

ENVIRONMENTAL ENGINEERING NEWSLETTER

26 AUG. 2013

Please be aware any Newsletter URL ending in **020701.pdf** and **020610.pdf** are available for downloading only during the six days following the date of the edition. If you need older URLs contact George at ghh@att.net.

Please Note: This newsletter contains articles that offer differing points of view regarding climate change, energy and other environmental issues. Any opinions expressed in this publication are the responses of the readers alone and do not represent the positions of the Environmental Engineering Division or the ASME.

George Holliday

This week's edition includes:

1) ENVIRONMENT – A. ENVIRONMENTAL APPEALS BOARD REJECTS SIERRA CLUB CHALLENGE TO GHG BACT

On August 2, 2013, the Environmental Appeals Board ("EAB") issued an order that affirmed EPA Region 9's determination that best available control technology ("BACT") for greenhouse gases ("GHGs") for a peaking plant need not include combined-cycle gas turbine technology. Sierra Club had challenged the Region 9 BACT determination on grounds that Region 9 improperly rejected combined-cycle technology as BACT for the Pio Pico Energy Center in San Diego, California.

The decision is significant because it affirms that a BACT analysis should not be allowed to fundamentally redefine the source. This could be significant as Sierra Club continues to file comments on GHG draft permits issued to Texas sources by EPA Region 6. As described in TIP 2013-137, filing comments on a draft permit is one way that Sierra Club can perfect a right to appeal the permit's issuance to the EAB.

The Pio Pico Energy Center order is attached

B. UNITED STATES CONGRESS BICAMERAL TASK FORCE ON CLIMATE CHANGE IMPLEMENTING THE PRESIDENT'S CLIMATE ACTION PLAN:

U.S. DEPARTMENT OF ENERGY

ACTIONS THE DEPARTMENT OF ENERGY SHOULD TAKE TO ADDRESS CLIMATE CHANGE

Executive Summary

In June, the President released his Climate Action Plan for using existing authorities to address climate change. The Department of Energy (DOE) will play a crucial role in implementing this plan. The plan called on DOE to establish new minimum energy efficiency standards for appliances and equipment, improve the efficiency of commercial and industrial buildings, provide loan guarantees to advanced fossil energy projects, and support a government-wide quadrennial energy review.

This report recommends 20 concrete steps DOE should take in carrying out the President's Climate Action Plan. These recommendations are based on suggestions submitted to the Bicameral Task Force on Climate Change by over 200 groups ranging from environmental organizations and efficiency advocates to electric utilities and Fortune 500 companies. They also reflect input from former DOE officials, leading academics, and experts from think tanks **(This report contains no supporting data, nor technical references to support the Committee claims, GHH)**



Congressional Task
Force on Climate Cha

Note the attached report of the Congressional Task Force on Climate Change, bicameral (but all Democratic). From the Executive Summary it seems to deal entirely with mitigation. There might be a speaker here for CMTC.

Richard N. Wright

C. CARBON MANAGEMENT TECHNOLOGY CONFERENCE 2013

October 21-23, 2013

Hilton Alexandria Old Town Alexandria, VA

This foundational conference, sponsored by the eight major engineering societies (ASME, AIChE, IEEE, ASCE, TMS, SME, SPE and AIST), draws practiced professionals from all engineering disciplines to share their expertise and provide perspective on the reduction of greenhouse gas emissions and adaptation to changing climate. The conference will focus on engineering perspectives regarding technologies, strategies, policies, management systems, uncertainties, and metrics for evaluating alternatives. Gain engineering expertise, experience and perspectives on technologies, strategies, policies, management systems, metrics, and other key issues. Discover novel approaches and new technologies that are instrumental to technical, economic and social advancements in carbon management.

Through robust scheduled sessions, well-known speakers from leading companies and academic institutions, co-located workshops, and networking opportunities, this year's program will address 20+ topics under these four themes:

- Carbon Capture, Utilization and Storage
- Carbon Management Pathways from Electricity Generation to End User
- Potentially Game-Changing Technology and Evaluation

- Engineering Challenges and Solutions for Adaptation to Climate Change

To view the technical program, visit <http://fscarbonmanagement.org/content/technical-program>
Register today and be part of the one conference focused on the engineering perspectives critical to meeting the challenge of greenhouse gas emissions.

For more information or to register, please visit us at
<http://fscarbonmanagement.org/content/cmtc-2013>

Arnold Feldman

D. ASME is planning to develop an annual large scale Energy Conference. Its first one is being planned for March 17–19, 2014 in San Diego and will focus on fracking.

Arnold Feldman

E. EED MEETING ANNOUNCEMENT

The Environmental Engineering Division (EED) is planning two meetings for all its members who are able to attend, one on the East Coast and one on the West Coast.

The East Coast meeting will be held in conjunction with the Carbon Management Technology Conference (CMTC), which will take place at the Hilton Alexandria Old Town in Alexandria, VA, October 21-23. The EED meeting will be held the afternoon of Tuesday, October 22, from 1PM -3PM.

The West Coast meeting will be held during IMECE 2013 in San Diego, CA, November 15-21. The specific date and time have not yet been set.

At both meetings, we will discuss the recent EED member survey, the revised Division By-Laws, and interest in forming and participating in new technical committees identified as being of interest in the survey. EED members who wish to attend the Division meeting will not be required to register for either conference, although there are certainly benefits to attending these conferences if you are able.

For more information on the EED meetings contact:

- East Coast: Arnie Feldman, EED ViceChair, 267-880-2325, jjdsenv@att.net
- West Coast: Andy Miller, EED Chair, 213-244-1809, Miller.Andy@epa.gov

F. GLOBAL CCS INSTITUTE CCS WORKSHOP AT CMTC 2013

You are invited to participate in a workshop titled *CCS/CCUS Overview: What It Is and What Are Its Implications?* The workshop is sponsored by the Global CCS Institute in collaboration with the 2013 Carbon Management Technology Conference. It will be held at the Hilton Alexandria Old Town in Alexandria, VA on Sunday, October 20, 2013, and is geared to individuals who are involved in carbon dioxide management but who may not be an expert in all aspects.

Registration for this workshop is free: <https://chenected.wufoo.com/forms/registration-ccscus-overview-workshop/> and a networking reception will be held for all attendees after the

completion of the workshop. For those who wish to further enhance their knowledge of carbon management we encourage you to also attend the Carbon Management Technology Conference (CMTC 2013), sponsored by AIChE, ASME, ASCE, IEEE, AIST, SPE, TMS, and SME which begins on Monday October 21. For more information visit the website:

<http://www.fscarbonmanagement.org/content/cmtc-2013>

F. NEW EPA BOSS PROMISES DICTATORIAL ACTION ON GLOBAL WARMING

While speaking at the University of Colorado in Boulder, Gina McCarthy, the new head of the [EPA](#), said Wednesday the administration is finished waiting on Congress and is set to take unilateral action on measures aimed at [global warming](#), the [Washington Times](#) reported.

