

## ITER Forum Website Update 3.2010

### B.J.Green (19/3/10)

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#### 1. Obama pushes nukes to beat pollution crisis

Brad Norington, Washington correspondent  
From: The Australian February 18, 2010 12:00AM

<http://www.theaustralian.com.au/news/world/obama-pushes-nukes-to-beat-pollution-crisis/story-e6frg6so-1225831536815>

BARACK Obama is promoting a new generation of nuclear power plants across the US as a central part of his climate change policy, while seeking to satisfy the nation's growing energy needs. The President announced government loan guarantees yesterday for two new reactors in Georgia, hailing nuclear energy as "our largest source of fuel that produces no carbon emissions".

The decision to back many such projects is controversial. No nuclear reactors have been built in the US since the partial meltdown at the Three Mile Island plant near Harrisburg in 1979. With continuing debate over plant safety and disposal of radioactive waste, the Rudd government has ruled out nuclear energy as an option for Australia in place of fossil fuel energy with its high carbon emissions. Speaking to electrical workers at a union training facility in the state of Maryland, Mr Obama acknowledged his position would meet protests. "On an issue that affects our economy, our security, and the future of the planet, we can't keep on being mired in the same old stale debates between the Left and Right, between environmentalists and entrepreneurs," he said.

The President said it had long been assumed that people who champion the environment were opposed to nuclear power. "To meet our growing needs and prevent the worst consequences of climate change, we'll need to increase our supply of nuclear power. It's that simple," he said. "This one plant, for example, will cut carbon pollution by 16 million tones a year when compared with a similar coal plant. That's like taking 3.5 million cars off the road."

Mr Obama's announcement was an attempt to turn around his difficult political position. The Democrat President hopes promoting nuclear energy will gain some leverage with Republican leaders, who have used their numbers in the Senate to stall his party's climate change legislation, which includes a cap-and-trade scheme to cut carbon emissions. Republicans have branded the scheme a tax on business and jobs, adopting a similar position to federal Opposition Leader Tony Abbott against the cap-and-trade legislation backed by Prime Minister Kevin Rudd. Mr Obama's hope is that by endorsing nuclear energy, as the Republicans do, he may encourage them to

compromise and pass legislation with a price on carbon.

Using the occasion yesterday to exert pressure, he said the Republicans needed to recognise that the US could not achieve a big boost in nuclear capacity unless a system of incentives operated to make clean energy profitable. "Energy leaders and experts recognise that as long as producing carbon pollution carries no cost, traditional plants that use fossil fuels will be more cost-effective than plants that use nuclear fuel," Mr Obama said.

The President provided a loan guarantee of \$US8 billion (\$8.9bn) in taxpayer funds, for which he needs no congress support under the 2005 Energy Policy Act. He has foreshadowed seeking up to \$US54bn for the nuclear loan guarantee program, for which he will need congressional backing. Mr Obama said the Georgia reactors, to be built near two existing plants, would create 3500 jobs during construction and 800 permanently. "Make no mistake: whether it's nuclear energy, or solar or wind energy, if we fail to invest in the technologies of tomorrow, then we're going to be importing those technologies instead of exporting them."

## **2. We won't be going nuclear: Rudd**

Sid Maher

From: The Australian February 18, 2010

<http://www.theaustralian.com.au/news/nation/we-wont-be-going-nuclear-rudd/story-e6frg6nf-1225831551975>

KEVIN Rudd has again ruled out a civil nuclear power industry in Australia despite US President Barack Obama paving the way for the first nuclear reactors in the US since the 1979 Three Mile Island disaster. As Mr Obama, frustrated that his cap and trade emissions legislation was bogged down in congress, announced \$US8 billion (\$8.9bn) in government guarantees for a plant in the US state of Georgia, the Prime Minister said: "Australia has multiple other energy sources and we will not be heading in the direction of civil nuclear power." Mr Rudd said Australia led the world in coal carbon capture and storage, crucial to bringing down greenhouse gas emissions. "Roll the clock out to 2020, 2050, in terms of the role of coal in total global energy production - it's huge," Mr Rudd said.

But Ziggy Switkowski, the chairman of the Australian Nuclear Science and Technology Organisation, said he expected Australian public opinion would soon favour nuclear power. "There will come a time, perhaps in the next electoral cycle, when the national mood will be strongly pro-nuclear and the government will feel more comfortable about endorsing discussion of nuclear power as part of a longer-term national strategy," Dr Switkowski said.

When Australia faced the need to bet on technologies that would work against those it was hoped would work and the need to increase base load capacity at the same time, Dr Switkowski said support would increase for nuclear energy. Australian Workers Union national secretary Paul Howes said he believed Australia should investigate nuclear energy but the "political reality" was that no party would go to the next election with the issue as part of its policy platform. "My personal views are that it makes sense to investigate all the options and opportunities that are available to us in an energy-constrained, low-carbon future," Mr Howes said. "Is nuclear the answer? Maybe. But maybe not as well." Mr Howes said Australia "had that debate in 2007 and in that debate the Australian electorate spoke very loudly and clearly about their own personal views on nuclear power".

## **3. Defections shake up climate coalition**

Stephen Power and Ben Casselman

Wall Street Journal. February 17, 2010

<http://online.wsj.com/article/SB10001424052748704804204575069440096420212.html#project%3DCLIMATECHANGE0912%26articleTabs%3Dinteractive>

Three big companies quit an influential lobbying group that had focused on shaping climate-change legislation, in the latest sign that support for an ambitious bill is melting away. Oil giants

BP PLC and ConocoPhillips and heavy-equipment maker Caterpillar Inc. said Tuesday they won't renew their membership in the three-year-old U.S. Climate Action Partnership, a broad business-environmental coalition that had been instrumental in building support in Washington for capping emissions of greenhouse gases. The move comes as debate over climate change intensifies and concerns mount about the cost of capping greenhouse-gas emissions. On a range of issues, from climate change to health care, skepticism is growing in Washington that Congress will pass any major legislation in a contentious election year in which Republicans are expected to gain seats.

