

The Week That Was: 2012-10-20 (October 20, 2012)
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The Science and Environmental Policy Project

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Quote of the Week: *"The models have been validated."* Angeline Purdy, Attorney, Department of Justice, representing the US EPA, on the IPCC models.

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Number of the Week: 13.83 & 13.33 times

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THIS WEEK:

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

The Pause: Last week TWTW mentioned a new set of surface temperature data from the HadCRU, which showed little or no warming for 16 years as measured by surface instruments. [The Hadley Centre of the UK Met Office compiles the sea surface temperatures and the Climatic Research Unit (CRU) compiles the land surface-air temperatures (the air slightly above the land surface)] The new data seemed of little interest to the press until the *Mail* (UK) featured an article by David Rose headlined with "Global warming stopped 16 years ago ..." Then the fun began.

The *Guardian* (UK) carried an article written by Nana Nuccitelli of the web site Skeptical Science, which bills itself as "Getting skeptical about global warming skepticism." This article quibbled about temperature trends to one-hundredth of a degree per decade, as if that is truly measurable.

In the Climategate emails released in 2009, Phil Jones, the director of the CRU, worried about the failure of global temperatures to rise. With the new data, he now states 15 to 16 years is too short of a period to draw any conclusions. It may be; however, the computer models used by the Intergovernmental Panel on Climate Change (IPCC) project a warming of at least 0.2 deg C per decade or at least 0.3 deg C for this 15 year period. They are clearly off.

Further, to justify the lack of warming Jones is quoted as stating: "We don't fully understand how to input things like changes in the oceans, and because we don't fully understand it you could say that natural variability is now working to suppress the warming. We don't know what natural variability is doing."

Anthony Watts quotes a statement in a report by the US National Oceanic and Atmospheric Administration (NOAA) titled *State of the Climate in 2008*: "**The simulations rule out (at the 95% level) zero trends for intervals of 15 yr or more, suggesting that an observed absence of warming of this duration is needed to create a discrepancy with the expected present-day warming rate.**" [Boldface added.]

In an article discussing the issue, John Nielsen-Gammon states: "If you plot other data sets, you'll get slightly different results, but the same take-home message: there's nothing in recent global temperatures that disproves the importance of CO₂ [carbon dioxide] as an agent for climate change." This is technically correct; however, in hypothesis testing the data should support the assertion that carbon dioxide is a major cause of global warming.

According to Tyndall Centre for Climate Change, world-wide carbon dioxide emissions from fossil fuels and cement grew from 6.66 PgC/yr (Petagrams of Carbon per Year) in mid-year 1997 to 9.14 in mid-year 2010, an increase of 37% <http://www.tyndall.ac.uk/global-carbon-budget-2010>. According to other reports, emissions have continued to grow since. If the IPCC models are correct, the earth should be experiencing some warming with this CO2 increase. (PgC/yr can be converted to tonnes of CO2 per year by multiplying by 3.67)

Perhaps being a bit politically insensitive, Judith Curry recommends waving the Italian flag, with Green standing for evidence supporting carbon dioxide caused warming, White for uncertainty and unknowns, and Red for evidence against. Curry suggests that white is now the dominant color – that uncertainty and unknowns are huge. Please see links under The Pause.

The Models – Uncertainty? In her presentation at the Workshop on Handling Uncertainty in Weather and Climate Prediction sponsored by the Royal Society, Judith Curry presented a few slides that must be unsettling to climate modelers as well as the IPCC – she dared question the purpose of expanding the climate models as matters stand now. Among her major points are:

- Increasing the complexity of the models does not necessarily yield greater scientific certainty.
- There are too many degrees of freedom in the models resulting in great uncertainty and large areas of ignorance. [Degrees of freedom can be roughly defined as independent pieces of information that are allowed to vary within the model.]
- Highly unlikely scenarios should not dominate political decision making.
- Improving the models for societal needs is based on three dubious assumptions: The models are fit, useful, and the best choice for this purpose.

In her summary, Curry raises a fundamental issue: that with the high costs of model production runs, “climate models are becoming less fit for the purpose of increasing our understanding of the climate system.”

TWTW would add that the resources would be better used towards understanding the natural drivers of climate change than on chasing carbon-dioxide-caused climate change. According to a summary of government estimates, the US has spent over \$35 Billion on climate science and over \$150 Billion on global warming / climate change. Although the US has some great instruments onboard satellites, the bulk of the monies have been mal-appropriated.

Please see links under Seeking a Common Ground and on the new US super-computer for climate change under Defending the Orthodoxy.

The Data v. A Statistic: TWTW is not enamored with the reporting of global air surface temperatures with a single statistic, such as a global average. Causes of concern include issues with air-surface instruments, the likelihood that minimum temperatures have been increasing with slight changes in the surrounding area, and the frequent manipulation of the data by reporting agencies without clear justification for the manipulation. In addition, the single statistic buries the global composition of the warming / cooling. As the satellite data show, the warming is concentrated in the northern part of the Northern Hemisphere. Please see:

http://nsstc.uah.edu/climate/2011/November/trend_Dec78_Nov11_alt.png

Even with satellite data there is a tendency to develop a trend using regression analysis or similar tools. An examination of the historic satellite data itself shows two long periods of no warming trend separated by period of discontinuity. The exact dates of the discontinuity depend upon the views of the researcher, but they are around the time of the great El Niño of 1998 or shortly thereafter. This discontinuity is a jump in the average temperature anomaly from -0.1 deg C to +0.1 deg C. The cause of this discontinuity should be a subject of great interest, but it is lost to the Climate Establishment. Please see: <http://nsstc.uah.edu/climate/>.

Responsible Advocacy by Scientists: Roger Pielke Jr, posted that the InterAcademy Council, a multi-nation organization national science academies, issued a report on the “Responsible Conduct in Research Enterprise.” The report is based on seven fundamental values. Four of the values are generally consider values for good citizenship. Three of the values are more applicable for scientists. These three values are skepticism, accountability, and openness. Let us hope that entities that fund climate research demand all the values from their researchers.

The Quote of the Week: In the oral arguments on the litigation on the EPA finding that greenhouse gases endanger human health and welfare cited in last week’s TWTW and the TWTW on March 3, 2012, Angeline Purdy was introduced as the technical expert on the scientific evidence that there is 90 to 99% certainty in the findings of the IPCC and its models. Clearly, there is some difference of opinion between Ms. Purdy and researchers such as Phil Jones of CRU as well as Judith Curry. Four-time IPCC expert reviewer Vincent Gray of New Zealand would take great exception to Ms. Purdy’s comments.

Validation is a rigorous process during which unknowns are greatly reduced or eliminated. Even basic assumptions in the IPCC climate models, such as a warming caused by carbon dioxide will be amplified by an increase in water vapor over the tropics, have not been validated.

The IPCC grossly overstated the certainty of its science and its models and understated the natural variability. The gross overstatement is now part of the US legal system. The EPA used the overstatement of certainty in its endangerment finding which the US Federal Court of Appeals accepted.

The entire episode reveals that the public has no protection from the Federal courts against overzealous government agencies, which claim scientific support of their regulations. These miscarriages of justice must be remedied either by permitting challenges to government pronouncements of science or by establishing special scientific courts in which the jurists are well versed in the principles of science, the scientific method, scientific knowledge, and uncertainty.

