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1. Nuclear power: Eight sites identified for future plants

18 October 2010 Last updated at 15:52 GMT **BBC News**

<http://www.bbc.co.uk/news/uk-politics-11564152>

The government has identified eight sites in England and Wales as suitable for future nuclear power stations while ruling out a further three.

Energy Secretary Chris Huhne said Dungeness in Kent and both Braystones and Kirksanton in Cumbria were not suitable for environmental reasons.

While nuclear had a key role to play, he hoped half of all new capacity by 2025 would come from renewables.

But he ruled out plans for a tidal energy scheme on the Severn estuary.

Funding a Severn barrage with public money would be "very costly", he said, and as finding private investment would be challenging, other options should be pursued.

The last Labour government approved eleven locations as suitable for new nuclear plants by 2025 - most on the site of existing plants - but this has been cut to eight as part of a **revised draft policy statement** presented to Parliament on Monday.

Urgent investment

The possible locations are: Bradwell-on-Sea, Essex; Hartlepool; Heysham, Lancashire; Hinkley Point, Somerset; Oldbury, Gloucestershire; Sellafield, Cumbria; Sizewell, Suffolk and Wylfa on the Isle of Anglesey.

The BBC's Environmental Analyst Roger Harrabin said this did not mean the projects - which would be subject to planning permission - would go ahead as Mr Huhne has insisted there would be no public subsidies available for them.

Nuclear power is a potential flashpoint within the coalition government with many leading Lib Dems sceptical about the merits of a new generation of nuclear plants and the Conservatives more enthusiastic. Roger Harrabin said the definition of what constituted a subsidy was likely to be fought over in the coming months.

Critics say the UK is at risk of an energy crisis by the middle of the next decade when many of the existing nuclear plants will reach the end of their lives.

Mr Huhne said the country needed a diverse energy mix with contributions from all sectors but with more emphasis on renewables such as wind power.

"I'm fed up with the stand-off between advocates of renewables and of nuclear which means we have neither," he said.

"We urgently need investment in new and diverse energy sources to power the UK. We'll need renewables, new nuclear, fossil fuels with carbon capture and storage and the cables to hook them all up to the National Grid as a large slice of our current generating capacity shuts down."

Many Lib Dem MPs have traditionally been opposed to further nuclear expansion but Mr Huhne told the BBC the issue was not a "toxic" one among his colleagues.

A majority of MPs in Parliament - including most Conservatives and Labour members - are in favour of building more nuclear plants and Mr Huhne said the Conservative-Lib Dem coalition agreement had made it "very clear" nuclear would be included in the country's future energy mix.

"A deal is a deal. I am there to deliver it," he said.

Democratic engagement

The list of potential sites is confined to England and Wales as the Scottish government has said it is opposed to future nuclear expansion.

Environmental campaigners Greenpeace said the economics of nuclear power "simply did not add up".

"Lib Dem voters backed a party that supported renewable energy, opposed taxpayer handouts to the nuclear industry and supported full democratic engagement in the planning process," said Jim Footner, head of its climate and energy campaign.

"And local democracy is being kicked out of the door when it comes to nuclear sites. Lib Dem supporters must be furious that local communities will have little say about nuclear power stations in their area, other than choosing the colour of the gates.

"The Liberal Democrats need to stay true to their supporters by dropping the costly distraction of nuclear power and start investing in the clean, renewable and efficient technologies that will tackle climate change and provide tens of thousands of new British jobs."

2. Cleaner world will demand carbon capture and storage

Peter Beattie From: [The Australian](#) October 23, 2010 12:00AM

<http://www.theaustralian.com.au/national-affairs/cleaner-world-will-demand-carbon-capture-and-storage/story-fn59niix-1225942090451>

Coal-fired power stations will be around for decades, so we must look to clean-coal technology

THERE is a vacuum of inaction in Australia that is against the national interest when it comes to scaling-up and rolling out clean-coal technologies.

Any country vaguely serious about meeting future energy demands knows that coal will continue to provide about 40 per cent of global electricity generation through to 2050 and beyond.

Any realistic attempt to cut greenhouse gas emissions must therefore deal with coal. China generates 70 per cent of its energy from coal and is already building the equivalent of two large coal-fired power stations per week. India is not far behind.

Australia has to aggressively pursue the development of clean-coal technologies if we are serious about protecting the environment and our economic future.

Former prime minister Kevin Rudd understood the clean-coal challenge when he established the Global Carbon Capture and Storage Institute.

