

# The Week That Was: 2018-03-10 (March 10, 2018)

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### The Science and Environmental Policy Project

**Quote of the Week.** *The situation in the sciences is this: A concept or an idea which cannot be measured or cannot be referred directly to experiment may or may not be useful. It need not exist in a theory.* – Richard Feynman

**Number of the Week:** Approaching Zero – 0

#### **THIS WEEK:**

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

**Bureaucratic Science Continued:** Last week, TWTW discussed the concept Bureaucratic Science which occurs when a government entity, or a similar organization, charged with applying the best science possible, drifts from its purpose and institutes policies and procedures (methodology) that are inconsistent with its mission. The brightest, most competent, and conscientious people may be involved. Education level does not matter. Bureaucratic science can be considered a subset of Group Think, ably discussed by Christopher Booker (TWTW Feb 24).

Ignoring evidence contradicting the policies and methodology of the organization is a frequent characteristic of Bureaucratic Science. This characteristic is particularly egregious, outrageous, when Bureaucratic Science ignores strong physical evidence contradicting its policies. Last week, TWTW discussed how NASA ignored repeated physical evidence that the joints in the solid rocket boosters on the space shuttle were eroding, contrary to required standards, until the Challenger exploded. As Richard Feynman wrote, this erosion was a clue that something was wrong.

Apollo engineer Hal Doiron, who was part of the team that designed the lunar lander, kindly provided clarification to part of the discussion presented in TWTW. Doiron's view is extremely important, because his team required "thinking outside the box," because there was no box. NASA could not duplicate the far reduced lunar gravity on earth. Further, there were no text books describing what would be experienced in a lunar landing.

Doiron commented that, in TWTW, the statement "However, the O-ring failure covered the design flaw" was vague and possibly misleading. Further Doiron clarified the statement: "As missions continued with partial damage to critical components, but without drastic failure, the management of Marshall Space Flight Center became more self-assured as to the safety of the Shuttle" by adding that: *"not only MSFC [Marshall Space Flight Center] management, but also NASA Shuttle Program management at higher levels of responsibility at Level II in Houston and Level I in Washington became 'more self-assured.... even with the knowledge that the joint sealing performance did not satisfy original Shuttle Program joint sealing design requirements established at Level II.'"*

Further, Doiron wrote:

*"Regarding joint rotation, I want to make sure you understand this was a localized rotation of the cylindrical wall of the rocket that allowed the metal sealing surfaces against both redundant O-*

*rings to separate slightly and relieve the squeeze on the O-rings. This in turn allowed the sealing performance of the O-rings to become sensitive to temperature and other factors affecting dynamic movement of the O-rings within their grooves that is not normally allowed in static O-ring seal design practice.”*

TWTW deeply appreciates such corrections because many concepts are difficult to express clearly and simply in written languages.

Unfortunately, after a pause to repair the joint rotation problem, NASA continued with its bureaucratic science by flying the space shuttle even though foam insulation had been observed breaking from the shuttle in prior flights. It did so until the Columbia disintegrated upon reentering the Earth’s atmosphere on February 1, 2003.

What NASA should have done is what Boeing did with its 787 Dreamliner battery problem – ground all flights until the problem was fully checked and resolved. This included adding a heavy enclosure to restrict any possible fire from a lightweight lithium battery.

NASA’s bureaucratic science resulted in dramatic failures. Other government entities are engaged in similar group think, resulting in policies that cannot succeed in their intended purpose, but often come at great cost. As Christopher Booker demonstrates in his writings, the UN Intergovernmental Panel on Climate Change (IPCC) is a classic example. Many other government organizations the IPCC lead. See links in past two TWTWs, and link under Defending the Orthodoxy.

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**Standards of Evidence:** Various municipalities in California are suing oil companies under common law public nuisance claims for damages they say occur from carbon dioxide (CO2) emissions. The case has gone to the US District Court for the Northern District of California. (In the US Federal Court system, a District Court is below the Court of Appeals and it is where most cases start if they are on the federal level.) The presiding judge, William Alsup, made an unusual and unexpected demand. He ruled that both sides prepare a tutorial for him:

*“The Court invites counsel to conduct a two-part tutorial on the subject of global warming and climate change:*

*“(1) The first part will trace the history of scientific study of climate change, beginning with scientific inquiry into the formation and melting of the ice ages, periods of historical cooling and warming, smog, ozone, nuclear winter, volcanoes, and global warming. Each side will have sixty minutes. A horizontal timeline of major advances (and setbacks) would be welcomed.*

*“(2) The second part will set forth the best science now available on global warming, glacier melt, sea rise, and coastal flooding. Each side will again have another sixty minutes.”*

Specifically, the court ruled:

*“For the tutorial on MARCH 21, please include the following subjects:*

*“1. What caused the various ice ages (including the “little ice age” and prolonged cool periods) and what caused the ice to melt? When they melted, by how much did sea level rise?*

*“2. What is the molecular difference by which CO2 absorbs infrared radiation but oxygen and nitrogen do not?”*

*“3. What is the mechanism by which infrared radiation trapped by CO2 in the atmosphere is turned into heat and finds its way back to sea level?”*

*“4. Does CO2 in the atmosphere reflect any sunlight back into space such that the reflected sunlight never penetrates the atmosphere in the first place?”*

*“5. Apart from CO2, what happens to the collective heat from tail pipe exhausts, engine radiators, and all other heat from combustion of fossil fuels? How, if at all, does this collective heat contribute to warming of the atmosphere?”*

*“6. In grade school, many of us were taught that humans exhale CO2 but plants absorb CO2 and return oxygen to the air (keeping the carbon for fiber). Is this still valid? If so, why hasn't plant life turned the higher levels of CO2 back into oxygen? Given the increase in human population on Earth (four billion), is human respiration a contributing factor to the buildup of CO2?”*

*“7. What are the main sources of CO2 that account for the incremental buildup of CO2 in the atmosphere?”*

*“8. What are the main sources of heat that account for the incremental rise in temperature on Earth?”*

*“9. Please bring to the tutorial a copy of the full GCC presentation referred to in Paragraph 67 of the Oakland complaint as well as the full GCSCT memo referred to in Paragraph 68.”*

Paragraph 67 & 68 of the Oakland complaint refer to internal Global Climate Science Communications including Exxon, Chevron and the American Petroleum Institute.:

Paragraphs 69 and 70 of the Oakland complaint state:

*69. Over at least the last nineteen years, Exxon in particular has paid researchers and front groups to create uncertainties about basic climate change science and used denialist groups to attack well-respected scientists. These were calculated business decisions by Exxon to undermine climate change science and bolster production of fossil fuels.*

*70. Between 1998 and 2014, Exxon paid millions of dollars to organizations to promote disinformation on global warming. During the early- to mid-1990s, Exxon directed some of this funding to Dr. Fred Seitz, Dr. Fred Singer, and/or Seitz and Singer's **Science and Environmental Policy Project ("SEPP")** in order to launch repeated attacks on mainstream climate science and IPCC conclusions, even as Exxon scientists participated in the IPCC. Seitz, Singer and SEPP had previously been paid by the tobacco industry to create doubt in the public mind about the hazards of smoking. Seitz and Singer were not climate scientists. [Boldface added.]*

Unfortunately, the late Roger Cohen, who studied the issue for Exxon and was skeptical as the harmful influence of CO2, can no longer help Exxon counter the expected barrage of bureaucratic science similar to what accompanied the EPA's Endangerment Finding.