For companies, the shifting winds have reduced pressure to find common ground, leading them to pursue their own, sometimes conflicting interests. Last week, the head of the Pharmaceutical Research and Manufacturers of America, Billy Tauzin, said he would step down as president of the industry's main lobby in Washington, amid criticism from some in the industry over the alliance he made last year with the White House to support health-care legislation.

The administration had worked hard to persuade industry groups to climb aboard its major legislative initiatives—a tack many business interests saw as sensible following the Democrats' big gains in the 2008 elections. But "unlikely bedfellows make for breakups," said Kevin Book, managing director of Clearview Energy Partners, a consulting firm. Spokesmen for ConocoPhillips and BP said the companies still support legislation to reduce greenhouse-gas emissions, but believe they can accomplish more working outside USCAP's umbrella. Caterpillar said it plans to focus on commercializing green technologies. ConocoPhillips's senior vice president for government affairs, Red Cavaney, said the USCAP was focused on getting a climate-change bill passed, whereas Conoco is increasingly concerned with what the details of such a bill would be. "USCAP was starting to do more and more on trying to get a bill out without trying to work as much on the substance of it," Mr. Cavaney said.

A spokesman for USCAP said it intends to continue its work. More than 20 other large companies, including oil company Royal Dutch Shell PLC and industrial heavyweights General Electric Co. and Honeywell International Inc., remain in the coalition with environmental groups such as the Environmental Defense Fund and Natural Resources Defense Council. The USCAP said it expects to add new members in coming months. "We think there's momentum to get [a climate bill] done," USCAP spokesman Tad Segal said. "President [Barack] Obama's State of the Union address made it clear the administration is behind us."

But experts said the companies' decision to withdraw from USCAP is a sign the politics of climate change is shifting in Washington. When Mr. Obama took office, Congress appeared to have momentum for a climate bill that would push the economy toward lower-carbon alternatives. But as the economy soured, support waned. The Obama administration says it will curb greenhouse-gas emissions using the Clean Air Act if Congress doesn't act, and the Environmental Protection Agency has been pushing ahead with rule making.

When USCAP was founded in 2007, leaders of big U.S. companies had grown concerned that Democrats in Congress were preparing to put strict limits on industrial emissions of heat-trapping gases linked to climate change. Many executives decided it was better to be part of the debate in a united front.

#### **4. We must invest in nuclear energy, says expert**

David Nason

From: The Australian March 02, 2010

<http://www.theaustralian.com.au/business/we-must-invest-in-nuclear-energy-says-expert/story-e6frg8zx-1225835822610>

AUSTRALIA needed to invest now in training nuclear engineers, select sites for nuclear power stations and set up regulatory structures, a leading energy academic told a uranium conference in Adelaide yesterday.

Tony Owen told the Paydirt 2010 conference the "enabling investment" would allow Australia to

have a serious debate on a nuclear industry. He said nuclear power was likely to be the nation's best option after 2030. Professor Owen, who heads the Australian energy campus at University College, London, said new power generation plants over the next 20 years would be fired by gas or renewables, the latter driven by government support and eventually a price on carbon. But after that the energy debate will switch focus to the question of nuclear versus carbon capture and storage (CCS), neither of which had gained public acceptance at this point, he said.

"There is a high expectation that by 2030 CCS will be a leading technology in reducing domestic emissions of carbon," Professor Owen said. "But we have to keep our options open between CCS and nuclear, because public reaction to CCS might be adverse in years to come. "CCS is likely to generate significant public concern around safety issues."

Professor Owen said this would centre on the political problems associated with piping highly toxic carbon emissions from coal-generated power stations in NSW and Queensland to secure storage sites interstate. "There are no suitable storage sites in NSW and not many in Queensland, so you're going to be piping this stuff long distances," Professor Owen said. "The communities along the pipeline routes won't be happy about it, not to mention the native title issues that could arise."

Professor Owen said the federal government was putting "all its eggs in one basket" by funding initiatives such as the Global Carbon Collection and Storage Institute and not making similar strategic investments in the nuclear industry.

"From 1961-86 there was a school of nuclear engineering at UNSW, but nothing since," Professor Owen said. "Our youngest graduates from there are now in their 40s. Many of the oldest are now retired, or worse. That's not a good situation to be in when establishing a nuclear power industry."

Professor Owen noted that by 2030 the addition of CCS technologies would raise the cost of coal-generated power to near the cost of nuclear, both in terms of the capital cost of new plant and in construction timelines. Alliance Resources chief executive Steve Johnston also told Paydirt he expected a substantial increase in forecast production levels at the Four Mile uranium ore body in South Australia.

## **5. Fossil fuels 'better for environment' than so-called green fuels**

Ben Webster

From: The Times March 02, 2010

<http://www.theaustralian.com.au/news/world/fossil-fuels-better-for-environment-than-so-called-green-fuel/story-e6frg6so-1225835805419>

USING fossil fuel in vehicles is better for the environment than so-called green fuels made from crops, according to a study. The British government study's findings show that the Department of Transport's target for the level of biofuel in all fuel sold in Britain will result in millions of hectares of forest being logged or burnt down and converted to plantations. The study, likely to force a review of the target, concludes that some of the most common biofuel crops fail to meet the minimum sustainability standard set by the European Commission.

