The Week That Was: 2017-05-06 (May 6, 2017)
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The Science and Environmental Policy Project

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Quote of the Week. "*The grand aim of all science is to cover the greatest number of empirical facts by deductions from the smallest possible number of hypotheses."* – Albert Einstein

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Number of the Week: 79 to 1

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THIS WEEK:

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

Hard Center? Writing in the "Hard Center" publication Merion West, Richard Lindzen, Alfred P. Sloan Professor of Atmospheric Sciences, Emeritus, at Massachusetts Institute of Technology, presents a clear explanation of the major problems involved with blaming climate change on carbon dioxide emissions. He explores some of the memes used by the climate establishment, and its supporters. These are concepts frequently used and accepted by many people without logic or evidence. To Lindzen, these memes are evidence of the dishonesty of the alarmist position that carbon dioxide emissions are causing a climate catastrophe such as dangerous global warming.

Lindzen starts with the meme: 97% of scientists agree, which was exposed as a myth by Joseph Bast and Roy Spencer in the *Wall Street Journal*. Another mime is "warmest years on record," which covers many misconceptions. The prior warmest year, since about 1850 in the surface record, was 1998. A slight increase above that is immediately seized as evidence of dire global warming caused by carbon dioxide emissions, even though it cannot be felt by humans, given the enormous temperature range existing on the globe each day.

As Lindzen shows, from 1850 the "Globally Averaged Deviations from Average Temperatures Plotted on a Scale Relevant to the Individual Station Deviations" are remarkably stable over time. It is only by manipulating scales for visual impact, called "chartsmanship', that the change appears significant. When Lindzen adds the range of uncertainty in the measurements, the record is far from clear. The same applies to the influence of carbon dioxide (CO2).

Similarly, Lindzen demolishes other memes; including extreme weather, sea level rise, Arctic sea ice, polar bear endangerment, ocean acidification, and death of coral reefs. These memes lead those who are not sceptics to accept that CO2 causes global warming and that global warming is the cause of everything.

Lindzen demonstrates the foolishness of using Venus as the model for run-away CO2 warming. Venus is close to the sun and has dense sulfuric acid clouds. [He does not mention that the atmospheric pressure at the surface is over 90 times that of the earth, and that it has lapse rate, showing that temperature is related to atmospheric pressure.]

Lindzen's concluding paragraph bears quoting:

"I haven't spent much time on the details of the science, but there is one thing that should spark skepticism in any intelligent reader. The system we are looking at consists in two turbulent fluids interacting with each other. They are on a rotating planet that is differentially heated by the sun. A

vital constituent of the atmospheric component is water in the liquid, solid and vapor phases, and the changes in phase have vast energetic ramifications. The energy budget of this system involves the absorption and reemission of about 200 watts per square meter. Doubling CO2 involves a 2% perturbation to this budget. So, do minor changes in clouds and other features, and such changes are common. In this complex multifactor system, what is the likelihood of the climate (which, itself, consists in many variables and not just globally averaged temperature anomaly) is controlled by this 2% perturbation in a single variable? ***Believing this is pretty close to believing in magic. Instead, you are told that it is believing in 'science.' Such a claim should be a tip-off that something is amiss. After all, science is a mode of inquiry rather than a belief structure."*** [Boldface added.]

See link under Challenging the Orthodoxy.
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Paris Agreement: It appears that the Trump Administration may decide what to do about the Paris Agreement in the coming week or two.

As discussed in prior TWTWs, at the last minute the Obama administration revised the Paris Agreement to make it appear it was an executive agreement, not a treaty. To have US participation, all other participating nations signed the revised agreement, many after signing the original. There is an extensive history of US executive agreements with foreign powers. But, not one so binding onto the general population and the economy as is the Paris Agreement.

Writing in the *Wall Street Journal,* Robert Darwall presents a lucid argument why the Paris Agreement should be submitted to the Senate as a treaty, with a recommendation for disapproval. Then, it would be voted upon by the legislators, requiring a two-thirds approval. Based on many arguments for alternative approaches, this appears to be the most straight-forward and conclusive procedure – and may be the most politically astute. The Constitution treats treaties seriously, for they become binding laws of the US.

Other views are presented, including the lament by former EPA scientist Alan Carlin that the deficiencies in the science supporting the Paris Agreement are not being discussed. Based on the science, if implemented, the Agreement will really accomplish little or nothing in controlling, or moderating, the climate. Perhaps, if the evidence for the scientific basis were frankly discussed, more of the public would realize that for western nations, the Agreement is an economic version of Russian Roulette. See Article # 1 and links under Defending the Orthodoxy, After Paris!, and Change in US Administrations.
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Simplified Model -- Update: As stated by Richard Lindzen, above, the earth's climate system consists in two turbulent fluids interacting with each other on a rotating planet that is differentially heated by the sun. It is enormously complex to describe accurately, and extremely difficult to model with a reasonable degree of accuracy, within 2%. For over 35 years, global climate modelers have been trying the model the system, without much progress. Despite glowing reports from the UN Intergovernmental Panel on Climate Change (IPCC), and similar political organizations such as the US Global Change Research Program (USGCRP), the modeling fails to accurately track atmospheric temperatures, where the greenhouse effect occurs.

As discussed in last week's TWTW, independent researchers Wallace, Christy, & D'Aleo (WCD) have produced two reports, the second one published online in April. The authors contacted

TWTW to explain that the latest research effort was separate and distinct from the earlier research effort published online in August 2016.

