

# The Week That Was: 2018-04-21 (April 21, 2018)

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### The Science and Environmental Policy Project

**Quote of the Week.** “*Most institutions demand unqualified faith; but the institution of science makes skepticism a virtue*” – Robert K. Merton [H/t Roger Pielke Jr.]

**Number of the Week:** 12 Days

#### **THIS WEEK:**

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

**Transparency and Reproducibility:** Writing for the National Association of Scholars, David Randall and Christopher Welser produced a study titled “The Irreproducibility Crisis of Modern Science: Causes, Consequences, and the Road to Reform.” Transparency and Reproducibility are critical in the process of transforming sophisticated speculation into knowledge. Work must be checked and re-checked. Studies need to be replicated, reproducible, to be accepted. If the data and the procedures used (methodology) are not transparent, then reproducibility is impossible, and the results should be considered as speculative.

Unfortunately, a great deal of what passes for science by government entities is not transparent and reproducible. It is accepted because it appeals to the ideological biases of those responsible for oversight. Thus, others with similar biases become involved and the entire effort becomes one of groupthink. If government entities are involved it is what TWTW terms “Bureaucratic Science.” This bureaucratic science drives government policy, which can have disastrous consequences and waste significant resources pursuing a solution that does not work, or a solution to a non-problem.

In an article in the *Wall Street Journal*, Peter Wood, president of the National Association of Scholars, and Mr. Randall discuss problems involving psychology and medicine. Other examples include the PM<sub>2.5</sub> myth that outdoor exposure to particulate matter smaller than 2.5 μm (2.5 micrometers) causes heart and lung diseases. This bureaucratic science has been heavily promoted by the EPA and subsequently expanded by the World Health Organization, the UN, the World Bank, and the EU. Yet, the critical studies establishing these claims have never been made public by the EPA. It may be that only in very high doses, PM 2.5 may be a health danger. The American public has a right to know. A right ignored by the EPA and its defenders.

Another example is the Linear No-Threshold Model (LNT), which was developed for radiation exposure by Hermann Muller, for which he received a Nobel Prize. Although it has been strongly contested, the model has been applied by the EPA and other bureaucratic entities such as the National Research Council. As compared with the dose-response model of toxicology, the LNT produces absurd results. Drinking too much water can kill a person. Therefore, according to the LNT model, a thousand-people drinking a glass of water per day will kill someone from too much water.

The authors of the report have 40 specific recommendations to help make science more transparent and reproducible. To keep the report readable, the authors do not go into detail on the

miss-use of statistics. But, the recommendations for Statistical Standards, Data Handling, and Government Regulation bear repeating:

#### *“STATISTICAL STANDARDS*

1. *“Researchers should avoid regarding the p-value as a dispositive measure of evidence for or against a particular research hypothesis.*
2. *“Researchers should adopt the best existing practice of the most rigorous sciences and define statistical significance as  $p < .01$  rather than as  $p < .05$ .*
3. *“In reporting their results, researchers should consider replacing either-or tests of statistical significance with confidence intervals that provide a range in which a variable’s true value most likely falls.*

#### *“DATA HANDLING*

4. *“Researchers should make their data available for public inspection after publication of their results.*
5. *“Researchers should experiment with born-open data—data archived in an open-access repository at the moment of its creation, and automatically time-stamped.”*

#### *“GOVERNMENT REGULATION*

29. *“Government agencies should insist that all new regulations requiring scientific justification rely solely on research that meets strict reproducibility standards.*
30. *“Government agencies should institute review commissions to determine which existing regulations are based on reproducible research, and to rescind those which are not.”*

Such standards would make government science and policy more accountable to the public, thus more fitting for a democratic republic.

Although the focus is primarily health issues, and the authors stated in a briefing that the US National Institutes of Health (NIH) are making some progress towards Transparency and Reproducibility, the Afterward was written by physicist William Happer. He wrote:

*“Science has always had problems with quality control. Some particularly bizarre examples were given by Irving Langmuir in his classic lecture, “Pathological Science,” where he describes “N rays,” “Mitogenetic Rays,” etc. Langmuir gave a table that maps very well onto points made by Randall and Welsler:*

#### *“Symptoms of Pathological Science:*

1. *“The maximum effect that is observed is produced by a causative agent of barely detectable intensity, and the magnitude of the effect is substantially independent of the intensity of the cause.*

2. *“The effect is of a magnitude that remains close to the limit of detectability; or, many measurements are necessary because of the very low statistical significance of the results.*
3. *“Claims of great accuracy.*
4. *“Fantastic theories contrary to experience.*
5. *“Criticisms are met by ad hoc excuses thought up on the spur of the moment.*
6. *“Ratio of supporters to critics rises up to somewhere near 50% and then falls gradually to oblivion.*

*“But Langmuir, a great scientist, was not immune to self-deception. As described in J. R. Fleming’s book, ‘Fixing the Sky,’ Langmuir was convinced toward the end of his career that he and his colleagues had succeeded in controlling the weather by seeding clouds with silver iodide.*

Near the end Happer discusses a too popular concept in bureaucratic science, the Noble Lie:

*“Many scientists think of themselves as philosopher kings, far superior to those in the ‘basket of deplorables.’ The deplorables have a hard time understanding why scientists are so special, and why they should vote as instructed by them. More than two thousand years ago, Plato, who promoted the ideal of philosopher kings, also promoted the concept of the ‘noble lie,’ a myth designed to persuade a skeptical population that they should be grateful to be ruled by philosopher kings. Our current scientific community has occasionally resorted to the noble lie, a problem that can’t be fixed by better training in statistics. Noble lies are also irreproducible and damage the credibility of science.”*

See links under Challenging the Orthodoxy.

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**Generation Resilience:** Last week’s TWTW discussed the danger created during the harsh storm of December 27, 2017, to January 8, 2018, called the Bomb Cyclone, blanketing much of the eastern US. The PJM Interconnection was severely tested. In terms of population served, it is the largest independent (or regional) system operator (ISO) in the country, serving some 65 million from southeast Virginia north and west to Illinois. According to a report from the National Energy Technology Laboratory (NETL), during the intense cold and storms, coal-fired power plants increased electricity generation by 49%, providing 74% of the total increase needed. Oil provided 22% of the increase needed, gas 2%, and nuclear, 1%. Total generation by renewables went down 4% and renewables were a drain on the system in time of need.

The switch from natural gas to fuel oil is interesting. Generally, on the PJM oil provides virtually no electrical generation (less than 0.01%), but the decline in availability of natural gas forced electrical generators to switch to oil during the latter part of the cold period. In New England, which has severe pipeline constraints, thanks to community and New York State opposition, the switch was even more dramatic, exacerbated by *“closures of Brayton Point, a 1,530 MW Massachusetts coal plant equipped with modern emissions controls, and Vermont Yankee, a nuclear plant, which together would have generated approximately 700,000 MWh.”* New England and New York relied on fuel imports: *“As most fuel oil consumed in Petroleum Administration for Defense District (PADD) 1A & B is imported or derived from imported crude, one may infer that the Northeast relied on foreign sources of energy for its emergency electricity production.”*

The entities responsible for overseeing all the grid systems is North American Electric Reliability Corporation (NERC) and the Federal Energy Regulatory Commission (FERC). According to the NETL report, FERC is now considering the concept of Generation Resilience, and how well entities generating electricity for the grid can respond in periods of extreme need, such as cold snaps. As with the so-called “Polar Vortex” storm of January 2014, lasting only three days, coal, nuclear, and oil/gas, provided resilience while renewables did nothing.

What is of great concern is that daily pricing auctions favor renewables, and government policies greatly subsidize them. As nuclear and coal fired-power plants age, or otherwise are forced into retirement due to lack of revenues, the US grid may fail when electrical power is needed the most. Thanks to inept government policies of price controls enacted during the Nixon administration, cold snaps forced factories to close because natural gas production was declining, working wells were capped. As power expert Donn Dears briefly describes, we may be headed for another energy crisis created by government. See links under Energy Issues – Real Threats.