He also oversaw a \$2 billion federal budget allocation for the Carbon Capture and Storage Flagships program.

However, a drift away from clean coal was evident in the recent federal election campaign, which saw both sides of politics raiding these initiatives to prop up other programs deemed to be more important.

The Flagships program is well advanced but no decision has been made on which of the various state CCS projects are to be funded and supported.

Two projects have been put forward to the federal government from Queensland.

One, ZeroGen is widely regarded as one of the most important CCS projects, not just in Australia but in the world.

But as a result of the Weller review of all government boards, committees and statutory authorities, the Queensland government is now selling this project.

Queensland Department of Employment, Economic Development and Innovation associate director-general Dan Hunt and a key Treasury officer have been dispatched this past week to Japan and US to begin negotiations for ZeroGen's sale.

Only time will tell if ZeroGen is still a viable contender for the Flagships program. Japan's Mitsubishi Heavy Industries could throw it a lifeline or maybe the other Queenslander CCS contender, a consortium of Xstrata and GE, will acquire it. The GE consortium would give Australia a solid technology platform to go to the world and it makes sense for it and ZeroGen to be combined.

A decision by the federal government is needed to advance clean-coal technology projects.

Australia should not put all its eggs in the renewables' basket. While renewables will be an increasingly important, it will be a long time before they can supply all our needs for base load and peaking plants.

The answer lies in finding innovative ways to capture and store carbon. This can make a substantial impact on the world's carbon dioxide emissions. Equally important, we can protect thousands of jobs that depend on the coal industry, as well as create new jobs and export income.

Sadly the critics of clean coal don't live in the real world. They say it is too expensive, too technically challenging or won't make a difference. The Australian Greens talk about the "clean coal myth".

A 2007 report by the Massachusetts Institute of Technology, *The Future of Coal in a Carbon-Constrained World*, noted that coal is the "mainstay of both the developed and developing world, and its use is projected to increase". On the subject of clean coal technology, the report's authors, including the leading Australian scientist Greg McRae, concluded that "CCS (carbon capture and storage) is the critical enabling technology because it allows significant reduction in CO₂ emissions while allowing coal to meet future energy needs".

With degrees in mining and economics, Greg Combet is well suited to the federal Climate Change and Energy Efficiency portfolio. Combet is acutely aware that many of his constituents in the NSW Hunter Valley seat of Charlton earn their living from coal; the coal mining industry is a big employer in NSW.

Combet and Resources and Energy Minister Martin Ferguson need to join Prime Minister Julia Gillard around the cabinet table and make the decision to back an integrated clean-coal project and then get on with it.

Queensland, NSW and Victoria need clean-coal technology but as the history shows, progress is at a snail's pace.

Blind Freddy could see that Queensland, as the world's biggest exporter of seaborne coal, would be exposed if the world moved away from coal. That's why the Queensland government started work in 1998 on a clean energy strategy, a blueprint for a new energy mix that included clean coal, gas and renewable energies.

A cleaner-energy strategy was released in May 2000 which included a requirement for electricity retailers to source 13 per cent of their power from gas from January 2005. These were the policy settings which created Queensland's massive coal seam gas industry, which is today worth an estimated \$40bn and is set to create up to 18,000 new jobs.

In 2002 Queensland pressured the federal government to work with the states on clean-coal generation technologies. Queensland put money into a new Centre for Low Emission Technology in Brisbane in 2003.

Queensland established ZeroGen to show the world, through a modest demonstration plant, that CCS was real; that it was possible to apply proven techniques used in the oil and gas industry to safely store CO₂ in saline aquifers. The plant of between 50 and 100 megawatts was to prove the technology could operate and be scaled up to around 500MW.

The Queensland government forged a strong link with the coal industry, setting up the Queensland Clean Coal Council and a \$900 million fund -- \$300m from government and \$600m

from industry -- to accelerate clean-coal technology development.

The aim was to provide a long-term future for the coal industry, protect the 21,500 coal industry jobs in Queensland, stimulate research and development activity at our universities which could then partner with China and India to export our technologies and make substantial cuts to greenhouse gas emissions.

Queensland, Australia and the rest of the world have been working on clean-coal technologies for years. The problem is that where Australia is today is not a lot different to where we were in 1998. We are sitting on our hands, undermining our own energy future.

