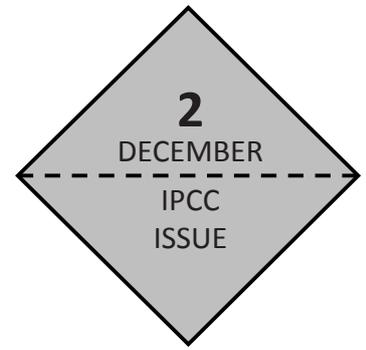


ECO



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ECO special edition on the Long-Term Goal

Now that the new IPCC compendium has been worked on by the world's leading climate scientists and published for all to see: What conclusions should countries draw from it? How about the need to phase out fossil fuels ASAP, starting today?

In the next two days, a Structured Expert Dialogue will assess the adequacy of the long-term global goal (i.e. keeping global warming below 2°C), possible strengthening of the goal to 1.5°C (yes please!), and the overall progress made towards achieving the goal.

On Tuesday, IPCC experts will bring in the fresh science from the Fifth Assessment Report (AR5), while on Wednesday UNEP, IEA, FAO and others will present their analysis on the matter.

A realistic understanding of where we're heading and where we should be going to avoid catastrophic impacts is fundamental for negotiating a successful deal in Paris. Therefore ECO is pleased to present this special issue on the future of our climate as assessed by the world's review panel, the IPCC.

IPCC makes a strong case for 1.5° goal

There are many who consider a 2°C limit for global temperature rise to be an unacceptable climate risk. For them it's "1.5°C to stay alive," and the new IPCC report shows that they have a serious point.

The IPCC's newly updated "Reasons for Concern" indicators (sometimes called "the burning embers," refers to a chart showing increasing risk for the key indicators in yellow, orange and red colors) show that 2 or even 3 out of 5 key risks would could be at dangerous levels with 2°C warming.

The risks play out most at a regional scale, so let's have a look at what could happen with **just 2°C warming globally (recognising that warming also varies by region):**

For Africa, of 9 key regional risks, 8 pose medium or higher risk with 2°C warming, even with high levels of adaptation. We're talking fundamentals like water stress, reduced food production and the spread of diseases.

For Small Island States, highly vulnerable to sea-level rise and high-water events, and dependent on ocean ecosystems, 2°C would be a disaster.

For Asia, risks of catastrophic flooding and lethal heatwaves would be in the medium or high range even with high levels of adaptation.

For Europe, there would be medium risks related to freshwater availability and extreme heat events even, again, with high levels of adaptation.

For Australasia, 2°C really wouldn't leave much hope for coral ecosystems, or the fish, tourism, and communities that depend on them.

For North America, 2°C would imply high or very high risks related to wildfires and droughts.

For Central and South America, 2°C with high levels of adaptation would imply high risks of flooding and landslides caused by heavy rains, and big problems for water availability in semi-arid and glacier melt-dependent regions.

For the oceans, risks related to 2°C look particularly devastating: risks are very high for "reduced biodiversity, fisheries abundance and coastal protection by coral reefs due to heat-induced mass coral bleaching and mortality increases, exacerbated by ocean acidification".

You don't even need to look into the future. Today, with less than 1°C warming, we are already witnessing:

- Greenland Ice Sheet losing ice 6 times faster (!) in 2002-2011 than just a decade earlier.
- Unprecedented high-impact climate extremes during the 2001-2010 decade (according to WMO).
- The newest findings of the fast-moving research on the West Antarctic Ice Sheet, coming in after AR5 but further refining the assessment, strongly suggests that key glaciers are crossing a point of no return, making at least 1.2 meter sea-level rise inevitable and possibly triggering the collapse of the rest of the WAIS.

What this means is that every new ton of carbon in the atmosphere is making our lives worse. And the further we drift upward from 1.5°C warming, the bigger the necessity for adaptation and compensation for loss and damage.

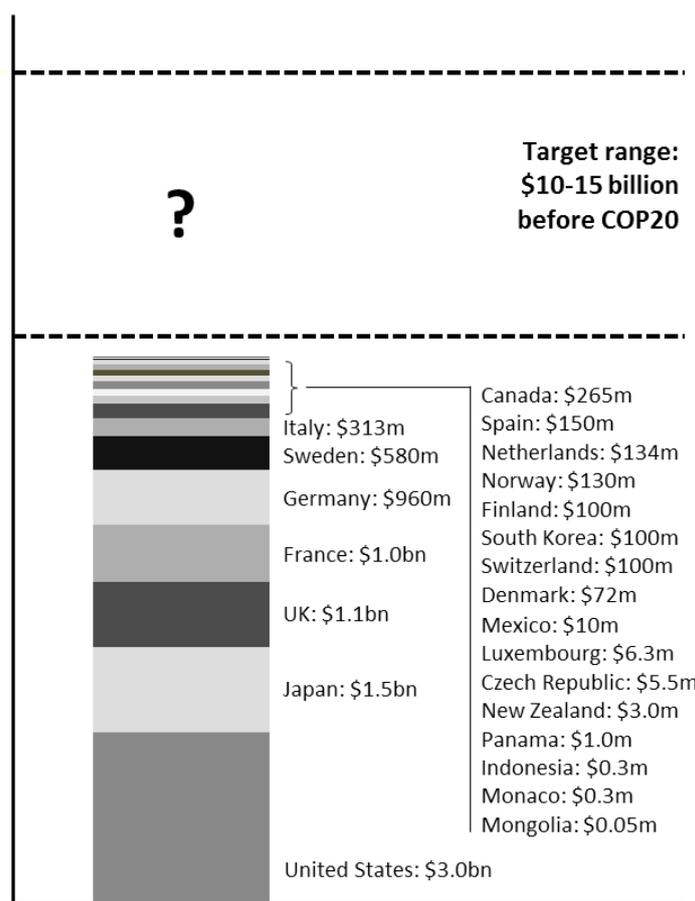
The conclusion is quite clear: we must act on the science and head for 1.5°C maximum warming instead of 2°C.