Both research efforts tested the hypothesis of a Tropical Hot Spot and the validity of the EPA finding that CO2 emissions endanger public health and welfare. Both efforts used econometric simultaneous equation parameter estimation techniques. Both reports used the same Tropical, Contiguous U.S., and Global Temperature datasets as the dependent variable, temperatures. The balloon datasets start in 1959 and the satellite datasets start in 1979.

The primary distinction between the August 2016 report and the April 2017 report was an increase in the independent variables, the explanatory variables. The August report used only carbon dioxide (CO2) and the El Niño-Southern Oscillation (ENSO) as the explanatory variables. [NOAA's Multivariate ENSO Index (MEI) is used.] The subsequent April report add volcanic activity and solar activity as explanatory variables. Even though volcanoes are relatively short-lived, the cooling effect of heavy volcanic activity in the early part of the satellite record probably lowered temperatures for that period, giving a warming trend that falsely may be attributed to CO2.

Both reports show that at least 75% of temperature variability since 1959 can be explained without any increasing CO2 as an explanatory variable. These results contradict the findings of the IPCC, the USGCRP, the EPA, etc. claiming that the primary cause of global warming or temperature change is CO2.

Importantly, the simultaneous equation parameter estimation techniques produce useful information for policy decisions without need for understanding of the complex climate processes involved. The detailed understanding is desirable. But, the US spent decades and over $40 billion on climate science without any significant improvement in stated climate modeling results. Policy decisions should be based on what is demonstrated, not based on a promise of what may come. See links under Challenging the Orthodoxy.
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Physical Limits and Technical Limits: In high school mathematics, many students learned about asymptotes – as a curve approaches a limit (usually shown by a straight line) the curve tends to infinity. For example, graphed on Cartesian coordinates, the function f(x) = 1/x becomes asymptotic as the values of x approach the x and y axes.

In the first of a series of podcasts (with text) on energy, Manhattan Institute Senior Fellow Mark Mills describes why he believes "Shale Crushes Solar." Solar and wind power are approaching their physical limits of efficiency – asymptotic limits. Solar panels and turbines can be made only so efficient. Short-term reduction in manufacturing costs are illusionary in that there is no significant growth in efficiency to be achieved, unless breakthroughs in the process of generating electricity from solar and wind happen.

By contrast, Mills asserts that we are experiencing the beginnings of major technological breakthrough in the production of oil and gas from shale. These advances are coming from small and medium companies in the oil and gas industries scarcely known ten years ago. In a few months, the companies recovered from an oil price collapse and are roaring forward. The firms are just starting to apply the technical knowledge of the digital industry. At this point, there are no physical limits or constraints, except that which may be invented by politicians.

In the second podcast, Mills discusses demand (or consumption) and has some surprising views as well. The primary increase in future electricity demand will not be from electric vehicles, but from the Information Technology (IT) industry. It takes enormous amounts of electricity to manufacture and operate electronic devices, such as cell phones. IT uses more energy that all air transportation. Today, if IT were ranked as country, in total consumption it would be ranked as number three in the world, behind China and the US. The number of electronic devices is growing enormously, and will continue to grow into the foreseeable future. See links under Energy Issues – Non-US

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Grid Storage: According to energy engineer Donn Dears, the California frim Pacific Gas & Electric reported on an 18-month trial of electricity storage on the grid encompassing 6 MW of storage at two sites. "The specific storage hardware examined was sodium-sulfur batteries, which are at the high end of the technology maturity scale and the low end of the cost spread for storage options of similar performance, having been used at utility scale in several nations for 25 years." A 2MW/14MWh sodium-sulfur battery storage array cost approximately $11 million ($5,500/kW, $783/kWh) to build.

Dears estimated that the costs must come down to $200 / KW to achieve break-even. This is 27 times below the costs of the trial. Further the actual battery life is about 10 years and the storage capacity must be 30 minutes, not 15 minutes used in the PG&E study. Dears had other issues with the study. Even a report of the trial concluded:

- "California ratepayers could expect to pay billions of dollars for the deployment and operations of these resources."
- "There has been no breakthrough in electricity storage technology that delivers all the requisite features of high energy density, high power, long life, high roundtrip efficiency, safe handling, and competitive cost."
- "Clearly, batteries of any type are not a viable method for storing electricity. They are not a substitute for fossil fuel power plants."

Things are not promising for Californians who enjoy their electronic devises, unless they build gas-fired power plants to back up the solar and wind power facilities being installed. Then, why not just forget the solar and wind? See link under Energy Issues -- US

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Political Arrogance - Australia: Writing in *Energy Matters*, Roger Andrews presented several posts on the failure of the grid in South Australia, predominantly from the failure of wind farms. This week he wrote:

"Adequate energy storage is critical to the success of the proposed global transition to a low-carbon future based on intermittent renewables generation, and work done by Energy Matters and others shows that very large amounts of storage will be needed to smooth out intermittent power delivery to the point where it can be readily admitted to the grid. Yet the CSIRO and Energy Networks Australia have now concluded that Australian grids can easily admit up to 50% renewable generation without adding any more backup storage at all – and this despite the recent blackouts in South Australia. How do they arrive at this remarkable conclusion?"

CSIRO is the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the federal government agency for scientific research in Australia. See Links under Energy Issues – Australia

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Number of the Week: 79 to 1: Much has been made in the press about the number of Americans employed in the solar industry. According to the *New York Times* "Today's Energy Jobs Are in Solar, Not Coal." In 2016, the solar industry employed 373,807 Americans, coal 160,119 and wind about 100,000. Perry produced Department of Energy statistics that showed coal industry produced 1.24 billion MWh of electricity or 7,745 per worker; while Solar produced 36.75 million MWh of electricity, or 98 per worker. Thus, it takes 79 workers in solar to produce that of 1 worker in coal.