In [June](#), Obama gave “what I really think is a most remarkable speech by a president of the United States,” she said.

“Essentially, he said that it is time to act,” she said. “And he said he wasn’t going to wait for Congress, but that he had administrative authorities and that it was time to start utilizing those more effectively and in a more concerted way.”

<http://www.examiner.com/article/new-epa-boss-promises-dictatorial-action-on-global-warming>

2) HEALTH – A. PLAGUE - USA: (NEW MEXICO)

Date: Mon 12 Aug 2013

From: Paul Etestad <Paul.ettestad@state.nm.us> [edited]

The New Mexico Department of Health confirmed today, 12 Aug 2013, a case of plague in a 15 year old boy from Torrance County who is currently hospitalized in stable condition. This is the 1st human case of plague in New Mexico and in the USA in 2013. An environmental investigation will take place at the boy's home to look for ongoing risk to others in the surrounding area.

<http://www.eandp-environment.net/Health/Health020701.pdf>

3) SAFETY – A. OIL DRILLERS IN GULF OF MEXICO BRACE FOR STORM

A storm in the Caribbean Sea has prompted BP and Marathon Oil to evacuate non-essential workers from the Gulf of Mexico. Production, however, hasn't been affected, the companies said. According to the National Hurricane Center, the storm could turn into a cyclone as it reaches Gulf waters. The agency also said that another storm, Tropical Storm Erin, is being monitored southeast of the Cape Verde Islands.

<http://www.eandp-environment.net/Safety/Safety020701.pdf>

COMMENTS:

A. THE WEEK THAT WAS: 2013-08-17 (AUG. 17, 2013)

By Ken Haapala, Executive Vice President, Science and Environmental Policy Project (SEPP)

IPCC: Reuters reported that a leak of the Summary for Policymakers (SPM) of Fifth Assessment Report (AR5) By the UN Intergovernmental Panel on Climate Change (IPCC), which will be

published in late September, will state that the IPCC are 95% sure that human activity, primarily burning of fossil fuels, are the main cause of warming since the 1950s

The 1995 SPM asserted just over 50 confidence, the 2001 report asserted 66 percent confidence and the 2007 report asserted at least 90% confidence. . One should recall that the SPM is a politically negotiated document, and the science behind it's assertions are often highly questionable. For example, the 2001 SPM featured the notorious hockey-stick, in which temperatures fell slowly over the last thousand years only to rise rapidly in the last century. The hockey-stick disappeared in the 2007 report, without a trace, and the 2007 SPM emphasized only the last half of the 20th century, disregarding climate history.

Recently, there have been numerous scientific reports questioning the values projected by the models the IPCC relies on, and the failure to validate these models. Yet, the IPCC marches on, expressing ever increasing certainty in its work, as others express significant uncertainty in its work.

One could attribute the progression of expressed certainty as the orderly progression of what can be called bureaucratic science –become more determined that the bureaucracy is right, and ignore data that contradicts it. How the IPCC justifies the increasing certainty, in the face of contradicting data, will make interesting reading. Please see links under Defending the Orthodoxy and, for a discussion of bureaucratic science, Seeking a Common Ground.

Questioning Models: Hans von Storch, Director of the *Institute for Coastal Research at Helmholtz Research Center* in Germany, and others, have produced a somewhat technical discussion paper questioning the output of the computer models on which the IPCC relies for its pronouncements of global warming/climate change. Storch is not a climate skeptic. He believes that human emissions of carbon dioxide (CO₂) are causing or may cause Catastrophic Anthropogenic Global Warming (CAGW).

The paper states that there has been no surface warming for the fifteen years from 1998 to 2012 and that this stagnation is inconsistent with the model projections, even at the 2% confidence level, much less than at the 5% level, or a higher level. The authors suggest three possible reasons for the inconsistency: 1) underestimation of internal natural climate variability over time periods of a decade or more; 2) influence of external forcing factors; and 3) overestimation of the model sensitivity to increasing atmospheric concentrations greenhouse gases, primarily CO₂. The authors somewhat dismiss the first reason; stating it will have little long term impact on calculating CAGW.

Apparently, the authors consider that eventually all natural influence will be included in the models. Some, such as SEPP, may find the argument unconvincing, because it may take decades or centuries before all the natural influences are incorporated in the models. The Right Climate Stuff research team stated it would be better to create a valid model of natural influences, before trying to model the human influences.

The Storch team is to be thanked for producing the discussion paper. They believe the models can be improved. Please note that they did not state that they falsified the models, but others did. Please see links under Problems in the Orthodoxy and for a direct link to this valuable paper:

http://www.academia.edu/4210419/Can_climate_models_explain_the_recent_stagnation_in_global_warming

Best Available Evidence: On her web site, Judith Curry has a lengthy post reviewing what constitutes the best available evidence for human-caused climate change. The post discusses the

problem of communicating science better, particularly for policy makers. It brings up a number of interesting points such as for complex problems, with large uncertainties; one cannot determine the best available evidence by objective criteria. A second point is that with large uncertainties the best available evidence may lead to bad decisions.

Unfortunately, by addressing climate change in general, her discussion avoids a central issue. Are human emissions of carbon dioxide causing unprecedented and dangerous global warming? To the question of what constitutes the best available evidence, the greenhouse warming takes place in the atmosphere and that is where we should see the best available evidence. The evidence simply is not there. Until that evidence is clearly evident, the rest is fluff.

More Heat: The *Potsdam Institute for Climate Impact Research* (PIK) produced a study projecting that more parts of the world will suffer from extreme heat waves, which will quadruple by 2040. Of course, this garnered far greater press coverage than the discussion paper by Storch, et al., stating that the difference between model projections and observations is at a less than 2% confidence interval.

According to reports, the authors of the study claimed they used a suite of 29 models that they say accurately represent the historic, observed trend, giving them confidence the models' ability to project the trend into the future. According to the abstract: "For the near-term (i.e., by 2040), the models predict a robust, several-fold increase in the frequency of such heat extremes, irrespective of the emission scenario." Not only are projections from un-validated models not scientifically robust, but there is little or no evidence that the model projections are useful. Please see links [Communicating Better to the Public –Make things up](#).

The Greenhouse Effect: On their respective web sites Roy Spencer and Tim Ball take different approaches in questioning the analogy that the atmospheric greenhouse effect can be explained by physical greenhouses. Both conclude that the analogy is inadequate. Please see links under [Questioning the Orthodoxy](#).

Social Benefits of Carbon: A study published in *The New Scientist* states that the increase in carbon dioxide following the ice age, helped early farmers to select the more robust plants for agriculture. Also there is a review of a study showing the enhanced atmospheric CO₂ promotes more efficient water use by plants. Please see links under [Social Benefits of Carbon](#).

