Robert McSweeney

Science Editor, Carbon Brief

@rtmcswee

www.carbonbrief.org



### Carbon budgets

"The simplicity of the concept of a cumulative carbon emission budget makes it attractive for policy."

Collins et al. (2013) IPCC AR5 WG1 Chapter 12

"Carbon budgets provide one of the simplest and most transparent means of connecting geophysical limits imposed by the Earth system to implications for climate policy."

Rogelj et al. (2019) Nature





Greens draw up " carbon budget " to protect climate.

Rosalind Russell, 2 October 1997

"In a new report, [Greenpeace] has drawn up a "carbon budget" detailing how much carbon dioxide can be released into the atmosphere before the Earth heats up to levels which may cause 'unprecedented damage to human and natural systems'."





COLUMN-Busting the carbon budget: Kemp

John Kemp, 17 May 2013

"So far, the concepts of a carbon budget and of a maximum amount of fossil fuels that can be burned have not got much traction with policymakers, corporations or the public."



### IPCC carbon budget

Cumulative CO <sub>2</sub> emissions from 1870 in GtCO <sub>2</sub>									
Net anthropogenic warming <sup>a</sup>	<1.5°C			<2°C			<3°C		
Fraction of simulations	66%	50%	33%	66%	50%	33%	66%	50%	33%
meeting goal <sup>b</sup>									
Complex models, RCP	2250	2250	2550	2900	3000	3300	4200	4500	4850
scenarios only c									
Simple model, WGIII	No data	2300 to	2400 to	2550 to 3150	2900 to	2950 to	n.a. e	4150 to	5250 to 6000
scenarios d		2350	2950		3200	3800		5750	
Cumulative CO <sub>2</sub> emissions from 2011 in GtCO <sub>2</sub>									
Complex models, RCP	400	550	850	1000	1300	1500	2400	2800	3250
scenarios only c									
Simple model, WGIII	No data	550 to 600	600 to 1150	750 to 1400	1150 to	1150 to	n.a. e	2350 to	3500 to 4250
scenarios <sup>d</sup>					1400	2050		4000	
Total fossil carbon available in 2011 f: 3670 to 7100 GtCO <sub>2</sub> (reserves) and 31300 to 50050 GtCO <sub>2</sub> (resources)									
Total fossil carbon available in 2011 f: 3670 to 7100 GtCO <sub>2</sub> (reserves) and 31300 to 50050 GtCO <sub>2</sub> (resources)									

IPCC Synthesis Report, 2014



The New York Times

# U.N. Climate Panel Endorses Ceiling on Global Emissions

Justin Gillis, 27 September 2013

"Going well beyond its four previous analyses of the emissions problem, the panel endorsed a 'carbon budget' for humanity – a limit on the amount of the primary greenhouse gas, carbon dioxide, that can be produced by industrial activities and the clearing of forests."