Of course, such comparisons have errors. Many of the solar workers are installing facilities, while many of the coal workers are using existing facilities. Conversely, coal-fired power plants are reliable, solar facilities are not. In part, the disparity explains why solar generation is so expensive to utilities and the consumer as compared to coal generation. See link under Energy Issues – US.

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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 five past recipients, Lisa Jackson, Barack Obama, John Kerry, Ernest Moniz and John Holdren 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:

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

Challenging the Orthodoxy
Thoughts on the Public Discourse over Climate Change
By Richard Lindzen, Merion West, Apr 25, 2017
http://merionwest.com/2017/04/25/richard-lindzen-thoughts-on-the-public-discourse-over-climate-change/

Invalidating the EPA's CO2 Endangerment Finding
By Staff Writers, ICECAP, Apr 24, 2017
http://icecap.us/index.php/go/political-climate/on_the_existence_of_a_tropical_hot_spot_the_validity_of_epas_co2_endangerme/
Link to Abridged Report: On the Existence of a "Tropical Hot Spot" & The Validity of EPA's CO2Endangerment Finding
By Wallace, Christy, & D'Aleo, April 2017
https://thsresearch.files.wordpress.com/2017/04/ef-data-research-report-second-editionfinal041717-1.pdf

U.S. House Committee on Science, Space & Technology
Testimony of John R. Christy, Mar 29, 2017
https://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-115-SY-WState-JChristy-20170329.pdf

Marches for Science Vs Actual Science
By John Hinderaker, Power Line, May 1, 2017
http://www.powerlineblog.com/archives/2017/05/marches-for-science-vs-actual-science-2.php
[SEPP Comment: Discusses the paper by Wallace, Christy, and D'Aleo.]

New Study Confirms: The Warming 'Pause' Is Real and Revealing
By David Whitehouse, GWPF, May 4, 2017
http://www.thegwpf.com/new-study-confirms-the-warming-pause-is-real-and-revealing/
Link to paper: Reconciling controversies about the 'global warming hiatus'
By Medhaug, Stoipe, Fischer & Knutti, Nature, May 3, 2017
https://www.nature.com/nature/journal/v545/n7652/full/nature22315.html
*[SEPP Comment: The abstract starts: Between about 1998 and 2012, a time that coincided with political negotiations for **preventing climate change**, the surface of Earth seemed hardly to warm. [Boldface added:] Will stopping CO2 emissions stop climate change, which has been ongoing for hundreds of millions of years?]*

Back to Climate Science: Obama's EPA 'Endangerment' Finding Under Legal Review
(TPPF plays offense re the green greenhouse gas)
By Robert Bradley Jr., Master Resource, May 4, 2017
https://www.masterresource.org/climate-benefits-agw/tppf-endangerment-finding/
Link to petition by Texas Public Policy Foundation

Liberty v. Environmental Protection Agency Petition, May 2, 2017
https://www.texaspolicy.com/library/doclib/Liberty-v.-EPA-Petition.pdf (full)
https://www.texaspolicy.com/cases/detail/liberty-v-environmental-protection-agency-petition-2 (abstract)

Defending the Orthodoxy

U.S. will lose jobs if it quits Paris climate deal: U.N.
By Tom Miles, Reuters, May 4, 2017
http://www.reuters.com/article/us-usa-climatechange-un-idUSKBN1802H3?
"The United States will shoot itself in the foot if it quits the Paris climate accord because China, India and Europe will snap up the best power sector jobs in future, U.N. Environment chief Erik Solheim said on Thursday."
[SEPP Comment: The green revolution heavily depends on subsidies and mandates. Why are subsidized green jobs the best?]

Why India and Pakistan Are Renewing Their Love Affair with Coal
One nation is shirking emissions targets and the other is investing in more coal plants—but with America as a role model, that's hardly surprising.
By Jamie Condiffe, MIT Technology Review, May 3, 2017
https://www.technologyreview.com/s/604323/india-and-pakistans-continued-love-affair-with-coal/
"If the supposed leader of the free world doesn't think that drastic emissions reduction is a priority, why should India and Pakistan—or any country that believes burning more fossil fuels will enhance economic growth?"
[SEPP Comment: For the sake of the poor in South Asia, should the wealthy US be a role model? In the 1870s in the US, fossil fuels superseded wood and muscle power as the primary energy sources. Should the US go back to the days of smoky fires and horse manure?]

Questioning the Orthodoxy

There Has Been No 'Global' Warming In The Southern Hemisphere, Equatorial Regions
By Kenneth Richard, No Tricks Zone, May 4, 2017
http://notrickszone.com/2017/05/04/there-has-been-no-man-made-global-warming-in-the-southern-hemisphere-equatorial-regions/#sthash.acV96vDe.dpbs

Giving Nature's "Hiatus" Paper a Closer Read
By Patrick Michaels, CATO, May 5, 2017
https://www.cato.org/blog/giving-natures-hiatus-paper-closer-read
Link to paper: Reconciling controversies about the 'global warming hiatus'
By Medhaug, Stolpe, Fischer & Knutti, Nature, May 4, 2017
https://www.nature.com/nature/journal/v545/n7652/full/nature22315.html
[SEPP Comment: Did Nature respond to negotiations for the Paris Agreement?]

IUCN Specialist Group now rejects polar bear numbers it used for 2015 IUCN Red List review
By Susan Crockford, Polar Bear Science, May 1, 2017
https://polarbearscience.com/2017/05/01/iucn-specialist-group-now-rejects-polar-bear-numbers-it-used-for-2015-iucn-red-list-review/

After Paris!