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**CO2 Cooling?** SEPP Chairman emeritus Fred Singer has an essay in *American Thinker* explaining how adding carbon dioxide (CO<sub>2</sub>) to the atmosphere may be causing a cooling of the upper atmosphere. Of course, the atmosphere is very thin at high altitudes, and the overall effect is small. However, critics of atmospheric temperature calculations have used this extreme case to cooling of the upper atmosphere to criticize the temperature calculations of the bulk atmosphere. As discussed in last week’s TWTW, Christy, *et al.* have been careful to define the bulk atmosphere as from the surface to 60,000 feet (18 km), thus avoiding the objections. See Article # 1 and last week’s TWTW.

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**Earth Day – End Plastic Pollution:** This weekend’s earth day has the theme of ending plastic pollution. Unfortunately, much of the plastics found in the sea are from developing countries where the public is not as environmentally conscientious about pollution as those in developed countries. In the current demonstrations, how many of those participating recognize that on the first successful man-made polymers (plastics) were celluloid, developed in response to a reward for finding a substitute for ivory used in billiard-balls?

<https://www.acs.org/content/acs/en/education/whatischemistry/landmarks/bakelite.html>

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**Perfect Back-up:** Thus far, pumped-hydro is the only practical back-up to provide electrical power on a commercial scale. In general, it works only to provide more power for peak-shaving, in conjunction with reliable power generators, such as nuclear and coal-fired power plants. As seen in the Canary Islands, renewables, wind power, fail for extended periods, requiring extensive back-up if a system is to be 100% on renewables.

Using Google Maps, Roger Andrews searched the globe for suitable areas, with low populations, where large-scale pumped-hydro is perhaps possible, using the seas as the lower reservoir. He found one in northern Chile, far from population centers. He found an area in Baja California, Mexico, which may serve California – though the Mexican government may disagree.

For the UK, the Strath Dearn in the Scottish Highlands may have the best physical potential, but is probably not politically possible. For Europe, the best possible areas are in Croatia.

According to his research there is not much potential elsewhere in the world for pumped hydro of the scale required to serve alternative energy supplying a major population. See links under Alternative, Green (“Clean”) Energy – Storage.

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**Number of the Week: 12 Days** – The Bomb Cyclone, discussed above, lasted for 12 days. It taxed some of the generators of electricity on the various grids in the Eastern US. At least 12 days should be a minimum planning figure for testing to assure resilience of the electricity grid in times of bad weather, when demand (consumption) of electricity increases significantly. Solar and wind failed completely.

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### SEPP’S APRIL FOOLS AWARD THE JACKSON

SEPP is conducting its annual vote for the recipient of the coveted trophy, The Jackson, a lump of coal. Readers are asked to nominate and vote for who they think is most deserving, following these criteria:

- The nominee has advanced, or proposes to advance, significant expansion of governmental power, regulation, or control over the public or significant sections of the general economy.
- The nominee does so by declaring such measures are necessary to protect public health, welfare, or the environment.
- The nominee declares that physical science supports such measures.
- The physical science supporting the measures is flimsy at best, and possibly non-existent.

The six past recipients, Lisa Jackson, Barrack Obama, John Kerry, Ernest Moniz, John Holdren and Christiana Figueres aka Cruella de Vil are not eligible. Generally, the committee that makes the selection prefers a candidate with a national or international presence. The voting will close on July 30. Please send your nominee and a brief reason why the person is qualified for the honor to Ken@SEPP.org. Thank you. The award will be presented at the annual meeting of the Doctors for Disaster Preparedness in August.

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### NEWS YOU CAN USE:

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

#### **Science, Philosophy and Inquiry on a Galactic Scale: A conversation with Dr. Willie Soon**

The Sun is the main driver of climate change. Not you. Not carbon dioxide.

By Grégoire Canlorbe, Friends of Science Calgary, Apr 12, 2018

<http://blog.friendsofscience.org/2018/04/12/science-philosophy-and-inquiry-on-a-galactic-scale-a-conversation-with-dr-willie-soon/>

#### **Prominent Japanese Scientist Reiterates: “Sun Is Main Climate Driver”...Manmade “Global Warming A Hoax”!**

By P Gosselin, No Tricks Zone, Apr 20, 2018

<http://notrickszone.com/2018/04/20/prominent-japanese-scientist-reiterates-sun-is-main-climate-driver-manmade-global-warming-a-hoax/#sthash.UdILnkTS.dpbs>

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

### **Climate Change Reconsidered II: Physical Science**

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

<http://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***

#### **How Bad Is the Government's Science?**

Policy makers often cite research to justify their rules, but many of those studies wouldn't replicate.

By Peter Wood and David Randall, WSJ, Via GWPF, Apr 16, 2018

<https://www.thegwpf.com/how-bad-is-the-governments-science/>

### **The Irreproducibility Crisis of Modern Science: Causes, Consequences, and the Road to Reform**

By David Randall and Christopher Welser, NAS, April 2018

[https://www.nas.org/images/documents/NAS\\_irreproducibilityReport.pdf](https://www.nas.org/images/documents/NAS_irreproducibilityReport.pdf)

### **Climate Change IQ Question 10: Is climate change the most urgent global health threat?**

By Staff Writers Doctors for Disaster Preparedness, Accessed Apr 15, 2018

<http://www.ddponline.org/category/cciq/>

[SEPP Comment: Includes nine previous questions.]

### **Earth Day has embraced hysteria and abandoned science**

By Henry I. Miller, Jeff Stier, Fox News, Apr 20, 2018

<http://www.foxnews.com/opinion/2018/04/20/earth-day-has-embraced-hysteria-and-abandoned-science.html>

### **MSM: Eleven Minute Friendly Interview with Climate Skeptic Ian Plimer**

Guest essay by Eric Worrall, WUWT, Apr 16, 2018

<https://wattsupwiththat.com/2018/04/16/msm-eleven-minute-friendly-interview-with-climate-skeptic-ian-plimer/>

[SEPP Comment: Author of "heaven+earth."]

## **Science is Not Truth**

By Donna Laframoise, Big Picture, Apr 16, 2018

<https://nofrackingconsensus.com/2018/04/16/science-is-not-truth/>

## **Swiss Climate Institute Director: “Absurd” To Call CO2 “Pollutant...Main Culprit Behind Climate Change”**

By P Gosselin, No Tricks Zone, Apr 18, 2018

<http://notrickszone.com/2018/04/18/swiss-climate-institute-director-absurd-to-call-co2-pollutant-main-culprit-behind-climate-change/#sthash.tjue4564.dpbs>

## **Polar bear specialist Mitch Taylor on accountability in polar bear science**

By Susan Crockford, Polar Bear Science, Apr 15, 2018

<https://polarbearsience.com/2018/04/15/polar-bear-specialist-mitch-taylor-on-accountability-in-polar-bear-science/>

“There are two ways to get a scientific consensus. One is to present the data and the analysis in a manner that is so persuasive that everyone is convinced. The other way is to exclude or marginalize anyone who does not agree. This occurs so commonly now that it has become an accepted practice. The practice of science has become secondary to governments, NGOs, journals, and scientists who feel that the ends justify the means.”