3. Russia Plans Nuclear Plant in Venezuela

http://www.nytimes.com/2010/10/16/world/americas/16venez.html?_r=1&scp=6&sq=NUCLEAR%20POWER&st=cse

By ANDREW E. KRAMER Published: October 15, 2010 New York Times

MOSCOW — President Dmitri A. Medvedev said Friday that Russia planned to build the first nuclear power plant in Venezuela, and that the United States should not object because Russia's intentions were "absolutely pure and open."

The deal was announced during a state visit to Moscow by Venezuela's president, Hugo Chávez, and is in keeping with a push by Russian businesses to expand sales of reactors and nuclear fuel around the world. Just in August, Russia completed work on Iran's first nuclear power plant.

"I don't know who will shudder at this," Mr. Medvedev said at a meeting with Mr. Chávez, coyly noting the possibility of American concerns about transferring nuclear technology to Mr. Chávez's government, which has long been at odds with the United States. Venezuela, like Iran, is brimming with energy from oil and natural gas, possibly raising concerns about its motives.

"The president said there will be countries in which this will provoke different emotions, but I want to say specially that our intentions are absolutely pure and open," Mr. Medvedev said.

Mr. Chávez was here to negotiate a variety of oil and other economic deals, in addition to the nuclear agreement. Energy officials from both countries also signed an inter-governmental agreement approving BP's plan to sell assets in Venezuela to a Russian joint venture, a sale intended to help pay gulf spill lawsuits.

Russia first offered Venezuela nuclear power in 2008, during an intense spell of anti-Western sentiment in Moscow after the war with Georgia. The agreement on Friday fleshed out that offer.

It specified that the Russian state nuclear power company, Rosatom, would build one nuclear plant with two large pressurized water reactors to generate power, and one small research reactor to make medical isotopes and what was described as nuclear materials that could be useful as pesticides for agriculture.

Mr. Medvedev said Friday that Russia would help Venezuela build "an entire range of energy opportunities." He added that "even such an oil- and gas-rich country as Venezuela needs new sources of energy."

The timing on the deal was vague, and it remains unclear whether the cost and scientific expertise for a nuclear program are outside of Venezuela's reach, even with Russian help.

In comments Friday, Sergei V. Kiriyyenko, the chief executive of Rosatom, left open a wide range of possibilities for when Russia might begin work on a new nuclear power plant. "It could be in ten years; it could be sooner," Mr. Kiriyyenko said, adding that the smaller research reactor would be the priority for now.

The deepening of Russia's nuclear cooperation with Venezuela marks only one of dozens of nuclear deals for Russia in recent years. Russia's commercial interests lie in building nuclear power reactors and selling fuel around the world. As a legacy of the cold war, Russia has 40 percent of the world's uranium enrichment capacity, far more than it needs for its domestic industry.

After the meetings on Friday, Mr. Chávez promoted some trade opportunities of his own.

At a news conference with the Russian president, he pulled out a chocolate bar and a bottle of jam made of bananas, and suggested that Russians might like to try those Venezuelan products.

4. Rock doctors are cool on global warming

By Paul Murray | [View Archive](#)

October 26th, 2010, 12:28 pm

<http://au.news.yahoo.com/thewest/opinion/post/-/blog/paulmurray/post/2502/comment/1/>

Geologists remain one of the intellectual groups in which there is most concern that the science is not settled on climate change.

Climatologists may argue that the rock doctors have no expertise in what is happening in the heavens, but the geologists say they've seen it all before.

Their guide to what happens to the climate lies in the sedimentary rocks they study which preserve a record of things such as sea levels, global temperatures and even carbon dioxide rates.

Recently this column stirred up a hornet's nest with references to a dispute among members of Britain's most prestigious scientific body, the Royal Society, over its published guide to climate change.

The society was forced to make changes to the guide after 43 of its fellows complained that the science of climate change was not as concrete as the original statement made it appear.

My simple proposition was that the debate should remain open while, as the society finally noted, some areas of the science remained contestable. However, the increasing politicisation of some academic circles ensured even that idea was beaten down.

Some of our leading so-called sceptics about climate change in the academic world are geologists like South Australia's Professor Ian Plimer and Queensland's Professor Bob Carter, so it is not surprising that a similar blue has broken out in the Geological Society of Australia over a position statement released by its executive committee without reference to the broad membership.

After an outcry from some members, reputedly leading to several resignations, the matter has gone to a poll to try to resolve the differences.

While much of the statement pushed the value of geology in understanding what is happening to the climate, the angry members protested about a bald political, rather than scientific, assertion that "strong action be taken at all levels, including government, industry, and individuals to substantially reduce the current levels of greenhouse gas emissions and to mitigate the likely social and environmental effects of increasing atmospheric CO₂".

