

# Notes from: Our Common Future under Climate Change

*Paris, July 2015. Notes by Martin Juckes*

The meeting started on Tuesday, with discussion of the physical climate on the first day. These notes start from Wednesday morning, when I joined the meeting. The format consisted of key note and highlight speakers followed by a panel discussion. No questions from the floor.

## Wednesday

### Keynote speakers (30 minutes each):

Karen O'Brien discussed different approaches to risk, contrasting the cold-war approach, as typified in the board game "RISK", with collective responses to adaptive challenges. Adaptive challenges require personal and political change. The cold-war approach of strategies based on balancing probabilities are not working. Ended on a slightly disappointing note with a call for more funding in the social sciences.

Nebojsa Nakicenovic talked about the need to develop credible narratives to engage with all actors. Referred to the 40% of the global population "left behind" by the industrial revolution. Introduced "The world in 2050" – an effort to promote discussion of the world we want to create.

Nobuo Mimura talked about the need to be "weather ready", to be equipped to deal with natural and changing variability.

### Highlight speakers (10 minutes each):

Ricarda Winkelmann (PIK) contrasted the gradual change of the last century with the rapid changes expected in business as usual or modest emission reduction scenarios. She discussed tipping points, such as the melting of West Antarctic ice sheets, now considered as irreversible as ice has started slipping into the ocean. We may be approaching the point where something similar happens in Greenland.

Paul Leadley discussed eco-system responses: move, adapt or die. Phytoplankton ecosystems have been observed to move up to 400km per decade. Biodiversity is important for adaptation of natural ecosystems. Without biodiversity, even modest warming will lead to major losses. With biodiversity, and warming limited to 2K there is hope. Destroying biodiversity through biofuels will be counterproductive.

Corinne Le Quere talked about the carbon reservoirs, and the huge uncertainty about their future role. Observations of the holocene and recent ice-ages show a degree of stability, but we are now leaving the range of CO<sub>2</sub> concentrations and temperatures which are covered by that period. In the more distant past there is evidence of an event in which large amounts of CO<sub>2</sub> were released from the reservoirs. The fact that it happened before suggests that it could happen again, though we do not have enough information to evaluate the risk.

## Panel

In the panel discussion the topic of "resilience" came up. From one perspective, the rich nations want the poor nations to be "resilient" in order to avoid responsibility. The poor nations, according to Luis Fernández Carril, want the rich nations to stop piling up the risk.

# Thursday

## Keynote

Fatih Birol (IEA): Momentum is growing: climate policy will impact all energy providers. Businesses need to take this more seriously. Intended Nationally Determined Contributions (INDCs) [submitted by countries in preparation for the Paris UNFCCC Conference of Parties] provide sign of significant progress – acceleration of efficiency improvements and switch to renewables.

What IEA needs from COP21:

- A clear commitment to peak emissions in 2020.
- Commitments to be revised every 5 years. (solar power cost has fallen by factor 4 in last 5 years).
- Energy sector needs concrete targets.
- Track the transition: reliable records of power plant emissions (“of course we trust what countries tell us.... most of them”).

Ottmar Edenhofer (PIK): The increase carbon intensity of energy production in “last” decade (2000-2010) [i.e. in the last decade of his analysis] shows that we are facing a major challenge. We cannot rely on carbon capture – the technology is untested and may not be able to deliver the volume of carbon capture hoped for.

Climate policy will devalue carbon deposits, a fact which makes the IPCC unpopular [see comments on implosion of fossil fuel industry below]. Three main options:

- (1) Renewable energy becomes cheaper tomorrow;
- (2) Compensation paid to vested interests to ease transition;
- (3) Carbon pricing must reflect the scarcity in disposal space.

Saleemul Huq: Is climate change adaptation a science? Adaptation chapter introduced in TAR, became 2 in AR4 and 4 in AR5 – covering barriers (i.e. limits) and costs. He discussed “transformational adaptation”: e.g. use education to give children of coastal farmers and fishermen in Bangladesh better futures.

From a global perspective, the North is ahead on hard science and technology, but the South is ahead on adaptation policy; heavy investment in Bangladesh. However, adaptation cannot provide solution for 3 to 4K warming.

## Panel:

Zhu Daijan: need to pay more attention to social innovation (e.g. car sharing vs. more efficient car) – can get transformational changes through social innovation.