SEPP is exploring if, as a party possibly slandered in the City of Oakland complaint, can it file an amicus (friend in court) brief in the case. If so, such a brief would probably focus on the standards of evidence: Direct or Indirect; Physical or Bureaucratic.

The greenhouse effect occurs in the atmosphere and based on comprehensive atmospheric data, the atmosphere is warming very modestly. Once natural influences such as the El Niño Southern Oscillation and volcanoes are removed, any warming trend in the entire atmospheric record is extremely modest, if existing at all. This is direct evidence. The IPCC and its followers such as the US Global Change Research Program (USGCRP) use surface temperatures which are incomplete and include many other human and natural influences. They use indirect evidence –is the admittedly flawed surface temperature record "hearsay"?

Physical evidence is hard data showing CO2 is the primary cause of global warming. Increasing emissions, changing climate, etc. are not physical evidence of cause. Bureaucratic evidence includes global climate models that fail basic testing, and group think such as organizations that fail to address the key issue in their reports, etc. The key issue is: do carbon dioxide emissions cause dire warming of the atmosphere? SEPP's answer is no, and CO2 emissions are beneficial to humanity and the environment.

See links under Challenging the Orthodoxy – NIPCC, Science, Policy, and Evidence, and Litigation Issues.

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**Source of Heat – Atmospheric Methane?** In her blog, *Climate Etc.* Judith Curry takes up the issue of Question 8, in the District Judge's proposed tutorial: "*What are the main sources of heat that account for the incremental rise in temperature on Earth?*" Curry's post was prompted by response made to the questions by Andrew Dessler, of Texas A & M. In his response, Dessler posted a graph that was blurry, thus the source could not be clearly identified. However, it is similar to Figure SPM.5 found on page 14 of the Summary for Policymakers chapter, of the Fifth Assessment Report (AR5, 3013) of the IPCC. The figure is titled "Radiative forcing by emissions and drivers."

Atmospheric greenhouse gases are not **sources** of heat. They **absorb** some of the infrared energy emitted by the earth to space, thereby **slowing** the nighttime cooling of regions of the globe. However, one can understand the confusion of the judge.

In its graph, the IPCC ranks the main drivers of radiative forcing as CO2, CH4 (methane), Halocarbons and N2O (nitrous oxide), all identified as anthropogenic, human caused. It rates the level of confidence: Very High for CO2 and N2O, and High for CH4 and Halocarbons. The *positive* driver influence of each of these compounds is greater than the calculated *negative* driver from changes in land use, and far greater than the calculated *positive* changes in solar irradiance.

According to the graph, all the main drivers are well mixed in the atmosphere. This "well mixed" assumptions is a major issue.

Further, the graph breaks down the influence CH4 into four resulting atmospheric drivers, CO2, H2O, O3, and CH4. After broken down into the four components, the graph show the remaining CH4 has a strong positive influence. The text states:

*“Emissions of CH<sub>4</sub> alone have caused an RF of 0.97 [0.74 to 1.20] W m<sup>-2</sup> (see Figure SPM.5). This is much larger than the concentration-based estimate of 0.48 [0.38 to 0.58] W m<sup>-2</sup> (unchanged from AR4). This difference in estimates is caused by concentration changes in ozone and stratospheric water vapour due to CH<sub>4</sub> emissions and other emissions indirectly affecting CH<sub>4</sub>. {8.3, 8.5}”*

Herein is a major issue. At ground level what starts as CH<sub>4</sub> changes, in part, to CO<sub>2</sub> and H<sub>2</sub>O and O<sub>3</sub> as it goes higher in the atmosphere. An important point, often overlooked, is that the amount of CH<sub>4</sub> at any height in the atmosphere never gets above the amount of H<sub>2</sub>O.

Early in his professional career, SEPP Chairman Tom Sheahen was with a team measuring the absorbing ability of various greenhouse gases at the US Bureau of Standards (now the National Institute of Standards and Technology (NIST)). They confirmed what had been known for almost a century and in handbooks since the 1920s:

- Greenhouse gases absorb infrared energy given off by the earth in specific wavelengths.
- The most abundant greenhouse gas, water vapor, absorbs virtually all the energy that methane is capable of absorbing.
- And, because of the shape of the spectrum of thermal radiation that the earth emits, it is further known that adding methane to the atmosphere does not increase energy absorption of the atmosphere, because there is hardly any energy of the appropriate wave length which methane can absorb.
- Finally, it is also known that these results were repeated in multiple laboratories in multiple countries.

As Sheahen writes: *“Water gradually "freezes out" towards the top of the troposphere, but above that altitude in the stratosphere, the oxidation of CH<sub>4</sub> assures that there will be more H<sub>2</sub>O than CH<sub>4</sub> at every altitude. CH<sub>4</sub> starts off around 1.8 ppm and never increases. H<sub>2</sub>O starts out at ground level about 20,000 ppm and declines to about 4 ppm in the stratosphere. Meanwhile, CO<sub>2</sub> is about 400 ppm at every altitude, unchanged by anything water is doing (such as forming clouds).”*

Of the greenhouse gases, water vapor has the broadest capability of absorbing energy across the infrared spectrum. For some wavelengths, it absorbs all the energy. However, CH<sub>4</sub>, remains below a level where it is a significant participant in the greenhouse effect.

Further, the 1979 Charney Report published by the National Academy of Science **speculated** that the modest increase in greenhouse effect from CO<sub>2</sub> would be amplified by an increase in atmospheric water vapor, strongly increasing the greenhouse effect. The report had no hard evidence supporting this speculation. The estimates in the Charney Report have been retained by the IPCC, but there is no discussion of an increase in greenhouse effect from water vapor in AR-5. The discussion in AR-5 of methane produces no “source of heat.” See links under Challenging the Orthodoxy and Defending the Orthodoxy.

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**Energy Disaster in UK:** The Global Warming Policy Foundation (GWPF) has released a disturbing, short report by Peter Lilley. Formerly, Lilley was the Secretary of State for Trade and

Industry in the governments of Margaret Thatcher and John Major, also was Secretary of State for Social Security. He was one of only three Members of Parliament to vote against the passage of the Climate Change Act of 2008, which followed the IPCC AR-4, that raised the lower limit of the IPCC's claimed global warming to 2 degrees C (since dropped back to 1.5 C).

The "Cost of energy: independent review" was undertaken by Dieter Helm, Professor of economics at Oxford in 2017. Lilly's essay is a powerful exposure of the group think that is embedded in the energy industries and the UK government. He states:

*"In short, Helm takes on all the vested interests – not just commercial, but bureaucratic, political and academic – who are implicated in the existing system of subsidies and intervention. His proposals would erode their rents, undermine their roles and destroy their credibility. No wonder they damned his review with faint praise before consigning it to oblivion.*

Lilly warns of the climate-industrial complex, citing President Eisenhower's farewell address:

*"'As Eisenhower spelt out: '...a government contract becomes virtually a substitute for intellectual curiosity...The prospect of domination of the nation's scholars by Federal employment, project allocations, and the power of money is ever present and is gravely to be regarded'. We are seeing the emergence in the UK of a powerful 'climate-industrial complex'"*

Lilly states:

*"Dieter Helm exposed the fact that billions of pounds of public money have been wasted on renewables schemes, yet the climate-industrial complex has shrugged him off with barely a glance. It is hard not to suspect that their flagrant disregard for sound economics may be mirrored in their approach to the science."*

See links under Challenging the Orthodoxy and

<https://www.gov.uk/government/publications/cost-of-energy-independent-review>

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**Additions and Corrections:** Several readers commented that there was no explanation of Cube Development of a oil field. The name comes from Encana Corp, which developed the concept. It is based on looking at a cross section of the multiple layers as a rectangular solid with multiple horizontal wells: <https://www.encana.com/investors/stories/the-cube.html>

Last week's TWTW incorrectly stated the Titan III was an ICBM. The Titan I & II were ICBMs, and the Titan II was modified for placing payloads into space. The subsequent Titan III was a heavy-lift satellite launcher.

