The Week That Was: 2013-05-25 (May 25, 2013) Brought to You by SEPP (www.SEPP.org) The Science and Environmental Policy Project

Quote of the Week: Climatologists are pessimistic that political leaders will take any positive action to compensate for the climatic change, or even to allay its effects...The longer the planners delay, the more difficult will they find it to cope with climatic change once the results become grim reality. Peter Gwyne, Newsweek, April 28, 1975, Lamenting the failure of governments to prepare for global cooling.

Number of the Week: 11

THIS WEEK:

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

Abolish the IPCC? Ross McKitrick, along with Steve McIntyre, exposed the significant statistical failings of the "Hockey-Stick" that was featured in the Third Assessment Report (AR3) of UN Intergovernmental Panel on Climate Change (IPCC). McKitrick has spent significant time in trying to improve the quality of the work of the IPCC, and served as an expert reviewer on the Fourth Assessment Report (AR4), the latest one, published in 2007. From this experience, McKitrick uncovered major flaws in the procedures used by the IPCC, and articulated the failings in a 2011 pamphlet published by the Global Warming Policy Foundation, along with a set of recommendations to bring transparency and rigor to the procedures.

Five-time IPCC expert reviewer Vincent Gray uses McKitrick's recommendations to further analyze what he considers to be the major failings in the IPCC procedures. In doing so, Gray brings in his rich knowledge of the IPCC history. Gray reports that in the first Assessment Report, 1990, the first six chapters were devoted to climate models, and it was not until the seventh chapter that observations were discussed. In spite of the emphasis on climate models, the models have never been validated in a computer engineering sense, much less in a scientific sense. Gray states it was not until the draft of the Fifth Assessment Report (AR5) that the concept of how validation may be accomplished was even discussed. It will be interesting to see if this section in the draft survives to the final.

Gray states that the main temperature data base used by the IPCC is defective and is not a scientifically or mathematically acceptable guide for global temperature trends. In long range projections, a scientifically calculated range of uncertainty would exceed many estimates of future warming. Gray further states that the concepts of certainty expressed in the IPCC reports (often 90 to 99%) are subjective opinions of "experts" without any scientifically acceptable evidence. As such they are little better than estimates of certainty in stock picks by brokers.

Gray discusses many other critical topics and concludes that the IPCC should be abolished. This is unlikely any time in the near future, because governments have poured tens of billions of US dollars in creating the climate establishment that follows the leadership of the IPCC. From fiscal year 1993 to fiscal year 2012, the US government has spent some \$140 to \$150 Billion, not including tax subsidies to renewable energy, etc.

Please see links under Challenging the Orthodoxy.

Moving Mainstream? A set of mainstream climate scientists published an article calling into question the more dire projections from the IPCC models. The authors of the short article include well-known IPCC lead authors. The technical article suggests that, based on including 2000 to 2009 data in the climate models, the temperature sensitivity of the earth's climate to increasing greenhouse gases (GHG), especially carbon dioxide (CO2), is not as great as previously projected. This does not mean the climate models are correct, Vincent Gray's criticisms still apply, but it does mean that some individuals in the Climate Establishment are beginning to openly question the more extreme projections. This is a welcome sign, and shows that prior claims that "the science is settled" were not correct. Please see links under Problems in the Orthodoxy. [Note: ECS is equilibrium climate sensitivity (temperature) of the earth to a doubling of atmospheric carbon dioxide.]

Public Enemies? Last week, TWTW linked to a report by P. Gosselin that the German Federal Office of Environment, UBA, equivalent to the US EPA, published a pamphlet identifying those US and German scientists who have been significant in objecting to the claims that human (anthropogenic) emissions of CO2 are causing unprecedented and dangerous global warming (carbon-based AGW), and that these scientists have thwarted efforts by governments to control CO2 emissions. This week, Gosseling reports that this action by the UBA is causing many in Germany to publically severely criticize the UBA. Please see link under Communicating Better to the Public – Go Personal.

Hurricane Season: US hurricane season starts in June. For over 7.5 years, the US has not experienced a major hurricane, Category 3, 4, or 5, making landfall. [Sandy was a large storm, but barely a Category 1 hurricane when it made landfall.] Last week TWTW linked to an article by Joe Bastardi of WeatherBell Analytics predicting greater than normal hurricane activity this year with a greater than normal chance of a major hurricane making landfall on the East Coast or Gulf Coast. Hurricane experts Philipp Klotzbach and William Gray made similar predictions in April. This week, NOAA predicted a greater normal hurricane season. NOAA made no predictions about landfalls.

Both Bastardi and Klotzbach & Gray expressly state that their hurricane forecasts are unrelated to atmospheric CO2, with Bastardi expressly denying any relationship between hurricanes and global warming, or CO2, and emphasizing his forecasts are based on natural patterns such as a cold Pacific Decadal Oscillation and a warm Atlantic Multi-decadal Oscillation. None-the-less we can expect that the global warming chorus will be in full throat, should a major hurricane makes landfall. Please see links under Changing Weather and

http://wattsupwiththat.com/2013/05/04/tornadoes-drop-to-new-record-alltime-low/

Carbon Taxes: The US Congressional Budget Office released a study on carbon taxes. It shows that the tax will significantly add to government revenues. The question is what would

government do with these revenues? The tax would be regressive, hitting lower income groups worse than higher income groups and would thwart job-creation in some of the few industries in the US that are growing robustly, such as oil, natural gas, and related industries. It is doubtful that, no matter how the government uses the revenue, the tax would create prosperity. As the stimulus bill demonstrated, Keynesian concepts, such as the balanced budget multiplier, are based on untested, and faulty, assumptions.

Amplifications and Corrections: Last week, TWTW stated that the CO2 concentration in the atmosphere may have reached 400 parts per million (ppm) prompting "alarmist reports stating it is the highest in human history, which is technically true." Several readers corrected TWTW stating it ignored the analysis of atmosphere by chemical methods, which show concentrations in the atmosphere on a number of occasions of greater than 400ppm. Please see: 180 Years of Atmospheric CO2, Gas Analysis by Chemical Methods, By Ernst-Georg Beck, *Energy and Environment*, Vol 18, No. 2, 2007

 $\underline{\text{http://www.friendsofscience.org/assets/files/documents/CO2\%20Gas\%20Analysis-Ernst-Georg\%20Beck.pdf}$

As always, TWTW thanks it readers who take the time to correct TWTW or point out issues it may have overlooked.

Number of the Week: 11. As discussed in the opening section, Ross McKitrick recommended changes to the IPCC procedures that would provide transparency and promote more rigorous science. The recommendations numbered 11. At the beginning of his comments, Vincent Gray lists these recommendations. It will be interesting to observe how many, if any, will be followed by the IPCC at the publication of AR5.