## ***Defending the Orthodoxy***

### **Why Markets Can’t Cool the Planet**

By Ivan Ascher, Project Syndicate, Apr 16, 2018

<https://www.project-syndicate.org/commentary/climate-change-no-market-solution-by-ivan-ascher-2018-04>

*[SEPP Comment: Who would want ice ages?]*

## **Parties Provide Inputs to Talanoa Dialogue**

By Linda Mead (Thematic Expert for Climate Change and Sustainable Energy (US)) IISD, Sustainable Development Group, Apr 17, 2018 [H/t Dennis Ambler]

<http://sdg.iisd.org/news/parties-provide-inputs-to-talanoa-dialogue/>

## **One-fifth of carbon entering coastal waters of eastern North America is buried**

By Staff Writers, Science Daily, Apr 12, 2018 [H/t Toshio Fujita]

<https://www.sciencedaily.com/releases/2018/04/180412102942.htm>

Link to paper: Carbon Budget of Tidal Wetlands, Estuaries, and Shelf Waters of Eastern North America

By R.G. Najjar, et al, Global Biogeochemical Cycles, Apr 4, 2018

<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1002/2017GB005790>

## **March for Politically Correct Science flops – almost no one turns up**

By Jo Nova, Her Blog, Apr 15, 2018

<http://joannenova.com.au/2018/04/march-for-politically-correct-science-flops-almost-no-one-turns-up/>

## ***Questioning the Orthodoxy***

### **Can Humans Melt the Antarctic Icecap?**

Can we puny humans produce enough energy to melt the huge icecap? Some math helps.

Guest essay by Julius Sanks, WUWT, Apr 16, 2018

<https://wattsupwiththat.com/2018/04/16/can-humans-melt-the-antarctic-icecap/>

“Can we puny humans produce enough energy to melt the huge icecap? Some math helps.”

### **Creative Climate Accounting**

By Tim Blair, Quadrant, Apr 21, 2018

<http://quadrant.org.au/magazine/2018/04/language-obsession/>

*[SEPP Comment: Why are per capita emissions stressed so heavily in Australia? Because the country emits so little CO2.]*

### **Green fanaticism kills, fossil fuels prolong lives**

By Luboš Motl, the Reference Frame, Apr 15, 2018

<https://motls.blogspot.com/2018/04/green-fanaticism-kills-fossil-fuels.html#more>

### **Getting the Public’s Attention on Global Warming: The Final Challenge**

Guest opinion: Dr. Tim Ball, WUWT, Apr 15, 2018

<https://wattsupwiththat.com/2018/04/15/getting-the-publics-attention-on-global-warming-the-final-challenge/>

### **In 2015, Climate Scientists Wrecked Their Own CO2-Forced ‘Polar Amplification’ Narrative**

By Kenneth Richard, No Tricks Zone, Apr 16, 2018

<http://notrickszone.com/2018/04/16/in-2015-climate-scientists-wrecked-their-own-co2-forced-polar-amplification-narrative/#sthash.j1VxP12X.dpbs>

Exchange with a Climate Alarmist at R Street: Part II

By Robert Bradley Jr., Master Resource, Apr 19, 2018

<https://www.masterresource.org/r-street-institute/45402/>

### ***After Paris!***

#### **U.S. Cuts 'Global Warming' Gases Faster Than Anyone Else, But Media Ignore It**

Editorial, IBD, Apr 20, 2018

<https://www.investors.com/politics/editorials/u-s-cuts-global-warming-gases-faster-than-anyone-else-but-media-ignore-it/>

### **David Shukman’s Imaginary “Historic” Climate Deal**

By Paul Homewood, Not a Lot of People Know That, Apr 16, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/04/16/david-shukmans-imaginary-historic-climate-deal/>

“Worse still, merchant ships can easily switch flags to avoid punitive regulations, making the whole exercise rather worthless.”

*[SEPP Comment: Another “meaningful Paris moment?”*

### **Iran—A Case Study**

By Paul Homewood, Not a Lot of People Know That, Apr 19, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/04/19/iran-a-case-study/>

“All of which begs the question, what possible incentive does Iran have to stop using fossil fuels?”

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

**170 lawmakers sign resolution calling for Pruitt's resignation**

By Miranda Green, The Hill, Apr 18, 2018

<http://thehill.com/policy/energy-environment/383802-170-lawmakers-sign-resolution-calling-for-epa-chiefs-resignation>

### **Does Pruitt Have a Point about Science?**

By Terence Kealey and Patrick J. Michaels, CATO, Apr 20, 2018

<https://www.cato.org/blog/does-pruitt-have-point-about-science>

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

#### **Reduction in global area burned and wildfire emissions since 1930s enhances carbon uptake by land**

By Vivek K. Arora & Joe R. Melton, Nature, Communications, Apr 17, 2018

<https://www.nature.com/articles/s41467-018-03838-0>

*[SEPP Comment: And global warming is causing increasing wildfires?]*

### ***Seeking a Common Ground***

#### **KT Encounters: What Counts As Evidence?**

By Dr. Paul Cairney, Michael Smith Foundation for Health Research, Apr 5, 2018

<https://www.msfhr.org/news/blog-posts/kt-encounters-what-counts-as-evidence#Cairney?platform=hootsuite>

“...thoughts on how different types of evidence are valued, and the challenges of knowing what type of evidence to use in the messy process of policy-making.”

#### **Four questions on climate change**

By Garth Palridge, Climate Etc. Apr 18, 2018

<https://judithcurry.com/2018/04/18/four-questions-on-climate-change/>

“(1) Is the science of climate change ‘settled’?”

“(2) What is the effect on climate science of public advocacy for the message of disastrous anthropogenic global warming (AGW)?”

“(3) What are the barriers to public dissemination of results casting doubt on the theory of disastrous anthropogenic global warming (AGW)?”

“(4) What are the implications for climate science of public acceptance of the idea that there is a ‘consensus among scientists’ on anthropogenic global warming (AGW)?”

#### **Let the facts speak for themselves**

By Martin Livermore, The Scientific Alliance, Apr 19, 2018

<http://scientific-alliance.org/scientific-alliance-newsletter/let-facts-speak-themselves>

#### **A two-hour introduction to the climate change**

By Luboš Motl, The Reference Frame, Apr 19, 2018

<https://motls.blogspot.com/2018/04/a-two-hour-introduction-to-climate.html#more>

#### **How to write for climate change education**

By David Wojick, CFACT, Apr 16, 2018 [H/t Climate Depot]

<http://www.cfact.org/2018/04/16/how-to-write-for-climate-change-education/>

#### **Science Communication as Intellectual Hospitality**

By Roger Pielke Jr. The Honest Broker, Apr 9, 2018

<https://thehonestbroker.org/2018/04/09/science-communication-as-intellectual-hospitality/>

### **‘Time to Reset the Climate Change Debate’: Phillip Lengsfeld**

By William Powell, Natural Gas World, Via GWPF, Apr 20, 2018

<https://www.thegwpf.com/time-to-reset-the-climate-change-debate-philipp-lengsfeld/>

“The proper boundaries between industry, politics and science have become blurred, preventing a rational debate about energy policy and climate change, according to a scientist and former German member of parliament Philipp Lengsfeld. The public, whose interests they would normally serve, therefore instead finds itself caught in the middle, passive not active.”

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

#### **The Tolerance of a Scleractinian Coral to Ocean Acidification and Warming**

By Krueger, T., Horwitz, N., Bodin, J., Giovani, M.-E., Escrig, S., Meibom, A. and Fine, M. 2017.

Common reef-building coral in the Northern Red Sea resistant to elevated temperature and acidification. *Royal Society Open Science* 4: 170038, <http://dx.doi.org/10.1098/rsos.170038>.

<http://www.co2science.org/articles/V21/apr/a12.php>

#### **The Response of a Phytoplankton Species to Warming in a Field Setting**

By Schaum, C.-E., Barton, S., Bestion, E., Buckling, A., Garcia-Carreras, B., Lopez, P., Lowe, C., Pawar, S., Smirnoff, N., Trimmer, M. and Yvon-Durocher, G. 2017.

Adaptation of phytoplankton to a decade of experimental warming linked to increased photosynthesis. *Nature Ecology & Evolution* 1: Article 0094, doi: 10.1038/s41559-017-0094. Apr 19, 2018

<http://www.co2science.org/articles/V21/apr/a11.php>

“Consequently, in light of all of the above findings, Schaum *et al.* conclude they ‘suggest that adaptive responses to warming in phytoplankton could help to mitigate projected declines in aquatic net primary production by increasing rates of cellular net photosynthesis.’ And this response is extremely important, given that phytoplankton photosynthesis accounts for approximately 40% of the CO<sub>2</sub> that is fixed annually across the globe.”

