

The Week That Was (Sept 19, 2009) brought to you by SEPP

No TWTW on Sept 26. We will be speaking at Princeton University on Sept 25
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Quote of the Week:

"He who refuses to do arithmetic is doomed to talk nonsense." – Prof. John McCarthy
www.formal.stanford.edu/jmc/progress/

THIS WEEK

The (UK) *Guardian* reports on Sept 16, 2009 that Democratic leaders in the US Senate may wait until next year to take up the climate-change bill, because of the need to first settle pending health-care legislation <http://www.guardian.co.uk/environment/2009/sep/16/senate-delay-climate-change-legislation>
 The delay would prevent Barack Obama from delivering on his promise of demonstrating firm US commitment on climate-change action in advance of negotiations at Copenhagen (CPH) next December.

[Earlier, the WashTimes had reported that the once-delayed climate-change legislation had been postponed again, spelling trouble for a top item on President Obama's legislative agenda. In a brief statement, senior Democratic senators involved in the effort said that a draft bill intended to slow global warming wouldn't be ready until late September. The legislation initially was slated to be presented in August.]

But acc. to <<http://online.wsj.com/article/BT-CO-20090910-705807.html>> there is no alternative to a global agreement on 'fighting climate change,' so the chances of securing a deal at a meeting in Copenhagen later this year are 100%, EU Environment Commissioner **Stavros Dimas** claimed during a press conference at which he presented a blueprint for financing the fight against climate change in developing countries. "The EU wants to lead negotiations at the Copenhagen summit in December to reach an international agreement on limiting global warming to two degrees Celsius, compared with pre-industrial temperatures."
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The *Guardian* also pointed to a **growing dispute** between the US and Europe over the way national carbon reduction targets would be counted. Europe has been pushing to retain structures and systems set up under the [Kyoto protocol](#), the existing global treaty on climate change. US negotiators have told European counterparts that the Obama administration intends to sweep away almost all of the Kyoto architecture and replace it with a system of its own design <http://www.guardian.co.uk/environment/2009/sep/15/europe-us-copenhagen>

The **US plan** is likely to anger many in the developing world, who are keen to retain Kyoto because of the obligations it makes on rich countries. Under Kyoto, greenhouse gas reductions are subject to an international system that regulates the calculation of emissions, the purchase of carbon credits and contribution of sectors such as forestry. The US is pushing instead for each country to set its own rules and to decide unilaterally how to meet its target.

The move reflects a "prehistoric" level of debate on climate change in the wider US, according to another high-ranking European official, and anxiety in the Obama administration about its ability to get a new global treaty ratified in the US Senate, where it would require a two-thirds majority vote. The US has not ratified a major international environment treaty since 1992 and President Clinton never submitted the [Kyoto protocol](#) for approval, after a **unanimous** Senate vote in 1997 had indicated it would be rejected on economic grounds.
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India and other developing countries such as **China** believe rich countries should shoulder the main responsibility for mitigating global warming as they have emitted most of the greenhouse gases at the root of the problem. India has repeatedly resisted legally binding cuts arguing that it would hit its economic growth required to lift millions of its billion-plus population from poverty. India's per-capita output is one of the lowest globally as much of the country is without electric power, but it is still in volume terms

among the top five carbon emitters in the world.

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Prof David **Victor** of UCSD, an expert in international environmental treaties makes some novel points in his essay “Plan B for CPH” in *Nature* **461**, 342-344 (17 September 2009)
<http://www.nature.com/nature/journal/v461/n7262/full/461342a.html>

Excerpt: “the hasty Kyoto process crafted a **Clean Development Mechanism (CDM)** that has mushroomed into a political liability. The CDM was designed to encourage greater investment in low-emission technologies in developing countries. But it was obvious even during the sleepless negotiations at Kyoto that the CDM would only work if it included tough rules and strict oversight. With no time and little effort to craft a serious administrative system, the CDM has been a disaster. Many CDM credits do not represent real reductions in emissions, and the CDM excludes some of the best opportunities for emission reductions, such as nuclear power and carbon storage. And because the CDM was designed to reward countries that avoided binding limits on emissions, it has **perversely** made it harder to convince developing countries to make a bigger effort on their own.” [*emphasis added*]

SEPP Science Editorial (by SFS) #29-2009 (9/19/09)
Short-term climate prediction: An unrealistic project

Two widely acclaimed research papers have tried to explain the current lack of warming in terms of natural influences on climate, but have limited their discussion entirely to internal oscillations of the ocean-atmosphere system. **I do not find this explanation satisfactory.** First, there is no theory to account for the various internal oscillations and they do not appear in current climate models. More to the point, the authors neglect the effect of any external forcing from **variable solar activity**. Yet geological evidence conclusively demonstrates such solar-forcing effects on climate; it is difficult to account in other ways for the detailed correlation, observed in stalagmites, between carbon-14, a cosmic-ray produced isotope, and oxygen-18, the conventional indicator of terrestrial climate. While the exact mechanism at work is not completely settled, it is quite unrealistic to assume that this well-established process, which operated for millennia during the Holocene, is no longer operating today.

