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James Lovelock's plan to pump ocean water to stop climate change

By Roger Highfield, Science Editor
Published: 6:00PM BST 26 Sep 2007

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James Lovelock (top) and the sky over the Gulf of Mexico, before a hurricane

A plan to save our world from extreme climate change by pumping cold water from the depths of the oceans is outlined today by James Lovelock, the scientist who inspired the greens.

James Lovelock is best known for his ideas that portray Earth as a living thing, a super-organism - named Gaia, after the ancient Earth goddess - in which creatures, rocks, air and water interact in subtle ways to ensure the environment remains stable.

Today Lovelock, of Green College, Oxford University, outlines an emergency way to stimulate the Earth to cure itself with Chris Rapley, former head of the British Antarctic Survey [who is now the director of the Science Museum, London](#).

They believe the answer lies in the oceans, which transport much more heat than the atmosphere and, covering more than 70 per cent of the Earth's surface.

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They propose that vertical pipes some 10 metres across be placed in the ocean, such that wave motion would pump up cool water from 100-200 metres depth to the surface, moving nutrient-rich waters in the depths to mix with the relatively barren warm waters at the ocean surface.

This would fertilise algae in the surface waters and encourage them to bloom, absorbing carbon dioxide greenhouse gas while also releasing a chemical called dimethyl sulphide that is known to seed sunlight reflecting clouds.

"Such an approach may fail, perhaps on engineering or economic grounds", they say, adding that the effects on the acidity of the ocean also have to be factored in.

None the less, "the removal of 500 gigatons (500 billion tons) of carbon dioxide from the air by human endeavour is beyond our current technological capability. "If we can't 'heal the planet' directly, we may be able to help the planet heal itself."

One version of the scheme sees around 10,000 pipes in the Gulf of Mexico, they told The Daily Telegraph. But until there are some trials, "there is no way one can come up with a figure on atmospheric carbon dioxide reduction per pipe let alone temperature reduction," said Dr Rapley.

"The whole idea is to stimulate some action to find out," he said. "To get an idea of orders of magnitude, the net drawdown of the ocean is estimated to be 2 gigatons per year (compared with human emissions of eight gigatons per year), but only part of that is by the biological pump we are seeking to enhance, and only a fraction of that (maybe as low as 10 per cent) finally sinks to the bottom and is trapped in the sediments (although holding it in the deep ocean helps for a while).

"So one would have to work hard to get a net sequestration of a gigaton a year - but every little helps. "

Lovelock added: "Let's not be pessimistic about the possibilities of the pipes or they might never be tried. Do not forget that they cool the top layer as well as fertilizing it.

"In the Gulf this alone may be important for reducing the severity of hurricanes. It is local self interest such as hurricane prevention and the restoration of fisheries that may pay for the project."

And they conclude in Nature: "The stakes are so high that we must try such schemes, even if they may fail.

"The Earth is fast becoming a hotter planet than anything yet experienced by humans," they write, explaining that natural processes that would normally regulate climate are being driven to amplify warming, so that higher temperatures can, for example, stimulate the release of more methane from wetlands and amplify the warming.

"Such feedbacks, as well as the inertia of the Earth system and that of our response, make it doubtful that any of the well-intentioned technical or social schemes for carbon dieting will restore the status quo.

"We need a fundamental cure for the pathology of global heating. Emergency treatment could come from stimulating the Earth's capacity to cure itself."

Scientists have put forward several proposals to reduce the amount of solar radiation that reaches the planet's surface, including the use of light-reflecting sulphate particles in the atmosphere and installing mirrors in orbit around the planet.

Using radical techniques to "engineer" Earth's climate by blocking sunlight could cool our overheated planet but present great risks that could well worsen global warming should they fail or be discontinued, warned one recent study by Ken Caldeira of the Carnegie Institution's Department of Global Ecology.

"Geoengineering schemes have been proposed as a cheap fix that could let us have our cake and eat it, too. But geoengineering schemes are not well understood. Our study shows that planet-sized geoengineering means planet-sized risks."

However, Dr Rapley said in response: "The attraction of this approach is that the dangers of "unexpected consequences" are low, because we are advocating stimulating and enhancing an entirely natural process."

Prof Sir Brian Hoskins, Professor of Meteorology at University of Reading, commented: "This is the latest in a line of geo-engineering "solutions" or rather "buying time".

"As with some of the others, there is certainly a strong scientific basis for the proposal. Also I agree that the current global political inaction on the climate issue is very serious.