#### **The Impact of Ocean Acidification on Juvenile Sea Wrasse**

By Cattano, C., Calò, A., Di Franco, A., Firmamento, R., Quattrochi, F., Sdiri, K., Guidetti, P. and Milazzo, M. 2017. Ocean acidification does not impair predator recognition but increases juvenile growth in a temperate wrasse off CO<sub>2</sub> seeps. *Marine Environmental Research* 132: 33-40. Apr 16, 2018

<http://www.co2science.org/articles/V21/apr/a9.php>

### ***Measurement Issues -- Surface***

#### **An interesting plot twist – call it an anomaly**

By Anthony Watts, WUWT, Apr 18, 2018

<https://wattsupwiththat.com/2018/04/18/an-interesting-plot-twist-call-it-an-anomaly/>

#### **Infrastructure encroachment at a NOAA Climate Reference (USCRN) site makes the data warmer**

Guest analysis by Gary Boden, WUWT, Apr 9, 2018

<https://wattsupwiththat.com/2018/04/09/infrastructure-encroachment-at-a-noaa-climate-reference-uscrn-site-makes-the-data-warmer/>

[SEPP Comment: Maintaining the integrity of a data collection site requires vigilance.]

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

#### **The 2018 ECMWF HPC workshop – making progress on scalability**

By Peter Bauer, Deputy Director of Research and Programme Manager of the ECMWF Scalability Programme, ECMWF, Apr 17, 2018 [H/t Climate Etc.]

<https://www.ecmwf.int/en/about/media-centre/science-blog/2018/2018-ecmwf-hpc-workshop-making-progress-scalability>

“As the head of ECMWF’s Scalability Programme, I will have a leading role at the ECMWF high-performance computing (HPC) workshop in September, where we will be discussing what is perhaps the biggest revolution in numerical weather prediction since computer-based forecasts began back in the 1950s. In the first of three blogs, I outline the challenges and how, through collaboration, we are rising to them.”

[SEPP Comment: Founded in 1975, and based in Reading, UK: “The European Centre for Medium-Range Weather Forecasts (ECMWF) is an independent intergovernmental organisation supported by 34 states.” Its current goal is to be able to make two-week forecasts of extreme weather events.]

### ***Changing Weather***

#### **The Connection Between Heavy Rainfall in Kauai and Washington State Last Weekend**

By Cliff Mass, Weather and Climate Blog, Apr 21, 2018

<http://cliffmass.blogspot.com/2018/04/the-connection-between-heavy-rainfall.html>

### ***Changing Climate – Cultures & Civilizations***

#### **First Europeans survived climate change following ‘super-eruption’ by working together, say archaeologists**

Experts suggest we can learn from our prehistoric ancestors when tackling changing climate today

By Josh Gabbatiss, The Independent, UK, Apr 16, 2018 [H/t WUWT]

<https://www.independent.co.uk/environment/climate-change-first-europeans-survived-volcano-eruption-work-together-italy-liguria-a8306911.html>

Link to paper: Human adaptations to climatic change in Liguria across the Middle–Upper Paleolithic transition

By Julien Riel-Salvatore and Fabio Negrino, Journal of Quaternary Science, Apr 3, 2018

<https://onlinelibrary.wiley.com/doi/pdf/10.1002/jqs.3005>

#### **More evidence that it’s COLD not WARMTH that hurts humanity**

By Anthony Watts, WUWT, Apr 12, 2018

<https://wattsupwiththat.com/2018/04/12/more-evidence-that-its-cold-not-warmth-that-hurts-humanity/>

Link to paper: Volcanic dust veils from sixth century tree-ring isotopes linked to reduced irradiance, primary production and human health

By Samuli Helama, et al. Nature, Jan 22, 2018

<http://www.nature.com/articles/s41598-018-19760-w>

### ***Changing Seas***

#### **Sea level trends, starting points, and datum shifts**

Guest essay by Albert Parker, WUWT, Apr 18, 2018

<https://wattsupwiththat.com/2018/04/18/sea-level-trends-starting-points-and-datum-shifts/>

#### **Corals Can Withstand Another Century of Climate Change**

Heat-tolerant genes may spread through coral populations fast enough to give the marine creatures a tool to survive another 100 years of warming in our oceans.

By Kate Wheeling, Pacific Standard, Apr 19, 2018 [H/t GWPF]

<https://psmag.com/environment/corals-can-withstand-another-century-of-climate-change>

Link to paper: Potential and limits for rapid genetic adaptation to warming in a Great Barrier Reef coral

By Matz, Tremi, Aglyamova, & Bay, PLoS, Apr 19, 2018

<http://journals.plos.org/plosgenetics/article?id=10.1371/journal.pgen.1007220>

*[SEPP Comment: And the oceans have not been warmer during the 500-million-year history of coral reefs? Extinctions occurred during cold periods.]*

### **Your Sea Wall Won't Save You**

Negotiating rhetorics and imaginaries of climate resilience.

By Lizzie Yarina, Places Journal, Mar 2018 [H/t Climate Etc.]

[https://placesjournal.org/article/your-sea-wall-wont-save-you/?utm\\_source=mailchimp&utm\\_medium=email&utm\\_campaign=Newsletter%2004-06-2018](https://placesjournal.org/article/your-sea-wall-wont-save-you/?utm_source=mailchimp&utm_medium=email&utm_campaign=Newsletter%2004-06-2018)

Lengthy article.

### **Earth Week: Giant group of octopus moms discovered in the deep sea**

Expeditions reveal octopuses and their eggs where they shouldn't survive

By Cheryl Dybas, NSF, Apr 17, 2018

[https://www.nsf.gov/discoveries/disc\\_summ.jsp?cntn\\_id=245123&WT.mc\\_id=USNSF\\_1](https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=245123&WT.mc_id=USNSF_1)

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

#### **Climate change means Greenland is the same temperature now as 1880**

Hands up who knew that Greenland has been pretty much the same temperature for the last hundred and forty years?

By Jo Nova, Her Blog, Apr 19, 2018

<http://joannenova.com.au/2018/04/greenland-same-temperature-now-as-1880/>

Link to paper: Influence of temperature fluctuations on equilibrium ice sheet volume

By Troels Bøgeholm Mikkelsen, Aslak Grinsted, and Peter Ditlevsen, The Cryosphere, Jan 8, 2018

<https://www.the-cryosphere.net/12/39/2018/>

*[SEPP Comment: An error in previous modeling of ice balance in Greenland? What happens to the modeled acceleration of sea level rise?]*

### **Arctic ice like you've not seen it before**

By Anthony Watts, WUWT, Apr 19, 2018

<https://wattsupwiththat.com/2018/04/19/arctic-ice-like-youve-not-seen-it-before/>

*[SEPP Comment: The composite is dated Apr 10-16, 2018]*

### ***Agriculture Issues & Fear of Famine***

#### **Organic Agriculture is Worse for the Environment and Climate Than...**

By David Middleton, WUWT, Apr 10, 2018

<https://wattsupwiththat.com/2018/04/10/organic-agriculture-is-worse-for-the-environment-and-climate-than/>

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

#### **Atlantic 'conveyor belt' has slowed by 15% since mid-20th century**

By Robert McSweeney, Carbon Brief, Apr 11, 2018 [H/t Climate Etc.]

