

ENVIRONMENTAL ENGINEERING NEWSLETTER

24 JUN. 2013

Please be aware any Newsletter URL ending in **020701.pdf** is available for downloading only during the six days following the date of the edition. If you need previous Newsletter entries 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. JUDGE DISMISSES LAWSUIT AGAINST MONT. OIL, GAS LEASES

A lawsuit filed by environmental groups to block oil and natural gas leases issued in Montana was dismissed by a federal judge. The groups in their lawsuit argued that the government should require drillers to reduce methane emissions as a condition of leasing. The plaintiffs, however, failed to prove that the lease sales would "lead to climate change impacts resulting in injury to their recreational and aesthetic interests in lands near the leases," U.S. District Judge Sam Haddon ruled

<http://www.seattlepi.com/news/science/article/Judge-sides-with-feds-in-Montana-oil-lease-dispute-4601613.php>

2) HEALTH – A. HEPATITIS A - USA (04): FROZEN BERRIES

The Centers for Disease Control and Prevention (CDC) says an outbreak of hepatitis A linked to a frozen berry mix sold at Costco has grown to 87 people with illnesses in 8 states. CDC said on Tuesday [11 Jun 2013] that illnesses have been reported in Arizona, California, Colorado, Hawaii, Nevada, New Mexico, Utah, and Washington.

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

3) SAFETY – A. INDUSTRY IS URGED TO ADDRESS SAFETY CONCERNS RELATED TO FRACKING

Energy companies need to adopt stricter standards for hydraulic fracturing to address "legitimate concerns" about the safety of the drilling technique, said John Watson, chairman and CEO of Chevron. "Public expectations are very high, and there's no reason they shouldn't be high," Watson said. "There are some risks out there. Some risks are overstated. But we have to engage them either way."

<http://www.bloomberg.com/news/2013-06-11/chevron-ceo-says-industry-must-deal-with-fracking-concern.html>

B. HIGH VOLTAGE OFFSHORE POWER SYSTEMS, JULY 29 TO AUG. 1, HOUSTON

This four-day course is designed to instruct electrical personnel in the safe working techniques for offshore and industrial high voltage applications. Topics to be covered are IEC & NEC standards for HV switching, electrical isolations and flash protection boundaries. Training will be conducted on the startup and troubleshooting of offshore power systems -- including fundamental system principles and dynamics, bus loading management, distribution to lower voltage electrical networks, HV electrical cabling and stress relief concepts and other associated electrical applications.

<http://www.api.org/events-and-training/api-u-training/api-u-calendar/2013-events/07-29-13-hv-ocs>

4) TRANSPORTATION. A CHEVRON CEO: E15 RULE COULD LEAD TO HIGHER DOMESTIC FUEL PRICES

The Environmental Protection Agency's E15 rule could prompt refiners to increase gasoline exports, which in turn would lead to higher domestic prices for the fuel, said John Watson, chairman and CEO of Chevron. E15 adds to costs, many refiners said, and a November 2012 report found that only a small percentage of U.S. vehicles have warranties covering engines using fuel with higher ethanol blends. "If you were me, would you sell a product that engine manufacturers won't certify?"

<http://uk.reuters.com/article/2013/06/11/usa-chevron-ethanol-idUKL2N0EN1KZ20130611>

B. UNITED STATES AND ARKANSAS FILE JOINT COMPLAINT AGAINST EXXONMOBIL FOR PEGASUS PIPELINE OIL SPILL IN MAYFLOWER, ARKANSAS

(Dallas – June 13, 2013) WASHINGTON – Today the United States and the state of Arkansas filed a joint enforcement action against ExxonMobil Pipeline Company and Mobil Pipe Line Company (ExxonMobil) in federal district court in Little Rock, Ark. The complaint addresses ExxonMobil's unlawful discharge of heavy crude oil from a 20-inch-diameter interstate pipeline – the Pegasus Pipeline – that ruptured in Mayflower, Ark., on March 29, 2013.

As alleged in the complaint, a segment of the Pegasus Pipeline ruptured in a residential neighborhood in the town of Mayflower. The pipe was buried approximately two feet below the ground at that location. The oil spilled directly into the neighborhood and then into nearby waterways, including a creek, wetlands, and Lake Conway. Residents were forced to evacuate their homes due to the hazardous conditions in the neighborhood resulting from the spill. The oil has contaminated land and waterways and impacted human health and welfare, wildlife, and habitat. Cleanup efforts are still ongoing, and many residents still have not been able to return home.

The Pegasus Pipeline runs approximately 850 miles from Patoka, Ill., to Nederland, Texas. The pipeline is used to transport Canadian heavy crude oil. The pipeline originally was constructed in the 1940s.

The complaint alleges six causes of action against the defendants. The United States, on behalf of the U.S. Environmental Protection Agency (EPA), seeks civil penalties and injunctive relief under the federal Clean Water Act for the oil spill. The state of Arkansas, on behalf of the Arkansas Department of Environmental Quality (ADEQ) by the authority of the Arkansas Attorney General, seeks civil penalties for violations of the Arkansas Hazardous Waste Management Act and the Arkansas Water and Air Pollution Control Act. The state also seeks a declaratory judgment on ExxonMobil's liability for payment of removal costs and damages related to the spill pursuant to the federal Oil Pollution Act.

COMMENTS:

A. THE WEEK THAT WAS: 2013-06-15 (June 15, 2013)

By Ken Haapala, Executive Vice President, Science and Environmental Policy Project (SEPP) is experiencing computer problem this week, so no presentation is available.