It is unreasonable also to assume also that two independent forcings are causing decadal-scale climate variations. I am therefore of the opinion that solar activity provides the trigger for the quasi-periodic internal oscillations, like PDO etc, -- which is not a new idea.

In addition, both papers subscribe to the basic (and unsupported) IPCC claim of a substantial anthropogenic contribution from GH gases – contrary to the **NIPCC** summary report “*Nature – Not Human Activity – Rules the Climate*” http://www.sepp.org/publications/NIPCC_final.pdf

1. “Long-term natural variability and 20th century climate change” by Kyle L. Swanson, George Sugihara, and Anastasios A. Tsonis; *PNAS*, 14 September 2009, 10.1073/pnas.0908699106 – expanding on their paper in *GRL* (2009)

Abstract: Global mean temperature at the Earth's surface responds both to externally imposed forcings, such as those arising from anthropogenic greenhouse gases, as well as to natural modes of variability internal to the climate system. Variability associated with these latter processes, generally referred to as natural long-term climate variability, arises primarily from changes in oceanic circulation. Here we present a technique that objectively identifies the component of inter-decadal global mean surface temperature attributable to natural long-term climate variability. Removal of that hidden variability from the actual observed global mean surface temperature record delineates the externally forced climate signal, which is monotonic, accelerating warming during the 20th century.

2. Keenlyside et al. 2008, *Nature* 453, 84 – 88

Coauthor Prof Mojib **Latif**, from the Leibniz Institute of Marine Sciences at Kiel University in Germany, has been looking at the influence of cyclical changes of ocean currents and temperatures in the Atlantic, a

feature known as the North Atlantic Oscillation. When he factored these natural fluctuations into his global climate model, he found the results would bring the rise in average global temperatures to an abrupt halt.

He told more than 1500 gathered in Geneva at the UN's World Climate Conference (WCC-3 Aug 31–Sept 4, 2009) that in the next few years a natural cooling trend would dominate over any warming caused by humans. The NAO is now moving into a colder phase. Breaking with climate-change orthodoxy, he said NAO cycles were probably responsible for some of the strong global warming seen in the past three decades. "But how much? The jury is still out," he told the conference.

Latif claimed that NAO cycles also explained the recent recovery of the Sahel region of Africa from the droughts of the 1970s and 1980s. Few climate scientists go as far as Latif, an IPCC author. But more and more agree that the short-term prognosis for climate change is much less certain than once thought. James Murphy, head of climate prediction at the UK Met Office, agreed and linked the NAO to Indian monsoons, Atlantic hurricanes and sea ice in the Arctic. "The oceans are key to decadal natural variability," he said.

1. [EPA Proposes Illegal Rule – Marlo Lewis](#)
2. [The Cap-and-Trade Bait and Switch – Wall Street Journal](#)
3. [Climate Cools for Global Warming Party – Carbon Sense](#)
4. [Doom is Abuilding as we Approach Copenhagen](#)
5. [The Dirty Reality Behind Solar Power – South China Morning Post](#)
6. [Forecasting the Earth's Temperature – David Whitehouse](#)
7. [Thermageddon? Postponed! – The Register](#)
8. [Lomborg's Skepticism Doesn't Extend to IPCC –Lawrence Solomon](#)

NEWS YOU CAN USE

Our next TWTW will reveal the final agreement reached at the COP-15 conference. The Copenhagen accord will be unanimous -- a 'triumph' of international diplomacy. It will also be meaningless.

Green zealots and muddled ministers leading Britain to blackouts adequately describes the foolishness that is happening in other parts of the world: <<<http://www.dailymail.co.uk/debate/article-1210569/CHRISTOPHER-BOOKER-Green-zealots-muddled-ministers-condemning-blackouts.html#comments>>>.

Scientists find CO2 link to Antarctic ice cap origin - Yahoo! News

Find "mysterious" drop in CO2 as ice cap forms 34 million years ago

http://news.yahoo.com/s/nm/20090914/sc_nm/us_climate_antarctica_co2

SEPP says: There's no way to distinguish cause from effect from the data: if oceans cooled first (as seems likely), CO2 would rapidly be absorbed.

Temp change preceding CO2 is nicely demonstrated by Joanne Nova, author of *The Skeptic's Handbook*.

The original graphs are here: <http://joannenova.com.au/wp/global-warming/ice-core-graph/>

Data from: <http://cdiac.ornl.gov/ftp/trends/temp/vostok/vostok.1999.temp.dat>

<http://cdiac.ornl.gov/ftp/trends/co2/vostok.icecore.co2>

More CO2 is good for you, says Leighton Steward, author of the popular *Fire, Ice and Paradise*

<http://plantsneedco2.org/default.aspx/MenuItemID/294/MenuGroup/WhyCO2IsGood.htm>

So why would developing nations expect **reparations** from industrialized ones?

They should forget about climate effects from CO2 emissions. The best scientific studies show no appreciable contribution from CO2 and natural forcing dominating climate change.

But have they considered the direct effects of CO2 on improving agricultural productivity -- based on sound science and demonstrated with actual experimental results?