Under the standard, a litre of biofuel should reduce emissions by at least 35 per cent compared with burning a litre of fossil fuel. Yet the study shows that palm oil increases emissions by 31 per cent because of the carbon released when forest is turned into plantations. Rape seed and soy also fail to meet the standard. The Renewable Transport Fuels Obligation this year requires 3.25 per cent of fuel sold to come from crops. The proportion is due to increase each year and by 2020 is required to be 13 per cent.

The DOT commissioned a consultancy to investigate the overall impact of its biofuel target on forests and other undeveloped land. The EC has conducted its own research, but is refusing to publish the results. A leaked internal memo from the EC's agriculture directorate reveals its concern that Europe's entire biofuels industry, which receives almost pound stg. 3 billion (\$5bn) a year in subsidies, would be jeopardised if indirect changes in land use were included in sustainability standards. A senior official added to the memo in handwriting: "An unguided use of

ILUC (indirect land use change) would kill biofuels in the EU."

The EC hopes to protect its biofuel target by issuing revised standards that would give palm plantations the same status as natural forests. Officials appear to have accepted arguments put forward by the palm oil industry that palms are just another type of tree. A draft of the new rules states that palm oil should be declared sustainable if it comes from a "continuously forested area", which it defines as areas where trees can reach at least heights of 5m, making up crown cover of more than 30 per cent. "This means, for example, that a change from forest to oil palm plantation would not per se constitute a breach of the criterion," it adds.

Clearing rainforest for biofuel plantations releases carbon stored in trees and soil. It takes up to 840 years for a palm oil plantation to soak up the carbon emitted when the rainforest it replaced was burnt. The expansion of the palm oil industry in Indonesia has turned it into the third-largest CO<sub>2</sub> emitter, after China and the US. Indonesia loses more than 20,000sq km of forest every year.

Last year, 127 million litres of palm oil was added to British diesel, including 64 million litres from Malaysia and 27 million litres from Indonesia. Kenneth Richter, biofuels campaigner for Friends of the Earth, said: "The billions of subsidy for biofuels would be better spent on greener cars and improved public transport."

## 6. John Costella's blog

Just another WordPress.com weblog

How politicians unwittingly brought down the climate alarmists

February 27, 2010

<http://johncostella.wordpress.com/>

In the aftermath of the Climategate scandal, the pieces of the post mortem puzzle are beginning to come together. An article in *The Weekend Australian* today ("IPCC faces one of its toughest challenges: redeeming itself") offers insight into how sympathetic politicians may have unwittingly sowed the seeds of destruction for climate alarmists. Many scientists caught up in the IPCC scandal have been at a loss to understand how things could have turned so badly so quickly, and have begun to offer public excuses for their alarmist claims.

Within these explanations, one can discern the mechanism by which the alarmism reinforced itself, ultimately leading to the catastrophic Fourth Assessment Report of 2007 which has discredited the organisation so thoroughly that its continued existence is now in serious doubt.

Politicians had been told for years, if not decades, that "the science was settled" on climate change, and that immediate, radical, world-wide action was needed to avoid complete catastrophe. Roughly, to the average politician, that means that not only was the science settled "beyond reasonable doubt" (the criminal standard of proof), but moreover was settled "beyond almost any doubt" (the level you would associate with, say, crimes against humanity — a parallel that climate alarmists fostered through the use of the term "climate deniers" for those scientists who dared to question their radical claims).

Naturally, once the need arose, in recent years, to explicitly formulate climate policies, those politicians looked to the scientists — or, more accurately, their political mouthpiece, the IPCC — to provide *definite facts* against which mitigating efforts could be measured: a reasonable request, for an issue that was "definitely settled". The scientists, however, were somewhat baffled by these requests: they knew that the issues were subject to so much scientific uncertainty that to provide "definite facts" would be nonsensical and misleading.

The scientists then had a choice between two courses of action: tell the truth — that the Emperor had no clothes; or provide the "definite facts" needed by the politicians, knowing that such certainty was unsupported by the scientific evidence. Some had the courage to do the former: they were promptly labelled "climate deniers", and generally forced into obscurity. The majority followed the latter path — whether concerned about the multi-billion-dollar funding that the

"climate change research" industry would otherwise risk losing, or simply convincing themselves that "it was only for the policy document" — that the truth that they had buried deep in the scientific sections of the Report would absolve them of any sins that should subsequently come to light.

It is no surprise that this lame attempt to avoid responsibility has been given short shrift by the world. Scientists who believe in this form of expediency will need to "shape up or ship out" if Science is to ever again earn our trust.

## **7. Sceptics derail climate action**

Mike Steketee

From: The Australian February 27, 2010

<http://www.theaustralian.com.au/politics/opinion/sceptics-derail-climate-action/story-e6frgd0x-1225834650070>

Global warming is a real problem, despite the ill-informed claims of the climate deniers "IF in doubt vote no" may be the five most powerful words in politics. Those arguing against action on climate change certainly are entitled to think so. They have shifted public opinion merely by raising a few instances where claims about the effects of global warming have been exaggerated or not sufficiently documented, and by catching a few scientists playing politics. Heaven forbid that anyone involved in a highly charged political debate should sex up their case through the selective use of material and exaggeration. Nevertheless, while that is stock in trade for politicians, it is not a good look for scientists. But some perspective is in order.

Two sentences in volume two of the four-volume 2007 report from the Intergovernmental Panel on Climate Change claim that the Himalayan glaciers could melt by 2035. This is not supported by the scientific evidence, including that in the rest of the IPCC report, which contains a 46-page chapter in volume one on glaciers, ice and snow. This covers scientific observations of melting and includes the comment that "reports on individual glaciers or limited glacier areas support the global picture of ongoing strong ice shrinkage in almost all regions", although some glaciers had advanced or thickened, probably because of increased precipitation. Another chapter includes a projection of the future decline of glaciers but makes no predictions about their disappearance.