Ken Caldeira: need to focus on the kind of world we want to create. Should not focus too much on the future we want to avoid. Energy transition has to occur within the context of the broader development agenda. The people lead (politicians follow – at least in US)

Carlos Nobre: focus on land use change. There has been a reduction in tropical deforestation in the last decade. Popular support for curbs on deforestation very important in Brazil; decoupled from agricultural growth. Many countries pledging near zero deforestation by 2030.

Frank Geels: observed transition pathways.

Carlos: carbon extraction projections do not look realistic ...

Zhu: Chinese approach is to promise little and then exceed promises.

Frank Geels: have to deal with powerful companies and convince them to leave coal in the ground. Need to take compensation of losers seriously.

Ken: tough game-theoretic problem – how to sacrifice for the greater good.

Frank: government cannot control things, they can modulate it. E.g. number of projects in CCS is reducing. Need to unleash energy in society – expensive for citizens, but very popular with citizens. Create a buy in → leads to energy literacy; technocratic solutions will not work, need to take citizens along. Citizen buy in goes with the learning by doing approach.

Zhu: China government driven; US market driven; Europe society driven: need to encompass these different approaches.

Ken: compared to getting out of the slave trade: how do such transitions work .. what made the UK public opinion switch and accept the loss in GDP.

Frank: need a stronger Government (relative to the US/Europe neo-liberal model .. e.g. we need something of the kind we have seen dealing with the financial crisis). Look at facilitating actors.

Ken: need simple words (don't use the sky as a waste-dump) and explore positive solutions.

Frank: UK approach has worked, but relies on paying incumbents – vulnerable to criticism on costs, may run out of steam.

## **Friday**

### **Keynote**

Prof. Stiglitz: This (a period of slow growth and/or recession) is a good time to invest heavily in a transition to a clean economy. There is plenty of money available (assertions by Ben Bernanke to the contrary were characterised as an attempt to cover up for his own incompetence). New Asian investment bank is one initiative which may enable significant investment. A tax on carbon is needed. There will be different solutions in different countries. Also need some form of cross-border tax – which could be implemented in the current WTO framework. The way forward may involve a coalition of the willing establishing a mechanism and making it work, if a global consensus is not achieved.

Sheila Jasanoff spoke of the need for more awareness of cultural judgements embedded in the scientific process. We need to examine the process. Avoid hubris and use the “technology of humility” looking at framing, vulnerability, distribution and learning. Our societal capability to learn is restricted by the framing of disciplinary and institutional boundaries which trap is certain procedures.

Youba Sokona reviewed links to the Sustainable Development Goals. There is a need to look at the interactions – too many people working in silos.

### **Panel**

Laurence Tubiana: the solution will need many elements. The legal framework and national commitments within a global treaty are important, but it needs all actors to accept that a low carbon sustainable economy will happen.

Rachel Kyte (World Bank): supported the idea behind Stiglitz's coalition of the willing, but preferred to call it a “coalition of the working”, to put the emphasis on action. Emphasised the need to build trust – having transparency in the process is important, but most people will not look at the

derivations and background information.

Hans Joachim Schellnhuber (PIK) brought the issues into a clear focus with the declaration that we need an induced implosion of the carbon economy. Reference to the slave trade as an example of such a major transition in the past: the transition was brought about by a combination of factors, including “disaster” in the form of slave revolts, “discovery” in the form of new technology providing alternatives and “decency” as people became conscious of the moral issues. [several speakers have referred to the morality of ruining the environment and hoping future generations will find a way to cope]

Hans Joachim pointed out that, on a personal level, we find it easy to invest for long term, uncertain, returns, giving the example of private education for children.

Laurence spoke of the need to capture the momentum, the activity which is building up around the Paris COP through public engagement, the divestment movement, the papal encyclical etc.

Rachel Kyte cautioned that this should not be about an informed elite. She drew attention to the fact that the UNFCCC grew out of a pollution control framework, and that the UN does not have a mandate for major economic reforms. [UNFCCC was initiated by the UN, but it a global treaty in its own right – so it is not clear how the mandate of the UN is relevant here].

Laurence talked about entering a new phase of the process, with perhaps some restructuring of the IPCC process (no reference to WCRP).