

Carbon and Climate Change, Bob Lloyd

Let's recap where we are up to

IPCC reports 2014 came out last year

Critical information regarding mitigation is in a couple of graphs

RCP2.6 is the only scenario that keeps us below 2 degrees with a 2 in 3 chance and even this scenario assumes CCS post 2070

The allowable CO₂ emissions for this scenario are 900 GT from the end of 2010 onwards. Or 250 billion tonnes of C. How much carbon have we got in existing reserves? Around 750 billion tonnes C (BP stats 2014) **so we can only burn around 1/3 of known reserves.**

Note IPCC 2014 says only 1/5 can be burnt.

The 900 GT is around 120 tonnes CO₂ per person. The world is emitting a little over 5 tonnes per capita per annum which gives us 24 years at present rates of emission (NZ 8, China 7, US 19, Kuwait 30, TT 36, India 1.5, Nepal 0.1)

But our emissions are increasing so the next question is what the increases for the future looking like are?

Historically (last 10 years): from 2004

BP energy outlook to 2035

Coal 3.3% 1% (BP)

Gas 2.6% 1.7%(BP)

Oil 1.1% 0.8% (BP)

Historical increases will put us over the line in 2031 with the IPCC range being between 2024 and 2036

BPs estimate extends the crossover by one year to 2032

If we managed to keep emissions from all fuels at 2014 levels the crossover extends by 3 years to 2034

To keep below 2 degrees we would need to reduce all emissions from the end of this year by 5% pa . If we wait until 2020 the reduction will need to be 7% pa. Fatif Birol IEA says 8% pa.

With these scenarios the total emissions in 2050 would need to be only 5GT per annum i.e. the total reduction from 2014 would need to be 87%, close to what some people in Germany are proposing.

But even this is not enough for rich countries as the poor countries (think Nepal) still want development and to increase emissions. The rich countries will need to reduce emissions even faster and at the same time transfer funding to the poor countries to assist their development.

If we decide to mitigate we have to meet the scientific targets, which are already too low and have pretty dodgy statistics i.e. would we build a bridge with a 33% chance of failing. Comparison with catching a plane. There is no point in trying to do our best if we cannot meet the targets.

Can we meet the targets? Technically yes but politically it is not likely.

Why 3 main reasons

1 The obvious one: vested interests: funding of climate sceptics, protection of corporate interests using instruments such as the TPPA , Coal lobby the oil lobby. There are over 100 trillion dollars in the carbon which should not be extracted.

2 Internal politics: . Together with peak oil we have peak economy. Almost all developed countries have a declining oil consumption, static or declining economies pumped up with huge debts, China cannot afford not to continue increasing incomes otherwise there would be revolt. US and European Governments cannot afford to provoke the population even further from the already instituted austerity programs. Greece is at present rebelling austerity. The unions are demonstrating against CO2 reductions in Germany because this will mean loss of jobs in the coal industry.

3 International politics. Geopolitics will always trump climate change mitigation. There is no way China for instance is going to reduce emissions if this would endanger its economy with the US threatening from the side-lines. Ditto Russia and the rest of the BRIC countries. Ditto the US which is already losing economic ground to China. A new arms race is happening right now.

My Conclusion. Getting international agreement on mitigation is going to be next to impossible. Ten years ago I gave it 5 years in my opinion we have now much reached the end of the line. My last hope is Paris if not the move has to be to adaption.

Which brings us to the NZ climate change consultation document the subject of tonight's meeting.

The intro is fine it agrees with the above analysis. Then the doc starts whining about NZs special circumstances, existing hydro, methane emissions from ruminants etc . Note the IPCC 2014 has no limit on methane emissions from agriculture in its mitigation scenarios only CO2 inc folu in fact the main limits concentrate solely on CO2 emissions.

Why is the NZ government asking the NZ public what emissions reductions should be? The scientists (including some from NZ) have already told us what they need to be. The question in NZ should be how to we meet the scientifically recognised targets. And how can NZ assist the developing countries to reduce their emissions while simultaneously developing their economies.

For climate change with nonlinear tipping points there is no point in doing the best you can. Again doing the best you can to get to the airport on time is not a good strategy if the best you can do falls short of the target. If you cannot make the flight the best you can do is ring up and cancel or postpone the flight. In fact to meet the mitigation targets we should cancel

all flights. Ring ring excuse me sir/ mam We have a problem here on earth, I would like to put civilisation on hold for the next 2000 years or so is that possible? Click – oh oh I have been put on hold!

Why have they produced such a gross document? My guess is that the NZ Govt. has come to the same conclusion as myself: that mitigation is close to being dead in the water.

In this case the main object from a national point of view is protect short term national and corporate interests ie to do as little as possible while appearing to appease the international and local community. Game theory. Prisoners Dilemma

Is there hope? Only possibility at this stage is concerted international outrage to engender worldwide cooperation.