Number of the Week: 13.83 & 13.33 times. In its *Summary for Policymakers* in its Fourth Assessment Report (AR4, 2007), the IPCC gave a chart on Radiative Forcing Components of global warming. The only natural component considered is Solar Irradiance (sunlight). Using the best estimated values, increases in carbon dioxide forcing are 13.83 times greater than increases in natural (sunlight) forcing. The chart also gives other human caused changes, such as aerosols (refer to degrees of freedom discussed above). According to the IPCC, some of these forcing agents have a negative forcing effect, but these have not been empirically established, thus are calculated as a product of the models. Before the values for carbon dioxide forcing can be

accepted, the values of these other forcing agents need to be empirically verified, not just calculated as a product of the models.

Using the net values at the bottom of the chart, the value for the net human forcing is 13.33 times greater than the value of natural forcing (sunlight). For the chart please see the link to the article by Tim Ball under Challenging the Orthodoxy.

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ARTICLES:

For the numbered articles below please see this week’s TWTW at: www.sepp.org. The articles are at the end of the pdf.

1. Energy in the Executive

The President's real record on fossil fuels.

Editorial, WSJ, Oct 17, 2012

http://online.wsj.com/article/SB10000872396390444734804578062721764365776.html#mod=djemEditorialPage_t

2. The Solyndra Memorial Tax Break

How Energy passed out tax-loss credits that mean taxpayers will pay twice for failure.

Editorial, WSJ, Oct 15, 2012

http://online.wsj.com/article/SB10000872396390444799904578050803545600588.html?mod=WSJ_Opinion_LEADTop

3. Obama's Great Alaska Shutout

Interior bans drilling on 11.5 million acres of 'petroleum reserve.'

Editorial, WSJ, Oct 14, 2012 [H/t Timothy Wise]

http://online.wsj.com/article/SB10000872396390443768804578040873921142716.html?mod=ITP_opinion_2

4. A Quiet, Faraway Milestone for Humanity

The satellite Voyager 1, launched in 1977, could be the first human-made object ever to leave our solar system.

By Lawrence Krauss, WSJ, Oct 19, 2012

http://online.wsj.com/article/SB10000872396390443675404578057121133411606.html?mod=WSJ_Opinion_LEFTTopOpinion

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NEWS YOU CAN USE:

Climategate Continued

“Forensic Bioinformatics”

By Steve McIntyre, Climate Audit, Oct 16, 2012

<http://climateaudit.org/2012/10/16/forensic-bioinformatics/#more-17077>

[SEPP Comment: An interesting parallel between honest efforts to replicate cancer research and hones efforts to replicate the hockey-stick, and how proponents of the research avoided the responsibility to investigate the research properly.]

Lewandowsky and “Hide the Decline”

Steve McIntyre, Climate Audit, Oct 14, 2012
<http://climateaudit.org/2012/10/14/lewandowsky-and-hide-the-decline/>

Challenging the Orthodoxy

Is Climate Change the Number One Threat to Humanity?

By Indur Goklany, WUWT, Oct 17, 2012

<http://wattsupwiththat.com/2012/10/17/is-climate-change-the-number-one-threat-to-humanity/>

[SEPP Comment: Goklany thanks the editors of the journal for their professional attitude in inviting and publishing his new paper, which challenges those who predict dire consequences from global warming. A summary of the new paper is included.]

New paper cuts recent anthropogenic warming trend in half

By Marcel Crok, WUWT, Oct 17, 2012

<http://wattsupwiththat.com/2012/10/17/new-paper-cuts-recent-anthropogenic-warming-trend-in-half/>

[SEPP Comment: Includes an analysis of the importance of the Atlantic Multidecadal Oscillation (AMO)]

What Causes El Niño / La Niña? IPCC Doesn't Know, But Builds Models and Makes Projections Anyway

By Tim Ball, A Different Perspective, Oct 16, 2012

<http://drtimball.com/2012/what-causes-el-nino-la-nina-ipcc-doesnt-know-but-builds-models-and-makes-projections-anyway/>

GHCN's Dodgy Adjustments In Iceland

By Paul Homewood, WUWT, Oct 15, 2012

<http://wattsupwiththat.com/2012/10/15/ghcns-dodgy-adjustments-in-iceland/>

[SEPP Comment: The temperature history for locations in Iceland published by the Global Historic Climatology Network (GHCN) [part of NOAA] is inconsistent with the temperature history from the Icelandic Met Office.]

Defending the Orthodoxy

Science Of Global Climate Modeling Confirmed By Discoveries On Mars

By Staff Writers, Tucson AZ (SPX), Oct 17, 2012

http://www.terraily.com/reports/Science_of_Global_Climate_Modeling_Confirmed_By_Discoveries_On_Mars_999.html

Climate negotiations relying on 'dangerous' thresholds to avoid catastrophe will not succeed

By Staff Writers, Gothenburg, Sweden (SPX) Oct 17, 2012

http://www.terraily.com/reports/Climate_negotiations_relying_on_dangerous_thresholds_to_avoid_catastrophe_will_not_succeed_999.html

[SEPP Comment: Avoid any rigorous definition of a "dangerous threshold."]

Global drought a 'new normal': report

By Staff Writers, New York (UPI), Oct 18, 2012

http://www.terraily.com/reports/Global_drought_a_new_normal_report_999.html

[SEPP Comment: Now that Wall Street Bankers declare it is true, it must be true!]

Wyoming experiences that “giant sucking sound” as new coal fired climate supercomputer is turned on

By Anthony Watts, WUWT, Oct 16, 2012

<http://wattsupwiththat.com/2012/10/16/wyoming-experiences-that-giant-sucking-sound-as-new-coal-fired-climate-supercomputer-is-turned-on/>

[SEPP Climate: To fight the dangerous global warming / climate change they claim is occurring, should not their computer run on wind and solar power only?]

Questioning the Orthodoxy

Gergis hockey stick withdrawn. This is what 95% certainty looks like in climate science.

By Jo Nova, Her Blog, Oct 20, 2012

<http://joannenova.com.au/2012/10/gergis-hockey-stick-withdrawn-this-is-what-95-certainty-looks-like-in-climate-science/>

Climate-Change Exaggeration: Then and Now

By Robert Bradley Jr., Master Resource, Oct 15, 2012

<http://www.masterresource.org/2012/10/climate-exaggeration-then-now/#more-22203>

[SEPP Comment: Questioning global warming / climate alarmists.]

Has the CSIRO lost its way?

By Garth Paltridge, Financial News, AU, Oct 19, 2012 [H/t Des Moore]

http://afr.com/p/lifestyle/review/has_the_csiro_lost_its_way_GQXJkn51cSmSovqKYdMAcI

The real point is that the CSIRO needs to steer clear of the public service philosophy that politicians should be protected from conflicting advice. Science is, after all, about uncertainty. And politicians, after all, are paid precisely for the purpose of making decisions in the face of uncertainty and diverse opinion.

[SEPP Comment: The CSIRO is the Commonwealth Scientific and Industrial Research Organisation in Australia.]

