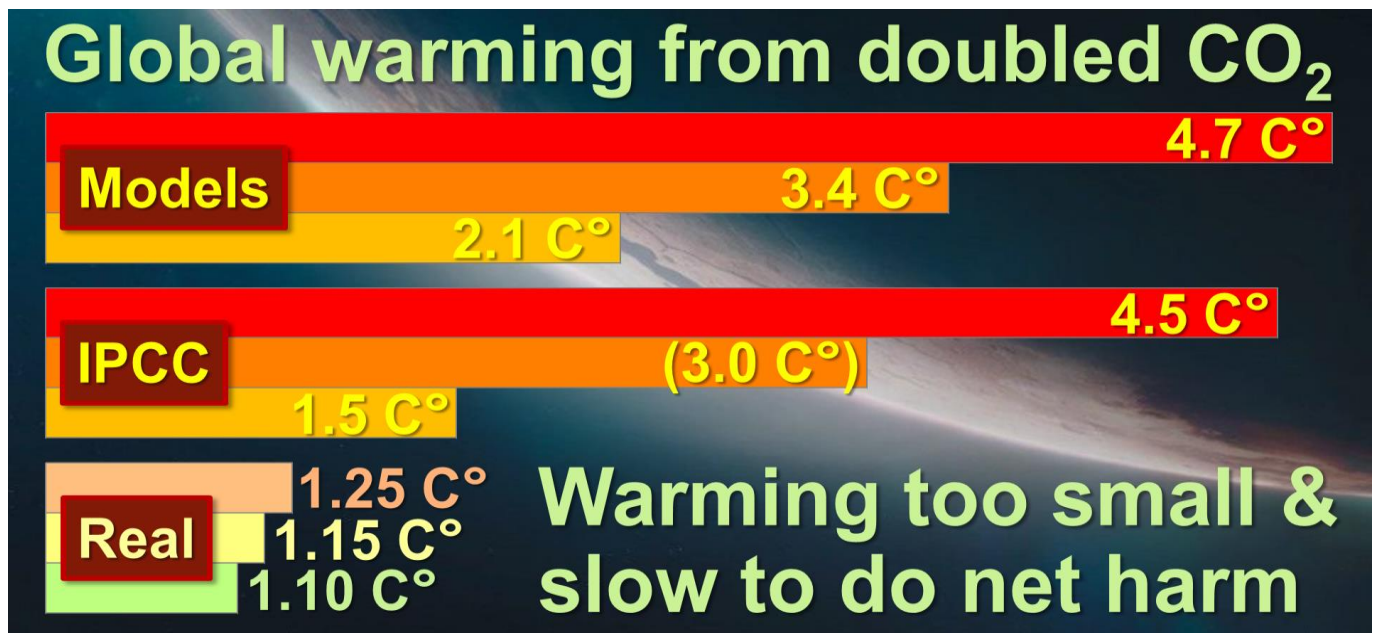# Climatologists forgot the Sun was shining

No need for climate concern: a grave error of physics created the 'crisis'

Memorandum by The Viscount Monckton of Brenchley :: monckton@mail.com :: April 2019

