

theguardian

**ENVIRONMENT
BLOG**
THE WORLD'S LEADING GREEN JOURNALISTS
ON CLIMATE, ENERGY AND WILDLIFE



Big names behind US push for geoengineering

A coalition representing the most powerful academic, military, scientific and corporate interests has set its sights on vast potential profits



British scientists have pulled back from geoengineering projects but the US is forging ahead. Photograph: Gallo Images/Getty Images

UK scientists last week "postponed" one of the world's first attempts to physically manipulate the upper atmosphere to cool the planet. Okay, so the Stratospheric Particle Injection for Climate Engineering project wasn't actually going to spray thousands of tonnes of reflective particles into the air to replicate a volcano, but the plan to send a balloon with a hose attached 1km into the sky above Norfolk was an important step towards the ultimate techno-fix for climate change.

The reason the British scientists gave for pulling back was that more time was needed for consultation. In retrospect, it seems bizarre that they had only talked to a few members of the public. It was only when 60 global groups wrote to the UK government and the research groups behind the project requesting cancellation that they paid any attention to critics.

Over the Atlantic, though, the geoengineers are more gung-ho. Just days after the British got cold feet, the Washington-based thinktank the Bipartisan Policy Center (BPC) published a major report calling for the United States and other likeminded countries to move towards large-scale climate change experimentation. Trying to rebrand geoengineering as "climate remediation", the BPC report is full of precautionary rhetoric, but its bottom line is that there should be presidential leadership for the nascent technologies, a "coalition of willing" countries to experiment together, large-scale testing and big government funding.

So what is the BPC and should we take this non-profit group seriously? For a start these guys - and they are indeed mostly men - are not bipartisan in any sense that the British would understand. The operation is part-funded by big oil, pharmaceutical and biotechnology companies, and while it claims to "represent a consensus among what have historically been divergent views." it appears to actually represent the most powerful US academic, military, scientific and corporate interests. It lobbies for free trade, US military supremacy and corporate power and was described recently as a "collection of neo-conservatives, hawks, and neoliberal interventionists who want to make war on Iran".

Their specially convened taskforce is, in fact, the cream of the emerging science and military-led geoengineering lobby with a few neutrals chucked in to give it an air of political sobriety. It includes former ambassadors, an assistant secretary of state, academics, and a chief US climate negotiator.

Notable among the group is David Whelan, a man who spent years in the US defence department working on the stealth bomber and nuclear weapons and who now leads a group of people as Boeing's chief scientist working on "ways to find new solutions to world's most challenging problems".

There are signs of cross US-UK pollination – one member of the taskforce is John Shepherd, who recently wrote for the Guardian: "I've concluded that geoengineering research – and I emphasise the term research – is, sadly, necessary." But he cautioned: "what we really need is more and better information. The only way to get that information is through appropriate research."

It also includes several of geoengineering's most powerful academic cheerleaders. Atmosphere scientist Ken Caldeira, from Stanford University, used to work at the National laboratory at Livermore with the people who developed the ill-fated "star wars" weapons. Together with David Keith, a researcher at the University of Calgary in Canada, who is also on the BPC panel, Caldeira manages billionaire Bill Gates's geoengineering research budget. Both scientists have patents pending on geoengineering processes and both were members of of the UK Royal Society's working group on geoengineering which in 2009 recommended more research. Meanwhile, Keith has a company developing a machine to suck CO₂ out of the year and Caldeira has patented ideas to stop hurricanes forming.

In sum, this coalition of US expertise is a group of people which smell vast potential future profits for their institutions and companies in geo-engineering.

Watch out. This could be the start of the next climate wars.

[Previous](#)

[Blog home](#)

[Next](#)

Comments

92 comments, displaying

Oldest first

 Staff
 Contributor

Comments on this page are now closed.



Flamenca

6 October 2011 12:19PM

[Recommend \(1\)](#)

[Responses \(0\)](#)

[Report](#)

My descendants simply won't be exposed to the folly of Humans. They are out there in HAPPY oblivion, unbothered by any of our wars.

[Share](#)



Cremma

6 October 2011 12:21PM

One result of geonginnering (if successful) is a permanent hazing of blue skies, Bladerunner style...

[Recommend \(2\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



NeverMindTheBollocks

6 October 2011 12:28PM

In sum, this coalition of US expertise is a group of people which smell vast potential future profits for their institutions and companies in geo-engineering.

This is surely an example of how one's opinions and views affects one's perceptions.

David Whelan: Boeing's chief scientist

Prof John Shepherd

Ken Caldeira: Atmosphere scientist from Stanford University

David Keith, a researcher at the University of Calgary

All scientists, so perhaps it should read

In sum, this coalition of US expertise is a group of people with vast scientific expertise and leadership.