The Strange Absence of Science in the Paris "Treaty" Discussion
By Alan Carlin, Carlin Economics and Science, May 5, 2017
http://www.carlineconomics.com/archives/3571
[SEPP Comment: Would a discussion of the science may bring up an awkward question as to the purpose: Is it to play an economic version of Russian Roulette?]

The Legal and Economic Case Against the Paris Climate Treaty
Canceling U.S. Participation Protects Competitiveness and the Constitution
By Christopher C. Horner, Marlo Lewis, Jr., CEI, May 3, 2017
https://cei.org/content/legal-and-economic-case-against-paris-climate-treaty

Architect Of Paris Agreement Undercuts Arguments In Favor Of The Climate Deal
By Michael Bastasch, Daily Caller, May 4, 2017
http://dailycaller.com/2017/05/04/architect-of-paris-agreement-undercuts-arguments-in-favor-of-the-climate-deal/
[SEPP Comment: This key issue is can a country reduce its pledges to cut back CO2 emissions. It can always intensify them.]

India Admits It Will Miss Coal Emissions Targets
By Staff Writers, Financial Times, May 3, 2017
http://www.thegwpf.com/india-admits-it-will-miss-coal-emissions-targets/
"India is not a polluter. It's America and the western world that has to first stop polluting. India is doing its bit far more than we are responsible" he said. "We don't have enough domestic capacity to meet this requirement in such a short period." [Piyush Goyal, the power minister]

Inside the Coal Industry's Split Over The Paris Agreement
By Michael Bastasch, Daily Caller, May 2, 2017
http://dailycaller.com/2017/05/02/inside-the-coal-industrys-split-over-the-paris-agreement/
[SEPP Comment: It depends on the individual company's involvement in other mining activities.]

Change in US Administrations

Pull out of Paris climate deal, energy group tells Trump
The president said shortly after the November election he had an "open mind" on the multilateral agreement.
By Daniel Graeber, UPI, May 1, 2017 [H/t GWPF]
http://www.upi.com/Pull-out-of-Paris-climate-deal-energy-group-tells-Trump/6591493635790/

Critics increase pressure on Paris climate deal as Trump mulls exit
By John Siciliano, Washington Examiner, May 3, 2017
http://www.washingtonexaminer.com/critics-increase-pressure-on-paris-climate-deal-as-trump-mulls-exit/article/2622033

EPA chief: US needs coal to protect electric grid
By Timothy Cama, The Hill, May 3, 2017
http://thehill.com/policy/energy-environment/331819-epa-chief-us-needs-coal-to-protect-electric-grid

Seeking a Common Ground

Getting things in the right perspective

By Martin Livermore, The Scientific Alliance, May 5, 2017
http://scientific-alliance.org/node/1047
[SEPP Comment: What will happen with Brexit and the UK elections?]

Bret Stephens' skepticism will spread from NYT to other mainstream sources
By Luboš Motl, The Reference Frame, Apr 29, 2017
http://motls.blogspot.com/2017/04/bret-stephens-skepticism-will-spread.html

Review of Recent Scientific Articles by CO2 Science
The Impacts of Urban Heat Islands on Natural Warming Trends
Quereda, J., Monton, E., Quereda, V. and Molla, B. 2016. Significant Climate Warming (1950-2013) in the Spanish Mediterranean: Natural Trend or Urban Heat Island (UHI). *Tethys* **13**: 11-20. May 5, 2017
http://www.co2science.org/articles/V20/may/a4.php
"And so they conclude by stating that 'in these Western Mediterranean cities, the Urban Heat Island could account for up to 80% of the recorded warming.'"

Trends in U.S. Mangrove Area Over the Past 35 years
Giri, C. and Long, J. 2016. Is the geographic range of mangrove forests in the conterminous United States really expanding? *Sensors* **16**: doi:10.3390/s16122010. May 4, 2017
http://www.co2science.org/articles/V20/may/a3.php
[SEPP Comment: After a decline, improving.]

The Increasing Sea Ice of the Southern Ocean (1992-2008)
He, L.Y., Ke., C.Q., Zhou, X., Cui, Y.N. and Shan, L. 2016. Antarctic sea ice change based on a new sea ice dataset from 1992 to 2008. *Climate Research* **71**: 155-169. May 2, 2017
http://www.co2science.org/articles/V20/may/a1.php

Measurement Issues -- Surface
Global Temperatures Plunge 0.5 deg Celsius in April
By Staff Writers, GWPF, Apr 29, 2017
http://www.thegwpf.com/global-temperatures-plunge-0-5-celsius-in-april/

Global temperatures plunge in April – "the pause" returns
By Anthony Watts, WUWT, May 1, 2017
https://wattsupwiththat.com/2017/05/01/global-temperatures-plunge-in-april-the-pause-returns/

Measurement Issues -- Atmosphere
UAH Global Temperature Update for April, 2017: +0.27 deg. C
By Roy Spencer, His Blog, May 1, 2017
http://www.drroyspencer.com/2017/05/uah-global-temperature-update-for-april-2017-0-27-deg-c/

Changing Weather
Colorado Climate March Postponed Due to Heavy Snow
Guest essay by Eric Worrall, WUWT, May 1, 2017
https://wattsupwiththat.com/2017/05/01/colorado-climate-march-postponed-due-to-heavy-snow/

Changing Climate
Scientists Explore Groundwater in the Sahel with Nuclear Technology

By Laura Gil, IAEA, May 2, 2017
https://www.iaea.org/newscenter/news/scientists-explore-groundwater-in-the-sahel-with-nuclear-technology
[SEPP Comment: Though not discussed, the age of the water would be interesting to determine past rainfall patterns in the Sahel and the Sahara, which may be related to changes in the Atlantic meridional overturning circulation (AMOC). The latest wet phase was known as the African Humid Period (early Holocene).]