Good news! There is no need for climate concern. A major paper by climate researchers, currently under peer review at a top-five climate journal, proves global warming will not be 3.35 Kelvin (or Celsius degrees) per CO_2 doubling, as models now predict, but only 1.15 C° (Fig. 1). Climate scientists omitted the sunshine at a vital point in their calculations. This large error of physics led them to predict three times too much manmade global warming. They misunderstood math borrowed from engineering physics. Correcting their error means global warming has been and will be net-beneficial, with increases in crop yield (Figs. 2-3) and drought resistance due to CO_2 fertilization, which has increased the global total biomass of green trees and plants by 15-30% in recent decades (Fig. 4). Even with warming, lives saved via reduction in cold will exceed lives lost via increased heat (Fig. 5). There is no scientific basis for the 3.35 C°, 4.7 C° (Fig. 6) or even 10 C° warming that climatology predicts.
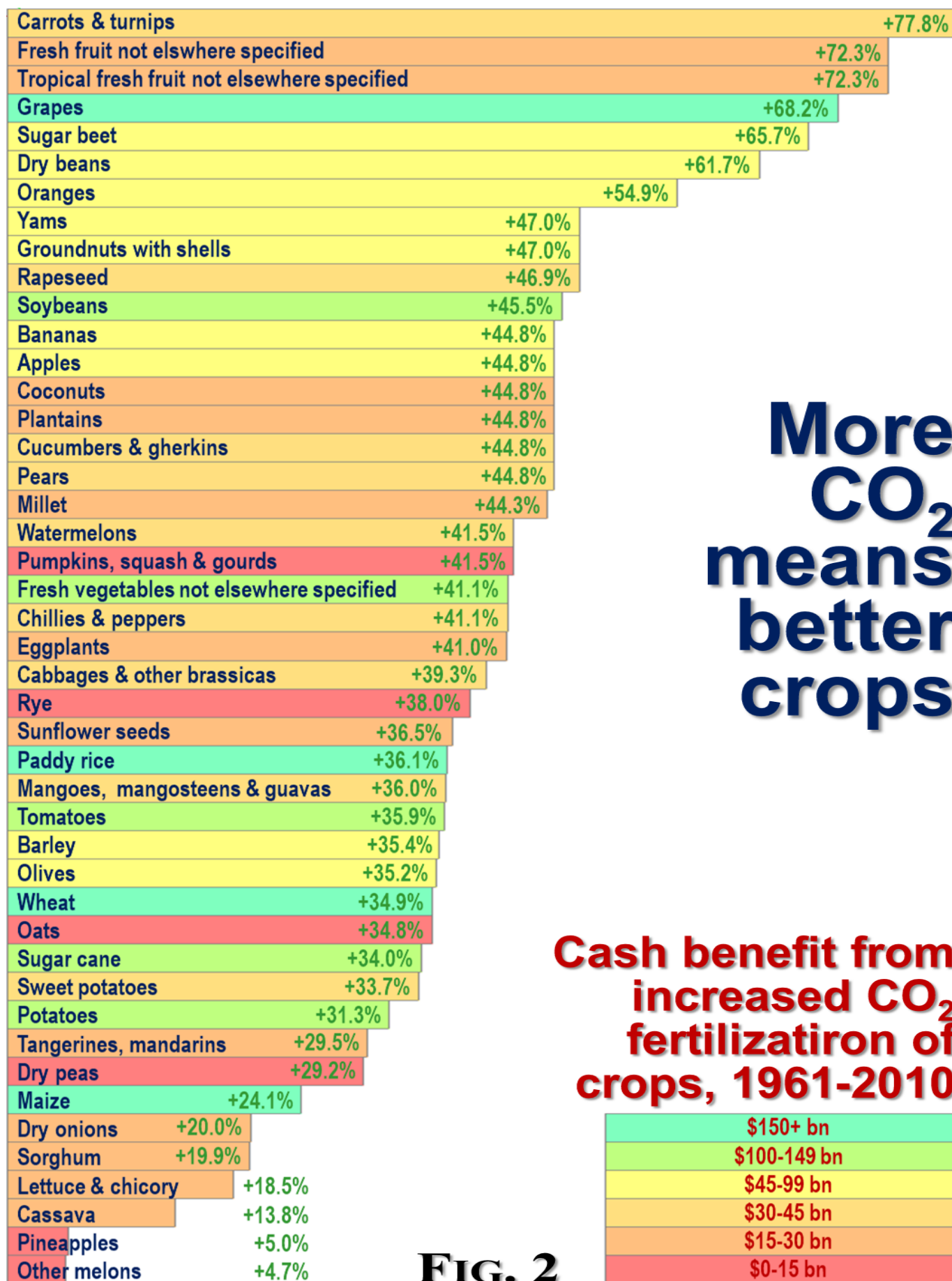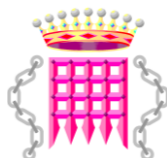
Climatologists predict that two-thirds of global warming will come not from CO_2 but from knock-on extra warming caused by "temperature feedback". However, they misdefined feedback (IPCC 2013, p. 1450) as responding only when temperature is perturbed. Feedback processes also respond to pre-existing temperature, including emission temperature caused by the fact that the Sun is shining. That large and vital sunshine term must not be – but, remarkably, was – left out of the calculation when climate scientists borrowed feedback math from control theory.

