

The Week That Was: 2016-02-06 (February 6, 2016)
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The Science and Environmental Policy Project

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Quote of the Week: *“It doesn't matter how beautiful your theory is, it doesn't matter how smart you are. If it doesn't agree with experiment, it's wrong.”* Richard Feynman

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Number of the Week: 2.5 & 3 times

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THIS WEEK:

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

“It’s Wrong”: Nobel Laureate in Physics Richard Feynman (1965) was a brilliant scientist with a passion for teaching. In some of his writing, and videos of his lectures, he clearly articulates the difficulties in formulating a scientific theory and the importance of hypothesis testing (experiment), see above quote. Feynman left a lasting impression on many students of science.

In his written testimony to the U.S. House Committee on Science, Space and Technology on February 2, John Christy of the University of Alabama in Huntsville submitted the results of 102 IPCC CIMP-5 Climate Model runs for the Global Bulk Atmospheric Temperature. (Surface to 50,000 feet (15,240 meters). (CIMP-5 is the latest version global climate models used by the UN Intergovernmental Panel on Climate Change (IPCC))

Christy tested the results of these model runs against temperature observations by four different datasets of weather balloon measurements with one type of instruments and by satellites with another type of instruments as calculated by 3 different entities. Christy shows a 0.98 correlation between the types of observational datasets, which is very high for such types of measurements. Not only is there significant disparity between the average of model runs and observations; but also, since 1995 the disparity is increasing significantly. The models greatly overestimate the warming of the bulk atmosphere.

Applying Feynman’s rule, the models are wrong!

By this empirical testing, the certainty expressed by the IPCC that human emissions of greenhouse gases, chiefly carbon dioxide (CO₂), primarily responsible for late 20th century warming is wrong. EPA’s finding that greenhouse gases, chiefly CO₂, endanger public health and welfare is wrong. And the justification for the US Administration’s power plan is wrong.

Since Christy’s testimony undermines the foundation the government’s energy and environmental policy, including international efforts, it will be the primary focus of this TWTW. See links under Challenging the Orthodoxy.

Natural or Human? Christy’s evidence does not mean that there is no greenhouse effect, or that human emissions do not contribute to a warming. But it certainly indicates that the human emissions of a cause are overstated, and that the primary cause(s) of late 20th century warming is likely to be natural influences. This is directly contrary to probability of nature-only influence calculations by Mann et al. discussed in the January 30, 2016 TWTW. The artificial truncation of

the data to the past 150 years can lead to incorrect conclusions, even assuming the calculations are correct.

Extension of Prior Testimony: On December 8, 2015 Christy give strong written testimony before the U.S. Senate Subcommittee on Space, Science and Competitiveness questioning claims of human-induced climate change impacts on extreme events such as wildfires (no evidence), droughts & floods (little or no evidence) with increasing grain production. In that testimony, Christy expressed concern over the political influence on climate science, including the IPCC.

Subsequently, a group called Yale Climate Connections released a video attacking Christy's December 8 testimony. The video featured statements by Climate scientists Michael Mann, Kevin Trenberth, Andrew Dessler, Carl Mears, and Ben Santer, and David Titley. The title of the article accompanying the video is a dead giveaway of its purpose: "Experts Fault Reliance on Satellite Data Alone." Carl Mears of the Remote Sensing Systems (RSS) should know that Christy and his group have used RSS satellite data for years in addition to UAH data and NOAA data. Further, he should know that balloon data is distinctly different from satellite data. See links under Defending the Orthodoxy.

Four Points: In his February 2 testimony, Christy addresses four criticisms of satellite measurements, the first three of which are brought up in the video. The first is that satellites do not measure temperatures. Christy counters that they actually measure microwave radiation from oxygen, the intensity of which is directly proportional to the temperature of the oxygen. This is similar to modern doctors using ear probes measuring emitted radiation to measure a patient's temperature – a great improvement to various types of older thermometers.

The second criticism is orbital decay, which was pointed out by RSS about 20 years ago and corrected. The third criticism is east-west drift (diurnal drift) of the satellites. This influences measurements of the lower troposphere, but not the middle troposphere, the data used in the hypothesis testing. Further, the error was corrected about 10 years ago.

A fourth criticism not brought up in the video, but discussed by Christy, is that some scientists have expressed that the satellite data hides the power and validity of the models. To prevent misinterpretation, Christy adjusts the data to the same starting point similar to a foot race starting at the same starting line. The starting point is 1979 when satellite data became available rather than an artificially contrived one. No one has produced evidence Christy's adjustments are in error.

Adjusting for errors in hypotheses when they are revealed is how science works to improve hypotheses. Improving hypotheses is one of the purposes of hypothesis testing. See links under Challenging the Orthodoxy, especially pp 4-5

Linear Approach: Many scientists do not care for the tendency to put time-series data into linear form, or even constructing a regression trend between two points in the time-series, because it often disguises other trends that may only be observed in the rich data. However, a linear approach can be effective. Christy uses one to eliminate the influence of volcanoes, etc. and to better demonstrate the departure of the climate models from observations. Using the 36-year period from 1979 to 2015, Christy shows a linear trend of $+0.079^{\circ}\text{C}/\text{decade}$ for balloon data, and $+0.091^{\circ}\text{C}/\text{decade}$ for satellite data. The average of 102 IPCC CMIP-5 Climate Model runs over

the same period is +0.214 °C/decade. Globally, the models overestimate bulk atmospheric warming (surface to 50,000 feet) by 2.5 times. From the data presented Christy states:

“Thus, the evidence here strongly suggests the theory, as embodied in models, goes much too far in forcing the atmosphere to retain heat when in reality the atmosphere has a means to relinquish heat and thus warms at a much slower rate.” See Christy, Challenging the Orthodoxy, pp 4-6

How Well Do We Understand Climate Change? After addressing surface temperature data and the data quality issues involve (which have been discussed in TWTW), Christy goes to the key question: How Well Do We Understand Climate Change? After discussing the complexity of the modeling, he asserts that if we understand this complex system, we should be able to predict its behavior. This is a start; but, accurate prediction does not guarantee that the fundamental physics is understood. Based on the 102 climate model simulations of the troposphere Christy was able to access, our understanding is far from complete and does not inspire confidence. See Christy, Challenging the Orthodoxy, pp 6-11

Only One: To give a demonstration of the variation among the models Christy plots the 102 CMIP5 Model Runs in 32 Groupings against Observations. Only one model comes close to the observations – the Russian INM-CM4. For those who like to calculate a low probability of 20th century warming being natural variability, there is a new challenge. What is the random probability of 101 out of 102 CMIP5 global climate model runs greatly overestimating global mid-tropospheric temperature observations? See Christy, Challenging the Orthodoxy, p 12.