[https://www.carbonbrief.org/atlantic-conveyor-belt-has-slowed-15-per-cent-since-mid-twentieth-century?utm\\_content=buffer3d5f&utm\\_medium=social&utm\\_source=twitter.com&utm\\_campaign=buffer](https://www.carbonbrief.org/atlantic-conveyor-belt-has-slowed-15-per-cent-since-mid-twentieth-century?utm_content=buffer3d5f&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer)

“While both of the Nature studies are “interesting”, Srokosz tells Carbon Brief, scientists should be cautious in interpreting the results as they rely on indirect data and model simulations:”

### ***Lowering Standards***

#### **PBS to turn NOVA science into climate propaganda machine**

By Anthony Watts, WUWT, Apr 15, 2018

<https://wattsupwiththat.com/2018/04/15/pbs-to-turn-nova-science-into-climate-propaganda-machine/>

#### **“Ryan Zinke’s Great American Fire Sale” AKA The New Yorker’s total ignorance of oil & gas leasing.**

Guest commentary by David Middleton, WUWT, Apr 16, 2018

<https://wattsupwiththat.com/2018/04/16/ryan-zinkes-great-american-fire-sale-aka-the-new-yorkers-total-ignorance-of-oil-gas-leasing/>

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

#### **Claim: Global Warming Will Trigger Volcanic Eruptions**

Guest essay by Eric Worrall, WUWT, Apr 15, 2018

<https://wattsupwiththat.com/2018/04/15/claim-global-warming-will-trigger-volcanic-eruptions/>

### ***Communicating Better to the Public – Make things up.***

#### **@usatoday @usatodayweather pushes Fake Climate News about the 100th meridian Agricultural belt**

By Anthony Watts, WUWT, Apr 18, 2018

<https://wattsupwiththat.com/2018/04/18/usatoday-usatodayweather-pushes-fake-climate-news-about-the-100th-meridian-agricultural-belt/>

Link to comments by Roy Spencer: The 100th Meridian Agricultural Scare: Another Example of Media Hype Exceeding Reality

By Roy Spencer, His Blog, Apr 18, 2018

<http://www.drroyspencer.com/2018/04/the-100th-meridian-agricultural-scare-another-example-of-media-hype-exceeding-reality/>

*[SEPP Comment: Is the next step to push the Arctic Circle towards the Tropic of Cancer to show Arctic warming?]*

#### **Texan Professor: “Is the [climate] science settled? It does not matter”**

Commentary: We Should Prepare for Climate Change Like We Prepare for War

Guest essay by Eric Worrall, WUWT, Apr 18, 2018

<https://wattsupwiththat.com/2018/04/18/texan-professor-is-the-climate-science-settled-it-does-not-matter/>

*[SEPP Comment: As in Southeast Asia? Or the war to find an alternative to oil and gas?]*

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

#### **Analysts warn government policies could add almost £200 to energy bills**

By Mark Dorman, Yahoo Finance, UK, Apr 16, 2018 [GWPF]

<https://uk.finance.yahoo.com/news/analysts-warn-government-policies-add-almost-200-energy-bills-083528273.html>

## **The Truth Behind Frack Off**

By Paul Homewood, Not a Lot of People Know That, Apr 17, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/04/17/the-truth-behind-frack-off/>

## ***Questioning Green Elsewhere***

### **Ontario's soaring electricity costs result of poor government policies: report**

By Alexandra Posadzki, The Globe and Mail, Can, Apr 12, 2018 [H/t Energy Matters]

<https://www.theglobeandmail.com/business/article-ontarios-soaring-electricity-costs-result-of-poor-government-policies/>

## ***Funding Issues***

### **The World Bank's anti-energy policy betrays its core development mission**

By Rupert Darwall, Washington Examiner, Apr 16, 2018

<https://www.washingtonexaminer.com/opinion/op-eds/the-world-banks-anti-energy-policy-betrays-its-core-development-mission>

### **Washington [state] spends little to help the state's 900,000 smokers quit — despite collecting \$622M in tobacco taxes**

“Smoking costs Washington state an estimated \$2.8 billion per year in direct medical costs. Yet, with nearly 900,000 smokers in the state and \$622 million in tobacco-related tax collections, Washington spends almost no money on programs to help people quit.”

By Rachel Alexander, The Seattle Times, Apr 17, 2018

<https://www.seattletimes.com/seattle-news/washington-spends-little-to-help-the-states-900000-smokers-quit-despite-collecting-622m-in-tobacco-taxes/>

[Also] Washington's payment from that [1998 tobacco] settlement was \$150.7 million in 2017, according to the Washington Attorney General's office. That money was intended to be spent to offset state Medicaid costs for smoking-related disease. But, along with tobacco taxes, all that money goes to the state's general fund, Fradkin said.

## ***Litigation Issues***

### **Boulder joins San Francisco, New York in seeking millions from oil industry for climate change**

Faults companies for local 'impacts' such as drought, flooding, wildfires and bark beetles

By Valerie Richardson, The Washington Times, Apr 17, 2018 [H/t Cooler Heads]

<https://www.washingtontimes.com/news/2018/apr/17/boulder-colorado-sues-exxon-oil-companies-climate-/>

### **Colorado Communities Sue Exxon to Prevent The End of Snow**

Guest essay by Eric Worrall, WUWT, Apr 17, 2018 H/t Russel Cook]

<https://wattsupwiththat.com/2018/04/17/colorado-communities-sue-exxon-to-prevent-the-end-of-snow/>

Link to litigation: Board of County Commoners of Boulder County & San Miguel County, City of Boulder v. Suncor Energy and Exxon Mobil

<https://earthrights.org/wp-content/uploads/CO-Climate-Complaint.Filed-1.pdf>

### **Massachusetts Court to Exxon: Turn Over All Climate Documents Since 1976**

By Marlo Lewis, CEI, Apr 17, 2018

<https://cei.org/blog/massachusetts-court-exxon-turn-over-all-climate-documents-1976>

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

#### **Ten Thousand Commandments 2018**

An Annual Snapshot of the Federal Regulatory State

By Clyde Wayne Crews, CEI, Apr 19, 2018

<https://cei.org/10kc2018>

Link to report: Ten Thousand Commandments, 25<sup>th</sup> Anniversary

By Clyde Wayne Crews, CEI, Apr 19, 2018

[https://cei.org/sites/default/files/Ten\\_Thousand\\_Commandments\\_2018.pdf](https://cei.org/sites/default/files/Ten_Thousand_Commandments_2018.pdf)

#### **Correcting Falsely “Recovered” and Wrongly Listed Species and Increasing Accountability and Transparency in the Endangered Species Program**

By Robert Gordon, Heritage Foundation, Apr 16, 2018

<https://www.heritage.org/environment/report/correcting-falsely-recovered-and-wrongly-listed-species-and-increasing>

#### **EU Regulatory Madness ...New Rules Enacted To Regulate Color Of Bread, French Fries!**

By P Gosselin, No Tricks Zone, Apr 15, 2018

<http://notrickszone.com/2018/04/15/eu-regulatory-madness-new-rules-enacted-to-regulate-color-of-bread-french-fries/#sthash.JJuiarwN.dpbs>

*[SEPP Comment: Bureaucratic science is saving us from acrylamide. These foods include French fries, prune juice, some cereals as maize, toast and biscuits, toasted nuts and peanut butter, canned black olives, potato chucks, cakes and crackers, coffee, and cocoa.]*

### ***Energy Issues – Real Threats***

#### **Pending Disaster**

By Donn Dears, Power For USA, Apr 17, 2018

<http://ddears.com/2018/04/17/pending-disaster/>

“It’s terribly dangerous to assume that baseload power isn’t needed, or that natural gas can replace nuclear and coal-fired power plants, or that wind and solar with storage could do the same.”