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**Number of the Week: Approaching Zero – 0.** As discussed above, laboratory tests demonstrate that adding methane (CH<sub>4</sub>) to today's atmosphere will have a warming effect approaching zero. According to Feynman's comment about the value of a concept, quoted above, is the concept of methane-caused global warming useful?

### ***Commentary: Is the Sun Rising?***

#### **NASA: Cosmic rays hitting Earth are 'bad and getting worse'**

By Anthony Watts, WUWT, Mar 5, 2018

<https://wattsupwiththat.com/2018/03/05/nasa-cosmic-rays-hitting-earth-are-bad-and-getting-worse/>

Link to paper: Update on the worsening particle radiation environment observed by CRaTER and implications for future human deep-space exploration

By N.A. Schwadron, et al. Space Weather, Mar 6, 2018

<http://onlinelibrary.wiley.com/doi/10.1002/2017SW001803/abstract>

#### **Man's Small Role...New Scientific Findings Show Pacific Tropical Storm Activity Linked To Solar And Oceanic Cycles**

Tropical storms in the Pacific are strongly influenced by solar activity fluctuations and ocean cycles

By Dr. Sebastian Lüning and Prof. Fritz Vahrenholt (German text translated/edited by P Gosselin), No Tricks Zone, Mar 4, 2018

<http://notrickszone.com/2018/03/04/mans-small-role-new-scientific-findings-show-pacific-tropical-storm-activity-linked-to-solar-and-oceanic-cycles/#sthash.WbjbfGk5.dpbs>

Link to paper: South Pacific hydrologic and cyclone variability during the last 3000 years

By M. R. Toomey, et al, Paleoceanography and Paleoclimatology, **Apr 18, 2016**

<http://onlinelibrary.wiley.com/doi/10.1002/2015PA002870/abstract>

### ***Challenging the Orthodoxy -- NIPCC***

#### **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>

#### **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>

#### **Nature, Not Human Activity, Rules the Climate**

S. Fred Singer, Editor, NIPCC, 2008

[http://www.sepp.org/publications/nipcc\\_final.pdf](http://www.sepp.org/publications/nipcc_final.pdf)

### ***Challenging the Orthodoxy***

#### **In A Rare Public Debate, Dr. Willie Soon Uses Real Science To Take On The Climate 'Apocalypse'**

By Kenneth Richard, No Tricks Zone, Mar 3, 2018

<http://notrickszone.com/2018/03/08/in-a-rare-public-debate-dr-willie-soon-uses-real-science-to-take-on-the-climate-apocalypse/#sthash.96pBtr14.dpbs>

### **Methane: The Irrelevant Greenhouse Gas**

Water vapor has already absorbed the very same infrared radiation that Methane might have absorbed.

Guest essay by Dr. Tom Sheahen, WUWT, **Apr 11, 2014**

<https://wattsupwiththat.com/2014/04/11/methane-the-irrelevant-greenhouse-gas/>

### **How to Deceive with Statistics: Distortions Due to Diminutive Denominators**

By Thomas P. Sheahen, American Thinker, **Jan 11, 2018**

[https://www.americanthinker.com/articles/2018/01/how\\_to\\_deceive\\_with\\_statistics\\_distortions\\_due\\_to\\_diminutive\\_denominators.html](https://www.americanthinker.com/articles/2018/01/how_to_deceive_with_statistics_distortions_due_to_diminutive_denominators.html)

### **The Truth About the Helm Review**

By Staff Writers, GWPF, Mar 5, 2018

<http://www.thegwpf.com/climate-industrial-complex-wasting-100-billion-and-shutting-down-debate-warns-lilley/>

Link to paper: The Helm Review and The Climate-Industrial Complex

By Peter Lilley, GWPF, 2018

<https://www.thegwpf.org/content/uploads/2018/03/HelmReviewS.pdf>

### **Delingpole: The Shocking True Story of How Global Warming Became the Biggest #FakeNews Scare of All Time (Pt 2)**

By James Delingpole, Breitbart, Mar 7, 2018

<http://www.breitbart.com/big-government/2018/03/07/delingpole-the-shocking-true-story-of-how-global-warming-became-the-biggest-fakenews-scare-of-all-time-pt-2/>

“Too many people are distracted by the fallacious Appeal to Authority: ‘Who do you trust? 97 percent of the world’s scientists or Breitbart’s James Delingpole?’”

*[SEPP Comment: Among other items, the article discusses Al Gore’s attack on SEPP Chairman Emeritus Fred Singer.]*

### **How the Climate Alarmists Managed to Get Everything Wrong**

By Alan Carlin, Carlin Economics and Science, Mar 9, 2018

<http://www.carlineconomics.com/archives/4259>

### ***Defending the Orthodoxy***

#### **Climate Change 2013: The Physical Science Basis**

Working Group I, AR-5, IPCC, 2014

[http://www.climatechange2013.org/images/report/WG1AR5\\_ALL\\_FINAL.pdf](http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf)

### **Bloomberg picked for high-profile climate job**

By Jean Chemnick, E & E, Mar 6, 2018

<https://www.eenews.net/climatewire/2018/03/06/stories/1060075509>

### ***Questioning the Orthodoxy***

#### **Cutting: The Politically Incorrect Guide to Climate Change, by the evil planet killer Marc Morano!**

By Jo Nova Her Blog, Mar 4, 2018

<http://joannenova.com.au/2018/03/the-politically-incorrect-guide-to-climate-change-by-marc-morano/>

### **Climate Science's Dark Knight, Marc Morano, Body Slams Climate Agenda In New Bestseller**

By P Gosselin. No Tricks Zone, March 6, 2018

<http://notrickszone.com/2018/03/06/climate-sciences-dark-knight-marc-morano-body-slams-climate-agenda-in-new-bestseller/#sthash.1qnGwU9E.dpbs>

### **EXCLUSIVE: An “ugly” chapter that didn’t make the Bestseller Book: The Politically Incorrect Guide® to Climate Change**

By Anthony Watts, WUWT, Mar 7, 2018

<https://wattsupwiththat.com/2018/03/07/exclusive-an-ugly-chapter-that-didnt-make-the-bestseller-book-the-politically-incorrect-guide-to-climate-change/>

### ***Change in US Administrations***

#### **Will Congress finally get tough on junk science?**

House hearing investigates a UN cancer agency accused of misusing US taxpayer funds

Guest opinion by Paul Driessen, WUWT, Mar 5, 2018

<https://wattsupwiththat.com/2018/03/05/will-congress-finally-get-tough-on-junk-science/>

Cohn is out. Here's what it means for climate

Zack Colman and Robin Bravender, E&E News, Mar 7, 2018

<https://www.eenews.net/stories/1060075635>

#### **Climate skeptic oversaw sprawling review of agency policy**

By Brittany Patterson, E&E News, Mar 8, 2018

<https://www.eenews.net/climatewire/2018/03/08/stories/1060075787>

#### **John Kelly killed Pruitt’s climate science debate**

By Timothy Cama, The Hill, Mar 9, 2018

<http://thehill.com/policy/energy-environment/377658-john-kelly-killed-pruitts-climate-science-debate>

*[SEPP Comment: According to the New York Times.]*

#### **Perry calls global moves to shift from fossil fuels 'immoral'**

By Morgan Gstalter, The Hill, Mar 8, 2018

<http://thehill.com/policy/energy-environment/377420-perry-calls-global-shift-away-from-fossil-fuels-immortal>

“The United States has entered “energy realism,” Perry said, as the Trump administration has pushed for more oil and gas production, as well as wind and renewable energy.”