Who will let down the Green Climate Fund?

Australia, Austria, Belgium, Ireland, Iceland, Greece, Portugal and the European Union are the Annex 2 Parties yet to make their pledges to the Green Climate Fund. ECO notes the same is true for Poland, Hungary and a few others. Five years ago, developed countries had not only promised to set up the fund but, also fill it. ECO, optimistic as ever, is convinced that all of them know rather well how much in these negotiations depends on the GCF getting off to a good start. They will not let us down.

ECO stands ready to welcome any further and ambitious pledges, so that at least the lower threshold of the unofficial US\$10-15 billion target range can be crossed here in Lima. If this comes with an explicit understanding that the GCF will grow bigger over time, we have taken the first step. Parties could then focus on the second, third and fourth steps, including ministers agreeing to craft a 2020 roadmap that spells out how developed countries are going to fulfil their \$100bn promise, and to anchor climate finance in the new agreement, with collective targets and individual commitments as part of wealthy countries' fair share in the global effort.

Pledges for the Green Climate Fund (US\$)



Notes: The chart shows pledges that have been announced to the Green Climate Fund (GCF) so far. Where pledges were not made in US-Dollars, discrepancies are possible due to exchange rates used. Contributions to the administrative budget of the fund are not shown. As new pledges come in, ECO will update this chart.

Wondering How? Efficiency and Renewables are the Winning Combo!

The IPCC found that in order to get onto a 2°C pathway, there needs to be a massive shift in energy investment flows in the next 15 years. Hundreds of billions of dollars would need to be annually shifted away from fossil fuel investments, and into, first and foremost, energy efficiency, and secondarily, renewable energy.

In energy supply, zero and low-carbon energies would need to at least triple or quadruple by 2050. Out of the technology options outlined, renewable energy, particularly solar and wind energy, are the most promising trends, with most co-benefits and fewest risks.

There's enough potential in renewables to meet all of our energy needs. Renewables have advanced substantially in performance and cost-efficiency since the last IPCC report in 2007.

During 2005-2012, wind and solar PV grew 5 and 25 times, respectively. They are now ready to be deployed at a significant scale. Renewable energy is also best suited to respond to the energy needs of the poorest and most vulnerable people.

None of this can be said of nuclear or Carbon Capture and Storage (CCS). The IPCC found that nuclear is a mature

technology, but it is declining in efficacy in addition to facing various barriers and risks. Excluding it from future options won't make a big difference to mitigation costs.

CCS still features in many scenarios, but isn't happening in reality. Since the AR4 in 2007, "*studies have underscored a growing number of practical challenges to commercial investment in CCS*", the IPCC found. By the time the AR5 went to press, not a single commercial scale CCS project in the power sector was in operation. This makes any cost assumptions on CCS (including the costs of excluding it) highly speculative.

As CCS remains no more than an abstract theory, **getting to zero carbon means phasing out fossil fuels**, and phasing in renewables.

While renewable energy and energy efficiency clearly are the winning combo, barriers still remain in their fast deployment. Here's where cooperation on technology and enabling finance is crucial.

So let's just get on with it, shall we?

SIDE EVENT INVITATION

Tuesday, 2 December 2014 – 13:15-14:45

Room: Paracas

The importance of equity in the 2015 agreement has broad support, but what an equitable agreement applicable to all actually means is both an unclear and controversial issue. Disagreement exists on the operationalisation and scope of equity, and on approaches for assessment of the INDCs.

To break the deadlock in the negotiations, CAN has made a detailed proposal for a dynamic Equity Reference Framework that is explicitly rooted in the Convention's core equity principles. This side event will further articulate the proposal and provide an opportunity for discussions on how to bring this framework into the negotiations.

Party Respondents: South Africa (confirmed), Bolivia, Brazil, China, Colombia, India (requested).

Please join!