See here the full NIPCC report by Craig Idso and S. Fred Singer, *Climate Change Reconsidered: The 2009 Report of the Nongovernmental International Panel on Climate Change*, Chicago, IL: The Heartland Institute, 2009. 880 pp. www.nipccreport.org

Maybe developing nations should owe us for raising CO2 levels -- not to mention all the other benefits of Western science for human health and welfare. And maybe **we should all thank China and India** for putting more CO2 into the atmosphere.

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 "Carbon is the world's best friend" is on *Scoop* (currently No. 1 on Sci-Tech Most Read):

<http://www.scoop.co.nz/stories/SC0909/S00032.htm>

New **nukes** for sustainable energy! <http://online.wsj.com/article/SB10001424052970204409904574350342705855178.html>

Newsweek's Begley Flunks Calculus, Science and Politics

By Joseph D'Aleo, *Energy Tribune*, September 15, 2009

<http://icecap.us/index.php/go/joes-blog>

The number of endorsers of the [Manhattan Declaration on Climate Change](#) has just passed the 1,400 mark, over 800 of them well qualified in science and technology.

The British public has become more sceptical about climate change over the last five years, according to a survey. See the latest upload at <http://www.climatescienceinternational.org/> ..

Twice as many people now agree that "claims that human activities are changing the climate are exaggerated". Four in 10 believe that many leading experts still question the evidence. **One in five are "hard-line sceptics"**.

BELOW THE BOTTOM LINE

The BBC reports: **Doctors warn on climate failure**

Failure to agree a new UN climate deal in December will usher in a "global health catastrophe", according to medical leaders. <http://news.bbc.co.uk/2/hi/science/nature/8257766.stm>

World Bank urges 'climate action now'

Rich countries must lift climate change spending and accept responsibility for their historical emissions, says the World Bank. <http://news.bbc.co.uk/2/hi/science/nature/8256961.stm>

The full financing package that the bank believes is likely to be needed annually by 2030 includes:

- \$75bn to help poorer nations adapt to, or protect themselves against, climate impacts
- \$400bn for mitigation - reducing emissions - in the developing world
- Hundreds of billions for energy research and development

Condoms to combat climate change? Shades of 1972 and the Club of Rome!

<http://www.washingtonpost.com/wp-dyn/content/article/2009/09/14/AR2009091403308.html?wpisrc=newsletter>

A new study performed by the London School of Economics suggests that, to fight climate change, governments should focus on another pollutant: us. As in babies.

Every new life, the report says, is a guarantee of new greenhouse gases, spewed out over decades of driving and electricity use. Seen in that light, we might be our own worst emissions.

Meanwhile, we mourn the death of Dr Norman **Borlaug**, the man who defused the population bomb

<http://online.wsj.com/article/SB10001424052970203917304574411382676924044.html>

A United Kingdom tribunal [ruled](#) that belief in manmade global warming had the same status as a religious conviction <http://minx.cc/?post=292012> Company practices that discriminate against employees with strongly held views on climate change will be challenged in the courts.

Senior executive Tim Nicholson claimed he was unfairly dismissed because his views on the

environment conflicted with other managers' "contempt for the need to cut carbon emissions"



1. EPA PROPOSES ILLEGAL RULE

by Marlo Lewis, Senior Fellow, [Competitive Enterprise Institute](#)
[OpenMarket.org](#), September 2, 2009 <http://go.cornwallalliance.org/t/r/1/ddltlj/mjylrkiy/e>

Yesterday, the U.S. Environmental Protection Agency (EPA) sent a draft proposed rule to the Office of Management and Budget (OMB) that would exempt small emitters of carbon dioxide (CO2) from Clean Air Act (CAA) pre-construction permitting requirement, [Greenwire reports](#).

The proposed rule, as described in Greenwire, is blatantly illegal. It is a tacit admission that the Supreme Court decision in [Massachusetts v. EPA](#) set the stage for an economic disaster. It is additional evidence that [Mass v. EPA](#) was wrongly decided. It confirms CEI's warning that the Court's ruling imperils a core constitutional principle: the separation of powers. . . .

. . . establishing GHG emission standards for new motor vehicles will by definition make CO2 a CAA-regulated air pollutant. As such, CO2 would automatically be subject to regulation under the Act's Prevention of Significant Deterioration (PSD) pre-construction permitting program (CAA Sec. 165). Under the CAA, any firm that plans to build a new major stationary source, or modify an existing major source in a way that would significantly increase emissions, must first obtain a PSD permit from EPA or a state environmental agency.

A PSD source is major if it is in one of 28 listed categories and has a potential to emit 100 tons per year (TPY) of an air pollutant, or if it is any other type of establishment and has a potential to emit 250 TPY (CAA Sec. 169).

And there's the rub. Whereas only large industrial facilities have a potential to emit 250 TPY of air contaminants such as sulfur dioxide or particulate matter, an immense number and variety of entities -- office buildings, hotels, big box stores, enclosed malls, small manufacturing firms, even commercial kitchens -- have a potential to emit 250 TPY of CO2. A September 2008 [report](#) commissioned by the U.S. Chamber of Commerce estimates that 1.2 million buildings and facilities, most of them currently unregulated under the CAA, actually emit 250 TPY of CO2. All would be vulnerable to new PSD regulation, controls, paperwork, penalties, and litigation. . . .