Expanding the Orthodoxy

The impacts of climate change on terrestrial Earth surface systems

By Jasper Knight & Stephan Harrison, Nature Climate Change, Oct 14, 2012

<http://www.nature.com/nclimate/journal/vaop/ncurrent/full/nclimate1660.html>

400 plants and animals added to 'threatened' list

By Staff Writers, Hyderabad, India (AFP), Oct 17, 2012

http://www.terraviva.com/reports/400_plants_and_animals_added_to_threatened_list_999.html

P3: People, Prosperity and the Planet Student Design Competition for Sustainability

Announcement, EPA, Sep 12 to Dec 11, 2012 [H/t Peter Friedman]

<http://www.epa.gov/p3/>

[SEPP Comment: Will EPA's version of sustainability lead to prosperity or economic stagnation?]

Trouble Within the Orthodoxy

Too late to stop global warming by cutting emissions

By Staff Writers, Johannesburg, South Africa (SPX) Oct 18, 2012
http://www.terraily.com/reports/Too_late_to_stop_global_warming_by_cutting_emissions_999.html

The Pause

Global warming stopped 16 years ago, reveals Met Office report quietly released... and here is the chart to prove it

The figures reveal that from the beginning of 1997 until August 2012 there was no discernible rise in aggregate global temperatures

This means that the 'pause' in global warming has now lasted for about the same time as the previous period when temperatures rose, 1980 to 1996

By David Rose, Mail, Oct 13, 2012

<http://www.dailymail.co.uk/sciencetech/article-2217286/Global-warming-stopped-16-years-ago-reveals-Met-Office-report-quietly-released--chart-prove-it.html>

Why the Mail on Sunday was wrong to claim global warming has stopped

Newspaper's claim that 'world stopped getting warmer almost 16 years ago' is simply wrong, says Met Office

By Nana Nuccitelli for Skeptical Science, Guardian, UK, Oct 16, 2012

<http://www.guardian.co.uk/environment/2012/oct/16/daily-mail-global-warming-stopped-wrong?newsfeed=true>

The Met office responds to 'Global warming stopped 16 years ago'

By Anthony Watts, WUWT, Oct 15, 2012

<http://wattsupwiththat.com/2012/10/15/the-met-office-responds-to-global-warming-stopped-16-years-ago/>

NOAA's '15 year statement' from 2008 puts a kibosh on the current Met Office 'insignificance' claims that global warming flatlined for 16 years

By Anthony Watts, WUWT, Oct 15, 2012

<http://wattsupwiththat.com/2012/10/15/noaas-15-year-statement-from-2008-puts-a-kibosh-on-the-current-met-office-insignificance-claims-that-global-warming-flatlined-for-16-years/>

Carbon Dioxide and Temperature

By John Nielsen-Gammon, Houston Chronicle, Oct 17, 2012

<http://blog.chron.com/climateabyss/2012/10/carbon-dioxide-and-temperature/>

Lüning/Vahrenholt Comment On HadCRUT's 16 Years Of No Warming: "Tough Times Ahead For Climate Science"

By P. Gosselin, No Tricks Zone, Oct 16, 2012 [H/t ICECAP]

<http://notrickszone.com/2012/10/16/luningvahrenholt-comment-on-hadcruts-16-years-of-no-warming-tough-times-ahead-for-climate-science/>

'Pause' : Waving the Italian Flag

By Judith Curry, Climate Etc, Oct 17, 2012

<http://judithcurry.com/2012/10/17/pause-waving-the-italian-flag/#more-10215>

HadCRUT4: no warming for 16 years

By Lubos Motl, Reference Frame, Oct 14, 2012

<http://motls.blogspot.com/2012/10/hadcrut4-no-warming-for-16-years.html#more>

Questioning European Green

Setting the right objectives

By Martin Livermore, Scientific Alliance, Oct 19, 2012

<http://www.scientific-alliance.org/scientific-alliance-newsletter/setting-right-objectives>

[SEPP Comment: Even if reducing carbon dioxide emissions is the right thing to do, governments set up impossibly difficult and expensive ways to do it.]

Power Struggles Will Leave Us In The Dark

The age of nature's abundance might prove to be an age of electricity shortages if politicians shut off the supply

By Irwin Stelzer, Sunday Times, from GWPF, Oct 14, 2012

<http://www.thegwpf.org/irwin-stelzer-power-struggles-will-leave-us-in-the-dark/>

800.000 German Households Can No Longer Pay Their Energy Bills

Germany's consumers are facing record price rises for green energy. Social campaigners and consumer groups complain that up to 800 000 households in Germany can no longer pay their energy bills.

Translation by Phillipp Mueller, Originally on Focus De, Oct 15, 2012

<http://www.thegwpf.org/800000-german-households-can-no-longer-pay-their-energy-bills/>

Germans to see big 'green' surcharge hike

By Staff Writers, Berlin (UPI) Oct 16, 2012

http://www.energy-daily.com/reports/Germans_to_see_big_green_surcharge_hike_999.html

Ideology trumps reason as Germans pay the price for abandoning nuclear power

By Igor Ogorodnev, Russia Today, Oct 17, 2012 [H/t GWPF]

<http://rt.com/news/germany-poland-nuclear-fukushima-574/>

Europe is to be smothered by smart meters - but does the consumer want them?

By Karel Beckman, European Energy Review, Oct 18, 2012

http://www.europeanenergyreview.eu/site/pagina.php?email=ken@haapala.com&id_mailing=319&toegang=8d3bba7425e7c98c50f52ca1b52d3735&id=3904

[SEPP Comment: Too many bureaucrats ignore the requirement that a product must provide something the consumers are willing to purchase. Of course, bureaucrats do not face the financial consequences when consumers fail to purchase the touted product.]

Questioning Green Elsewhere

A Sad Green Story

By David Brooks, NYT, Oct 18, 2012

http://www.nytimes.com/2012/10/19/opinion/brooks-a-sad-green-story.html?_r=0

[SEPP Comment: One can state that it is similar to the subprime mortgage mess, an example of skilled promoters aided by fiscally undisciplined politicians exhibiting great naiveté.]

Seeking a Common Ground

Responsible Advocacy by Scientists

By Roger Pielke Jr, His Blog, Oct 19, 2012

<http://rogerpielkejr.blogspot.com/2012/10/responsible-advocacy-by-scientists.html>

Alternative approach to assessing climate risks

By Judith Curry, Climate Etc, Oct 15, 2012

<http://judithcurry.com/2012/10/15/alternative-approach-to-assessing-climate-risks/#more-10199>

Coping with deep climate uncertainty

By Judith Curry, Climate Etc, Oct 18, 2012

<http://judithcurry.com/2012/10/18/coping-with-deep-climate-uncertainty/>

Communicating Better to the Public – Exaggerate, or be Vague?

Uncritically, Media Accepts Misleading Global Warming Poll

The survey's clear biases render the results meaningless.

By Tom Harris, PJ Media, Oct 16, 2012

<http://pjmedia.com/blog/uncritically-media-accepts-misleading-global-warming-poll/?singlepage=true>

[SEPP Comment: One wonders about the quality of the university departments that conduct such polls and broadcast the results as meaningful.]

Dire drought ahead, may lead to massive tree death

By Staff Writers, Knoxville TN (SPX), Oct 16, 2012

http://www.terradaily.com/reports/Dire_drought_ahead_may_lead_to_massive_tree_death_999.html

[SEPP Comment: The new normal is based on assuming that IPCC models, and additional assumptions, are correct.]