Offshore Wind: It is difficult to obtain firm numbers on the costs of generating electricity from wind turbines located offshore. Two weeks ago, TWTW linked to an article in *Der Spiegel* stating that in Germany offshore wind receives subsidies more than twice that of onshore (land based) wind. Yet investment in offshore wind is not continuing beyond a brief early spurt. This week, an article in *Bloomberg* states (according to *Bloomberg New Energy Finance*) the cost of offshore wind is about 2.7 times the cost of onshore wind.

Dong Energy, a Danish company with heavy wind investments is teaming with other companies and some universities to come up with a way to substantially decrease the costs of installing offshore wind. Also, it remains to be seen what the actual life span of offshore wind turbines will be in the corrosive salt conditions. Please see links under [Questioning European Green, and Alternative, Green \("Clean"\) Solar and Wind](#).

Reliable v. Unreliable: Glenn Schleede presented an often overlooked detail when examining comparisons between the costs of wind and other forms of electricity generation. Given a particular unit of electricity, say kilowatt hour (KWh), what is the value of a reliable source of electricity as compared with an unreliable source? Modern civilization requires reliable electricity. What are the costs of frequent, unpredictable disruptions? These costs should be included in comparisons of costs such as the EIA levelized costs. They are not. Instead of recognizing the high costs of unreliability, governments are subsidizing and mandating unreliable wind and solar. When they produce, wind and solar power can be sold at prices below those of traditional sources, such as fossil fuels. Europe is witnessing utilities not building or closing fossil fuel plants and nuclear plants because they are no longer a viable investment. When these plants are shut, what will provide the necessary back-up to unreliable sources? In the end, the consumer will pay more. Please see links under Energy Issues–Non-US and Alternative, Green (“Clean”) Solar and Wind.

Shifting attitudes: The discovery of the methods to extract oil and natural gas for dense shale are changing attitudes in Europe. Prime Minister of the UK, David Cameron, wrote in a popular newspaper requesting support of hydraulic fracturing for natural gas in England. Of course, this produced strong denunciations. But can the British government continue to heavily subsidize unreliable wind, if the possibility of inexpensive natural gas remains unexplored? Please see links under Questioning European Green and Alternative, Green (“Clean”) Solar and Wind

Green Jobs: The US General Accountability Office found that, under the 2009 stimulus bill, the US spent over \$500 Million on training people for specialized green jobs only to discover that only a few such jobs exist. Most green jobs are ordinary jobs given a specialized political aura, such as sanitation workers and mass transit employees and require no special government programs for training. The stimulus bill was less than a smashing success, failing to reach any of the stated promises. Please see link under Green Jobs.

Number of the Week:0+0. The first 0 was selected from a pithy comment by Ross McKittrick as reported by WUWT: “Here’s the list of scientific institutions and societies that have issued statements agreeing with CAGW, and that surveyed their members to find out how many agreed with the statement prior to issuing it, and published the results of the survey:

“Anyone want to see the list again?”

The second 0 was for the number of people that showed up for Climate Action Day in Georgetown promoted by Organizing for Action, a follow

B. ENERGY FIRM MAKES COSTLY FRACKING BET—ON WATER

By RUSSELL GOLD

Antero Resources Inc., an energy company backed by New York private-equity firms, plans to spend more than half a billion dollars on a pipeline. But the 80 miles of pipe won't transport oil or gas: They will carry water from the Ohio River to fracking sites in West Virginia and Ohio. The project is a costly wager that the hydraulic-fracturing industry's thirst for reliable sources of water will grow over the next few years. Fracking, an oil-field technique driving the nation's

current energy boom, involves injecting vast quantities of water into the earth, along with other materials, to break up rock formations and unlock trapped oil and gas.

Thirsty Process

Hydraulic fracturing is a water-intensive business.

- Average amount of water used to hydraulically fracture a single Marcellus Shale well: **4.2 million-5 million gallons**
- 4.2 million gallons is enough water for a town of 42,000 people for one day
- Number of Marcellus Shale wells drilled in 2005-July 2013: **8,700**
- Percentage of freshwater used: **90%**
- Percentage of water recovered from fracks and reused: **10%**

Note: *Includes wells drilled and fracked through May 2013 in both Pennsylvania and West Virginia, but doesn't include every well. Some data are still being processed.

Sources: Susquehanna River Basin Commission via Environmental Protection Agency; West Virginia Department of Environmental Protection

Antero's big bet on water, which worries some environmental groups, could pay off handsomely for the company's executives and private-equity backers, who have positioned themselves to get the biggest financial benefit from the pipeline. But some experts say the investment's long-term success could hinge on the region's rainfall.

Colorado-based Antero, which has announced plans to go public, had oil and gas revenues of about \$265 million last year, according to filings with the Securities and Exchange Commission.

The company says it is the most active driller in the Marcellus Shale, a gas-rich rock formation that stretches across Pennsylvania and into New York, Ohio and West Virginia. It is also pushing into Ohio's Utica Shale as well. The company uses a total of about six million gallons of water to frack each of its wells.

The proposed pipeline would slash the company's water costs by two-thirds, or about \$600,000 per well, Chance Richie, a water consultant to Antero, said at an industry conference in March. The trucks that now deliver most of that water are a "very, very large expense," he said.

They also contribute to congested roadways in some rural areas. "We are not used to all this traffic—it is like New York City out there," said Ralph Sandora, a commissioner in rural Doddridge County, W.Va., where Antero has leased more than 100,000 acres for drilling. Mr. Richie referred questions about the project to Antero. Company officials declined to comment.

Tapping the Ohio would give the pipeline access to the region's most dependable source of water. Many of the rivers and streams that Antero now uses run low in the summer, prompting state officials to stop gas-industry withdrawals. A drought in Ohio last year curtailed water to fracking operations.

In a permit filed with the Army Corps of Engineers, which regulates water withdrawals from the Ohio River, Antero said it plans to build an intake pipe capable of sucking up 3,360 gallons of river water a minute—or about 4.8 million gallons a day.

Pumps would send the water through a 20-inch steel pipe eastward where it would be collected in several large pools before it was piped to drilling pads. The Army Corps has approved part of Antero's plan, and a decision on the remainder is pending.

Mr. Richie, the consultant, said at the March conference that the company was talking to other companies about using the piped-in water.

Some environmental groups are concerned by the scope of the project. "There is a whole lot of water in the Ohio River, but not if we start withdrawing millions of gallons of water a day," says Janet Keating, executive director of the Ohio Valley Environmental Coalition.

A growing number of pipelines are supplying water to frack wells—though few of them have been anywhere near as expensive. Antero filed for an initial public offering in June.

In 2011, [Range Resources](#) Corp built a 20-mile pipeline in the West Virginia panhandle to move water from the Ohio River. A company spokesman declined to discuss the cost, but said it was "not even remotely close" to Antero's projected half-billion dollars.