#### **Who Is The Worst Member Of President Trump's Cabinet?**

By Franics Menton, Manhattan Contrarian, Mar 5, 2018

<http://manhattancontrarian.com/blog/who-is-the-worst-member-of-president-trumps-cabinet>

*[SEPP Comment: NOAA’s outrageous data adjustments need to be addressed.]*

### ***Social Benefits of Carbon***

#### **Seeing the CO2 greening of Planet Earth**

By David Wojick, C-Fact, Mar 8, 2018 [H/t Cooler Heads]

<http://www.cfact.org/2018/03/08/seeing-the-co2-greening-of-planet-earth/>

Link to NASA Video: 20 Years of Global Biosphere (updated)

Visualizations by Alex Kekesi, Nov 14, 2017

<https://svs.gsfc.nasa.gov/4596>

[SEPP Comment: *The annual snow cover in the Northern Hemisphere is stunning, also.*]

### ***Problems in the Orthodoxy***

#### **Economic Equality Is Key to Solving Climate Change, Report Shows**

By Jeremy Hodges, Bloomberg, Mar 5, 2018 [H/t WUWT]

<https://www.bloomberg.com/news/articles/2018-03-05/economic-equality-is-key-to-solving-climate-change-report-shows>

[SEPP Comment: *According to the charts since 2000, the drop in CO2 emissions of about 120 metric tons from Germany, with great costs, is more than offset by the increase in India of almost 2,500 metric tons. The units in the charts are wrong. For example, the according to EIA, the US emitted 5,259 MMmt in 2015 to 5,170 MMmt in 2016. The graphs in the article state metric tons, not million metric tons.*]

#### **Experts try to find a good way to talk about warming**

Scott Waldman, E&E News, Mar 7, 2018

<https://www.eenews.net/climatewire/2018/03/07/stories/1060075639>

“Using climate science as a political wedge and dismissing the growing body of research that shows humans are warming the planet at an unprecedented pace is largely an American concept,” said John Gastil, a political science professor at Pennsylvania State University.”

### ***Science, Policy, and Evidence***

#### **The People of the State of California v. BP et al**

Filed by the City of Oakland, September 19, 2017

Complaint for Public Nuisance

[http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2017/20170919\\_docket-RG17875889\\_complaint.pdf](http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2017/20170919_docket-RG17875889_complaint.pdf)

#### **What are the main sources of heat that account for the incremental rise in temperature on Earth?**

By Judith Curry, Climate Etc. Mar 9, 2018

<https://judithcurry.com/2018/03/09/what-are-the-main-sources-of-heat-that-account-for-the-incremental-rise-in-temperature-on-earth/#more-23903>

“Suggestions for the climate ‘red team’ response.”

#### **US District Court, Northern District of California**

The People of the State of California, V. BP P.L.C et al

William Alsup, US District Judge Questions for the Tutorial, Mar 6, 2018

[http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2018/20180306\\_docket-317-cv-06011\\_order.pdf](http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2018/20180306_docket-317-cv-06011_order.pdf)

### ***Review of Recent Scientific Articles by CO2 Science***

#### **Prey Consumption by Largemouth Bass Unaffected by Freshwater Acidification**

Midway, S.R., Hasler, C.T., Wagner, T. and Suski, C.D. 2017. Predation of freshwater fish in environments with elevated carbon dioxide. *Marine and Freshwater Research* 68: 1585-1592. Mar 9, 2018

<http://www.co2science.org/articles/V21/mar/a6.php>

[SEPP Comment: Hardly surprising, since largemouth bass thrive in truly acidic bogs and swamps in the Southeast US, many with pH below 5.0.]

### **The Interactive Effects of Temperature and CO<sub>2</sub> on Soybean Growth and Yield**

Lenka, N.K., Lenka, S., Thakur, J.K., Elanchezian, R., Sher, S.B., Simaiya, V., Yashona, D.S., Biswas, A.K., Agrawal, P.K. and Patra, A.K. 2017. Interactive effect of elevated carbon dioxide and elevated temperature on growth and yield of soybean. *Current Science* 113: 2305-2310. Mar 8, 2018

<http://www.co2science.org/articles/V21/mar/a5.php>

“Consequently, it is clear that if both atmospheric CO<sub>2</sub> concentrations and air temperatures rise in the future within the ranges analyzed in this study, soybeans and those who grow them will reap tremendous benefits, including yield enhancements of 50% or more.”

### **Selecting Static or Diel Cycling of pCO<sub>2</sub> Levels in Ocean Acidification Experiments: The Choice Matters**

Jarrold, M.D., Humphrey, C., McCormick, M.I. and Munday, P.L. 2017. Diel CO<sub>2</sub> cycles reduce severity of behavioral abnormalities in coral reef fish under ocean acidification. *Scientific Reports* 7: 10153, DOI:10.1038/s41598-017-10378-y., Mar 7, 2018

<http://www.co2science.org/articles/V21/mar/a4.php>

“Yet despite such natural diel variability in pCO<sub>2</sub>, nearly all ocean acidification (OA) experiments are performed at static pCO<sub>2</sub> treatment levels, which clearly do not represent real-world pCO<sub>2</sub> conditions. Consequently, OA experiments that fail to incorporate realistic diel pCO<sub>2</sub> fluctuations must be treated with a healthy dose of skepticism.”

### **Model Issues**

#### **Claim: Scientists accurately model the action of aerosols on clouds**

By Anthony Watts, WUWT, Mar 8, 2018

<https://wattsupwiththat.com/2018/03/08/claim-scientists-accurately-model-the-action-of-aerosols-on-clouds/>

Link to paper: Aerosol effects on cloud water amounts were successfully simulated by a global cloud-system resolving model

By Yousuke Sato, et al. *Nature Communications*, Mar 7, 2018

<https://www.nature.com/articles/s41467-018-03379-6>

[SEPP Comment: Addressing an interesting issue: Does Aerosol–cloud interaction (ACI) exert a significant cooling effect on the Earth’s climate, which may offset a substantial fraction of the warming effects of greenhouse gases?]

