Seven Climate Change Gaps

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With the recent release of the Synthesis Report of the Intergovernmental Panel on Climate Change Fourth Assessment Report is time to review what is happening with regard to the world's greatest environmental issue.

- The world now has a greater concentration of greenhouse gases in its atmosphere than at any time in the last 650,000 years.
- Consequently, global temperatures have risen and 11 out of the 12 hottest years on record have taken place in the last 12 years.
- Australia's average temperature has risen 0.9ºC since 1950 and summer is getting longer – 12 days on average.
- The sea level is now rising at 1.9 +/- 0.5mm per year and we experience more heat waves, less rain and fewer frosts than previously.
- There has been a general southward shift of weather patterns – that's like gradually shifting cities and towns northwards.

There is widespread scientific agreement on the basics of climate change – its causes and effects – although there is still vigorous debate about aspects of it. Whereas once one might have considered the minority opinion in the debate to be those who doubted whether it could be tied to human causes, the only minority now is comprised of those who think that the consensus position is too conservative and that even accepting a 2ºC increase might be too much. A 1.7 ºC degree may flip the global system into an uncontrollable mode of operation.

Our understanding of the situation is developing rapidly and now it is clear that there are seven gaps in climate change thinking and action which need to be addressed.

1. The Emissions Gap

As everybody knows there is a gap between *where we are* and *where we need to be* in terms of global emissions of greenhouse gases. This is the most critical gap of all. Unfortunately, the most recent data indicates that this gap is widening at a greater rate than was expected even a couple of years ago. We are, globally, tracking at the upper end of projected emissions. The problem with this is that the more gases we emit now the more difficult it will be to rectify the situation later. The need is for a global reduction of greenhouse gas emissions of around 2-3% every year, but at the moment we are still increasing our emissions by 2-3% every year.

2. The Effect Gap

Another dangerous gap is the one between the *expected* impact of the presence of a certain amount of greenhouse gases in the atmosphere and the *actual* impact on the environment. There is great concern at the moment that the melting of Arctic ice is actually occurring at a greater rate than was projected in even recent assessments. If what has taken place in the past twelve months is actually part of a stronger than previously expected trend then the ice cap could melt anything up to a hundred years before it was thought it would. The hope is that the latest figures are a part of brief aberrant period which is to be followed by a return to the previous, slower rate of melting. Expect to hear a lot more about ice and water in the next 12 months or so as a further data comes in because this melting has profound implications for calculations concerning the melting of the land ice in Greenland. Melting artic ice which is already in the sea does not have the same effect upon ocean sea levels as melting ice which is on land and which flows into the ocean when melted.

3. The Growth Gap

One of the primary reasons for the emissions gap is the fact that in the first few years of this new century the global economy has shifted gear and moved to a new level of growth. Greenhouse gas emissions are tied to energy usage which is, in turn, connected with economic development. IPCC projections have utilised general economic scenarios which may be too conservative. There is a gap between expectation and reality.

Economic growth in China and India, and also in Africa, eastern Europe and Asia (and the spin-off growth from cheap products in OECD countries like Australia) is due to new information technology, the opening up of a number of closed economies and the general increase of business activity in China, India and eastern Europe. This new growth is likely to be sustained for at least a while and with this greater growth comes more global warming.

4. The Moral Gap

There has always been a moral dimension to this issue, given that some of the most negative effects of climate change fall on the poorer parts of the world. But this new global growth pattern is creating a new dilemma. While enhanced economic growth is causing ever more severe effects and disadvantaging more people, it is also the same activity which has been responsible for taking hundreds of millions of people out of extreme poverty. This is poverty reduction like the world has never seen before. What is needed is economic growth without those emissions which cause climate change. This requires careful managing of consumption, efficiency and mitigation factors. It is, however, possible to have the best of both worlds.

One factor which will help is to work together cooperatively as an international community rather than competitively as separate nations. Competition occurs when nations become reluctant to act first because they fear giving a short term economic advantage to another country. The moral gap gets wider whenever we treat someone who is not in 'our group' morally differently - which is just what we do when we care less for people starving in other countries than we do for people in Australia.

The climate change moral gap opens up when it is said that the problem is not 'us' but 'them' (China or America) because they produce more emissions than 'we' do. But defining the situation according to nationality and thus comparing the total emissions of hundreds of millions with twenty million in order to claim the moral high ground is absurd. Emission reductions needs to take place based upon individual usage, with some recognition of various contexts, and those of us who are extremely high emitters (whether Australian or not) have the greatest responsibility.