Communicating Better to the Public – Make things up.

Claim: CO2 makes you stupid? Ask a submariner that question

By Anthony Watts, WUWT, Oct 17, 2012

<http://wattsupwiththat.com/2012/10/17/claim-co2-makes-you-stupid-as-a-submariner-that-question/>

[SEPP Comments: According to regulations the long term maximum concentration of CO2 for astronauts and for submariners should not exceed 8000 ppm, more than 20 times the concentration in the atmosphere.]

Changing Weather

October cold sets in as Ice rebounds - hemispheric snow expansion to follow

By Joseph D'Aleo, ICECAP, Oct 16, 2012

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

Dueling papers on Tropical Cyclone Frequency

By Anthony Watts, WUWT, Oct 16, 2012

<http://wattsupwiththat.com/2012/10/16/dueling-papers-on-tropical-cyclone-frequency/>

[SEPP Comment: An amusing, but serious, contrast.]

Elusive El Niño challenges NOAA's 2012 U.S. Winter Outlook

Press Release, NOAA, Oct 18, 2012

http://www.noaanews.noaa.gov/stories2012/20121018_winteroutlook.html

Forecasters with NOAA's Climate Prediction Center say a wavering El Niño, expected to have developed by now, makes this year's winter outlook less certain than previous years.

[SEPP Comment: The IPCC specifically excluded El Niños as a cause of global warming / climate change.]

Changing Climate

Climate Warmer 1000 Years Ago.

By David Whitehouse, GWPF, Oct 17, 2012

<http://www.thegwpf.org/climate-warmer-1000-years-ago/>

In the context of climate sensitivity – the real world climatic reaction to increasing greenhouse gases – and climate model uncertainty, it is an interesting question to ask: if Nature alone in the past can produce temperatures like those we see today, why can't she do so again?

Tropical collapse caused by lethal heat

By Staff Writer, Science Codex, Oct 18, 2012 [H/t WUWT]

<http://www.sciencecodex.com/tropical-collapse-caused-by-lethal-heat-100441>

[SEPP Comment: The report does not give any indication of cause of extreme heat that caused the death of the plants, resulting in an increase in CO2. Another study accessed from the web site indicates the tropics were cold during the global glaciation 50 million years previous.]

<http://www.sciencecodex.com/cold-and-ice-not-heat-episodically-gripped-tropical-regions-300-million-years-ago>

Changing Seas

Atlantic Sea Surface Temperature As Warm In 1775 As Today

By David Whitehouse, GWPF, Oct 18, 2012

<http://www.thegwpf.org/atlantic-sea-surface-temperature-as-warm-in-1775-as-today/>

[SEPP Comment: Based on coral growth, Atlantic sea surface temperatures vary with the cyclical Atlantic Warm Pool, which vary with the Atlantic Multidecadal Oscillation (AMO).]

Scientists Uncover Diversion of Gulf Stream Path in Late 2011

By Staff Writers, Cape Cod, MA (SPX), Oct 15, 2012

http://www.terraily.com/reports/Scientists_Uncover_Diversion_of_Gulf_Stream_Path_in_Late_2011_999.html

Australian sea levels have been falling for 7000 years

By Jo Nova, Her Blog, Oct 17, 2012

<http://joannenova.com.au/2012/10/australian-sea-levels-have-been-falling-for-7000-years/#more-24292>

[SEPP Comment: The Australian continent may not be as tectonically stable as earlier studies have suggested.]

Too much of a good thing can be bad for corals

By Staff Writers, Miami FL (SPX), Oct 15, 2012

http://www.terradaily.com/reports/Too_much_of_a_good_thing_can_be_bad_for_corals_999.html

[SEPP Comment: A major question is: in the artificial environment were other types of algae available to reestablish a symbiotic relationship with the corals?]

Changing Earth

Scientists identify trigger for explosive volcanic eruptions

By Staff Writers, Southampton UK (SPX), Oct 15, 2012

http://www.terradaily.com/reports/Scientists_identify_trigger_for_explosive_volcanic_eruptions_999.html

Review of Recent Scientific Articles by NIPCC

For a full list of articles see www.NIPCCreport.org

Initial Testing of IPCC Fifth Assessment Report Climate Models

Reference: Kim, H.-M., Webster, P.J. and Curry, J.A. 2012. Evaluation of short-term climate change prediction in multi-model CMIP5 decadal hindcasts. *Geophysical Research Letters* 39: 10.1029/2012GL051644.

<http://www.nipccreport.org/articles/2012/oct/16oct2012a1.html>

[SEPP Comment: Though not discussed, a further failure of such limited, hindcast methods is the failure of incorporate historic climate change.]

Cold-Water Corals Trumping Ocean Acidification: How Is It Done?

Reference: McCullock, M., Trotter, J., Montagna, P., Falter, J., Dunbar, R., Freiwald, A., Forsterra, G., Correa, M.L., Maier, C., Ruggeberg, A. and Taviana, M. 2012. Resilience of cold-water scleractinian corals to ocean acidification: Boron isotopic systematics of pH and saturation state up-regulation. *Geochimica et Cosmochimica Acta* 87: 21-34.

<http://www.nipccreport.org/articles/2012/oct/16oct2012a4.html>

[SEPP Comment: Living organisms self-regulate and adapt.]

The Unseen Benefits of Atmospheric CO2 Enrichment

Reference: Prior, S.A., Runion, G.B., Torbert, H.A., Idso, S.B. and Kimball, B.A. 2012. Sour orange fine root distribution after seventeen years of atmospheric CO2 enrichment. *Agricultural and Forest Meteorology* 162-163: 85-90.

<http://www.nipccreport.org/articles/2012/oct/16oct2012a3.html>

With a Hint and a Nudge, Climate Model Downscaling Can be Improved

Reference: Otte, T.L., Nolte, C.G., Otte, M.J. and Bowden, J.H. 2012. Does Nudging Squelch the Extremes in Regional Climate Modeling? *Journal of Climate* 25: 7046- 7066.

<http://www.nipccreport.org/articles/2012/oct/17oct2012a5.html>

[SEPP Comment: After the model is tuned, is it on-pitch or off-pitch?]

The Political Games Continue

Science In The Election

Presidential candidates Obama and Romney talk about science policy issues facing the U.S.

By Susan R. Morrissey, ACS, Oct 4, 2012 [H/t Paul Redfern]

<http://cen.acs.org/articles/90/i41/Science-Election.html>

Subsidies and Mandates Forever

Subsidizing Big Wind: The Real Costs to Taxpayers

By Robert Bryce, Manhattan Institute, Oct, 2012

http://www.manhattan-institute.org/html/ir_25.htm#UHxHNIH5Xro

Using the BP and CBO data, we find that the tax preferences for wind energy total \$1,540 per barrel of oil equivalent per day.

[SEPP Comment: More than just the production tax credit.]

Interior Greenlights New Era for Solar Development on Public Lands in the Southwest

By Staff Writers, San Francisco CA (SPX), Oct 16, 2012

http://www.solardaily.com/reports/Interior_Greenlights_New_Era_for_Solar_Development_on_Public_Lands_in_the_Southwest_999.html

[SEPP Comment: Are not consumers and taxpayers who have to pay for these expensive programs stakeholders?]

