

# **The Week That Was: 2018-06-16 (June 16, 2018)**

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### **The Science and Environmental Policy Project**

**Quote of the Week.** *“Facts don't cease to exist because they are ignored.”* — Aldous Huxley [H/t William Readdy]

**Number of the Week:** 3%

#### **THIS WEEK:**

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

**Vincent Gray, RIP:** On May 14, we lost a stalwart defender in the battle to keep rigorous science for descending into bureaucratic nonsense. Vincent Gray of New Zealand was an enthusiastic expert reviewer of all five Assessment Reports by the UN Intergovernmental Panel on Climate Change (IPCC). His comments number in the thousands and he was effective.

Gray singularly fought the IPCC for using the term predictions to describe the results of the global climate models because the models used have not been verified and validated. They have not been meticulously tested, scientifically. Gray won. The IPCC uses the term “projections.”

[Subsequently, as John Christy and others at the Earth System Science Center at the University of Alabama in Huntsville have demonstrated all but one model, in Moscow, fail basic tests of tracking atmospheric temperatures, much less being able to predict them. Yet, according to the greenhouse gas hypothesis, it is atmospheric warming which will cause a lesser warming of the surface. The global climate models greatly overestimate atmospheric warming.]

Born in London in 1922, Gray received his PhD from the University of Cambridge in Chemistry. He later moved to New Zealand where he became Chief Chemist of the Coal Research Association, publishing many articles and reports. After retirement, he and his wife lived in China for four years.

Upon return to New Zealand, Gray became a critic of the view that carbon dioxide emissions are causing harmful global warming. Vincent was a co-founder of the New Zealand Climate Science Coalition, “a climate denier organization based in New Zealand” (Wikipedia), along with Robert Carter, an editor of the reports of the Nongovernmental International Panel on Climate Change (NIPCC), and others. Gray’s two books on the subject are: “The Greenhouse Delusion: A Critique of Climate Change 2001” (2002) and “The Global Warming Scam” (2015) and are available on Amazon.

Vincent Gray was a friend of SEPP Chairman emeritus Fred Singer and SEPP President Ken Haapala had several lengthy, scintillating conversations with him. On his last visit to Washington, Vincent was amused that a man with the same name was running for mayor of the District of Columbia, who won. We will miss this sparkling, insightful man.

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**Letter to Geological Society of London:** The Geological society of London (GSL), better known as The Geological Society, is the oldest national geological society in the world and the largest in Europe with more than 12,000 Fellows. Unfortunately, it has embraced the questionable position

of The Royal Society, that human emissions of carbon dioxide may be causing dangerous global warming / climate change. Atmospheric temperature data does not support this view.

Thirty-three current and former fellows of the Geological Society, along with colleagues, wrote an open letter to the president of the society challenging this view. The letter states that GSL restricted its review to the geological evidence, independent of IPCC modeling, but by doing so, it excluded any evaluation of the modern climate record which is inconsistent with Anthropogenic Global Warming theory as expressed by the IPCC. Following a suggestion on Energy Matters blog, by Euan Mearns, the letter proposes a 2-day conference to explore “all sides of the issues raised, with a strong neutral moderator.

*“Topics for such a dialogue could examine the evidence that*

- 1. CO<sub>2</sub> alone as the principle driver of temperature, or climate.*
- 2. Climate Change is largely real, natural, and mostly beyond our control.*
- 3. Manipulation of climate data has been used to support ‘global warming.’*
- 4. Most climate alarms are little more than scaremongering.*
- 5. CO<sub>2</sub> is mainly beneficial, NOT dangerous but blanket decarbonisation is.*
- 6. Industrial effluents and plastics, deforestation and overfishing are dangerous– and are being side-lined by the focus on CO<sub>2</sub> emissions.”*

The letter further states:

*We do not expect that all of our concerns will survive the test of time, and we assume GSL would similarly accept that new data may well change the ‘consensus’. Climate models fail to model past climates accurately and consistently overestimate future temperature trends, nor are they able to explain the following:*

- The current hiatus or pause in warming.*
- Why the 285 ppm of atmospheric CO<sub>2</sub> estimated for the beginning of the Industrial Revolution is in any way, a desirable benchmark. It coincides with the Victorian Little Ice Age, a period of starvation and population decline, which cannot possibly be a desirable target, unless you want to depopulate the earth.*
- Climate models always predict higher temperatures than actually occur*
- The absence of the predicted tropospheric hotspot – the ‘fingerprint of AGW’.*
- CO<sub>2</sub> and temperature were higher than today during the previous 50 million years plus, with no CAGW effects, why not?*
- The natural warming of 8°C and ~100ppm increase in CO<sub>2</sub> during the Holocene up to the 1800s, and the subsequent 125 ppm increase in CO<sub>2</sub> after 1950, accompanied by a miserly ~1°C temperature rise.*
- The Holocene enigma of generally falling but fluctuating temperatures from ~3,000BP, accompanied by rising CO<sub>2</sub> that predates industrial CO<sub>2</sub> emissions.*
- How AGW theory relies on radiative transfer only to heat the planet, and seemingly ignores insolation, enthalpy and water vapour.*
- The inability of the science of AGW to sharpen the range of estimates of climate sensitivity (currently between 1.5 °C and 6.4°C according to GSL)*

- *despite over 30 years of hugely funded effort; surely the science has failed?*
- *Earth System Sensitivity concept introduced by GSL, which ‘could be twice’ climate sensitivity’ noted above (2013 Addendum, page 4)”*