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. NASA Adrift in Interplanetary Space

By S. Fred Singer, American Thinker, May 24, 2013 http://www.americanthinker.com/2013/05/nasa_adrift_in_interplanetary_space.html

2. Going Green? Then Go Nuclear

We're environmentalists, but pretending that solar power is ready for prime time is delusional. By Ted Nordhaus and Michael Shellenberger, WSJ, May 23, 2013

http://online.wsj.com/article/SB10001424127887323716304578482663491426312.html?mod=WSJ_Opinion_LEFTTopOpinion

3. The Global Solar Cartel

Subsidies, then tariffs, and now fixing prices and quotas.

Editorial, WSJ, May 24, 2013

http://online.wsj.com/article/SB10001424127887324659404578500472672626546.html?mod=WSJ_Opinion_AboveLEFTTop

4. The Other Government Motors

Tesla by the numbers: How taxpayers made an electric car company.

Editorial, WSJ, May 24, 2013

 $\frac{\text{http://online.wsj.com/article/SB10001424127887324659404578499460139237952.html?mod=W}{\text{SJ_Opinion_AboveLEFTTop}}$

NEWS YOU CAN USE:

Commentary: Is the Sun Rising?

CERN's Jasper Kirkby On The Newest Unpublished Results Of CLOUD: "The Results Are Very Interesting"

By P. Gosselin, No Tricks Zone, May 19, 2013

From The Latest on the CLOUD Experiment at CERN

By Sebastian Lüning and Fritz Vahrenholt

http://notrickszone.com/2013/05/19/cerns-jasper-kirkby-on-the-newest-unpublished-results-of-cloud-the-results-are-very-interesting/

Climategate Continued

UnderCooked Statistics

By RomanM, Climate Audit, May 24, 2013

http://climateaudit.org/2013/05/24/undercooked-statistics/#more-17962

Challenging the Orthodoxy

The IPCC Should Be Abolished

By IPCC Expert Reviewer Vincent Gray, NZ Climate Truth Newsletter No 331, May 21, 2013 http://theclimatescepticsparty.blogspot.com.au/2013/05/the-ipcc-should-be-abolished.html

Defending the Orthodoxy

Government commitment to support investment in low-carbon technologies would secure significant savings for UK consumers

By Staff Writers, Committee on Climate Change, UK, May 23, 2013

http://www.theccc.org.uk/pressreleases/government-commitment-to-support-investment-in-low-carbon-technologies-would-secure-significant-savings-for-uk-consumers-23-may-2013/

Link to the report: Next steps on Electricity Market Reform

By Barrs, et al., Committee on Climate Change, May 2013

http://www.theccc.org.uk/wp-content/uploads/2013/05/1720 EMR report web.pdf

[SEPP Comment: Assumes adherence to the goal of reducing greenhouse gas emissions to 80% of levels in 1990 by 2050. The motto of the committee is: A balanced response to the risks of dangerous climate change.]

The Climate-Change Wars Begin This Summer

By Jonathan Chait, New York Magazine, May 22, 2013 [H/t GWPF] http://nymag.com/daily/intelligencer/2013/05/climate-change-wars-begin-this-summer.html [SEPP Comment: They have not started yet?]

Forget pipelines – Canada must prepare for a post-carbon world

By Danny Harvey, The Globe and Mail, May 17, 2013 [H/t David Kreutzer] http://www.theglobeandmail.com/commentary/forget-pipelines-canada-must-prepare-for-a-post-carbon-world/article11990144/

Global inaction shows that the climate sceptics have already won

By Martin Wolf, Financial Times, May 22, 2013

http://www.ft.com/intl/cms/s/0/9742cc76-c142-11e2-b93b-00144feab7de.html#axzz2Tq09YCkm

Questioning the Orthodoxy

Climate Scientist Hans Von Storch Warns: Climate Scientists Have Been "Taking On The Roles Of Medicine Men And Priests"

By P. Gosselin, No Tricks Zone, May 18, 2013

 $\frac{http://notrickszone.com/2013/05/18/climate-scientist-hans-von-storch-warns-climate-scientists-have-been-taking-on-the-roles-of-medicine-men-and-priests/$

Five Reasons The Global Warming Scare Is Fading

Editorial, IBD, May 20 2013

 $\underline{http://news.investors.com/ibd-editorials/052013-656858-science-news-undermines-climate-change-claims.htm?p=full}$

The Collapsing 'Consensus'

By Christopher Monckton, WUWT, May 22, 2013

http://wattsupwiththat.com/2013/05/22/the-collapsing-consensus/

Monckton challenges the IPCC – suggests fraud – and gets a response

By Christopher Monckton, WUWT, May 20, 2013

http://wattsupwiththat.com/2013/05/20/monckton-challenges-the-ipcc-suggests-fraud-and-gets-a-response/

Protect the Poor, Prevent Prostitution: Don't Fight Global Warming!

By E. Calvin Beisner, Cornwall Alliance, May 22, 2013

http://icecap.us/index.php/go/political-

climate/protect_the_poor_prevent_prostitution_dont_fight_global_warming1/

Overheated rhetoric on climate change doesn't make for good policies

By Lamar Smith, Washington Post, May 19, 2013

http://www.washingtonpost.com/opinions/lamar-smith-overheated-rhetoric-on-climate-change-hurts-the-economy/2013/05/19/32cb6d94-bda4-11e2-97d4-a479289a31f9_story.html

So What, If Carbon Levels Hit 400ppm?

By Peter Glover, Energy Tribune, May 22, 2013

http://www.energytribune.com/77072/so-what-if-carbon-levels-hit-400ppm#sthash.krTrfnzE.dpbs

Problems in the Orthodoxy

Energy budget constraints on climate response

Otto, et al., Nature Geoscience, May 19, 2013

http://www.nature.com/ngeo/journal/vaop/ncurrent/full/ngeo1836.html

Mainstreaming ECS ~ 2 C

By Judith Curry, Climate Etc., May 19, 2013

http://judithcurry.com/2013/05/19/mainstreaming-ecs-2-c/#more-11727

Why the new Otto et al climate sensitivity paper is important – it's a sea change for some IPCC authors

By Anthony Watts, WUWT, May 20, 2013

http://wattsupwiththat.com/2013/05/20/why-the-new-otto-et-al-climate-sensitivity-paper-is-important-its-a-sea-change-for-some-ipcc-authors/

Major 30% reduction in modelers estimates of Climate Sensitivity (Skeptics were right)

By Jo Nova, Her Blog, May 20, 2013

http://joannenova.com.au/2013/05/major-30-reduction-in-modelers-estimates-of-climate-sensitivity-skeptics-were-right/

The implications of lower climate sensitivity

Global warming will probably be a net benefit for several decades

By Matt Ridley, His Blog, May 24, 2013

http://www.mattridley.co.uk/blog/the-implications-of-lower-climate-sensitivity.aspx

A second chance to save the climate

By Michael Marshall, New Scientist, May 22, 2013

http://www.newscientist.com/article/mg21829184.100-a-second-chance-to-save-the-climate.html

Seeking a Common Ground

Climatic Effects of Black Carbon

By Staff Writers, SPPI & CO2 Science, May 22, 2013

http://scienceandpublicpolicy.org/images/stories/papers/originals/black_carbon.pdf

[SEPP Comment: More study needed.]