# IPCC: 30 years to climate calamity if we carry on blowing the carbon budget

Fiona Harvey, The Guardian, 27 September 2013

### How to Slice a Global Carbon Pie?

Justin Gillis, The New York Times, 7 October 2013

'Carbon budget' talks urgent, warns Lord Stern

Fiona Harvey, The Guardian, 29 September 2013

Climate change is happening - but it's not too late

Editorial, The Independent, 27 September 2013

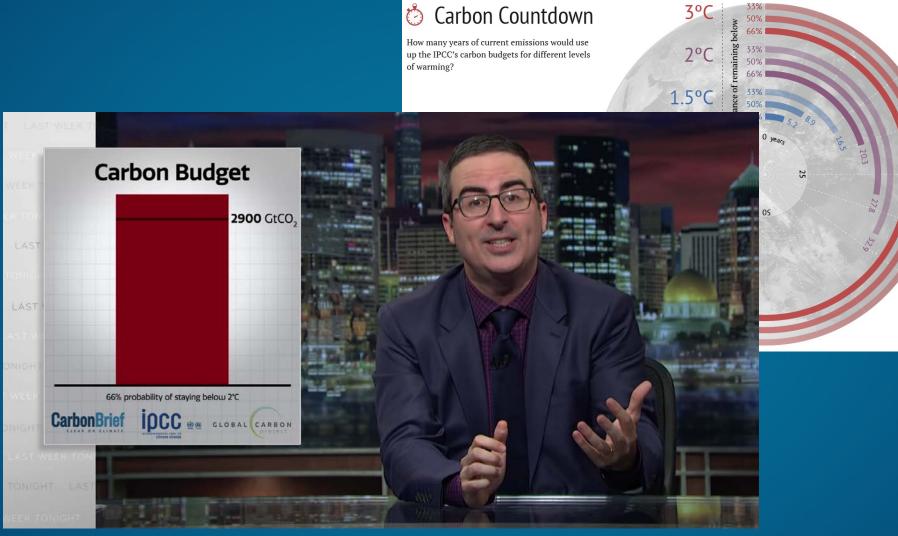
A good basis for action on 'carbon budget'



"Over the last few years, the concept of a global carbon budget has established itself as a key element of the international climate policy debate."

Oliver Geden, The New York Times, 1 December 2015





Last Week Tonight with John Oliver, 4 June 2017



### But then...



### **ARTICLES**

PUBLISHED ONLINE: 18 SEPTEMBER 2017 | DOI: 10.1038/NGE03031

# Emission budgets and pathways consistent with limiting warming to 1.5 °C

Richard J. Millar<sup>1,2\*</sup>, Jan S. Fuglestvedt<sup>3</sup>, Pierre Friedlingstein<sup>1</sup>, Joeri Rogelj<sup>4,5</sup>, Michael J. Grubb<sup>6</sup>, H. Damon Matthews<sup>7</sup>, Ragnhild B. Skeie<sup>3</sup>, Piers M. Forster<sup>8</sup>, David J. Frame<sup>9</sup> and Myles R. Allen<sup>2,10</sup>

Nature Geoscience, 18 September 2017



# Ambitious 1.5C Paris climate target is still possible, new analysis shows

The Guardian

New climate change calculations could buy the Earth some time — if they're right

The Washington Post

This Study Says We Might Actually Avoid Catastrophic Climate Change

**BuzzFeed News** 

Scientists say Paris climate change targets on global warning still possible

**Press Association** 







#### May tries to rein in Johnson before keynote Brexit speech

Theresa May has summoned minister Theress May has summoned ministers to a special cabinet meeting at which she will seek to bind Boris Johnson to her vision of Bresit on the eve of a key speech this week.

The foreign secretary has piled on the pressure against a compromise with

the EU. He refused y esterday to rule out resigning as he said that Britain should not have to pay "extortionate" sums for access to the single market, and that a post-Brexit transition should not be 'too long'. Mrs May rebusked him mildly for setting out his vision before speech in Florence on Friday.

The prime minister wants to use the speech to restart stalled Brexit talks. Mr

Johnson is said to have broken cover because he feared that she was about to signal approval for a soft Brexit deal. Visiting Canada yesterday, Mrs May denied that her cabinet was split between Brexiteers such as Mr Johnson and Michael Gove, who want a rela-tionship with the EU modeled on the Canadian free-trade deal, and those like Philip Hammond, the chancellor, who

prefer the Norway model. No 10 does not rule out that she will be Inhaled by most will be the the Inhaled by must win the backing of Mr Johnson: both are in New York this week, and are due to hold talks. The foreign secretary said yesterday that his 4200-word newspaper article on Saturday was a "bit of an opening four no'll." Lord Hague of Richmond, the Tory

The secret

Greg Hurst Social Affairs Editor



### Climate change disaster can be averted, say experts

Scientists admit that world is warming more slowly than predicted

on climate change to limit warming to Life above pre-industrial levels.

In Sca bove pre-industrial levels.

The study, published in the journal Scientification in the past 15 years leads me to conclude that actually delivering a least part of the study, published in the journal stimply incompatible with demorphism of the properties o

also excluded.

The research found that people who feel rested had a higher sense of self-worth and were less likely to be anxious.