NIPCC in China: The editors of the two large reports by the Nongovernmental International Panel on Climate Change (NIPCC) are attending a press conference held by the Chinese Academy of Sciences (CAS) where CAS announcing the translation of the reports into Chinese. The Academy's invitation to the event stated:

"...NIPCC is what its name suggests: an international panel of nongovernment scientists and scholars who have come together to understand the causes and consequences of climate change. In 2009 and 2011, NIPCC publicized two reports named Climate Change Reconsidered, providing evidences the IPCC ignores and questioning the proposal of IPCC that climate change is caused by human greenhouse gas emissions.

China information center for global change studies of CAS edited and published the Chinese version of "Climate Change Reconsidered: Report of the NPICC" to facilitate Chinese scholars' understanding the opinions of NIPCC. The International Symposium of Global Changes is held on this occasion to enhance exchanges on the new advancements internationally and researches. A press conference will be held, with lead authors of NIPCC reports Craig D. Idso (USA), Robert M. Carter (Australia), S. Fred Singer (USA) and many other prominent scholars of the field presenting."

Researchers from home and abroad are warmly welcomed to attend the conference.

Time: June 15th 2013

Venue: Xijiao Hotel, Beijing

<http://english.ucas.ac.cn/Lists/Events/ListDispForm.aspx?List=dc8f2138-7d88-4a0d-bad4-6939139997da&ID=164>

Such an event clearly illustrates that 1) the science is not settled, 2) the absurdity of claims of 97% of climate scientists support the concept that carbon dioxide (CO₂) emissions are causing unprecedented and dangerous global warming, and 3) leaders of the Chinese Academy have a better command of the principles of modern Western science than the leaders of many once venerable Western scientific institutions.

Also the event vindicates the work by S. Fred Singer who conceived and directed the NIPCC project and Fredrick Seitz who provided valuable guidance until his death in March 2008. Along

with two other scientists, Seitz and Singer were vilified by largely unsubstantiated *ad hominem* attacks by Naomi Oreskes and Erik Conway in the **Merchants of Doubt**. Publications such as *Science* carried fawning reviews of Merchants and refused to publish a rebuttal by Singer, the only one of the four still living.

The Heartland Institute was the publisher of these reports as well as the first one, and will be the publisher of the upcoming report. Please see links under NIPCC in China.

IPCC Hype: According to an article by Bob Ward, who is Policy Director at the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and Political Science, the UN Intergovernmental Panel on Climate Change (IPCC) has secretly delivered the draft of the IPCC Fifth Assessment Report (AR5) to the governments involved. According to the IPCC schedule it would be Summary for Policymakers (SPM) because the authors are still writing the synthesis report and papers are still being accepted. As typical, for the IPCC the summary comes first, then the research. The review of the SPM by governments ends on August 2. The schedule does not clearly state when the government representatives will be negotiating the findings in the SPM.

Ward's article is all too characteristic. "Governments around the world have just received one of the most important scientific reports ever written." According to Ward, the reports state that at the end of the century temperatures will be "about 3 deg C higher than the little ice age."

Apparently, he and the IPCC remain blissfully unaware that the models have not been validated, thus are useless for prediction, and that they are failing miserably.

We will have to wait to see if the IPCC has tightened its review methods as Ward claims:

"...governments and the public can be confident that the report will be the most reliable scientific assessment of climate change that has ever been produced." Please see link under Defending the Orthodoxy, and http://www.ipcc.ch/scripts/calendar_template.php?wg=8#.UzbDmPm1Fc4

Carbon Dioxide and Temperatures: Astrophysicist Murry Salby of Australia's Macquarie University gave a technical talk at Helmut Schmidt University, Hamburg, Germany, on the relationship between CO2 concentrations and temperatures in which he attributes the rise in atmospheric CO2 concentrations more to a rise in temperatures (from natural causes) than from human emissions. His assertions are controversial. For those who wish to explore the arguments and some of the responses please see link under Challenging the Orthodoxy.

The Mean Is Meaningless: Christopher Monckton had a post on WUWT titled "No significant warming for 17 years 4 months". This was followed by a comment by a person identified by only rghatduke, who Judith Curry thinks is Robert Brown, a lecturer in Physics at Duke University. The comments are penetrating. There are many climate models, each making different projections of future temperatures. A mean (average) of the results of these models has no scientific meaning. The models have not been validated and there is no reason to assume the mean of the models approaches some true mean (value). The same applies for standard deviations derived from the models, and to the probability "likelihood" statements of the products of the models. It particularly applies to the "science" presented by the EPA in Federal court. Brown also argued that those models that perform well against temperatures should be enhanced, and those that perform poorly should be thrown out. Please see links under Challenging the Orthodoxy.

It's Real: The US production of oil increased by 14% last year, the greatest increase among countries producing a million or more barrels a year, according to the BP Statistical Review of World Energy, 2013. In 2012, the US was the third largest producer of oil, behind Saudi Arabia and Russia. This increase is in spite of Washington's policies, which have caused the production of oil, natural gas liquids, natural gas, and coal from federal lands to fall, both in quantity and as percentage of total production.

The remarkable developments come from the combination of technological advances in precise horizontal drilling, multi-port hydraulic fracturing using sand or ceramic proppants to keep fractures open under intense pressure, a chemical mix to promote flow, and expanding knowledge of oil and gas bearing formations. Isaac Orr of The Heartland Institute termed it "smart drilling." As more wells are drilled, knowledge on how to drill them and keep them productive expands. We do not know how much oil and natural gas products can be recovered, at a given price level, but with changing technology and knowledge the estimated recoverable amounts expand over time.