Even so, the initial statement did concede that much was unknown in climate science.

It even targeted one weak point in the science of true believers, saying "the increasing reliance being placed on the outcomes from predictive climate change models to guide economic and social policies highlights the urgent need for integrative research." In other words, the "inherent assumptions and limitations in predictive computer models" on things such as trapped carbon dioxide in ice cores made the conclusions questionable.

"Earth's climate system is complex, dynamic and sensitive to small changes in forcing mechanisms that may initiate changes over a range of time scales," the Geological Society statement said.

"Our understanding of this system is far from complete. The geologic record is the key source of primary observational data about the climate throughout Earth's history. This record shows that atmospheric CO₂ has a strong influence on global climate.

"It also shows that Earth's climate has changed rapidly in the past, sometimes over time scales of decades to centuries, and that such rapid changes are often accompanied by environmental crises and sometimes by mass extinctions. Therefore the geologic record provides key benchmarks against which predictions for the future can be tested."

The latest earth scientist to weigh into the public debate is Phil Playford, the senior principal geologist at the WA Department of Mines and Petroleum. In a recent letter to the editor of the Petroleum Exploration Society of Australia's newsletter, he uses a 130,000-year-old fossil coral reef on Rottnest Island to illustrate his point.

"The reef-building coral *Acropora*, which dominates this reef, shows that it grew when ocean temperatures were significantly warmer than now, as this coral no longer forms living reefs further south than the Houtman Abrolhos, some 500km further north," Dr Playford wrote.

"The Rottnest reef grew during the last interglacial period of the Pleistocene, when the climate was warmer and sea level was at least 3m higher than today. Of course the atmosphere could not at that time have contained any human-induced CO₂."

So what caused the warmer temperatures and the rising sea levels at Rottnest? And are those same causes behind our modern concerns, making cuts to our carbon emissions irrelevant?

Dr Playford agrees with Professor Carter's conclusion that anthropogenic (human-caused) global warming is "the greatest self-organised scientific and political conspiracy that the world has ever seen". He noted that a gradual increase in global temperatures since the close of the Little Ice Age in about 1850 was interrupted between 1945-1980 when there was pronounced global cooling, despite a steep increase in atmospheric CO₂.

"There is no doubt that global temperatures and CO₂ levels in the atmosphere have increased steadily since the beginning of the industrial revolution," the WA geologist says. "However, some authorities expect that the world is about to enter another period of cooling, leading to a repeat of the Little Ice Age or descent into a full glacial period. This is suggested by the unexpectedly low sunspot activity and decreased solar irradiation during the present solar cycle 24.

"When the world inevitably experiences another glacial period, the consequences will be vastly more serious than any further warming that may occur before then."

My two years studying geology at the University of WA help me understand some of Dr Playford's argument, but I remain as confused about climate change science as most laymen.

However, in the interests of keeping the debate open, readers should see another side of the debate that climate change alarmists would prefer to remain hidden.

5. Toshiba works on ABWR certification

04 November 2010

http://www.world-nuclear-news.org/RS_Toshiba_works_on_ABWR_certification_0411101.html

Toshiba is seeking regulatory approval for a renewal of approval to construct Advanced Boiling Water Reactors (ABWRs), as well as for certain design changes.

The Japanese firm announced its submission to the US Nuclear Regulatory Commission (NRC) today.

The ABWR design was certified in 1997, meaning that it can be referenced as part of an application to build and operate a new nuclear power plant. However, this status only lasts 15 years, meaning it must be renewed before the NRC allows construction of two ABWRs planned for the South Texas site, anticipated in 2012.

Toshiba co-developed the ABWR design with GE and worked alongside both GE and Hitachi to construct Kashiwazaki Kariwa 6 and 7. Both have the right to build ABWRs. However, the 1997 design certification refers specifically to a design to which GE-Hitachi Nuclear Energy asserts ownership. Toshiba's latest submission includes changes to work around that, while also incorporating, "new design features which take advantage of ... successful operating experience in Japan."

Another change to ABWR's design certification was initiated in 2009 by the South Texas new build partners NRG and STPNOC to meet a requirement on aircraft impact issued by the NRC that year.

Separately, GE-Hitachi plans to submit for a renewal in 2011.