In 2012, Aqua America Inc. built a 54-mile pipeline in northern Pennsylvania that serves several different energy companies.

The pipeline cost about \$100 million, said Executive Vice President Karl Kyriss, who added that the company is evaluating two more pipelines. He estimated that the industry has spent nearly \$1 billion altogether on water pipelines.

An [Exxon Mobil](#) Corp. spokesman said Exxon has built three relatively short water pipelines in Pennsylvania and West Virginia.

It isn't clear how quickly Antero's pipeline project might pay for itself. Based on the company's projected savings of \$600,000 per well, Antero would need to frack 875 wells to break even; according to its filings, it plans to frack 135 wells in the Marcellus this year.

Amy Myers Jaffe, executive director of energy and sustainability at the University of California Davis, says that while the pipeline's construction costs are high, the project could pay off if there was a drought that sent other companies scrambling for water.

"Access to reliable, affordable water can make or break the profitability of companies doing shale in a remote, water-scarce region," she said.

The pipeline might not remain with the publicly traded Antero for long. According to its SEC filings, the company's top management and its private-equity backers, which include Warburg Pincus LLC, Yorktown Partners LLC and Trilantic Capital Partners, will be able to force the company to split off its gas and water pipelines into a separate company, called Antero Midstream. Antero would enter into a 20-year agreement with the new Antero Midstream to purchase water.

Shareholders of the newly public Antero would own the split-off company, but the private-equity backers and Antero management would retain management control and ultimately receive 50% of the cash distributions generated by the pipeline company.

The three private-equity firms either declined to comment or didn't respond to requests for comment.

Write to Russell Gold at russell.gold@wsj.com

A version of this article appeared August 14, 2013, on page B1 in the U.S. edition of The Wall Street Journal, with the headline: Energy Firm's Fracking Bet: A Costly Pipeline—for Water.

C. OIL INDUSTRY WARNS EPA OF PRICE SPIKE

Renewable fuel standard could cause 'severe economic harm' for United States

By Jennifer A. Dlouhy

The oil industry on Tuesday pleaded with the Obama administration to lower the amount of corn-based ethanol and other renewable fuels the government requires companies to blend into gasoline next year.

Failing to drop quotas under the renewable fuel standard could cause gasoline prices to spike and result in “severe economic harm” for the United States, said the American Petroleum Institute and the American Fuel and Petrochemical Manufacturers, in their first formal request for a waiver of the 8-year-old mandate.

The Environmental Protection Agency twice has rejected similar appeals by state leaders, including Texas Gov. Rick Perry, livestock producers and other groups, saying they failed to show severe economic damage from leaving the renewable fuel mandate in place.

But last week the EPA acknowledged concerns that refiners are hitting a “blend wall,” a point at which they no longer can mix in enough ethanol to meet the mandate’s volume targets without exceeding the 10 percent threshold acceptable for use in all cars and trucks.

Even before the oil and refiner groups filed their waiver request, the agency signaled it would use its flexibility under existing law to lower renewable fuel targets in 2014 to “reasonably attainable” levels.

In the request filed with the EPA, the oil and refining trade groups essentially ask it to set the 2014 targets at about 10 percent of the anticipated total fuel supply. Specifically, the groups are asking EPA to waive 3.35 billion gallons from the 18.15 billion that otherwise would be mandated under the renewable fuel standard next year.

“If EPA does not act, the inability to blend the statutory-mandated amount of ethanol could lead to domestic fuel supply shortages and ultimately cause severe economic harm to consumers and the economy,” said Charles Drevna, who heads the American Fuel and Petrochemical Manufacturers.

Partial waiver bid

In their partial waiver request, the trade groups rely heavily on a study by NERA Economic Consulting that concluded that without changes, the renewable fuel standard could deal a \$770 billion hit to the U.S. gross domestic product. That report, commissioned by the American Petroleum Institute and released in March, predicted that diesel costs could spike 300 percent, gasoline prices could climb 30 percent and American workers could see a \$580 billion drop in take-home pay.

Bob Greco, the institute’s downstream group director, said the renewable mandate is unworkable, and that it will lead to “severe economic harm to consumers and the economy” if refiners hit the blend wall.

The EPA, which is still drafting proposed renewable fuel quotas for 2014, has 90 days to respond to the 129-page waiver request. The agency said it will review the request.

Biofuels boosters said the oil industry just wants to protect its turf.

“Renewable fuel provides American consumers savings at the pump, increases national security, and provides environmental benefits — but, for Big Oil, it means cutting into their recording-setting profits,” said the advocacy group Fuels America. “Instead of using this time to invest in the inexpensive infrastructure needed to allow our nation to overcome a surmountable blend wall, Big Oil has chosen to double down on lobbying and PR stunts, prioritizing its market share over the American consumer.”

Created by Congress

Created by Congress in 2005 and updated by lawmakers two years later, the renewable fuel standard requires refiners to incorporate increasing amounts of renewable fuels (typically corn-based ethanol) and advanced biofuels, including cellulosic ethanol made from non-edible plant parts.

The statute would require 36 billion gallons of renewable fuel in 2022, with 15 billion gallons coming in the form of corn-based ethanol.

The renewable fuel standard was envisioned as a way to help wean the U.S. off foreign oil and encourage the development of cleaner-burning biofuels as American gasoline demand climbed. But eight years later, more fuel-efficient cars are on American roads, keeping U.S. gasoline demand flat, even as the law's renewable fuel requirements rise annually.

Oil industry leaders contend the market for ethanol is limited, whether it is derived from corn, sugarcane or other materials. Some automakers warn that using a 15 percent ethanol blend called E15 will void vehicle warranties, even for cars and trucks made since 2001, for which the EPA has approved the product's use. And relatively few filling stations offer E15 to motorists.

The groups haven't given up their fight against the newly finalized 2013 quotas, which they cast as unrealistic. The EPA lowered the cellulosic biofuel target to 6 million gallons, down from 14 million gallons proposed earlier this year, but it is unclear whether even that much will be produced this year from new factories just now coming online.

Greco said the groups are weighing their options, which could include challenging the 2013 targets in court.jennifer.dlouhy@chron.com twitter.com/jendlouhyhc

D. FOSSIL FUEL PRODUCTION DECLINES ON FEDERAL LANDS DISPITE ADMIN. CLAIMS

Fossil fuel production on U.S. federal lands took another dip during fiscal year 2012, even as [energy production nationwide soared to a record high](#), according to the U.S. Energy Information Administration.

During fiscal year 2012 — which ended last Sept. 30 and is the most recent period for which the agency's data is available— federal lands produced 17.1 quadrillion British thermal units of fossil fuel energy, the lowest level in at least a decade. That was a 3.7 percent decline from the year before.

In addition to a drop in coal production, federal-land fossil fuel output suffered from continuing declines in oil and natural gas production offshore, including the Gulf of Mexico.