5. The Policy Gap

The policy gap is the gap between what is needed to overcome the climate change challenge and the policies which are actually in place. The cutting edge of climate change science is 5 years ahead of policy development. This is a dangerous gap which needs to be minimised.

We have lost time through inaction. The Liberal Party, for example, under John Hewson had an aim to reduce Greenhouse gases by 20% by 2000! If that had been maintained instead of being allowed to slip away it would have made a difference to Australia's situation today. And while that would not have solved global warming it might have influenced others and have made Australia a leader rather than a follower.

The time zone during which serious changes need to be made has come closer and is now reckoned to be between 2000 and 2015. As you will understand it is too late to change in 2000, or even 2007 - we must hope that some time between now and 2015 will be OK! In the face of an increasingly difficult

situation it is important to avoid going for easier options such as aiming for a maximum increase of 3ºC instead of 2ºC or less.

The good news is that attitudes for change are very positive. The general public is well advanced and there are many businesses, such as Alcoa, which are making good progress. It is public policy that needs to catch up.

6. The Language Gap

This is the gap between rhetoric and meaning. There is a natural tendency to shy away from anything 'extreme' and to be conservative. Thus some interpret the call to significant changes in energy consumption or production as extreme but the reality is that the present 'business as usual' scenario is actually the most 'extreme'. It is the most risky of all possible scenarios with the most potentially dangerous results. Those who are truly 'conservative' should, logically, be the ones pushing for the most action. It is more conservative to aim for a maximum 1.7ºC increase than 3ºC, although the former takes more action. Inaction is dangerous extremism!

In other areas our language needs changing. We must, for instance, start to remove talk of 'drought' because as long as we do we imply that there will be a time when the drought breaks and the weather returns to 'normal'. But the normal has now changed, and we cannot deal with the lands 'aridity' until we name it as such.

7. The Opportunity Gap

The final gap is the one which lies between seeing climate change as a threat and seeing it also as an opportunity – especially for Christians. In many ways climate change *is* a threat: to the environment, ecosystems and biodiversity; to human life, health and prosperity; and to social relationships, national integrity and political stability. But it is also an opportunity because it challenges many of our existing modes of thought and gives us an opportunity to us to re-visit and re-think many matters related to our social responsibilities. It gives us an opportunity to revisit the way that the world relates together as a community of nations and peoples - in politics and international relations. It also gives us the opportunity to re-think about the way we exercise our ethical responsibility in the world and to re-evaluate the meaning of being stewards of God's creation and we can look again at the spiritual nature of our relationship with the world.

Climate change asks serious questions not only about the extent of our consumption of the earth's resources, but it also about the spiritual meaning of our need to consume and live and travel as we do. It challenges our understanding of economics in relationship to the environment. Climate change also raises questions about the environmental, social and spiritual future of the world. In short, it raises questions about the nature of our hope and suggests that should re-visit our understanding of the implications of believing in the gospel of Jesus Christ.

Conclusion

The really good news is that the cost of dealing with climate change is not excessive. It is about 17 trillion dollars. But 11 trillion dollars is already built in and so it is only about 5 trillion dollars more. There is agreement that dealing with climate change will mean that there will be a reduction of about 0.1% in the annual GDP. But do you really mind if the economy grows at 2.1% per annum instead of 2.2%?

It is widely agreed in the climate change community that a portfolio of actions is needed: reduce demand; increase efficiency; develop renewable energy; reduce fossil fuel use; develop cleaner technologies; employ carbon capture. No one action can do it alone. All are needed and with all it is possible to bring about change.

While there are many ways of integrating the various adaptation and mitigation strategies it is important to avoid debates which polarise or which suggest only one option. The various gaps must be reduced not enlarged, The shrinking time frame available makes it imperative that action continue to develop on a number of fronts. This means utilising the technologies, the efficiencies and the possibilities for reduction which are available to us *right now*.

The scientific information in this article comes primarily from the 'Summary for Policymakers of the Synthesis Report of the IPCC Fourth Assessment Report' (see www. www.ipcc.ch) and the 'Seminar on Climate Change: What is the Science Telling us? Is there a Need to develop New Emissions Scenarios?' conducted by the Garnaut Climate Change Review on Wednesday 14th November, 2007 with Prof. Ross Garnaut, Dr Graeme Pearman, Dr Scott Power, Prof. Peter Sheehan, Mr Nick Rowley, Mr Erwin Jackson and Mr Ian Castles. See www.garnautreview.org.au The interpretation is the responsibility of the author.