6. ITER – a fusion facility worth building

Nov 4, 2010

A website from the Institute of Physics

<http://physicsworld.com/cws/article/multimedia/44247>

A dream for almost three decades, construction of the International Thermonuclear Experimental Reactor (ITER) is finally getting under way in southern France. This huge multinational experiment, which is a joint effort of Canada, China, the EU, India, Japan, South Korea and the US, seeks to create a deuterium-tritium plasma that can release 10 times more power than it consumes. The aim is to show that fusion can potentially be a sustainable source of energy here on Earth.

But with costs for ITER climbing to €13bn – and rising – is it money well spent? In this exclusive video interview with *physicsworld.com*, Sir Chris Llewellyn Smith, who was chairman of ITER's council from 2007 to 2009, defends the project, saying that "we cannot afford not to develop fusion". In his view, fusion – along with solar power and fission reactors – is the only feasible way to fill the gap between the energy available from conventional fossil fuels and the ever-rising total global energy demand. Llewellyn Smith, who was director-general of the CERN particle-physics lab in the mid-1990s, also shines a light on the tensions involved in ITER, bringing together as it does many different partners together in a large, complex and technically ambitious experiment.

7. NIF completes first integrated ignition experiment

Oct 7, 2010

Laser Focus World

<http://www.optoig.com/index/photronics-technologies-applications/lfw-display/lfw-article-display.articles.optoig2.photronics-technologies.news.applications-markets.science-research.2010.10.first-successful-integration.html>

LIVERMORE, CA – The National Ignition Facility (NIF) has completed its first integrated ignition experiment. In the test, the 192-beam laser system fired 1 MJ of laser energy into its first cryogenically layered capsule, raising the drive energy by a factor of thirty over experiments previously conducted at the Omega laser at the University of Rochester. With the completion of this test, NIF is beginning its next phase of the campaign to culminate in fusion ignition tests. □□ The National Ignition Facility is the world's largest and highest-energy laser system and is expected to be the first laser system to demonstrate reliable fusion ignition in a laboratory environment. When NIF's lasers fire, more than one million joules of ultraviolet energy are focused into a pencil-eraser-sized gold cylinder that contains a peppercorn-sized plastic capsule filled with the hydrogen fuel. □□ The completed experiment demonstrated the integration of the complex systems required for an ignition campaign. This target was filled with a mixture of tritium, hydrogen and deuterium tailored to enable the most comprehensive physics, a necessary step on the path to demonstrating fusion ignition. All systems operated successfully, and 26 target diagnostics participated in the shot. □□ "From both a system integration and from a physics point of view, this experiment was outstanding," said Ed Moses, Director of the National Ignition Facility. "This is a great moment in the 50-year history of inertial confinement fusion. It represents significant progress in our ability to field complex experiments in support of our NNSA Stockpile Stewardship, Department of Defense, fundamental science and energy missions." □□ The National Nuclear Security Administration (NNSA) and Lawrence Livermore National Laboratory (LLNL) announced the experiment's completion yesterday in Washington, DC. □□ "NIF is an example of what the NNSA labs do best," said NNSA Deputy Administrator for Defense Programs Don Cook. "We are bringing together the best minds in science, engineering and technology to solve some of the nation's greatest challenges. With NIF, the nation has a critically important asset that supports our national security priorities, pushes the frontiers of science and discovery, and carries the potential for critical advances in energy security." □□ The experimental program to achieve fusion and energy gain, known as the National Ignition Campaign, is a partnership among LLNL, the Laboratory for Laser Energetics at University of Rochester, Los Alamos and Sandia National Laboratories, and General Atomics. Other contributors include the

Massachusetts Institute of Technology, the Atomic Weapons Establishment (UK), Commissariat à l'énergie atomique (France) and many others. □□□ For more information visit www.nnsa.energy.gov □□

Posted by [Steve Anderson](#)

8. Labor urged to follow Obama on carbon

Graham Lloyd From: The Australian November 06, 2010 12:00AM

<http://www.theaustralian.com.au/news/nation/labor-urged-to-follow-obama-on-carbon/story-e6frq6nf-1225948553927>

AUSTRALIA must follow the US and abandon an emissions trading scheme, the opposition and business said yesterday.

President Barack Obama confirmed on Thursday, following the Democratic Party's mid-term election drubbing, that the US administration's cap-and-trade bill for carbon was dead.

Business leader and former Reserve Bank board member Dick Warburton said Australia should follow Mr Obama's lead and investigate other ways to cut carbon emissions.

"We should follow Obama and look to ways to clean the air of particulate pollution and make better use of resources, including gas and nuclear," Mr Warburton said.