Conclusion: Christy concluded with calculations of what would be the impact on global warming if the US ceased emissions totally – the US simply vanished. Using an IPCC model with a low end assumption of the influence of CO₂ (not the much lower influence indicated by his research) after 50 years the effect would be less than monthly variations in global temperatures.

If the video by Yale Climate Connections, mentioned above, prompted Christy to prepare this rigorous, terse summary of the problems in IPCC models and science, perhaps those responsible for the video should be thanked. It would be difficult to create a better evaluation of the quality of the IPCC’s models.

Treaty – No Treaty: Myron Ebell of the Competitive Enterprise Institute wrote an interesting article on the issue of what was agreed upon at the end of the Paris UNFCCC December Conference of Parties (COP-21). Is it a treaty or not? As stated in TWTW, the concluding effort appeared to be all smoke and mirrors on the part of the US delegates and the Administration. Ebell suggests that the UN is proceeding with full flourishes that it is a treaty. According to Ebell it fits the conditions of a treaty as defined by the UN. As a treaty it requires consideration by the US Senate and concurrence of two-thirds of the senators present. It remains to be seen what this all-so-clever Administration will announce and do. See link under Analyzing Paris!

Number of the Week: 2.5 & 3 times. How John Christy calculated that the global climate models overestimate global atmospheric warming by 2.5 times that of observations is explained under Linear Approach, above. Christy also calculated that the models overestimate atmospheric warming over the tropics by 3 times. This is the area in which the storied “hot spot” should be occurring. Even though it was not part of the literature, Ben Santer inserted the “hot spot” in the 2005 IPCC report, after it underwent peer review. No one has been able to physically find it.

Perhaps, this is why Santer participated in the video criticizing atmospheric satellite and balloon measurements.

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ARTICLES: The Articles section is now at the bottom of TWTW.

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NEWS YOU CAN USE:

Climategate Continued

Picking Cherries in the Gulf of Alaska

By Steve McIntyre, Climate Audit, Feb 2, 2016

<http://climateaudit.org/2016/02/02/picking-cherries-in-the-gulf-of-alaska/#more-21650>

“My underlying issue with “regional chronologies” is that the 20th century shape of the chronologies can be dramatically impacted by ex post selection of modern data. I originally raised the question of ex post data collection in the earliest days of Climate Audit in connection with the NH reconstruction of Jacoby and D’Arrigo 1989. I wrote many posts on this issue in connection with Briffa’s Yamal and Polar Urals chronologies, where site selection clearly impacted the shape of the chronology [links provided]. This was a large controversy leading into Climategate.”

Challenging the Orthodoxy -- NIPCC

Why Scientists Disagree About Global Warming

The NIPCC Report on the Scientific Consensus

By Craig D. Idso, Robert M. Carter, and S. Fred Singer, NIPCC, Nov 23, 2015

<http://climatechangereconsidered.org/>

Download with no charge

<https://www.heartland.org/policy-documents/why-scientists-disagree-about-global-warming>

Climate Change Reconsidered II: Physical Science

Idso, Carter, and Singer, Lead Authors/Editors, 2013

<https://www.heartland.org/media-library/pdfs/CCR-II/CCR-II-Full.pdf>

Summary: <http://www.nipccreport.org/reports/ccr2a/pdf/Summary-for-Policymakers.pdf>

Climate Change Reconsidered II: Biological Impacts

Idso, Idso, Carter, and Singer, Lead Authors/Editors, 2014

<http://www.nipccreport.org/reports/ccr2b/pdf/Full-Report.pdf>

Summary: <https://www.heartland.org/media-library/pdfs/CCR-IIb/Summary-for-Policymakers.pdf>

Challenging the Orthodoxy

Prepared Testimony to House Committee on Science, Space & Technology

By John Christy, UAH, Feb 2, 2016

<https://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-114-SY-WState-JChristy-20160202.pdf>

You Ought to Have a Look: Dr. John Christy’s House Testimony

By Patrick J. Michaels and Paul C. "Chip" Knappenberger, Cato, Feb 3, 2016

<http://www.cato.org/blog/you-ought-have-look-dr-john-christys-testimony-house-testimony>

Scientist Ruthlessly Debunks One Of NOAA’s Central Climate Claims

By Michael Bastasch, Daily Caller, Feb 2, 2016

<http://dailycaller.com/2016/02/02/scientist-ruthlessly-debunks-one-of-nasas-central-climate-claims/>

[SEPP Comment: The paper was dispassionate. Rigorously would be more appropriate than ruthlessly.]

Global Warming, Second Volume: Global Warming and Employment

White Paper by Société de Calcul Mathématique SA (Mathematical Modelling Company, Corp)

November 2015 [H/t Joe D'Aleo]

http://www.scmsa.eu/archives/SCM_LBRCV2_2015_12_EN.pdf

Initialization practices disqualify UN IPCC global circulation models from use for most climate change forecast purposes

Guest essay by Michael G. Wallace Hydroclimatologist, Albuquerque, NM, WUWT, Feb 3, 2016

<http://wattsupwiththat.com/2016/02/03/initialization-practices-disqualify-un-ipcc-global-circulation-models-from-use-for-most-climate-change-forecast-purposes/>

Defending the Orthodoxy

Experts Fault Reliance on Satellite Data Alone

By Peter Sinclair, Yale Climate Connections, January 14, 2016

<http://www.yaleclimateconnections.org/2016/01/over-reliance-on-satellite-data-alone-criticized/>

'Climate Snow Job'? Scientists Respond to Attack on Evidence (Op-Ed)

By Emmanuel Vincent, University of California, Merced; Daniel Nethery, Australian National University, Live Science, Jan 29, 2016 [H/t Clyde Spencer]

<http://www.livescience.com/53538-climate-change-evidence-is-real-despite-opinions-from-deniers.html>

How to Finance a Trillion-Dollar Climate Change Opportunity

Pulling the world back from the brink of catastrophic climate change cannot be done for free.