A major issue with this boom is getting the oil and gas from the fields to refineries and the market. According to the BP review "The average crude price at a major benchmark hub in Europe last year was \$111.67 a barrel, compared with \$94.13 in Oklahoma." The oil produced from shale is light as compared to that from the North Sea, therefore should command a higher price. The necessary pipelines need to be built, but will be opposed by many in Washington and by environmental organizations, many of which oppose all energy, except, perhaps, that from solar and wind.

At a time in which many in Washington and in the several states are complaining about tight budgets, in 2012 North Dakota experienced a 29% increase in taxable economic activity, according to the editors of Master Resource. This is largely attributable to the oil field activity in the Bakken formation.

Please Article #4 and links under Energy Issues – Non-US, Washington's Control of Energy, and Oil and Natural Gas – the Future or the Past?

Carbon Tax: The Heartland Institute and the R Street Institute hosted a debate on the question: Should conservatives accept a carbon tax? The concept was that the revenues from the carbon tax would be offset by reductions in other taxes, unspecified. Global warming was specifically excluded for the debate. Both sides of the issue were well represented with James Taylor, of Heartland, and David Kreutzer of Heritage Foundation opposed and Andrew Moylan of R Street and former US Representative Bob Inglis, of Energy and Enterprise Initiative in favor. From his questions, it quickly became evident that the moderator, Ronald Bailey of *Reason* magazine, had already formed an opinion supporting of carbon tax.

The debate can be summed as those who do not trust the government to permanently reduce other forms of taxation to offset a carbon tax as opposed to those who do. The proponents of the tax asserted that the EPA would regulate carbon fuels anyway, presenting the false dilemma that the choice is between an expansion of government power thru taxation or the expansion of government power thru EPA blunt force. Inglis asserted that his opponents are against the concept of self-government, as the country's founders envisioned. The false dilemma and the concept of self-government triggered an idea for different debate. The label "conservative" is poorly defined. During the contentious debate on the adoption of the Constitution to replace the Articles of Confederation, many founders grudgingly admitted that a stronger central government was necessary, but stipulated its powers must be few, defined, and limited. To

address these concerns the Bill of Rights was quickly added by the new government. The founders demanding limited government could be identified as conservatives.

The question could be then phrased as: What limits to government power will prompt conservatives to discuss expansion of government powers thru a carbon tax? A possible answer could include clear limits on government regulatory power, especially the EPA, which evokes science that is not publicly available, and uses models that have not been validated, in proclaiming a need for regulatory expansion in the name of public health.

Proposed limits to power could include: 1) no secret science – all data and computer codes must be publically available; 2) independent replication of all studies used to justify regulation; 3) all models used must be validated; 4) all litigation agreements (sue and settle) must meet the above conditions; and 5) all existing regulations not meeting the above must be immediately rescinded. Such conditions should provide a practical basis to discuss the merits of a carbon tax.

Amplifications and Corrections: Last week's TWTW discussed sea level rise, the uncertainty, and the possible acceleration of the rate of rise. Physicist Donald Rapp send a set of papers making a powerful argument that "It is possible that all (or most) of the claimed acceleration is due to ground water depletion, not global warming." He may be right. We appreciate all those who take the time to send amplifications and corrections.

SEPP Web Site: Several readers stated that their antivirus software flagged an item when they downloaded from the SEPP website. We found three unauthorized items, deleted them, and worked with the host provider to tighten the security of the website. One of the items had the name Blackhat, which, years ago was a code name for a NSA operation, purpose unknown. We will endeavor to be vigilant.

Number of the Week: 96%. Last week, TWTW linked to a post by Roy Spencer showing the great divergence between observations and the projections from 73 CMIP5 climate models for the period 1979 to 2012 between latitudes 20 deg N and 20 deg S (approximately the tropics). As stated, the linearization of the observations hide the climate shift shown by the actual data. However, the end points for 2012 are illuminating. A rough measurement shows that 70 out of 73 of the models (96%) projected a warming greater than twice that shown by the observations. All 19 US models were in the 96%. Will this divergence appear in the IPCC AR5?

<http://www.drroyspencer.com/2013/06/epic-fail-73-climate-models-vs-observations-for-tropical-tropospheric-temperature/>

<http://www.sepp.org/twtwfiles/2013/TWTW%206-15-13.pdf>

B. WHAT TO MAKE OF A WARMING PLATEAU

NYT finally admits to a plateau in global warming based on the data.

However, they make a non scientific claim that now deep oceans are collecting heat rather than land. Of course the NYT's did not explain why the ocean suddenly decides to collect heat now, whereas the earth's temperature previously warmed.

http://www.nytimes.com/2013/06/11/science/earth/what-to-make-of-a-climate-change-plateau.html?_r=0

Don Shaw

C. \$20 BILLION PLAN OFFERED TO SAVE BIG APPLE FROM SEA

ASSOCIATED PRESS

NEW YORK — Giant removable floodwalls would be erected around lower Manhattan, and levees, gates and other defenses would be built elsewhere around the city under a nearly \$20 billion plan proposed Tuesday by Mayor Michael Bloomberg to protect New York from storms and the effects of global warming.

It is one of the most ambitious projects ever proposed for defending a major U.S. city from the rising seas and severe weather that climate change is expected to bring.