Better sleep is the biggest single con-

"Better sleep is the biggest single con-ributor to better living." the report said-'Over 60 per cent of the group living end feit well rested most or all of the of the group struggling felt this way." Parents with children under free had the strungest sense of wellbeing despite annucial worines and poor-quality sleep, annucial worines and poor-quality sleep, stronger social and community lies out-weighted these pressures. Parents with grown-up children were the next hap-pest followed by older people without 18 were more likely to be dissatisfied. The results showed an association

CONTINUED FROM PAGE 1 Climate change

government institutes and universities around the world, had been assembled a decade ago "so it's not that surprising that it's starting to divert a little bit from observations". Too many of the models used "were on the hot side", meaning they forecast too much warming.

According to the models, keeping the average temperature increase below 1.5C would mean that the world could emit only about 70 billion tonnes of carbon after 2015. At the present rate of emissions, this "carbon budget" would be used up in three to five years. Under the new assessment, the world can emit another 240 billion tonnes and still have a reasonable chance of keeping the temperature increase below 1.5C.

"That's about 20 years of emissions before temperatures are likely to cross 1.5C," Professor Allen said. "It's the difference between being not doable and being just doable."

Professor Grubb said that the fresh assessment was good news for island states in the Pacific, such as the Marshall Islands and Tuvalu, which could be inundated by rising seas if the average temperature rose by more than 1.5C.

Other factors pointed to more

**Analysis** 

Then 194 nations met in Paris in 2015 and agreed to try to limit the increase in global average temperature to 1.5C, many scientists dismissed the goal as unattainable (Ben Webster writes).

They said it would be politically and economically impossible to cut emissions fast enough and that the world would have to prepare for worse droughts and heatwayes and islands disappearing beneath rising seas. Now it turns out the

scientists were being

too pessimistic and

had been led astray by computer models. Other factors have also contributed to the new, more optimistic assessment, including the cost of

renewable energy and China's emissions growth both falling faster than almost anyone had predicted.

Computer models

remain the best way to work out how quickly we need to cut emissions to avoid climate change, but scientists could be nimbler at revising them when actual readings diverge from

optimism on climate change, including China reducing its growth in emissions much faster than predicted and the cost of offshore windfarms falling steeply in Britain. Professor Grubb called on governments to commit themselves to steeper cuts in emissions than they had pledged under the Paris agreement to keep warming below 1.5C. He added: "We're in the midst of an energy revolution and it's happening faster than we thought, which makes it

much more credible for governments to tighten the offer they put on the table

The Met Office acknowledged yesterday a 15-year slowdown in the rise in average temperature but said that this pause had ended in 2014, the first of three record warm years. The slowing had been caused by the Pacific Decadal Oscillation, a pattern of warm and cool phases in Pacific sea-surface

### We were wrong — worst effects of climate change can be avoided, say experts

Scientists admit that world is warming more slowly than predicted



# The Daily Telegraph

#### NEWS BRIEFING

#### Ryanair facing £17m cancelled flights bill

iyanair could have to pay €20 milli £17.6 million) in compensation for cancelling the flights of around 400,000 people after "messing up" it fliots' holiday rota. Michael O'Leary, he low-cost airline's chief executive ogised for the issue and cla ne company would not argue the exceptional circumstance, which ould have frustrated passengers' tempts to claim recompense for any

#### Sex and sleep are the key to happiness

For true happiness, look to boosting your time in the bedroom rather that your bank balance. The Living Well ndex, developed by researchers at exford Economics, found that sex and eep were more significant than sadrupting your income. Polling arried out by the National Centre for ocial Research found that the most ed people scored 15 points higher

#### Rio, lord of the ring?

England star Ferdinand takes up boxing Sport pages 4-5

#### NHS plans to share data despite opt-outs

Patients who want to opt out of an NHS data-sharing plan could still have been records sharred, leaked focuments show. Last year the Coverment cancelled proposals for autional care data scheme after it was retificated for halling to make it clear how to opt out. However, draft plans seen by 7th Rehalf Pelegraph august the patients are not opt out. The control of t

CORP.	
Puzzles	18
Obituaries	31
TV listings	33
Weather	34



### May must unite Tories on Brexit or lose election, warns Hague

Prime Minister faces Cabinet split over EU deal as she prepares for key speech to set out plan

THERESA MAY must use a landmark seech on Priday to unite the Cabinet round an agreed plan for Brexit or risk n irreversible split in the Conservative

Party, Lord Hague warns today.