"In my opinion our uncertainties over the likely regional impact of what our greenhouse gas emissions may do is high. The uncertainties over what these "solutions" may do is an order of magnitude higher.

"However we must make sure that our understanding of the climate system and our ability to model it increase as fast as possible so that we can be very confident about the former, the greenhouse gas emissions, and confident about the latter, the "solutions".

"As a different issue the sheer practicality of doing the proposed "solutions" on the required scale to combat greenhouse emissions also has to be considered.

"One of the nightmares is that commercial companies may offer to off-set people's carbon emissions by doing them on a smaller scale, with no real knowledge of the wider implications."

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- It doesn't matter what genius idea anybody comes up with to help the environment. The main factor in this equation is the people actually using the energy in everyday life, and I don't think the majority of them will change a thing no matter the eco-friendly source their energy is derived from. Why in this last crazy housing building market didn't we mandate them to be geothermically heated.....solar powered....because it isn't performed in a timely fashion and it is way too expensive for any normal person to even think about doing it. Peace Out...

Rich Snook
on November 19, 2008
at 04:35 AM

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- Sounds like this LOVELOCK is out of his mind not only pushing this gaia poppycock now this ridiculous idea it's even more stupid than this global warming idea

Birdzilla
on October 19, 2008
at 05:05 AM

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- I saw them try the proto-type. They have not allowed for the dynamics of wave action. How about suspending the whole thing on bungee cords, with springs in line with the cables that tie the whole thing together. The dynamic coupling of a 5000 foot tube has a mass that is going to be out of sync at some resonant frequencies of the waves at some frequencies. If there is no give in the system the structure will break, every time.

Michael Mahoney
on September 12, 2008
at 10:53 PM

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- Just a thought. If we brought up cold water from the depth off the west coast of Africa, could we cool the ocean surface enough to reduce the formation of hurricanes? I'm thinking we could stop them where they start. If we cooled the surface by just a few degrees we could stop hurricanes.

Marc Perkel
on September 04, 2008
at 11:15 PM

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- I have noticed that so many of you on here feel that you are scientists? Here's an idea..take a step outside and look at what IS happening right before your very eyes.. we have pushed the Earth to her limits.. that is a fact! be scared because what Mr Lovelock has to say might just be reality sooner than you think.. and WHEN (not IF) all of this does come into play, you will be the ones wallowing in your own self pity and ignorance.

Kim
on June 26, 2008
at 06:21 PM

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- +++TAKE ALL THE OIL OUT of Gaia++ or the motor and the heating and cooling complexities of the internal motor's now empty cavities will change and spread the heat to new unforgiving surfaces causing collapse and flexing and swelling of the normally safe consistent, ore made structure, thus effecting the surrounding motor's water flows. Water and core Temperatures spike in spots with fast or slow motor rotation in unexpected areas due to cavity or thickness of spaces or water cycle inside water system due to season(climate) outside of motor(in that area). -speed up motor with no oil to cool faster? Or slow it down!! And add more oil. Some body should REALLY Look at ground temperatures in the depleted oil areas and think maybe it is hot water there because there not oil there in addition to the normal equator heat. Maybe oil was formed there because it is a hot spot naturally. Maybe planet will cool around the

same time oil reforms there again??? should we pump it out again at that time? Kind of funny that the water in those areas is hot now and in adjacent areas the heat is up all compounding the temperature in the the cab as the 2nd dary systems fail from the spikes in heat? We are looking at the water and saying speed it up!!to cool it , put more air on it make it more efficient water!! as coolant (algae) Better put oil back I think. Not take away cold water or put cold water on faster cycle that is now on slow cycle ??? or heat will go up and secondary system will worsen! Example Pump gas out of Indonesian shelf and it collapses making things out of balance across whole region. No way to fix now better pump rest out? of remaining shelf? Think put oil back in!! Cool Again!! hot Water spikes go away with slower revs And oil back in not faster with no oil in it just compounds to blow the radiator or soft point like the hose then blow the engine. Then she's all stopped for good. 4 sure this Gaia motor needs a good mechanic!! May even need heavier oil than before to reduce heat! Dan I would like all seeking a solution out there to circulate this to every one of any importance on presenting it as one more thing we should be doing and looking at!!!!!! P.S We are all stressing out about methan releases , what happens when all the co2 gas they are pumping into oil cavities to stabilize carbon credits comes back out in one day after pumping it down there for 20 years from now!!!!!! that's when you get a surprise!!boom gas instead of oil in hotspot@!!! read forever Mb + 66 89 909 3178

Daniel Donatelli
on April 26, 2008
at 04:46 PM

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- *rolls his eyes* Lovelock is passed his time, but I very much am thankful for his contributions. A new generation of people will take his place, and lets hope they contribute as much, if not better. Maybe we become truly independent on the sun some day. That's the ultimate goal. One day we'll be able to live underground and in space, no longer dependent on the sun. Wouldn't that be great? We could let the earth do what it wants and wouldn't have to get pissed about living with it.