<http://fuelfix.com/blog/2013/08/13/fossil-fuel-production-on-federal-lands-drops/>

Don Shaw

E BREEDING CULTIVARS OF RICE FOR A CO2-ENRICHED AND WARMER WORLD (13 Aug 2013)

Rice is one of the world's most important cereals and has been adapted by breeders to a wide range of environments. The authors of this study examined the growth response of various genotypic variations to elevated atmospheric CO₂. The responses ranged from a loss of 11% to a gain of 121%, demonstrating the huge potential to successfully breed rice cultivars that could be made to outperform even the most productive of those already in existence...

<http://www.nipccreport.org/articles/2013/aug/13aug2013a2.html>

F. GLOBAL CLIMATE MODEL SIMULATIONS OF SOUTHERN SOUTH AMERICA (13 AUG 2013)

A number of discrepancies are noted by the authors of this paper, which “evaluates a present climate simulation over southern South America performed with the Meteorological Research Institute/Japanese Meteorological Agency (MRI/JMA) high resolution global model”...

<http://www.nipccreport.org/articles/2013/aug/13aug2013a3.html>

G. MY PRESENTATION AT DOCTORS FOR DISASTER PREPAREDNESS

Posted on August 17, 2013 by Anthony Watts

From July 13th 2013 in Houston. I was invited to give a presentation, and I adapted Dr. Matt Ridley’s excellent essay: [A Lukewarmer’s Ten Tests](#) and added supporting graphs and commentary along with my own work and findings. The video follows.

<http://wattsupwiththat.com/2013/08/17/my-presentation-at-doctors-for-disaster-preparedness/#more-91822>

H. REAL TIME VIDEO OF 2011 TSUNAMI IN JAPAN

<http://www.redflagnews.com/headlines/shocking-new-japan-tsunami-video-found-released>

I. THE IPCC’S NEW CERTAINTY IS 95% WHAT? NOT 97%??

Posted on August 16, 2013 by Anthony Watts

Just 2% short of the magic 97% number, I’m sure the SkS kidz will be devastated.

From [Reuters](#): <http://www.trust.org/item/20130816133815-ao2wt/?source=hptop>

Drafts seen by Reuters of the [study](#) by the U.N. panel of experts, due to be published next month, say it is at least 95 percent likely that human activities – chiefly the burning of fossil fuels – are the main cause of warming since the 1950s.

That is up from at least 90 percent in the last report in 2007, 66 percent in 2001, and just over 50 in 1995, steadily squeezing out the arguments by a small minority of scientists that natural variations in the climate might be to blame.

J. HISTORIC VARIATIONS IN TEMPERATURE NUMBER FOUR-THE HOCKEY STICK

Posted on August 16, 2013 by Guest Blogger

Guest essay by Tony Brown

Section 1 Summary of a previous article;

A short while ago I published an article on ‘Noticeable climate change’ during the past 500 years, based on historical observation and instrumental records. To understand the context of this current article –the purpose of which is to extend and amplify this earlier work- it is linked to below and a brief recap of its findings has been made in the following paragraphs.

<http://judithcurry.com/2013/06/26/noticeable-climate-change/>

The referenced [study](#) noted that our climate changes frequently when calculated on an annual and decadal basis, in fact virtually no decade is like its predecessor or successor. Sometimes the change is fairly small but is often so ‘noticeable’ that humanity and nature will be affected.

<http://wattsupwiththat.com/2013/08/16/historic-variations-in-temperature-number-four-the-hockey-stick/#more-91765>

K. RUSSIAN SCIENTISTS PREDICT ONSET OF GLOBAL COOLING

A prolonged decline in solar output will begin sometime around 2040 and subject the Earth to global cooling that will last 200-250 years, scientists at Russia’s Pulkovo Observatory report. "Evidently, solar activity is on the decrease," explained Pulkovo scientist Yuri Nagovitsyn. "The 11-year cycle doesn’t bring about considerable climate change – only 1-2%. The impact of the 200-year cycle is greater – up to 50%. In this respect, we could be in for a cooling period that lasts 200-250 years.

Nagovitsyn said the cooling will be substantial, though not quite as strong as the cooling that occurred during the Maunder Minimum in the depths of the Little Ice Age during the late 1600s. <http://news.heartland.org/newspaper-article/2013/04/29/russian-scientists-predict-onset-global-cooling>

L. PUT A CORN COB IN YOUR TANK

Even the EPA tacitly admits that ethanol is a bust.

A strong candidate for the most expensive policy blunder of recent years would have to be the mandate to blend corn ethanol and other biofuels into the nation's gasoline supply. This month even the Environmental Protection Agency essentially acknowledged that the [program](#) is increasingly unworkable and costly to consumers. The EPA just won't do much to fix it. When these mandates were enacted in 2007 under [George W. Bush](#), biofuels were sold as the wonder-fuel of the future: a cheap and plentiful domestic energy source to compete with OPEC oil and reduce global warming. Six years later none of those predictions have panned out. One of the biggest debacles has been the law's requirement that the oil and gas industry mix cellulosic ethanol—made from the likes of [switch grass](#) and wood chips—into gasoline. The original law mandated the use of one billion gallons of cellulosic fuel in 2013, with even higher levels through 2022. This may have been the worst government forecast in history, which is saying something. Even with taxpayer subsidies, total cellulosic volume in 2012 was about 20,000 gallons. The government was off by a mere 99.9%.

In its annual program review this month, EPA reduced the mandate to six million gallons from 14 million. But even that is several million gallons above what can be bought anywhere. So the oil and gas industry has to pay what amounts to a fine (mostly passed on to consumers) for not buying enough cellulosic fuel that doesn't exist.

In January the D.C. Circuit Court of Appeals struck down EPA's 2012 cellulosic mandate as unrealistically high. The court also slapped EPA's enforcement as: "Do a good job, cellulosic fuel producers. If you fail, we'll fine your customers." The program should be terminated.

The EPA also updated its corn ethanol mandates. This year the overall biofuel quota stands at 16.55 billion gallons, up from 15.2 billion in 2012. As we explained in "The Ethanol Tax" on

July 20, because gasoline consumption over the past six years has been much lower than the government predicted, refiners are now nearing a "blend wall" of a maximum 10% ethanol (E10) per gallon.

A [survey](#) by AAA found that only 5% of vehicles are approved for higher levels of ethanol under manufacturer warranty, so many motorists won't buy gas with higher ethanol content. In order to comply with the federal law, the oil and gas industry has to buy credits that spiked at more than \$1 a gallon for the ethanol it can't use. This raises the cost of gasoline at the pump by an estimated five to 10 cents a gallon.

The EPA acknowledged that its ethanol mandate exceeds the level that can be reasonably blended, but it told refiners: tough luck, buy credits on the market. This is a back-door tax on gasoline and Congress should call the Administration on it.

