IT'S THE SUN: changes in solar radiance striking the ground explain recent temperature changes

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monckton@mail.com

California State Assembly, 2012

The heavy cost of a non-problem
IT'S THE SUN: changes in solar radiance striking the ground explain recent temperature changes.

Unsettled science

Unsettled science
IPCC credibility gap

Predicted vs. Observed

3 K/century, 2000-2100

1 K/century, 1950-2011
More CO₂ in the air

Agreed warming from CO₂:

+1.2 C° for every doubling of CO₂

(5.35 ln 2)(7/6)(255/4/239)

= (ΔF)(7/6)(T_E/4/F_E) = 1.2 C°

Temp-erature feedbacks have only a small effect

Skeptics' projected warming:

≤1.3 C° for each doubling of CO₂

Feedbacks amplify warming threefold:

e.g., more water vapor traps heat

‘Official’ projected warming:

+3.3 C° for each doubling of CO₂

Settled & unsettled
The debate is about temperature feedbacks

\[ G = (1 - \lambda_0 f)^{-1} = 2.8 \]

where \( f = 2.06 \) & \( \lambda_0 = 0.31 \)

This is the big question: is the feedback amplification equation the right one?

Or is a homoeostatic model more truly representative of our climate?
Temperature has varied by 8°C, or <3%, either side of the 750m-year mean.

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Homeostasis

Scotese (1999)
Net-negative feedbacks: likely
Strongly net-positive feedbacks: implausible
The wrong equation?
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IS THE IPCC'S CLIMATE SCIENCE STRAIGHT?
IT'S THE SUN: changes in solar radiance striking the ground explain recent temperature changes

IPCC (2007): Statistical manipulation
IPCC (2007)
Global surface temperature

Hadley/CRU
IPCC (2007)

Warming rates
0.16 K/decade
Redrawing history in IPCC (2001)
Now you see it ...

IPCC (1990)

Mediaeval warm period

Little Ice Age

1000 1300 1600 1900
... now you don’t

IPCC (2001)
Far greater weighting for ‘hockey stick’ shapes

390x

1x
The computer always draws ‘hockey sticks’

Temperature proxy data

Random red noise
‘CENSORED_DATA’
wipe out the MWP

MWP

MBH (1998/9)
‘I’ve just completed Mike’s *Nature* trick of adding in the real temps to each series for the last 20 years (i.e. from 1981 onwards) and from 1961 for Keith’s to hide the decline.’

Prof. Phil Jones to Mann, Bradley, Hughes (1999)
The raw data

Briffa  Jones  Mann  Actual
Fiddled data

These data are expressed as 50-year smoothed differences from the 1961-1990 normal

WMO (1999)
How They hid the decline

B riffa
J ones
M ann
A ctual

BEFORE

AFTER

WMO (1999)
Was there a medieval warm period?

1056 scientists in 605 institutions in 44 nations ...

... have published papers giving evidence that the medieval warm period was real, was global, and was warmer than today
Rewriting consensus in IPCC (1995)
BEFORE

‘When will an anthropogenic effect on climate change be identified? It is not surprising that the best answer to this question is “We do not know.”’

IPCC (1995, scientists’ final draft)
‘The body of evidence now points to a discernible human influence on global climate.’

IPCC (1995, as published)
IT'S THE SUN: changes in solar radiance striking the ground explain recent temperature changes. Failed predictions from IPCC (1990) on...
IPCC over-predicts global warming

High, medium and low projections (IPCC, 1990) versus observed reality, 1990-2012 (UAH)

Dr. David Evans (2011)
Global warming in perspective
Prof. Richard Lindzen

Boston, Massachusetts
30 March – 30 April 2008

20th-century warming
Global ocean heat content

\[ +6 \times 10^{22} \text{ J} \]

\[ +4 \times 10^{22} \text{ J} \]

\[ +2 \times 10^{22} \text{ J} \]

\[ -2 \times 10^{22} \text{ J} \]

IPCC models over-predict ocean warming

Dr. David Evans

Climate models

Observations

ARGO buoys (0-700 m)
Sea level is rising at just 1.3 inches per century.
Hurricanes are quieter than for 30 years