Apart from this, the errors in the IPCC report are hard to find. It says The Netherlands is highly susceptible to rising sea levels and river flooding because 55 per cent of its territory is below sea level. This figure was supplied by the Dutch Environmental Assessment Agency, which has since conceded that it should have said that 55 per cent of The Netherlands was at risk of flooding, with 26 per cent of the country below sea level and 29 per cent susceptible to river flooding. This does not change the IPCC's conclusion about The Netherlands' vulnerability. Even the figure it used is not necessarily wrong: the Dutch transport ministry has a measure of 60 per cent of the country lying below the high water level during storms.

Sceptics have challenged the IPCC's statement that up to 40 per cent of Amazon forests "could react drastically to even a slight reduction in precipitation". The reference cited is to a WWF report but this is based on a peer-reviewed study, the lead author of which has said that the IPCC statement is correct. The IPCC has been accused of linking global warming to recent natural disasters. While it does refer to one study that found an increase in economic losses from natural disasters, it also mentions other studies that have not detected such a trend. All up, the IPCC's 2007 report cites about 18,000 references and most of them are to peer-reviewed scientific papers. This is vastly more evidence than critics have been able to find to the contrary.

As for so-called Climategate -- hacked emails from the University of East Anglia -- this does show scientists behaving badly by withholding information and talking of manipulating data that did not suit their argument. But it does not invalidate the accumulating evidence for global warming. Rather, it proves that the evidence is not all one way and that there is no absolute certainty in climate science, which is why the IPCC always talks in terms of probabilities.

None of these cases undermines the IPCC's main findings. Are the glaciers melting? Not all of them and not uniformly, but overall, unambiguously yes. Are temperatures rising? You could be

forgiven for thinking not, given the loudness of the claims that there has been no warming since 1998. How is it that sceptics can place so much importance on this short-term trend but ignore that 1998 was an unusually strong El Nino year, that the last decade in Australia was the warmest on record, that each decade since the 1940s has been warmer than the preceding one in Australia and that, globally, 14 of the 15 warmest years on record occurred from 1995 to 2009? Far from the scientific community hyping up the case for human-induced global warming, arguably it has been too cautious and too slow.

Joseph Fourier first suggested in 1824 that gases in the atmosphere trapped heat. Thirty-five years later John Tyndall conducted experiments that found water vapour and CO<sub>2</sub> were the two most important gases to create such a greenhouse effect. In 1896 Svante Arrhenius calculated that doubling the level of carbon dioxide would lead to temperature increases of 5C-6C. But he and others suggested this would not be a problem because the oceans would absorb most of the extra CO<sub>2</sub> and additional CO<sub>2</sub> would not trap more heat. This latter theory was not seriously challenged until the 1950s and it took until the 70s for a few scientists to start warning that global warming was a serious and urgent issue.

John Sawyer of the British Meteorological Office calculated in 1972 that increased greenhouse gases would cause warming of 0.6C by the end of the century. The actual increase was 0.5C. In areas such as the decline in sea ice and sea level rise, past IPCC projections have proven to be too low.

Although they are side issues, the doubts sown by critics, together with a few cooler winters, have led to a fall in public concern about global warming. A poll reported in the Guardian this week showed a drop from 44 per cent to 31 per cent in the past year in people in Britain who believe climate change is definitely a reality, although another 29 per cent agree that it could be. Almost 20 per cent say climate change is caused by human factors, while two-thirds say it is due to a mix of human and natural causes. The Australian's Newspann conducted a fortnight ago found a fall from 84 per cent to 73 per cent since 2008 in those who say climate change is occurring. Of these believers, 94 per cent say it is wholly or partly caused by human activity, two percentage points below the 2008 figure.

Of course, these figures demonstrate that we should not mistake those who make the most noise in the debate for the majority. They explain why Tony Abbott, while giving every impression to his conservative supporters that he is a sceptic, still subscribes to the government's targets for emissions reductions, including the 5 per cent unconditional (we're not waiting for the world) cut and feels compelled to offer his own, albeit partial, solutions. And although climate change may be a lower priority for voters, the polling suggests there is still mileage in Kevin Rudd campaigning on having superior credentials on the issue.

As it happens, public impressions about climate change are not that different from the views of those with professional knowledge on the issue. A poll of 3146 earth scientists at the start of last year found 82 per cent agreed that human activity was a significant contributing factor to changing mean global temperatures. Of the 77 climatologists actively engaged in research, 75 agreed.

For any government to ignore these views would not just be courageous, it would be irresponsible. Tackling climate change remains, in the words of Ross Garnaut, a diabolical problem. An international emissions trading system may be the best solution in theory, but such an internationally binding agreement may be unobtainable and the scheme the Rudd government wants to legislate is so compromised as to render it ineffective. There are plenty of other options. Even if they are more expensive, as premiums for risk insurance they are well worth paying.

## 8. Belief in climate change dives

From: The Australian February 25, 2010

<http://www.theaustralian.com.au/news/world/belief-in-climate-change-dives/story-e6frg6so-1225834031901>

PUBLIC conviction in Britain about the threat of climate change has plummeted after months of questions over the science and growing disillusionment with government action, a leading poll has found. Reports yesterday said the proportion of adults who believed climate change was "definitely" a reality dropped by 30 per cent over the past year, from 44 per cent to 31 per cent, in the latest survey by Ipsos Mori.

Overall, about nine out of 10 people questioned still appeared to accept some degree of global warming, The Guardian reported. But the steep drop in those without doubts raised fears that it would be harder to persuade the public to support actions to curb the problem, particularly higher prices for energy and other goods, the paper said.