Jon
on April 25, 2008
at 06:06 PM

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- "The climate is changing. We can all see and feel that from out [sic] own experience." Can we? So, for example, my 35 years' experience of the world's weather qualifies me to make judgments on a climate system that has been operating for millions upon millions of years does it? Idiot.

Briggsy
on April 25, 2008
at 12:15 PM

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- The climate is changing. We can all see and feel that from our own experience. Whether the change is natural or human induced, all but the most dense can also see the likely implications for the future. We need to start to act now to: 1. mitigate the effects on people and wildlife. 2. minimise the scale of the change. Lovelock has proposed action and has made his contribution to the proposals for action. Do not pour scorn unless you have a useful proposal that will contribute to the two objectives above. Lovelock's idea may not be THE answer, but it does highlight the need for urgent action and imagination. As we develop, test and implement a range of actions, we will also develop the ability to assess their effect, and so fine tune their implementation, or replacement with other ideas. There is certainly not just a single solution, but many. Some of them will be innovative, creative and radical. It is likely that using Lovelock's great Gaia concept contribution of viewing the earth as an interdependent 'organism' will be our best guide as to the actions that we should take, and those that we should not. Do not be stunned into indecision or inaction by the scale of the problem or paralysed by the eternal naysayers who propose doing nothing. The key is that we need a constructive decisions and action process that will face this challenge NOW.

Mark Canvin
on February 15, 2008

at 09:56 PM

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- YES Global temperature changes are cyclical. What happened to the 1070's ice age ? This current spate of global warming is nothing but THE GREATEST FINANCIAL OPPORTUNITY FOR 1000 YEARS and this dishonest government is exploiting it to the full.

pugwash

on February 15, 2008

at 07:36 PM

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- We are not able to prove that the world is warming (or cooling) to since the systems of measurement have inherent error limits that are large enough to allow personal opinion to bias the results. "Global Warming" may or may not be occurring but it is evidently clear that oil, gas and coal are non-renewable resources that should be used carefully and conserved for important non-energy uses as far as possible. Any improvement in the efficiency of generating or using power of any form is therefore something to be encouraged and a move towards a hydrogen based economy (or at least a non-fossil fuel based economy) with hydrogen produced from renewable sources must be the ideal. The potential risks of the proposal of Dr Lovelock are huge as we do not understand our climatological systems or the highly complex oceans. To start tampering with the oceans without first understanding the effects is, to put it mildly, unwise. Dr Lovelock notes that experimentation would need to be done, quite correct but how long would this take with such a large and complex system? Decades, by which time, if the predictors of global warming are correct, it would be too late. Lets conserve what we have and use it carefully!

Charles C Brown

on February 15, 2008

at 11:54 AM

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- Cool and fertilize the top lower of the oceans = heat and deplete the lower layers. Well that couldn't do us any harm, could it? At least not that I can see after giving it a whole 10 seconds' thought. That mad old gaia of the one good idea is also an oceanographic biomeister of the first water now, is he? Well, he must be, because if you have one good idea then there has to be more where that one came from, doesn't there? So hey, let's go. And why don't we slice off the top of Everest and bury it in a 29000 foot deep subterranean salt mine somewhere while we're about it? That should have some equilly good effect on something that's quite as likely to be bountiful as it is to be counterproductive, shouldn't it? So what are we waiting for? I'll bring the forklift if you bring a spade.

Not Myn

on February 15, 2008

at 10:43 AM

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- The next ice age is triggered by a stronger gulf stream further north starting a gigantic storm that kills all life in the northern hemisphere. It will all start in ONE DAY. People who are climatologists are the worst physicists around, they can not think rationally. Heat ALWAYS searches for the coldest spot. Global warming will NEVER cause the gulf stream to shut down. Did you really believe we got 4 km ice and Siberia got 0 m because it was snowing here and not there?? My granny could easily figure out you are wrong by common sense. The masses are fooled and the "experts" are wrong. Try to reason with Newton as your physics law maker, not feelings.

Mr Gullberg..

on December 10, 2007

at 11:06 AM

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- Ten thousand plus years ago animals and humans could walk from England to tip of Denmark, across the English channel to coast of Brittany. Then it flooded extremely rapidly. Are there any theories as to the cause of such a sudden melting of Ice?