The former party leader says senior ninisters "lack co-ordination" 15 nonline on from the EU referendum and it is "high time" they settle on an

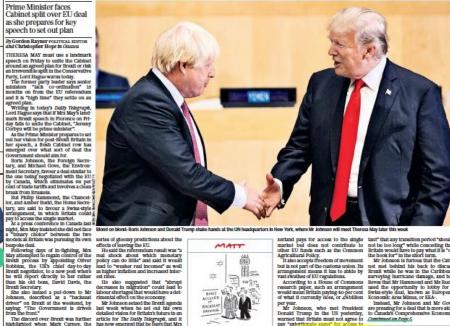
greed plan. Writing in today's *Daily Telegraph*, ord Hague says that if Mrs May's landnark Brexit speech in Florence on Pri-lay fails to unite the Cabinet, "Jeremy

Orthyn will be prime minister."

As the Prime Minister prepares to set out her vision for post-Breadt Britain in her speech, a fresh Cabinet row has merged over what sort of deal the

Government should aim for.

Borts Johnson, the Foreign Secre-tary, and Michael Gove, the Environ-



from the front.\*

The discord over Bresit was further tightlighted when Mark Carmer, the twister of the Lottly Triegraph, and it supplies to the Lottly Triegraph, and the solventrior of the Bank of England, which was now emerged that the fears that Mrs. will use Fritzar's spector to digmal a works closely with Mr Hummont, used "Swels-style deat flat would yoke Britary spector to digmal a which was the control of the Common and the Common

searming pays for access to the single market but does not contribute to other EU finish such as the Countribute to the too long" while conceding that Britain would have been a sum of the cost for "in the short term.

Mr Johnson is hardon that the Catchina and the Stack to discuss a state of the Countribute to the Stack to discuss According to a House of Commons research paper, such an arrangement would mean Britain pushing 60 per cont or what it currently does, or 2-bit section of the Stack to discuss and the Stack to discuss and the Stack to discuss an according to a House of Commons research paper, such an arrangement would mean Britain pushing 60 per cont or what it currently does, or 2-bit section of the Stack to discuss and the Stack to discuss any such devices that the Stack to discuss any such devices the Stack to discuss the Stack to discuss any such devices the Stack to discuss any such devices the Stack to discuss the Stack t

#### Bomb ingredients sold together on Amazon | Climate models are 'wrong'

powder are offered. The "customers any other European country. Gen Periods. Who write the foreward to a Police and Notice and the CLIMATE change people calling for a new part of the Periods. The CLIMATE change people calling for a new part of the Periods of the

Blake incomings wrong single sized.

Research by British actomistics found in Research by British actomists found in Research by British actomists found in the Research by British actomists for the Research by British actomists for the Research by British actomists from the British actomists from the Research by British actomist

### Climate models are 'wrong'

#### By Henry Bodkin

CLIMATE change poses less of an three chance of keeping global immediate threat to the planet than temperatures within 1.5 degrees above was thought because scientists got pre-industrial levels, the ultimate goal their modelling wrong, a study has of the 2015 Paris agreement.

that the world was being polluted and pact, announced by Donald Trump in warming up at a slower rate than June, saying it is unlikely to make a sig-10-year-old forecasts predicted, giving nificant difference. countries more time to get a grip on their carbon output.

fordable renewable energy has also Continued on Page 2

contributed to the more positive outlook. Experts now say there is a two-in-

They also condemned the "overreac-Research by British scientists found tion" to the US's withdrawal from the

According to the models used to draw up the agreement, the world An unexpected "revolution" in af- ought now to be 1.3 degrees above the

#### Forecast errors buy time to slow global warming

Continued from Page 1

most recent observations suggest it is predicted. China has acquired more actually between 0.9 to 1 degree above.

The discrepancy means nations could continue emitting carbon dioxide at the current rate for another 20 years before the target was breached, instead of the three to five predicted by the previous model.