Surely that is exactly what such important research requires.

[Recommend \(15\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



oldbrew

6 October 2011 12:49PM

First you ask

So what is the BPC and should we take this non-profit group seriously?

then you claim

this coalition of US expertise is a group of people which smell vast potential future profits

So it's a non-profit group looking for vast profits?

[Recommend \(12\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



stillamw

6 October 2011 12:59PM

I really do not understand why sections of the environmental movement are so against Geoengineering research.

CO2 emissions are not going to be cut to sustainable levels for decades, and significant warming of the planet is inevitable - the Chinese are not going to stop making concrete.

By moderating the effects of Global Warming, Geoengineering could save hundreds of millions of lives.

[Recommend \(10\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



arborealted

6 October 2011 1:14PM

geoengineering could well be the saving grace we would all love, but things are rarely as simple as suck out co2 and prob solved, or reflect more light and problem solved. the questions are around unforeseen consequences and with projects on the scale that would be required, if not fully understood before deployed, there could be big issues down the line.

this type of research is needed, and yes maybe the people behind it are really interested in being able to preserve their business models that big longer, rather than wanting to hug the earth. But lets look at the potential results rather than gettning hung up on whose pulling the strings and coughing up the money. if such techniques do work, it would go alog way to solving a significant problem.

[Recommend \(3\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



insertfunnyusername

6 October 2011 1:33PM

"So it's a non-profit group looking for vast profits?"

--oldbrew

Yes. Duh. Most "non-profit" groups are in actual fact in it for the people in them to make profits.

[Recommend \(8\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



gubulgaria

6 October 2011 2:19PM

Ost geoengineering solutions to climate change have to be continuous - that is, you're effectively putting the climate on perpetual life support, instead of nursing it back to health.

The next time someone tries to present geoengineering as a 'cure', remember that that's not quite what it is, even if it works.

[Recommend \(22\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



gubulgaria

6 October 2011 2:20PM

Orry, I meant 'Most geoengineering solutions..'

[Recommend \(3\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



SteveNayeeve

6 October 2011 2:42PM

...you're effectively putting the climate on perpetual life support, instead of nursing it back to health.

This shows a subscription to a mythical Rousseauian view of a perfect state of grace that is never quite defined but swooned over as an unattainable goal.

I always find it most interesting to see the objections to geoengineering from the believers in AGW, since this is usually where the clear evidence is provided that these people have no understanding of what makes humans the uniquely adaptable

[Recommend \(3\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

species we have been since we first deliberately started fires millenia ago ;)



donotdespisethesnake

6 October 2011 2:45PM

I think geoengineering was an inevitable consequence. People who create problems with technology will try to solve problems with technology. There is more money in that than in reducing emissions. Plus you don't have to believe in the science as long as someone is willing to pay.

The fact is that humans have been geoengineering the planet for thousands of years, and engineering the climate is an extension of that. "Leaving things to Nature" went out of the window when we hitched up the first plough share. The future of Earth is a planet managed by humans, for human. Trying to persuade 9 billion to go back to pre-industrial life is just not going to happen.

I don't wish to speak ill of the dead, but it's a notable that the man being currently lauded for his "vision" and inventiveness is a guy who brought us lots of electronic gadgets we don't really need. Makes clear what our modern values are.

[Recommend \(7\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



oldbrew

6 October 2011 3:03PM

@ insertfunnyusername

Most "non-profit" groups are in actual fact in it for the people in them to make profits

Depends how you look at it maybe. The BPCs website says

The Bipartisan Policy Center (BPC) is a non-profit organization that seeks to continue the tradition of these great moments in compromise by encouraging civil, respectable political discourse between the political parties. Founded in 2007 by Senate Majority Leaders Howard Baker, Tom Daschle, Bob Dole and George Mitchell, the BPC is currently working on such broad issues as homeland and national security, health care, energy, science, and transportation

[Recommend \(2\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



OPatrick

6 October 2011 3:04PM

SteveNayeeve

what makes humans the uniquely adaptable species we have been since we first deliberately started fires millenia ago ;)

Would that be our ability to die out in massive numbers when the structures of the civilisation that sustain us collapses?

Do you really not understand the objections to geoengineering? There is plenty of room for debate and disagreement about the

[Recommend \(20\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

strengths of the opposing arguments, but I don't think the arguments themselves are that difficult to understand.

Do you really not understand that the pace of change in our climate is likely to cause significant problems for our civilisation and that if we simply dampen this change by geoengineering without addressing the root causes then we face a much bigger threat from even more rapid changes in the future if at any time we are no longer able to maintain the balance of those geoengineering solutions?



donotdespisethesnake

6 October 2011 3:20PM

Do you really not understand that the pace of change in our climate is likely to cause significant problems for our civilisation and that if we simply dampen this change by geoengineering without addressing the root causes then we face a much bigger threat from even more rapid changes in the future if at any time we are no longer able to maintain the balance of those geoengineering solutions?