[Read the rest.](#)

H/t Cornwall Alliance Newsletter

2. THE CAP-AND-TRADE BAIT AND SWITCH

by David Schoenbrod and Richard B. Stewart
Professor, New York Law School (Schoenbrod); Professor of Law, New York University (Stewart)
[Wall Street Journal](#), August 24, 2009 <http://go.cornwallalliance.org/t/r/1/ddltlj/mjylrkiy/jd>

As a candidate for president in April 2008, Barack Obama told Fox News that "a cap-and-trade system is a smarter way of controlling pollution" than "top-down" regulation. He was right. With cap and trade the market decides where and how to cut emissions. With top-down regulation, as Mr. Obama explained, regulators dictate "every single rule that a company has to abide by, which creates a lot of bureaucracy and red tape and often-times is less efficient."

It's no wonder that the House advertises its American Clean Energy and Security Act of 2009 (also known as the Waxman-Markey bill) as "cap and trade." And last Thursday a coalition of environmental groups and unions launched a "Made in America Jobs Tour" to sell it as a ticket to "long-term economic prosperity." But the House bill would, if passed by the Senate this autumn, fail the environment and fail the test of economic efficiency..

Waxman-Markey is largely top-down regulation dressed in cap-and-trade clothing. It purports to set a cap on greenhouse gases, but the cap is so loose in the early years that through the use of cheap offsets the U.S. need not significantly reduce its fossil-fuel emissions until about 2025. Then the bill would require a nosedive in fossil-fuel emissions. This balloon mortgage pledge of big cuts later is unlikely to be kept.

The top-down directives come in three forms. First, electric utilities, automakers and states get free allowances on the condition that they comply with regulations requiring coal sequestration, alternative energy sources, energy conservation, advanced auto technology and more. Second, many other provisions of the 1,428 page bill mandate outright regulation on subjects ranging from how electricity is generated to off-road vehicles and household lighting. Third, still other provisions provide subsidies for government-chosen technology "winners" such as alternate energy sources, plug-in vehicles and weatherization of old buildings. . . .

3. CLIMATE COOLS FOR GLOBAL WARMING PARTY

By Carbon Sense(Australia) -- Opposing pollution of the atmosphere and the mind

For years we have watched in wonder and disbelief as this GW party got into full swing:

- First came the party-planning committees from among the old reds and greens in Greenpeace, WWF, Sierra and their various Fabian friends.
- Then they created the party bureaucracy with its own impressively named exclusive club, the Intergovernmental Panel on Climate Change.
- Then they extracted the money from parent governments for the recruitment of academics to produce the supporting literature.
- Then came the promotion group tours to various hardship locations like Rio, Kyoto, Bali, Geneva and Paris.
- Finally we are approaching the big party itself, planned for Copenhagen in December 2009 with all parent governments invited. The highlight planned for the December party is the birth of Son of Kyoto, to be named Copenhagen. The plan is to get all parent governments so excited that they will participate in a mass adoption ceremony, pledging eternal parental support for Copenhagen.

Our job is to make sure Australia (and USA and NZ) sign nothing in December so that Copenhagen does not sponge on us but stays with his parents in Old Europe where he was conceived.

4. DOOM IS ABUILDING AS WE APPROACH COPENHAGEN.

Professor Bill McGuire, Director of the Benfield Hazard Research Centre at University College London warned that earth's future could be explosive. He told Sky News Online: "Climate change is very doom and gloom, I'm afraid, and it's one of those problems that the closer we look at it the worse it seems to get." "If you want some faint glint of good news from this I suppose that if we see a big volcanic response, the gases pumped into the atmosphere will cool things down at least temporarily, but that's not recommended. "We need to be cutting emissions, not waiting for all the volcanoes on the planet to erupt."

"Geologists are particularly concerned about the planet's deposits of methane - a greenhouse gas 25 times more powerful than carbon dioxide - stored underneath the permafrost. As the ice melts, a build-up of methane hydrates in the atmosphere would accelerate the process of climate change.

Other 'experts' warn that disintegrating glaciers could cause earthquakes, triggering tsunamis off Chile, New Zealand and Canada, perhaps even sending one across the Atlantic capable of reaching British shores. Professor David Tappin of the British Geological Survey said: "If the temperatures

warm and the oceans warm then the hydrates at the sea bed will melt. They will melt catastrophically and in so doing they'll be forced into the atmosphere but also, they will create submarine landslides which could trigger a tsunami."

The geological conference is the latest in a series of scientific gatherings organised in the run up to the UN's climate change conference in Copenhagen in December.