The plan was outlined seven months after Super-storm Sandy drove home the danger by swamping lower Manhattan and smashing homes and businesses in other shoreline neighborhoods.

This is urgent work, and it must begin now,” Bloomberg said in a speech at the Brooklyn Navy Yard, acknowledging that much of the work would extend beyond the end of his term this year. “Piece by piece, over many years and even decades, we can build a city that’s capable of preparing better, withstanding more and overcoming anything.”

It remains to be seen how the ideas will fare in a future mayoral administration and what kind of support — financial and otherwise — they might get from the federal government and other entities, not to mention from New Yorkers themselves.

Bloomberg said the city and federal money already allocated for Sandy relief would provide \$10 billion for the project, and the city believes it could get at least an additional \$5 billion in federal money.

He acknowledged that some of the ideas could block views of the water and otherwise prove controversial, but “if we’re going to save lives and protect the lives of communities, we’re going to have to live with some new realities.”

In addition to the floodwalls around lower Manhattan, a 15- to 20-foot levee would be built to guard part of Staten Island, and gates and levees would help shield Brooklyn.

The project also calls for building dunes in Staten Island and the Rock-aways, firming up the shoreline with bulkheads in various neighborhoods, and perhaps constructing a levee and a new “Seaport City” development at the South Street Seaport.

In addition, the mayor suggested giving \$1.2 billion in grants to property owners to flood-proof their buildings and \$50 million to nursing homes to improve theirs; making hospitals even in rarely flooded areas upgrade their pumps and electrical equipment; and expanding beaches and marshes.

The sweeping proposals represent a big step up in scale and urgency for a mayor who has for years emphasized the threat climate change poses to the nation’s biggest city, which has 520 miles of coastline.

The average day could be 4 degrees to nearly 7 degrees hotter by mid-century, the panel estimates. A once-in-a-century storm would probably spur a surge 5 or more feet higher than did Sandy, which sent a record 14-foot storm tide gushing into lower Manhattan.

D. OBAMA QUIETLY RAISES 'CARBON PRICE' AS COSTS TO CLIMATE INCREASE

Buried in a little-noticed rule on microwave ovens is a change in the U.S. government's accounting for [carbon emissions](#) that could have wide-ranging implications for everything from power plants to the Keystone XL pipeline.

The increase of the so-called social cost of carbon, to \$38 a metric ton in 2015 from \$23.80, adjusts the calculation the government uses to weigh costs and benefits of proposed regulations. The figure is meant to approximate losses from global warming such as flood damage and diminished crops.

<http://www.bloomberg.com/news/2013-06-12/tougher-regulations-seen-from-obama-change-in-carbon-cost.html>

Public Comment

Even supporters questioned the way the **administration slipped the policy out without first opening it for public comment**. The change was buried in an afternoon announcement on May 31 about efficiency standards for microwave ovens, a rule not seen as groundbreaking.

"This is a very strange way to make policy about something this important," Frank Ackerman, an economist at [Tufts University](#) who published a book about the economics of global warming, said in an interview. The Obama administration "hasn't always leveled with us about what is happening behind closed doors."

Industry representatives are equally puzzled.

"It's a pretty important move. To do this without any outside participation is bizarre," said Jeff Holmstead, a lawyer at [Bracewell & Giuliani LLP \(1222L\)](#) representing coal-dependent power producers and other industry groups. A legal challenge to the determination would be difficult, but could be tried by itself or in a challenge to a specific rulemaking that uses the cost, he said.

Leading Models

The administration first arrived at this calculation in [2010](#) using "leading expert models" and updated it "applying the same methods and assumptions," Office of Management and Budget spokesman Ari Isaacman Astles said in an e-mail.

The Economic Report of the President in March said the administration would update estimates "as new scientific and economic analysis become available."

The administration's new carbon cost is key to a wide range of policies, which get subject to cost-benefit analysis in the rulemaking process or at OMB. Obama is considering more energy efficiency standards for everything from buildings to vending machines.

In addition, the Environmental Protection Agency is late on issuing rules to cap greenhouse-gas emissions from new [power plants](#), a standard that would preclude the construction of new coal-fired power plants that don't have expensive carbon-capture technology. Lobbyists representing companies such as [American Electric Power Co. \(AEP\)](#) and [Southern Co. \(SO\)](#) have urged the EPA to scale back that plan. "

Also check out this website for a 2010 presidential executive order that has procedures for calculating the **social** cost of carbon based on UN IPCC AR 4 which we now know greatly exaggerates global warming probabilities and sensitivities.

<http://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf>

Don Shaw

E. REPORT URGES MIX OF NATURAL GAS, RENEWABLE ENERGY

By Jeannie Kever

Renewable energy and natural gas could work together as sources of electricity generation, rather than as competitors on the Texas grid, according to a new report produced for the Texas Clean Energy Coalition.

“The bottom line is that Texas is going to require a significant source of new generation in the immediate future,” said former state Sen. Kip Averitt, the coalition chairman. “We believe there is a place for renewable energies, especially when backed up with natural gas as the base.”

<http://www.eandp-environment.net/Environment/Env020701.pdf>

F. IMAGING THE GREENHOUSE EFFECT WITH A FLIR I7 THERMAL IMAGER

What is the atmospheric greenhouse effect? It is the warming of the surface and lower atmosphere caused by downward infrared emission by the atmosphere, primarily from water vapor, carbon dioxide, and clouds.