Wet phases in the Sahara/Sahel region and human migration patterns in North Africa
By Isla S. Castañeda, et al. PNAS, **Nov 12, 2009**
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2776605/

Changing Cryosphere – Land / Sea Ice
Evolution of Arctic Sea Ice in the Pre- and Post-Satellite Era
By Ronan Connolly, Michael Connolly & Willie Soon, Journal Hydrological Sciences, Via GWPF, April 2017
http://www.thegwpf.com/evolution-of-arctic-sea-ice-in-the-pre-and-post-satellite-era/
Accepted author version:

What The Economist Didn't Tell You about Greenland's Ice
By Patrick Michaels, CATO, May 2, 2017
https://www.cato.org/blog/what-economist-didnt-tell-you-about-greenlands-ice
[SEPP Comment: What appears initially appears as significant ice lose, when put into context, becomes insignificant.]

Alarmists Gone Wild: Greenland losing 400 cubic km ice cubes per year!!!
Guest post by David Middleton, WUWT, May 1, 2017
https://wattsupwiththat.com/2017/05/01/alarmists-gone-wild-greenland-losing-400-1-cubic-km-ice-cubes-per-year/
[SEPP Comment: Putting Greenland ice loss in perspective.]

Global Science Report: Antarctic Updates
By Patrick Michaels, CATO, May 1, 2017
https://www.cato.org/blog/global-science-report-antarctic-updates
[SEPP Comment: Problems in measurements of Antarctic sea ice since April 2016?]

Antarctic Peninsula ice more stable than thought
Press Release, By Staff Writers, University of Leeds, May 2, 2017
https://www.eurekalert.org/pub_releases/2017-05/uol-api042817.php
Link to paper: Increased ice flow in Western Palmer Land linked to ocean melting
By Anna Hogg, et al. Geophysical Research Letters, May 2, 2017
http://onlinelibrary.wiley.com/doi/10.1002/2016GL072110/full

Changing Earth
What will El Niño be like in the future? For answers, scientists look to the past
Caribbean ocean temperatures preserved in 5-million-year-old corals provide clues
By Staff Writers, NSF, May 1, 2017
https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=191746&WT.mc_id=USNSF_1

[SEPP Comment: Comparing today and 5 million years ago, before closure of the Caribbean seaway, misses the important point: As the earth warmed and cooled over the past 3.5 million years, did the patterns of El Niños change?]

Un-Science or Non-Science?

Inconvenient study concludes: warmer temperatures lead to a more stable climate
By Anthony Watts, WUWT, May 2, 2017
https://wattsupwiththat.com/2017/05/02/inconvenient-study-concludes-warmer-temperatures-lead-to-a-more-stable-climate/
Link to paper: State dependence of climatic instability over the past 720,000 years from Antarctic ice cores and climate modeling
By Dome Fuji Ice Core Project Members, Kenji Kawamura, Ayako Abe-Ouchi, Hideaki Motoyama1, Science Advances, Feb 8, 2017
http://advances.sciencemag.org/content/3/2/e1600446.full
[SEPP Comment: Used model simulations in an attempt to answer a key question: Why does the most instability occur when there is an intermediate climate during a glacial period, rather than during an interglacial period, such as we are currently experiencing, or during the coldest part of a glacial period?]

Lowering Standards

Today in the Annals of Science
By Steven Hayward, Power Line, May 4, 2017
http://www.powerlineblog.com/archives/2017/05/today-in-the-annals-of-science.php
Controversial microplastics study to be retracted
"The authors of a high-profile paper about the dangers of fish consuming small particles of plastic say that they will retract their study, after an investigation found them 'guilty of scientific dishonesty' and raised the possibility that some of the research described 'was not conducted'."

ABC pushing "suppressed scientists" story but misses that CSIRO won't even employ a skeptic
By Jo Nova, Her Blog May 2, 2017
http://joannenova.com.au/2017/05/abc-pushing-suppressed-scientists-story-but-misses-that-csiro-wont-even-employ-a-skeptic/

Climate Change, Tornadoes and Junk Science at Michigan State!
By Paul Homewood, Not a Lot of People Know That, May 5, 2017
https://notalotofpeopleknowthat.wordpress.com/2017/05/05/climate-change-tornadoes-and-junk-science-at-michigan-state/

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

Rising carbon dioxide levels, ocean acidity may change crucial marine process
By Staff Writers, Tallahassee FL (SPX), May 01, 2017
http://www.terradaily.com/reports/Rising_carbon_dioxide_levels_ocean_acidity_may_change_crucial_marine_process_999.html

Communicating Better to the Public – Go Personal.

NYT subscribers dropping paper over climate column
By Staff Writers, CNN, Apr 30, 2017 [H/t Cork Hayden]
http://www.abc15.com/news/national/nyt-subscribers-dropping-paper-over-climate-column

Questioning European Green

Uncontrolled Infusion Of Green Electricity Leads To Record-Breaking NEGATIVE Power Prices
By P Gosselin, No Tricks Zone, May 3, 2017
http://notrickszone.com/2017/05/03/uncontrolled-infusion-of-green-electricity-leads-to-record-breaking-negative-power-prices/#sthash.CvISclxz.dpbs

Extreme Market Distortion: German Power Prices Could Be Negative 1000 Hours A Year!
By P Gosselin, No Tricks Zone, May 5, 2017
http://notrickszone.com/2017/05/05/extreme-market-distortion-german-power-prices-could-be-negative-1000-hours-a-year/#sthash.5oT4M4R6.dpbs
Early this year Germany's federal budget office determined that "the Ministry of Economics had in fact no overview of the financial impacts of the Energiewende" and that policymakers had "underestimated the impacts of renewable energy on the entire energy system"

Europe's Trend Of CO2 Reductions Seems To Have Stopped
By Paul Homewood, Not a Lot of People Know That, May 5, 2017
https://notalotofpeopleknowthat.wordpress.com/2017/05/05/europes-trend-of-co2-reductions-seems-to-have-stopped/
[SEPP Comment: At least briefly.]

