**IPCC climate modeling procedures need serious re-modeling**

Green, Armstrong, and Soon identify 23 prior movements in which governments imposed costly "man-made disaster" policies without any real scientific basis.

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*The United Nations Intergovernmental Panel on Climate Change (IPCC) climate modeling produces terrifying scenarios of global warming and apocalyptic consequences including polar melting, coastal flooding, extreme weather, and species extinctions. Such forecasts assume that human emissions of greenhouse gases—principally carbon dioxide from burning coal and oil—will cause unprecedented warming.*

*Although the IPCC claims that they provide “scenarios” rather than forecasts, they conflate the terms in practice to suggest that their scenarios describe what will actually happen to climate over the 21st Century.*

**Are they right? Can they predict the future?**

*Two leading experts on forecasting and one on the physics of climate joined forces to investigate IPCC modeling procedures and conclusions. They are****Dr. Kesten Green****, Professor****J. Scott Armstrong****, and****Dr. Willie Soon****. What they found was truly shocking: the modeling procedures that the IPCC relies upon to produce their scary climate change scenarios ignore most principles of scientific forecasting.*

*Kesten Green, based at the University of South Australia in Adelaide, has published pioneering articles on forecasting methods and is co-director of a major website on forecasting methods, www.ForecastingPrinciples.com. Scott Armstrong teaches at the University of Pennsylvania in Philadelphia and is a founder of the two major journals on forecasting methods, editor of the Principles of Forecasting handbook, and the world’s most highly cited author on forecasting methods. Willie Soon is a solar physicist who has published many important empirical papers on the causes of climate changes.*

*I have asked Kesten to discuss their findings.*

*Kesten, through your joint investigations into this matter I understand that you found that the modeling procedures the IPCC uses to create their of climate change projections violated 72 of 89 relevant forecasting principles. Should we be concerned that an extraordinarily well-funded international agency reporting to governments has followed less than 20% of what could be thought of as scientific procedures?*

Larry, there really is no excuse for the negligence IPCC has shown in overlooking the findings of nearly a century of research on forecasting methods in addressing matters so vital to the public interest. They can hardly claim they have lacked necessary resources to discover and apply the best that scientific forecasting has to offer.

Here I’ll briefly provide a little background on the discipline of forecasting. Thirty-nine experts from many disciplines and from around the world developed forecasting principles from published experimental research. A further 123 forecasting experts reviewed their work. The principles were published in 2001, and are freely available on the Internet as a public service to help forecasters produce and validate their work. The 140 principles constitute the only published set of evidence-based standards for forecasting.

The media ascribe great importance to the IPCC scenarios, and they have considerable influence on government policies – energy policies in particular. To put the IPCC methodological failures into a familiar context, please consider this. Would you go ahead with an international flight operated by an obscure airline if you overheard two of the ground crew discussing how the pilot had skipped 80% of the pre-flight safety checklist?

*Kesten, with all this knowledge available about how to forecast properly, has anyone taken the trouble to actually produce scientific climate forecasts?*

Larry, astonishingly, given the extremely costly policies that have been proposed and implemented in the name of preventing dangerous “man-made global warming”, there is only one published peer-reviewed paper that claims to provide scientific forecasts of long-range global mean temperatures. The paper is our own, a 2009 article published in the*International Journal of Forecasting*.

*So how do the long-range forecasts you obtained compare with the scenarios that the IPCC promotes to policymakers and the media?*

First we followed forecasting principles to choose the most appropriate forecasting method. We then applied it to predict global mean temperatures since 1850 (roughly the start of the Industrial Revolution), as measured by the same data that the IPCC used. To choose a method, we examined the state of knowledge and available empirical data.

In this application we concluded that the “no-trend” model is the proper method to use. Our conclusion is based upon a substantial body of research that found complex models do not work well compared to simple models in complex and uncertain situations. This is the case here where the climate is so complex and insufficiently understood that any net effect of human emissions on global temperatures cannot be identified.

By contrast, the IPCC relies upon complicated computer models to represent their assumption that the relatively small human contribution of CO2 to the atmosphere will cause dangerous global warming. And because the models are so complex, the modelers need to include numerous assumptions. Many mainstream scientists question those assumptions.

Not surprisingly, given that they were the product of scientific forecasting principles, our no-trend forecasts were much more accurate than the IPCC’s warming scenario temperatures over the period of exponentially increasing CO2 emissions from 1850.

*Kesten, may I stop you there? The idea of using a “no-trend” model that is less complex in order to make predictions about something so enormously complex as climate seems counterintuitive. Yet you are saying that that the forecasts are much more accurate than from very complex and expensive models. Will you briefly explain this?*

Sure, I can understand that this finding might very well be very puzzling for people who aren’t familiar with the research on forecasting. Complexity in forecasting involves causal variables, making assumptions about the effects of the variables, and then forecasting the variables in order to produce a forecast of the target variable… in this case global mean temperatures. Such an arrangement opens up possibilities for interactions among variables, errors in the data, the need for subjective adjustments, and so on. With such models, the errors can “explode”.