Energy Issues – Non-US

Dead pipeline walking

Northern Gateway dead as Enbridge had no grasp of B.C. reality

By Tex Enemark, Financial Post, Oct 18, 2012

<http://opinion.financialpost.com/2012/10/18/dead-pipeline-walking/>

[SEPP Comment: All too typical failure of major corporations to understand local issues.]

Oil and Natural Gas – the Future or the Past?

First shale gas flows into national grid

By Paddy Manning, Sydney Morning Herald, Oct 19, 2012 [H/t GWPF]

<http://www.smh.com.au/business/first-shale-gas-flows-into-national-grid-20121019-27vnn.html>

U.K. Plans to Allow Shale Gas Drilling to Resume This Year

By Alex Morales, Bloomberg, Oct 16, 2012 [H/t GWPF]

<http://www.bloomberg.com/news/2012-10-16/u-k-plans-to-allow-shale-gas-drilling-to-resume-this-year.html>

[SEPP Comment: The earthquakes probably caused less vibration than one experiences in a train station.]

Designing an Affordable CO2 Thickener to Augment Oil Extraction

Press Release, Univ of Pittsburg, Oct 16, 2012

<http://www.pddnet.com/news/2012/10/designing-affordable-co2-thickener-augment-oil-extraction>

[SEPP Comment: An example of a possibly effective government grant for research. The technology has been demonstrated, the issue is to develop better and less costly thickening agents.]

Indisputable Proof

By Donn Dears, Power for USA, Oct 19, 2012

<http://dddusmma.wordpress.com/2012/10/19/indisputable-proof/>

[SEPP Comment: In certain areas water wells have long been contaminated with natural gas even with no drilling nearby.]

Return of King Coal?

Coal bailed out the grid before and will need to do so again: Why handicap our greatest energy resource?

By Frank Clemente, Energy Facts Weekly, Oct 18, 2012

<http://us1.campaign-archive1.com/?u=29bc7d5d85828d574f86c157a&id=cc7d9572c5&e=>

[SEPP Comment: Right now natural gas is a lower cost alternative to coal. But will it be able to replace the low cost electricity generated by coal as EPA regulations are shutting coal-fired utilities down? Will new natural gas utilities drive up the price of natural gas to the point of no longer being able to maintain low prices?]

Lawmakers to EPA: Consider MATS Subcategory for Waste Coal Plants

By Sonal Patel, Power News, Oct 18, 2012

http://www.powermag.com/POWERnews/5061.html?hq_e=el&hq_m=2544885&hq_l=6&hq_v=5e660500d0

Oil Spills, Gas Leaks & Consequences

Prestige oil spill disaster trial opens in Spain

By Staff Writers, A Coruna, Spain (AFP) Oct 16, 2012

http://www.energy-daily.com/reports/Prestige_oil_spill_disaster_trial_opens_in_Spain_999.html

Coast Guard: Gulf oil slick comes from device used in 2010 spill

By Harry Weber, Fuel Fix, Oct 18, 2012

<http://fuelfix.com/blog/2012/10/18/source-gulf-oil-slick-coming-from-abandoned-containment-device/>

Nuclear Energy and Fears

Tiny travelers from deep space could assist in healing Fukushima's nuclear scar

By Staff Writers, Los Alamos NM (SPX), Oct 18, 2012

http://www.terraily.com/reports/Tiny_travelers_from_deep_space_could_assist_in_healing_Fukushimas_nuclear_scar_999.html

[SEPP Comment: Using cosmic-ray radiography to capture image data of potentially damaged nuclear material.]

France needs more electricity, not less nuclear

EDF chief Henri Proglio has positioned electricity as "the energy of the future" while the country prepares to debate an 'energy transition'.

By Staff Writers, WNN, Oct 15, 2012

http://www.world-nuclear-news.org/EE_France_needs_more_electricity_not_less_nuclear_1510121.html

Alternative, Green ("Clean") Solar and Wind

Wind and solar: the ethical investments to avoid

Renewable energy has turned sour for ethical investors, with wind and solar among the worst-performing stocks

By Patrick Collinson, Guardian, Oct 12, 2012 [H/t GWPF]

<http://www.guardian.co.uk/money/2012/oct/12/wind-solar-ethical-investments-avoid>

Subsidizing Bird Kills: The Wind Industry's Preferences Include Exemptions From Federal Prosecution for Killing Wildlife

By Robert Bryce, Energy Tribune, Oct 19, 2012

<http://www.energytribune.com/22789/subsidizing-bird-kills-the-wind-industrys-preferences-include-exemptions-from-federal-prosecution-for-killing-wildlife>

A123, Satcon Are Latest Clean Tech Casualties

By Sonal Patel, POWERnews, Oct 18, 2012

http://www.powermag.com/POWERnews/5062.html?hq_e=el&hq_m=2544885&hq_l=4&hq_v=5e660500d0

Is Wind Energy Dangerous?

By Donn Dears, Power for USA, Oct 16, 2012

<https://dddusmma.wordpress.com/2012/10/16/is-wind-energy-dangerous/>

[SEPP Comment: The question of the week. Should GE sell unreliable wind turbines and reliable gas turbines as a package to those who demand wind?]

The Politics of Fear: How Exaggerated Claims About Climate Change Cost Taxpayers Millions of Dollars

By Panos Mourdoukoutas, Forbes, Oct 16, 2012

<http://www.forbes.com/sites/panosmourdoukoutas/2012/10/16/the-politics-of-fear-how-exaggerated-claims-about-climate-change-cost-taxpayers-millions-of-dollars/>

Alternative, Green ("Clean") Energy -- Other

The Great Ethanol Scam

By Alan Caruba, Warming Signs, Oct 13, 2012

<http://factsnotfantasy.blogspot.com/2012/10/the-great-ethanol-scam.html>

The Case Against Ethanol from Corn

By James H. Rust, Somewhat Reasonable, Oct 13, 2012

<http://blog.heartland.org/2012/10/the-case-against-ethanol-from-corn/corn-worse-than-oil-california-ethanol/>

Biofuels industry does not deserve to be demonised

Grossly simplifying the issues and creating bogeymen risks crushing desperately needed solutions

By Clare Wenner, Guardian, UK, Oct 16, 2012 [H/t GWPF]

<http://www.guardian.co.uk/environment/2012/oct/16/biofuels-industry-demonised>

[SEPP Comment: The author of the editorial is the head of the renewable transport fuels at the Renewable Energy Association.]

Alternative, Green ("Clean") Vehicles

Time to pull the plug on electric cars?

By Neil Briscoe, Irish Times, Oct 17, 2012

<http://www.irishtimes.com/newspaper/motors/2012/1017/1224325325202.html>

Move over electric: Are natural gas vehicles the future of cars?

Governors across the country are creating incentives for automakers to produce more vehicles that run on natural gas, according to OilPrice.com. Will natural gas cars be the next big thing in the automotive industry?