In 1850, global reference temperature (before feedback) was 265 K: that is, 255 K from the Sun and 10 K from pre-industrial greenhouse gases. Equilibrium temperature (after feedback) was 287.5 K (HadCRUT4). Estimated direct warming from manmade greenhouse-gas emissions from 1850-2011 was 0.75 K before feedback (based on IPCC 2013, table SPM.5), or 1.0 K after feedback. Therefore, the correct system-gain factor, the multiplier that takes account of temperature feedback, is not 3.3 as current climate models imagine, but only (287.5 + 1) / (265 + 0.75), or **1.1.** Feedback increases the 1.05 C° reference warming from doubled CO_2. But it does not increase that warming threefold to 3.35 C°, as climatology mistakenly imagines. After correction for climatology's error, feedback increases warming by less than a third, to a revised value of just 1.1 x 1.05, or **1.15 C°**.

IPCC's latest estimates, even before correction to include emission temperature in the calculation, give a system-gain factor 1.0 / 0.75, or 1.35, implying 1.4 C° warming from doubled CO_2. If climatologists had realized feedbacks respond to the entire reference temperature, they would not have predicted more warming than that.

The team verified the feedback response to pre-existing temperature, including the response to the sunshine-driven emission temperature, by building a test circuit to emulate temperature feedback processes. Results from a second apparatus commissioned from a government laboratory were identical to the team's results in 23 out of 23 tests.

The lead author has published many peer-reviewed papers on climate. He holds the Meese-Noble Medal of Freedom, the CFACT Valiant-for-Truth Award and the Intelligence Medal of the Army of Colombia for his climate work. His co-authors are a professor of climatology, an award-winning doctor of solar astrophysics at the Harvard-Smithsonian Observatory, a professor of applied control theory from Germany, an emeritus professor of statistics from New York, a young environmental consultant, an expert in the global electricity supply industry, two control engineers and a doctor of physics from M.I.T.

Crop	Benefit
Carrots & turnips	+77.8%
Fresh fruit not elswhere specified	+72.3%
Tropical fresh fruit not elsewhere specified	+72.3%
Grapes	+68.2%
Sugar beet	+65.7%
Dry beans	+61.7%
Oranges	+54.9%
Yams	+47.0%
Groundnuts with shells	+47.0%
Rapeseed	+46.9%
Soybeans	+45.5%
Bananas	+44.8%
Apples	+44.8%
Coconuts	+44.8%
Plantains	+44.8%
Cucumbers & gherkins	+44.8%
Pears	+44.8%
Millet	+44.3%
Watermelons	+41.5%
Pumpkins, squash & gourds	+41.5%
Fresh vegetables not elsewhere specified	+41.1%
Chillies & peppers	+41.1%
Eggplants	+41.0%
Cabbages & other brassicas	+39.3%
Rye	+38.0%
Sunflower seeds	+36.5%
Paddy rice	+36.1%
Mangoes, mangosteens & guavas	+36.0%
Tomatoes	+35.9%
Barley	+35.4%
Olives	+35.2%
Wheat	+34.9%
Oats	+34.8%
Sugar cane	+34.0%
Sweet potatoes	+33.7%
Potatoes	+31.3%
Tangerines, mandarins	+29.5%
Dry peas	+29.2%
Maize	+24.1%
Dry onions	+20.0%
Sorghum	+19.9%
Lettuce & chicory	+18.5%
Cassava	+13.8%
Pineapples	+5.0%
Other melons	+4.7%