On academics, abstraction, and model addiction

By Judith Curry, Climate Etc., May 19, 2013

http://judithcurry.com/2013/05/19/on-academics-abstraction-and-model-addiction/#more-11720

[SEPP Comment: Excerpts from a provocative essay by Gregory Melleuish that, unfortunately, is behind a paywall [must pay to access it]. As Eisenhower feared, government bureaucrats and academics are working hand-in-glove against the interests of the ordinary citizen.]

Expanding the Orthodoxy

Communicating Climate Science: A Historic Look to the Future

AGU Chapman Conference

http://chapman.agu.org/climatescience/

Questioning European Green

EU Energy Summit: Climate Protection Is Not That Important Anymore

By Christopher Ziedler, Der Tagesspiegle, Tran by Philipp Mueller, May 23, 2013 http://www.thegwpf.org/eu-energy-summit-climate-protection-important-anymore/

EU Commission Plans Fundamental Course Change In Energy Policy – More Focus On Economics, Less On Climate

By P. Gosselin, No Tricks Zone, May 21, 2013

http://notrickszone.com/2013/05/21/eu-commission-plans-fundamental-course-change-in-energy-policy-focus-away-from-climate-and-more-on-economics/

Europe Wants "Backsies" on Green Energy Policies

By Walter Russell Mead, Via Meadia, May 23, 2013 [H/t GWPF]

http://blogs.the-american-interest.com/wrm/2013/05/23/europe-wants-backsies-on-green-energy-policies/

[SEPP Comment: The graph of electricity prices by various countries is revealing.]

EU leaders face up to shale challenge

By Staff Writers, Brussels (AFP), May 22, 2013

http://www.energy-daily.com/reports/EU_leaders_face_up_to_shale_challenge_999.html

Questioning Green Elsewhere

Environmental Fear-Mongering Isn't Just Silly, It Kills People

By Walter Williams, IBD, May 21, 2013

 $\underline{\text{http://news.investors.com/ibd-editorials-on-the-right/052113-657026-environmental-extremists-mean-well-but-are-deadly.htm?} p=\text{full}$

The Green Enemies of Humanity, Science and the Truth

By Alan Caruba, Warning Signs, May 18, 2013

http://factsnotfantasy.blogspot.com/2013/05/the-green-enemies-of-humanity-science.html

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

Climate Warnings, Growing Louder

Editorial, NYT, May 18, 2013

http://www.nytimes.com/2013/05/19/opinion/sunday/climate-warnings-growing-louder.html?emc=eta1& r=0

Dire outlook despite global warming 'pause': study

By Staff Writers, Paris (AFP), May 19, 2013

http://www.terradaily.com/reports/Dire_outlook_despite_global_warming_pause_study_999.html

Shifts in global water systems markers of The Anthropocene epoch

By Staff Writers, Bonn, Germany (SPX), May 22, 2013

http://www.terradaily.com/reports/Shifts in global water systems markers of The Anthropoce ne_epoch_999.html

Communicating Better to the Public – Make things up.

Climate experts to announce global climate time bomb will go off by 2040, says WWF's Kokorin

By Andrei Ozharovsky, Translated by Maria Kaminskaya, Bellona, RU, May 21, 2013 [H/t GWPF]

http://www.bellona.org/articles/articles_2013/climate_bomb

Cook's 97% consensus study falsely classifies scientists' papers according to the scientists that published them

When asked about the categorizations of Cook et al, – "It would be incorrect to claim that our paper was an endorsement of CO2-induced global warming"

By Andres of Popular Technology, WUWT, May 21, 2013

http://wattsupwiththat.com/2013/05/21/cooks-97-consensus-study-falsely-classifies-scientists-papers-according-to-the-scientists-that-published-them/

Heat-related deaths in Manhattan projected to rise

By Staff Writers, New York NY (SPX) May 23, 2013

http://www.terradaily.com/reports/Heat_related_deaths_in_Manhattan_projected_to_rise_999.ht ml

Link to study: Projections of seasonal patterns in temperature- related deaths for Manhattan, New York

By Tiantian Li, Radley M. Horton, & Patrick L. Kinney, Nature Climate Change, May 19, 2013 http://www.nature.com/nclimate/journal/vaop/ncurrent/full/nclimate1902.html

[SEPP Comment: The abstract starts with a false statement: Global average temperatures have been rising for the past half-century, and the warming trend has accelerated in recent decades. Yet, there has been no warming for at least a decade. Makes one wonder how many studies in the Cook survey had a false premise?]

Heat-related deaths in Manhattan projected to rise – except reality shows them going down in the USA

By Anthony Watts, WUWT, May 20, 2013

 $\underline{http://wattsupwiththat.com/2013/05/20/heat-related-deaths-in-manhattan-projected-to-rise-except-reality-shows-them-going-down-in-the-usa/}$

[SEPP Comment: See link immediately above.]

Communicating Better to the Public – Go Personal.

German UBA Federal Environment Office's "Declaration Of War" On US And German Skeptics Backfires Big Time

By P. Gosselin, No Tricks Zone, May 24, 2013

http://notrickszone.com/2013/05/24/german-uba-federal-environment-offices-declaration-of-war-on-us-and-german-skeptics-backfires-big-time/

Models v. Observations

Anti-information in climate models

By Patrick Michaels, and Chip Knappenberger, WUWT, May 23, 2013 http://wattsupwiththat.com/2013/05/23/anti-information-in-climate-models/

Amazon River exhales virtually all carbon taken up by rain forest

By Hannah Hickey for UW News, Seattle WA (SPX), May 22, 2013

http://www.terradaily.com/reports/Amazon River exhales virtually all carbon taken up by ra in forest 999.html

Measurement Issues

Ocean temperatures – Is that warming statistically significant?

By Jo Nova & David Evans, Her Blog, May 19, 2013

http://joannenova.com.au/2013/05/ocean-temperatures-is-that-warming-statistically-significant/#more-28423

The oceans as measured by ARGO are warming, but that warming is not only far less than the models predicted, it is far less even than the instrument error.

Changing Weather

Does global warming cause tornadoes?

By Luboš Motl, The Reference Frame, May 23, 2013

http://motls.blogspot.com/2013/05/does-global-warming-cause-tornadoes.html#more

[SEPP Comment: A memo to Senator Boxer who claimed that global warming will increase severe tornados.]