FOSSIL OF THE DAY

Missing Money for Green Climate Fund earns first Fossil
The first Fossil of the Day at COP20 goes to Australia, Belgium, Ireland and Austria (alongside the other non-pledgers: Iceland, Greece, Portugal, and the European Union) for being the only Annex 2 countries failing so far to contribute to the GCF. After a string of encouraging initial contributions, it seems this band of Annex 2 free-riders see no need to contribute. This is not acceptable and stands to jeopardise the Paris agreement, under which all countries are expected to take action. To the free-riding ministers: Bring your chequebooks to Lima.

Carbon emission cuts are not a lose-lose but a win-win proposition for development

There is a growing realisation, supported by AR5, that emission reductions are not a zero sum game. In fact, emission reductions will have significant development co-benefits. There are two aspects to this.

Firstly, without emission reductions, the impacts of climate change would be so devastating that they could erode several decades worth of developmental gains in an instant. Several extreme weather events resulting in large-scale, high intensity disasters have shown us just that. These include three catastrophic floods in the Indian subcontinent alone including the Indus River floods in Pakistan, and the Uttarakhand, Jammu, and Kashmir floods in India in successive years. And we all remember, quite vividly, the destruction caused by Typhoon Haiyan. All of these events have occurred in quick succession in the last few years.

The developed world has not been spared either. Devastating forest fires have occurred in Australia and USA almost every year, alongside the well-known devastation caused by Hurricane Sandy. These damages are not something you can just do away with through economic growth.

Secondly, emission reductions that are realised through a co-benefit approach would result in more sustainable and resilient development. The provision of energy access, through renewable energy, to the 1.4 billion people globally who lack access to modern energy services, would result in more resilient development gains than a polluting, fossil fuel driven process. This would also make economic sense for many of the large developing economies that have been more and more concerned by the lack of energy security and the heavy import dependence of their energy systems.

Further, there would also be benefits resulting in greater job creation and diversified livelihoods, especially for the energy-deprived populations in many developing countries. The co-benefits of emissions reduction would also address various adverse effects of air pollution on human health, which are beginning to have major negative impacts on human health, for example in many developing country cities. In 2012 alone, suffocating air pollution caused by coal burning in China was responsible for 670,000 premature deaths.

Emission reductions need not lead to a loss or curtailment of development. Emissions reductions embedded in a sustainable development process will lead to better developmental outcomes in the long run.

IPCC science points to zero carbon by 2050

Ok, so we have a long-term goal of keeping global warming below 2°C/1.5°C, but what does this mean in reality? Enter the IPCC AR5 cumulative emissions budgets! This is the maximum amount of tons of CO₂ the atmosphere can take before crossing these limits.

According to the AR5, after 2010 we can only emit an additional 1,000 billion tons (Gt) of CO₂ into our atmosphere if we want a higher than 66% likelihood of limiting global warming to below 2°C. To keep warming below 1.5°C the remaining carbon budget is consequently smaller.

Since 2010 we have already spent about a tenth of this budget. Oops! Freezing our annual global emissions to current levels would use up the remaining budget completely in just 25 years, and almost one third of it would be gone by 2020. With current growing emissions we'll have used up our budget even sooner.

What does it mean? It means that peaking and starting the decline in emissions soon is fundamental for achieving the long-term goal.

It also means we're no longer in the business of managing emissions. We have to phase them out to zero, and it needs to happen fast. If you thought we had time until the end of the century, you've misunderstood the IPCC's conclusions.

What the IPCC carbon budgets imply, for CO₂ emissions (most of which come from the burning of fossil fuels), is that we need to get to zero carbon by around 2050, if we want to have high certainty of keeping global warming below 2°C and some certainty of getting below 1.5°C. Also, if we don't want to rely on technologies that only exist on paper and come with many risks.

It also means that looking for new fossil fuels - and spending billions in subsidies to support that exploration - makes no sense. We've already found too much and must leave about 80% of it in the ground.

Obviously, in the spirit of equity, which the IPCC finds is key to successful cooperation, the countries with the greatest responsibility and capability will need to phase out fossil emissions earlier, and provide support for the poorer countries.

Questions on IPCC issues

- i) How can we try and ensure that global CO₂-emissions go to zero to ensure that average temperatures do not rise beyond 1.5°C?
- ii) What can the IPCC say on the past and future cost trends of CCS and renewables? Based on existing level of technological maturity, will CCS ever be a viable option for achieving global zero emissions of GHGs?
- iii) What are the findings of the IPCC on the co-benefits (e.g. public health, economic benefits due to lower fuel prices) of low or zero carbon scenarios? How can one ensure that co-benefits are recognised and pursued?
- iv) What can the IPCC tell us on the feasibility of effective adaptation for different scenarios / temperature regimes and on limits to adaptation? How safe is a warming of 2°C for ocean ecosystems, for biodiversity, and far would it endanger the provision of livelihoods for people, especially the poor?

Questions on intelligence from other organisations (e.g. IEA, UNEP)

- a) How best can we ensure that a fossil fuel locked in future is avoided?
- b) How are the trends in prices for renewables (e.g. PV or wind) since the IPCC cut-off date? How can the achievement of renewable energy cost parity be accelerated?
- c) Which feasible options exist to eliminate the Gigaton-gap and which role a Paris decision next year could play to reduce the gap?

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