More CO_2 means better crops

Cash benefit from increased CO_2 fertilizatiron of crops, 1961-2010

$150+ bn	
$100-149 bn	
$45-99 bn	
$30-45 bn	
$15-30 bn	
$0-15 bn	

Fig. 2

FIG. 3 Increased yields of staple crops with rising CO_2

Change in leaf area of trees & plants, 1982-2015

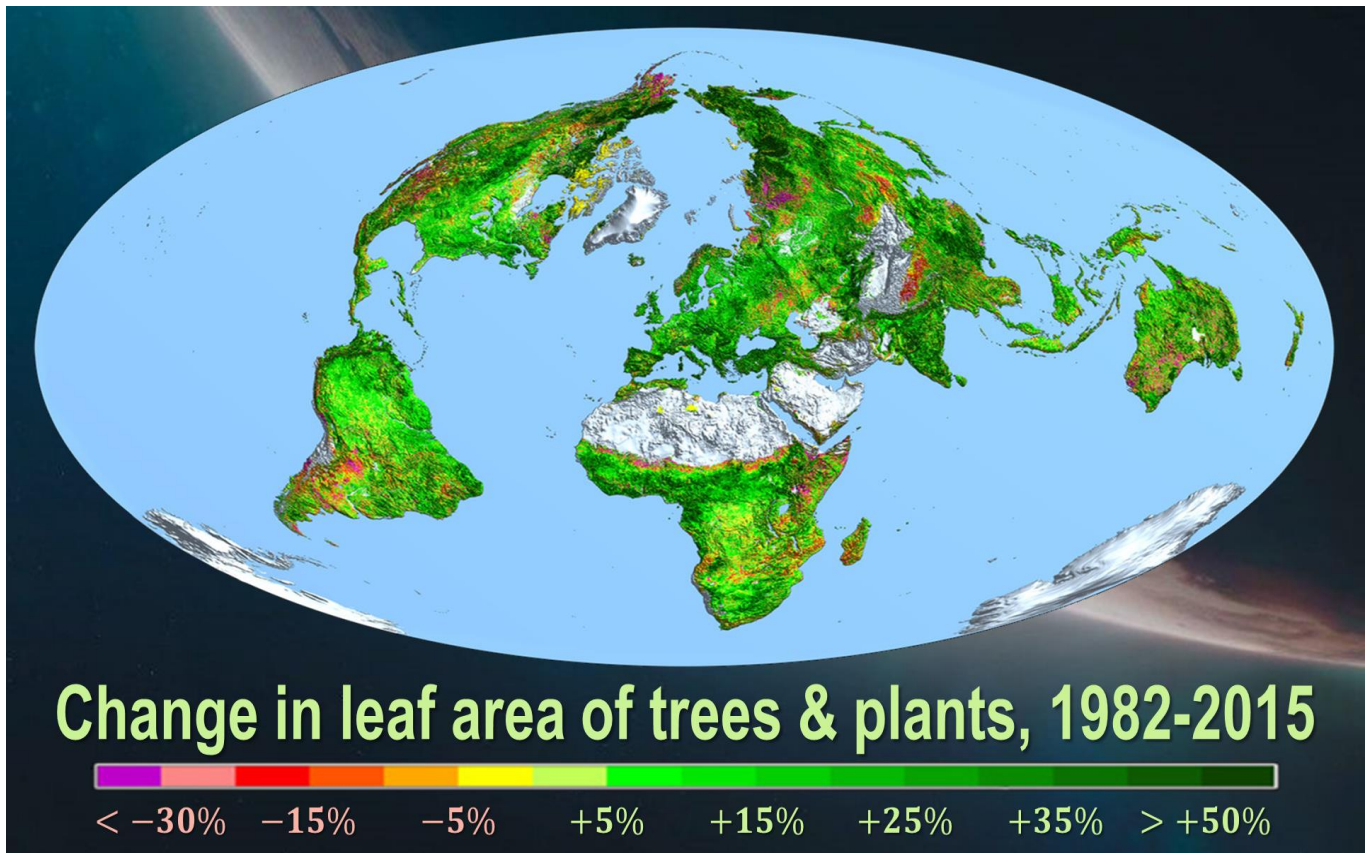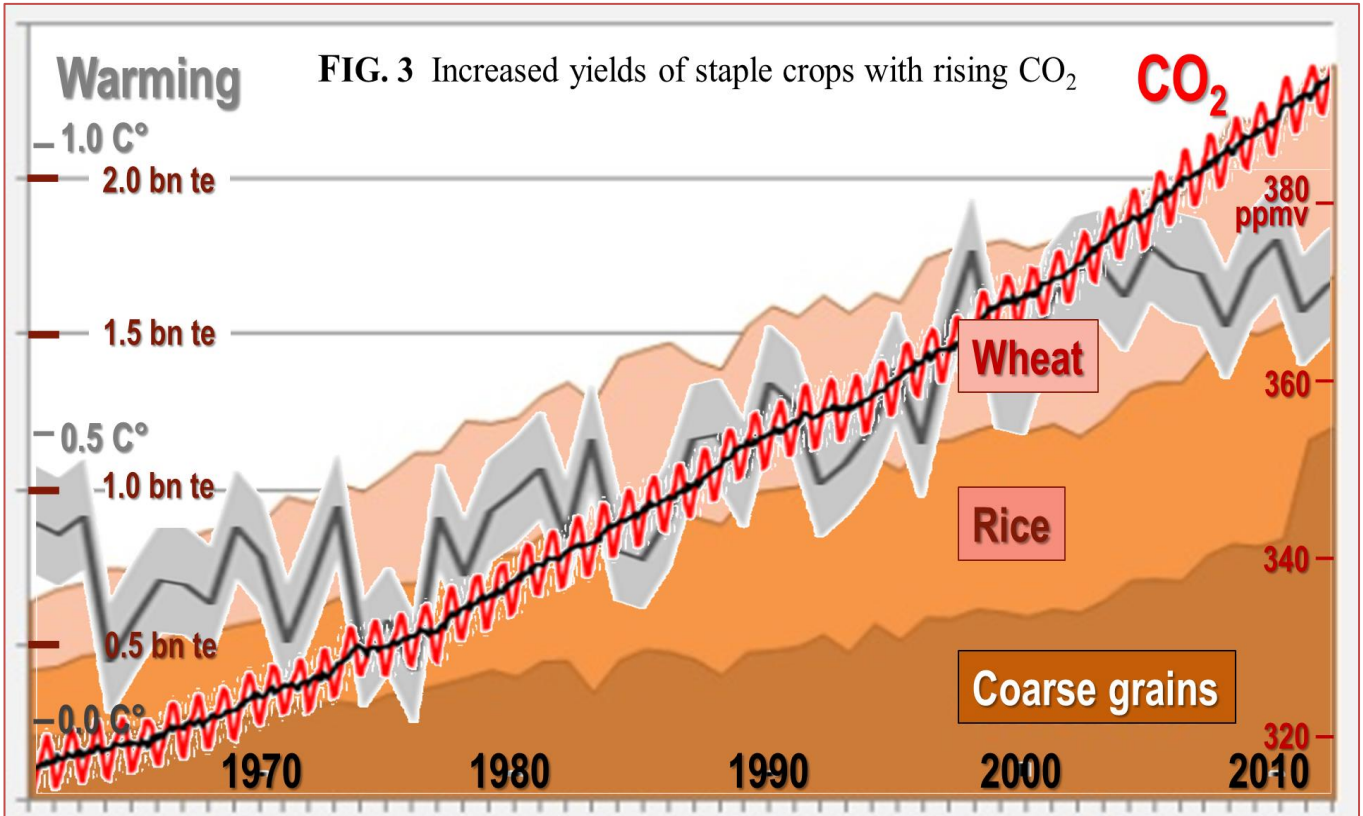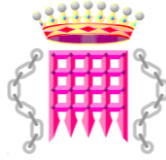$< -30\%$ -15% -5% $+5\%$ $+15\%$ $+25\%$ $+35\%$ $> +50\%$