The true level of doubt was probably underestimated because the poll questioned only 16 to 64-year-olds, it said. People over 65 were more likely to be sceptical, the researchers said. Another finding by the poll that hinted at a growing lack of public confidence was a significant drop in those who said climate change was caused by human activities, the report said. One year ago, this number was one in three, but this year just one in five people believed global warming to be man-made, pollster Edward Langley told the paper. "It's going to be a hard sell to make people make changes to their behaviours unless there's something else in it for them -- (such as) energy efficiency measures saving money on fuel bills," he said. "It's a hard sell to tell people not to fly off for weekends away if you're not wholly convinced by the links. Even people who are (convinced) still do it."

John Sauven, executive director of Greenpeace, told the paper that fluctuations in public opinion had prompted environment groups to rethink their approach to campaigning -- which had often focused on threats of climate disaster and making people feel guilty for their part in it. "All of us have (talked about these changes)," Mr Sauven said. "A lot of headlines have been grossly distorted, but that doesn't get away from the fact it's quite a complex issue, so we have got to talk about what is engaging and positive in terms of the response (that) can have many benefits to our society, for example energy security."

The shift in public opinion with respect to climate change comes after hackers leaked thousands of emails from a top British research facility showing that some of the world's most influential climatologists had been trying to disguise flaws in their work, blocking scrutiny and plotting together to enforce what amounted to a party line on climate change.

The poll comes after the UN's advisory group, the Intergovernmental Panel on Climate Change, was embarrassed by the revelation some alarming predictions about climate change contained in an influential report that it released in 2007 had little or no scientific basis. But The Guardian said evidence that these events were behind the increased public uncertainty in Britain was mixed.

*Agencies*

## 9. Environment

Battle Lines Drawn as Australia Debates Radioactive Waste Dump

Phil Mercer | Sydney, 03 March 2010

Voice of America

<http://www1.voanews.com/english/news/environment/Battle-Lines-Drawn-as-Australia-Debates-Radioactive-Waste-Dump-86168887.html>

Opposition is growing to government plans to build Australia's first nuclear waste dump, on Aboriginal land in the Northern Territory. Indigenous groups are gathering at a public meeting to debate the controversial proposals. The federal government has identified a remote cattle station north of Tennant Creek as a likely site. The plan has caused serious divisions within the local

indigenous community.

In the next six years, nuclear waste that Australia sent to Europe for reprocessing will be returned when contracts with facilities in France and Scotland expire. Government officials in Canberra have yet to decide where to put it.

Muckaty Station, an isolated property 120 kilometers from Tennant Creek in the Northern Territory, has been identified as a possible site. Local Aborigines have offered to sell the land for \$11 million, a move that has infuriated other indigenous groups in the area, who object to the plan on health and environmental grounds. Those conflicting views are expected to collide at a public meeting in Tennant Creek, an old gold mining town south of Darwin.

Australian Greens Senator Scott Ludlam says the plan to build a radioactive waste dump in the region has become extremely divisive. "It already risks setting families against families and the government has not bothered to try to and bring the whole community along. They have picked off a handful of people, got some signatures and now they are going to try and force it through," he said. "We have had a small ten-megawatt research reactor operating in Australia since the late '50s. The industry and the government never bothered to investigate waste storage scenarios. So now, in 2010, they are now desperately casting around for an Aboriginal community who will take that legacy waste from the last few decades."

Australia's government has said that Muckaty Station would be subject to thorough scientific and environmental assessments. Ministers have indicated that the nuclear dump would not be built if landowners opposed it. Critics believe that recent earthquakes in that part of the Northern Territory have raised serious questions about the safety of the site. The Australian Greens have said that radioactive waste should be stored at the country's only nuclear facility, on the outskirts of Sydney.

Australia's fledgling atomic industry is pushing for the country to build 10 nuclear power stations by 2030, in response to concerns about climate change and the nation's reliance on cheap supplies of coal for electricity generation. About 400 nuclear reactors are in use around the world. In Asia, China, India, Japan, South Korea, Pakistan and Taiwan have embraced the technology, while Indonesia and Thailand have ambitions to join them.

## **10. Nuclear debate won't go away**

Keith Orchison

From: The Australian March 04, 2010

<http://www.theaustralian.com.au/politics/nuclear-debate-wont-go-away/story-e6frgczf-1225836819869>

NUCLEAR power is the issue that won't go away in Australia's climate change policy debate. Recent public opinion polls suggest that as many as one in two of the voters would support the federal Government considering its use in pursuing a goal of cutting 140 million tonnes a year out of national greenhouse gas emissions by 2020.

Prime Minister Kevin Rudd, however, does not see nuclear energy as part of Australia's contribution to dealing with global warming. He has a mantra that has been produced a number of times in recent months in media interviews: "This is an energy-rich country. We have multiple sources of energy. We are working on clean coal initiatives, solar PV initiatives, large scale solar initiatives and renewable energy initiatives. The challenges are to make sure we use these resources as effectively, as environmentally sensitively and as cost effectively as possible. Some countries have no alternative but to use nuclear power. This is not the case in Australia."

Former New South Wales Premier Bob Carr, however, says there is a need for a more clear-headed debate on the nuclear question in Australia. "Those who came of age in the 1980s have closed their minds on the issue," he told a radio program late last year, "but younger people are more open to it because they can see the damage that carbon dioxide is doing. It's coal that's the poison and there's been impressive progress in the handling of nuclear waste and reactor safety."