$Oklahoma\ tornado\ officially\ an\ EF5-wind\ speeds\ still\ less\ than\ 1999\ Moore\ tornado$

By Anthony Watts, WUWT, May 21, 2013

http://wattsupwiththat.com/2013/05/21/oklahoma-tornado-officially-an-ef5/

After Oklahoma City Tragedy, Shameless Politicians Unsheath Global Warming Card

By James Taylor, Forbes, May 22, 2013

 $\frac{http://www.forbes.com/sites/jamestaylor/2013/05/22/after-oklahoma-city-tragedy-shameless-politicians-unsheath-global-warming-card/$

The Lessons of the Moore Oklahoma Tornado

By Cliff Mass, His Blog, May 21, 2013

http://cliffmass.blogspot.com/2013/05/the-lessons-of-moore-oklahoma-tornado.html

No, global warming did not cause Oklahoma tornado

Editorial, Washington Examiner, May 22, 2013

http://washingtonexaminer.com/examiner-editorial-no-global-warming-did-not-cause-oklahomatornado/article/2530292?utm_source=Washington%20Examiner:%20Opinion%20Digest%20-%2005/23/2013&utm_medium=email&utm_campaign=Washington%20Examiner:%20Opinion%20Digest

No Rest For Weather Weary: Expect More Extremes After Oklahoma Tornado

By WeatherBELL Analytics, Forbes, May 22, 2013

http://www.forbes.com/sites/weatherbell/2013/05/22/no-rest-for-weather-weary-expect-more-extremes-after-oklahoma-tornado/

Extended Range Forecast of Atlantic Seasonal Hurricane Activity and Landfall Strike Probability for 2013

By Philip Klotzbach and William Gray, Colorado State University, Apr 10, 2013

http://tropical.atmos.colostate.edu/forecasts/2013/apr2013/apr2013.pdf

[SEPP Comment: Statistical predictions based on 29 years of data.]

NOAA predicts active 2013 Atlantic hurricane season

By Anthony Watts, WUWT, May 23, 2013

http://wattsupwiththat.com/2013/05/23/noaa-predicts-active-2013-atlantic-hurricane-season/

Changing Climate

The Cooling World,

By Peter Gwyne, Newsweek, Apr 28, 1975 [H/t Catherine French]

http://www.scribd.com/doc/142747497/its-getting-cold

In 1975 Deadly Tornadoes Based on Global Cooling

By Gary DeMar, Godfather Politics, May 21, 2013 [H/t ICECAP]

http://godfatherpolitics.com/10929/in-1975-deadly-tornadoes-based-on-global-cooling/

Changing Seas

On Sea Level Rise, The IPCC Is Right - And That's Good For Us

By Hank Campbell, Science 2.0, May 15, 2013 [H/t GWPF]

http://www.science20.com/science_20/sea_level_rise_ipcc_right_and_thats_good_us-112099

Changing Cryosphere – Land / Sea Ice

World's biggest ice sheets likely more stable than previously believed [By Alarmists]

By Staff Writers, CIFAR, May 17, 2013 [H/t WUWT]

http://www.cifar.ca/ancient-shorelines-ice-sheets-stability

Link to paper: Dynamic Topography Change of the Eastern United States Since 3 Million Years Ago

By Rowley, et al., Science, May 16, 2013

http://www.sciencemag.org/content/early/2013/05/15/science.1229180

World's melting glaciers making large contribution to sea rise

By Staff Writers, Boulder CO (SPX), May 17, 2013

http://www.terradaily.com/reports/Worlds melting glaciers making large contribution to sea r ise_999.html

Recent snowfall anomalies in Dronning Maud Land, East Antarctica, in a historical and future climate perspective

By Lenaerts, et al., GRL, May 15, 2013 [H/t Catherine French]

http://onlinelibrary.wiley.com/doi/10.1002/grl.50559/abstract

[SEPP Comment: The period covered is too short to draw conclusions.]

Agriculture Issues & Fear of Famine

Interactive Effects of Temperature and Enhanced C02 on Agricultural Crops

By Staff Writers, SPPI & CO2 Science, May 15, 2013

http://scienceandpublicpolicy.org/originals/temp_co2_crops.html

Review of Recent Scientific Articles by NIPCC

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

Tropical Upper Tropospheric Warming: Models vs. Measurements

Reference: Po-Chedley, S. and Fu, Q. 2012. Discrepancies in tropical upper tropospheric warming between atmospheric circulation models and satellites. *Environmental Research Letters* 7: 10.1088/1748-9326/7/4/044018.

http://nipccreport.org/articles/2013/may/21may2013a3.html

[SEPP Comment: No improvement in the new CMIP5 models from the old CMIP3 models]

Storms of the Northern Hemisphere

Reference: Sorrel, P., Debret, M., Billeaud, I., Jaccard, S.L., McManus, J.F. and Tessier, B. 2012. Persistent non-solar forcing of Holocene storm dynamics in coastal sedimentary archives. *Nature Geoscience* 5: 892-896.

http://nipccreport.org/articles/2013/may/22may2013a3.html

[SEPP Comment: Cyclical nature of storms – every 1500 years. Warming leads to less storms.]

Changes in Global Precipitation Over Land in a Warming World

Reference: Sun, F., Roderick, M.L. and Farquhar, G.D. 2012. Changes in the variability of global land precipitation. *Geophysical Research Letters* 39: 10.1029/2012GL053369. http://nipccreport.org/articles/2013/may/21may/2013a4.html

Holocene Histories of Atmospheric CO2 Concentration and West Greenland Air Temperature

Reference: Axford, Y., Losee, S., Briner, J.P., Francis, D.R., Langdon, P.G. and Walker, I.R. 2013. Holocene temperature history at the western Greenland Ice Sheet margin reconstructed from lake sediments. *Quaternary Science Reviews* 59: 87-100. http://nipccreport.org/articles/2013/may/21may/2013a1.html

The Political Games Continue

Moniz Confirmed as Energy Secretary, EPA's McCarthy Confirmation Nears Full Senate Vote

By Sonal Patel, Power News, May 21, 2013

http://www.powermag.com/POWERnews/5651.html?hq_e=el&hq_m=2678482&hq_l=10&hq_v=5e660500d0

Litigation Issues

The EPA Could Lose Its Power to Fight Climate Change Before Using It

By Philip Bump, Atlantic Wire, May 17, 2013 [H/t GWPF]

http://www.theatlanticwire.com/global/2013/05/epa-could-lose-its-power-fight-climate-change-using-it/65354/

Cap-and-Trade and Carbon Taxes

Effects of a Carbon Tax on the Economy and the Environment

By Staff Writers, Congressional Budget Office, May 22, 2013 [H/t Randy Randol]

http://www.cbo.gov/publication/44223?utm_source=feedblitz&utm_medium=FeedBlitzEmail&utm_content=812526&utm_campaign=0

Link to full document: Effects of a Carbon Tax on the Economy and the Environment

By Terry Dinan, et al., CBO, May 2013

http://www.cbo.gov/sites/default/files/cbofiles/attachments/44223_Carbon_0.pdf

Congressional Budget Office Looks at a Carbon Tax

By David Kreutzer, The Foundry, May 23, 2013

http://blog.heritage.org/2013/05/23/congressional-budget-office-looks-at-a-carbon-tax/

CBO: Carbon tax an option to avoid 'catastrophic' outcomes

By Zack Colman, The Hill, May 22, 2013

 $\underline{\text{http://thehill.com/blogs/e2-wire/e2-wire/301377-cbo-carbon-tax-an-option-to-avoid-catastrophic-outcomes}$

[SEPP Comment: Could The Hill newspaper be showing a bias?]

