

Carbon Tax and Temperature

Dr. David Evans, 14 March 2011

BY HOW MUCH WILL A CARBON DIOXIDE TAX REDUCE AUSTRALIA'S TEMPERATURE?

Suppose Australia reduced its emissions over what they would otherwise be. The effect, according to the IPCC's theory of manmade global warming, is:

Average reduction in Australia's emissions from now to 2050	Decrease in the temperature in 2050 due to Australia's reductions*
0 %	0.0000 °C
5 %	0.0007 °C
10 %	0.0015 °C
20 %	0.0031 °C
50 %	0.0077 °C
100 %	0.0154 °C

*See calculations below.

Notice that if Australia shut down entirely, and emitted no CO₂ starting today, it would lower the temperature in 2050 by just 0.0154 °C (on IPCC figures).

The effect of a carbon tax on Australia's carbon emissions is unknown, but is probably small given the small effect of petrol price increases on petrol usage.

Calculations: According to the IPCC's 4th Assessment Report (2007) and their theory of man-made global warming, the increase ΔT in global temperature due to a change in atmospheric carbon dioxide level from C_0 to C is:

- Proportional to the logarithm of C / C_0 .
- Is 3.3°C (the central estimate in a range of estimates generally from 2.5°C to 4.0°C) for a doubling of the carbon dioxide (that is, when $C / C_0 = 2$).

So $\Delta T = x \ln(C / C_0)$ where $x = 3.3 / \ln(2) = 4.8$. Thus the change in global temperature in degrees C is

$$\Delta T = 4.8 \ln(C / C_0).$$

Australia currently emits about 1.38% of human CO₂ emissions [EIA, 2011a]. We assume this proportion remains constant if no actions are taken to reduce Australian emissions.

The current level of CO₂ is 390 ppm (parts per million, that is, 0.039%), and it is increasing at about 2 ppm per year. The rate of increase will go up as humans emit more; the IPCC expect the average increase to 2050 to be about 3 ppm. Thus the level in 2050 would be about 507 ppm. Australia would be responsible for about 1.38% of this increase of 117 ppm, or about 1.62 ppm, if no actions were taken to reduce Australian emissions.

If Australian emissions were reduced by a fraction r over what they would be if no actions were taken to reduce Australian emissions, then the CO₂ level in 2050 would fall from 507 ppm to $507 - 1.62r$ ppm. Hence the decrease in the global (and Australian) temperature in degrees C would be

$$\begin{aligned}\delta T &= 4.8 \ln[507/390] - 4.8 \ln[(507 - 1.62r)/390] \\ &= 4.8 \ln[507/(507 - 1.62r)].\end{aligned}$$

Skeptics say: The climate establishment have made numerous exaggerations. The temperature increase due to increased carbon dioxide levels is about one tenth of what the IPCC say, namely:

$$\Delta T = 0.48 \ln(C / C_0).$$

Thus a 2050 CO₂ level of 507 ppm would raise temperatures by about 0.12°C, which is not worth doing much about.

ABOUT THE AUTHOR

Dr David Evans consulted full-time for the Australian Greenhouse Office (now the Department of Climate Change) from 1999 to 2005, and part-time 2008 to 2010, modeling Australia's carbon in plants, debris, mulch, soils, and forestry and agricultural products. Evans is a mathematician and engineer, with six university degrees including a PhD from Stanford University in electrical engineering. The area of human endeavor with the most experience and sophistication in dealing with feedbacks and analyzing complex systems is electrical engineering, and the most crucial and disputed aspects of understanding the climate system are the feedbacks. The evidence supporting the idea that CO₂ emissions were the main cause of global warming reversed itself from 1998 to 2006, causing Evans to move from being a warmist to a skeptic.

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The climate establishment is exaggerating and cheating:
ionova.s3.amazonaws.com/corruption/climate-corruption.pdf

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