A.C.E., 1972-2012: Dr. Ryan Maue
Extent and trend of global sea ice are almost unchanged in 33 years

University of Illinois, 1979-2012
Methane concentration up just 20 ppb in a decade

CH$_4$, 2000-2009: + 1/350 °C

Australian Bureau of Meteorology
CH$_4$ concentration, Baring Hd., 1990-2009
Modeled

Wrongly-predicted ‘hot spot’

Observed
Warming at CO2 doubling

Lindzen & Choi, 2010

ERBE/CERES

CCSM 3: 4.2 K
ECHAM5 / MPI-OM: 1.4 K
FGOALS G1.0: 22.4 K
GDFL CM 2.1: 1.6 K
INM CM 3.0: 2.4 K
MRI CGCM 2.3.2: ∞ K
MIROC 3.2 HI-RES: 3.8 K
MIROC 3.2 MED-RES: 3.0 K
UKMO HADGEM 1: 3.8 K

Negative feedback
Zero feedback
Pos.
Pos.
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ECONOMIC CONSIDERATIONS
California’s carbon tax: a worrying case study
## A case study: California’s CO$_2$ tax

### Case-specific assumptions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$y$</td>
<td>Target final year of the policy</td>
<td>2020</td>
</tr>
<tr>
<td></td>
<td>% of State’s emissions abated</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>% of national emissions abated</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>US emissions as % global emissions</td>
<td>18.7%</td>
</tr>
<tr>
<td>$p$</td>
<td>Fraction of global emissions abated</td>
<td>0.004</td>
</tr>
<tr>
<td>$C_y$</td>
<td>Projected 2020 CO$_2$ concentr. (A2)</td>
<td>413 ppmv</td>
</tr>
<tr>
<td></td>
<td>Global annual GDP in 2010</td>
<td>$60$ tr</td>
</tr>
<tr>
<td></td>
<td>Global annual GDP growth rate</td>
<td>3% p.a.</td>
</tr>
<tr>
<td>$x$</td>
<td>Cost to 2020, discounted to p.v. @ 5%</td>
<td>$450$ bn</td>
</tr>
<tr>
<td>$r$</td>
<td>Global GDP, 2011-2020, at +3% pa</td>
<td>$540$ tr</td>
</tr>
</tbody>
</table>
Global warming the policy abates

\[ \Delta T_{\text{nix}} = \lambda_{\text{tra}} \Delta F_{\text{nix}} \]

\[ = 0.5 \left[ 5.35 \ln \left( \frac{C_y}{C_{\text{pol}}} \right) \right] \]

\[ = 2.7 \ln \frac{C_y}{C_y - p(C_y - 390)} \mid C_{2010} = 390 \]

\[ = 0.0006 \text{ K} = 0.001 \text{ F}^\circ \]

<table>
<thead>
<tr>
<th>( p )</th>
<th>Fraction of global emissions abated</th>
<th>0.004</th>
</tr>
</thead>
<tbody>
<tr>
<td>( C_y )</td>
<td>Projected BAU CO(_2) concentration in 2020</td>
<td>413 ppmv</td>
</tr>
<tr>
<td>( C_{\text{pol}} )</td>
<td>CO(_2) concentration in 2020 after the policy</td>
<td>412.914 ppmv</td>
</tr>
<tr>
<td>( \Delta F_{\text{nix}} )</td>
<td>CO(_2) forcing the policy abates by year ( y )</td>
<td>0.001 W m(^{-2})</td>
</tr>
</tbody>
</table>
**CO₂-mitigation cost-effectiveness**

The cost of abating 1 K of CO₂-driven warming by policies as cost-(in)effective as the policy:

\[ M = \frac{x}{\Delta T_{nix}} \]

\[ = \$454 \text{ trillion/F}^\circ \]

<table>
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<tr>
<th>Variable</th>
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<th>Value</th>
</tr>
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<tr>
<td>( x )</td>
<td>Real cost of the policy, discounted to p.v.</td>
<td>$450 bn</td>
</tr>
<tr>
<td>( \Delta T_{nix} )</td>
<td>Warming the policy abates to 2020</td>
<td>0.001 F°</td>
</tr>
</tbody>
</table>
Global all-warming abatement cost of abating 0.15 K predicted warming to 2020 by policies as cost-(in)effective as the policy

\[ G = \frac{M \Delta T_y}{q} = $179 \text{ trillion cash} \]

\[ H = \frac{M \Delta T_y}{(oq)} = $25,500 \text{ per capita} \]

\[ J = 100 \frac{M \Delta T_y}{(qr)} = 33\% \text{ of global GDP} \]