By Jen Alic, Christian Science Monitor, Oct 11, 2012 [H/t GWPF]

<http://www.csmonitor.com/Environment/Energy-Voices/2012/1011/Move-over-electric-Are-natural-gas-vehicles-the-future-of-cars>

California Dreaming

A Grand Experiment to Rein In Climate Change

By Felicity Barringer, NYT, Oct 13, 2012

http://www.nytimes.com/2012/10/14/science/earth/in-california-a-grand-experiment-to-rein-in-climate-change.html?nl=todaysheadlines&emc=edit_th_20121014

California's Bankrupt Green Energy Economy Is Obama EPA's Model For The Nation

By Larry Bell, Forbes, Oct 16, 2012

<http://www.forbes.com/sites/larrybell/2012/10/16/californias-bankrupt-green-energy-economy-is-obama-epas-model-for-the-nation/>

Environmental Industry

World's biggest geoengineering experiment 'violates' UN rules

Controversial US businessman's iron fertilisation off west coast of Canada contravenes two UN conventions

By Martin Lukacs, Guardian, UK, Oct 15, 2012 [H/t Peter Salenius]

<http://www.guardian.co.uk/environment/2012/oct/15/pacific-iron-fertilisation-geoengineering>

Other Scientific News

An extremely brief reversal of the geomagnetic field, climate variability and a super volcano

By Staff Writers, Munich, Germany (SPX), Oct 17, 2012

http://www.spacedaily.com/reports/An_extremely_brief_reversal_of_the_geomagnetic_field_climate_variability_and_a_super_volcano_999.html

[SEPP Comment: The polarity shift lasted only 250 years!]

Japanese lake record improves radiocarbon dating

By Staff Writers, Washington DC (SPX), Oct 19, 2012

http://www.terraily.com/reports/Japanese_lake_record_improves_radiocarbon_dating_999.html

University of Tennessee study confirms solar wind as source for moon water

By Staff Writers, Knoxville TN (SPX), Oct 16, 2012

http://www.moondaily.com/reports/University_of_Tennessee_study_confirms_solar_wind_as_source_for_moon_water_999.html

[SEPP Comment: Others participated in the study as well.]

Proof at last: Moon was created in giant smashup

By Staff Writers, St. Louis MO (SPX), Oct 18, 2012

http://www.moondaily.com/reports/Proof_at_last_Moon_was_created_in_giant_smashup_999.html

[SEPP Comment: Proof may be a too strong of a term.]

Other News that May Be of Interest

LSU research team shows negative impact of nutrients on coastal ecosystems

By Staff Writers, Baton Rouge LA (SPX), Oct 18, 2012

http://www.terraily.com/reports/LSU_research_team_shows_negative_impact_of_nutrients_on_coastal_ecosystems_999.html

[SEPP Comment: One of several research teams.]

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BELOW THE BOTTOM LINE:

Gasoline alchemy from water vapor and CO2

By Anthony Watts, WUWT, Oct 18, 2012

<http://wattsupwiththat.com/2012/10/18/gasoline-alchemy-from-water-vapor-and-co2/>

Success of energy harvesting depends on collaboration between industry and academics

By Paul Weaver, European Energy Review, Oct 15, 2012

http://www.europeanenergyreview.eu/site/pagina.php?email=ken@haapala.com&id_mailing=318&toegang=432aca3a1e345e339f35a30c8f65edce&id=3902

Dinosaur-era acoustics: Global warming may give oceans the 'sound' of the Cretaceous

By Staff Writers, Washington DC (SPX), Oct 19, 2012

http://www.terraily.com/reports/Dinosaur_era_acoustics_Global_warming_may_give_oceans_the_sound_of_the_Cretaceous_999.html

Global temperatures directly affect the acidity of the ocean, which in turn changes the acoustical properties of sea water.

[SEPP Comment: Exactly how does warming effect acidity? Warming of the oceans will reduce the amount of CO2 in the solution.]

NASA's Climate Kids Website Blames Global Warming for Shrinking Sheep and Fat Marmots

By Penny Starr, CNSNews, Oct 13, 2012 [H/t Timothy Wise]

<http://cnsnews.com/news/article/nasa-s-climate-kids-website-blames-global-warming-shrinking-sheep-and-fat-marmots>

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ARTICLES:

1. Energy in the Executive

The President's real record on fossil fuels.

Editorial, WSJ, Oct 17, 2012

http://online.wsj.com/article/SB10000872396390444734804578062721764365776.html#mod=djemEditorialPage_t

One of the feats of President Obama's re-election campaign is its ability to describe his record in a way that bears little or no relation to the reality of the last four years. Exhibit A is Mr. Obama's riff on energy at Tuesday night's debate, when he all but ran to the right of Mitt Romney, and maybe Sarah Palin.

The exchange began when an audience member asked Mr. Obama about Steven Chu's job description, which the Energy Secretary has repeatedly said does not include helping to lower

gasoline prices. Mr. Obama never answered that one, but he did use the opportunity to pose as the John the Baptist of fossil fuels, invoking oil drilling, the natural gas fracking boom and even coal production.

Mr. Obama (and his green allies) must have died a little on the inside when he said that, given that he ran in 2008 on a promise to build a "new energy economy," by which he meant everything but fossil fuels.

As we have learned, the plan was to subsidize dozens of companies with little commercial potential but that were often owned by Mr. Obama's green allies. Meanwhile, the Environmental Protection Agency would go on a regulatory binge like nothing in modern U.S. history against traditional carbon-based sources of energy, coal in particular.

Mr. Romney went small bore in the debate, noting that the Administration has not in practice promoted the production of U.S. energy resources on federal lands and waters, in fact the opposite. Mr. Obama responded by flatly stating that "very little of what Governor Romney just said is true. We've opened up public lands. We're actually drilling more on public lands than in the previous Administration." He said he supported "an all-of-the-above strategy."

"But that's not what you've done in the last four years," Mr. Romney said. "That's the problem." Mr. Obama: "Sure it is." Mr. Romney: "In the last four years, you cut permits and licenses on federal land and federal waters in half." Mr. Obama: "Not true, Governor Romney."

Then there was this timeless bit: Mr. Obama: "The production is up."

Mr. Romney: "Production on government land of oil is down 14%."

Mr. Obama: "Governor—"

Mr. Romney: "And production of gas is down 9%."

Mr Obama: "What you're saying is just not true. It's just not true."

The problem for the President is that a government outfit called the U.S. Energy Information Administration (EIA) compiles these statistics. That's where Mr. Romney got his accurate figures on oil and gas production on government land and permitting in Mr. Obama's first term. The EIA also reports that total fossil fuel production in public areas—oil, gas and coal—has plunged to a nine-year low, to 18.6 quadrillion BTUs from 21.2 quadrillion in 2003.

Mr. Obama is correct that overall domestic energy production is up, thanks largely to the shale boom in states like Pennsylvania and North Dakota. But he's trying to take credit for something he had nothing to do with, given that this surge is taking place on private property and the EPA is searching for an excuse to supplant state regulation and slow down drilling. Wait for the second term.

The President's cameo as a coal guy is even more amazing. In 2008 Mr. Obama declared that he wanted electricity rates for so-called dirty fuels to "necessarily skyrocket" and "if somebody wants to build a coal plant, they can—it's just that it will bankrupt them."

That's one promise he's kept: For the first time, coal is in decline, with production falling 6.5% since 2008, according to the EIA. Part of the reason is a shock from cheap natural gas. But the major reason is a surge of EPA air and water rules, such as an unrealistic and pointless \$9.6 billion rule for trace mercury emissions that the agency put out last year.