FIG. 4 NASA satellites show a substantial increase in the net primary productivity of trees and plants worldwide. This increase is almost exclusively attributable to the additional CO_2 in the atmosphere, and is an important contributor to increased crop yields worldwide.

3

Excess deaths from heat (left, red) / **Prevented deaths from cold** (right, green)

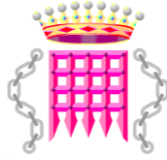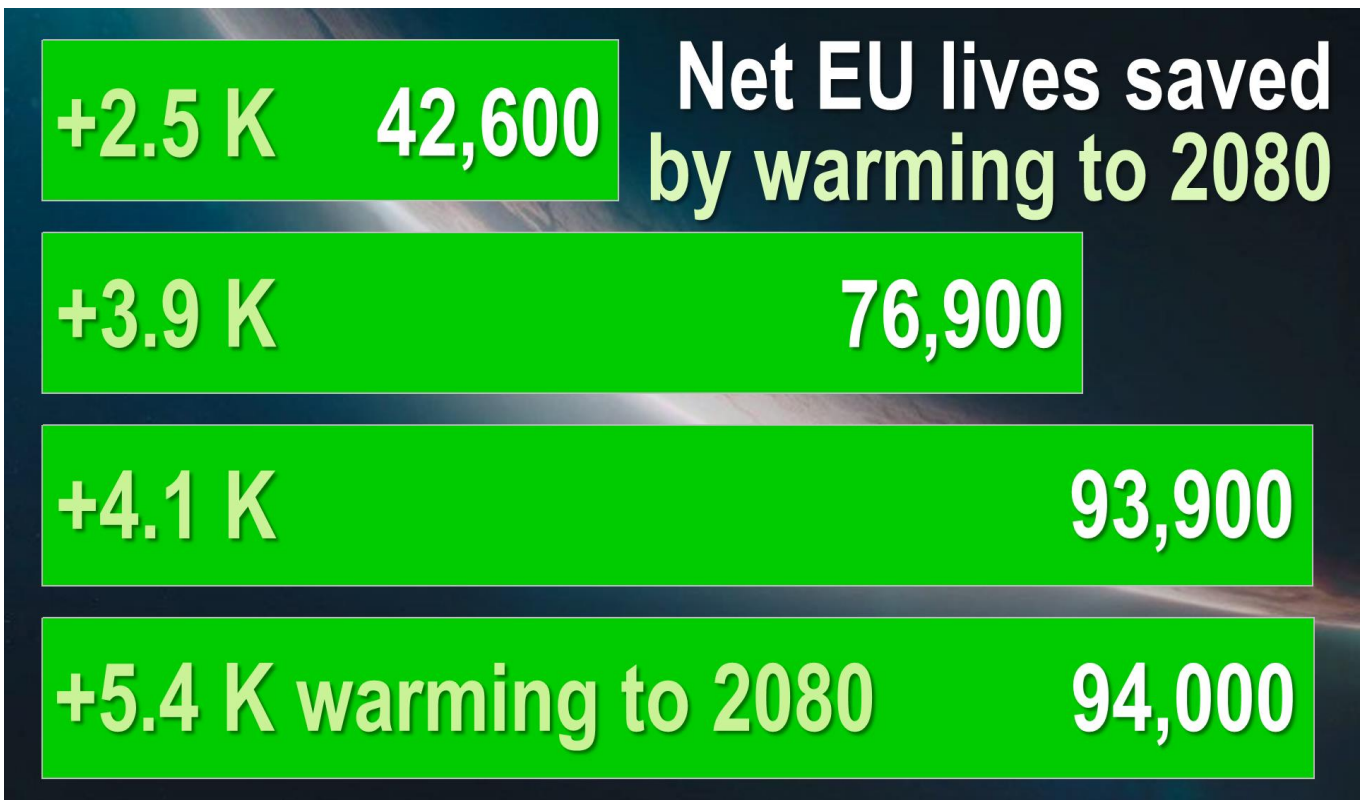| Excess deaths from heat		Prevented deaths from cold
58,500	–101,100 +2.5 K	
107,300	+3.9 K	–184,200
95,800	+4.1 K	–189,700
161,700	+5.4 K warming	–255,700

FIG. 5 (Above) Excess deaths from heat (red) and prevented deaths from cold (green) to 2080 assuming global warming of 2.5 K, 3.9 K, 4.1 K and 5.4 K.