Greenhouse gases and clouds cause the lower atmosphere to be warmer, and the upper atmosphere to be cooler, than if they did not exist...just as thermal insulation in a house causes the inside of a heated house to be warmer and the outside of the house to be cooler than if the insulation was not there. While the greenhouse effect involves energy transfer by infrared radiation, and insulation involves conduction, the thermodynamic principle is the same

Roy Spencer

<http://www.drroyspencer.com/2013/05/imaging-the-greenhouse-effect-with-a-flir-i7-thermal-imager/>

G. CANADIAN REGULATOR WAIVES OIL-SANDS ENFORCEMENT PENALTIES

By CHESTER DAWSON



Reuters

Tailings ponds, like this one in Alberta in 2011, hold waste from oil sands.

CALGARY—Canadian oil sands producers failed to meet promised targets for reducing toxic waste, but the chief provincial regulator has waived enforcement penalties, citing progress the industry has made introducing new technology.

A report from Alberta's Energy Resources Conservation Board, which was released last week, found all four mines reviewed in the province's main area of production didn't meet clean-up goals over a two-year cumulative period.

The report illustrates challenges faced by the oil sands industry as it seeks to improve its environmental track record. It also may complicate Canadian efforts to win U.S. approval for the Keystone XL pipeline designed to ship more oil from the province to refineries on the Gulf of Mexico.

A decision on that project, which has been criticized by environmental groups opposing oil sands development, is expected from Washington sometime later this year.

Alberta's environmental minister, Diana McQueen, who has pledged to devise a separate framework to bolster monitoring of oil sands clean-up efforts, said she is confident the industry will eventually achieve promised reductions.

"It's taking us a little bit longer as the ERCB reported, but the industry is accountable" for hitting reclamation targets, Ms. McQueen said in an interview. "We are working with industry toward meeting their commitments" longer-term, she said.

The ERCB, Alberta's main energy regulator, said it won't impose penalties on [Royal Dutch Shell RDSB.LN -0.50%](#) or [Suncor Energy Co. SU.T -0.65%](#) despite underperformance at their oil sand mining operations in each of the past two years. The partially industry-financed body attributed the missed targets to unanticipated kinks in deploying new techniques to reclaim so-called tailings, or fluid waste from oil sands.

"Virtually all of the mines had some progress, just not as much as we'd hoped. But this is a long-term process," said ERCB executive manager Terry Abel.

While the ERCB said reclamation efforts cut tailings by some 5 million cubic meters during the 2010-2011 period, overall volumes of tailings grew 27.5% from 2009 to 925 million cubic meters today.

Shell and Suncor quibbled with some metrics used by the ERCB, but said they are committed to reducing oil sand wastes as their clean-up methods are fine-tuned.

"Our long-term focus and driver is to minimize our footprint and speed up reclamation," Suncor spokesperson Sneh Seetal said in an email.

"We're delivering new and complex technology at a commercial scale at an aggressive pace," Shell spokesman David Williams said in an email. "Our technology can accelerate the pace of tailings reclamation in the long term."

The report comes just weeks after Alberta Premier Alison Redford highlighted oil sand reclamation efforts during a visit to Washington, D.C., to build support for the Keystone project. In a speech delivered at the Brookings Institution in April, Ms. Redford pledged that fluid tailings growth would be halted by 2016 and that tailing ponds would "disappear from Alberta's landscape in the very near future."

Oil sand wastes, which are toxic in high concentrations, are a byproduct of mining when bitumen, or heavy oil, is separated from clay, sand and silt. Tailing ponds where wastes are collected have become a magnet for critics, who say they are an eye sore and dangerous to wildlife.

In 2011, mine operators in Alberta produced more than 52 million cubic meters of bitumen from 520 million metric tonnes of oil sands.

Write to Chester Dawson at chester.dawson@wsj.com

A version of this article appeared June 13, 2013, on page B4 in the U.S. edition of The Wall Street Journal, with the headline: Regulator Waives Oil-Sands Penalties.

H. STORM-TRACK ACTIVITY: MODELED VS. MEASURED (11 JUN 2013)

The authors of this report identify several model biases that exist, suggesting that it may yet be some time before an accurate representation of future storm tracks can be made.

<http://nipccreport.org/articles/2013/jun/11jun2013a1.html>

I. EFFECTS OF ELEVATED CO₂ ON PLANT ATTACKS BY HERBIVOROUS INSECTS (11 JUN 2013)

Do the changes in plant characteristics wrought by atmospheric CO₂ enrichment help or hurt the plants? According to the four Swiss scientists who conducted this study, "doubling the ambient CO₂ concentration had a marked effect on plant colonization by winged aphids particularly when plants were exposed to CO₂ for longer periods," where "elevated CO₂ led to a respective 15 and 26% reduction of colonization rates" after a period of 6 and 10 weeks, respectively...