The issue of building nuclear power stations is particularly relevant to NSW and Queensland. Together, including the ACT, they make the eastern seaboard the largest electricity consumption area in the country -- now using 117,000 gigawatt hours of the 187,000 GWh a year required in the national electricity market that serves all of Australia except Western Australia and the Northern Territory. The Energy Supply Association projects that the demand in NSW and Queensland will rise to more than 150,000 GWh annually by 2018 and industry analysts have forecast that the two states and the ACT will have demand exceeding 250,000 GWh a year by 2030, reflecting population increases and the rise in commercial activity and services, such as schools and hospitals, needed by larger cities. Total national annual demand today is 252,000 GWh and is projected by the Australian Bureau for Agricultural & Resource Economics to exceed 400,000 GWh in 2030. The dominant fuel for power generation by far in NSW and Queensland is black coal, with 52 million tonnes being burned each year to make electricity.

Replacing the coal plants and meeting the surge in demand in the region over the next 20 years from renewable energy and gas -- while a prospect that excites wind farmers, would-be geothermal generators and solar thermal developers as well as gas suppliers -- is perceived in some quarters of the supply sector and politics as being too large an ask. Nuclear power is put forward as the obvious bridge to a heavily decarbonised future in Australia and, in particular, in the black coal states.

The Australian Nuclear Science & Technology Organisation (ANSTO) told the Senate fuel and energy select committee last year that, with national power demand rising by 2 per cent a year and 93 per cent of electricity currently coming from fossil fuels, the problem was so serious that all technologies should be under active consideration. "Australia's energy security from a trade and economic point of view will be severely compromised if nuclear energy is not actively considered," ANSTO argued.

Among those now speaking out for nuclear energy is Peter Cosgrove, the former head of the Australian Defence Force and former Australian of the Year. Speaking to a business breakfast in Perth in February, General Cosgrove said it was "almost immoral" for this country to export uranium to less technologically advanced and stable nations while refusing to have a nuclear power station here. "We are a rich and technologically advanced nation sitting in a geologically stable continent, so surely we can build and safely operate a nuclear power station."

## **11. Only a carbon tax and nuclear power can save us**

James Hansen

From: The Australian March 11, 2010 12:00AM 22 comments

<http://www.theaustralian.com.au/news/opinion/only-a-carbon-tax-and-nuclear-power-can-save-us/story-e6frg6zo-1225839327862>

AUSTRALIA will suffer if fossil fuel use continues unabated. Climate extremes will increase. Poleward expansion of the subtropics will make Australia often hotter and drier, with stronger droughts and hotter fires, as the jet stream retreats southward. But when ocean temperature patterns bring rain, the warmer air will dump much more water, causing damaging floods. Storms will become more devastating as the ice sheets on Antarctica and Greenland begin to disintegrate and cool the neighbouring ocean, as I describe in [my book] *Storms of My Grandchildren*. Ice discharge from Antarctica has already doubled in the past five years. Science has shown that preservation of stable climate and the remarkable life that our planet harbours require a rapid slowdown of fossil fuel emissions. Atmospheric carbon dioxide, now almost 390 parts per million, must be brought back to 350ppm or less. That is possible, with actions that make sense for other reasons.

But the actions require a change to business-as-usual. Change is opposed by those profiting from our fossil-fuel addiction. Change will happen only with courageous political leadership. Leaders must draw attention to the moral imperative. We cannot pretend that we do not understand the consequences for our children and grandchildren. We cannot leave them with a situation spiralling out of their control. We must set a new course. Yet what course is proposed? Hokey cap-and-trade with offsets, aka an emissions trading scheme. Scheme is the right word, a scheme to continue business-as-usual behind a fig leaf.

The Kyoto Protocol was a cap-and-trade approach. Global emissions shot up faster than ever after its adoption. It is impossible to cap all emissions as long as fossil fuels are the cheapest energy. There is zero chance India and China will accept a cap. And why should they? Their emissions, on a per capita basis, are 10 times less than those of Australia or the US. Fossil fuels are not really the cheapest energy. They are cheap because they are subsidised, because they do not pay for damage they cause to human health via air and water pollution, nor their environmental damage and horrendous consequences for posterity.

An honest effective approach to energy and climate must place a steadily rising price on carbon emissions. It can only be effective if it is a simple flat fee on all carbon fuels, collected from fossil fuel companies on the first sale, at the mine, wellhead or port of entry. The fee will cause energy costs to rise, for fossil fuels, not all energies. The public will allow this fee to rise to the levels needed only if the money collected is given to the public. They will need the money to adapt their lifestyles and reduce their carbon footprint. The money, all of it, should be given as a monthly "green cheque" and possibly in part as an income-tax reduction. Each legal adult resident would get an equal share, easily delivered electronically to bank accounts or debit cards, with half a share for children up to two children per family.

Sure, some people may waste their green cheque on booze or babes. Such people will soon be paying more in increased energy prices than they get in their green cheque. Others will make changes to keep their added energy cost low, coming out ahead. There will be strong economic incentive for businesses to find products that help consumers reduce fossil fuel use. Every activity that uses energy will be affected. Agricultural products from nearby fields will be favoured, for example, as opposed to food flown in from half way around the world. Changes will happen as people compare the price tags.

The rising price on carbon will spur energy efficiency, renewable energy, nuclear power, all sources that produce little or no carbon dioxide. Bellyaching howls from coal moguls must be ignored. Let them invest their money in renewable energies and nuclear power. Australia is blessed with abundant nuclear fuel as well as coal. Nuclear power plants are the ideal base-load power for Australia; their excess power in off-peak hours can be used to desalinate water. Power stations can be sited near coastlines, where cooling water is plentiful.

But all potential energy sources must compete, with each other and with energy efficiency. If renewable energies can do the whole job economically, as some people argue, that would be great. Put a price on carbon and let all parts of the private sector compete. Fee-and-green-cheque is simple, designed to do an honest job. Emissions trading, in contrast, is designed by big banks that expect to make billions out of the carbon market. That means out of your pocket; every dollar will come via increased energy prices to the consumer, with no green cheque to soften the blow.