Human civilisation is a risky strategy. Ever since we started farming, and were able to support more people on the land than hunting and gathering, we put ourselves at risk of multi-year crop failure. The response to that was not to stop farming, but build up stocks of food to cover shortages - not always successful if the drop shortage extends to decades.

It is hard to say whether human civilisation is a good idea or not in the long term. As an evolutionary experiment, we don't know of any other species that has tried it. In the short term, with 9 billion humans and almost every square inch of usable land affected in some ways by humans, it appears to be quite successful.

There are plenty of other existential threats to civilisation apart from the current climate change, which make AGW look like a doozy. If we can't survive a small bout of climate change, we probably won't last long anyway.

The point about adaptability is important, humans are the most adaptable species on the planet. Faced with environmental change, we are the most likely species to survive it.

The human experiment may not last as long as the dinosaurs' 65 million years. But if humans die off next century or in 1 million years, will it matter to the Earth? No.

[Recommend \(14\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



SteveNayeeve

6 October 2011 3:21PM

OPatrick

Do you really not understand the objections to geoengineering?

[Recommend \(2\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

Depends what kind of argument you are narrowing in on? Do be specific why dont you? "Do you really not understand..." is just a plea for me to make sense of your unspoken fears.

- frinstance, Have you not noticed this article is just a half assed "Gee! look at all the rich white males getting rich off this scheme" argument? And there is your implied "Oh, noes! the sky could fall in" argument.

Neither is persuasve really when you consider what the putative schemes actually talk about, have you looked at the schemes? I'd looked at Caldeiras proposal during the Superfreakonomics/Romm spat and I see nothing to fear, especially if you look at what happened when Mount Pinatubo erupted.

Sorry, "Do you really not understand..." can only be answered by I undertsand I see people either afraid of their ignorance of human abilities and achievment, or people afraid their political strings of power could be taken away from them by people who know what they're talking about ;)



OPatrick

6 October 2011 3:52PM

SteveNayeeve, I've conflated your comments slightly with stillamw's above, for you I should have asked more specifically 'do you really not understand the problem with schemes that dampen the warming without seeking to address the root cause?'.

There are other cases of concern, and these are genuine concerns that have been well articulated. In particular there is the concern that placing too much faith in uncertain solutions can create false expectations, which might mean that we fail to take the steps that are already available to us now, using proven technology. These steps will not be painless, so it's very easy to sell an alternative that might mean we don't need to take them.

I'm not dogmatically against geoengineering research, but I do think it is essential that it is open and accompanied with thorough information about the need to conintue other mitigation and adaption actions.

[Recommend \(16\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



SteveNayeeve

6 October 2011 4:19PM

OPatrick

I should have asked more specifically 'do you really not understand the problem with schemes that dampen the warming without seeking to address the root cause?'.

"..the root cause" is a negotiable quantity. If the root case is the industrial society that has lifted humanity out of poverty and is lifting the rest out of huamnity out of poverty, then "the root

[Recommend \(1\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

cause" is just as malign a thing as artificial shelter, clothing and fire has been for millenia. The fact that humans depend on an inter-dependent artificial construct society obviously terrifies many people (whenever they catch a glimpse of it), and when they do glimpse it, they think they help things by proposing "simplifications" of the system. The trouble is their grasp of the existing system clearly does not merit we take their "simplifications" seriously.

The irony is that a lot of the anti-development/tech sympathy comes packed with some ideal alternative of an inter-human harmony and anti-individualism that belies the reality of the modern world which is a deeply connected and interdependent construct - and has been for centuries.

You have to accept there is no garden of eden pure state of the world that has humanity in it, or ever will be. Even when humans did not exist on this planet there were many different regimes of life on Earth, we know this because clever humans found out ;)

The concept of stasis is an artificial construct which is rarely defended, like a religious concept, and usually based on a deep conservative fear, something claimed that you just "need to understand" spiritually.

We can all argue for a shape of the future world, and the stasis illusion may be the basis for your argument, but don't think you can trump all arguments by claiming its innate unarguable quality and desirability - because all you would be doing is making the same mistake that religion has been doing ;)



Atomant77

6 October 2011 4:45PM

I despair. Here's another global geo-engineering project they could start on. Vast swathes of desert land (and there are a few large ones) covered with fields of solar panels and share the energy globally. At a local level council grants to install SPV's (bout time we'd get some C.tax well spent) at all homes and laws to force development companies to build houses with SPV's installed as standard (as we do with water, gas, etc).