Brand Crick
on October 31, 2007
at 10:23 AM

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- How long does the public have to put up with this so called scientific & media hype. At less than 400 parts per million Co₂ is a minor constituent of earth's atmosphere - less than 1/400ths of 1% - .04% and human activity is only responsible for a fraction of that - approx 3%. Total human contributions to greenhouse gases account for only about .3% of greenhouse effect, approx. 99.70% is due to natural causes mostly water vapour. All this data can be found if you take the trouble to look for it.

Dave Thornton
on October 30, 2007
at 10:41 AM

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- Has he taken into account the the global implications of messing with the ocean currents such as the gulfstream that keeps Europe from another ice age draws its energy from the gulf. If he wants to draw water from the depths then freeze it and use the snow and ice cover to replenish the polar caps.

Douglas Bailey
on October 23, 2007
at 11:43 PM

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- Reflecting sunlight off the tops of clouds will reduce heat and light, including the light that plants use for photosynthesis, thus reducing food available to eat. Nice job, you enviro-wackos, promoting actions that will backfire big time!

Domain Web
on October 23, 2007
at 09:04 AM

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- He does have the idea, but the idea only involves playing with fire. Let nature try to extinguish it's own flames, than having us fanning it's flames.

Scott Farmer
on October 23, 2007
at 02:15 AM

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- You might look to oil drilling platforms. They're positioned in fairly deep water, have massive infrastructure costs, are terribly damaged by hurricanes and are run by companies who will soon be required to spend some of their obscene profits on combating global warming. How about ten pipes per rig in the Gulf of Mexico or the North Sea? What would the numbers be? It might actually be a viable tradeoff for the oil companies. In addition, the infusion of locally cold water might direct the hurricanes away from the rigs themselves, since the hurricanes tend to "eat" warm water for their kinetic energy.

Steve
on October 22, 2007
at 05:59 PM

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- Scientist a step closer to inventing the wheel is more like it. This was certified back in 1967.

Don
on October 22, 2007
at 05:28 PM

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- There is a much simpler way to harness air-carbon which we at Global Eco have known about for over

thirty years since we first proposed using phytoplankton in shallow ponds on land to provide fertilisers in order to feed the hungry people of our world. A very simple process although seemingly complicated until understood, working in harmony with our planet's natural functions and cycles. Capable of drawing down up to a billion tonnes of CO₂ within a month, per unit and making it into world resources. Can all be operated by natural energy. Some funding would help us make this simple and obvious process public. Please call Harry Hart on 01359 271019 between midday and midnight any day except Mondays.

Harry Hart
on October 03, 2007
at 06:54 PM

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- Indeed Dr coles, Instead of showing us crackpot right wing tripe you would do better to refer us to peer-reviewed articles. As for the global cooling nonsense even your friend Lindzen stated on a radio show:- BRIAN LEHRER (moderator) ... do you agree on this 1970s global cooling thing, that that was media hype, Richard Lindzen? RICHARD S. LINDZEN Actually, I do not disagree with Richard on that. Instead of putting your beloved tax cuts before the planet try looking at realclimate.org. Something in there might even get through a DT reader's skull.

Mike Donald
on October 01, 2007
at 12:27 PM

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- Lovelock needs locking up. Earths climate has gone through cyclical changes over billions of years, it's a natural process, buggler all to do with carbon dioxide. You can't kid a kidder, and the IPCC are about as relevant as Bucks Fizz in 2007.

Dave D
on September 28, 2007
at 12:59 AM

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- As Prof.Lovelock says, it may already be too late for "conventional solutions" such as reducing greenhouse gas emissions. His idea (to pump cold water from the depth of the oceans to the surface) is an interesting one, however, I have the strong feeling that no single measure alone will be sufficient. Another essential measure will be to restore the World's forests to pre-Industrial Revolution size. However, it is not ideas the World needs but action. None of the proposed measures would have ANY effect in the short term (next 20 years) and is there ANY sign of ANY really serious measures actually being taken now...? It is a Doomsday scenario indeed. Could it not be coincidence that we receive no messages from other planets?

Ian Fraser
on September 27, 2007
at 10:25 PM

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- Whatever happened to the concept to harness the water currents in the Pentland Firth to produce all the hydro the UK would need? Get rid of coal and nuke pollution.

Dan
on September 27, 2007
at 08:18 PM

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- We need to be very careful of those who consider humans to the root of all evil hatching a plan to have us destroy ourselves to save the planet.