Numbers don't lie: Germany's Energiewende has had zero impact on emissions – at best
Guest essay by Alberto Z. Comendador, WUWT, May 2, 2017
https://wattsupwiththat.com/2017/05/02/numbers-dont-lie-germanys-energiewende-has-had-zero-impact-on-emissions-at-best/

Subsidies and Mandates Forever

Spain Is a Case Study in How Not to Foster Renewables
Spain's green energy lobby says government actions show a lack of planning that's disincentivizing developers.
By Jason Deign, GTM, May 5, 2017
https://www.greentechmedia.com/articles/read/spain-is-a-case-study-in-how-not-to-foster-renewables?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+GreentechMedia+%28Greentech+Media%29
[SEPP Comment: If cutting subsidies destroys the industry, why have the industry and the subsidies at all?]

Energy Issues – Non-US

Energy Revolutions Hidden In Plain Sight: Part 1 of 3 -- Shale Crushes Solar
By Mark Mills, Real Clear Energy, Apr 26, 2017
http://www.realclearenergy.org/articles/2017/04/26/energy_revolutions_hidden_in_plain_sight_part_1_of_3_--_shale_crushes_solar_110215.html
Podcast

Energy Revolutions Hidden In Plain Sight: Part 2 of 3: Demand – The Cloud Crushes Electric Cars
By Mark Mills, Real Clear Energy, May 3, 2017

http://www.realclearenergy.org/articles/2017/05/03/energy_revolutions_hidden_in_plain_sight_part_2_of_3_demand__the_cloud_crushes_electric_cars_110219.html
Podcase
Link to Greenpeace report: Clicking Clean: Who Is Winning the Race to Build a Green Internet?
http://www.greenpeace.org/usa/global-warming/click-clean/

Pemex seeks investors for its refineries, but who's buying?
By Jessica Resnick-Ault and David Alire Garcia, Reuters, May 5, 2017
https://finance.yahoo.com/news/pemex-seeks-investors-refineries-whos-110000961.html
"Today Mexico imports more than 60 percent of its refined gasoline and diesel from the United States, while its own refineries operate at about half capacity."

Energy Issues – Australia
Blowout Week 174
By Roger Andrews, Energy Matters, Apr 29, 2017
http://euanmearns.com/blowout-week-174/#more-18154

Energy Issues – US
Today's most productive energy workers are in coal and gas, not solar
By Mark Perry, Washington Examiner, May 5, 2017
http://www.washingtonexaminer.com/todays-most-productive-energy-workers-are-in-coal-and-gas-not-solar/article/2622029

PG&E Storage Appraisal
By Donn Dears, Power For USA, May 2, 2017
http://www.powerforusa.com/2017/05/05/bev-charging-basics/

Washington's Control of Energy
Energy Projects Worth $50 Billion Are Stalled Until Trump Fills Empty Posts
By Catherine Traywick, Bloomberg, May 5, 2017
https://www.bloomberg.com/news/articles/2017-05-05/trump-s-delay-stalls-50-billion-of-energy-projects-in-pipeline

Oil and Natural Gas – the Future or the Past?
10 Titans of Liquefied Natural Gas
By Anmar Frangoul, CNPC, May 2, 2017
http://www.cnbc.com/2017/05/02/10-titans-of-liquefied-natural-gas.html?slide=1
Exports in million tonnes (MT) and percentage market share of an estimated 260 MT market.
Data from IGU and HIS Markeit
Qatar, 77.2 MT, 29.9% market share
Australia: 44.3 MT, 17.2% market share
Malaysia: 25 MT, 9.7% market share
Nigeria: 18.6 MT, 7.2% market share
Indonesia: 16.6 MT, 6.4% market share
Algeria: 11.5 MT, 4.5% market share
Russia: 10.8 MT, 4.2% market share
Trinidad: 10.6 MT, 4.1% market share
Oman: 8.1 MT, 3.2 market share
Papua New Guinea: 7.4 MT, 2.9% market share

Return of King Coal?

China's coal-fired power generation surprises naysayers
By Staff Writers, Platts, May 2, 2017 [H/t GWPF]
http://blogs.platts.com/2017/05/02/china-coal-fired-power-generation-surprises-naysayers/

Chinese firms to invest $15bn in Pakistani coal-fired power
By Diarmaid Williams, Power Engineering International, May 3, 2017
http://www.powerengineeringint.com/articles/2017/05/chinese-firms-to-invest-15bn-in-pakistani-coal-fired-power.html

Nuclear Energy and Fears

Small modular reactor possibilities expand
By Kevin Trevelyan, Post Register, Idaho Falls, May 4, 2017
http://www.postregister.com/articles/featured-news-daily-email/2017/05/04/small-modular-reactor-possibilities-expand#

Alternative, Green ("Clean") Solar and Wind

No, country X did NOT just run entirely on wind.
There's a lot of misleading information about renewable energy. Take for example this news article (and there's a lot more):
By Olivier Corradi, Tomorrow, May 3, 3027
https://blog.tmrow.co/no-country-x-did-not-just-run-entirely-on-wind-bcca72c3e69b

El Hierro April 2017 performance update
By Roger Andrews, Energy Matters, May 4, 2017
http://euanmearns.com/el-hierro-april-2017-performance-update/#more-18175
"As at the end of April renewable energy from GdV had supplied 38.1% of El Hierro's electricity demand and 8.8% of its total energy consumption since project startup in June 2015. Undeterred by these results, however, GdV has just called for bids to install seven EV charging stations 'as one of the initial steps of a project for the massive implantation of electric vehicles on (El Hierro)'. Maybe they know something we don't."