### **Measurement Issues – Surface**

#### **Alarmists throw in the towel on poor quality surface temperature data – pitch for a new global climate reference network**

By Anthony Watts, WUWT, Mar 2, 2018

<https://wattsupwiththat.com/2018/03/02/alarmists-throw-in-the-towel-on-poor-quality-surface-temperature-data-pitch-for-a-new-global-climate-reference-network/>

### **CET Winter Trends**

By Paul Homewood, Not a Lot of People Know That, Mar 9, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/03/09/cet-winter-trends/#more-32738>

## **Scientists Admit We Need Better Thermometers To Measure Climate Change**

By Michael Bastasch, Daily Caller, Mar 3, 2018

<http://dailycaller.com/2018/03/03/scientists-admit-better-thermometers-climate-change/>

Link to paper: Towards a global land surface climate fiducial reference measurements network

By P.W. Thorne, et al. International Journal of Climatology, Mar 1, 2018

<http://onlinelibrary.wiley.com/doi/10.1002/joc.5458/full>

## ***Measurement Issues -- Atmosphere***

### **Global Temperature Report**

By Staff Writers, Earth system Science Center, UAH, Feb 2018, Accessed Mar 4, 2018

<https://www.nsstc.uah.edu/climate/>

### **UAH Show Global Temperatures Continue To Fall**

By Paul Homewood, Not a Lot of People Know That, Mar 3, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/03/03/uah-show-global-temperatures-continue-to-fall/>

## ***Changing Weather***

### **Iceland Warmer Than Rome & South of France!!**

By Paul Homewood, Not a Lot of People Know That, Mar 7, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/03/07/iceland-warmer-than-rome-south-of-france/>

[SEPP Comment: If it happened before, why is it unprecedented?]

### **Finding: North Pacific climate patterns influence El Nino occurrences**

By Anthony Watts, WUWT, Mar 7, 2018

<https://wattsupwiththat.com/2018/03/07/finding-north-pacific-climate-patterns-influence-el-nino-occurrences/>

### **The effect of wind direction on annual temperatures at Jurmalciems, Latvia**

By Paul Homewood, Not a Lot of People Know That, Mar 6, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/03/06/the-effect-of-wind-direction-on-annual-temperatures-at-jurmalciems-latvia/>

### **Substantial Improvements in Western U.S. Snowpack and Water Resources**

By Cliff Mass, Weather and Climate Blog, Mar 4, 2018

<http://cliffmass.blogspot.com/2018/03/substantial-improvements-in-western-us.html>

### **Study: 'snowpack levels are a thing of the past'**

By Anthony Watts, WUWT, Mar 4, 2018

<https://wattsupwiththat.com/2018/03/04/study-snowpack-levels-are-a-thing-of-the-past/>

### **Study: Interactions between smoke and clouds have unexpected cooling effect**

By Anthony Watts, WUWT, Mar 6, 2018

<https://wattsupwiththat.com/2018/03/06/study-interactions-between-smoke-and-clouds-have-unexpected-cooling-effect/>

## ***Changing Seas***

## **Will Advances in Groundwater Science Force a Paradigm Shift in Sea Level Rise Attribution?**

Guest essay by Jim Steele, WUWT, Mar 3, 2018

<https://wattsupwiththat.com/2018/03/03/will-advances-in-groundwater-science-force-a-paradigm-shift-in-sea-level-rise-attribution/>

## **San Francisco To Drown By 2100**

By Paul Homewood, Not a Lot of People Know That, Mar 9, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/03/09/san-francisco-to-drown-by-2100/>

## **Sea level budget over 2003–2008: A reevaluation from GRACE space gravimetry, satellite altimetry and Argo**

By A. Cazenave, et al, Global and Planetary Change, Jan 2009

<https://www.sciencedirect.com/science/article/pii/S0921818108001343>

## ***Changing Cryosphere – Land / Sea Ice***

### **Winter polar bear sea ice habitat by early March 2018 varied little from 2006 or 2017**

By Susan Crockford, Polar Bear Science, Mar 6, 2018

<https://polarbearscience.com/2018/03/06/winter-polar-bear-sea-ice-habitat-by-early-march-2018-varied-little-from-2006-or-2017/>

## **More Evidence Glacier Retreat Was Far More Rapid During The 1850s-1940s Than Since**

By Kenneth Richard, No Tricks Zone, Mar 5, 2018

<http://notrickszone.com/2018/03/05/more-evidence-glacier-retreat-was-far-more-rapid-during-the-1850s-1940s-than-since/#sthash.LCBafOtd.dpbs>

*[SEPP Comment: Since many glaciers advanced during the little ice age, it is not surprising they receded when the earth warmed.]*

## **Surprise: Antarctic Ice Shelves Growing, Variations Linked To Natural Ocean Cycles, Unrelated To ‘Global Warming’**

West Antarctic Ice Shelf: El Nino takes, La Nina gives

By Dr. Sebastian Lüning and Prof. Fritz Vahrenholt (German text translated/edited by P. Gosselin), No Tricks Zone, Mar 7, 2018

<http://notrickszone.com/2018/03/07/surprise-antarctic-ice-shelves-growing-variations-linked-to-natural-ocean-cycles-unrelated-to-global-warming/#sthash.UqyhTUXW.dpbs>

## **Surprise! Study says some glaciers actually shrank during the last ice age**

By Anthony Watts, WUWT, Mar 6, 2018

<https://wattsupwiththat.com/2018/03/06/surprise-study-says-some-glaciers-actually-shrank-during-the-last-ice-age/>

Link to paper: Asynchronous glaciations in arid continental climate

By Jigjidsurengiin Batbaatar, et al. Quaternary Science Reviews, Feb 15, 2018

<https://www.sciencedirect.com/science/article/pii/S027737911730224X?via%3Dihub>

## **UK weather “going Mediterranean” so fast it overshoots to South Pole**

By Jo Nova, Her Blog, Mar 2, 2018

<http://joannenova.com.au/2018/03/uk-weather-going-mediterranean-so-fast-it-overshoots-to-south-pole/>

### ***Un-Science or Non-Science?***

#### **Dire levels of CO2 will decimate oceans in 200 years**

By Blaine Friedlander, Cornell Chronicle, Mar 8, 2018 [H/t Paul Sheridan]

<http://news.cornell.edu/stories/2018/03/dire-levels-co2-will-decimate-oceans-200-years>

Link to paper: Sustained climate warming drives declining marine biological productivity

By J. Keith Moore, Science, Mar 9, 2018

<http://science.sciencemag.org/content/359/6380/1139>

“In the paper, the new model projections calculate that atmospheric carbon dioxide could reach 1,960 parts per million by the year 2250.”

#### **Far northern permafrost may unleash carbon within decades**

By Carol Rasmussen,, NASA's Earth Science News Team, Mar 5, 2018 [H/t James Visetine]

<https://climate.nasa.gov/news/2691/far-northern-permafrost-may-unleash-carbon-within-decades/>

Link to paper: Detecting the permafrost carbon feedback: talik formation and increased cold-season respiration as precursors to sink-to-source transitions

By Nicholas C. Parazoo, et al, The Cryosphere, Jan 12, 2018

<https://www.the-cryosphere.net/12/123/2018/>

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

#### **Scientists – we’re on second notice: another ‘warning to humanity’ – popular science edition**

By Anthony Wats, WUWT, Mar 7, 2018

<https://wattsupwiththat.com/2018/03/07/scientists-were-on-second-notice-another-warning-to-humanity-popular-science-edition/>

Link to paper: The Role of Scientists’ Warning in Shifting Policy from Growth to Conservation Economy

By William Ripple, et al, BioScience, Mar 7, 2018

<https://academic.oup.com/bioscience/advance-article/doi/10.1093/biosci/biy009/4913797>

#### **Scientists hatch bold plan to save polar bears**

It will take more than bear chow to keep the animals alive in the wild.