EPA did at least signal that it will revise its 2014 mandate, which is scheduled to rise to above 18 billion gallons. The government report states: "Given these challenges" of the ethanol blend wall, "EPA anticipates that in the 2014 proposed rule, we will propose adjustments to the 2014 volume requirements." Some in the oil and gas industry applauded this minor EPA concession as a sign that the biofuels mandate will be slightly less onerous next year.

Maybe, but the biofuels program is a failure that can't be fixed with tweaks. If ethanol is the miracle fuel its defenders say it is, why must its use be mandated? The effect of the quotas has been to raise gas prices and make food more expensive as corn goes to fuel rather than food. A rash of studies also shows no net reduction or even an increase in greenhouse gas emissions from corn ethanol.

But no matter how indefensible the program, no one in the White House and few in Congress want to take on Big Corn. Americans should remember whom to thank the next time they pay \$4 a gallon at the pump.

A version of this article appeared August 16, 2013, on page A12 in the U.S. edition of The Wall Street Journal, with the headline: Put a Corn Cob in Your Tank.

M. NEW EPA REPORT REVEALS SIGNIFICANTLY LOWER METHANE LEAKAGE FROM NATURAL GAS

Zeke Hausfather and Richard Muller

Berkeley Earth

A new report by the EPA significantly lowers estimates of methane leakage from natural gas production, from around 2.8 percent in prior reports down to 1.65 percent in 2011. They also report declining total methane emissions from natural gas production in recent years during the same period in which natural gas production has significantly increased, particularly from unconventional sources.

<http://static.berkeleyearth.org/memos/epa-report-reveals-lower-methane-leakage-from-natural-gas.pdf>

N. WHY FARMERS DON'T BELIEVE IN ANTHROPOGENIC GLOBAL WARMING

Posted on [July 17, 2013](#) | [570 Comments](#)

by Judith Curry

If there's one thing U.S. farmers can count on, it's bad weather, and perhaps as a result, many of them don't think humanity is to blame for the long-term shifts in weather patterns known as climate change.

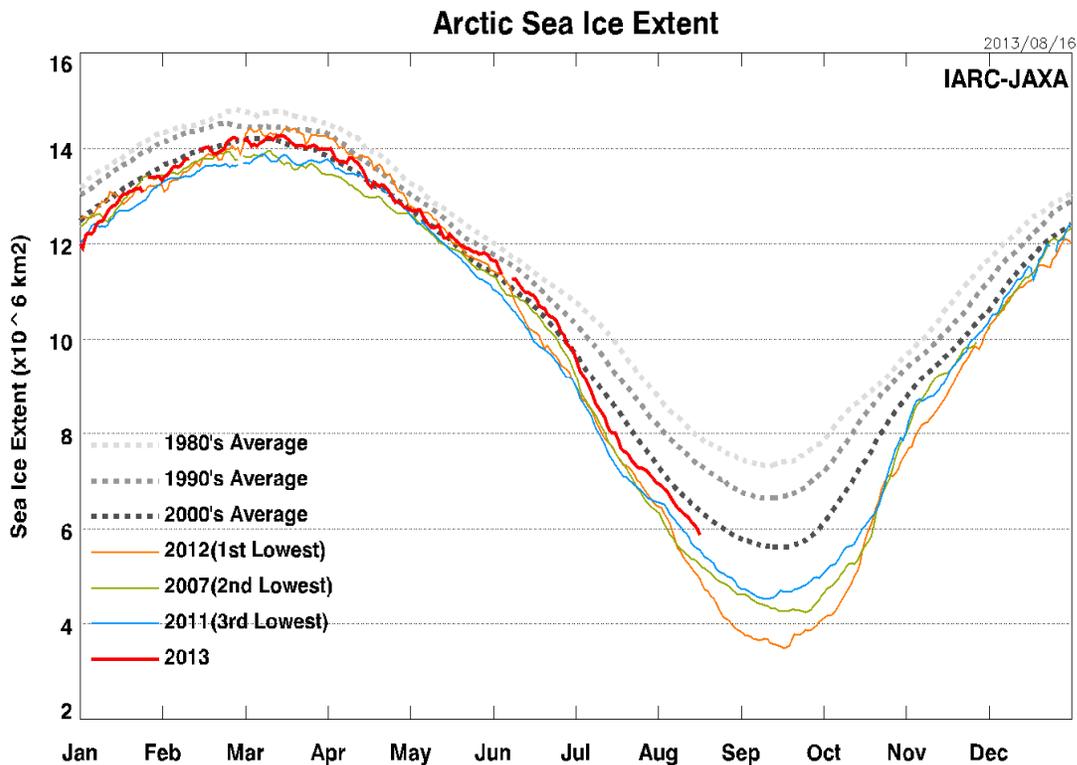
David Biello has an interesting article at Slate entitled [Why Don't Farmers Believe in Climate Change?](#) Excerpts:

<http://judithcurry.com/2013/07/17/why-farmers-dont-believe-in-anthropogenic-global-warming/>

O. SEA ICE PAGE

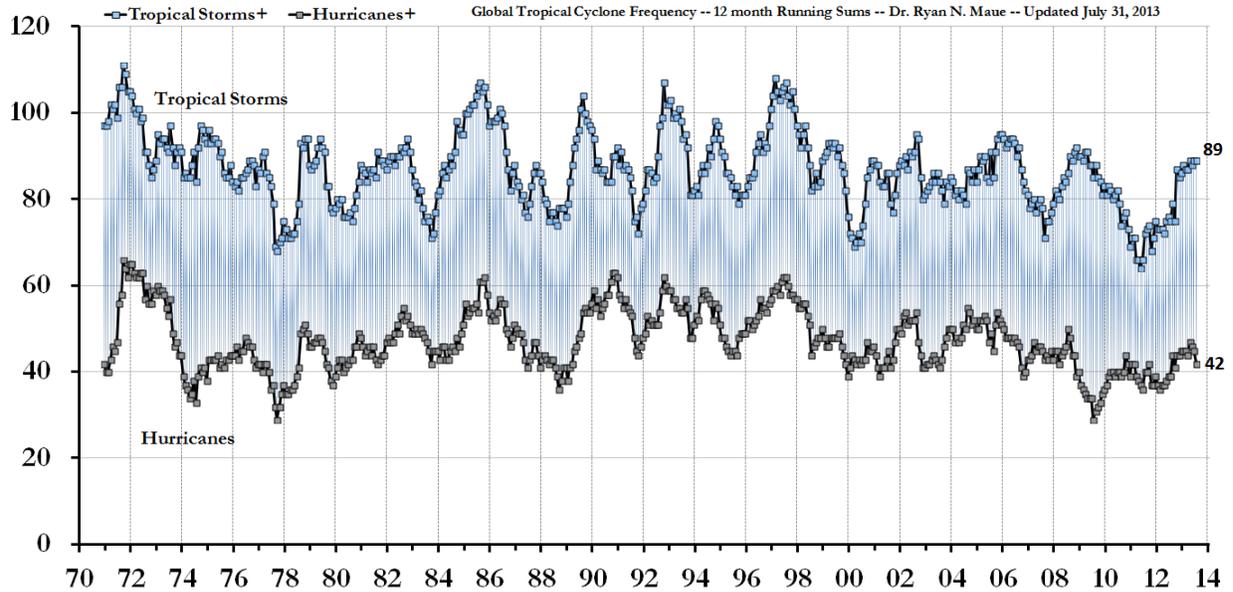
Global Sea Ice Reference Page: Arctic and Antarctic current graphs and imagery

Given the intense interest in Arctic Sea Ice extent this year, Watt decided to put all the sea ice graphs in one handy place for easy ~~nail-biting~~ reference. All images are automatically updated immediately upon update at their source.