"When you are talking about a budget of 1.5 degrees, then a 0.3 degree terday he said: "We're in the midst of an difference is a big deal", said Professor Myles Allen, of Oxford University, and one of the authors of the new study.

Published in the journal Nature Geoscience, it suggests that if polluting peaks and then declines to below current levels before 2030 and then continue to drop more sharply, there is a 66 per cent chance of global average tem- have much impact on US emissions". peratures staying below 1.5 degrees.

The goal was yesterday described as very ambitious" but "physically possible". Another reason the climate outlook is less bleak than previously thought is stabilising emissions, par- don't want to be left behind," he said

ticularly in China. Renewable energy mid-19th century average, whereas the has also enjoyed more use than was than 100 gigawatts of solar cells, 25 per cent of which in the last six months, and in the UK, offshore wind has turned out to cost less than expected.

Professor Michael Grubb, from University College London, had described the goals agreed at Paris in 2015 as "incompatible with democracy". But yesenergy revolution and it's happening faster than we thought, which makes it much more credible for governments to tighten the offer they put on the table at Paris." He added that President Trump's withdrawal from the agreement would not be significant because "the White House's position doesn't

"The smaller constituencies - cities businesses, states - are just saying they're getting on with it, partly for carbon reduction, but partly because there's this energy revolution and they



#### By Colin Fernandez Science Correspondent

THE threat of global warming is not as bad as previously thought, climate scientists

Warnings made in 2015 at the Paris Climate Change Conference had been too pessimistic, they said.

These were based on projections that suggested nations had already produced too much greenhouse gas to limit global warming to between 2C and 1.5C above 19th-century levels.

This meant drastic and urgent cuts would have to be made in greenhouse gases to stop a climate catastrophe.

But yesterday academics admitted that they had been wrong - and we have a longer time frame to reduce the amount of fossil fuels we burn.

A revolution in solar power, particularly in China, has dramatically cut the amount of carbon dioxide produced, researchers said.

The research by British scientists shows that under the old projections, the world ought now to be 1.3C warmer than the mid-19th century average. In fact the new analysis shows it is between 0.9C and 1C above. Michael Grubb,

#### 'More room than we thought'

professor of international energy and climate change at University College London, accepted that the old projections had been wrong.

He said the new research 'suggests we have more room than we thought', while global emissions, particularly from China, have stabilised earlier than expected, he said.

Myles Allen, professor of geosystem science at the Oxford University, said that if the world followed 'ambitious' reductions of emissions from where things stand today, there would be even odds of meeting the 1.5C goal.

'It's not out of sight, physically, it's not geophysically

# Fear of global warming is xaggerated, say scientists



Rutherford: Campaign

#### BBC's climate rant rebuke

THE BBC has had to give a leading presenter a dressing down after he launched an online campaign against an MP sceptical about climate change.

Geneticist Dr Adam Rutherford, who hosts Radio 4's Inside Science, took aim at Labour MP Graham Stringer after he was re-appointed to the science and technology select committee.

He urged his Twitter followers to lobby to get MrStringer blocked. 'We need you [sic] righteous indignation on this. Please write to your MPs. It is not OK to have science so misrepresented in a democracy,' he wrote and pointed out Mr Stringer was a trustee of the Global Warming Policy Foundation, a sceptical thinktank, saying 'it gets worse'.

Mr Stringer, a chemistry graduate and former scientist, complained directly to BBC Director-General Lord Tony Hall, writing: 'It is completely inappropriate for a BBC employee to be running a political campaign...misrepresenting me to the point of

defamation.'

impossible,' he said. Professor Allen pointed to China, which had rolled out 100 gigawatts (GW) of solar power, a quarter of it in the past six months,

and to tumbling prices of offshore wind power in the UK. 'It is looking more hopeful for these multiple reasons that we can deliver the Paris goals,' he said.

Under the Paris Agreement, countries submitted national plans for cutting greenhouse gas emissions, with a process to update and increase levels of climate action every five years amid recognition that current commitments are not enough.

Professor Grubb said: 'We're in the midst of an energy revolution and it's happening faster than we thought, which makes it much more credible for governments to tighten the offer they put on the table at Paris.