(Below) Net lives saved in the EU to 2080 assuming global warming of 2.5 K, 3.9 K, 4.1 K and 5.4 K.
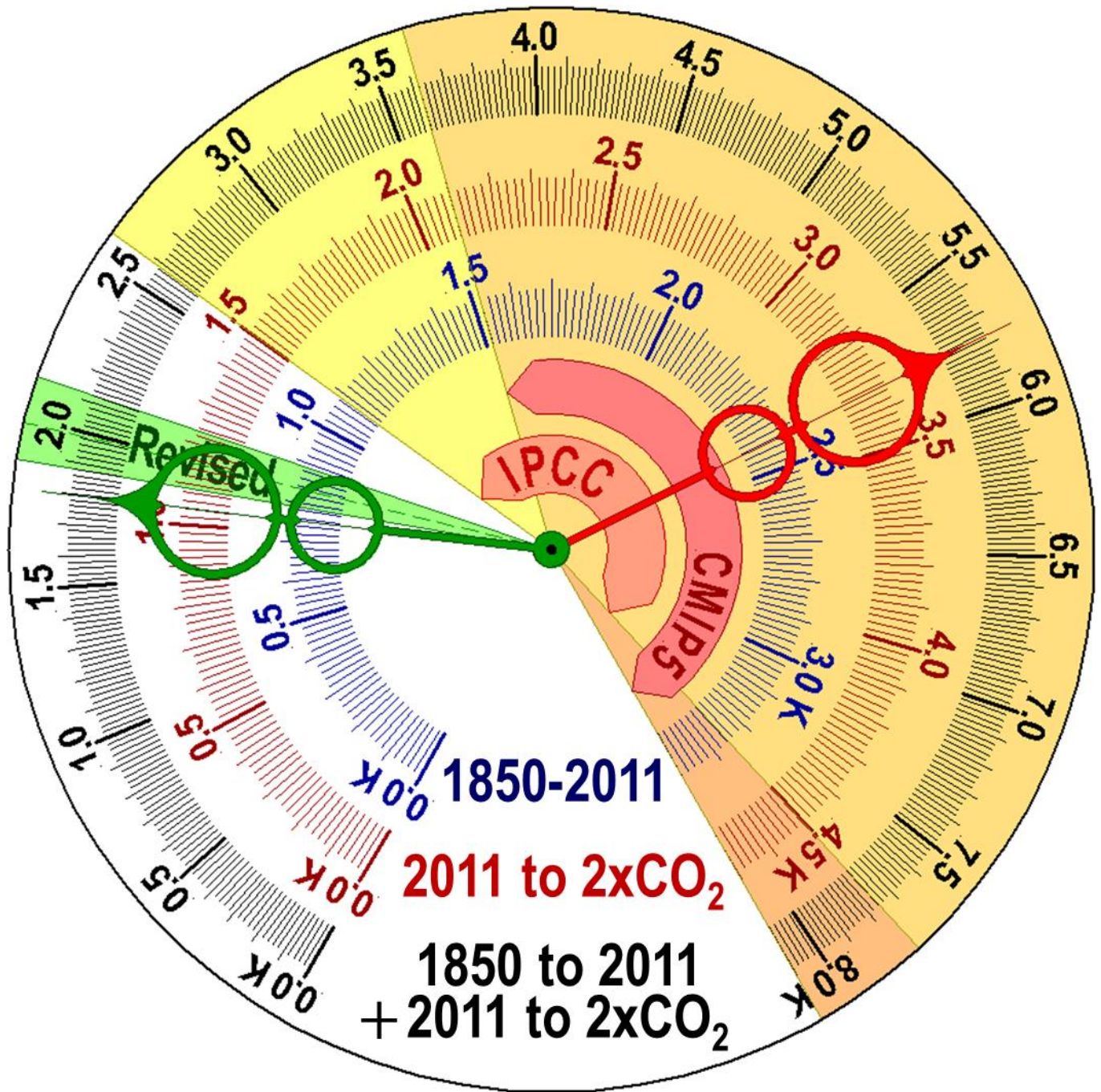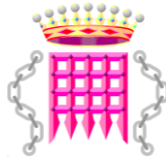
Source: EU Commission

Net EU lives saved by warming to 2080

+2.5 K	42,600
+3.9 K	76,900
+4.1 K	93,900
+5.4 K warming to 2080	94,000

FIG. 6 Officially-projected global warming (red needle) is thrice **real-world observed warming (green needle).** Overlapping projections by IPCC (2013) and CMIP5 (Andrews et al. 2012) of global warming from 1850-2011 **(blue scale)**, in response to doubled CO_2 **(dark red scale)** and the sum of these two (**black scale**) greatly exceed warming equivalent to the 0.75 K observed from 1850-2011 (HadCRUT4). The 3.35 K CMIP5 mid-range Charney sensitivity implies 2.4 K anthropogenic warming by 2011, about thrice observation. The revised interval of warming projected in Monckton of Brenchley et al. (2019) **(pale green region)** is consistent with observed warming to 2011. It was this threefold discrepancy between exaggerated prediction and observed reality – a discrepancy that had for some reason gone almost entirely unreported – that led the team to research the reasons why climate models had predicted far too much global warming.