<http://wattsupwiththat.com/reference-pages/sea-ice-page/>

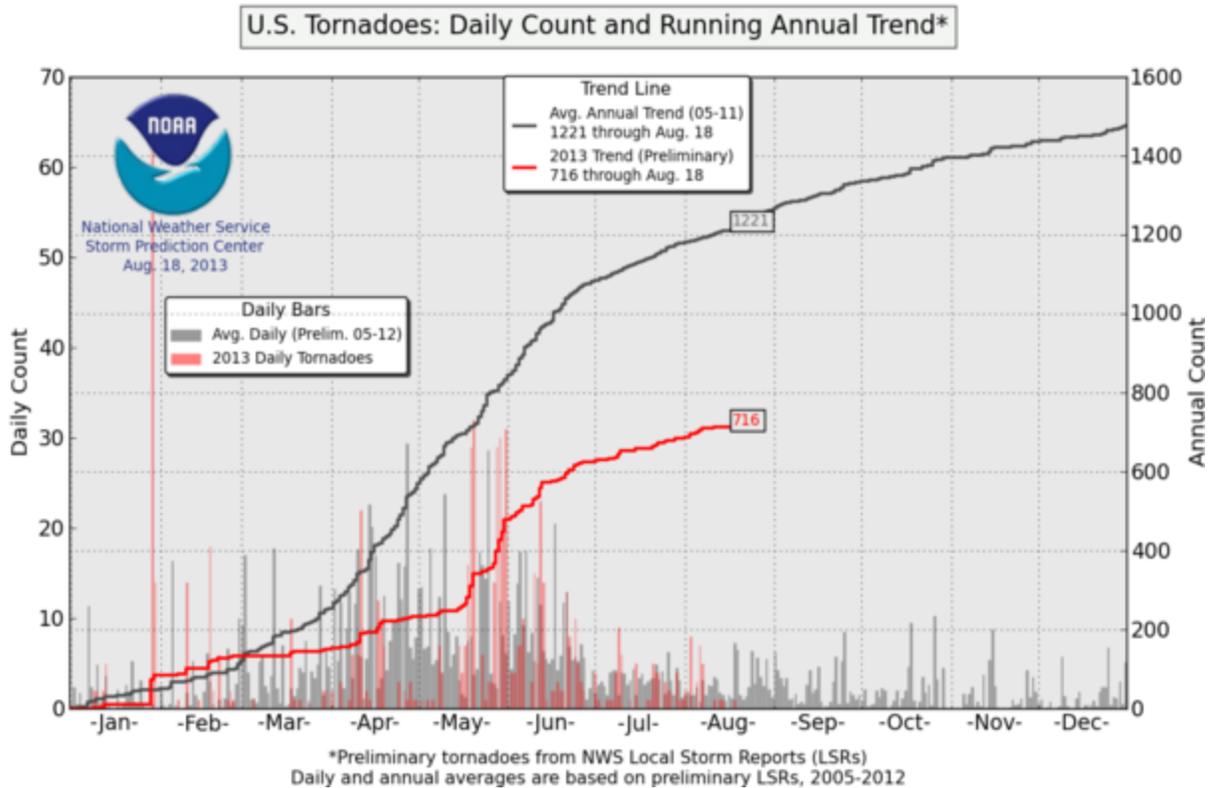
P. WHY ISN'T THE ADMINISTRATION AND THE MAIN STREAM MEDIA NOT TELLING THE TRUTH?



Don Shaw

Q. ABNORMAL LOW NUMBER OF US TORNADOES IN 2013

Another data measurement rebuttal of climate disruption claims by the Non-Deniers. Tornadoes are spawned by differential temperature of wind masses. The cooler weather this spring resulted in lower temperature wind masses forcing thunderstorms higher into the atmosphere.



J Frank

R. DOE REPORTS: U.S. WIND ENERGY PRODUCTION AND MANUFACTURING REACHES RECORD HIGHS

Earlier this month, the Department of Energy (DOE) released two new reports showcasing record growth across the U.S. wind market, increasing America's share of clean, renewable energy and supporting many jobs nationwide. According to these reports, the United States continues to be one of the world's largest and fastest growing wind markets. In 2012, wind energy became the number one source of new U.S. electricity generation capacity for the first time, representing 43 percent of all new electric additions and accounting for \$25 billion in U.S. investment.

The Energy Department and Lawrence Berkeley National Laboratory released the "2012 Wind Technologies Market Report," which details the latest trends in the U.S. wind power market:

- Over 13 gigawatts (GW) of new wind power capacity were added to the U.S. grid, an amount nearly double the wind capacity deployed in 2011;
- The proportion of wind turbine components such as towers, blades, and gears made in America has increased dramatically to nearly 72 percent, nearly tripling from 25 percent in 2006-2007;
- Nine states now rely on wind power for more than 12 percent of their total annual electricity consumption – with wind power in Iowa, South Dakota and Kansas contributing more than 20 percent. On a cumulative basis, Texas remains a clear leader with over 12 GW installed at the end of 2012, more than twice as much as California, the next-highest state; and,
- The price of wind under long-term power purchase contracts signed in 2011 and 2012 averaged 4 cents per kilowatt hour, making wind competitive with a range of wholesale electricity prices seen in 2012.

For the first time, DOE and Pacific Northwest National Laboratory also issued the "2012 Market Report on Wind Technologies in Distributed Applications," which highlights strong growth in the U.S. distributed wind energy market.

The report finds that distributed wind in the U.S. reached a 10-year cumulative installed capacity of more than 812 megawatts (MW) at the end of 2012, representing more than 69,000 units across all 50 states. Between 2011 and 2012, U.S. distributed wind capacity grew by 175 MW, with about 80 percent of this growth coming from utility-scale installations. At the state level, Iowa, Massachusetts, California and Wisconsin led the nation in new distributed wind power capacity in 2012.