By Danny Kennedy and Ken Locklin, Green Tech Media, Feb 1, 2016

<https://www.greentechmedia.com/articles/read/How-to-Finance-a-Trillion-Dollar-Climate-Change-Opportunity>

Study claims there is no significant natural component to global warming, i.e. 'it's all your fault'

By Anthony Watts, WUWT, Feb 1, 2016

<http://wattsupwiththat.com/2016/02/01/study-claims-no-natural-component-to-global-warming/>

Link to paper: "Unforced Surface Air Temperature Variability and Its Contrasting Relationship with the Atmospheric TOA Energy Flux at Local and Global Spatial Scales,"

By Patrick T. Brown, Wenhong Li, Jonathan H. Jiang, Hui Su, Journal of Climate February 2016

<http://journals.ametsoc.org/doi/abs/10.1175/JCLI-D-15-0384.1>

[SEPP Comment: Claims in the press release are highly questionable: "The new evidence may finally help put the chill on skeptics' belief that long-term global warming occurs in an unpredictable manner, independently of external drivers such as human impacts." What caused past warming? Also will the late 20th century warming turn into 21st century cooling?]

Questioning the Orthodoxy

The Paradoxical Origin of Climate Alarmism

By Ari Halperin, American Thinker, Feb 1, 2016

http://www.americanthinker.com/articles/2016/02/the_paradoxical_origin_of_climate_alarmism.html

Going to Extremes: Federal Climatologist Slams Alarmist Federal Climate Report

By Paul C. "Chip" Knappenberger and Patrick J. Michaels, Cato, Feb 3, 2016

<http://www.cato.org/blog/going-extremes-federal-climatologist-slams-alarmist-federal-climate-report>

It Is Time For A Complete Cleanup After “The Blizzard Of 2016.”

Guest Opinion: Dr. Tim Ball, WUWT, Jan 31, 2016

<http://wattsupwiththat.com/2016/01/31/it-is-time-for-a-complete-cleanup-after-the-blizzard-of-2016/>

[SEPP Comment: Long post. Note update at the end.]

Many otherwise intelligent people believe only a few hundred polar bears remain

By Susan Crockford, Polar Bear Science, Feb 2, 2016

<https://polarbearscience.com/2016/02/02/many-otherwise-intelligent-people-believe-only-a-few-hundred-polar-bears-remain/>

Defending Paris!

Has the U.S. Really Reached an Epic Turning Point in Energy?

As the new UN climate accord pushes countries to cut carbon emissions, the United States is making progress, But will it continue, and will it be enough?

By Wendy Koch, National Geographic, Feb 4, 2016

http://news.nationalgeographic.com/energy/2016/02/160204-us-energy-tipping-point-bloomberg/?utm_source=Twitter&utm_medium=Social&utm_content=link_tw20150204news-tippingpointenergy&utm_campaign=Content&sf20332320=1

Analyzing Paris!

UN Framework Convention on Climate Change Secretariat Announces Steps for Signing and Ratifying the Paris Climate Treaty. The Next Step Is Up To the Senate.

By Myron Ebell, Global Warming.org, Jan 29, 2016

<http://www.globalwarming.org/2016/01/29/un-framework-convention-on-climate-change-secretariat-announces-steps-for-signing-and-ratifying-the-paris-climate-treaty-the-next-step-is-up-to-the-senate/#more-25340>

Link to UNFCCC Announcement: Bringing the Paris Agreement into Force

Next Steps and National Climate Plans

By Staff Writers, UNFCCC, Jan 29, 2016

<http://newsroom.unfccc.int/unfccc-newsroom/bringing-the-paris-agreement-into-force/>

Link to supporting document: The Paris Agreement: Next steps

By Staff Writers: UNFCCC, Feb 3, 2016

http://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_next_steps_post_adoption.pdf

Criticizing Paris!

Why US CO2 Reductions Are Useless without Major Contributions from Rapidly Developing Countries

By Alan Carlin, Carlin Economics and Science, Feb 4, 2016

<http://www.carlineconomics.com/archives/2474>

Paris climate promise: a bad deal for America?

By Judith Curry, Climate Etc. Feb 3, 2016

<https://judithcurry.com/2016/02/03/paris-climate-promise-a-bad-deal-for-america/#more-21032>

Obama's Paris Global Warming Treaty Will Cost At Least \$12.1 Trillion

By Andrew Follett, Daily Caller, Feb 1, 2016 [H/t Timothy Wise]

<http://dailycaller.com/2016/02/01/obamas-paris-global-warming-treaty-will-cost-at-least-12-1-trillion/>

Link to study: Fracking, Not Solar Power, Is Reducing U.S. Carbon-Dioxide Emissions

By Oren Cass, Manhattan Institute, No Date

<https://www.manhattan-institute.org/sites/default/files/issues2016-2.pdf>

“To put these numbers in perspective, the U.S. government is just under \$19 trillion in debt and only produced \$17.4 trillion in gross domestic product in 2014.”

The Administration's Plan

President Obama's hidden EPA Enabling Act

Guest essay by Eric Worrall, WUWT, Feb 1, 2016

<http://wattsupwiththat.com/2016/02/01/president-obamas-hidden-epa-enabling-act/>

Link to report: Legal Pathways to Reducing Greenhouse Gas Emissions Under Section 115 of the Clean Air Act

Coordinating Lead Author: Michael Burger (Sabin Center for Climate Change Law, Columbia Law School), January 2016

http://policyintegrity.org/files/publications/CAASection115_report.pdf

“The Sabin Center for Climate Change Law develops legal techniques to fight climate change, trains law students and lawyers in their use, and provides the legal profession and the public with up-to-date resources on key topics in climate law and regulation. It works closely with the scientists at Columbia University's Earth Institute and with a wide range of governmental, non-governmental and academic organizations. (www.ColumbiaClimateLaw.com)”

The Administration's Plan – Push-Back

State AGs bullish about challenge to 'unlawful' Obama climate rule

By Timothy Cama, The Hill, Feb 3, 2016

<http://thehill.com/policy/energy-environment/268031-state-ags-upbeat-in-climate-rule-fight>

Seeking a Common Ground

Now that climate science is ‘settled’ . . .

By Judith Curry, Climate Etc. Feb 4, 2016

<https://judithcurry.com/2016/02/04/now-that-climate-science-is-settled/#more-21039>

[SEPP Comment: JC reflections are interesting.]

Discussion: can we hit the ‘restart’ button?

By Kip Hansen, Climate Etc. Feb 2, 2016

<https://judithcurry.com/2016/02/02/discussion-can-we-hit-the-restart-button/>

From JC comments: “If the U.S. climate change funding were to be redirected to be predominantly for natural climate variability, would the rats desert the sinking funding ship and start focusing on natural variability?”