#### **Coal and Oil Prevented US Blackouts This Winter**

By John Constable, GWPF, Apr 8, 2018

<https://www.thegwpf.com/coal-and-oil-prevented-us-blackouts-this-winter/>

#### **Reliability and the Oncoming Wave of Retiring Baseload Units, Volume I: The Critical Role of Thermal Units During Extreme Weather Events**

By Peter Balash, et al, National Energy Technology Laboratory, DOE, Mar 13, 2018

<https://www.netl.doe.gov/research/energy-analysis/search-publications/vuedetails?id=2594>

### ***Energy Issues – Non-US***

#### **The Weighting Game + a Preview of Energy Game Results**

By Euan Mearns, Energy Matters, Apr 20, 2018

<http://euanmearns.com/the-weighting-game-a-preview-of-energy-game-results/#more-21815>

#### **2018 Oil & Gas Projects To Break Even At \$44 Per Barrel**

By Irina Slav, Oil Price.com, Apr 5, 2018

<https://oilprice.com/Energy/General/2018-Oil-Gas-Projects-Break-Even-At-44-Per-Barrel.html>

## **Big electricity producers may be told to cut output as solar and wind power surges**

By Mark Dorman, Yahoo Finance, UK, Apr 11, 2018

<https://uk.finance.yahoo.com/news/big-electricity-producers-may-told-cut-output-solar-wind-power-surges-100029308.html>

“The National Grid – which oversees the UK’s electricity generation network – said growing supply from smaller wind and solar farms that bypass the grid would see demand fall.”

## **Canada’s Climate Change Policies Are Affecting Its Economy When it Comes to Resource Development**

Guest essay by Pat Reilly, WUWT, Apr 18, 2018

<https://wattsupwiththat.com/2018/04/18/canadas-climate-change-policies-are-affecting-its-economy-when-it-comes-to-resource-development/>

## **OPEC political crises threaten to double its million-barrel cut**

By Grant Smith, World Oil, Apr 11, 2018 [H/t Energy Matters]

<http://www.worldoil.com/news/2018/4/11/opec-political-crises-threaten-to-double-its-million-barrel-cut>

*[SEPP Comment; How long can the budgets of Russia and Saudi Arabia withstand cutbacks to keep the prices high?]*

## **India slashes plans for new nuclear reactors by two-thirds**

By Dan Yurman, Energy Post, Apr 16, 2018

<http://energypost.eu/17408-2/>

## **A not so dead stranded asset: India chooses more coal, cancels 57 nuclear plants.**

By Jo Nova, Her Blog, Apr 17, 2018

<http://joannenova.com.au/2018/04/a-not-so-dead-stranded-asset-india-chooses-more-coal-cancels-57-nuclear-plants/>

## ***Energy Issues – Australia***

### **Australian Green Front Cracks: Northern Territory Lifts Fracking Ban**

Guest essay by Eric Worrall, WUWT, Apr 17, 2018

<https://wattsupwiththat.com/2018/04/17/australian-green-front-cracks-northern-territory-lifts-fracking-ban/>

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

### **OPEC’s Output Fell in March, While U.S. Shale Steamed Ahead**

Surge in U.S. shale has eaten into OPEC’s total market share

By Christopher Alessi, WSJ, Via GWPF, Apr 20, 2018

<https://www.thegwpf.com/opecs-output-fell-in-march-while-u-s-shale-steamed-ahead/>

## **Proposed Power Plant Sparks Debate in New Jersey**

By Darrell Proctor, Power Mag, Apr 12, 2018

[http://www.powermag.com/proposed-power-plant-sparks-debate-in-new-jersey/?mkt\\_tok=eyJpIjoiWkRlJd05UQXpaalkxWVdRNCIsInQiOiJNTIRaaUN3cGFqbFpQejhWVFBPSjd0MzNHWHVIdDd0cXltYjVScVN2M1ZJb2U0aDR0T1ZhUkIXdVVFVURKM1JUejZRakY2SG1IU0tteWNDMmthZTNUTkZOSVlvSXhjYjFLTVRKMVNENmVzanlxZXIEc2tadG1OaW1BdkxiXC9CakUifQ%3D%3D](http://www.powermag.com/proposed-power-plant-sparks-debate-in-new-jersey/?mkt_tok=eyJpIjoiWkRlJd05UQXpaalkxWVdRNCIsInQiOiJNTIRaaUN3cGFqbFpQejhWVFBPSjd0MzNHWHVIdDd0cXltYjVScVN2M1ZJb2U0aDR0T1ZhUkIXdVVFVURKM1JUejZRakY2SG1IU0tteWNDMmthZTNUTkZOSVlvSXhjYjFLTVRKMVNENmVzanlxZXIEc2tadG1OaW1BdkxiXC9CakUifQ%3D%3D)

*[SEPP Comment: Doubtful if the governor of New York would allow a reliable power plant needed by NYC built in New York state.]*

### ***Washington's Control of Energy***

#### **Trump administration takes major step toward Alaska refuge drilling**

By Timothy Cama, The Hill, Apr 19, 2018

<http://thehill.com/policy/energy-environment/383910-trump-admin-kicks-off-major-step-toward-alaska-refuge-drilling>

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

#### **The End of Peak Oil**

By David Deming, American Thinker, Apr 14, 2018

[https://www.americanthinker.com/articles/2018/04/the\\_end\\_of\\_peak\\_oil.html](https://www.americanthinker.com/articles/2018/04/the_end_of_peak_oil.html)

“Oil and other fossil fuels will continue to be our primary energy sources through the end of this century because they offer four great advantages. Compared to renewables, fossil fuels are inexpensive, reliable, abundant, and concentrated.”

#### **Second shale revolution is on the horizon**

Data scientist calls for pooling data to help optimize production from Permian's shales

By Mella McEwen, Midland Reporter-Telegram, TX, Apr 16, 2018

<https://www.mrt.com/business/oil/article/Second-shale-revolution-is-on-the-horizon-12832892.php>

#### **US shale and Saudi reforms**

If shale industry expands as fast as it did since its inception in 2005 with nascent technology, US oil production may get doubled in a decade

By Razeen Mumtaz, Daily Times, Pakistan, Apr 13, 2018 [H/t GWPF]

<https://dailytimes.com.pk/227323/us-shale-and-saudi-reforms/>

#### **Australia Aims to Replicate US Shale Revolution**

By Staff Writers, Financial Times, Via GWPF, Apr 18, 2018

<https://www.thegwpf.com/australia-aims-to-replicate-us-shale-revolution/>

#### **China's shale output to almost double by 2020, Woodmac says**

By Mark Lammey, Energy Voice, Apr 17, 2018 [H/t GWPF]

<https://www.energyvoice.com/oilandgas/asia/169037/chinas-shale-output-to-almost-double-by-2020-woodmac-says/>

“In order to meet the government's 30-bcm target, up to 725 additional wells are needed by 2020 on top of the nearly 700 new wells.

#### **Predicting New Oil Field Discoveries: Institutional Realism over Simple Extrapolation**

By Michael Lynch, Master Resource, Apr 16, 2018

<https://www.masterresource.org/peak-oil-fixitydepletion/predicting-new-oil-field-discoveries/>

*[SEPP Comment: You can't be certain until you punch the hole.]*

### ***Nuclear Energy and Fears***

#### **No new nuclear units will be built in US due to high cost: Exelon official**

By Steven Dolley, Platts, Apr 12, 2018

<https://www.platts.com/latest-news/electric-power/washington/no-new-nuclear-units-will-be-built-in-us-due-26938511>

### ***Alternative, Green (“Clean”) Energy -- Other***

#### **Burning green pellets is ‘filthier than using coal’...and British consumers are subsidising the use of pellets in pursuit of Government green policies**

The idea is that power produced from ‘biomass’ is cleaner than using coal

But research suggests wood pellets actually create more carbon emissions

On top of that, British consumers are subsidising the use of these pellets

By Sean Poulter, Daily Mail, UK, Apr 15, 2018 [H/t Paul Homewood]

<http://www.dailymail.co.uk/news/article-5619215/Burning-green-pellets-filthier-using-coal.html>

“Household energy bills are increasing by an average of £23 this year to reflect the rising cost of switching to green energy, says industry regulator Ofgem.

“This takes the figure up to £135 on a typical household bill of £1,100 for a standard variable tariff.”