Plant trees, we have decimated one of the most important carbon locking mechanisms:

Nearly 4 billion hectares of forest cover the earth's surface, roughly 30 percent of its total land area. Though extensive, the world's forests have shrunk by some 40 percent since agriculture began 11,000 years ago. Three quarters of this loss occurred in the last two centuries as land was cleared to make way for farms and to meet demand for wood.

Over the last five years, the world suffered a net loss of some 37 million hectares (91 million acres) of forest, according to data from the United Nations Food and Agriculture Organization. This number reflects the felling of 64.4 million hectares of trees

[Recommend \(24\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

and the planting or natural regeneration of 27.8 million hectares of new forest. Each year the world loses some 7.3 million hectares of forest, an area the size of Panama. Due to extensive reforestation, this net forest shrinkage has slowed slightly from the 8.9 million hectares lost annually in the 1990s. While this is encouraging, it obscures the sobering fact that gross deforestation has not declined significantly since 2000.

Re-forestation should be as important as preservation and where ever possible should be encouraged and forced upon if land is unused.

Invest properly (as if it was funding a war or a bank bailout) in clean technologies and move away from fossil fuels asap. Finally be tough, and I mean jail not fines, with those responsible for companies which pollute the most and try hide it for greed. I see none of it happen though.



OPatrick

6 October 2011 5:05PM

[Recommend \(7\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

SteveNayeeve, this

a lot of the anti-development/tech sympathy comes packed with some ideal alternative of an inter-human harmony and anti-individualism that belies the reality of the modern world which is a deeply connected and interdependent construct

and this

You have to accept there is no garden of eden pure state of the world that has humanity in it, or ever will be.

and this

The concept of stasis is an artificial construct which is rarely defended, like a religious concept, and usually based on a deep conservative fear, something claimed that you just "need to understand" spiritually

and ... actually virtually every word of your last comment is simply absurd. I don't know anyone who fits your caricature, even remotely. No-one is looking for a return to some imagined climatic utopia, no-one believes there is a right or a wrong climate for humans.

What you appear to be failing to understand is that it is not the climate state itself that people are concerned about, but the changes in those states and in particular the uncertainty of those changes and the insecurity resulting from their unpredictability.

Also, just because there isn't an identifiable ideal state doesn't mean all other states are equal. There are some very clearly undesirable states for our climate to be in.



SteB1

[Recommend \(26\)](#)



6 October 2011 5:07PM

Geo-engineering is for the delusional. It is a control freak fantasy.

Being able to have an effect on weather systems or climate is entirely different than being able to control that effect. As I am tired of pointing out there has been no successful example of the long term control of a complex system ever. Let alone such a complex system as climate. Therefore there is no scientific basis for believing this could work. It is pure speculation, who's likely failure is predicted by the failure of all other attempts to control complex systems. This is before even addressing the almost complete certainty that there would never been any international cooperation in implementing such a crazy scheme. It is almost certain that countries would try to gain national advantage, and what is good for one country, is generally not good for another country. Any attempt to implement schemes like this are likely to result in war between nations.

The operation is part-funded by big oil, pharmaceutical and biotechnology companies, and while it claims to "represent a consensus among what have historically been divergent views," it appears to actually represent the most powerful US academic, military, scientific and corporate interests. It lobbies for free trade, US military supremacy and corporate power and was described recently as a "collection of neo-conservatives, hawks, and neoliberal interventionists who want to make war on Iran".

How do you think the involvement of the US military will be perceived in other parts of the world. Is this likely to increase the chance of global cooperation, or is it likely that many countries will perceive it as a threat to their national security?

The whole scheme is utter lunacy. It almost certainly will not have the desired effect, and it is likely to result in global conflict.

**OPatrick**

6 October 2011 5:09PM

SteveNayeeve

I'd looked at Caldeiras proposal during the Superfreakonomics/Romm spat and I see nothing to fear,

This is also an extraordinary statement, because if you can't see anything to fear in Caldeira's proposals then you really can't be looking too carefully. Caldeira himself finds **a lot** to fear in what he proposes.

**gubulgaria**

6 October 2011 5:12PM

@SteveNayeeve

Nice name, BTW.

[Responses \(0\)](#)[Report](#)[Share](#)[Recommend \(25\)](#)[Responses \(0\)](#)[Report](#)[Share](#)[Recommend \(25\)](#)[Responses \(0\)](#)[Report](#)[Share](#)

The point is that if you mask the warming with sulphur emissions but don't restrain carbon emissions, you need to continue emitting sulphur continuously, and if you stop for some reason, you get that huge backlog of global warming all at once - a truly spectacular catastrophe. This is in no way comparable to us inventing fire or shelter - if you think it is then you don't understand the issue.