### Scientists' hot air

FOR the umpteenth time, climate change scientists have been proved wrong, with evidence of global warming falling short of their alarmist predictions.

Yet not a whisper of apology do they utter for the swingeing green taxes levied on energy bills - or the landscapes and sea views destroyed by unsightly wind farms - on the strength of their prophecies of catastrophe.

Instead, they say their latest mistake merely means we have longer than they thought to prevent temperatures from rising to a danger level.

Meanwhile, they ask us to believe that their miscalculation can be partly explained by a revolution in solar power, particularly in China.

Nobody believes more strongly than the Mail that we should strive to look after our planet for our children and grandchildren.

But wouldn't it be easier to trust the green lobby, in whose name we're forced to make such huge sacrifices, if just occasionally they got their forecasts right?



# Now that's an

politician and selfappointed champion the green cause famously declared that 'the science is settled

on climate change.

It was a claim that revealed far more about the intolerance of the nvironmental movement than the eality of scientific inquiry.

reality of scientific inquiry.
Research should be founded on
critical analysis of the evidence,
not on wishful thinking or enforcement of a political ideology.
Now the hollowness of Gore's

assertion is exposed again by a vital new report that shows how the apocalyptic predictions of the green

apocalyptic predictions of the green lobby have been exaggerated. In a study just published by the respected journal Nature Geo-science, a group of British academ-ics reveals that the immediate threat from global warming is lower than previously thought, because the computer models used by

climate computer models used by climate change experts are flawed. According to these models, temperatures across the world should now be at least 1.3 degrees above the mid-19th century average, which is taken as a base level in such calculations. But the British report demonstrates that the rise is

only between 0.9 and 1 degree.
That discrepancy is 'a big deal',
says Professor Myles Allen of Oxford University, one of the authors of the study. He is absolutely right.

#### Arrogance

There has been no word of apology, no sign of humility. Remarkably, they carry on preaching their diehard gospel. With their habitual arrogance, they argue that the lower levels of global warming mean

levels of global warming mean that we now have even more time to implement their radical policies. They don't seem to have considered for a moment that we might consider throttling ack on the extreme measures we're told must be carried out to 'save the planet'. They display such certainty because onmentalism increasingly nbles a religious creed.

That has certainly been my experience as a Labour MP, who, because of my own knowledge of science has lone

been sceptical about the climate change doctrine.
This outlook has made me a target for green campaigners, who seem to think that no voices should be heard but their own.

A disgraceful example of this impulse towards censorship came recently from the geneticist and BBC presenter Dr Adam Rutherford, who

A report shows the world isn't as warm as the green doom-mongers warned. So will energy bills now fall? Fat chance!



by Graham Stringer

LABOUR MP AND MEMBER OF COMMONS SCIENCE & TECHNOLOGY SELECT COMMITTEE

hosts the Radio 4 programme Inside Science. Taking on the role of latter-

day witch-finder, Dr Ruther-ford recently launched a ford recently launched a campaign to prevent my re-appointment to the Science and Technology Committee of the Commons, on the grounds of my scepti-cism about climate change. Through social media, he urged his followers to show their 'righteous indignation' by

writing to their MPs.
'It is not OK to have science so misrepresented in a democracy, he declared. It was outrageous for

a BBC presenter to behave in this manner. The Corporation is meant to be an impartial broadcaster, not a political lobbyist.

Dr Rutherford has absolutely

no business trying to dictate who sits on independent parliamentary committees.

Moreover, I do not accept his accusation that I somehow 'misrepresent' science.

misrepresent'science.

I actually have a degree in chemistry from Sheffield University, and before I became a full-time politician I worked as an analytical chemist in the parties industry. plastics industry.
The BBC has now given him

a dressing down and warned him about his future conduct on his social media accounts.

That personalised campaign

the BBC, which has long been a mouthpiece for

environmental propaganda. On one occasion, I made a programme with Conservative MP Peter Lilley and this paper's writer Quentin Letts about the way the Meteorological Office has succumbed to

the green orthodoxy.