By David Cox, NBC News, Feb 27, 2018

<https://www.nbcnews.com/mach/science/scientists-hatch-bold-plan-save-polar-bears-ncna851356>

### ***Questioning European Green***

#### **“Climate-Industrial Complex” Wasting £100 Billion And Shutting Down Debate – Warns Lilley**

By Paul Homewood, Not a Lot of People Know That, Mar 5, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/03/05/climate-industrial-complex-wasting-100-billion-and-shutting-down-debate-warns-lilley/>

#### **‘Mr Energiewende’ quits German government in protest at coalition deal**

Germany’s new deal was a “bitter disappointment” for those looking for a modern climate and energy policy, said outgoing energy secretary Rainer Baake

By Karl Mathiesen, Climate Home News, Mar 5, 2018 [H/t GWPF]

<http://www.climatechangenews.com/2018/03/05/mr-energiewende-quits-german-government-protest-coalition-deal/>

### ***Questioning Green Elsewhere***

#### **EIA Distorts Energy Forecasts, Part 1**

By Donn Dears, Power For USA, Mar 6, 2018

<http://ddears.com/2018/03/06/eia-distorts-energy-forecasts-part-1/>

[SEPP Comment: *Why EIA forecasts are erroneous*]

### **EIA Distorts Energy Forecasts, Part 2**

By Donn Dears, Power For USA, Mar 9, 2018

<http://ddears.com/2018/03/09/eia-distorts-energy-forecasts-part-2/>

[SEPP Comment: *An example of highly questionable assumptions in making forecasts.*]

### ***Funding Issues***

#### **Giant Spanish Bank spends €100 b on Earth's weather, cos they are nice people**

By Jo Nova Her Blog, Mar 9, 2018

<http://joannenova.com.au/2018/03/giant-spanish-bank-spends-e100-b-on-earths-weather-cos-they-are-nice-people/>

### ***The Political Games Continue***

#### **Russian Troll farm sought to undermine US government, energy, climate**

By Jo Nova, Her Blog, Mar 3, 2018

<http://joannenova.com.au/2018/03/russian-troll-farm-sought-to-undermine-us-government-energy-climate/>

### ***Litigation Issues***

#### **Judge orders 'tutorial' on climate science in oil case**

By Anne C. Mulkern, E&E News, Mar 8, 2018

<https://www.eenews.net/climatewire/2018/03/08/stories/1060075791>

#### **Federal court will hold first-ever hearing on climate change science**

By Stuart Leavenworth, Kansas City News, Mar 7, 2018

<http://www.kansascity.com/news/nation-world/article203842234.html>

#### **Climate Lawsuits: What They Say, And What They Fail To Say**

By Benjamin Zycher, IBD, Mar 6, 2018

<https://www.investors.com/politics/commentary/climate-lawsuits-what-they-say-and-what-they-fail-to-say/>

“In other words, Big Oil has known for decades what is not known even today, and is responsible for systematic climate extremes for which there is no actual evidence.”

#### **About those fraudulent climate litigation shakedowns**

Guest opinion by Paul Driessen, WUWT, Mar 7, 2018

<https://wattsupwiththat.com/2018/03/07/about-those-fraudulent-climate-litigation-shakedowns/>

#### **The Ninth Circuit Just Allowed Children To Sue Trump Over Global Warming**

By Michael Bastasch, Daily Caller, Mar 7, 2018 [H/t Paul Sheridan]

<http://dailycaller.com/2018/03/07/global-warming-ninth-circuit-oregon/>

### ***Energy Issues – Non-US***

#### **Capacity Market Still Fails To Trigger New CCGT**

By Paul Homewood, Not a Lot of People Know That, Mar 4, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/03/04/capacity-market-still-fails-to-trigger-new-ccgt/#more-32643>

‘Once again, the bulk of the auction has been taken up by existing capacity. New build generation is only 767 MW, and this all appears to be small gas engine stuff.

‘There is no new CCGT. Indeed, there has been none at all for any of the four auctions now completed.’

### **Saudi Arabia's Gift To America's Shale Producers: A Supertanker And An IPO**

By Mark Mills, Forbes, Feb 21, 2018

<https://www.forbes.com/sites/markpmills/2018/02/21/saudi-arabias-gift-to-americas-shale-producers-a-supertanker-and-an-ipo/#101261932191>

### **Despair In Venezuela: “We Are Dying Of Hunger In The Oil Industry”**

By Tsvetana Paraskova, Oil Price.com, Feb 25, 2018

<https://oilprice.com/Geopolitics/International/Despair-In-Venezuela-We-Are-Dying-Of-Hunger-In-The-Oil-Industry.html>

### **Germany’s New Coalition Government Agrees to Phase Out Coal, but Will Miss 2020 Emissions Targets**

By Lee Bushsbaum, Power Mag, Mar 8, 2018

[http://www.powermag.com/germanys-new-coalition-government-agrees-to-phase-out-coal-but-not-by-2020-target/?mkt\\_tok=eyJpIjoiT1RobFl6TmlNbUk0WldFNSIsInQiOiI4aVgzOUFrYmNcL2h6NlhCcW9yb01Xc1RqNXIEUStCb3U0RlVTMXIVd1hDR28rWWViY2I1dGVPeTBQUEhoTGdZM3hlRnR5dUttUDBNNVA1SIFUd1Q3dW1UajdBV0tnRGlzMWJkk05QRzcxTWNUaUhoVzIjBVIgbytmZmZFrQk5HdlAifQ%3D%3D](http://www.powermag.com/germanys-new-coalition-government-agrees-to-phase-out-coal-but-not-by-2020-target/?mkt_tok=eyJpIjoiT1RobFl6TmlNbUk0WldFNSIsInQiOiI4aVgzOUFrYmNcL2h6NlhCcW9yb01Xc1RqNXIEUStCb3U0RlVTMXIVd1hDR28rWWViY2I1dGVPeTBQUEhoTGdZM3hlRnR5dUttUDBNNVA1SIFUd1Q3dW1UajdBV0tnRGlzMWJkk05QRzcxTWNUaUhoVzIjBVIgbytmZmZFrQk5HdlAifQ%3D%3D)

### ***Energy Issues -- US***

#### **'Stranded Asset' Argument Against Coal, Oil And Natural Gas Isn't Real**

By Jude Clemente, Forbes, Mar 2, 2018 [H/t GWPF]

<https://www.forbes.com/sites/judeclemente/2018/03/02/stranded-asset-argument-against-coal-oil-and-natural-gas-isnt-real/#53c34464613e>

#### **12 hours of energy storage enough for U.S. to run on 80% solar+wind**

Scientists in California have modeled a solar-heavy/wind power electricity grid, without nationwide HVDC, that could reliably deliver 80% of U.S. electricity needs. 100% of needs would require 3 weeks of energy storage.

By John Weaver, PV Magazine, Mar 1, 2018

<https://pv-magazine-usa.com/2018/03/01/12-hours-energy-storage-80-percent-wind-solar/>

“The key takeaway from this report should be that intermittent electricity sources, like wind and solar power, will not mean a loss of the regular electricity delivery that modern humanity has come to expect. While any one of these models probably won’t be exactly what we do, its clear that we have many options to remove CO2 from our electricity grid – as long as we power forward aggressively.”