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<tr>
<td>( \Delta T_y )</td>
<td>Projected BAU warming to 2020</td>
<td>0.15 K</td>
</tr>
<tr>
<td>( M )</td>
<td>Mitigation cost-effectiveness of shutdown</td>
<td>$454 \text{ tr / F°}</td>
</tr>
<tr>
<td>( o )</td>
<td>Global population</td>
<td>7 billion</td>
</tr>
<tr>
<td>( q )</td>
<td>Fraction of all forcings attributable to CO₂</td>
<td>0.7</td>
</tr>
<tr>
<td>( r )</td>
<td>Cum. real global GDP to 2020 @ +3% –5%</td>
<td>$541 \text{ trillion}</td>
</tr>
</tbody>
</table>
The action/inaction ratio of the GDP cost of pursuing the policy fully to year $y$ to the mean GDP welfare loss from inaction to year $y$ is calculated as follows:

$$\frac{J}{Z} = \frac{33.1\% \text{ GDP}}{3.0\% \text{ GDP}} = 11$$
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Economic conclusions
No policy to abate global warming by taxing, trading, regulating, reducing, or replacing greenhouse-gas emissions will prove cost-effective solely on grounds of the welfare benefit from climate mitigation.
CO$_2$ mitigation strategies that are inexpensive enough to be affordable will be ineffective; strategies costly enough to be effective will be unaffordable.

Focused adaptation is better.
The West is no longer the problem, so we are not the solution

Dr. David Archibald
## Costs to California: benefits to no one

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<tr>
<td>Percentage of global emissions abated</td>
<td>0.4%</td>
</tr>
<tr>
<td>Fall in CO₂ concentration, 2010-2020</td>
<td>0.086 ppmv</td>
</tr>
<tr>
<td>Radiative forcing abated, 2010-2020</td>
<td>0.001 W m⁻²</td>
</tr>
<tr>
<td>Warming 10 yrs’ cap-and-trade abates</td>
<td>0.001 °F</td>
</tr>
<tr>
<td>Cost of abating 0.3 °F warming, 2010-2020</td>
<td>$179 trillion</td>
</tr>
<tr>
<td>Cost of abating predicted bus.-as-usual warming, 2010-2020</td>
<td>$25,500</td>
</tr>
<tr>
<td>Cost of abating 6 °F warming to 2100</td>
<td>$2663 trillion</td>
</tr>
</tbody>
</table>
The premium greatly exceeds the cost of the risk, so don’t insure.
IT'S THE SUN: changes in solar radiance striking the ground explain recent temperature changes. The moral question
California’s self-inflicted wound

- Too many environmental regulations
- Cost-ineffective cap and tax scam
- Costly ‘renewable’ energy mandates
- 40-yr ban on most offshore drilling
- UCLA fails to act on CARB scandal
- UCSD fails to act on Oreskes scandal
California’s self-inflicted wound

Monterey shale holds 15 bn barrels of oil.
Production was 320 mm bbl in 1990.
Now it is just 200 mm bbl. Why?
Over-regulation: that’s why.

Over-regulation means 11% jobless.
2012/13 State Treasury deficit $6 billion
Unfunded pension liabilities $250 billion
50,000 rich Californians fled, 2007-2009

The waggons are rolling East

 Twice as many firms fled CA in 2011 as in 2010
 Intel says it will never build another plant in CA
 Globalstar, Trizetto, and eEye fled in one month
 Boeing, Toyota, Apple, Facebook, DirecTV,
 Hilton Hotels, Thomas Brothers Maps, all fled
 CA 11% unemployment is second only to Nevada
 CA construction unemployment is 50%

 CFACt Southern California chapter
‘When millions are going hungry, it is a crime against humanity that food should be diverted to biofuels.’

Herr Jean Ziegler,
UN Right-to-Food Rapporteur,
2007
Sight restored for $8