<http://news.sky.com/skynews/Home/UK-News/University-College-London-UCL---Geological-Climate-Change-Conference-Warns-Of-Tsunamis-And-Eruptions/Article/200909215381556?lpos=UK_News_Top_Stories_Header_2&lid=ARTICLE_15381556 University College London UCL - Geological Climate Change Conference Warns Of Tsunamis And Eruptions>

But global models of how changes in the climate bring about changes in geological activity just don't exist, said David Pyle, a volcano expert from the University of Oxford, UK, who spoke at the meeting http://www.nature.com/news/2009/090917/full/news.2009.926.html?s=news_rss

SEPP says: Yet all the evidence shows that climate change is naturally caused – and anyway, it's currently cooling.
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Climate Models May Show Cooling: UK Met Office, 14 September 2009:

<http://7thspace.com/headlines/319950/global_warming_continues_to_pose_a_real_threat_that_should_not_be_ignored.html>

Global warming continues to pose a real threat that should not be ignored -- a claim reinforced in a new study by scientists reported in a supplement of the August issue of the Bulletin of the American Meteorological Society. This is despite very small global temperature rises over the last 10 years. Met Office Hadley Centre scientists investigated how often decades with a neutral trend in global mean temperature occurred in computer modelled climate change simulations. They found that despite continued increases in greenhouse gas concentrations, a single-decade hiatus in warming occurs relatively often.

Jeff Knight, the article's lead author, commented: "We found about 1 in every 8 decades has near-zero or negative global temperature trends in simulations which would otherwise warm at expected present-day rates. Given that we have seen fairly consistent global warming since the 1970s, these odds suggest the observed slowdown was due to occur."

5. THE DIRTY REALITY BEHIND SOLAR POWER

Stephen Chen, The South China Morning Post, 10 September 2009

<<http://www.scmp.com/portal/site/SCMP/>>

A beaming Tony Blair posed for television cameras holding a sleek, shiny solar panel as smiling officials and film star Jet Li looked on. They announced an ambitious plan to bring modern, clean power to the world's poor. In the next five years, the programme would bring solar-powered street lamps to 1,000 villages in China, India and Africa, where people are so poor they still do not generate any of the greenhouse gases blamed for global warming. The plan was announced at a factory in Guizhou in southwestern China - one of its poorest provinces.

But would Blair, the former British prime minister, and Li have been smiling if they had known a factory must burn more than 40kg of coal to produce the panel - one metre by 1.5 metres - they were holding? Forty kilograms might not sound much. But even the country's least efficient coal-fired power plant would generate 130 kilowatt-hours of electricity burning that amount - enough power to keep a 22 watt LED light bulb beaming 12 hours a day for 30 years. A solar panel is designed to last just 20 years.

Jian Shuisheng, a professor of optical technology at Beijing Jiaotong University, estimates it takes 10kg of polysilicon to produce a solar panel with a capacity of one kilowatt - just enough to generate the energy to keep a fridge cool for a day.

Like Blair and Li, many consumers, as well as corporations, in developed countries are buying mainland-made solar panels in the belief that using them will help slow the pace of global warming. Demand for solar panels has risen rapidly in the past few years, creating a US\$100-billion-a-year market for panels and related industrial materials.

Five years ago, mainland production of polysilicon - the key component of solar panels - was negligible. Today, it is the world's leading producer of the material, and last year churned out 4,000 tonnes - 80 times as much as in 2004. This year the government expects output to soar to 30,000 tonnes and projects that by 2011 it will reach a jaw-dropping 150,000 tonnes. At least 16 provinces began building 33 polysilicon production plants last year, newspaper the 21st Century Economy Review has reported.

But far from saving the world, the production of solar panels is aggravating pollution and adding to energy consumption. Mainland government officials have known this for years, but not until the global economic crisis made a big dent in demand for solar panels did they openly admit that the "green business" could be dirty sometimes - and seek to regulate the market.

Such hasty expansion is not confined to the production of solar panels. From installing wind power to the production of vehicles running on alternative fuels, bubbles exist throughout the new-energy sector.

Senior officials at the National Development and Reform Commission, the key economic ministry, have spoken many times of the need for higher entry barriers - from curbs on bank lending to more frequent environmental checks - to prevent firms and local governments rushing into the sector and avoid overexpansion. But their warnings went unheeded: many provinces are already building some of the world's biggest solar power projects. And they will not stop, because they have invested more than 100 billion yuan (HK\$114 billion) in the projects.

Dr Dang Qingde, deputy head of the department of labour safety of the Centre for Disease Control in the city of Leshan in Sichuan, measured the amount of toxic chemicals in the air at a polysilicon plant in September 2007. Leshan is one of a handful of cities to have imported polysilicon production lines from overseas. The plant in the city is capable of producing 1,500 tonnes of polysilicon a year. The factory is clean and quiet. Grass and trees grow between its buildings.

Using a hand-held device, Dang found more than 10 poisonous substances - from ammonia, the effects of which are relatively mild, to the lung-eating trichlorosilane - but all at levels within the safe limits decreed by Beijing. Nevertheless, he wrote a report in which he rated the workplace "highly hazardous".

"A shiny polysilicon plant is like a shiny bomb. It may look clean and innocent, but you don't want to have one in your neighbourhood," he said.