Though the programme was broadcast, the BBC Trust subsequently decided it had breached editorial guidelines on accuracy and impartiality, which meant it could not be broadcast again, and cannot be found online.

#### Scandal

Like so many other public institutions, the BBC has adopted its eco posture without any genuine scientific literacy. Most BBC executives and reporters would be clueless about the second law of thermodynamics. thermodynamics.

In this highly politicised field, dherence to the correct logma seems to count more

than an open mind.

But it was precisely my willingness to question received wisdom that led to my interest in the subject of

global warming.
I was particularly intrigued by the infamous scandal at the Climatic Research Unit in the University of East Anglia in 2009, when a series of leaked emails appeared to show that

scientists there had distorted historical research to suit the green narrative. As a member of the Science and Technology Select Committee, I followed the saga closely.

I was therefore disappointed when my colleagues on the when my colleagues on the Committee, having conducted an inquiry into the 'Climategate' scandal, lid not come to a more robust conclusion about the scale of the scientific manipulation at the unit. Too many of them seemed to be following the herd

following the herd.
But, as the latest report demonstrates, the weakness of the global warmists' case is now obvious. This is not just a question of misreading data. It is essentially a matter of broken computer models and a determination to ignore any inconvenient truths.

#### **Phoney**

If the environmentalists had it right, we would now be it right, we would now be facing global catastrophe, a scorched Earth and rapidly rising sea levels. None of that has happened.

The International Panel on

Climate Change warned that the Himalayan glaciers were melting away, a claim that it later admitted was false. Similarly, it was argued that global warming would bring a

new wave of malaria sweeping across the world. The opposite has taken place: global malaria rates are falling.

The triumph of the environ-mentalists has had an enormous and costly impact on our daily lives. Successive govern-ments have brought in green taxes, hiked fuel duties and pushed up energy bills.

The real price is paid not by the eco justice warriors the eco justice warriors wallowing in their phoney moral superiority, but by people like those in my Black-ley and Broughton constituency, who struggle to meet their household running costs.

An extra £100 a year on electricity and gas might not be much to a BBC presenter, but it is a heek of a sum for someone who lives in the Harpurhey ward of Blackley, which was named in 2013 as the most deprived neighbour hood in England.

Experts also told us we should buy diesel cars because the would help us cut our CO2 cles are blamed for killing thou-sands a year with pollution. Crucially, soaring energy costs

for businesses thanks to green initiatives, especially in the manufacturing sector, cause real damage to the British real damage to the British economy by driving jobs over-seas to India and China, both countries that are building coal-fired power stations at an astonishing rate.
This week's scientific report

should mark a return to environmental sanity in place of the current dangerous green fundamentalism. green fundamentalism.

But given my own experience
I wouldn't bet on it.

### Coverage

As scientists admit they overstated global warming, experts say:

## ut green taxes now!

**How much the policies cost YOU** 

By Colin Fernandez Environment Correspondent

GREEN taxes on energy bills should be cut in the light of a scientific report that said global warming is less drastic than feared, experts claimed

yesterday.
Around 10 per cent of a family's energy bill - roughly £111 a year - is used to subsidise renewable energy, according to official figures.

But critics now say this should be reduced because it is based on outdated information. They point out the taxes further push up the cost of living as companies and the public sector pass the costs on to consumers.

Nearly all of the world's governments are signed up to the 2015 Paris Agree-ment, which aimed to limit global warming to 1.5C above pre-industrial levels. Many commentators believed this was

practically impossible But now a leading group of climate researchers has said the computer projections used in previous studies were too pessimistic and the 1.5C target is achievable providing strict cuts to carbon dioxide are made

The Committee on Climate Change, which advises the Gov-ernment on climate policy, claimed there was no reason to change its targets for cutting carbon in the light of the new paper. But critics said that as these e111 is the cost or green take on a typical £1,160 annual

dual fuel bill. This includes: **£47** for the 'Energy Companies Obligation and Green Deal', which funds energy efficient home improvements

£30 for the 'Renewable Energy Obligation', which supports solar power and wind farms

for the 'Home Discount', a grant of up to £140 to help poorer pensioners pay for electricity

for EU green targets, which goes to emissions trading system which caps the total amount of gases that can be emitted

for 'feed-in tariff payments'. paid to people with solar panels or a wind turbine for feeding electricity into the grid

pays for the Carbon tax, linked to every tonne of carbon dioxide emitted

for installing a new generation of high-tech smart meters

estimates formed the basis of UK energy policy, it was also time to rethink the green taxes on energy intended to address them.