Data Standards Established, but More Complete and Timely Guidance Is Needed to Ensure Effective Implementation

By Staff Writers, GAO, Jan 29, 2016 [H/t Timothy Wise]

<http://www.gao.gov/products/GAO-16-261>

GAO recommends that OMB and Treasury (1) provide agencies with clarifications to address potential quality issues with the definitions, and (2) take steps to align the release of finalized technical guidance and the broker service with agency implementation time frames. OMB and Treasury generally concurred with our recommendations.

Why Skeptics Are Losing the Climate Change Battle

By Anthony Bright-Paul, American Thinker, Feb 5, 2016

http://www.americanthinker.com/articles/2016/02/why_skeptics_are_losing_the_climate_change_battle.html

Review of Recent Scientific Articles by CO2 Science

CO2 Enrichment of the Air Reduces Spring Dust Storms in China

Li, N., Guo, L. and Fan, B. 2015. A new perspective on understanding the reduced spring dust storm frequency in Inner Mongolia, China. *International Journal of Disaster Risk Science* 6: 216-225. Feb 5, 2016

<http://www.co2science.org/articles/V19/feb/a4.php>

Problems of CMIP5 Models Representing African Easterly Waves

Martin, E.R. and Thorncroft, C. 2015. Representation of African easterly waves in CMIP5 models. *Journal of Climate* 28: 7702-7715., Feb 3, 2016

<http://www.co2science.org/articles/V19/feb/a3.php>

Four Centuries of Summer Temperatures in Coastal Northern Japan

D'Arrigo, R., Wilson, R., Wiles, G., Anchukaitis, K., Solomina, O., Davi, N., Deser, C. and Dolgova, E. 2015. Tree-ring reconstructed temperature index for coastal northern Japan: Implications for western North Pacific variability. *International Journal of Climatology* 35: 3713-3720. Feb 2, 2016

<http://www.co2science.org/articles/V19/feb/a1.php>

“However, perhaps the most important finding of this study (and which was not discussed by the authors) is a lack of long-term warming, particularly during the late 20th century when greenhouse gas emissions were highest.”

Models v. Observations

Climate Models Are NOT Simulating Earth's Climate – Part 1

Guest Post by Bob Tisdale, WUWT, Feb 3, 2016

<http://wattsupwiththat.com/2016/02/03/climate-models-are-not-simulating-earths-climate-part-1/>

Model Issues

Met Office Predicts Resurgence In Surface Global Warming

By David Whitehouse, The Observatory, GWPF, Feb 3, 2016

<http://www.thegwpf.com/met-office-predicts-resurgence-in-surface-global-warming/>

Met Office scientist Doug Smith sates: “Whether one of these years – 2018, 2019, 2020 – overtakes 2016 in terms of temperature is very hard to predict at this stage, we are looking quite far into the future, after all.”

[SEPP Comment: Yet, the Administration and the UNFCCC is demanding energy policy based on IPCC predictions of 80 year-plus?]

Measurement Issues

UAH V6 Global Temperature Update for January, 2016: +0.54 deg C

By Roy Spencer, His Blog, Feb 1, 2016

<http://www.drroyspencer.com/2016/02/uah-v6-global-temperature-update-for-january-2016-0-54-deg-c/>

[SEPP Comment: Explains the reasoning for version 6 (v6) for lower troposphere trends which has the net result of a slight cooling of the trends in the atmosphere over land and slight warming of trends over oceans.]

2014 Was the Hottest Year on Record, But 2015 Is Hotter Than 2014 and 2016 Could Be Hotter than 2015?

Guest essay by Quang M. Nguyen, P.E., WUWT, Feb 2, 2016

<http://wattsupwiththat.com/2016/02/02/2014-was-the-hottest-year-on-record-but-2015-is-hotter-than-2014-and-2016-could-be-hotter-than-2015/>

Changing Weather

Studying The Heart Of El Niño, Where Its Weather Begins

By Henry Fountain, NYT, Via GWPF, Feb 3, 2016

<http://www.thegwpf.com/studying-the-heart-of-el-nino-where-its-weather-begins/>

Hottest Year Evah Update – Unheard Of Snow In Vietnam & Saudi Arabia

By Paul Homewood, Not a Lot of People Know That, Feb 2, 2016

<https://notalotofpeopleknowthat.wordpress.com/2016/02/02/hottest-year-evah-update-unheard-of-snow-in-vietnam-saudi-arabia/#more-20177>

China Focus: China copes with worst cold in decades

Editor: Tian Shaohui, Xinhuanet, Jan 23, 2016 [H/t Paul Homewood]

http://news.xinhuanet.com/english/2016-01/23/c_135038901.htm

Don't Be Blown Away by Winter Weather

By Anthony J. Sadar, American Thinker, Feb 5, 2016

http://www.americanthinker.com/articles/2016/02/dont_be_blown_away_by_winter_weather_.html

Changing Climate

The Medieval Warm Period in Antarctica: How two one-data-point studies missed the target

Guest essay by Sebastian Lüning, WUWT, Feb 2, 2016

<http://wattsupwiththat.com/2016/02/02/the-medieval-warm-period-in-antarctica-how-two-one-data-point-studies-missed-the-target/>

George Washington's winters

By Judith Curry, Climate Etc. Feb 5, 2016

<https://judithcurry.com/2016/02/05/george-washingtons-winters/#more-20996>

Changing Seas

“Phytoplankton rapidly disappearing from the Indian Ocean” or not.

Guest post by David Middleton, feature image borrowed from iHerb., WUWT, Feb 2, 2016
<http://wattsupwiththat.com/2016/02/02/phytoplankton-rapidly-disappearing-from-the-indian-ocean-or-not/>

Changing Cryosphere – Land / Sea Ice

Map shows Greenland's ice sheet is THICKER in the centre than 9,000 years ago but melting at the edges will raise sea levels

By Sarah Griffiths, Daily Mail, UK, Feb 4, 2016

<http://www.dailymail.co.uk/sciencetech/article-3432061/Map-shows-Greenland-s-ice-sheet-THICKER-centre-9-000-years-ago-melting-edges-raise-sea-levels.html>

[SEPP Comment: Greenland has been losing ice for centuries, the issue is the mass balance.]