### ***Alternative, Green (“Clean”) Energy -- Storage***

#### **The seawater pumped hydro potential of the world**

By Roger Andrews, Energy Matters, Apr 18, 2018

<http://euanmearns.com/the-seawater-pumped-hydro-potential-of-the-world/#more-21818>

#### **New Study: Batter Storage “Not an Economic Prospect”**

By Staff Writers, GWPF, Apr 16, 2018

<https://www.thegwpf.com/new-study-battery-storage-not-an-economic-prospect/>

Link to report: Battery Wastage: Why battery storage for rooftop solar doesn’t pay

By Capell Aris, GWPF, 2018

<https://www.thegwpf.org/content/uploads/2018/04/Aris2018.pdf>

*[SEPP Comment: Note that the study applies to rooftop solar in the UK. Whether storage of rooftop solar in the US southwest would be economical is another issue.]*

#### **Study: Battery Storage Far Too Costly For Practical Use**

By Jason Hopkins, Daily Caller, Apr 16, 2018

<http://dailycaller.com/2018/04/16/battery-storage-costly-solar-energy/>

*[SEPP Comment: See link and comment immediately above.]*

### ***Carbon Schemes***

#### **Algae-forestry, bioenergy mix could help make CO2 vanish from thin air**

By Blaine Friedlander, Cornell U. Apr 12, 2018

<https://www.sciencedaily.com/releases/2018/04/180412154516.htm>

Link to paper: Integrating Algae with Bioenergy Carbon Capture and Storage (ABECCS)

Increases Sustainability

By Colin M. Beal, Ian Archibald, Mark E. Huntley, Charles H. Greene & Zackary I. Johnson, Earth’s Future, Feb 22, 2018

<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1002/2017EF000704>

“The system is economically viable when receiving \$600/t of algae and \$278/t of CO2 sequestered. With favorable economic conditions, ABECCS could contribute to the reduction of CO2 in the atmosphere in a sustainable way.”

#### **Aussie PM: Coal to Hydrogen Plant Part of the Seamless Transition to Clean Energy**

Guest essay by Eric Worrall, WUWT, Apr 13, 2018

<https://wattsupwiththat.com/2018/04/13/aussie-pm-coal-to-hydrogen-plant-part-of-the-seamless-transition-to-clean-energy/>

### ***California Dreaming***

#### **California's Petroleum Wars Costly in Dollars and Sense**

By Larry Bell, Newsmax, Apr 9, 2018

<https://www.newsmax.com/larrybell/caffe-epa-ipcc/2018/04/09/id/853341/>

### ***Environmental Industry***

#### **The double standards industry**

By Paul Driessen, Townhall, Apr 14, 2018

<https://townhall.com/columnists/pauldriessen/2018/04/14/the-double-standards-industry-n2470829>

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

#### **The Hubble Space Telescope finds an 'Einstein Ring'**

By Anthony Watts, WUWT, Apr 13, 2018

<https://wattsupwiththat.com/2018/04/13/the-hubble-space-telescope-finds-an-einstein-ring/>

#### **NASA: Previously Unknown Asteroid had a Near Miss with Earth today**

We dodged a bullet today. It came within one half of the distance to the moon.

By Anthony Watts, WUWT, Apr 15, 2018

<https://wattsupwiththat.com/2018/04/15/nasa-previously-unknown-asteroid-nearly-misses-earth-today/>

#### **NASA's World Tour of the Atmosphere Reveals Surprises Along the Way**

By Ellen Gray, NASA, Apr 17, 2018 [H/t Toshio Fujita]

<https://www.nasa.gov/feature/goddard/2018/nasas-world-tour-of-the-atmosphere-reveals-surprises-along-the-way>

#### **Scientists discover a link between superconductivity and the periodic table**

By Staff Writers, SPX, Apr 11, 2018 [H/t Toshio Fujita]

[http://www.energy-daily.com/reports/Scientists\\_discover\\_a\\_link\\_between\\_superconductivity\\_and\\_the\\_periodic\\_table\\_999.html](http://www.energy-daily.com/reports/Scientists_discover_a_link_between_superconductivity_and_the_periodic_table_999.html)

Link to paper: Actinium Hydrides AcH10, AcH12, and AcH16 as High-Temperature Conventional Superconductors

By Dmitrii V. Semenov, Alexander G. Kvashnin, Ivan A. Kruglov, and Artem R. Oganov, Journal of Physical Chemistry, Mar 28, 2018

<https://pubs.acs.org/doi/10.1021/acs.jpcclett.8b00615>

#### **New Bionic Arm Blurs Line Between Self and Machine for Wearers**

By Shelly Fan, Singularity Hub, Apr 4, 2018 [H/t Toshio Fujita]

<https://singularityhub.com/2018/04/04/new-bionic-arm-blurs-line-between-self-and-machine-for-wearers/#sm.0001csk8u8eu0dsgwo11rhn7aa8qf>

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**BELOW THE BOTTOM LINE:**

## **The world is no longer your...**

By Staff Writers, Climate Change Predictions.org, Apr 18, 2018  
<http://climatechangepredictions.org/uncategorized/9682>

“According to a recent Grist article, the acidification of the ocean is threatening the Pacific Northwest’s famed oyster industry.

“Since the Industrial Revolution, ocean acidity has increased 30%, and projections are saying it could be 150% more acidic by the end of the century.”

Prevention 12 Apr 2012 – 8 Weird ways climate change is ruining everything

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### **ARTICLES:**

#### **1. Does the Greenhouse Gas CO2 cool the climate?**

By S. Fred Singer, American Thinker, Apr 2, 2018

[https://www.americanthinker.com/articles/2018/03/does\\_the\\_greenhouse\\_gas\\_co2\\_cool\\_the\\_climate.html](https://www.americanthinker.com/articles/2018/03/does_the_greenhouse_gas_co2_cool_the_climate.html)

SUMMARY: Graphs and footnotes are found in the original linked above.]

Most would consider this an odd question and probably ignore it or just delete it. Not so fast, please, my friends! The answer to the question is important in understanding the puzzling ineffectiveness of the greenhouse gas (GHG) carbon dioxide (CO2) in warming the climate -- as seen in the 20th century record and as deduced from the existence of the widening gap between the model results based on rising CO2 and observations of atmospheric temperatures by both satellites and radiosondes

“Greenhouse gas” only means that CO2 absorbs some infrared (IR) radiation; it does not guarantee climate warming.

In fact, the outcome depends mostly on atmospheric structure, measured by balloon-borne radiosondes. It is expressed by the so-called atmospheric lapse rate (ALR), defined as change in atmospheric temperature with altitude. [ii] [Note that "lapse rate" has nothing to do with back-sliding alcoholics and smokers.]

Physicists who have examined our counter-intuitive hypothesis, all agree with the science -- albeit somewhat reluctantly. Such is the power of group-think that even experts, with some exception, find the idea that CO2 might cool the climate difficult to accept.

The ALR is generally negative in the troposphere[iii] as much as minus (-) 6.5-degree C per km of altitude. [The troposphere is the lowest atmospheric layer, from zero up to about 50,000-foot altitude.]

ALR goes through zero in the tropopause region, the layer that separates the troposphere from the overlying stratosphere. The ALR turns positive in the stratosphere, just above [see schematic nearby. [iv] [The warming of the stratosphere is produced by absorption of energy by stratospheric ozone.]

Adding a tiny increment of CO2 raises slightly the "effective" altitude for emitting Outgoing Long-wave (OLR), the Radiation (IR), going out to space from a CO2 molecule.

Because of the reversal in the atmospheric temperature structure, OLR is:

1. of lower energy than normal if the effective altitude remains in the troposphere; and
2. a bit higher than normal if this effective altitude is in the stratosphere.

In case 2., the stratospheric CO<sub>2</sub> emission "borrows" some energy from the surface emission -- hence "cooling" the surface.

### **Assumptions**

It is incumbent upon the proponent of a controversial hypothesis to find potential weak points -- and list crucial assumptions. To be sure, critics will soon enough find many more.