#### **ERCOT Anticipates Summer Supply Crunch Amid Unit Retirements**

By Sonal Patel, Power, Mar 1, 2018

[http://www.powermag.com/ercot-anticipates-summer-supply-crunch-amid-units-retirements/?mkt\\_tok=eyJpIjoiT1RWaE9UbgIOV1JpWkRkaCIsInQiOiIjSWN6MXIwRUVMVm](http://www.powermag.com/ercot-anticipates-summer-supply-crunch-amid-units-retirements/?mkt_tok=eyJpIjoiT1RWaE9UbgIOV1JpWkRkaCIsInQiOiIjSWN6MXIwRUVMVm)

[ZpUGFMMVJibk1rVnpYVWN3U1hTRkJmT05cL29aV3BuSDhpUWVJRmlja3FrR1wvWjBDY  
lByeWh4YkhWdytUOHE4ZVA0WWJLMmFyMUdJS3I4c3dYOVERMmxL3BYZXhOVzBQU  
FNtS3VBWmVvVURcL1NPZ3dWcXhmWGkifQ%3D%3D](https://www.masterresource.org/epstein-alex/epstein-white-usepa-sf/)

“The recent retirement of older generating units and high peak usage owing to economic growth could tighten operating reserves in the region served by the Electric Reliability Council of Texas (ERCOT) this summer.”

### ***EPA and other Regulators on the March***

#### **Epstein, White to US EPA (a great six minutes in San Francisco!)**

By Robert Bradley Jr., Master Resource, Mar 9, 2018

<https://www.masterresource.org/epstein-alex/epstein-white-usepa-sf/>

[SEPP Comment: Testimony against the Obama administration's power plan.]

#### **EPA moving to change its landmark disposal rule**

By Sean Reilly, E & E News, Mar 2, 2018

<https://www.eenews.net/greenwire/2018/03/02/stories/1060075313>

### ***Oil and Natural Gas – the Future or the Past?***

#### **Boom Times for US Shale Oil Production**

By Staff Writers, Financial Times, Via GWPF, Mar 4, 2018

<http://www.thegwpf.com/boom-times-for-us-shale-oil-production/>

#### **A ‘Major Second Wave’ of U.S. Fracking Is About to Be Unleashed Upon the World**

By Justin Worland, Time, Mar 6, 2018

<http://time.com/5187074/fracking-energy-oil-natural-gas/>

#### **The Next Entrant in the Shale Revolution? OPEC's Saudi Arabia**

By Wael Mahdi and Bruce Stanley, Bloomberg, Mar 7, 2018

<https://www.bloomberg.com/news/articles/2018-03-07/saudis-seek-to-tap-shale-gas-basin-rivaling-texas-eagle-ford>

#### **Russia to Rescue as Europe Draws More Gas in Siberian Chill**

By Elena Mazneva, Anna Shiryayevskaya and Mathew Carr, Bloomberg, Mar 2, 2018

<https://www.bloomberg.com/news/articles/2018-03-02/russia-to-the-rescue-as-europe-draws-more-gas-in-siberian-chill>

#### **Splish Splash - Where Are Permian Producers Going to Put All of That Produced Water?**

By Housley Carr, RBN Energy, Feb 28, 2018

<https://rbnenergy.com/splish-splash-where-are-permian-producers-going-to-put-all-of-that-produced-water>

### ***Return of King Coal?***

#### **Group pushing climate skepticism tries to save coal plants**

By Benjamin Storrow and Scott Waldman, E&E News, Feb 23, 2018

<https://www.eenews.net/climatewire/2018/02/23/stories/1060074561>

#### **America Is Finally Catching Up on Clean Coal**

By Christopher Mendoza, American Thinker, Mar 7, 2018

[https://www.americanthinker.com/articles/2018/03/america\\_is\\_finally\\_catching\\_up\\_on\\_clean\\_coal.html](https://www.americanthinker.com/articles/2018/03/america_is_finally_catching_up_on_clean_coal.html)

### ***Oil Spills, Gas Leaks & Consequences***

#### **Drillers can't comply with methane reg, ask court to nix it**

By Ellen M. Gilmer, E&E News, Mar 1, 2018

<https://www.eenews.net/energywire/2018/03/01/stories/1060075129>

#### **Meet Claire. She can see a little methane leak from space**

By John Fiaka, E & E News, Mar 9, 2018

<https://www.eenews.net/climatewire/2018/03/09/stories/1060075901>

### ***Alternative, Green ("Clean") Solar and Wind***

#### **Wind and solar power could meet four-fifths of US electricity demand, study finds**

Investment in greater storage, transmission capabilities needed

By Staff Writer, Science Daily, Feb 27, 2018

<https://www.sciencedaily.com/releases/2018/02/180227111639.htm>

Link to paper: Geophysical constraints on the reliability of solar and wind power in the United States

By Shaner, Davis, Lewis & Calderia, Energy and Environmental Science, Feb 27, 2018

<http://pubs.rsc.org/en/Content/ArticleLanding/2018/EE/C7EE03029K#!divAbstract>

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

#### **Hydropower supply dries up with climate change**

By Irene Banos Ruiz, DW News, Jan 3, 2018

<http://www.dw.com/en/hydropower-supply-dries-up-with-climate-change/a-42472070>

“Ultimately, a greener energy supply is the solution to its own problems — the sooner we stop burning fossil fuels, the more stable our climate will be.”

*[SEPP Comment: Produce no CO2 and the climate will become stable!]*

#### **More than 100 cities get most of their electricity from renewables, analysis shows**

Over 40 cities said to be running on 100 percent renewable electricity.

More than 100 cities get at least 70 percent of their electricity from renewable sources.

By Anmar Frangoul, CNBC, Feb 27, 2018

<https://www.cnbc.com/2018/02/27/more-than-100-cities-get-most-of-their-electricity-from-renewables-analysis-shows.html>

*[SEPP Comment: Many on hydropower. See link immediately above.]*

### ***Carbon Schemes***

#### **Clean Coal: Carbon Capture and Enhanced Oil Recovery, Part Deux**

Guest post by David Middleton, WUWT, Mar 8, 2018

<https://wattsupwiththat.com/2018/03/08/clean-coal-carbon-capture-and-enhanced-oil-recovery-part-deux/>

### ***Health, Energy, and Climate***

#### **Health savings outweigh costs of limiting global warming: study**

By Staff Writers, Phys.Org, Mar 4, 2018 [H/t Toshio Fujita]

<https://phys.org/news/2018-03-health-outweigh-limiting-global.html>

*[SEPP Comment: Unable to link to any specific study.]*

## **The latest medical malpractice: blaming “climate change” for heart attacks**

By Anthony Watts, WUWT, Mar 4, 2018

<https://wattsupwiththat.com/2018/03/04/the-latest-medical-malpractice-blaming-climate-change-for-heart-attacks/>

### ***Other Scientific News***

#### **Flagship U.S. space telescope facing further delays**

By Daniel Clery, Science Mag, Mar 1, 2018 [H/t Toshio Fujita]

<http://www.sciencemag.org/news/2018/03/flagship-us-space-telescope-facing-further-delays>

Link to report: James Webb Space Telescope: Integration and Test Challenges Have Delayed Launch and Threaten to Push Costs Over Cap

By Staff Writers, GAO, Feb 28, 2018

[https://www.gao.gov/products/GAO-18-273?utm\\_campaign=usgao\\_email&utm\\_content=daybook&utm\\_medium=email&utm\\_source=govdelivery](https://www.gao.gov/products/GAO-18-273?utm_campaign=usgao_email&utm_content=daybook&utm_medium=email&utm_source=govdelivery)

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### **BELOW THE BOTTOM LINE:**

#### **Scottish sheep shrink**

By Staff Writers, Climate Change Predictions.org, Mar 9, 2018

<http://climatechangepredictions.org/uncategorized/2165>

“Climate change is causing a breed of wild sheep in Scotland to shrink, according to research. Scientists say milder winters help smaller sheep to survive, resulting in this “paradoxical decrease in size”. The lead researcher in the study, Tim Coulson from Imperial College London, said the island provided an ideal opportunity to tease apart the factors driving the sheep’s physical change.”