Changing Earth

Increase in volcanic eruptions at the end of the ice age caused by melting ice caps and erosion

By Staff Writers, Science Daily, Feb 1, 2016 [H/t Clyde Spencer]

<http://www.sciencedaily.com/releases/2016/02/160201141731.htm>

Link to paper: Deglaciation and glacial erosion: a joint control on magma productivity by continental unloading†

By Sternai, Caricchi, Castelltort, and Champagnac, Geophysical Research Letters, Jan 28, 2016

<http://onlinelibrary.wiley.com/doi/10.1002/2015GL067285/abstract>

Lowering Standards

Stats Tampering Puts NOAA in Hot Water

By Larry Bell, Newsmax, Feb 1, 2016

<http://www.newsmax.com/LarryBell/CATO-DQA-MIT-NOAA/2016/02/01/id/712153/>

Violating the norms and ethos of science

By Judith Curry, Climate Etc. Jan 31, 2016

<https://judithcurry.com/2016/01/31/violating-the-norms-and-ethos-of-science/>

JC reflections: “Why are such obvious scientific norms/values being eroded away? IMO the main cause is violations of ‘disinterestedness’ — a combination of careerism and public policy activism/advocacy.”

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

Climate Change Theorists Consistently Deceive with Glaring Omission

By Charles Clough, CNS News, Feb 4, 2016 [H/t William Balgord]

<http://cnsnews.com/commentary/charles-clough/climate-change-theorists-consistently-deceive-glaring-omission>

[SEPP Comment: Contrary to the author, the concept of an average global temperature is vague, but a trend of consistently measuring changes to a defined average global temperature is not.]

Do Scientists Suppress Uncertainty in the Climate Change Debate?

By Craig Idso, Cato, Feb 4, 2016

<http://www.cato.org/blog/do-scientists-suppress-uncertainty-climate-change-debate>

Link to paper: Communicating science in public controversies: Strategic considerations of the German climate scientists

By Senja Post, Public Understanding of Science, January 2016

<http://pus.sagepub.com/content/25/1/61.abstract>

Pulsating glaciers of Svalbard behave differently

By Staff Writers, Science Daily, Feb 1, 2016 [H/t Clyde Spencer]

<http://www.sciencedaily.com/releases/2016/02/160201084827.htm>

“Melting in the Arctic is staggering. During three summer months, the Svalbard glaciers alone lost four and a half million tonnes of meltwater per hour.”

[SEPP Comment: Yet, ice forms every year!]

Communicating Better to the Public – Make things up.

Back to the Climate Panic Attacks

By Tom Fuller, The Lukewarmer’s Way, Feb 3, 2016 [H/t GWPF]

<https://thelukewarmersway.wordpress.com/2016/02/03/back-to-the-climate-panic-attacks/>

Pacifica, California’s Natural Coastal Erosion and the Lust for Climate Catastrophes

Guest essay by Jim Steele, WUWT, Jan 30, 2016

<http://wattsupwiththat.com/2016/01/30/pacifica-californias-natural-coastal-erosion-and-the-lust-for-climate-catastrophes/>

Remember when Pikas were going to be wiped off the face of the Earth due to climate change? Never mind...

By Anthony Watts, WUWT, Feb 1, 2016

<http://wattsupwiththat.com/2016/02/01/remember-when-pikas-were-going-to-be-wiped-off-the-face-of-the-earth-due-to-climate-change-never-mind/>

Communicating Better to the Public – Do a Poll?

Poll: 91% Of Americans Aren’t Worried About Global Warming

By Michael Bastasch, Daily Caller, Feb 1, 2016

<http://dailycaller.com/2016/02/01/poll-91-of-americans-arent-worried-about-global-warming/>

Communicating Better to the Public – Go Personal.

Scientist Suggests Imprisoning Former Canadian PM For Anti-Global Warming Views

By Chris White, Daily Caller, Feb 3, 2016

<http://dailycaller.com/2016/02/03/scientist-suggests-imprisoning-former-canadian-pm-for-anti-global-warming-views/>

Link to article: David Suzuki On The Pope and Not Being an Optimist

By Andrew Street, Rolling Stone, Feb 2, 2016

<http://rollingstoneaus.com/culture/post/david-suzuki-encounter/3089>

Under The biggest problems we currently face from Suzuki

"People ask me, 'Which is the most important crisis: is it climate change? Is it acidification of the ocean? Is it species extinction? Is it toxic pollution?' I don't know! They're all serious. I don't know which one will do us in.

Questioning European Green

They Think It’s All Over: Renewable-Energy Investors Pull Back From Europe

By Justin Scheck, WSJ, Via GWPF, Feb 4, 2016

<http://www.thegwfp.com/green-no-more-renewable-energy-investors-pull-back-from-europe/>

Full article: After Years of Growth, Renewable-Energy Investors Pull Back From Europe
Spain, U.K, Italy have cut incentives for renewable-energy projects to reduce government spending

By Justin Scheck, WSJ, Feb 4, 2016

<http://www.wsj.com/articles/after-years-of-growth-green-energy-investors-pull-back-from-europe-1454591209>

Growing cost of grid, green fees blocks UK power price cut

By Karolin Schaps and Susanna Twidale, Reuters, Feb 1, 2016 [H/t GWPF]

<http://www.reuters.com/article/britain-electricity-bills-idUSL8N15C4LK>

Questioning Green Elsewhere

UN Makes 5 Million More Africans Homeless To Fight Global Warming

By Andrew Follett, Daily Caller, Feb 4, 2016

<http://dailycaller.com/2016/02/04/un-makes-5-million-more-africans-homeless-to-fight-global-warming/>

Link to research on ‘protected areas’: Protecting the DRC’s Forest: Protected Areas for People and Planet – Draft

By Staff Writers, The Munden Project Ltd. DRAFT

http://www.rightsandresources.org/wp-content/uploads/DRAFT_Protecting-the-DRCs-Forests.pdf

Funding Issues

CSIRO wipes out climate division — 350 scientists to go — since it’s “beyond debate” who needs em?

By Jo Nova, Her Blog, Feb 4, 2016

<http://joannenova.com.au/2016/02/csiro-wipes-out-climate-division-350-scientists-to-go-since-its-beyond-debate-who-needs-em/>

The head of the CSIRO is doing what the Greens say they want — moving beyond the debate and putting more money into adaption and mitigation. Where’s the Greens statement applauding him...?

From its web site: “At the Commonwealth Scientific and Industrial Research Organisation (CSIRO), we shape the future. We do this by using science to solve real issues. Our research makes a difference to people, industry and the planet.