What made Dang nervous was the presence of chlorine. The chemical is used at almost every stage of the manufacturing process. Chlorine can not only turn your blood into hydrochloric acid, but also interact with other chemicals - such as silicon - to form more deadly poisons, he found. Dang published his findings in an academic journal, despite opposition from the plant's management, in the hope it would draw the attention of others to the environmental issues in polysilicon production.

Since the first polysilicon factory opened in Leshan, more have followed. Now it is one of the biggest polysilicon production centres on the mainland. Output rose by more than 300 per cent in two years. To Dang's relief, this has not led to calamity.

Still, that is not the case elsewhere. Emissions from the Huafu Silicon Company's plant in Liancheng county, in the southeastern province of Fujian, polluted the air and water in a village, causing violent clashes with farmers. The company says the pollution was accidental. There will be more such cases because mainland factories are using old-fashioned, energy intensive and highly polluting equipment, says Jian, the Beijing Jiaotong University professor, who is a member of the Chinese Academy of Sciences.

Extracting pure silicon is a tedious business, the professor said. In the 1950s, engineers at German

engineering giant Siemens discovered that by putting hydrogen, chlorine and raw silicon in an oven and heating them up until they vaporised, they could get rid of some unwanted chemical elements. They repeated the process until they got 99.9999999 per cent pure polysilicon - just pure enough to make solar panels. Half a century later, most of the polysilicon makers in the world still use this method.

The professor described what happened to the polysilicon after that. A very fine length of wire is used to slice a block of polysilicon into very thin pieces. But they are not yet thin enough. The polysilicon sheets are sanded down until they are 200 micrometres thick - a process that turns 40 per cent of the polysilicon into waste that cannot be recycled.

Dr Wan Gang, minister of science and technology, said the mainland was burning a lot of coal to produce solar panels for Western countries. "Developed countries get clean air and the reputation of a carbon-free economy, while pollution and greenhouse gas emission are chalked up to our account," Wan said. "That's a bit unfair."

According to Jian's calculations, almost 30 million tonnes of coal, or more than 1 per cent of the mainland's output of coal last year, will be needed to keep the ovens of all the polysilicon plants hot.

With production expanding and demand falling, the price of polysilicon is collapsing. A kilogram sold for US\$350 last year; this year the price has dropped to US\$70 - barely enough for the factories to pay their power bills. Faced with the prospect of the mainland's polysilicon industry collapsing, Premier Wen Jiabao issued an urgent order two weeks ago for production capacity to be reduced. But most people in the industry think this action has come too late.

People's Daily published a story last week about a plan to build Asia's biggest solar power plant in Yunnan province. It will have a capacity of 166 megawatts. If two tonnes of coal is needed to produce a one-kilowatt solar panel, how big will the plant's carbon footprint be?

H/t to CCNet

6. FORECASTING THE EARTH'S TEMPERATURE

David Whitehouse <me@davidwhitehouse.com>

<<http://www.staff.livjm.ac.uk/spsbpeis/Whitehouse2009c.htm>>

The recent spate of scientific papers that are attempting to predict what the earth's temperature might be in the coming decades, and also explain the current global temperature standstill, are very interesting because of the methods used to analyse temperature variations, and because they illustrate the limitations of our knowledge.

Recall that only one or two annual data points ago many scientists, as well as the most vocal 'campaigners,' dismissed the very idea that the world's average annual temperature had not changed in the past decade. Today it is an observational fact that can no longer be ignored. We should also not forget that nobody anticipated it. Now, post facto, scientists are looking for an explanation, and in doing so we are seeing AGW in a new light.

The main conclusion, and perhaps it's no surprise, to be drawn about what will happen to global temperatures is that nobody knows.

The other conclusion to be drawn is that without exception the papers assume a constantly increasing AGW in line with the increase of CO₂. This means that any forecast will ultimately lead to rising temperatures as AGW is forever upward and natural variations have their limits. But there is another way of looking at the data. Instead of assuming an increasing AGW why not look for evidence of it in the actual data. In other words let the data have primacy over the theory.

Lean and Ride try to isolate and analyse the various factors that affect decadal changes in the temperature record; El Nino, volcanic aerosols, solar irradiance and AGW. Their formula that links these factors together into a time series is quite simple (indeed there is nothing complicated about any of the papers

looking at future temperature trends) though in the actual research paper there is not enough information to follow through their calculations completely.

El Nino typically produces 0.2 deg C warming, volcanic aerosols 0.3 deg C cooling on short timescales, solar irradiance 0.1 deg C (I will come back to this figure in a subsequent post) and the IPCC estimate of AGW is 0.1 deg C per decade.

It should also be noted that natural forces are able to produce a 0.5 deg C increase, although over a longer period. The 0.5 deg C warming observed between say 1850 and 1940 is not due to AGW.

The temperature increase since 1980 is in fact smaller than the rise seen between 1850 - 1940, approx 0.4 deg C. This took place in less than two decades and was followed by the current standstill. A fact often overlooked is that this recent temperature increase was much greater than that due to the postulated AGW effect (0.1 deg C per decade). It must have included natural increases of a greater magnitude.