Then there's the death of everything in the oceans due to carbonic acid, and all the knock-on consequences of that.

This is why you really don't want economists, and particularly not freakonomists, running the world.



gubulgaria

6 October 2011 5:15PM

Oh yes, and the death of all our forests and lakes from acid rain (sulphuric this time).

[Recommend \(4\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



NeverMindTheBollocks

6 October 2011 5:23PM

I love the irony (hypocrisy also comes to mind) of some of these commenters.

They are eager to call others "anti-science", but when they don't like a scientific idea themselves, they seem to be just as eager to indulge in the same behaviour.

[Recommend \(4\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



JohnHalladay

6 October 2011 5:27PM

While some solutions might help, on the whole Geoengineering is a way of fixing the symptoms of climate change, not the cause. A bit like obese people having a tummy tuck, rather than stop eating so much.

It provides an excuse not to do anything to reduce CO₂;
It relies upon a stable nation/coalition/company to maintain the appropriate technological fix, perhaps for thousands of years while CO₂ levels stabilise to a level where we would no longer need the engineering - humans are not very good at building engineering works that last that long.

If the technology suddenly failed, climate warming would accelerate dramatically, because the CO₂ levels would still be accumulating: whoever controls the climate stabilising technology has the world by the balls;
there may be unforeseen consequence from, eg, dumping iron filings in the oceans (algal bloom? etc?), or sulfur into the atmosphere (ozone depletion), or deflecting solar radiation (shifting rainfall patterns);
increasing CO₂ levels are also causing ocean acidification - what geoengineering is going to solve that one?

We should probably do some research - in the hope that we never have to implement it - but if we use it in lieu of our

[Recommend \(22\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

responsibility to reduce carbon emissions we may eventually be more screwed than if we had done nothing at all. Monbiot said, 1% of climate expenditure on geoengineering, 99% on mitigation and adaptation - seems about the right proportion to me.

We're obese, we should stop eating so much. The only people pushing geoengineering are fatsos who just can't be bothered to diet.



SteveNaveeve

6 October 2011 5:35PM

"What you appear to be failing to understand is that it is not the climate state itself that people are concerned about, but the **changes** in those states and in particular the **uncertainty** of those changes and the **insecurity** resulting from their **unpredictability**."

You probably don't even hear yourself argue that way so I thought I would highlight some key words in your last post to help you out ;)

Your *refutation* of my post really consists of repeating staccato blocks of it, then saying it is absurd by decree!

Look up the concept of stasis, you appear to be failing to understand it. There is great body of science on the "changeability" of weather and climate in short and long terms and, outside the most alarmist ghettos, I think you would be hard pressed to find existing evidence of harmful changes of climate now or in the median future that threaten that humans would "*die out in massive numbers*", but even so you have made no effort to explain your conservative fears of the future prospects of humanity based on anything tangible for mortals to see here.

You merely say there are undesirable states in climate? So? how likely are those states to occur? Could those states be offset by human ingenuity as proposed here? Would a state be as cold as Norway, or as warm as Singapore to be bad? Is your bad state equal to everyone else's bad state? Is even being afraid of different states of climate meaningful?

You (vaguely) imply some ridicule of my point about a spiritual belief in stasis, yet your amorphous statements about increased changeability, and fear of its consequences clearly shows every sign of only being a personal requirement that you declare with little further clarification about why the rest of humanity should care.



SteveNaveeve

6 October 2011 5:46PM

OPatrick

This is also an extraordinary statement, because if you can't see anything to fear in Caldeira's proposals

Recommend (1)

Responses (0)

[Report](#)

[Share](#)

Recommend (1)

Responses (0)

[Report](#)

[Share](#)

then you really can't be looking too carefully. Caldeira himself finds a lot to fear in what he proposes.

Hmm, some more decreeing stuff that is just a wower of a refutation ;) Come on, now, do you never hear your own voice and think "I really should put some more effort in here" ?

Name one thing more complicated than putting your trousers on that is guaranteed risk free and I may be impressed by your unsubstantiated claims of "fears" from Caldeira. Funnily enough I already know he is not the kind of idiot who thinks every venture is risk free. I mean - you would have to be a blithering idiot to think every venture has to be risk free before embarking on it, wouldn't you? ;)

I'm not even bothering to look it up...

Go on, then show me the video of Ken Caldeira running around with a saucepan on his head, banging it with a wooden spoon and crying "I was mad to even think of it!!!" :)

 **ifsowhyso**
! = ? 6 October 2011 5:47PM

They are eager to call others "anti-science", but when they don't like a scientific idea themselves, they seem to be just as eager to indulge in the same behaviour.

[Recommend \(0\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

It is not scientific, **NeverMindTheBollocks**.