1. It seems safe to assume that CO<sub>2</sub> molecules, excited and de-excited by collisions with more abundant nitrogen and oxygen molecules, emit at the temperature of the surrounding atmosphere. [v]
2. We may also assume that CO<sub>2</sub> is well mixed with altitude, as inter-hemispheric mixing is nearly perfect.
3. But -- can we assume that energy balance is nearly perfect, even on very short time-scales? -- i.e. will OLR always exactly equal absorbed solar short-wave radiation? I think the answer is yes. The times involved are too short to permit energy to go into or come out of ice or ocean.
4. Most important, are CO<sub>2</sub> transitions strong enough to penetrate past the tropopause into the stratosphere? We can see evidence for this in the year-by-year increase of the amplitudes [near the center of the 15-micron CO<sub>2</sub> absorption band. This increase comes about because the stratospheric ALR is positive. To verify and extend this observation, we may use data from the AIRS satellite instrument. (AIRS is a satellite-borne IR spectrometer with ultra-high resolution in wave length.)

Once confirmed, the hypothesis can furnish additional explanation for the observed absence of CO<sub>2</sub> warming in the 20th century, [vi] and perhaps also for the cause of the puzzling observed warming pause ('hiatus') [vii] of at least the past two decades.

### **A typical reaction**

"That's a very nice theory. And, I think I can follow your argument. But, where is the predicted cooling?"

One can think of three possible answers:

1. First, the warming and cooling effects are very small; remember that the CO<sub>2</sub> effect becomes logarithmic, once CO<sub>2</sub> concentration exceeds roughly 60 ppm (parts per million). [The concentration is now 400 ppm, 0.04%, and growing].
2. Any cooling would be offset, at least partly, by molecular transitions that remain in the troposphere and cause climate warming in a conventional way.

3. Finally, there is climate noise that would hide any small warming or cooling. Climate noise is produced both naturally and by human sources. For example, changes in the weather may change global cloudiness and therefore incoming absorbed solar energy.

## Conclusion

A greenhouse gas produces cooling of the climate when its molecular transitions are in a region of positive lapse rate. One example is CO<sub>2</sub> and the stratosphere, where temperature increases with altitude. Another example is temperature over the winter poles [Happer – private communication; Flanner et al. GRL 2018].

While the climate cooling is not obvious, it counters [conventional] GH warming. This at-least-partial cancelation might explain the puzzling absence of CO<sub>2</sub>-based GH warming in the 20<sup>th</sup> century. [viii] It could also help explain the cause of the [hotly] contested climate ‘pause.’ [ix]  
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## 2. The ‘Swamp’ Needs a Justinian

Judges lack the expertise to review regulations. The sixth-century Roman emperor had a better idea.

By F.H. Buckley, WSJ, Apr 19, 2018

<https://www.wsj.com/articles/the-swamp-needs-a-justinian-1524178574>

SUMMARY: The foundation professor at Scalia Law School at George Mason University writes:

*“When Donald Trump promised during the campaign to drain the “swamp,” he was talking about the regulatory state—the morass of regulations and rulings by the administrative agencies that almost constitute a fourth branch of government. Measuring the economic cost of the swamp is hard, but the labor-force participation rate provides a clue. Only 62.9% of the prime-age U.S. labor force is at work, the second-lowest level among countries in the Organization for Economic Cooperation and Development. Canada is at 65.5%.*

*“Previous efforts to reduce the overregulation of the American economy have failed. The federal Office of Information and Regulatory Affairs requires that economically significant rules—those with a price tag north of \$100 million a year—undergo a cost-benefit analysis. But these analyses have become highly politicized, and in Democratic administrations the benefit always seems to exceed the cost. The process now resembles a one-way ratchet in which regulations expand in Democratic administrations and prove impossible to reverse in Republican ones.*

*“At the heart of the problem is the Administrative Procedure Act, which requires notice-and-comment review before any new regulation is adopted. The 1946 law was supposed to prevent a regulatory nightmare, but it’s actually made deregulation harder by slowing the process down. Mr. Trump issued an executive order directing federal agencies to find two rules to eliminate for every new rule proposed, but that can be done only by going through the notice-and-comment provisions of the APA. Each rollback must be separately justified, which takes time.”*

“After explaining that courts are ill-suited for reducing regulations and a brief history of Eastern Roman Emperor Justinian reduced the bloated laws of the state the attorney concludes:

*“Today we need another Justinian to sweep away a welter of rules so extensive and mind-numbingly detailed that no one can keep up with them. A modern regulatory-reform commission should be put to work. It should be composed of experts who are aware of the good and bad that regulations can do, and who are especially alert to the combined cost of rules that might seem sensible by themselves. The digest they propose should, on adoption by Congress, replace all existing rules and be exempted from APA review.*

*“Could such a commission cut regulations by 70%, as Mr. Trump proposed? Yes, and more so, if it corrects three of the swamp’s most persistent biases. First, the commission should abandon the regulator’s conceit that every little error deserves to be corrected by a rule. Second, it must recognize that we can’t anticipate and eliminate all future risks. Third, it should substitute general common-sense standards for detailed rules wherever possible.*

*“A regulatory reform commission that does these three things should have no trouble taking an ax to the code of federal regulations and to all of its handbooks and manuals.”*

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### **3. ‘Advice and Dissent’ Review: What They Don’t Teach in Econ 101**

Economists don’t drive Washington policy. Politicians use economics the way a drunk uses a lamppost—for support, not for illumination. Matthew Rees reviews “Advice and Dissent” by Alan S. Blinder.

By Matthew Rees, WSJ, Apr 17, 2018

<https://www.wsj.com/articles/advice-and-dissent-review-what-they-dont-teach-in-econ-101-1524004394>

SUMMARY: In reviewing the book by former member of Council of Economic Advisors under President Clinton and former vice-chair of the Federal Reserve, the senior fellow at Dartmouth’s Tuck School of Business begins:

*“Harry Truman captured the gulf between politicians and their economic advisers when, as president, he quipped that he needed a one-handed economist. Such a person, he reasoned, would give him unvarnished counsel and refrain from resorting to “on the one hand . . . on the other” answers. The gulf has only widened since the Truman years, which Alan Blinder sees as a worrying development. In “Advice and Dissent,” he diagnoses the problem and offers a range of remedies.*

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*Economics, of course, underpins much of the policy that gets formulated in Washington. It’s at the center of the debates over taxation, spending and regulation, and it plays a major role in the analysis that guides health care, finance, agriculture and energy. In such an environment, one might expect economists to be essential to the Beltway apparatus. But they’re not. Mr. Blinder cites what he calls the Lamppost Theory: ‘Politicians use economics the way a drunk uses a lamppost—for support, not for illumination.’”*

After stating Mr Blinder’s qualifications the reviewer continues:

*“‘Advice and Dissent,’ Mr. Blinder makes clear, is not a call for politicians to behave like economists. He’s forthright in recognizing that, with their emphasis on efficiency, economists are imperfect players in the political realm. And when they strive to meet the goal of being “on message,” they often do so with “an astonishing admixture of disdain, naiveté, and ineptitude.”*

*One can't help thinking of the MIT economist Jonathan Gruber, an Obama health-care consultant, who talked about 'the stupidity of the American voter.'*

*In politics, Mr. Blinder concedes, style often trumps substance, but politics isn't something to be disdained: "Policy wonks pursuing reform need lots of help from politicians." To give substance a chance, he says, economists and policy specialists need to change how they 'frame policy prescriptions.' When it comes to trade liberalization, for instance, he says that economists should focus on its value to 'producers'—businesses and their workers—rather than highlighting only consumer benefits."*

The reviewer comments on other examples given in this rather difficult to read book and concludes:

*"If economists ever do come to help politicians in the ways that Mr. Blinder hopes, they will assume, he observes, the status that John Maynard Keynes said they deserve, becoming 'humble, competent people, on a level with dentists.' Truman aside, they will still need two hands."*