This is curious. If the recent temperature standstill, 2002-2008, is due to natural factors counteracting AGW, and AGW was only a minor component of the 1980 -1998 temperature rise, then one could logically take the viewpoint that the increase could be due to a conspiracy of natural factors forcing the temperature up rather than keeping the temperature down post 2002. One cannot have one rule for the period 2002 - 2008 and another for 1980 -1998!

Lean and Rind estimate that 73% of the temperature variability observed in recent decades is natural. However, looking at the observed range of natural variants, and their uncertainties, one could make a case that the AGW component, which has only possibly shown itself between 1980 - 98, is not a required part of the dataset. Indeed, if one did not have in the back of one's mind the rising CO2 concentration and the physics of the greenhouse effect, one could make out a good case for reproducing the post 1980 temperature dataset with no AGW!

Natural variations dominate any supposed AGW component over timescales of 3 - 4 decades. If that is so, then how should we regard 18 years of warming and decades of standstills or cooling in an AGW context? At what point do we question the hypothesis of CO2-induced warming?

Lean and Rind (2009) look at the various factors known to cause variability in the earth's temperature over decadal timescales. They come to the conclusion that between 2009-14 global temperatures will rise quickly by 0.15 deg C - faster than the 0.1 deg C per decade deduced as AGW by the IPCC. Then, in the period 2014-19, there will be only a 0.03 deg C increase. They believe this will be chiefly because of the effect of solar irradiance changes over the solar cycle. Lean and Rind see the 2014-19 period as being similar to the 2002-8 temperature standstill -- which they say has been caused by a decline in solar irradiance counteracting AGW.

This should case some of the more strident commentators to reflect. Many papers have been published dismissing the sun as a significant factor in AGW. The gist of them is that solar effects dominated up to 1950, but recently it has been swamped by AGW. Now however, we see that the previously dismissed tiny solar effect is able to hold AGW in check for well over a decade - in fact forcing a temperature standstill of duration comparable to the recent warming spell.

At least the predictions from the various papers are testable. Lean and Rind (2009) predict rapid warming. Looking at the other forecasts for near-future temperature changes we have Smith et al (2007) predicting warming, and Keenlyside et al (2008) predicting cooling.

At this point I am reminded that James Hansen 'raised the alarm' about global warming in 1988 when he had less than a decade of noisy global warming data on which to base his concern. The amount of warming he observed between 1980 and 1988 was far smaller than known natural variations and far larger than the IPCC would go on to say was due to AGW during that period. So whatever the eventual outcome of the AGW debate, logically Hansen had no scientific case.

There are considerable uncertainties in our understanding of natural factors that affect the earth's temperature record. Given the IPCC's estimate of the strength of the postulated AGW warming, it is clear that those uncertainties are larger than the AGW effect that may have been observed.

References:

Lean and Rind 2009, *Geophys Res Lett* 36, L15708

Smith et al *Science* 2007, 317, 796 - 799

Keenlyside et al 2008, *Nature* 453, 84 – 88

H/t to CCNet

7. THERMAGEDDON? POSTPONED!

By Andrew Orłowski, *The Register*, 9 September 2009

<http://www.theregister.co.uk/2009/09/09/climate_change_not_warmer/>

The New Scientist has given weight to the prediction that the planet is in for a cool 20 years - defying the computer models and contemporary climate theory. It's "bad timing", admits the magazine's environmental correspondent, Fred Pearce.

Mojib Latif of the Leibniz Institute of Marine Sciences at Kiel University, quoted by the magazine, attributes much of the recent warming to naturally occurring ocean cycles. Scientific study of the periodic ocean climate variability is in its infancy; for example the PDO, or Pacific Decadal Oscillation, was only described in the late 1990s. It's the Leibniz team which predicted a forthcoming cooling earlier this year - causing a bullying outbreak at the BBC.

"We have to ask the nasty questions ourselves or other people will do it," Latif told the magazine.

A historical comparison of recent warming contrasts the UN IPCC accounts of Thermageddon - based on climate models - with the post-1800 trend, which shows a gradual warming. Little seems out of place in recent times except the predictions, says Dr Syun Akasofu, Founding Director of the International Arctic Research Center of the University of Alaska-Fairbanks and former director of the Geophysical Institute.

Akasofu says multi-decadal oscillations, discovered within the past decade, account for the variability.

Earlier this summer a mathematical study also predicted cooling, and won an unusual endorsement from the Real Climate website, the blog founded by Al Gore's PR company and staffed by advocates of the manmade climate change theory.

In a paper entitled "Has the climate recently shifted?" Professor Kyle Swanson and Anastasios Tsonis, mathematicians at the University of Wisconsin-Milwaukee, accepted for publication in the journal *Geophysical Research Letters*, the authors engage with the problem that temperatures have failed to follow the predictions made by computer climate models.

It excited climate sceptics, but I'm not sure why.

In the paper, Swanson and Tsonis correlated data from the ENSO, the Pacific Decadal Oscillation, the North Atlantic Oscillation, and the North Pacific Index and found that synchronisations occurred four times - in 1910-20; 1938-45; 1956-60; and 1976-1981. After three of these, the climate shifted too. When coupling between the systems was high, climate invariably changed.