Dave
on September 27, 2007
at 07:41 PM

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- Excuse me for shouting out ideas, but this is a really inspiring article, and I hope it inspires others to think a little differently about stopping global warming. As we run out of gas and oil supply's in the sea, the oil rigs could be used to speed up the process of pumping water up from the deep. We already have them, so no need to spend any money building new ones, of course they may need to be cleaned and modified etc... But once running we could leave them there going and power them on solar power and/or tidal power, with minimal maintenance? It would be nice to be able to help more than the 10% improvement forementioned in the article. Or how about genetically modifying some sort of 'super' plankton in the labs that would eat more carbon or help speed up their reproduction process...? I really hope this idea gets the credit it deserves. Well done Professor Lovelock!!!

Jez Star

on September 27, 2007

at 05:52 PM

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- Lovejoy is right about the need for nuclear power. And that would save the planet aesthetically also: those massively uneconomic, inefficient and supremely ugly wind turbines - the mythology of the liberal elite. Go with Lovejoy!

Tim

on September 27, 2007

at 04:32 PM

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- This is WELL-KNOWN technology - (OTEC) - first speculated about in the late forties. It is also a means of POWER GENERATION and FRESH WATER production. All it requires is access to deep ocean water at a temperature of 4 deg C, and an ambient temperature of, say, 25 deg C, and you're in business: you can "boil" Butane gas, drive a turbine generator set, and produce electrical power. The heavy ocean water has to be LIFTED to the surface, which has to be taken from the generated power, but the SURPLUS is FREE POWER (or fresh water) in virtual PERPETUITY - it would be "a while" before you managed to WARM the oceans (it would take eight months and three hundred days to count the cubic miles of ocean at the rate of one cubic mile per second). The additional benefit of returning warm, and possibility more concentrated, saline to coastal shores is not to be disregarded. Additional provision of modular concrete breakwaters ("EDGE EFFECT" in permacultural terms) and shallow weed "lawns" would contribute greatly to the restocking of the oceans with FISH. Ah well, another time, another place!

Tony Duncan (JazzRoc)

on September 27, 2007

at 02:09 PM

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- Why do we constantly have to tinker, when we know so little about the likely implications on a global scale? I went to a conference on renewable technologies in Edinburgh last year. One of the speakers mentioned that if you created an array of solar panels that was 1000km by 1000km in the desert, the energy potential would be sufficient to power the ENTIRE WORLD. Challenging, yes, but certainly possible. But then politics gets in the way...

Paul D. Kay

on September 27, 2007

at 01:52 PM

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- SHould we not change to more reflective highways? Less black and more white?

Jonm

on September 27, 2007

at 01:16 PM

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- I greatly respect Dr Lovelock, but mixing colder deeper water with warmer surface water may have the catastrophic unintended consequence of speeding the temperature pulse to the ocean bottom, where tremendous amounts of methane hydrate exist. Methane hydrate has more carbon than all the oil, coal, and natural gas combined. It contains the gas CH₄ (methane), which is 23 times more powerful than CO₂. Less than 30 billion tons of methane added to the air would be like doubling the CO₂ level. There is an estimated 10,000 billion tons of methane hydrate on the ocean bottom. Some of that is located in spots very vulnerable to small temperature increases. By the way, even if a "little" oceanic methane hydrate melted, it could start a catastrophic chain reaction called runaway global warming.

Brad Arnold

on September 27, 2007

at 12:10 PM

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- A moment's reflection and a couple of back of envelope calculations puts paid to these crackpot schemes. 10,000 pipes (caissons) 10m diameter and 200m long (deep) sufficiently robust to withstand overturning moments of tides and currents. Can be done, probably best with reinforced concrete. But this would require more than a gigaton of material the production of which would need 65% of the annual current global production capacity and release more than 1.25 gigatons of CO₂. Add in emissions from the transport of material, facilities for construction workers and the like to probably double this amount. Then consider the construction costs. And this is only for the Gulf of Mexico. Nice one Gaia. In the days of Bill Deedes (sorely missed) this tripe would have ended up in the bin where it belongs. PS The globe appears to have entered a cooling cycle about 8 years ago and the Antarctic sea ice is at record levels. Perhaps we should be spending funds on real problems like safe drinking water and cleaning out our hospitals.

Atholl Robertson

on September 27, 2007

at 09:57 AM

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- The man's a nutcase as well as a liar. It's all a gross exaggeration and a con trick. "We're affecting the planet (Yeah right) so let's try this that and the other potty idea - and see if we can really screw things up."