CBO: Carbon Tax Could Be Costly to Economy but Generate Trillions, Avert Climate Change Effects

By Staff Writer, POWERnews, May 23, 2013

http://www.powermag.com/POWERnews/5661.html?hq_e=el&hq_m=2678482&hq_l=7&hq_v=5e660500d0

Carbon Taxation: Just Say No (NAM-led letter represents a broad business front)

By Robert Bradley Jr., Master Resource, May 24, 2013

http://www.masterresource.org/2013/05/nam-letter-no-carbon-tax/#more-25737

EPA and other Regulators on the March

Chamber: Greens using 'sue and settle' to coerce EPA

By Megan R. Wilson, The Hill, May 20, 2013

http://thehill.com/blogs/regwatch/energyenvironment/300851-chamber-greens-using-sue-and-settle-to-coerce-epa

Link to the report: Sue and Settle: Regulating Behind Closed Doors

By William Kovacs, et al., U.S. Chamber of Commerce, May 2013

http://www.uschamber.com/sites/default/files/reports/SUEANDSETTLEREPORT-Final.pdf

Industry accuses EPA of skirting rules for public review of draft fuel regs

By Ben Goad, The Hill, May 21, 2013

 $\underline{http://thehill.com/blogs/regwatch/energyenvironment/301109--industry-accuses-epa-of-skirting-rules-for-public-review-of-draft-fuel-regs}$

[SEPP Comment: 23 days to comment on a 1572 page set of proposed rules.]

Energy Issues - Non-US

Lateral thinking

By Andrew Montford, Bishop Hill, May 22, 2013

http://bishophill.squarespace.com/blog/2013/5/22/lateral-thinking.html

[SEPP Comment: The capability of horizontal drilling 10km reduces the effectiveness that the UK is too densely populated to permit drilling of shale.]

Energy Issues -- US

'All-of-the-above' approach to energy policy

By Judith Curry, Climate Etc., May 22, 2013

http://judithcurry.com/2013/05/22/all-of-the-above-approach-to-energy-policy/#more-11739

[SEPP Comment: Each side on the polarized issue is more capable of hindering the opposition than promoting its own preference. Do not agree with the assumption that spending money on renewables will reduce climate change.]

FERC Directs NERC to Develop Reliability Standards Addressing Solar Storm Effects

By Sonal Patel, Power News, May 23, 2013

http://www.powermag.com/POWERnews/5626.html?hq_e=el&hq_m=2678482&hq_l=9&hq_v=5e660500d0

Insight: The road to a greener America is littered with road-kill

By Nichola Groom, Reuters, May 20, 2013 [H/t George Nicholas]

http://finance.yahoo.com/news/insight-road-greener-america-littered-050356566.html

Washington's Control of Energy

Obama Has Been Dealt A Spectacular Energy Hand: He Should Play It

By James Glassman, Forbes, May 23, 2013 [H/t GWPF]

http://www.forbes.com/sites/jamesglassman/2013/05/23/play-the-energy-card/

Obama administration supports fracking and natural gas exports

By Steve Goreman, Washington time, May 22, 2013

http://communities.washingtontimes.com/neighborhood/climatism-watching-climate-science/2013/may/22/obama-administration-supports-fracking-and-natural/

Keystone Pipeline Is An Economic Slam Dunk For America

By Rep Marsha Blackburn, IBD, May 20, 2013

http://news.investors.com/ibd-editorials-viewpoint/052013-656857-keystone-pipeline-economic-benefits-are-clear.htm?p=full

Oil and Natural Gas – the Future or the Past?

Big Data And Microseismic Imaging Will Accelerate The Smart Drilling Oil And Gas Revolution

By Mark Mills, Forbes, May 8, 2013 [H/t NCPA]

http://www.forbes.com/sites/markpmills/2013/05/08/big-data-and-microseismic-imaging-will-accelerate-the-smart-drilling-oil-and-gas-revolution/

Obama administration approves natural gas export site

By Ben Wolfgang, Washington Times, May 17, 2013

http://www.washingtontimes.com/news/2013/may/17/obama-administration-approves-natural-gas-export-s/

Return of King Coal?

Can Coal be Dumped?

By Donn Dears, Power for USA, May 24, 2013

http://dddusmma.wordpress.com/2013/05/24/can-coal-be-dumped/

[SEPP Comment: As the EPA charges forward in its goal of shutting down coal, the lack of reliable alternatives is becoming apparent.]

Lighting Big Green's match to burn King Coal

Energy suppliers must quit collaborating with renewable-power enemies

By Tom Harris and Tim Ball, Washington Times, May 20, 2013

 $\frac{http://p.washingtontimes.com/news/2013/may/20/lighting-big-greens-match-to-burn-king-coalenergy-/}{coalenergy-/}$

Alternative, Green ("Clean") Solar and Wind

Wind Power Sucks Subsidies Instead of Turning Turbines

By Viv Forbes, NCTCS, May 22, 2013

 $\underline{http://theclimatescepticsparty.blogspot.com.au/2013/05/wind-power-sucks-subsidies-instead-of.html}$

Wind Farms Get Pass on Eagle Deaths

By Dina Cappiello, AP, May 14, 2013 [H/t NCPA]

http://hosted.ap.org/dynamic/stories/U/US_WIND_ENERGY_EAGLE_DEATHS?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT&CTIME=2013-05-14-07-57-59

"What it boils down to is this: If you electrocute an eagle, that is bad, but if you chop it to pieces, that is OK,"

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

Navy Captain Guns Down Biofuels

By Robert Bryce, Energy Tribune, May 20, 2013

http://www.energytribune.com/76974/navy-captain-guns-down-biofuels#sthash.JU8kZgWJ.dpbs

Exxon Takes Algae Fuel Back to the Drawing Board

A \$300 million project seems to have failed to produce a cheap way to make fuel from algae.

By Kevin Bullis, MIT Technology Review, May 20, 2013 [H/t Deke Forbes]

 $\underline{http://www.technologyreview.com/view/515041/exxon-takes-algae-fuel-back-to-the-drawing-back-to-the-dra$

board/?utm_campaign=newsletters&utm_source=newsletter-daily-

all&utm medium=email&utm content=20130521

[SEPP Comment: The Navy paid about \$27 per gallon for the last batch of biofuel.]