Of course, it is always appropriate to test a forecasting method—even when you expect it to perform well, because it is consistent with evidence-based forecasting principles—in order to determine its validity for the specific problem. So we tested the no-trend model, using the same data that the IPCC uses. To do so, we produced annual forecasts from one to 100 years ahead, starting from 1850 and stepping forward year-by-year until 1975, the year before the current warming alarm was raised. Incidentally, 1975 is also the year when Newsweek and other magazines reported that scientists were “almost unanimous” that Earth faced a new period of global cooling.

We did the same analysis for the IPCC scenario of temperatures increasing at a rate of 0.03° C per year (0.05° F per year… or 5° F per 100 years) in response to increasing human carbon dioxide emissions. The procedure yielded 7,550 forecasts for each method.

*That’s a lot of forecasts! What did you find?*

Overall, the error produced by the no-trend forecast was one-seventh that of the error of the IPCC scenario’s global average temperature projection. Our forecasts were at least as accurate, or even more accurate, than the IPCC temperatures for all forecast horizons.

Most important, the relative accuracy of the no-trend forecasts increased for longer horizons. For example, the no-trend forecast error was one-twelfth that of the IPCC temperature scenarios for forecasts 91 to 100 years ahead.

Our research in progress scrutinizes more forecasting methods, uses more and better data, and extends our validation tests. The findings strengthen the conclusion that there are no scientific forecasts that predict dangerous global warming. Copies of our climate forecasting papers are available at www.PublicPolicyForecasting.com.

*So you are saying that yours are the only forecasts of global temperature that are the products of proper scientific procedures?*

Yes. Ours are the only published forecasts of long-run global temperatures that have been derived using scientific procedures. Other researchers have applied relevant forecasting principles to produce scientific forecasts of global mean temperatures for up to 20 years ahead. The forecasts from their simple models were much more accurate than the IPCC projections, and were slightly more accurate than forecasts from the no-trend model, but only up to 10-years ahead. We are most interested in long-term forecasts, because they are relevant for policy decisions.

*I regard it to be beyond ironic that those who don’t accept the validity of model-premised climate alarm as a basis to justify draconian anti-fossil regulatory policies are termed “deniers” of some alleged “truth” and accused of believing that climate doesn’t change. And while no one should expect that climate or weather forecasts to always be correct, we should at least be able to count on them to be informed and impartial. Is this expecting too much?*

Larry, forecasting is a risky business, but forecasters owe it to people who are making important decisions to do the best they can by using the most valid and reliable data available, by carefully applying appropriate methodologies, by being honest about facts and uncertainties, and by providing full disclosure so that others can replicate, extend, and improve upon their work. Unfortunately, we’ve found that we can’t expect that standard from the IPCC.

For the fifth time now they have asserted, based upon untested assumptions and models, that increasing atmospheric concentrations of carbon dioxide are causing dangerous and “unprecedented” climate change. As you know, CO2 is a byproduct of growing prosperity that is also a product of all animal respiration and is essential for most life on Earth.

Yes, this is all about a natural, non-toxic trace gas that in total makes up only 0.0004 of the atmosphere. And about 97% of that tiny amount comes from natural sources including oceans, forests, and the biosphere that have little or nothing to do with human activity.

Global warming alarmists nevertheless claim that “nearly all” climate scientists believe dangerous global warming will occur. This is a strange claim in view of the fact more than 30,000 American scientists signed the Oregon Petition stating that there is no basis for dangerous man-made global warming forecasts, and “no convincing evidence” that carbon dioxide is dangerously warming the planet or disrupting its climate.

*Gosh, aren’t computer-generated forecasts supposed to be really smart? It’s probably going to come as a shock to many people that after so many billions of taxpayer dollars have been spent on the IPCC and their climate models, that they can possibly be wrong. Yet Mother Nature seems to be having the last word on that subject.*

It’s important to remember that computer models and scenarios are not evidence—and that validation does not consist of adding up IPCC opinion votes. Such an approach can only be detrimental to the advancement of scientific knowledge.

Validation requires comparing predictions to actual observations, and yes, the IPCC models have failed in that regard. For example, while human CO2 emissions have continued to grow over the past 17 years now, there has been no trend in global temperatures. The IPCC’s computer models failed to predict this.

But then, is it really surprising that the government would support an alarm lacking scientific support? No, not really.

In our study of situations that are analogous to the current alarm over scenarios of global warming, we identified 26 earlier movements based upon scenarios of manmade disaster, including the global cooling alarm in the 1960s to 1970s. None of them were based upon scientific forecasts. And yet, governments imposed costly policies in response to 23 of the alarms. In no case did the forecast of major harm come true.

There is no support from scientific forecasting either for an upward trend in temperatures, or for a downward trend. Without support from scientific forecasts, the global warming alarm is baseless and should be ignored.

Government programs, subsidies, taxes and regulations proposed as responses to the global warming alarm result in misallocations of valuable resources. They lead to inflated energy prices, declining international competitiveness, disappearing industries and jobs, and threats to health and welfare.

*Kesten, allow me make a forecast on that last point. The time is rapidly approaching when the political climate will cool to these abuses of public trust.*

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- See more at: http://www.cfact.org/2013/10/22/ipcc-climate-modeling-procedures-need-serious-re-modeling/#sthash.kZwGsRc3.dpuf