TGGWS

on September 27, 2007

at 09:49 AM

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- Anyone intrigued by the possibilities of Lovelock's idea should read the book "The Millennial Project (Colonising the galaxy in 8 easy steps)" by Marshall T. Savage. The majority of the book might seem a tad like science-fiction but the relevant, first chapter explains how the round flow of cold water and warm water, could be used to turn turbines and thus generate electricity. The nutrient-rich water could also be used to grow spirulina algae, which being high in protein, could be powdered, added to flour to make protein rich bread, and used to feed the malnourished.

Brian Coptic

on September 27, 2007

at 09:42 AM

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- This is the same man who said it was too late!

Lord S

on September 27, 2007

at 08:35 AM

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- We can do NOTHING to affect the climate, it is a force of nature, and only a meglamaniac, would believe he can, or someone who is paid to believe he, or she can. It is political expediency, driving the nonsense, not science. Remember King Canute, and he was nuts

bowran

on September 27, 2007
at 08:20 AM

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- I am all "fired" up about this scheme, ask Gaia to cure herself - with our help. Easy to utter my "opinion" with zilch in the bank. It will cost a lot; now is the time for those nervously seeking billionaires where to invest their surplus billion(s). I don't want to be rude, we need their help, without asking them. They know we need it. I am waiting with bated breath... Does this ring a bell? My name means "son of the life force, defender of the universe..."

pranaputra partaningrat
on September 27, 2007

at 06:50 AM

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- What a crank. We don't even know how much of a problem climate change is going to be yet, despite the fear mongering from the UN scientists and government lackeys. How does he know that churning up cold water from the depths won't do more damage than it will prevent? These global warming fanatics are going to turn this world upside down trying to prevent something that might not even be that bad. Hopefully they'll be ignored.

Alistair McLaughlin
on September 27, 2007
at 06:31 AM

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- This is clearly a great idea. But there is one huge problem that i am afraid that would be impossible to overcome. The british government and local councils have lots of people to emply. Where are they going to get jobs if global warming doesnt exist. Also in this guys plan he doesnt mention tax. There is no way the goverment will be interested if it cant be taxed.

James
on September 27, 2007
at 05:29 AM

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- Dear Sirs, Perhaps if we invested a tenth of the amount of money involved in such an unknown speculation that could conceivably backfire with dire consequences for humanity into changing the carbon fuelled society to proven hydrogen fuel technology with zero emmissions we could dramatically change and improve the situation. It is the vested interests of the fuel providers such as that which governs our way of life that is suborning such advances. Ridiculous red herrings are always strewn across the path of progress such as billions would be required to change the vehicles, the re-fuelling and production et al. All these matters obfuscate the reality that a hydrogen based economy could be introduced swiftly and revolutionise our planet. Will this be allowed? Probably not, for as history has dictated, where is the meter when cheap clean energy is mentioned is a mantra of carbon based economics? America is driven by the wishes of their oil companies who will not give up their influence and interest easily, much the same as the tobacco lobby which is still producing misery and addiction in the 'developing' world now that their game has been rumbled back home. Saving the planet is not company policy!

Vivian J Phillips
on September 27, 2007
at 04:13 AM

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- What about polar citiese for the future?

danny bloom
on September 27, 2007
at 03:59 AM

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- If global warming was self-amplifying, Earth would have fried itself millions of years ago. Temperatures and CO2 have both been lots higher many times in the past. On to the next crisis!

J.D. Lees

on September 27, 2007

at 03:58 AM

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- Foolish, cooling the ocean from bottom water would only speed up climate change toward an ice age.

Breeden HAmer

on September 27, 2007

at 03:53 AM

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- Totally insane. In a situation where there is no positive evidence that the climate is changing for reasons other than the cyclic nature of weather this is a crackpot idea. Imagine a World covered in algae. The problem is that the gullible among us could clamour for it while the cynical among us garner more reasons to tax us out of existence while "saving the Planet. Save the oppressed tax payer I say!