Still, most distributed wind buyers continue to choose small wind turbines, which have a rated capacity of no greater than 100 kilowatts. Last year, domestic sales from U.S. wind suppliers accounted for nearly 90 percent of new small wind generation capacity. Broadly, nine out of the top ten wind turbine models installed last year in U.S. distributed applications were made in America.

Finally, the "2012 Wind Technologies Market Report" expects 2013 to be a slow year for new capacity additions, due in part to continued policy uncertainty and project development

timelines. While the report notes that 2014 is expected to be more robust, as developers commission projects that will begin construction in 2013, it also notes that projections for 2015 and beyond are much less certain.

S. CLIMATE PANEL: SEA LEVEL MAY RISE 3 FEET BY 2100 **NEW YORK TIMES**

An international team of scientists has found with near certainty that human activity is the cause of most of the temperature increases of recent decades, and warns that sea levels could rise by more than 3 feet by the end of the century if emissions continue at a runaway pace.

The scientists, whose findings are reported in a summary of the next big U.N. climate report, largely dismiss a recent slowdown in the pace of warming as probably related to short-term factors.

The report emphasizes that the basic facts giving rise to global alarm about future climate change are more established than ever, and it reiterates that the consequences of runaway emissions are likely to be profound.

“It is extremely likely that human influence on climate caused more than half of the observed increase in global average surface temperature from 1951 to 2010,” the draft report says. “There is high confidence that this has warmed the ocean, melted snow and ice, raised global mean sea level, and changed some climate extremes in the second half of the 20th century.”

The “extremely likely” language is stronger than in the last major U.N. report, published in 2007, and it means the authors of the draft document are now 95 percent to 100 percent confident that human activity is the primary influence on planetary warming.

The draft report lays out several scenarios. In the most optimistic, the world’s governments would prove far more successful at getting emissions under control than they have been in the recent past, helping to limit the total warming.

In that circumstance, sea level could be expected to rise as little as 10 inches by the end of the century, the report found. That is a bit more than the 8-inch rise in the 20th century, which proved manageable even though it caused severe erosion along the world’s shorelines.

At the other extreme, the report considers a scenario in which emissions, continue at a runaway pace. Under those conditions, sea level could be expected to rise at least 21 inches by 2100 and might rise a bit more than 3 feet, the draft report said.

Hundreds of millions of people live near sea level, and either figure would represent a challenge for humanity, scientists say. **(A century of experience suggests 6 – 7 inches rise per century. GHH)**

This new document was prepared by the Intergovernmental Panel on Climate Change, a large, international group of scientists appointed by the United Nations. The group does no original research, but instead periodically assesses and summarizes the published scientific literature on climate change

T. HEAT-TRAPPING GAS PASSES MILESTONE, RAISING FEARS

The level of the most important heat-trapping gas in the atmosphere, carbon dioxide, has passed a long-feared milestone, scientists reported Friday, reaching a concentration not seen on the earth for millions of years.

Temperature Rising

Articles in this series focus on the central arguments in the climate debate and examine the evidence for global warming and its consequences.

Scientific instruments showed that the gas had reached an average daily level above 400 parts per million — just an odometer moment in one sense, but also a sobering reminder that decades of efforts to bring human-produced emissions under control are faltering.

The best available evidence suggests the amount of the gas in the air has not been this high for at least three million years, before humans evolved, and scientists believe the rise portends large changes in the climate and the level of the sea.

“It symbolizes that so far we have failed miserably in tackling this problem,” said Pieter P. Tans, who runs the monitoring program at the National Oceanic and Atmospheric Administration that reported the new reading.

http://www.nytimes.com/2013/05/11/science/earth/carbon-dioxide-level-passes-long-feared-milestone.html?ref=earth&_r=0

(On the other hand Dr. Spencer says, “There are two main scientific objections to the possibility that increasing CO2 is partly natural. The first is that the amount of CO2 that mankind emits each year is more than enough to explain the observed increase. This is shown by the fact that the long-term CO2 growth rate seen at Mauna Loa is only about 50 percent of the rate of human emissions. While this is consistent with all of the increase being anthropogenic, it would also be consistent with a combination of natural and anthropogenic sources if the rate at which some regions are removing CO2 from the atmosphere is increasing even faster.

After all, researchers have admitted that it is not yet known where all the extra CO2 is being absorbed, although increased uptake by some combination of the ocean and land-based vegetation seems likely. This has been dubbed the "missing sink" problem. The launch failure of NASA's Orbiting Carbon Observatory (OCO) will hinder the search for the missing sink, although Canada does have an inexpensive, stripped-down version of the OCO satellite now orbiting the Earth. In the coming years, we are likely to learn more about how nature recycles carbon. I predict it will be discovered that nature plays a much larger role in removing excess CO2 from the atmosphere than scientists currently believe.” GHH). From “The Great Global Warming Blunder” by Roy Spencer, 2010.

U. THERE IS A MEDIA HYPE GOING ON FROM THE WARMISTS ABOUT A RECENT IPCC CLAIM OF 95 % CERTAINTY.

No mention of the 15 plus years pause in warming that is ignored by the MSM.

Read below and you will see that there have been similar warming periods before (starting in 1895):

<http://wattsupwiththat.com/2013/08/20/when-somebody-hits-you-with-that-new-ipcc-is-95-certain-talking-point-show-them-this/#more-91971>

When somebody hits you with that new ‘IPCC is 95% certain’ talking point on global warming, show them this

Posted on August 20, 2013 by Anthony Watts

People send me stuff.

The IPCC has announced (via a “leak” campaign only to selected media outlets, such as Reuters, NYT, WaPo) that they are now 95% certain. From Reuters:

Drafts seen by Reuters of the study by the U.N. panel of experts, due to be published next month, say it is at least 95 percent likely that human activities – chiefly the burning of fossil fuels – are the main cause of warming since the 1950s.

I’m glad they pinned down “...since the 1950s”, that’s important.

According to this MotherJones report:

According to Jonathan Lynn, who is head of communications at the IPCC, the organization expects that leaks will occur because report drafts wind up in so many different hands. Lynn cautions that “there’s no question that the final report will not be the same as the drafts.”

I’ve been in touch with IPCC secretariat Mr. Jonathan Lynn, and while he’s glad to point out issues on WUWT, neither he nor any of the media outlets that have the “leaked” report are willing to provide WUWT with a copy. No matter, we’ll simply go with what we know.

Here is the statement again, emphasis mine:

Drafts seen by Reuters of the study by the U.N. panel of experts, due to be published next month, **say it is at least 95 percent likely that human activities – chiefly the burning of fossil fuels – are the main cause of warming since the 1950s.**

OK, so here’s the *64 thousand dollar questions* for IPCC cheerleaders:

1. Which side is which time period?
2. What caused the warming before CO2 became an issue to be essentially identical to the period when it is claimed to be the main driver?
3. How is the IPCC 95% certain one side is caused by man and the other is not?

Don Shaw

Regards
George