The EIA expects 8.5% of the coal-fired fleet to retire by 2016, and 17% by 2020, and those are very conservative estimates. Coal has fallen to 32% of U.S. net electric generation, according to preliminary EIA data for 2012. This share stood at about 48% when Mr. Obama took office.

All of this amounts to one of the fastest energy transitions in U.S. history. Even some regulators within the Administration oppose the EPA's force majeure, fearing blackouts and other reliability issues as plants are retired despite many remaining useful years. Amid mine closings and layoffs, the United Mine Workers of America declined to endorse Mr. Obama this year, though the union did in 2008.

And let us not forget the Keystone XL pipeline from Canada, which Mr. Obama personally rejected amid a furious green lobbying campaign. His debate answer to that fact was to assert that "we've built enough pipeline to wrap around the entire Earth once," whatever that means. It reflects well on Mr. Romney's temperament that he didn't pull the full Joe Biden and start hooting.

2. The Solyndra Memorial Tax Break

How Energy passed out tax-loss credits that mean taxpayers will pay twice for failure.

Editorial, WSJ, Oct 15, 2012

<http://online.wsj.com/article/SB10000872396390444799904578050803545600588.html?mod=W>
[SJ Opinion LEADTop](#)

Perhaps you thought the Solyndra scandal amounted to a \$535 million government loan that will never be repaid. No such luck. In the latest twist, Solyndra's investors could be rewarded for their failure, thanks to a tax benefit the Administration handed out in a bid to evade political accountability.

The Internal Revenue Service exposed this double Solyndra debacle last week in the U.S. bankruptcy court for the district of Delaware, which is unwinding the defunct solar-panel maker. The IRS formally objected to Solyndra's Chapter 11 reorganization plan, claiming its "principal purpose is tax avoidance."

Having sold off its manufacturing plant, fired nearly 1,000 workers and proven the non-viability of its business model, Solyndra's only real assets are what the IRS calls "tax attributes." These are between \$875 million and \$975 million in net operating losses that can reduce future taxable income, which the IRS values as high as \$350 million. Before it went toes up, Solyndra also accumulated \$12 million in solar tax credits that can reduce tax liabilities dollar for dollar.

Tax-loss carry-forwards are routine but worthless if a company can't turn profits to pay taxes on. So Solyndra's owners are asking the court to liquidate the rest of the business and contribute a net \$6.7 million to pay off creditors for pennies on the dollar. A holding corporation will then emerge from Chapter 11 that won't make products or employ workers, but it will get the Solyndra tax offsets.

The dummy company is owned by Argonaut Ventures I LLC, Solyndra's largest shareholder and the primary investment arm of the George Kaiser Family Foundation. Mr. Kaiser is a Tulsa oil billionaire who bundled campaign checks for Mr. Obama in 2008. The other owner is Madrone Partners LP, a California venture outfit.

Solyndra's Energy Department loan closed in September 2009, and a year later it was back asking for more as it bled cash. To stave off bankruptcy, the company asked Energy to release the loan's remaining \$95 million immediately, instead of in monthly drawdowns, and to restructure the terms (it had already technically defaulted). The emails that follow are from the negotiations that began in December 2010 and are either exhibits in the IRS objection or come from the 300,000 pages of documents the House Energy and Commerce Committee uncovered in its investigation.

Argonaut and Madrone were prepared to commit a new \$25 million but needed the government either to take a haircut or subordinate taxpayer repayment rights to new senior debt. Solyndra's private financing rounds were failing because new investors were coming in behind the government's \$535 million.

"The DOE really thinks politically before it thinks economically," Steve Mitchell, an Argonaut managing director, wrote to Mr. Kaiser on December 7, 2010. The Department of Energy gnomes demanded \$75 million and refused to invite the political blowback that signing away taxpayer claims to private financiers would invite, but Mr. Mitchell wouldn't go above \$25 million. So he wrote that he "politely moved the conversation toward how we should use the time to start discussing the bankruptcy process . . . To me it was clear that the DOE folks were somewhat caught off guard that we weren't going to bail out the company."

Argonaut and Madrone could walk away in part because they had so little skin in the game. Solyndra had 73% debt to 27% equity, not the 65%-35% split that the Treasury Department wanted before Energy boxed it out of a 2009 due-diligence review in the push to get stimulus dollars out the door. Realizing that Argonaut-Madrone would rather liquidate than throw good money after bad, Energy eventually gave in.

Meanwhile, Mr. Kaiser's mind was on the net operating losses (NOLs). He mused to Mr. Mitchell that "I would go a long way to preserve the NOLs," and he suggested that the final decision to ante up to \$75 million could be "subject to our better understanding of whether the NOLs can conceivably be preserved in a semi-liquidation (that is, somehow maintaining the line of business and avoiding change of control)."

In February 2011, Energy signed off on a deal that would subordinate its repayment interests to a new \$75 million loan to Solyndra from Argonaut and Madrone. The two owners would open this tranche of senior debt to other investors for equity warrants. But under the Energy term sheet,

those warrants would then bounce back to the Argonaut-Madrone holding company if Solyndra became defunct. That gave Argonaut-Madrone 99.9% control of the net operating losses.

Solyndra went bust in September 2011, but Mr. Kaiser referred in August emails to "the consolation prize NOL" and wrote that "we could get the same benefit out of a new entity in there without absorbing the costs of resuscitating this one." In other words, the holding company will merge with another profitable Argonaut business that can use the tax breaks.

The irony is that the law that created the loan program specifically bars the Energy Department from taking a junior debt position. So Energy simply produced a novel legal analysis claiming that this prohibition applies only when a loan originates, not when it is modified.

One staffer at the White House budget office wrote at the time that "I think they have stretched this definition beyond its limits" and noted in particular that the government "is better off liquidating the assets today than restructuring under DOE's proposal." Fly-speckers at the Treasury agreed.

Under the bankruptcy plan, taxpayers will recoup \$27 million at most on Mr. Obama's \$535 million "investment." The IRS and Energy Department are now asking the courts to reject the deal, because bankruptcy is designed to give a business a second chance, not goose a tax return.

But this is little more than an ex post facto double-cross. Energy created the tax avoidance problem in the first place by gifting Argonaut and Madrone the net operating losses to delay the Solyndra crack-up that was fast becoming inevitable. That left taxpayers worse off than if they simply let Solyndra fail.

This raises a question or two for the President who once called Solyndra a "testament to American ingenuity and dynamism" and who keeps accusing Mitt Romney of supporting tax breaks for outsourcing and corporate jets, which he doesn't. Here one of Mr. Obama's own billionaire pals is trying to sidestep a federal tax bill amounting to hundreds of millions of dollars as a result of an epic crony capitalist fiasco.

The larger problem is Mr. Obama's economic model that seeks to pick winners and losers and misallocates capital. That's bad enough. But does he have to stick it to taxpayers twice for the same failed investment?

3. Obama's Great Alaska Shutout

Interior bans drilling on 11.5 million acres of 'petroleum reserve.'