Alternative, Green ("Clean") Vehicles

The zero-emission vehicle myth

By Henry Payn, Detroit News, May 21, 2013 [H/t GWPF]

http://www.detroitnews.com/article/20130521/OPINION03/305210002

California Dreaming

California's anti-coal agenda is adverse to human health and welfare

By Frank Clemente, Energy Facts Weekly, May 20, 2013

http://us1.campaign-archive2.com/?u=29bc7d5d85828d574f86c157a&id=5e772f3a6c&e=

Health, Energy, and Climate

The consequences of misunderstanding risk

By Martin Livermore, Scientific Alliance, May 24, 2013

http://scientific-alliance.org/scientific-alliance-newsletter/consequences-misunderstanding-risk [SEPP Comment: The fear of MMR vaccine, based on a discredited study, is having negative

health effects in the UK.]

Environmental Industry

'Deep Ecology' versus Energy (McKibben's virus understood)

By Robert Bradley Jr., Master Resource, May 23, 2013

http://www.masterresource.org/2013/05/deep-ecology-versus-energy/#more-25670

Other Scientific News

GPS solution provides three-minute tsunami alerts

By Staff Writers, Potsdam, Germany (SPX), May 23, 2013

http://www.gpsdaily.com/reports/GPS_solution_provides_three_minute_tsunami_alerts_999.html

Link to article: Instant tsunami early warning based on real-time GPS – Tohoku 2011 case study

By Hoechner, et al., Natural Hazards and Earth System Sciences, May 17, 2013

http://www.nat-hazards-earth-syst-sci.net/13/1285/2013/nhess-13-1285-2013.html

Comprehensive Analysis of Impact Spherules Supports Theory of Cosmic Impact 12,800 Years Ago

Press Release UC Santa Barbara, May 21, 2013 [H/t WUWT]

http://www.ia.ucsb.edu/pa/display.aspx?pkey=3019

Link to paper: Evidence for deposition of 10 million tonnes of impact spherules across four

continents 12,800 y ago

By Wittke, et al., PNAS, May 20, 2013

http://www.pnas.org/content/early/2013/05/17/1301760110

Frog once imported for pregnancy testing brought deadly amphibian disease to US

By Staff Writers, San Francisco CA (SPX), May 20, 2013

http://www.terradaily.com/reports/Frog once imported for pregnancy testing brought deadly amphibian disease to US 999.html

Link to paper: Prevalence of Batrachochytrium dendrobatidis in Xenopus Collected in Africa (1871–2000) and in California (2001–2010)

By Vredenburg, et al., Plos One, May 15, 2013

http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0063791

World's largest undersea methane seep harbors variety of life

By Staff Writers, Washington (UPI), May 22, 2013

http://www.spacedaily.com/reports/Worlds largest undersea methane seep harbors variety of life 999.html

BELOW THE BOTTOM LINE:

WaPo commits photo fraud for global warming column

By Steve Milloy, Junk Science, May 24, 2013 [H/t WUWT]

http://junkscience.com/2013/05/24/wapo-commits-photo-fraud-for-global-warming-column/#more-40384

[SEPP Comment: Fraud may be too strong a term, but a photo of black smoke coming from chimneys (taken under special lighting or using filters) accompanying an article on invisible CO2 is certainly black propaganda.]

\$19.5 Mil to Study Effect of Climate Change on Cows

By Staff Writer, Judicial Watch, May 15, 2013 [H/t Timothy Wise] http://www.judicialwatch.org/blog/2013/05/19-5-mil-to-study-effect-of-climate-change-on-cows/

Great moments in activist climate science – NRDC's Dr. Laurie Johnson: 'CO2 makes your car hot'

By Andrew Watts, WUWT, May 23, 2013

http://wattsupwiththat.com/2013/05/23/great-moments-in-activist-climate-science-dr-laurie-johnson-co2-makes-my-car-hot/

ARTICLES:

1. NASA Adrift in Interplanetary Space

By S. Fred Singer, American Thinker, May 24, 2013 http://www.americanthinker.com/2013/05/nasa_adrift_in_interplanetary_space.html

Since the first Apollo landing in 1969, NASA has been looking, unsuccessfully, for an overarching goal to match this spectacular achievement: landing men on the Moon. The International Space Station (ISS) has not turned out to be what it was advertised. It has made no breakthrough scientific contributions; it has not explored the solar system further; and it has not excited a great amount of public interest since it was set up. In retrospect, many would refer to it as a white elephant. Its annual maintenance costs are a drain on the NASA budget. Even worse, its supply has to be contracted out -- to Russia. The trouble is: ISS had no well-defined goal.

Yes, there have been plenty of proposals. During the first Bush administration, NASA thought it had a clear go-ahead and proposed a manned Mars mission, in addition to putting a manned base on the Moon (to do what?). But once the price tag was revealed, around 400 billion dollars (which was then real money), the NASA plan was DOA (dead on arrival).

Since then there have been proposals to establish a permanent colony on the Moon -- again without any clear justification. Many have compared it to the ISS and labeled it another white elephant. In fact, it would add little to our knowledge of the Moon, and probably would not even create much public excitement: "Been there, done that" -- to much of the public, just a repeat of the Apollo mission.

Such a Moon colony has been labeled as an important 'step towards the human exploration of Mars'; but this claim was never justified in any detail. Many would describe it as a detour, or as a blind alley. Even worse, it would consume so much of the NASA budget as to make any other space project infeasible.

More recently, we've heard proposals such as landing on the far side of the Moon, to set up radio telescopes in a noise-free environment. There might be some justification for this, but it is an expensive undertaking without commensurate returns.

Similarly, we've heard of human missions to asteroids, as worthwhile goals. But there are likely to be as many kinds of asteroids as there are meteorites. And these can be studied more easily in samples taken from the dusty shelves of museums around the world.

It is interesting to contemplate the military aspects of space but hard to think of any beyond Earth orbit. Yet I well remember that during the early days of the space race with Russia, there were Pentagon proposals to "occupy" the Moon. Why? Because it is military doctrine to occupy the high ground. And why high ground? Well, whenever we see the Moon, it's "up there," the generals replied. I spent much time explaining that the Moon is not an ideal place from which to launch nuclear missiles.

Among the more imaginative proposals has been the occupation of libration points, places where opposing gravitational forces of celestial bodies balance to zero. These have been suggested as places for storing anything -- from propellants to pieces of asteroids. There may even be international competition for libration points. But since there are several, it should be a simple matter to divide them up between the major space-faring nations. Another great project for the United Nations and for the State Department!