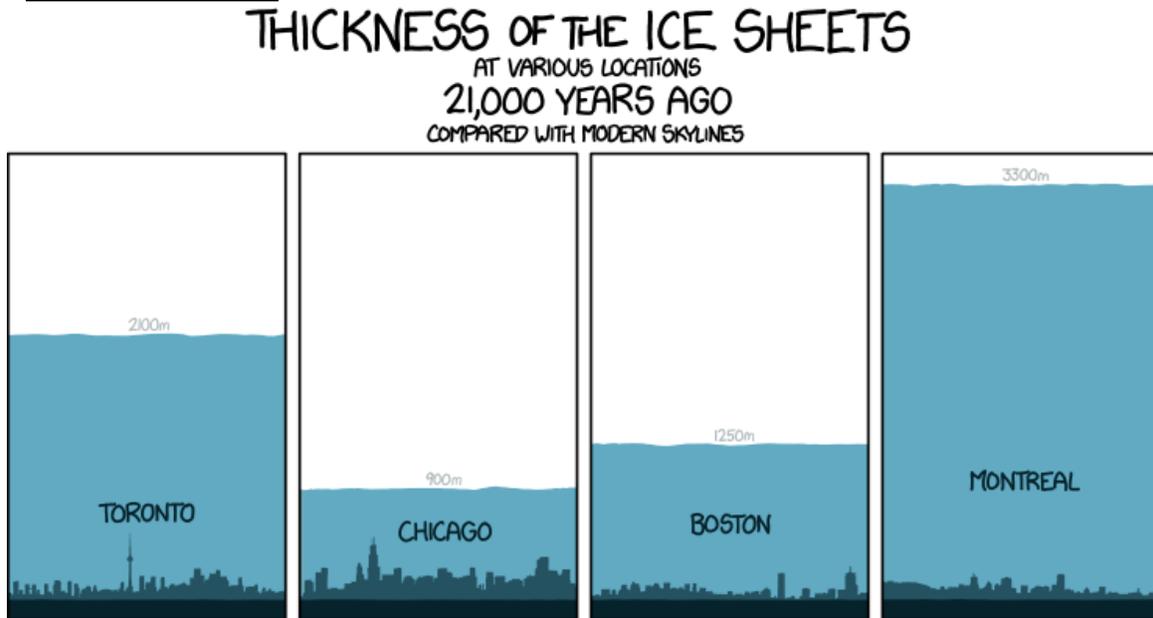
<http://nipccreport.org/articles/2013/jun/11jun2013a2.html>

J. REASSESSING THE PAST CENTURY OF WARMING IN AUSTRALIA (11 JUN 2013)

Did it warm faster or slower than what was previously believed to have been the case? The authors of this paper conclude that biases “have exaggerated apparent Australian warming.” And when those exaggerations are properly addressed, their analysis suggests that Australia appears to have warmed to a lesser degree over the past century...

<http://nipccreport.org/articles/2013/jun/11jun2013a3.html>

K. ICE SHEETS



“Data adapted from ‘The Laurentide and Innuitian ice sheets during the Last Glacial Maximum’ by A.S. Dyke et. al., which was way better than the sequels ‘The Laurentide and Innuitian ice sheets during the Last Glacial Maximum: The Meltdown’ and ‘The Laurentide and Innuitian ice sheets during the Last Glacial Maximum: Continental Drift’.”

Don Shaw

L. INDUSTRY SHOULD ADDRESS CLIMATE CHANGE, IEA ECONOMIST SAYS

The oil and natural gas industry shouldn't ignore climate change, as it is a serious financial threat, said Fatih Birol, the International Energy Agency's chief economist. Global warming will lead to more storms, floods and cyclones, he said. "And this will affect the infrastructure of energy companies -- we think especially for the offshore oil and gas production, in the North Sea, Western Australia, the Gulf of Mexico," Birol said.

<http://fuelfix.com/blog/2013/06/15/economist-climate-change-a-financial-threat-to-oil-companies/>

M. GULF OF MEXICO'S EXTINCTION-BY-ETHANOL

The pollution in the Gulf of Mexico from corn ethanol has been well known for years; yet ignored by our government and the environmentalists. I attended a conference over 13 years ago where this problem was outlined. We make a big deal when a small oil spill occurs in the Gulf (The BP oil spill was not small) while ignoring the well known fact that runoff from the corn

farming causes a swath of the northern Gulf of Mexico that each summer turns into a dead zone, drained of oxygen and devoid of life, and will be larger this year than usual.

“If conditions are right this year, the dead zone might occupy an area the size of New Jersey, or 7,800 square miles.”

“Once the Mississippi's waters reach the Gulf and the warming sun, the nutrients cause huge algal blooms. While the algae are blossoming, they suck oxygen from the water, and again after they die and fall to the bottom to decompose, where bacteria further deplete the water of oxygen. Fish either die or head farther from shore.”

It is a disgrace that the EPA ignores this environmental issue while mandating more and more ethanol each year.

Read the Bloomberg article below:

Gulf of Mexico's Extinction-by-Ethanol

<http://www.bloomberg.com/news/2013-06-14/gulf-of-mexico-s-extinction-by-ethanol.html>

“Less than a year after the summer drought of 2012 baked the U.S. grain belt, farmers in the region have been deluged by rain.”

“Aside from the threat that weather might pose for a second year to the U.S. harvest, the heavy rains may help fulfill a prediction by the National Oceanic and Atmospheric Administration: A swath of the northern Gulf of Mexico that each summer turns into a dead zone, drained of oxygen and devoid of life, will be larger than usual.”

“The science behind this phenomenon is well understood. So are the remedies, the most practical of which would require changes in farming policy and practices.”

“The dead zone starts innocently enough. Each year, when the snow melts and spring rains fall on Midwest farmland, millions of tons of nitrogen-based fertilizer that was applied to barren fields the previous autumn are washed into Mississippi River tributaries.”