Editorial, WSJ, Oct 14, 2012 [H/t Timothy Wise]

http://online.wsj.com/article/SB10000872396390443768804578040873921142716.html?mod=IT_P_opinion_2

President Obama is campaigning as a champion of the oil and gas boom he's had nothing to do with, and even as his regulators try to stifle it. The latest example is the Interior Department's little-noticed August decision to close off from drilling nearly half of the 23.5 million acre National Petroleum Reserve in Alaska.

The area is called the National Petroleum Reserve because in 1976 Congress designated it as a strategic oil and natural gas stockpile to meet the "energy needs of the nation." Alaska favors exploration in nearly the entire reserve. The feds had been reviewing four potential development plans, and the state of Alaska had strongly objected to the most restrictive of the four. Sure enough, that was the plan Interior chose.

Interior Secretary Ken Salazar says his plan "will help the industry bring energy safely to market from this remote location, while also protecting wildlife and subsistence rights of Alaska Natives." He added that the proposal will expand "safe and responsible oil and gas development, and builds on our efforts to help companies develop the infrastructure that's needed to bring supplies online."

The problem is almost no one in the energy industry and few in Alaska agree with him. In an August 22 letter to Mr. Salazar, the entire Alaska delegation in Congress—Senators Mark Begich and Lisa Murkowski and Representative Don Young—call it "the largest wholesale land withdrawal and blocking of access to an energy resource by the federal government in decades." This decision, they add, "will cause serious harm to the economy and energy security of the United States, as well as to the state of Alaska." Mr. Begich is a Democrat.

The letter also says the ruling "will significantly limit options for a pipeline" through the reserve. This pipeline has long been sought to transport oil and gas from the Chukchi Sea, the North Slope and future Arctic drilling. Mr. Salazar insists that a pipeline could still be built, but given the Obama Administration's decision to block the Keystone XL pipeline, Alaskans are right to be skeptical.

Alaskans also worry that the National Petroleum Reserve will become the same political football as the Arctic National Wildlife Reserve, or ANWR, which Washington has barred from drilling because of dubious environmental objections. The greens now want Congress to rename the energy reserve the "Western Arctic Reserve" to give the false impression that it is a fragile wildlife area. Some parts of the area are environmentally sensitive, but those 1.5 million acres (around Teshekpuk Lake) had already been set aside. Most of the other 11.5 million acres are almost indistinguishable from acreage owned by the state that is being drilled safely nearby.

The feds and Alaskan officials disagree about how much oil and natural gas is in the petroleum reserve. Some early federal estimates put the range between six and 15 billion barrels of oil, but in its latest survey the Bureau of Land Management projects closer to one billion. State officials and industry experts put the figure much higher based on the earlier surveys and improved drilling techniques.

The truth is no one knows. Prudhoe Bay turned out to be much more productive than originally believed, but surely the best strategy is to allow private drillers to risk their own money to find out. The oil and gas industry isn't in the business of drilling dry holes on purpose.

The Interior power play couldn't come at a worse time for Alaska, whose economy and government are heavily reliant on oil jobs and revenues. As recently as the 1980s, the Trans-Alaska Pipeline carried some 2.2 million barrels of oil a day from the North Slope to the port of Valdez. Yet as the once-rich fields of Prudhoe Bay and the Kuparuk River have declined, oil flow

has dropped to one-third of that volume. North Dakota recently passed Alaska as the second highest oil-producing state behind Texas.

The problem isn't that Alaska is running out of oil but that federal rules are preventing the state from developing those resources. No matter what Mr. Obama says now, in a second term his great Alaska energy shutout will continue.

4. A Quiet, Faraway Milestone for Humanity

The satellite Voyager 1, launched in 1977, could be the first human-made object ever to leave our solar system.

By Lawrence Krauss, WSJ, Oct 19, 2012

http://online.wsj.com/article/SB10000872396390443675404578057121133411606.html?mod=W_SJ_Opinion_LEFTTopOpinion

A new chapter in civilization's quest to travel to the stars may have begun quietly this month. It didn't involve starship captains careening through the cosmos, or astronauts making yet another visit to that orbiting tin can in the sky called the International Space Station. Rather, like so many of NASA's scientific achievements, humans weren't even present for the breakthrough.

According to data being relayed from the tiny Voyager 1 satellite, launched from Earth in 1977, the device appears to have exited the solar system on its way out into interstellar space.

Originally expected to operate for five years, the satellite (and its sister satellite, Voyager 2) are still daily recording their exposure to galactic cosmic rays and charged particles emanating from the sun. Voyager 1, though it was launched a few weeks after Voyager 2, has traveled farther and is now 11 billion miles away from Earth.

It may seem strange to hear that Voyager 1 is only now leaving the solar system, when Voyager 2 passed the outer planetary reach when it passed Neptune 23 years ago. (Remember that astronomers have decided—ill-advisedly, I think—that Pluto is no longer a planet.) But leaving the solar system is akin to leaving America by ship. One may depart from the mainland, but until one leaves territorial waters, one is bound by the laws of the United States.

The sun similarly controls a vast volume of turf around it as it sails through the galaxy, carrying the solar system with it. We are all moving at more than 125 miles per second as the sun follows an orbit that takes roughly 200 million years to complete.

In addition to the light it emits, the sun burps out a stream of charged particles called solar wind. The wind goes in all directions, filling a bubble around the solar system and pushing back against the flotsam and jetsam of interstellar space, including cosmic rays from other energetic objects and stray magnetic fields associated with stars and other galactic structures. The bubble is like a gigantic placenta protecting the solar system from outside influences.

Has Voyager 1 broken through the sun's bubble and reached the vast interstellar medium on its way to eternity? The Jet Propulsion Laboratory has three criteria for establishing that this has happened: The stream of particles coming from the sun should fall off, the stream of charged

particles coming from the galaxy should increase, and the direction of the magnetic field surrounding the satellite should change.

Over the summer, Voyager 1 began to detect significant changes in the flux of particles from the sun and from the galaxy. By the beginning of September, the rise in galactic cosmic rays became sustained, accompanied by a dramatic falloff in particles coming from the sun. The only thing that remains to be seen, then, is whether the magnetic field observed by Voyager has changed. Data for that are still being analyzed. But if it walks like a duck, and quacks like a duck . . .

Voyager 1 would be the first human-made object to venture outside the sun's protective shield. Engineers estimate that it and Voyager 2 could continue broadcasting what things are like out there for up to another decade. After that, when these two lonely bits of metal go dark and cold, they will continue to travel. After perhaps 50,000 years they will get closer to our neighboring stars than they are to our sun.

Where will humanity be in 50,000 years? Will we have bypassed these accidental tourists on missions of our own to nearby stars or possibly habitable planets? Or will we have turned inward, hobbled by limited resources and beset by tribal conflicts, in a world resembling some of the bleaker post-apocalyptic fiction of the past decades?

No matter what happens on Earth, we have left our mark on the galaxy. The chances that the Voyagers will directly encounter another solar system—let alone life—are remote in the extreme.

But it is good to know that NASA engineers put golden records on both satellites, conveying sound and images of our world to any extraterrestrial civilizations. After we are long gone, even if no one is likely ever to receive it, there will be proof in our galaxy that we once existed.

Mr. Krauss is a professor of earth and space exploration and director of the Origins Project at Arizona State University. His books include "A Universe From Nothing"

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