I mentioned that cap-and-trade will never be accepted by developing countries. But why would China accept a carbon price? China does not want to become a fossil fuel addict, with the requirement of protecting a global supply line. It wants to clean up its atmosphere and water. It is investing as fast as its can in wind and solar energy and nuclear power. China knows that these clean energies will boom only if they put a rising price on carbon. It seemed willing to negotiate that approach in Copenhagen, but was handed a cap-and-trade edict. Results were predictable.

What the world needs is a nation that will set an example, stop pandering to special interests, do what is necessary for the people and the rest of the life on the planet. It is a moral issue. We cannot turn our backs on our children and grandchildren. Is it possible that Australia could provide that example, that moral leadership?

*James Hansen is director of the NASA Goddard Institute for Space Studies. He is a guest of the University of Sydney and Intelligence Squared Australia and will speak at the Adelaide Convention Centre tonight.*

## 12. James Hansen keen on next-generation nuclear power

Leigh Dayton, Science writer

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<http://www.theaustralian.com.au/higher-education/james-hansen-keen-on-next-generation-nuclear-power/story-e6frgcjx-1225838858482>

RENEWABLE energy won't save the planet so it's time to go nuclear, according to one of world's most high-profile climate scientists. "We should undertake urgent focused research and development programs in next generation nuclear power," said atmospheric physicist James Hansen, head of NASA's Goddard Institute for Space Studies and adjunct professor at Columbia University's Earth Institute in New York.

While renewable energies such as solar and wind were gaining in economic competition with coal-fired plants, Professor Hansen said they wouldn't be able to provide baseload power for years to come. Even in Germany, which pushed renewables heavily, they generated only 7 per cent of the nation's power.

"It's just too expensive," said Professor Hansen, an expert in climate modelling, planetary atmospheres and the Earth's climate. "Right now, fossil fuels are the cheapest form of energy, except for operating nuclear plants," he said on the first day of a lecture tour in Australia. According to Professor Hansen, because the threat of global warming was so serious, nations such as the US, China and even Australia must crank up support for so-called third and fourth generation nuclear systems.

"Current nuclear plants are the second generation. The third generation is ready to build now," he explained, pointing to conventional light water reactors, which generated heat by the fission of uranium fuel. Two fourth-generation technologies are on the drawing board. Fast reactors use liquid sodium metal as a coolant for the fission of metallic solid fuel, including existing nuclear waste and weapons-grade uranium and plutonium. Thorium reactors use fluoride salt as the medium for the energy-producing nuclear reaction, so they don't require production of fuel rods.

Professor Hansen admitted he was a late convert to advanced nuclear power. "But fourth generation solves two of the problems that made me sceptical," he said. "One is nuclear waste. It uses over 99 per cent of the fuels, while second and third generations use less than 1 per cent, leaving a waste pile with a half-life of 100,000 years. Fourth generation burns almost all the fuel and waste has a half life of decades."

No commercial scale fourth-generation plants exist, but seven nations, including Japan, France and China, have expertise or research and development projects. Which will get their first? "That's an open question," according to Professor Hansen.

## 13. Climate-change panel under scrutiny

Inquiry: Science academies will assess UN's prestigious body

Cheryl Hogue

<http://pubs.acs.org/cen/news/88/i11/8811notw8.html>

A global coalition of national science academies will review how the Intergovernmental Panel on Climate Change (IPCC) operates, United Nations Secretary General Ban Ki-moon announced this week. The InterAcademy Council will convene the review panel, which will operate "completely independently of the UN," Ban said. The details given by Ban flesh out a late-February UN announcement that a probe of IPCC activities would take place (C&EN, March 8, page 8).

Science academies from around the world created the InterAcademy Council in 2000 to provide high-quality peer-reviewed advice to international organizations such as the World Bank and the UN. Its board consists of the presidents of national science academies from 15 countries, including the U.S. IPCC, which shared the Nobel Peace Prize in 2007 for its

assessments of climate-change science, has faced a rising tide of criticism in recent months about its scientific integrity. Controversy continues to swirl around e-mails, originally circulated among prominent scientists who serve on IPCC, that were stolen and posted on a website late last year. And in January, the panel acknowledged that a prediction in its 2007 report that Himalayan glaciers would melt away by 2035 was wrong.

Standing beside Ban as the secretary general announced the review, IPCC Chairman Rajendra K. Pachauri defended the 2007 report, saying its major conclusions “are beyond any reasonable doubt.” The InterAcademy Council review will not delve into IPCC’s past scientific conclusions, said Robbert Dijkgraaf, cochair of the council. Instead, it will offer recommendations for ensuring the quality of IPCC reports in the future, he told reporters.

The review will examine how IPCC handles the “full range” of scientific views on human-induced climate change, said Dijkgraaf, president of the Royal Netherlands Academy of Arts & Sciences. It will also probe IPCC’s guidelines on the types of scientific literature employed in its assessment, paying particular attention to the use of studies that have not been peer reviewed, he said. Also under examination will be IPCC procedures for correcting errors identified after its reports are completed. The UN will pay for the inquiry, but reviewers will be under no obligation to any government, IPCC, or the UN, Dijkgraaf stressed. Reviewers will serve on a volunteer basis, having only their travel and meeting expenses paid for, he said.

Sen. James M. Inhofe (R-Okla.), one of 27 Republican senators who in December 2009 asked Ban to launch an independent investigation of IPCC, welcomed the probe. But Inhofe, an outspoken skeptic of human-induced climate change, said the review won’t go far enough because it won’t scrutinize the scientific data in past IPCC reports.