Jim Kennedy

on September 27, 2007

at 03:41 AM

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- Great that someone of Lovelocks reputation is coming up with practical ways to address the problem. Usually we are forced to listen to some one dimensional idea that we will be able to cure the problem by all going back to the stone age. Global warming is a huge problem that will need to be attacked on many many fronts - there will be no silver bullet - the solution will be many dimensional - Mylar space umbrella's to reduce sunlight by 1%, dimethyl sulphide released in the atmosphere, another 1%, carbon offsetting, another 1%, biodiesel, another 1%, wind farms, another 1% etc. etc. As good as we can be on these issues in the UK and other like minded countries, the level of concern is non existant in many other places and unless we all pull together on this issue all we do is push the problem elsewhere - you ban manufacturing in the UK because of the environmental impact, that manufacturing is just displaced to China - the carbon dioxide doesn't respect the border... An example of how this problem might be solved to make the playing field level is as follows. All countries that desire it commit to 1% of thier GDP to be used for technologies or research into global environmental issues or projects to reduce carbon emission. Those countries that agree are free to import and export goods and services between them without additional tariffs. Countries that don't agree will have 'environmental' tarrifs levied on them of 1% of the value of goods and services imported and these funds will be used for environmental projects. Kind of a capitalistic approach... Just an idea...

Craig Douglas

on September 27, 2007

at 02:40 AM

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- On the surface(if you will excuse the pun, this appears a brilliant concept by James Lovelock - using the power of the Ocean itself to cool the ever warming surface with cold water from the depths. Maybe it won't work, but we owe it to this, and future generations of our planet to experiment with possible solutions like this one. After all, our useless bunch of self-satisfying politicians from Nations with only their own selfish interests at heart are doing absolutely nothing about global warming. If they were made to donate say only 10% of what is being spent on global warfare and armaments there would be more than sufficient funds to experiment with schemes like this one. Yes, we can obtain funds from the usual philanthropic sources like Bill Gates, Steven Jobs and Richard Branson, but it really needs a huge kick where it hurts to get Governments to take action. Anything that uses Nature itself to heal the Planet has to be a winner. I sincerely hope that this idea of James Lovelock is transformed into reality.

Mike Wilson

on September 27, 2007
at 02:38 AM

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- And what will these pipes be made from, how much energy used in their construction??? How much CO2 produced as a result?? As for the Earth getting hotter, it was warmer during the Roman and Middle Ages. Oh and Greenland was called that because the Vikings farmed it when there was no ice... So what we have from the professor is another "pipe dream" based on yet more enviro-codswallop.

Enviro-Sceptic

on September 27, 2007
at 12:52 AM

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- Err, remind us again how this Druid piddle ends up in the SCIENCE section? Wouldn't it be easier to pray to the Sun God instead?

Davey

on September 27, 2007
at 12:46 AM

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- How incompetent can we get? The 100 year old con <http://www.InteliOrg.com/archive/FireandIce.pdf> on climate change. In order to be an intelligent reader you must have a basic knowledge. Please do your own homework, a starting point <http://www.InteliOrg.com/>

Dr Coles

on September 27, 2007
at 12:24 AM

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- If there is one thing guaranteed to get us all killed, it's a lot of meddling idiots with barmy schemes to manipulate the climate, of which they have only a very limited understanding. The 'burn crops instead of fuel' brainwave may very well have lethal consequences, without this latest example of hare-brained recklessness. Not that getting us all killed wouldn't suit some of them. Mr Lovelock was recently reported to have told a symposium of the World Nuclear Association that the Earth is NOT doomed and the human race will be in no real danger from a (supposedly) somewhat warmer climate - having previously said temperatures would rise 'dramatically' and that "billions of us will die and the few breeding pairs that survive will be in the Arctic". So he is not exactly what you would call level-headed, but then over-confident zealotry is more the fashion among environmentalists. Surely the 'precautionary principle' suggests we should confine all mad scientists to rubber cells until the current doomsday cult fizzles out, if there is the slightest risk of them endangering our survival.

John B

on September 26, 2007
at 11:32 PM

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- Its a pipe dream

Chris

on September 26, 2007
at 11:06 PM

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- Is there also not the possibility of using the difference between the the surface temperature and the depp ocean water to generate electric power? Were there not experiments in the 1970's to this end OTEC?

Al Hamilton

on September 26, 2007

at 11:04 PM

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- I am sure it would be possible to include pumping oxygen into the water in this same process.

Judith NZ

on September 26, 2007

at 11:01 PM

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- A more realistic solution may be to switch the planet over to a 'Methanol Economy'. Read about it via Google. Olah's team at USC make a great case for this. A Methanol Economy has the potential to replace the fossil fuels oil and gas, and deal with CO2 greenhouse-gases simultaneously - and is not that far from engineering reality.

Dr Robert Brown

on September 26, 2007

at 10:53 PM

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- What a load of tosh. I've never read so much c**p in all my life. This clown thinks human beings can control earth's complex climate as if it were a thermostat. Still these idiots bang on about the flawed, unproven CO2 theory. Utter garbage, and this paragraph almost had me on the floor in fits of laughter: "Scientists have put forward several proposals to reduce the amount of solar radiation that reaches the planet's surface, including the use of light-reflecting sulphate particles in the atmosphere and installing mirrors in orbit around the planet" Mirror mirror on the wall who's the most gullible of them all?