“We are CSIRO: We ask, we seek, we solve. As Australia’s national science agency we’ve been pushing the edge of what’s possible for over 85 years - and we’re not stopping now.”

Accessed; Feb 6, 2016: <http://www.csiro.au/en/About>

Settled science bites

By Andrew Montford, Bishop Hill, Feb 4, 2016

<http://www.bishop-hill.net/blog/2016/2/4/settled-science-bites.html/>

“It was Lord May who said to Roger Harrabin: ‘I’m the President of the Royal Society and I’m telling you that the science is settled. “”

[SEPP Comment: A few commentators questioned if these words were exactly expressed by Lord May, but not the message.]

Litigation Issues

‘Climate Change’ Lawyers Quietly Lay Groundwork For EPA Takeover Of US Energy Sector

By Michael Bastasch, Daily Caller, Feb 1, 2016

<http://dailycaller.com/2016/02/01/climate-change-lawyers-quietly-lay-groundwork-for-epa-takeover-of-us-energy-sector/>

Cap-and-Trade and Carbon Taxes

Obama to push \$10-per-barrel oil tax for green transportation plan

By Devin Henry, The Hill, Feb 4, 2016

<http://thehill.com/policy/energy-environment/268266-obama-to-push-10-per-barrel-oil-tax-for-green-transportation-plan>

Obama proposes \$10 a barrel tax on oil

By Rick Moran. American Thinker, Feb 5, 2016

http://www.americanthinker.com/blog/2016/02/obama_proposes_10_a_barrel_tax_on_oil.html

Republicans savage Obama's oil tax plan

By Elana Schor, Politico, Feb 4, 2016

<http://www.politico.com/story/2016/02/obama-oil-tax-gop-reaction-218774>

EPA and other Regulators on the March

Will the EPA Cause a Zika Pandemic?

DDT could stop the horrific disease, but environmental zealots won't consider it.

By Robert Zurbur, National Review, Jan 30, 2016 [H/t GWPF]

<http://www.nationalreview.com/article/430504/zika-virus-epa-ddt>

Energy Issues – Non-US

A clean bill of health for shale?

By Andrew Montford, Bishop Hill, Feb 4, 2016

<http://bishophill.squarespace.com/blog/2016/2/4/a-clean-bill-of-health-for-shale.html>

BofA: The Oil Crash Is Kicking Off One of the Largest Wealth Transfers in Human History A \$3 trillion shift.

By Joe Weisenthal, Bloomberg, Jan 31, 2016

<http://www.bloomberg.com/news/articles/2016-02-01/bofa-the-oil-crash-is-kicking-off-one-of-the-largest-wealth-transfers-in-human-history>

North Sea Oil & Gas Fields Near End Of Production

By Christopher Adams, Kiran Stacey and Chris Tighe,, Financial Times, Via GWPF Feb 2, 2016

<http://www.thegwgf.com/north-sea-oil-gas-fields-near-end-of-production/>

Oil Dictator Dominos

By Bill Emmott, a former editor-in-chief of The Economist, Project Syndicate, Feb 4, 2016

<http://www.project-syndicate.org/commentary/oil-price-drop-effect-on-dictatorships-by-bill-emcott-2016-02>

Energy Issues -- US

Keeping America's Grid Safe

By Fred Upton, Chairman of the House Energy and Commerce Committee, Feb 1, 2016

http://www.realclearenergy.org/articles/2016/02/01/keeping_americas_grid_safe.html

Shale Producers Will Adapt and Ensure a Lasting Oil Glut

Whilst oil prices might spike higher in the short-term, analysts expect the price to remain lower for longer as a transitioning shale sector keeps global supply 'pumped'.

By Joaquin Monford, Pound Sterling Live, Feb 5, 2016 [H/t GWPF]

<https://www.poundsterlinglive.com/economics/3558-oil-to-remain-cheap-in-the-long-run-as-supply-glut-set-to-endure>

[SEPP Comment: Low-price may have been a better description than glut.]

Shale Buoy American Oil Output

By Staff Writers, The American Interest, Feb 1, 2016

<http://www.the-american-interest.com/2016/02/01/shale-buoys-american-oil-output/>

It's the Beginning of the End for CFL Bulbs

By Lily Hay Newman, Slate, Feb 1, 2016 [H/t Timothy Wise]

http://www.slate.com/blogs/future_tense/2016/02/01/ge_will_phase_out_cfl_light_bulbs_in_favor_of_led.html

[SEPP Comment: Didn't GE lobby Congress to have incandescent bulbs replaced by CFLs?]

Washington's Control of Energy

Protecting Coal Mining From the Stream Protection Rule

By Ned Mamula and Patrick J. Michaels, Cato, Feb 2, 2016

<http://www.cato.org/blog/protecting-coal-mining-stream-protection-rule>

Oil and Natural Gas – the Future or the Past?

America Supplies OPEC With Oil Freed From 40-Year Export Ban

By Sheela Tobben and Lucia Kassai, Bloomberg, Feb 2, 2016 [H/t GWPF]

<http://www.bloomberg.com/news/articles/2016-02-02/pdvsa-said-to-import-u-s-crude-after-export-restrictions-lifted>

[SEPP Comment: The lighter crude from Texas is needed for blending in Venezuela.]

How Much Global Oil Output Halted Due to Low Prices? Just 0.1%

By Javier Blas, Bloomberg, Feb 5, 2016

<http://www.bloomberg.com/news/articles/2016-02-05/how-much-global-oil-output-halted-due-to-low-prices-just-0-1>

[SEPP Comment: Chart could have come from the IPCC on CO2 concentrations.]

Texas Isn't Scared of \$30 Oil

By Dan Murtaugh, Bloomberg, Feb 3, 2016

<http://www.bloomberg.com/news/articles/2016-02-03/texas-toughness-in-oil-patch-shows-why-u-s-still-strong-at-30>

Return of King Coal?

Coal industry struggling to rightsize as market shrinks, calls for 'radical change'

By Taylor Kuykendall, SNL, Jan 28, 2016

<https://www.snl.com/InteractiveX/Article.aspx?cdid=A-35196391-11310>

"I think we'll probably see 50, 60, 70% of U.S. coal capacity going through bankruptcy between 2012 and 2017," said an attorney with Davis Polk & Wardwell. "There's no way around it."

Nuclear Energy and Fears

Advanced Reactor Nuclear Power Resurgence in the U.S.

Privately funded, carbon-free, walk-away-safe, burns nuclear waste - what's not to like?