Wind energy: Offering grid reliability, security and diversity
By Tom Kiernan, CEO of the American Wind Energy Association, Washington Times, May 1, 2017
http://www.washingtontimes.com/news/2017/may/1/wind-energy-offering-grid-reliability-security-and/
"Strong national security and a healthy economy share a basic component: access to reliable, affordable energy.
"Wind power delivers this by making the grid and America's electricity mix more diverse, secure, and — now that turbines have scaled up across 41 states — more reliable too."

Utility-scale solar has grown rapidly over the past five years
By Manussawee Sukunta, EIA, May 4, 2017
https://www.eia.gov/todayinenergy/detail.php?id=31072
"Utility-scale solar generation has been increasing as a result of the rapid growth in capacity; however, solar's share of utility-scale electricity generation is 0.9%, about half of its share of

capacity. Most solar generators are considered an intermittent or non-dispatchable resource because their availability depends on ambient insolation (exposure to the sun)."
[SEPP Comment: According to a graph, output ranges from about 15% of capacity in the winter to 35% in peak summer. The top three states are California (9.8 GW of capacity), North Carolina (2.5 GW), and Arizona (1.9 GW) of a total of 21.5 GW. Why so much solar in North Carolina?

SolarCity's solar installations crash nearly 40%
By Nichola Groom, Reuters, May 4, 2017
http://uk.businessinsider.com/solarcitys-solar-installations-crash-nearly-40-2017-5?r=US&IR=T

Energy & Environmental Newsletter: May 1, 2017
By John Droz, Jr., Master Resource, May 1, 2017
https://www.masterresource.org/alliance-for-wise-energy-decisions/energy-environmental-newsletter-may-1-2017/

Alternative, Green ("Clean") Vehicles

BEV Charging Basics
By Donn Dears, Power For USA, May 5, 2017
http://www.powerforusa.com/2017/05/05/bev-charging-basics/

Other News that May Be of Interest

New paper claims humans were in California 130,000 years ago
Many believe the evidence is not conclusive enough to back up such a significant claim.
By Brooks Hays, UPI, Apr 27, 2017 [H/t Toshio Fujita]
http://www.upi.com/Science_News/2017/04/27/New-paper-claims-humans-were-in-California-130000-years-ago/8731493314246/

Where oil rigs go to die
When a drilling platform is scheduled for destruction, it must go on a thousand-mile final journey to the breaker's yard. As one rig proved when it crashed on to the rocks of a remote Scottish island, this is always a risky business
The Long Read by Tom Lamont, The Guardian, UK, May 2, 2017
https://www.theguardian.com/business/2017/may/02/where-oil-rigs-go-to-die

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BELOW THE BOTTOM LINE:

Kites May Be Wind Power Solution
By Michael Abrams, ASME, May 2017 [H/t Toshio Fujita]
https://www.asme.org/engineering-topics/articles/energy/kites-may-wind-power-solution
[SEPP Comment: What happens to a multi-ton turbine aloft when the wind fails?]

Warning of fracking threat to whisky industry
By Graeme Murray, The Scotsman, Apr 26, 2017
http://www.scotsman.com/lifestyle/warning-of-fracking-threat-to-whisky-industry-1-4430389

Giant gun to solve global warming!
By Staff Writers, Climate Change Predictions.org, May 1, 2017
http://climatechangepredictions.org/uncategorized/8093
"Scientists claim they can fight global warming by firing trillions of mirrors into space to deflect the sun's rays forming a 100,000 square mile "sun shade".

According to astronomer Dr Roger Angel, at the University of Arizona, the trillions of mirrors would have to be fired one million miles above the earth using a huge cannon with a barrel of 0.6 miles across. The gun would pack 100 times the power of conventional weapons and need an exclusion zone of several miles before being fired.
Dr Angel has already secured NASA funding for a pilot project and British inventor Tod Todeschini, 38, was commissioned to build a scaled-down version of the gun. He constructed the four-metre long cannon in his workshop in Sandlake, Oxfordshire, for a TV documentary investigating the sun shield theory.
He said: 'The gun was horrendously dangerous. This was the first gun I'd ever built.'"
The Telegraph, 26 Feb 2009

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ARTICLES:

1. We'll Always Have Paris, Unless the Senate Has Its Say

Is the climate accord binding even without Congress's approval? Why risk finding out?
By Robert Darwall, WSJ, May 4, 2017
https://www.wsj.com/articles/well-always-have-paris-unless-the-senate-has-its-say-1493939314

The author of "The Age of Global Warming: A History" (2013) writers:

"Expect some clarity soon on America's future participation in the Paris Agreement on climate. Several cabinet members, including Secretary of State Rex Tillerson and Defense Secretary Jim Mattis, want to stay in, but at a rally in Pennsylvania Saturday, President Trump called Paris a one-sided deal that would shrink the economy by $2.5 trillion over 10 years.

"According to reports this week, Mr. Trump is leaning toward withdrawal, but aides warn that he could face trouble in U.S. courts if he fails to uphold the Obama administration's commitments under Paris. But there is a third approach—submitting the agreement to the Senate for ratification.

