Scientific forecasts of global temperatures negate need for policy

Notes for oral submissions to the Select Committee of the New Zealand Parliament on the Emissions Trading Scheme

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I'm here to present submissions as an expert on forecasting.

You might respond that those clever people from the Intergovernmental Panel on Climate Change are experts on climate and they have predicted "dangerous manmade global warming", why shouldn't we just accept their forecasts?

The short answer to the question is: "because they are *not* experts in forecasting and almost *nothing* that they do is consistent with proper forecasting procedures".

I presented submissions last year on the Emissions Trading Bill in which I described a forecasting audit of the IPCC's procedures that I conducted with University of Pennsylvania Professor Scott Armstrong. Professor Armstrong is the most cited author on the subject of forecasting. His *Principles of Forecasting* book summarises 70 years of evidence on forecasting in the form of scientific principles, or rules or guidelines if you prefer. It was against these principles that we audited the IPCC procedures.

We found that the IPCC procedures violated 72 principles and concluded that there was no good reason for government policy makers to pay their forecasts the slightest bit of attention.

Climate change is complex, there is uncertainty about the current situation and about the past, and the state of knowledge about the causal relationships is so poor that it could reasonably be described as ignorance.

In the face of this situation, the IPCC appear to have relied on complex and expensive computer models to make their prediction. I said *"appear to have relied on"* because they did *not* in fact rely on complex computer models, but instead used the models to elaborately present their prior judgmental prediction of dangerous manmade global warming.

But, no matter, because neither complex computer models *nor* expert judgment without the aid of scientific forecasting procedures are useful for forecasting in this complex and little-understood situation.

Complex models about uncertain situations are simply the expression of the opinions of the modeller. The modeller puts into the model the relationships he and his friends think are important and assigns values to the relationships that they think are appropriate. Press the button and, after some grinding, out pop lots of numbers that can be tabulated, graphed, and discussed by the unscientific and unscrupulous as if they were real data.

We rely on experts' judgmental predictions in many situations, but should we…
Here are quotations of two experts' judgmental forecasts from Cerf and Navasky's *The Experts Speak*):

> There is not the slightest indication that [nuclear] energy will ever be obtainable. It would mean that the atom would have to be shattered at will.
>
> Albert Einstein, 1932

> The energy produced by the atom is a very poor kind of thing. Anyone who expects a source of energy from the transformation of these atoms is talking moonshine. Ernest Rutherford, 1933
> (After he split the atom for the first time)

Berkeley Professor Philip Tetlock spent 20 years collecting 82,361 forecasts on diverse matters from 284 experts. His central conclusion, described in his book *Expert Political Judgment*, was that their predictions were no better than guessing. And that conclusion is consistent with many years of forecasting research.

Since last year's hearing I have, with Scott Armstrong and Harvard Astrophysicist Willie Soon, examined the problem of predicting temperature over the long term. We asked the question: Is it *possible* to forecast global average temperatures over the long term. We looked at long temperature series and found that temperatures varied over every time horizon and, although there appear to be trends in retrospect as also occurs in series of random numbers with drift, apparent trends varied in duration and extent of temperature variation. Moreover, there is nothing unusual about recent temperature history.

With the temperature history as it is and the poor state of knowledge about climate change, the appropriate benchmark for assessing forecastability is the prediction that temperatures will not change. Using the temperature record since 1850—a period of exponentially increasing CO_2—we found that the no-change forecast was remarkably accurate; for example the average absolute errors for forecasts 20 and 50 years ahead were 0.18˚C and 0.24˚C respectively.

If assuming that average temperatures will not change results in such small errors, what are the policy implications? My answer is that there is no justification for a policy response to the manmade global warming alarm.

I am currently conducting research on whether alarms from the past can help us make useful predictions about what will happen to the manmade global warming scare. The analogies that people have suggested so far include the alarms over the River Thames flood forecasts of 1524, mercury in fish, radon in homes, and global cooling in 1884, 1912 and the 1970s.

This hearing presents an opportunity for government to take a principled stand by resisting pressure to cave-in to this latest scare. New Zealanders will be better off without the imposition of a policy that makes energy more expensive and, who knows, perhaps other governments would follow suit to the benefit of almost everyone.