The recent cooling, which they suggest started in 2001, is an indicator of a phase shift. (Others point out that discounting the freak El Nino weather event of 1998, which raised temperatures by 0.2C, there has been no statistically significant warming since 1995.)

This cooling, which appears unprecedented over the instrumental period, is "suggestive of an internal shift of climate dynamical processes that as yet remain poorly understood," they wrote.

"The apparent lack of a proximate cause behind the halt in warming post 2001/02 challenges our understanding of the climate system, specifically the physical reasoning and causal links between longer time-scale modes of internal climate variability and the impact of such modes upon global temperature... the possibility of near constant temperature lasting a decade or more into the future must at least be entertained..."

This overshoot is in the process of radiatively dissipating, and the climate will return to its earlier defined, greenhouse gas-forced warming signal. If this hypothesis is correct, the era of consistent record-breaking global mean temperatures will not resume until roughly 2020," Swanson wrote.

The confidence that higher atmospheric CO2 levels will result in significant long-term increases in temperature is founded on knock-on effects, or positive feedbacks, amplifying the CO2 effect. Large positive feedbacks imply "runaway" global warming - aka Thermageddon.

But even the basics are fiercely contested. Does a warmer climate mean more or fewer clouds, and do these trap even more heat, or act as a sunshade, cooling it back down again? Clouds are so poorly understood, you can take your pick. So if the climate isn't getting warmer, the theory requires the view that the energy must be "hiding" somewhere, mostly likely in oceanic heat sinks.

But neither the feedbacks, nor the oceans, are currently being kind to contemporary climate theory.

8. HEY BIG SPENDER - WHERE'S THE SKEPTICISM?

By Lawrence Solomon, Financial Post, 8 September 2009

<http://network.nationalpost.com/np/blogs/fpcomment/archive/2009/09/08/lawrence-solomon-where-s-the-skepticism.aspx>

Bjorn Lomborg, the skeptical environmentalist, has yet to apply his thinking to premises of climate change.

First assume that, on behalf of the global community, you must spend \$250-billion a year on something that, while not entirely worthless, promises to give you almost no bang for the buck. Something that came 10th in a list of 10 global challenges.

Next, take on the task of finding the least-worst ways to spend that \$250-billion.

Then, unveil your list of least bads, as well as the very baddest bads to government leaders, knowing that they think you have it all upside down - they view your lowest priorities as their highest, and your baddest bads as the bestest goods.

The "you" in this tale of masochism is Denmark's Bjorn Lomborg, a.k.a. The Skeptical Environmentalist, and the "something" that came dead last in his list of 10 global challenges was climate change. In 2004, Lomborg and his Copenhagen Consensus Center asked a distinguished panel of economists to weigh the usefulness of stepping up action on 10 global challenges: civil conflicts; climate change; communicable diseases; education; financial stability; governance; hunger and malnutrition; migration; trade reform; and water and sanitation. He then asked his panel to answer the following question: "What would be the best ways of advancing global welfare, and particularly the welfare of developing countries, supposing that an additional \$50-billion of resources were at governments' disposal?"

The panel decided that the money could be best spent on new measures to prevent the spread of HIV/AIDS, where \$27-billion could avert nearly 30 million new infections by 2010. A close second on the list of priorities was hunger and malnutrition, where a mere \$12-billion spent on food supplements would work wonders reducing iron-deficiency anaemia.

Dead last on the panel's list was climate change: No matter how the panel looked at the proposals on the table, it found no way to spend money intelligently to solve climate change, even though it accepted as given that climate change was a bona fide concern.

Government leaders, unimpressed, decided to press on with their plans to spend billions on their climate change priorities. So, Lomborg, in an attempt to minimize the damage they could do, decided to make the best of a bad bargain. He would again assemble a panel, this time accepting as given that \$250-billion a year must be spent on climate change.

Yesterday, his new panel came out with recommendations for how governments can minimize the harm they're planning to inflict on the globe in pursuit of alleviating harm from climate change. The least bad thing governments can do involves geo-engineering the planet, possibly by spraying salt water over the oceans at a cost of a mere \$9-billion, in the process creating cloud cover that will help cool the Earth. To guard against the potential for inadvertently damaging the planet in the process, and to see if the spraying technology could actually work, it would be preceded by 10 years of research. The panel's next least bad recommendation is R&D into carbon-free energy technologies that are immature, such as nuclear, fusion and geothermal.

Just about the worstest of the baddest ideas of all, the panel found, are exactly what attract many governments - carbon taxes. The very worstest of all - cap and trade schemes of the kind Europe has in place and the U.S. is planning - were too terrible to even consider seriously.

Lomborg deserves his reputation as The Skeptical Environmentalist - his books poke holes in many dogmas society holds dear, often through the use of statistics. But I find he's not skeptical enough. While he has expended great effort over many years questioning proposed solutions to climate change, he has yet to apply skeptical thinking to the very premise that manmade climate change even belongs on his list of global challenges. He claims, without an iota of skepticism that "almost all researchers are telling us this is manmade." This statistician should test this belief, which is at the core of his work, in the same way that he tests the dogmas of those he takes on. A truly skeptical environmentalist would.

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