"Some advocates of staying in argue that America's moral and political commitment under the agreement is not legally binding because the accord doesn't have an enforcement mechanism. But neither the North Atlantic Treaty nor the 1992 U.N. Framework Convention on Climate Change has an enforcement provision, and both were submitted to the Senate. Neither of them have a compliance mechanism either—unlike the Paris Agreement, which provides for one in Article 15.

"But does an international agreement have legal force at all if the Senate hasn't ratified it? That's unclear. During Senate Foreign Relations Committee hearings on the 1992 U.N. climate convention, the administration of George H.W. Bush pledged to submit future climate protocols to the Senate. Senior Senate Republicans might now wish Paris would go away, but letting it stand without Senate consent would create a standard that would have permitted "accepting"—the word President Obama used for joining the Paris Agreement—the U.N. climate convention and the 1997 Kyoto Protocol without Senate consent. A senatorial prerogative written into the Constitution would be lost.

"And an administration that has already had three executive orders blocked by the courts should assume it will face litigation over any loosening of emissions regulations. Will judges view Paris as legally binding? No one disputes that under some circumstances, the president can bind the U.S. by a unilateral executive agreement. The conundrum is determining at the outset whether the

Paris Agreement falls into that category. Sending it to the Senate would provide an answer; not doing so cannot guarantee that it is not binding.

"In U.S. v. Belmont (1937), the Supreme Court ruled that an international compact—in that instance one requiring the federal government to seize assets on behalf of the Soviet Union—"is not always a treaty which requires the participation of the Senate." Ultimately the legal standing of the agreement depends on what the British legal philosopher H.L.A. Hart called "the internal point of view" of those applying and interpreting the law, one that lies outside the law itself.

"In deciding what to do about the Paris Agreement, the president faces a more extreme situation than George W. Bush when he repudiated the Kyoto Protocol in 2001. Four years earlier, the Senate had unanimously adopted the Byrd-Hagel resolution effectively vetoing Kyoto. By not allowing the Senate to administer the protocol's coup de grâce, Mr. Bush brought all the political opprobrium on himself.

"In joining the Paris Agreement without Senate consent, Mr. Obama unilaterally nullified precedent and extinguished specific executive-branch pledges. Mr. Trump can restore the constitutional balance and further his own policies by submitting the Paris Agreement to the Senate. Tell senators why it is such a bad deal for the U.S.—and then let the Democratic senators, especially the 10 who are up for re-election next year in states he carried, explain why they support shrinking the economy."

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2. Climate Editors Have a Meltdown

How did science reporting get so detached from the underlying science?
By Holman Jenkins, Jr. WSJ, May 2, 2017
https://www.wsj.com/articles/climate-editors-have-a-meltdown-1493766186

I'll admit it: I would have found it fascinating to be party to the discussions earlier this year that led to oscillating headlines on the New York Times home page referring to the new EPA chief Scott Pruitt alternately as a "denier" or "skeptic." At least it would have been fascinating for 20 minutes.

Ditto the hysterical discussions undoubtedly now arising from an anodyne piece of climate heterodoxy by the paper's newest columnist, a former Journal colleague who shall remain nameless, in which he advises, somewhat obscurely, less "certainty" about "data."

Whether or not this represents progress in how the U.S. media cover the climate debate, a trip down memory lane seems called for. In the 1980s, when climate alarms were first being widely sounded, reporters understood the speculative basis of computer models. We all said to ourselves: Well, in 30 years we'll certainly have the data to know for sure which model forecasts are valid.

Thirty years later, the data haven't answered the question. The 2014 report of the Intergovernmental Panel on Climate Change, voice of climate orthodoxy, is cited for its claim, with 95% confidence, that humans are responsible for at least half the warming between 1951 and 2010.

Look closely. This is an estimate of the reliability of an estimate. It lacks the most important conjunction in science: "because"—as in "We believe X because of Y."

Not that the IPCC fails to offer a "because" in footnotes. It turns out this estimate is largely an estimate of how much man-made warming should have taken place if the models used to forecast future warming are broadly correct.

The IPCC has a bad reputation among conservatives for some of its press-release activities, but the reports themselves are basically numbing testimonies to how seriously scientists take their work. "If our models are reliable, then X is true" is a perfectly valid scientific statement. Only leaving out the prefix, as the media routinely does, makes it deceptive.

We don't know what the IPCC's next assessment report, due in 2021, will say on this vital point, known as climate sensitivity. But in 2013 it widened the range of uncertainty, and in the direction of less warming. Its current estimate is now identical to that of the 1979 Charney Report. On the key question, then, there has been no progress in 38 years.

For journalists, the climate beat has been singularly unrewarding. It has consisted of waiting for an answer that doesn't come. By now, thanks to retirements and the mortality tables, the beat's originators are mostly gone. The job has passed into hands of reporters who don't even bother to feign interest in science—who think the magic word "consensus" is all the support they need for any climate claim they care to make.

Take Inside Climate News, an online publication, lately accruing degraded journalism prizes, whose title echoes a successful series of specialist newsletters like Inside EPA and Inside the Pentagon that charge fancy prices for detailed, crunchy, reliable information about the U.S. government.

Inside Climate News might sound like it's doing the same but it isn't. Search its website and the term "climate sensitivity," the central preoccupation of climate science, appears zero times. Any reporter who is truly curious about what scientists know and how they know it would not be working there. Asking such questions would only get him or her suspected of denialism.

But not even the EPA's Mr. Pruitt or the New York Times's newest recruit exhibits the ill grace to phrase the "so what" question.

"So what" is the most important question of all. So what if human activity is causing some measure of climate change if voters and politicians are unwilling to assume the costs (possibly hugely disproportionate to any benefit) of altering the outcome of the normal evolution of energy markets and energy technology.

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