“In years when there is more rain, more nitrogen ends up in the water -- and vice versa. Last year's drought is considered the main reason the 2012 dead zone covered only 2,889 square miles in the Gulf, the smallest in several years, and down from 6,767 square miles in 2011. If conditions are right this year, the dead zone might occupy an area the size of New Jersey, or 7,800 square miles. Researchers usually take an official measurement in July. “

“A state-federal environmental task force in 2008 set a goal of reducing the amount of nutrients in the Mississippi by 45 percent by this year. By all accounts, little progress has been made.”

“And the U.S. grows a lot of corn -- more than any other country. What's more, 40 percent of the U.S. corn crop is devoted to making ethanol, which fuel companies must blend with gasoline under a congressional mandate. The Gulf dead zone is yet another reason for Congress to kill that mandate.”

Don Shaw

N. COMMITTEE RELEASES WHITE PAPER EXAMINING ENERGY POLICY INFLUENCES OF RENEWABLE FUEL STANDARD

Continuing its bipartisan review of the Renewable Fuel Standard (RFS), the House Energy and Commerce Committee recently released the fourth in a series of white papers examining a number of issues emerging with the current system. Energy and Commerce Committee Chairman Fred Upton (R-MI) and Ranking Member Henry A. Waxman (D-CA) are leading this

effort to review the law and its implementation and are soliciting input from interested stakeholders.

The fourth white paper addresses several energy policy considerations related to the RFS, including its role in enhancing energy security, and poses a number of questions for discussion. The following is a sample of the questions:

- How vulnerable is the United States currently to major oil supply and price disruptions? In the context of rising domestic oil production and falling demand, how important is it to adopt new and strengthen existing policy measures to further reduce our dependence on oil?
- How has the RFS contributed to improved energy security? To what degree should the reduction in U.S. oil imports be attributed to the RFS?
- How do the costs and benefits of the RFS compare to those of other federal policies to diversify fuels used in the transportation sector, diversify transportation options, and reduce oil dependence through other means?
- What has been the impact of the RFS on oil prices? What has been the impact on gasoline and diesel fuel prices? What has been the impact on oil and fuel price volatility? How will these impacts change in the years ahead?
- Could the RFS be modified to enhance energy security further? Should the range of qualifying fuels be expanded? If so, how? If not, why not?

The Energy Policy white paper may be read at:

<http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/20130607RFSWhitePaper4.pdf>

The Committee is requesting interested stakeholders respond by June 21, 2013, to RFS@mail.house.gov

O. IEA REPORT RECOMMENDS FOUR POLICIES TO STOP GROWTH IN ENERGY-RELATED EMISSIONS BY 2020

Warning that the world is not on track to limit the global temperature increase to 2 degrees Celsius, the International Energy Agency (IEA) is urging governments to swiftly enact four energy policies that would keep climate goals alive without harming economic growth.

New estimates for global energy-related carbon dioxide (CO₂) emissions in 2012 reveal a 1.4 percent increase, reaching a record high of 31.6 gigatonnes (Gt), but also mask significant regional differences. In the United States, a switch from coal to gas in power generation helped reduce emissions by 200 million tons (Mt), bringing them back to the level of the mid-1990s. China experienced the largest growth in CO₂ emissions (300 Mt), but the increase was one of the lowest it has seen in a decade, driven by the deployment of renewables and improvements in energy intensity. Despite increased coal use in some countries, emissions in Europe declined by 50 Mt. Emissions in Japan increased by 70 Mt.

The new IEA report presents the results of a 4-for-2°C Scenario, in which four energy policies are selected that can deliver significant emissions reductions by 2020, relying only on existing technologies that have already been adopted successfully in several countries. Those four energy policies are:

- Limiting the construction and use of the least-efficient coal-fired power plants;
- Increasing the share of power generation from renewables (from around 20 percent today to 27 percent in 2020), as does that from natural gas;

- Implementing a partial phase-out of fossil fuel consumption subsidies, which accounts for 12 percent of the reduction in emissions and supports efficiency efforts; and,
- Targeting energy efficiency measures in buildings, industry and transport.

The report also finds that the energy sector is not immune from the physical impacts of climate change and must adapt. In mapping energy-system vulnerabilities, it identifies several sudden and destructive impacts, caused by extreme weather events, and other more gradual impacts, caused by changes to average temperature, sea level rise and shifting weather patterns. To improve the climate resilience of the energy system, it highlights governments' role in encouraging prudent adaptation (alongside mitigation) and the need for industry to assess the risks and impacts as part of its investment decisions.

To download the WEO special report "Redrawing the Energy-Climate Map," please visit:

<http://www.worldenergyoutlook.org/media/weowebiste/2013/energyclimatemap/RedrawingEnergyClimateMap.pdf>

To view the presentation that accompanied the report's launch, go to:

<http://iea.org/media/presentations/RedrawingTheEnergyClimateMapPresentation.pdf>

P. THE RATIONALE FOR WIND POWER WON'T FLY

By JAY LEHR

To understand the folly that drives too much of the nation's energy policies, consider these basic facts about wind energy.

After decades of federal subsidies—almost \$24 billion according to a recent estimate by former U.S. Sen. Phil Gramm—nowhere in the United States, or anywhere else, has an array of wind turbines replaced a single conventional power plant. Nowhere.

But wind farms do take up space. The available data from wind-power companies, with which the Environmental Protection Agency agrees, show that the most effective of them can generate about five kilowatts per acre. This means 300 square miles of land—192,000 acres—are necessary to generate the 1,000 megawatts (a billion watts) of electricity that a conventional power plant using coal, nuclear energy or natural gas can generate on a few hundred acres. A billion watts fulfills the average annual power demand of a city of 700,000.