 **NeverMindTheBollocks**
6 October 2011 6:05PM

ifso...

thanks for your informative assertion.

I hope you won't be terribly offended if I listen to the experts themselves rather than accepting your word for it.

[Recommend \(3\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

 **ifsowhyso**
! = ? 6 October 2011 6:14PM

NeverMindTheBollocks

I would buy snake oil if somebody proves it to me, not by simply **listening** to some snake oil merchant.

[Recommend \(1\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

 **NeverMindTheBollocks**
6 October 2011 6:50PM

And there we have it.

Credible and respected scientists who pursue research that environments don't like are now compared to snake oil merchants by them.

[Recommend \(5\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

 **KenCaldeira**

[Recommend \(8\)](#)

6 October 2011 7:02PM

I'm not sure what planet John Vidal is writing from, but here on Earth people with visions of making 'vast potential profits' do not spend long hours in windowless meeting rooms arguing about how non-existent federal research programs might be structured.

One can never convince the conspiracy theorists among us, but some of us are actually concerned about the potential for a climate catastrophe --- greenhouse gas emissions are not being cut fast enough or deeply enough to make us feel sanguine about the future.

In the event of a climate catastrophe, some of the technologies discussed in the BPC report may be able to save lives, reduce human suffering, and diminish environmental damage. It may be that this view is mistaken, but that can only be established through scientific and technical research and not by armchair pontification.

On a personal note, I am an academic research scientist who has long ago given up dreams of amassing great personal wealth.

I am listed as an inventor on patents related to vertically pumping water in the ocean and related to storing carbon dioxide in the ocean by dissolving carbonate minerals. I have repeatedly stated that in the unlikely event that any of these patents are ever used for climate modification purposes, I will donate my share of the proceeds to non-profit charities and NGOs.

I am somewhat loathe to respond to this blog post, because I know the nutters among us will read even this text and find in it evidence for subterfuge and nefarious intent that simply does not exist.



OPatrick

6 October 2011 7:30PM

SteveNayeeve

your unsubstantiated claims of "fears" from Caldeira

Now he's here he might be able to answer this for himself. In [this interview](#) from 2009 Professor Caldeira makes it quite clear that there are great risks associated with any geoengineering. For example:

So, I look at these geo-engineering options as something we would only want to consider if our backs were really up against the wall, and where all these environmental and political risks seem worth taking because the alternatives look so frightening.



OPatrick

Responses (0)

[Report](#)

[Share](#)

Recommend (1)

Responses (0)

[Report](#)

[Share](#)

Recommend (0)



6 October 2011 7:47PM

SteveNayeeve

Look up the concept of stasis, you appear to be failing to understand it. There is great body of science on the "changeability" of weather and climate in short and long terms and, outside the most alarmist ghettos, I think you would be hard pressed to find existing evidence of harmful changes of climate now or in the median future that threaten that humans would "die out in massive numbers", but even so you have made no effort to explain your conservative fears of the future prospects of humanity based on anything tangible for mortals to see here.

I'm really struggling to make any sense of what you have said. You made repeated false characterisations of the position of those concerned about climate change - claiming that they have some kind of belief in an ideal, stable climate uniquely suited to humans. But the opposite of concern about the rapid climate changes we are probably already experiencing and likely to experience even more so in the future is not to hark after such an ideal. It is the pace of change that is the biggest concern.

There are, as I said, some climatic conditions we would probably not want to experience no matter how gradual the change to them is - wet-bulb temperatures exceeding 35C for example.

[Responses \(0\)](#)[Report](#)[Share](#)**JRWoodman**

6 October 2011 7:50PM

@KenCaldeira

I hope you won't consider me a nutter.

Are you concerned by the fact that some of those attracted to geoengineering solutions do so because they think it means we can carry on, business as usual, emitting GHGs?

I hope you will do your best to explain to these people that successful geoengineering is going to be no more than making the best of a very bad job -- and no substitute for cutting emissions.

[Recommend \(4\)](#)[Responses \(0\)](#)[Report](#)[Share](#)**SteB1**

6 October 2011 8:00PM

@NeverMindTheBollocks

I love the irony (hypocrisy also comes to mind) of some of these commenters.

They are eager to call others "anti-science", but when they don't like a scientific idea themselves, they seem to be just as eager to indulge in the same behaviour.

The only irony here is your failure to understand the difference between science, technology and the speculative appliance of technology.

[Recommend \(4\)](#)[Responses \(0\)](#)[Report](#)[Share](#)

"Technology, which is concerned with how to make things do what you want them to, is the poor man's commonsensical sort of knowledge, quite different from science, which seeks to know why things perform as they do."