The latest proposal is to capture a small asteroid and bring it to a libration point, where it would remain more or less stationary -- so it can be studied at leisure. Again, it is being sold as a step towards Mars -- probably an idea thought up by some armchair astronaut in the White House. The project really does not make any sense. The selected asteroid would be some 5-10 meters in size, a little larger than the Ahnighito (Cape York) meteorite in the New York Museum of Natural History. But there are plenty of meteorites that can be studied at leisure by scientists; no need to go out and get another one. They come here all the time -- unannounced and sometimes very destructively. We should really be more concerned with deflecting incoming asteroids before they hit the Earth and cause widespread damage.

Writing in Science magazine (10 May 2013), well-respected planetary writer Richard Kerr reports that the community of asteroid scientists is not enchanted by such a project. But they seem to be willing to go along if that's all that's out there for NASA.

There may be a way to finesse the issue, however. Mars has two small moons, Phobos and Deimos. Some believe that they are asteroids, captured by Mars billions of years ago. [I plead guilty for having advanced such a possibility in 1968 but I certainly no longer believe it.] So let's just label the Martian moons as asteroids; it's for a good cause.

[Full disclosure: I should also mention that about 40 years ago I proposed capturing Phobos, in order to exploit its possible mineral resources. Not a brilliant idea, but TIME magazine liked it.

In my defense: I needed a topic for a popular talk; also, I wanted to prove a Russian astrophysicist wrong; he had advanced the idea that Phobos was hollow and had been constructed by Martians!]

All these attempted justifications for projects as "stepping stones" to Mars lead us to the obvious question: why not go directly to Mars? If done properly, the initial steps are well within present capabilities and current budgets. The scientific returns from studying another planet like Mars would be immense: its climate history and current meteorology; its composition, both surface and interior; the fate of past atmospheres, oceans and its planetary magnetism. A major question for decades has been the origin of the Martian moons: how did they become associated with the planet -- and have there been other moons that have by now disappeared?

But the holy grail of Martian exploration has always been the development of life in the past, the discovery of paleo-life. The key question will be to learn whether life developed in ways similar to Earth or whether our planet is unique. No such life is likely to exist on the Moon, nor on asteroids, and certainly not at libration points.

2. Going Green? Then Go Nuclear

We're environmentalists, but pretending that solar power is ready for prime time is delusional. By Ted Nordhaus and Michael Shellenberger, WSJ, May 23, 2013 http://online.wsj.com/article/SB10001424127887323716304578482663491426312.html?mod=WSJ_Opinion_LEFTTopOpinion

Over the last several decades, the cost of electricity from solar panels has declined dramatically, while the cost of building new nuclear plants has risen steadily. This has reaffirmed the long-standing view of many environmentalists that it will be cheaper and easier to reduce global warming emissions through solar electricity than with new nuclear plants. But while continuing price declines might someday make solar cheaper than nuclear, it's not true today. Yet the mythmaking persists.

Nuclear is "the least economical probably of any" energy source, Natural Resources Defense Council Senior Attorney Robert F. Kennedy Jr. told the San Francisco Commonwealth Club in 2011. Activist Bill McKibben late last year told the Daily Beast that nuclear is "incredibly expensive, it's like burning \$20 bills to generate electricity."

Exhibit A for green leaders is a beleaguered new nuclear plant in Finland. It was supposed to cost \$4 billion and begin generating electricity in 2009. It is now projected to cost \$11 billion, and Finland's electric utility says it won't open until 2016.

The same environmental leaders point to Germany's solar program as a model for effective action on global warming. Mr. McKibben describes Germany as "the only major country that's really pursued renewable power at an appropriate pace" and points out that its state of Bavaria boasts more solar panels than the entire U.S. Germany's solar panels were "enough to provide close to 50 percent of the nation's power," Mr. Kennedy wrote in an op-ed in the New York Times.

All of this has led many to conclude that electricity from Germany's solar power is far cheaper than Finland's new nuclear power will be. The opposite is the case.

The cost of building and operating the Finnish nuclear plant over the next 20 years will be \$15 billion. Over that time period, the plant will generate 225 terawatt-hours (twh) of electricity at a cost of 7 cents per kilowatt hour.

Since 2000, Germany has heavily subsidized electricity production from solar panels—offering long-term contracts to producers to purchase electricity at prices substantially above wholesale rates. The resulting solar installations are expected to generate 400 twh electricity over the 20 years that the panels will receive the subsidy, at a total cost to German ratepayers of \$130 billion, or 32 cents per kwh.

In short, solar electricity in Germany will cost almost five times more for every kilowatt hour of electricity it provides than Finland's new nuclear plant.

Over its 60-year lifetime—which can be extended by relicensing—the Finnish plant likely will generate more electricity than Germany's solar panels ever will. That's because solar panels only have an expected lifetime of 25 to 30 years and lose about a half a percent of their efficiency every year. Compared over their full lifetimes, the Finnish plant will produce power at a cost of about 4 cents per kwh, while Germany's solar panels will produce electricity at a cost of 16 cents per kwh.

Does that mean we should give up on solar? Of course not. Thanks to several decades of public support, solar panels have gotten better and cheaper. Continuing efforts to develop better panels deserve our support. But the insistence that solar is ready to play a major role in meeting our energy needs today is both delusional and irresponsible.

Messrs. McKibben and Kennedy, for instance, have boasted that on one day in 2012 half of Germany's electricity came from solar. They neglect to mention that it was a cool and sunny day over a weekend, when demand was unusually low. The real story is much more sobering. In 2012, solar generated less than 5% of Germany's electricity despite a decade and over \$100 billion spent in subsidies.

Misleading claims about solar's readiness might be excused as the exaggerations of enthusiasts if the claims weren't coming from environmentalists who believe that global warming is a planetary emergency. If they were really serious about the need to move to zero carbon energy, they would see nuclear energy as the obvious answer.

The only nations in the world that have achieved emissions reductions at a pace and scale that begins to approach what will be necessary to mitigate global warming are France and Sweden. Both did so by switching to nuclear energy. France shifted over 80% of its electricity to nuclear in about two decades. Renewable energy, despite decades of public subsidies, can make no such claim.

Warning of the end of the world and delivering the good news about solar and wind plays well with green audiences, but anyone truly concerned about climate change will need to reconsider

their opposition to nuclear. It is the best chance we have to make big reductions in carbon emissions quickly.

Messrs. Nordhaus and Shellenberger are co-founders of the Breakthrough Institute in Oakland, Calif.

3. The Global Solar Cartel

Subsidies, then tariffs, and now fixing prices and quotas.

Editorial, WSJ, May 24, 2013

 $\frac{http://online.wsj.com/article/SB10001424127887324659404578500472672626546.html?mod=WSJ_Opinion_AboveLEFTTop$

The Obama Administration and European Union are looking for ways to avoid a trade war with China over solar-energy panels. Their brilliant proposed solution? A global cartel enforced by government.