"Solar and wind have a place but they are a long way from being economically effective."

Speaking after the mid-term results, Mr Obama said: "Cap-and-trade was just one way of skinning the cat; it was not the only way. It was a means, not an end. I'm going to be looking for other means to address this problem."

Mr Warburton said Australia would be "stupid" to introduce a cap-and-trade system without the US. He said claims by Julia Gillard and Climate Change Minister Greg Combet that a carbon price was needed to stimulate investment in electricity generation was wrong.

"What is causing the problem is uncertainty," Mr Warburton said.

"Certainty can be either having a price or not having a price."

Mr Combet declined to comment on Mr Obama's remarks but opposition climate spokesman Greg Hunt said his announcement that he would scrap his ETS in favour of direct action was "a massive set-back for Julia Gillard's plan to impose a carbon price on Australian householders and businesses".

"President Obama will now examine direct action models, just as has been put forward by the Coalition here in Australia," Mr Hunt said.

Nationals senator Ron Boswell said the government should immediately follow Mr Obama's lead. "If an economy the size of the United States has decided it can't go ahead with an ETS, then it would be totally reckless for the Gillard government to proceed."

Damian Ryan, the senior policy manager for The Climate Group, said it was now less certain whether the Obama administration could deliver on the 17 per cent emission cut the US had pledged under the Copenhagen Accord.

He said the failure of the US administration to introduce a cap-and-trade system had been expected by negotiators at the forthcoming UN climate change conference at Cancun, Mexico, starting late this month.

But he said the backdown would have longer term ramifications.

"If it becomes clear that the administration can't even deliver on these goals, then this obviously affects the level of ambition other countries will be prepared to sign up to," Mr Ryan said.

"China, India and the EU, for example, will continue to move ahead with the decarbonisation of their economies for other reasons but the problem is that the sum of these parts is likely to be less than what could be achieved under an ambitious global deal."

9. Climate scientist Phil Jones 'regrets' emails

Graham Lloyd, Environment editor

From: The Australian November 17, 2010 12:00AM

<http://www.theaustralian.com.au/news/world/climate-scientist-phil-jones-regrets-emails/story-e6frg6so-1225954632089>

THE scientist at the centre of the "climategate" scandal says he regrets writing emails that undermined confidence in the theory of man-made climate change.

Phil Jones told London newspaper The Times yesterday that publication of the stolen emails - in which he referred to tricking the science to "hide the decline" in global temperatures - was designed to sabotage negotiations for a climate change treaty in Copenhagen.

He said it would take years for the damage from publication of the emails to be repaired.

The Intergovernmental Panel on Climate Change relied on Professor Jones's research for its most recent report, which found that human activities were very likely to be the cause of global warming.

On the first anniversary of publication of the emails, Professor Jones said he regretted saying he would prevent research that questioned the link between human emissions and global warming from being included in the IPCC's report.

"That was something I said on the spur of the moment. I do regret saying that," he said.

In what was his first significant interview since being reinstated at the University of East Anglia's Climatic Research Unit, Professor Jones said he regretted some of the language in emails, which had been "sent in haste".

An independent inquiry dismissed claims of an attempt to manipulate data.

Professor Jones will contribute to the next IPCC report, in which he said he expected to reach the same conclusion on man-made climate change.

Despite Professor Jones's exoneration, the "climategate" scandal raised serious concerns among some scientists about the standards applied to some global warming research and the IPCC report.

The Royal Society responded to concerns from members that it had become too politicised by revising the tone of its guide to climate change to highlight the uncertainties.

Harold Lewis, Emeritus Professor of Physics at the University of California, Santa Barbara, resigned from the American Physical Society after 67 years, claiming the climategate scandal had exposed "the greatest and most successful pseudoscientific fraud I have seen in my long life as a physicist".

Professor Jones told The Times he had received more than 400 abusive emails after the scandal broke: "There were some saying 'You should kill yourself' and others saying 'We know where you live'. I did feel physically threatened at times," he said.

"I tried to forward them to the police but they were bounced back by their computer because they were too obscene. So I had to print them."

Professor Jones said sceptics offered a reassuring message that people wanted to hear.

"Some people want to believe that we are not able to affect the climate and want to use any bit of evidence to promote the case for doing nothing. They think that (to do something) might lead to such a change in our lifestyles," he said.

"If you want to be deceived on some issues, you preferentially take all those reports that go along with your particular perceptions."

Additional reporting: The Times