<http://www.independent.co.uk/life-style/book-review--stars-and-billiard-balls-the-unnatural-nature-of-science--lewis-wolpert-faber-and-faber-pounds-1499-1565643.html>

The quote is from Professor Lewis Wolpert, who twice held the chair in the public understanding of science.

<http://www.ucl.ac.uk/cdb/research/wolpert>

So when you say:

They are eager to call others "anti-science", but when they don't like a scientific idea themselves, they seem to be just as eager to indulge in the same behaviour.

It proves that you don't even understand what science is. This is not a "scientific idea", it is a speculative idea about using technology. There is no science of controlling complex systems, because no one has ever succeeded in doing this. So it is not a "scientific idea", but a highly speculative technological idea. It is far more science fiction, than science.

When I was a science undergraduate it was always drummed into to us that science was a process, and that not everything a scientist did or said was science. Only if what a scientist did or said, followed the scientific method, was it science.



the075

6 October 2011 8:00PM

@SteB1

"as I am tired of pointing out there has been no successful example of the long term control of a complex system ever"
any links to info on that claim?

[Recommend \(1\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



rajpe

6 October 2011 8:02PM

The article's close about "...smell vast potential future profits" made me think.

Something doesn't quite smell right about the Bipartisan Policy Center.

Who is it? Looks like lawyers, environmental activists, and some retirees.

Not a very promising combination.

And they want the US government to fund research on geoengineering?

Well, now we know the trough, but the identity of the pigs is still unknown.

[Recommend \(1\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

My question: If the EU loves geoengineering, why not let the EU fund it?

Or does the US government have nothing better to fund with borrowed money?



Smith1867

6 October 2011 8:14PM

The fundamental problem with any kind of geo-engineering solution to AGW is that it does not necessarily contain the desired social-engineering components so hoped for by the mainstream AGW proponent movement. It does not depend upon ending capitalism, it is not inherently anti-US, it doesn't spread the wealth around, it does not deal with greedy CEOs and it doesn't allow those that think they know best to tell everyone else what to do.

They will never admit this.

[Recommend \(3\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



SteveNaveeve

6 October 2011 8:42PM

OPatrick

I'm really struggling to make any sense of what you have said.

Sorry, you can always ask me to clarify by trying to engage, pick a line and say "what do you mean?".

You made repeated false characterisations of the position of those concerned about climate change - claiming that they have some kind of belief in an ideal, stable climate uniquely suited to humans.

You do realise that you have to justify that too? Like say who or what specifically have I falsely characterised and say how. If you really mean I have misrepresented yourself then please just say so, I recommend you stop appealing to some other alleged authority whenever you find yourself in trouble like this. If you really mean you want to accuse me of overgeneralising or not being specific, then say so. otherwise I think you let yourself off too easily by just attempting to declare your lofty lack of understanding and then just go on to make counter-arguments without any basis in what I've said, it's very strange.

If I misunderstand you about your preference for absolute climate stasis, (it was my best guess) I'm sorry for the confusion, but I still assume somewhere you are talking about a preferred condition, even if it is the rate of change that should not change. Are you saying that we are/might get more storms and droughts ever faster and faster? (see, I am helping you out with an example that would represent a typical forthright answer about what worries a person) Otherwise when you say this:

What you appear to be failing to understand is that it is not the climate state itself that people are concerned about, but the **changes** in those states

[Recommend \(0\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

and in particular the **uncertainty** of those changes and the **insecurity** resulting from their **unpredictability**."

my emphasis again

I find this very woolly and a not meaningful generalisation that only conveys to me the feeling that you are one of the people who get upset when you don't know the future and worry about change.

Why don't you make clear what worries you? Why worry I am misrepresenting someone else?



SteB1

6 October 2011 8:48PM

@theo75

"as I am tired of pointing out there has been no successful example of the long term control of a complex system ever"

any links to info on that claim?

Depends what info you are looking for. If you are referring to my repeatedly pointing out that there have been no example of the successful long term control of a complex system, you can trawl through my comments here. I have given long supported explanations previously, and I am not going to do it every time a new article comes up.

When I have raised this previously no one has been able to counteract the examples I gave of failures, with a successful precedent for the successful long term control of a complex system. Neither have I ever seen the proponents of geo-engineering citing a successful precedent. Therefore I think there is far more onus on those promoting these ideas to cite a successful example of long term control, than there is for me to plough through every science paper ever published, on the off chance I might find an example.

[Recommend \(18\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



Loening

6 October 2011 8:59PM

The craziest thing about geoeengineering is that it aims to reduce the amount of sunlight that reaches the surface of the planet, when sunlight is actually the only ultimate source of energy we have. Sunlight is better than 'renewable', it is 'perpetual', you cannot deplete it by using it.

The discussion is about reducing sunlight by some 1.7%. Who would want to reduce their sources of energy by 1.7%?

