the fairest and most effective way for the UK to meet its commitment to cut greenhouse gas emissions. Under the initiative individuals would receive periodic statements that show the carbon impact of purchases and how much of their annual ration remains. In exceeding one's ration, the said

consumer would be required to purchase extra credits from those who have not used their full allowance, mirroring existing emission cap-and-trade schemes. The policy is likely to reopen the debate over carbon rationing.

### **Europe's Saharan Solar Plan**

A joint venture to meet 15 percent of Europe's electricity demand by solar farms in North Africa and the Middle East has moved closer to implementation, with the announcement of a consortium of twelve firms to manage the project. The newly incorporated group, including signatories Deutsche Bank, E.ON, Munich Re, RWE, Siemens and a host of solar energy companies, is to undertake the groundwork for the project. The Desertec Industrial Initiative (DII) GmbH flagship project aims to generate up to 100GW of solar thermal power using a network of solar farms across the Middle East and North Africa. The energy generated is to be transmitted into Europe using high voltage DC cables. The new company will be headquartered in Munich, with a budget of €1.8m committed to 2012.

### **Green taxes recommended to cut Britain's emissions**

A study by the Green Fiscal Commission (GFC), supported by the government, has found that eco-taxes on high-carbon activities can protect the environment at a lower cost than other measures. The GFC report concludes that a new "polluter pays" tax framework would not increase the overall tax burden and would promote growth and employment in low-carbon industries. The report suggests doubling the proportion of green taxes in the overall tax take, offsetting the levies by cuts elsewhere to income tax and National Insurance contributions. Among the suggestions are a £300 tax on new cars, increasing to £3,300 by 2020, a tripling of fuel duty over the next decade and a household energy tax.

### **UN report critical of existing biofuels policies**

A report released by the International Panel for Sustainable Resource Management, part of the

UN Environment Programme (UNEP), has urged countries to adopt more sophisticated policies towards biofuels, in order to avoid damaging the environment. The report warns that some biofuels, such as biodiesel from palm oil, can actually lead to increased carbon emissions. The report also criticises increased land use change in developing countries because of biofuel targets in developed nations, which can contribute to deforestation: it is estimated that between 118 and 508 million hectares of cropland will be needed to meet 10 per cent of global transport fuel demand by 2030, if first-generation biofuels such as ethanol from sugar cane are used. While the report concludes that some biofuels can reduce greenhouse gas emissions, it urges policy makers to proceed with caution when taking decisions about land use; using abandoned land to produce energy crops is preferable to clearing virgin land for plantations, but it is often more efficient to use abandoned land for reforestation or solar power projects. Achim Steiner, executive director of UNEP, said that the biofuel debate was not only about energy demands but also "a choice about how humanity best manages its finite land bank and balances a range of competing interests in a world of six billion people".