Taxpayer support for wind energy will eventually come to an end, I optimistically predict. The only question is how soon. My pessimistic guess is it will take another decade—by which time the number of wind turbines, currently about 45,000 according to the American Wind Energy Association, could more than double.

It is unclear whether very many wind-energy firms have sufficient monetary reserves to cover dismantling these behemoth lawn sculptures once the tax credits wind down or disappear. If not, the result will be a scene from a science fiction movie—as though giant aliens descended onto our planet only to freeze in place.

The promise that wind and solar power could replace conventional electricity production never really made sense. It's known to everybody in the industry that a wind turbine will generate electricity 30% of the time—but it's impossible to predict when that time will be. A true believer might be willing to do without electricity when the wind is not blowing, but most people will not. And so, during the 30% of the time the blades are spinning, conventional power plants are also spinning on low, waiting to operate during the other 70% of the time.

Importantly, the amount of electricity the wind can generate per acre of land is unrelated to the size of the turbines. Yes, by doubling the turbine's blade length you double the turbine's power output. The problem? If the turbines are big and tall you need fewer of them, but they must be more widely separated. If they're smaller you need more of them, closer together.

Another inescapable problem for electricity grids: The power generated by a wind turbine varies with the cube of the wind speed. When the wind speed doubles—say from 10 miles per hour to 20 miles per hour—the energy output increases eightfold ($2 \times 2 \times 2$). Someone, or some computer, has to balance these huge variations on the grid by calling on standby generators to produce more or less power to maintain the stability essential to the grid.

So, you might wonder, do high winds make turbines really hum? No. Turbines must be shut down in high winds because centrifugal force would begin to tear the blades apart. Also, the world has learned from experience in Europe—whose wind sculpture gardens may one day dwarf ours—that a one-millimeter buildup of bugs on the blades reduces their power output by as much as 25%.

There are other problems. Thousands of turbine breakdowns and accidents have been reported in recent years. The basic concrete foundations are suffering from strains, as reported by industry sources and on the wind-farm construction website windfarmbop.com.

And there are environmental factors. Annoying, low-frequency noise produced by wind turbines, particularly large turbines, is driving some people away from their homes, according to numerous press reports. (Low-frequency noise regulations are already in place in Denmark while the phenomenon is the subject of continuing research.) The Audubon Society now estimates bird deaths from turbines exceed a million per year.

Wind is at best a niche player in energy. Grandiose claims made on behalf of wind-generated electricity are rubbish, whether or not renewable-energy advocates admit it. Wind-power developers will milk taxpayers across the world out of a few billion more dollars, euros or pounds in subsidies, tax credits and the like, but sooner or later the public will wise up.

Dr. Lehr, a geological engineer and hydrologist, is science director of the Heartland Institute.

A version of this article appeared June 18, 2013, on page A17 in the U.S. edition of The Wall Street

Q. CALIFORNIA'S CAP-AND-TAX GRAB

Democrats raid carbon-emissions auction revenue to finance more welfare spending

Democrats in Sacramento are taking a victory lap for balancing this year's budget without raising taxes (not counting the \$6 billion retroactive hike voters approved at political gunpoint in November). The dirty little secret is they're instead tapping California's new cap-and-trade program.

California expects to generate \$500 million this year from auctioning off permits to emit carbon, and between \$2 billion and \$14 billion annually by 2015. This rich new vein of revenues was supposed to flow to green programs (e.g., solar subsidies), but Governor Jerry Brown cut a deal with Democrats in the legislature to seize this year's proceeds to finance more generous welfare and Medicaid benefits. Environmentalists are suddenly stunned to discover that they're not exempt from Sacramento's generally accepted accounting principle of raiding internal accounts to backfill the budget.

Mr. Brown has vowed to repay the \$500 million cap-and-trade "loan" in short order. But as a matter of law, he has until the California Air Resources Board (CARB) says it needs the cash to

administer the cap-and-trade program. That may be never since CARB's expenditures are discretionary, and the quarterly auctions will produce gushers of revenues that guarantee the cap-and-trade fund never runs dry.

The board's chairwoman Mary Nichols, who's endorsing the raid, has tried to quell enraged environmentalists by reminding them that "the part about the cap-and-trade program that is reducing greenhouse gas emissions, it's the cap," and "not the revenue that we get from the allowances."

Good point, and one which businesses are making in a lawsuit that contends the state is levying an unconstitutional tax under the guise of a "regulatory fee." California's Prop. 13 (1978) requires a supermajority vote of the legislature to raise taxes. CARB circumvented this requirement in 2011 by setting up a state-run auction to sell permits and calling the profits "regulatory fees" that would be used to mitigate emissions.

But as the state Supreme Court underscored in its 1997 Sinclair Paint Co. opinion, regulatory fees cannot "exceed in amount the reasonable cost of providing the protective services for which the fees are charged" or be imposed for "unrelated revenue purposes."

California has never quantified the "reasonable cost" to protect the public from carbon emissions, and it's hard to argue that spending cap-and-trade dollars on welfare checks advances environmental objectives. The state doesn't need to auction off permits to reduce greenhouse gas emissions. It could achieve its emissions targets by giving away permits for free and ratcheting the cap down over time.

In short, California Democrats are proving that the real point of cap and trade is to give politicians another revenue stream for income redistribution while dodging accountability for raising taxes. That's worth keeping in mind when liberals resurrect the scheme for the entire U.S.

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Regards
George