



CBAT

<http://www.gci.org.uk/CBAT.html>

# "Ticking Arctic Carbon Bomb May Be Bigger Than Thought."

Science  
AAAS

This image portrays the effect on the atmosphere of releasing another 1.9 Trillions Tonnes Carbon from CO<sub>2</sub> from Perma Frost melt in a defendably calculated time-frame. AAA's article in Science argues this release has already begun.

3000 Gt C

1,400 ppmv

Science  
AAAS

An extra  
1.9 trillion tonnes carbon

"Ticking Arctic Carbon Bomb May Be Bigger Than Thought"

<http://news.sciencemag.org/sciencenow/2012/12/ticking-arctic-carbon-bomb-may-b.html>

It is estimated that another 1.9 trillion tonnes of carbon is stored in the 'perma-frost' [Science]. This permafrost has already started slowly melting due to enhanced global warming.

Once on this path, the potential release of this extra CO<sub>2</sub> to the atmosphere, is on a time-frame that is hard to calculate.

However, weighed on a scale of Billions of Tonnes of Carbon [Giga Tonnes or Gt C] it is easy to calculate, and once under way, it is virtually impossible to stop.

The weight reaches the top of this yellow shape at around 3 trill. tonnes of atmospheric carbon, or 1400 ppmv carbon [only].

IPCC estimates 1000 CO<sub>2</sub>-e is equal to a temperature rise of 4-8°.

So the worst-case of perma-frost melt alone, dwarfs human emissions control and presages a climate holocaust.

Atmospheric CO<sub>2</sub> concentrations would increase at the rate shown here -

NB - this is initially slower than the 90%-ile rate given in the UK Climate Act . . . and it also appears increasingly unlikely, due to the lack of emissions control, that the Carbon Budget '2016 4% Low', cited in the UK Climate Act, will be adhered to.

..... if CO<sub>2</sub> emissions, from Perma Frost melt, increased at *this rate* above the Carbon Budget '2016 4% Low', on which the UK Climate Act is based.

NB - specifying that temperature would increase throughout the next 100 years, the Climate Act gave just 44% odds for holding to a two degree temperature rise, if the 'median case' for CO<sub>2</sub> concentration rise is what evolved. Omitting this feedback altogether, Climate Act authors incorrectly claimed to have, 'modelled all known feedbacks'.

UK Climate Act [2016 4% Low]

Atmospheric Carbon Concentrations

Three Yellow Lines

10%-ile, Median, 90%-ile

UK Climate Act [2016 4% Low]

Carbon Emissions Budget

The Yellow Shape