John Constable, chief executive of the Renewable Energy Founda-tion, which opposes subsidies to wind farms said: 'This research have known.

What is significant is establishment figures are now admitting it. [Policy makers] should stop panicking and focus on cutting

The inconvenient truth **GRAHAM STRINGER: PAGE 16** 

has confirmed what a lot of people

costs to consumers.' The researchers, in an article in the journal Nature Geoscience, had said the world can emit around 240billion tonnes of carbon dioxide - around 20 years of current emissions - and still meet the 1.5C target. Michael Grubb, professor of international energy and climate change at University College London, admitted his past prediction had been too

pessimistic.
'When the facts change, I change

Maynard] Keynes said. It's still likely to be very difficult to achieve these kind of changes quickly enough but we are in a better place than I thought,' Dr Grubb told The Times.

Bjorn Lomborg, author of the

Skeptical Environmentalist, said: 'What we really need to [ask] is how do we spend our money, how much should we spend on cutting CO2, compared to all the other things we should spend on [such as] the NHS. Are we spending too

much on achieving too little?'
The Government has ordered a review of energy bills, headed by Oxford academic Professor Dieter Helm, although detailed recom-mendations of tax cuts do not

form part of his brief.
Dr Constable added: 'Given the uncertainties of the impacts, it was irrational to send so much money on trying to reduce emissions quickly. Instead we should attempt through invention and innovation to bring emissions down in cost and reduce carbon emissions with

out heavy economic penalties.' Chris Rapley professor of climate science at UCL, said: 'Whereas the indications have been up until now that limiting average global warming to 1.5C was nigh on impossible, the new analysis shows that if global actions are intensified, the limit could still be - just about - feasible

Comment - Page 16





TRENDING: UKRAINE WAR RECORD HIGH GAS THE REOPENING BIDEN CRIME WAVE WOKE WARS MASTERS OF THE UNIVERSE

# DELINGPOLE: CLIMATE ALARMISTS FINALLY ADMIT 'WE WERE WRONG ABOUT GLOBAL WARMING'



Climate models questioned: Global warming may be slower than previously thought

'WE WERE WRONG' Global warming 'can still be avoided' as top scientists admit they were too negative about chances of saving the planet

DEAR DEIDRE

TECH



Climate believers won't go cool on global warming, they've an industry to support

COMMENT

News > Opinion

JAMES DELINGPOLE How scientists got their global warming sums wrong — and created a £1TRILLION-a-year green industry that

bullied experts who dared to question the

figures

CarbonBrief

### Aftermath



GUEST POSTS 18 September 2017 20:40

Guest post: Why the 1.5C warming limit is not yet a geophysical impossibility

### **CarbonBrief**

CARBON BUDGETS 9 April 2018 ② 13:00

Analysis: How much 'carbon budget' is left to limit global warming to 1.5C?

**CarbonBrief** 

1.5C 8 October 2018 12:19

Analysis: Why the IPCC 1.5C report expanded the carbon budget

#### **CarbonBrief**

FACTCHECKS 21 September 2017 ② 0:27

Factcheck: Climate models have not 'exaggerated' global warming

#### **CarbonBrief**

GUEST POSTS 17 July 2019 3 18:00

Guest post: A new approach for understanding the remaining carbon budget **CarbonBrief** 

#### **CarbonBrief**

GUEST POSTS 28 September 2017 2 15:39

Guest post: Authors respond to misinterpretations of their 1.5C carbon budget paper

GUEST POSTS 19 January 2021 17:10

Guest post: Refining the remaining 1.5C 'carbon budget'

### Aftermath

"The concept of a 'carbon budget' has proved to be both elegantly simple and stubbornly complicated."

Rogelj & Forster, Carbon Brief, 2019