By Ronald Bailey, Reason, Jan 29, 2016

<https://reason.com/archives/2016/01/29/advanced-reactor-nuclear-power-resurgenc>

[SEPP Comment: Carol Browner, the former EPA Administrator, is advocating nuclear energy?]

Germany's massive nuclear fusion machine just produced its first hydrogen plasma

By BEC Crew, Science Alert, Feb 4, 2016

<http://www.sciencealert.com/germany-s-massive-nuclear-fusion-machine-just-produced-its-first-hydrogen-plasma>

Nuclear power is our safest, most efficient energy form

By Mark Perry, Missoulian, Jan 31, 2016

http://missoulian.com/news/opinion/nuclear-power-is-our-safest-most-efficient-energy-form/article_0cb10da5-adbb-5123-9b21-9807f4392c96.html

The UK's plan to become a global centre for small nuclear reactors: can it succeed?

By Dan Yurman, Energy Post, UK, Jan 21, 2016 [H/t GWPF]

<http://www.energypost.eu/uks-plan-become-global-centre-small-nuclear-reactors-can-succeed/>

US public views sought on waste siting consent

By Staff Writers, WNN, Jan 26, 2016

<http://www.world-nuclear-news.org/WR-US-public-views-sought-on-waste-siting-consent-2601167.html>

Alternative, Green ("Clean") Solar and Wind

I'm putting my money where my mouth is and betting against climate change

I've invested in a fund that will aim to short-sell overvalued renewable energy stocks

By James Delingpole, The Spectator, UK, Jan 30, 2016

<http://www.spectator.co.uk/2016/01/im-putting-my-money-where-my-mouth-is-and-betting-against-climate-change/>

[Subscription required]

Solar Potential

By Donn Dears, Power For USA, Feb 5, 2016

<https://dddusmma.wordpress.com/2016/02/05/solar-potential/>

Energy Storage for Solar Systems Will be an \$8 Billion Market in 2026

Press Release By Carole Jacques, Lux Research, Jan 28, 2016

<http://www.luxresearchinc.com/news-and-events/press-releases/read/energy-storage-solar-systems-will-be-8-billion-market-2026>

[SEPP Comment: Commercial-scale, affordable storage of electricity has been a potential billion-dollar industry for years.]

Morocco to switch on first phase of world's largest solar plant

Desert complex will provide electricity for more than 1 million people when complete, helping African country to supply most of its energy from renewables by 2030

By Arthur Neslen, Guardian, UK, Feb 4, 2016

<http://www.theguardian.com/environment/2016/feb/04/morocco-to-switch-on-first-phase-of-worlds-largest-solar-plant>

Some \$3.9bn has been invested in the Ouarzazate solar complex, including \$1bn from the German investment bank KfW, \$596m from the European Investment Bank and \$400m from the World Bank.

[SEPP Comment: No estimates of the cost of the electricity.]

The High Cost of Offshore Wind Turbine Maintenance

Press Release by Staff Writers, Fraunhofer-Gesellschaft, Via GWPF, Feb 1, 2016

<http://www.thegwpcf.com/the-high-cost-of-offshore-wind-turbine-maintenance/>

“Offshore wind turbine maintenance costs are up to ’100 times more expensive than new turbine itself”

[SEPP Comment: From its web site: “Fraunhofer is Europe’s largest application-oriented research organization. Our research efforts are geared entirely to people’s needs: health, security, communication, energy and the environment.”]

Unreliable Power: Major Technical Failure Sidelines Another Offshore Wind Park...Adding To Exploding Costs

By P Gosselin, No Tricks Zone, Feb 4, 2016

<http://notrickszone.com/2016/02/04/unreliable-power-major-technical-failures-sideline-another-offshore-wind-park-adding-to-exploding-costs/#sthash.F8GwXoPV.dpbs>

“That means a loss of 7 million euros per month in revenue, which the consumers will have to pay because Germany’s feed-in act required power companies to pay for the electricity produced by win parks even if it is never delivered.”

Alternative, Green (“Clean”) Vehicles

Electric Vehicles: Perennial Subsidies, Hope, Fail (data point from 1996)

By Robert Bradley, Jr. Master Resource, Feb 1, 2016

<https://www.masterresource.org/electric-vehicles/electric-vehicles-1996-hype/>

Cadillac Cancels ELR Plug-In, Prius Models Next?

By Jim Gorzelany, Forbes, Feb 2, 2016

<http://www.forbes.com/sites/jimgorzelany/2016/02/02/caddy-cancels-elr-plug-in-prius-models-next/?ss=energy#36869d74ba29>

[SEPP Comment: The auto industry forgot Henry Ford’s lesson: reduce cost (and price) and sell in volume. Increasing production volume does not necessarily lead to lower costs (prices). One has to identify areas where economies of scale are possible.]

California Dreaming

California Reservoirs Filling Rapidly After Heavy Precipitation

By Cliff Mass, Weather Blog, Feb 2, 2016

<http://cliffmass.blogspot.com/2016/02/california-reservoirs-filling-rapidly.html>

El Niño is Here, But California Is Still in Drought

Months of rain and snow will be needed to climb out of the four-year dry spell

By Andrea Thompson, Climate Central, Jan 30, 2016

<http://www.scientificamerican.com/article/el-nino-is-here-but-california-is-still-in-drought/>

[SEPP Comment: It takes years to fill the groundwater reservoirs.]

Environmental Industry

Audubon Goes over the Edge (Jan/Feb 2016 issue promotes anti-science alarmism)

By Bob Endlich, Master Resource, Feb 4, 2016

<https://www.masterresource.org/debate-issues/audubon-goes-over-the-edge/>

Other Scientific News

Researchers want a better system for fixing bad science

How should authors and journals acknowledge mistakes?

By Adi Robertson, The Verge, Feb 3, 2016

<http://www.theverge.com/2016/2/3/10897938/science-correction-process-problems-report-university-alabama>

Link to review: Reproducibility: A tragedy of errors

By Allison, Brown, George, & Kaiser, Feb 3, 2016 [See six problems and Three common errors]

<http://www.nature.com/news/reproducibility-a-tragedy-of-errors-1.19264>

Link a earlier review: Estimating the Reproducibility of Psychological Science

By Open Science Collaboration – authors not listed, Science, Aug 28, 2015

<http://science.sciencemag.org/content/349/6251/aac4716.full?ijkey=1xgFoCnpLswpk&keytype=ref&siteid=sci>

As the influential twentieth-century statistician Ronald Fisher said: “To consult the statistician after an experiment is finished is often merely to ask him to conduct a post mortem examination. He can perhaps say what the experiment died of.”