The U.S. Commerce Department set duties on Chinese-made solar cells in October after an investigation ruled that Beijing unfairly subsidizes its panel makers. The European Commission followed this month, proposing tariffs of up to 67.9%. China, in turn, threatened last week to impose duties on American and EU exports of polysilicon, the raw material in solar cells. The EU taxes are due to take effect next month.

Ending the tariffs and subsidies on all sides would be the easiest solution, though never count on Washington and Brussels to choose market sanity over political intervention. The deal taking shape will require Chinese solar firms to sell in America and Europe at above-market prices and in restricted quantities. The hope is that by guaranteeing panel makers across all three continents a profit, the green economy can power onward.

Call it tragicomic that the only way for the U.S. and EU to achieve their green objectives is to embrace China's model of state-managed capitalism. But the story is also a parable of how the cronyism inherent in the renewable-energy industry can clash with environmental goals.

American and European panel makers, notably the Bonn-based SolarWorld, SWV.XE +0.25% have lobbied heavily for tariffs, but the solar-energy producers and installers rightly complain that this will raise their costs. Higher panel prices will raise consumer prices for solar power, which is still uncompetitive despite huge subsidies.

Beijing wouldn't be supporting Chinese panel makers at all without the market for solar components that renewable-energy subsidies created in the West. In subsidizing one industry, Western governments generated clamor for trade protections in another. Washington and Brussels need to layer intervention upon intervention to keep their green agendas afloat.

This all recalls the 1980s when Washington worked out deals with Tokyo to resolve trade disputes over cars, electronics and other manufactured goods. Japanese auto makers could sell in America up to a fixed quota, for instance, and American firms were guaranteed a fixed share of the Japanese memory chip market.

"Managed trade" was the term of art for this sort of protectionism. The problem vanished when American chip makers like Intel diversified into higher-value chips in which they were superior to Japanese firms. But consumers on both sides of the Pacific were clear losers. The so-called voluntary import and export restraints kept prices artificially high.

A return to managed trade today would do similar damage. But it also underscores how the greenenergy project has from the start been a politically directed exercise that depends on government to survive.

4. The Other Government Motors

Tesla by the numbers: How taxpayers made an electric car company.

Editorial, WSJ, May 24, 2013

http://online.wsj.com/article/SB10001424127887324659404578499460139237952.html?mod=WSJ_Opinion_AboveLEFTTop

The list of the Obama Administration's industrial policy failures is long, from Solyndra to Fisker Automotive. But now we are hearing that one success redeems them all: Tesla Motors. Tesla's share price has soared this year on rave reviews for its electric car, growing sales and its first quarterly profit.

Rarely noted is how much this profit is a function of government subsidy and coercion. So let's take apart Tesla by the numbers, if only to give our reader-taxpayers a better sense of what they've paid to make Tesla's owners rich.

The decade-old Tesla debuted its first product, the Roadster, in 2006. With a base price of \$109,000, it was discontinued before it hit 2,500 sales. Tesla introduced its Model S a year ago and had sold an estimated 9,650 at a bargain \$70,000 through April. By contrast, Ford sold 168,843 F-series pickup trucks in the first quarter alone.

Tesla wouldn't have sold even that many cars without the extraordinary help of government. In 2009 the company received a \$465 million Obama loan guarantee, supplemented last year by a \$10 million grant from the California Energy Commission.

That money has underwritten Tesla's engineering and manufacturing, but federal and state governments also subsidize the purchase of Tesla products. Any U.S. buyer of a Tesla car qualifies for a \$7,500 federal tax credit, while states like Colorado throw in up to \$6,000 more in state income-tax credits. Taxpayers pay first so Tesla can build the cars and again to help the wealthy buy them.

These subsidies are important enough to Tesla that its website features an "Incentives" section directing buyers where to look for their states' electric-vehicle benefits—rebates, free parking, exemptions from state sales tax, use of high-occupancy lanes, and the like. Buyers from states that offer no incentives get this Tesla message: "Want to help make EV [electric vehicle] incentives a reality in your area? Encourage your local or state representative by calling or sending them a letter."

Tesla's biggest windfall has been the cash payments it extracts from rival car makers (and their customers), via its sale of zero-emission credits. A number of states including California require that traditional car makers reach certain production quotas of zero-emission vehicles—or to purchase credits if they cannot. Tesla is a main supplier.

A Morgan Stanley report in April said Tesla made \$40.5 million on credits in 2012, and that it could collect \$250 million in 2013. Tesla acknowledged in a recent SEC filing that emissions credit sales hit \$85 million in 2013's first quarter alone—15% of its revenue, and the only reason it made a profit.

Take away the credits and Tesla lost \$53 million in the first quarter, or \$10,000 per car sold. California's zero-emission credits provided \$67.9 million to the company in the first quarter, and the combination of that state's credits and federal and local incentives can add up to \$45,000 per Tesla sold, according to an analysis by the Los Angeles Times.

One irony is that rival car makers—even those making electric hybrids or gasoline subcompacts—don't get the same benefit from zero-emissions mandates. As environmentalist Bjorn Lomborg notes, manufacturing and charging electric cars over their life cycle can produce more carbon than small, gas-powered vehicles. Yet Tesla is cashing in because of the policy bias for fully-electric cars.

Another irony is that the main beneficiaries of this electric-car largesse belong to—well, the 1%. Tesla co-founder Elon Musk is already a successful entrepreneur, and his estimated net worth has soared past \$4 billion thanks to the IPOs of Tesla and Solar City (a separate operation that received a \$344 million federal loan guarantee).

Also realizing Tesla IPO windfalls are the elite of Silicon Valley venture capital: the Westly Group (whose principal, Steve Westly, is an Obama campaign bundler), Draper Fisher Jurvetson, and VantagePoint Venture Partners. Other paupers in the Tesla venture include or have included Daimler, Fidelity Investments, Google co-founders Sergey Brin and Larry Page, Hyatt heir Nick Pritzker, and former eBay president Jeff Skoll. The state-owned Abu Dhabi Water & Electricity Authority last year booked a \$113 million profit selling its share of Tesla. You're welcome.

Tesla isn't oblivious to the politics of all this, and on Wednesday it said it had fully repaid its government loan. That's good, since Tesla's long-term prospects are far from certain. The major auto makers will soon have their own zero-emissions vehicles, which Mr. Musk says will end Tesla's credits boom by year end. Analysts are also warning that Tesla has yet to show it can sell its very pricey car to a mass market.

Tesla's investors claim this taxpayer support is worth it if it creates a new electric-car company, and for them it is. But such a success must still be measured against other taxpayer losses and misallocated capital.

And even if Tesla's cars do sell, the policy question is why billionaires in California couldn't have financed the business themselves. Why should middle-class taxpayers whose incomes are falling still pay to subsidize the purchase of cars that only the affluent can afford, and then partly as a

gesture of their s	uperior environmental vi	rtue? When does t	he rest of America	get its return on
Tesla's profits?				
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