The reviewers have their work cut out for them: Their report is supposed to be finished by Aug. 31. Dijkgraaf pointed out that IPCC is already gearing up for its next major assessment, and the outcome of the council’s review is expected to influence that process.

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## **14. Hybrid fusion: the third nuclear option**

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THE long-anticipated nuclear renaissance has arrived. In his State of the Union address last month, President Barack Obama announced plans for the US to build a new generation of nuclear power plants, and his budget for 2011 proposes large funding increases for the industry. Several European countries are also likely to restart their nuclear power programmes soon. The UK plans to increase to 20 per cent the proportion of its electricity generated from nuclear.

A return to nuclear power is attractive right now for many reasons. It promises to help cut carbon emissions and reduce imports of fossil fuel. What’s more, unlike renewables, it can ensure a stable baseload electricity supply whatever the weather. However, nuclear energy also creates problems of its own, not least the risk of Chernobyl-style accidents and the production of radioactive waste that takes tens of thousands of years to decay. One thing Obama did not spell out is how the US will deal with a new generation of waste now that it has abandoned plans for a storage facility at Yucca mountain.

There is a way of returning to nuclear while overcoming all these concerns: hybrid nuclear fusion. The concept has been around for decades, and has been discussed in the technical literature and at the International Atomic Energy Agency. But it has not yet been explained to governments, industry, researchers and the public. Hybrid nuclear fusion combines the two forms of nuclear power, fission and fusion, in a single reactor. This has several advantages over fission alone: it minimises the environmental impact, reduces risks, enlarges reserves of nuclear fuel and is more

flexible to operate.

Fission, the process behind conventional nuclear power, harnesses energy from the radioactive decay of uranium and other fissile materials. Fusion, meanwhile, is an experimental technology that extracts energy from processes similar to those occurring inside the sun, where hydrogen atoms are fused together to form helium. "Pure" fusion is often touted as the solution to all our energy problems, and it has undeniable advantages over fission. It produces no long-lived nuclear waste and needs no fuel other than water. But it could take another 50 years to make fusion technically and economically viable - if it can ever be made to work at all.

One problem with fusion is the size of the reactor core. To make a fusion reaction self-sustaining requires a plasma volume of about 3300 cubic metres, more than three times the proposed volume of ITER, the world's most advanced fusion project now under construction in France. Another unsolved issue is how to construct a reactor wall, or "blanket", capable of withstanding intense bombardment from high-energy neutrons generated by the plasma. Materials that can do this do not yet exist.

Hybrid nuclear power potentially solves both these problems. First, the blanket is itself a fission reactor that burns nuclear fuels and generates neutrons. In the process it absorbs high-energy neutrons from the plasma, reducing the energy flux reaching the outer wall by a factor of 50, meaning that existing materials could be used.

Second, a hybrid reactor's plasma ball can be much smaller than in a pure fusion reactor - about the same size as ITER's, in fact - because energy generated by fission can be fed back into the plasma to keep it burning.

Hybrid reactors have other advantages too. One is that the fission reaction can burn a range of fuels, including the long-lived high-level nuclear waste produced in conventional fission reactors. It "transmutates" these waste products into isotopes that decay over a hundred years rather than tens of thousands. Not only does this eliminate some of the nuclear industry's waste problems, it also potentially helps to rid the world of plutonium and other weapons-grade materials.

## **15. Europe's carbon trade in crisis**

From: The Times March 19, 2010 12:00AM

<http://www.theaustralian.com.au/news/world/europes-carbon-trade-in-crisis/story-e6frg6so-1225842554294>

Europe's emissions trading system is in uproar amid a mounting scandal over "recycled" carbon permits. Two carbon exchanges were forced to suspend trading yesterday as panic hit investors fearful they had bought invalid permits.

BlueNext and Nord Pool, the French and Nordic exchanges, suspended trading in certificates of emission reduction (CERs) when it emerged that some had been illegally reused. Concern that used and worthless permits were circulating caused the spot price of the certificates to collapse, from E12 (\$17.80) per tonne of carbon to less than E1. The scare erupted after Hungary said last week it had sold two million CERs submitted by Hungarian companies to satisfy their carbon emission allowances under the EU's emission trading system.

Carbon permits submitted by companies every year to the national register are usually cancelled, but Hungary exploited a loophole that allows trading of CERs, which are issued not by EU governments but by the UN under its Clean Development Mechanism. Investors in the carbon market took fright as it emerged that some of the Hungarian CERs had found their way back into the market despite having been used to meet the carbon targets of Hungarian companies.

The double-counting was threatening confidence in the emissions trading scheme, said energy consultancy Icis Heren. "For companies obliged by law to buy carbon credits . . . government-led carbon credit recycling means they risk buying a worthless asset," it said. The Hungarian government said the used CERs were sold to non-European investors, but BlueNext said it had found some of the suspect CERs trading on its system.

Europe's ETS, intended to create a market incentive for companies to reduce their carbon emissions, has suffered from repeated crises of confidence. At first, too many carbon allowances, known as EUAs, were issued by individual governments, creating a glut and a collapse in the price of carbon. Efforts to tighten up the market have been stymied by recession, which has reduced Europe's overall CO2 output and kept the carbon price low.

Meanwhile, suspicion has dogged the parallel trade in CERs, which are similar to EUAs but issued by the UN to companies that invest in renewable energy projects in the developing world.

A proportion of these CERs can be used by European companies as currency within the emission trading scheme to top up their supply of carbon permits.

However, the Hungarian government's exploitation of the loophole to sell used CERs to raise cash has created confusion about supply and demand in the system and has cast further doubt on the carbon trading market.

*THE TIMES*