[SEPP Comment: It is important to distinguish between physical sciences and social sciences such as psychology. In physical science, the physical evidence should substantiate a hypothesis.]

More settled science consensus: the formation of coal in the Carboniferous looks to be “grounded in abiotic processes

By Anthony Watts, WUWT, Feb 5, 2016

<http://wattsupwiththat.com/2016/02/05/more-settled-science-consensus-the-formation-of-coal-in-the-carboniferous-looks-to-be-grounded-in-abiotic-processes/>

Phase of the moon affects amount of rainfall

By Staff Writers, Seattle WA (SPX), Jan 31, 2016

http://www.moondaily.com/reports/Phase_of_the_moon_affects_amount_of_rainfall_999.html

Link to paper: Rainfall variations induced by the lunar gravitational atmospheric tide and their implications for the relationship between tropical rainfall and humidity

By Kohyama and Wallace, Geophysical Research Letters, Jan 30, 2016

<http://onlinelibrary.wiley.com/doi/10.1002/2015GL067342/abstract>

Other News that May Be of Interest

A clock tune in honor of a true man of true science [Bob Carter]

By Christopher Monckton of Brenchley, WUWT, Feb 2, 2016

<http://wattsupwiththat.com/2016/02/02/a-clock-tune-in-honor-of-a-true-man-of-true-science/>

USC: we can make fuel directly out of Carbon Dioxide

By Anthony Watts, WUWT, Feb 3, 2016

<http://wattsupwiththat.com/2016/02/03/usc-we-can-make-fuel-directly-out-of-carbon-dioxide/>

Link to paper: Conversion of CO₂ from Air into Methanol Using a Polyamine and a Homogeneous Ruthenium Catalyst

By Kothandaraman, et al. J. Am Chem Soc. Dec 29, 2015

<http://pubs.acs.org/doi/abs/10.1021/jacs.5b12354>

[SEPP Comment: Interesting idea, will it add to the efficiency of existing fossil fuel power plants?]

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BELOW THE BOTTOM LINE:

Earth Only Has An 82% Chance Of Sustaining Life, Says New ‘Habitability Calculation’

By Staff Writer, Yahoo, Feb 5, 2016 [H/t Clyde Spencer]

<http://news.yahoo.com/earth-only-has-an-82-chance-of-sustaining-life-110831512.html>

Link to press release: Reflections on the habitability of — Planet Earth

By Peter Kelley, UW Today, Feb 2, 2016

<http://www.washington.edu/news/2016/02/02/reflections-on-the-habitability-of-planet-earth/>

Link to paper: Comparative Habitability of Transiting Exoplanets

By Barnes, Meadows, and Evans, Astrophysics, [No Date]

<http://arxiv.org/abs/1509.08922>

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ARTICLES:

Please note that articles not linked easily or summarized here are reproduced in the Articles Section of the full TWTW that can be found on the web site under the date of the TWTW.

1. Notable & Quotable: Rare-Earth Economics

Environmentalists deplore the mining, but it is driven by ‘their desire for more green vehicles, solar panels and wind turbines.’

WSJ, Feb 4, 2016

<http://www.wsj.com/articles/notable-quotable-rare-earth-economics-1454631611>

From a book review by Michael Burleigh in the February issue of Literary Review (U.K.) of David S. Abraham’s “The Elements of Power”:

“The importance of China’s near-monopoly on some metals is indicated by the fact that 60 per cent of the world’s antimony—used in fire retardants—comes from the Xikuangshan Mine in Hunan. When, in 2010, the Japanese authorities detained a large Chinese trawler after it deliberately rammed one of their patrol vessels off the disputed Diaoyu/Senkaku islands, Beijing quickly brought Tokyo to heel by simply prohibiting exporters of thirty-two rare earth metals from selling to Japan. . . .

“The rare earth metal industry is quite different from those involving precious metals, such as gold and silver, or base metals, such as copper and zinc. Whereas annual global copper production is around fifteen million tons, most rare earth metals produced would comfortably fill a few railway freight wagons. Their pricing is surprisingly volatile, despite their rarity, for the rate of technological redundancy is also steep. Securing control of the upstream supply chain can be a costly and risky business. Ford Motors cunningly decided to stockpile palladium, used in catalytic converters. Their purchasers, more used to buying copper and steel, the costs of which remain relatively stable, paid more than \$1,000 per ounce after Russia hiked the price. But Ford’s own engineers simultaneously discovered how to halve the amount of palladium used by focusing the material within converters, leaving the company with a \$1 billion loss when the palladium price reverted to \$300 an ounce.

“Environmentalists often deplore the physical and human damage caused by promiscuous mining. Yet their desire for more green vehicles, solar panels and wind turbines is precisely what is driving increased mining of rare earth metals, which are used in permanent magnets that drive the motors and lithium batteries that store the energy.”

[SEPP Comment: Ford Motors used two approaches to minimize future costs: stockpiling and research. The research succeeded, lowering the value of stockpiling.]

2. Fixing the Methane Leaks That Deflate Natural-Gas Gains

The Aliso Canyon disaster does as much climate damage daily as four coal-fired power plants.
By Fred Krupp, WSJ, Feb 3, 2016

<http://www.wsj.com/articles/fixing-the-methane-leaks-that-deflate-natural-gas-gains-1454541892>

There are valid reasons to stop methane leaks (natural gas) and to insure that pipelines are well-maintained. However, Mr. Krupp uses the leak of the Aliso Canyon natural-gas storage facility to spread a myth promoted by his Environmental Defense Fund.

“Aliso Canyon deserves national attention, not least because uncontrolled emissions of methane—a greenhouse gas 84 times more potent than carbon dioxide over a frame of 20 years—are endemic throughout the oil and gas industry. What’s happening now in California, a massive leak resulting from well failure, is only an extreme example.

Empirical research does not support the claim that methane as a greenhouse gas is 84 times more potent than carbon dioxide. First, in dry air, methane oxidizes rapidly. Second, water vapor, the most abundant greenhouse gas, absorbs much of the radiation that is potentially absorbed by natural gas.

See: Methane Madness: Science Does Not Support White House Policy; by S. Fred Singer, American Thinker, September 22, 2015

http://www.americanthinker.com/articles/2015/09/methane_madness_science_does_not_support_white_house_policy_.html

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