On top of that, of course it would not solve much anyway - the damage done by excess carbon dioxide to the biosphere is huge and geo-engineering could allow this to get worse.

Some 10,000 times more energy hits the Earth as sunlight than all the fossil fuels combined. One would think that enough of this could be captured, some 0.01%, to run our civilisation! It's

[Recommend \(4\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

certainly crazy to reduce it by anything, let alone 1.7%
There is no such comment as this in the Royal Society Report of 2009.



NeverMindTheBollocks

6 October 2011 9:19PM

SteB1

The only irony here is your failure to understand the difference between science, technology and the speculative appliance of technology.

Yet another attempt by you to make unsupported statements about others you disagree with and make convenient speculative claims about their understanding of things.

theo75

any links to info on that claim?

So it appears that the answer to your question is no.

[Recommend \(5\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



JRWoodman

6 October 2011 9:22PM

@Loening

Hear, hear.

If only we could find it in ourselves to divert a fraction of the enthusiasm we have for fossil fuels into harnessing just a small part of the energy provided by the sun that falls free-gratis on our planet. Sure, it's not as short-term-easy as punching a hole in the ground and collecting the black stuff that oozes out, but just think of the long-term satisfaction of knowing that we've solved the energy requirements for our children and grandchildren who will reap the benefit -- and forever praise the wisdom of their ancestors.

[Recommend \(6\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



OPatrick

6 October 2011 9:28PM

SteveNayeeve, I gave the, repeated, examples of your false characterisations in my post at 5:05pm.

I'm not sure why it is difficult to understand that unpredictable and rapid changes in climate is undesirable - it is difficult to see how it could be otherwise. If we knew exactly what to expect from climate change we could at least adapt by adopting agricultural practises that were suited to the expected conditions.

The Fairtrade Foundation has found a large number of their producers reporting problems with their production as a result of changes in weather patterns. These are some of the most vulnerable people when it comes to climate change. They don't have the resources to adapt rapidly. These are the people who are already experiencing the reality of climate change. Maybe they

[Recommend \(7\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

should just stop getting upset and look forwards to the exciting and unpredictable future.



SteB1

6 October 2011 9:40PM

This comment was removed by a moderator because it didn't abide by our [community standards](#). Replies may also be deleted. For more detail see [our FAQs](#).



SteveNaveeve

6 October 2011 10:21PM

OPatrick

I'm not sure why it is difficult to understand that unpredictable and rapid changes in climate is undesirable - it is difficult to see how it could be otherwise.

Ah well, your lack of understanding, is my problem again I see. Normally I would have thought you should have to tell us about the opposite or the more desirable scenario to contrast with your undesirable one, but you just profess dissatisfaction in the person you talk to. You reject the simplistic concept of climate stasis, which is clear, but again you make hazy claims about unpredictability being bad as if you mean - dare I say it - we had no unpredictability before. Aren't there models that know exactly how weather patterns change currently and in the future? Why don't you think we could rely on them to mitigate this "unpredictability"?

The Fairtrade Foundation has found a large number of their producers reporting problems with their production as a result of changes in weather patterns.

Ah. The ever convenient unspecific third world person who will suffer because they are kept finely balanced, like a canary in a coal mine, on the edge of despair and will be the first to suffer when... er when? Oh, when something changes. Not gradually, because then they could adapt;)

Normally I fear organisation like The Fairtrade Foundation are just created in order to provide "facts" like this. And so it seems. I guess "The Fairtrade Foundation" are not really about enhancing their traders wealth and allowing them to adapt, but they are more about providing a homogenous block of people who will always be making the same coffee granules, for the same people, in the same place. And be used as a "fact" about stuff changing whenever needed. BTW Hardly the UN as a repository of facts, they've been going less than 20 years ;)

[Recommend \(0\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



Plutonium

6 October 2011 11:24PM

It can not cost that much to nuke a volcano.

[Recommend \(1\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



Bluecloud

6 October 2011 11:39PM



@Plutonium

It can not cost that much to nuke a volcano.

At which point I go to bed.

Dreaming of the toys we bring into the grown up world.

[Recommend \(2\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)



2flight

7 October 2011 2:50AM

I don't care about dying and I certainly won't care about all the highfalutin egotists big grandiose plans when I'm dead and gone. Ya ever hear the old adage : equal and opposite reaction. I just have this notion that the so called scientists pursuing geoengineering care about zilch about the "reaction" part of the equation. Geoengineering will not "save" the planet, but I guarantee that it will be used for war.

[Recommend \(1\)](#)

[Responses \(0\)](#)

[Report](#)

[Share](#)

Comments on this page are now closed.

© 2012 Guardian News and Media Limited or its affiliated companies. All rights reserved.