BBC News, 2 Jul 2009

#### **Warning to all black sheep in the family**

By Staff Writers, Climate Change Predictions.org, Mar 8, 2018

<http://climatechangepredictions.org/uncategorized/2167>

“First scientists discovered that the milder winters were shrinking the sheep in the Outer Hebrides at a rate of 3.5 ounces (100g) a year as smaller, weaker lambs were surviving in the warmer weather. Now they have discovered the same process is turning the dark coats of Soay sheep on Hirta in the St Kilda archipelago lighter.

“Dr Shane Maloney, an animal researcher whose findings are published in the Royal Society journal *Biology Letters*, said: “If environmental effects are the cause of the decline, then we can expect the proportion of dark coloured Soay sheep to decrease further.”

The Telegraph, 22 Jul 2009

*[SEPP Comment: Smaller, lighter sheep?]*

#### **Poles adrift**

By Staff Writers, Climate Change Predictions.org, Mar 6, 2018

<http://climatechangepredictions.org/uncategorized/9548>

“Earth’s poles are drifting and climate change is to blame, claim scientists.

“The planet’s rotation has always wobbled slightly, and over time this movement has caused the North Pole to shift very slightly over time.

“But researchers now believe global warming could be drastically increasing this shift.

“Lead researcher Jianli Chen said that ‘ice melting and sea level change can explain 90 per cent of the shift’ and that ‘the driving force for the sudden change is climate change.’

[SEPP Comment: CO2 is responsible for changing the magnetism of the earth?]

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## ARTICLES:

### 1. Big Oil CEOs ‘Not Losing Any Sleep’ Over Peak Oil Demand

Some executives say oil to remain dominant for decades despite renewable energy, electric vehicles

By Sarah Kent and Miguel Bustillo, WSJ, Mar 6, 2018

<https://www.wsj.com/articles/saudi-aramco-ceo-not-losing-any-sleep-over-peak-oil-demand-1520355679>

SUMMARY: The article starts:

*“The heads of some of the world’s largest oil companies pushed back on Tuesday against predictions that demand for petroleum could erode in coming decades due to the rise of renewable energy and electric vehicles.*

*“Amin Nasser, chief executive of Saudi Arabian Oil Co., known as Saudi Aramco, told the CERAWEEK conference in Houston that such forecasts overstate the economic costs of shifting to greener sources of energy and underestimate the continued dominance of fossil fuels.*

*“I’m not losing any sleep over peak oil demand or stranded resources, ‘ Mr. Nasser said. He warned instead that more investment is needed in the oil sector to ensure there is enough supply to meet future demand.*

*“Bob Dudley, chief executive of BP PLC said that while the company could foresee a potential peak in oil demand, and a transition to a diverse mix of fuels, a recent study showed that demand would remain robust even under a scenario in which the sale of new internal-combustion vehicles was banned by 2040.*

*“‘The pace of decline is likely to be very slow,’ Mr. Dudley said. ‘Think plateau.’*

*Mr. Dudley also said carbon emissions would continue to rise in such a scenario, underscoring the need to focus on ways to reduce emissions across all sources.*

*“‘A race to renewables will not solve the challenge that we all have,’ he said. We need to be agnostic about new fuels.’*

*“The comments on the future of oil demand are the latest in a spirited debate over what the next few decades may hold for the oil sector, with some major companies predicting that efforts to curb global warming could mean oil consumption stops growing before the end of the next decade.*

*“Investors are increasingly calling on oil-and-gas companies to show they have a plan to manage a transition away from fossil fuels, even staging a rare revolt at Exxon Mobil Corp. ’s annual meeting last year over the issues.*

*“Companies will likely have to disclose more about the potential impact of climate change and regulations tied to limiting emissions on their businesses in the next five to 10 years, ConocoPhillips Chief Executive Ryan Lance said Tuesday.*

*“The disclosure is getting more difficult, ‘ he said, noting that he, along with other executives, received a letter from BlackRock Chief Executive Larry Fink this year, which pushed companies to articulate a ‘social purpose. ‘”*

The article closed with vague comments about the ability to abandon oil.

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## **2. ‘Broad Band’ Review: Mothers of Invention**

The secret history of women’s role in the computing revolution, from the Victorian era’s Ada Lovelace to the ‘cyberGirls’ of the 1990s. Katherine Boyle reviews ‘Broad Band’ by Claire L. Evans.

By Katherine Boyle, WSJ, March 6, 2018

<https://www.wsj.com/articles/broad-band-review-mothers-of-invention-1520380920>

SUMMARY The venture capitalist at General Catalyst Partners in San Francisco gives an uneven review of “Broad Band: The Untold Story of the Women Who Made the Internet” by Claire Evans. The Book starts *“in the mid-19th century with Ada Lovelace and her Analytical Engine and ending with the matriarchs of 1990s cyberfeminism, ‘Broad Band’ is a celebration of the women whose minds gave birth to the motherboard and its brethren.*

*“But what starts as an engaging series of biographical essays on lesser known mathematicians, innovators and cyberpunks is forced, either by circumstance or opportunity, to take on the heavy burden of explaining the sexist ills of today’s technology industry. The droning question that dampens this party is why these extraordinary women were erased from computing history and why there weren’t more of them to begin with. While ‘Broad Band’ excels as a collection of brief lives, it struggles as a work of social history and criticism, often resorting to trite asides and girl-power platitudes that diminish its female subjects and their merits.”*

The review states:

*“Ms. Evans vividly describes how Hopper, a teacher of mathematics at Vassar, joined the Navy shortly after Pearl Harbor, expecting to become a code-breaker but instead ending up as one of the three programmers of Mark I, the Harvard-based, IBM-funded electromechanical computer used to design atomic bombs during the Manhattan Project. Despite knowing little about either computers or bombs, the autodidact rose to the occasion and to the rank of rear admiral, ultimately becoming the mother of the Cobol programming language.*

*“Similarly, the six women who wired and programmed the Eniac, the Army’s first all-electronic general-use computer, were thrown into some of the most complex computational puzzles of World War II. Working without a programming language, they perfected the process of manipulating the hundreds of cables and switches within the room-size super-calculator with hand-punched tape*

*loops. The Eniac would make the work of what were then called “human computers”—mathematicians tasked with problems like calculating firing tables for ballistic weapons—faster and more accurate. The human computers working with Eniac, like the Eniac Six themselves, were drawn from the University of Pennsylvania’s Moore School of Electrical Engineering—and all of them, numbering around a hundred, were women.*

*“One of the great arcs of the book is the shift in computing’s purpose: What began as an intellectual pursuit and then a military necessity became, after World War II, a driver of the global economy. Ms. Evans concludes that women became less valued after American men returned from war and as computing grew more commercially viable. “The shift from programmer to software engineer was an easy enough signal for female programmers to interpret,” she writes. But other books, such as Emily Chang’s recent ‘Brotopia,’ note that women made up 40% of computer-science classes at universities until the mid-1980s. Today that number is about 18%. The question of when and how women left the field deserves further scrutiny, but the 150-year span of ‘Broad Band’ raises more questions than answers as to why.”*

The reviewer emphasizes questions concerning the current status of the women’s movement and the place of these achievements in computers in history.

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