NickJD

on September 26, 2007

at 10:45 PM

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- Yes and in the 1970s some scientists proposed plans to melt the growing polar ice caps, in order to combat global cooling. Same old stupidity, just a different bit of nonsense alarmism. We live but we don't learn (at least some of us don't).

A French

on September 26, 2007

at 10:08 PM

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- Oh goody! Yet another partial solution to a global problem. 1) Let's test it around Mexico, they are a bunch of poor people that the US doesn't like, what the heck! When algal bloom threatens to destroy the entire coastline because the scientists have not put enough thought into the programme, then at least the pollution/water theft of the US will put paid to it. 2) Let's not bother addressing the underlying issue; the world is overpopulated, therefore overexploited. Cut down on people numbers? Heaven forbid.

Niki

on September 26, 2007

at 10:01 PM

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- hmm, good idea - bad idea... so this allows us to pump more toxins into the atmosphere while the sea temp. at the top can be cooled. band-aid solution? sweeping the problem under the rug? tisk tisk as far as i know, its easier heating something than cooling something, (practical experience in cooler rooms) what affect will this have on the sea water and life where they pumping it from. as i understand the cold water will eventually be heated as well, since nothing is being done about the heat source.. this feels like an intro to one of those "end of the world" movies.. dont do it man!

brandon

on September 26, 2007

at 09:54 PM

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- Why is there rarely mention of the strong possibility of solar warming being the cause of our woes ?

Ian

on September 26, 2007

at 09:45 PM

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- Also what about giant white plastic sheets to be placed over miles long flat terrain that would reflect heat back in the way Antarctic ice sheets do.

Andrew

on September 26, 2007

at 09:44 PM

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- I seem to recall a scientist proposing something very similar to this in the 1970s to prevent global COOLING, which was a concern at the time. The idea was that the cold water from the depths was brought up and warmed at the surface. Thus the seas and the planet were kept warm.

Peter Michael

on September 26, 2007

at 09:22 PM

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- Surely masking the problem of global warming is not the answer, sounds a lot like sweeping your dirt under the carpet and hoping your guests don't notice. I believe we should be preventing the problem not curing it later. Let's not give people the excuse to buy and use cars that are not efficient when we are on the brink of developing vehicles that can do 125mpg. Let's ensure builders, developers and planners utilise the latest technologies to produce energy efficient buildings that are sustainable. We all need to do our utmost to use energy and fuel sensibly before it is too late to save the planet.

David Barton

on September 26, 2007

at 09:15 PM

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- Geoengineering is the dumbest thing I've ever heard! The world's weather is cyclical, it is not static and never has been or will be. Now we have noticed it changing we have been sold the myth that it's our fault and we must pay for taxes and adopt lifestyle changes to put a halt to it. I can't believe that someone who thought that the Earth was a living conscious creature would want to "operate" one something so harmonious - ridiculous. Scientists, do something useful!

Lee

on September 26, 2007

at 09:09 PM

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- On the one hand this may work and fertilize the upper layers of the ocean. However on the other, it may have the complete opposite effect and strip the lower layers of nutrients thus killing the local ocean floor. Further it could promote greater animal life at the surface thus creating more carbon dioxide. A small scale test would need to be monitored for any adverse unexpected events.

Richard Ward

on September 26, 2007

at 08:59 PM

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- Whether or not this is a feasible solution from a global perspective, it seems like a really good place to start on the engineering solutions that we are going to need to overcome the significant problems we soon will face.

Add to this idea the electrical power production that could well be obtained in parts of the world with a high heat gradient and we could have a self sustaining beneficial system

Bill Rice PE

on September 26, 2007

at 08:44 PM

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- THIS PERSON SHOULD GET THE NOBEL PRIZE FOR SAVING ALL OUR BUTTS. DON'T GO TO WAR TO SCORE POINTS BACK THIS HORSE, SAVE THE WORLD.

andand@kent

on September 26, 2007

at 08:41 PM

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- Aside from the fact the the plankton also gives of MASSIVE quantities of CO2 in different cycles, more so many times than manes entire C02 output. ITS THE SUN!

Jake Spires

on September 26, 2007

at 08:24 PM

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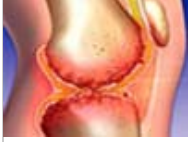
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