The letter concludes:

*“The GSL has taken a strong independent position; the Carbon Cycle is a genuine geological concern, but interpretation of the data is subject to increasing uncertainty as one goes back or forward in time, so firm conclusions based only on experimental data (the geological record) are likely to be unsound. As one of my correspondents puts it ‘The Society can make comments regarding the complexity of the physics and mathematics and inevitable uncertainty of predictions of nonlinear dynamical system behaviour etc., and there is nothing wrong with having a debate about this... But ... their conclusions are unwarranted and unsound science if based on geological evidence alone.’*

*“Science is supposed to use all the available tools at its disposal and by excluding the modern record it would be even more sound to avoid tacit support for the proposition that ‘the science is settled’. And even if everything the IPCC is frightened of looks inescapable, applying the precautionary principle by penalising carbon regardless has shut down debate creating more harm than benefit. Better by far to look at ways of mitigating possible effects until the evidence becomes firmer, one way or the other.*

*“The strength of the Society is that Fellowship is not just open to people who share a current ‘consensus’, what was once accepted has often fallen by the wayside as arguments are overturned; Murchison and Sedgwick, uniformitarianism and catastrophism, Piltdown Man.*

*“We would like to make a presentation of our findings to the board, as much of what is relevant can best be understood with reference to data. However, we have no wish to monopolise this discussion in any way, as we believe the issues need raising before as many interested parties as possible. And it is for this reason we are calling this an open letter and will circulate it through media channels after the forthcoming AGM.”*

*Howard Dewhirst FGS*

Any response to this careful, reasoned request will be interesting. See links under Challenging the Orthodoxy.

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**Solar Wind:** The Svensmark Hypothesis of high energy cosmic rays causing cloudiness in the earth’s atmosphere has been well tested in the laboratory. When the sun is active, with many sunspots, the solar wind intensifies. An intense solar wind reduces the intensity of high energy cosmic rays hitting the earth’s atmosphere, reducing cloudiness. A dormant sun results in a lessening of the solar wind, with a corresponding increase in the intensity of high energy cosmic rays hitting the earth’s atmosphere, increasing cloudiness and cooling the earth.

The earth’s magnetic field and the dense atmosphere largely protect the earth from direct effects of the solar wind. On her web site, Jo Nova presents recent modeling, backed by observations of the atmosphere of Mars, of the energy of the solar wind affecting the moon and Mercury, which gives additional support to the Svensmark Hypothesis. See links under Commentary: Is the Sun Rising?

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**Two Antarctic?** Two different papers published the same day in the journal *Nature* may have caused some confusion in the general press, including BBC. From the titles alone, it is clear that the topics are different, though both apply to Antarctica. The title of one paper is: “Minimal East Antarctic Ice Sheet retreat onto land during the past eight million years” and the title of the second paper is: “Mass balance of the Antarctic Ice Sheet from 1992 to 2017.” Contrary to alarmists, there is no danger of ice covering the continent melting in the foreseeable future.

The West Antarctic Ice Sheet and associated glaciers on the continent are possibly melting slowly, contributing to the slow increase in sea levels, which have been rising about 7 to 8 inches (18 to 20 cm) per century for several thousand years. Even the second paper covering 1992 to 2017, but generalizing to Antarctica, states that some model estimates show an increase in mass ice in East Antarctica, which is far larger the West Antarctica. Further, any melting in West Antarctica may be due to geothermal activity, totally unrelated to carbon dioxide or global warming. See links under Changing Cryosphere – Land / Sea Ice

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**Externalities:** Over a century ago, economists began to develop the concepts of external benefits and costs, externalities. That is, benefits and costs that occur to third parties, not directly involved in the actives associated with economic exchanges or transactions (on which economists tend to focus). Some economists have urged politicians to adopt policies forcing parties directly involved to pay such costs. Harmful emissions of true pollutants such as EPA criteria pollutants are examples – ground level ozone, carbon monoxide, lead, etc.

The status of carbon dioxide is a major political issue. Some politicians are demanding the Trump administration place a high cost on carbon dioxide emissions, calling it a social cost. Carbon dioxide is not a category pollutant, the EPA’s finding that it endangers human health and welfare is highly questionable and based on predictions / projections from falsified climate models. Further, we have many studies showing increased atmospheric CO2 greatly benefits agriculture and the environment.

Another issues is that externalities exists with electricity. Supreme Court Justice Clarence Thomas considered an *amicus curiae* (friend of the court) brief filed by electrical engineers, energy economists and physicists important. It states:

*The division of state and federal regulatory jurisdiction set forth in the Federal Power Act of 1935 was deliberately drawn by Congress in accord with the scientific and engineering realities of electric power generation, transmission, and distribution. (p.1)*

Further:

*“...**Energy** is transmitted, not electrons. Energy transmission is accomplished through the propagation of an electromagnetic wave. The electrons merely oscillate in place, but the **energy** — the **electromagnetic** wave — moves at the speed of light. The energized electrons making the lightbulb in a house glow are not the same electrons that were induced to oscillate in the generator back at the power plant.*

*“Electric energy on an alternating current network cannot be addressed like a phone number or an e-mail and dispatched to a particular recipient over a prescribed and fixed pathway. Energy flowing onto a power network or grid **energizes the entire grid**, and consumers then draw undifferentiated energy from that grid. A networked electric grid flexes, and electric current flows,*

*in conformity with physical laws, and those laws do not notice, let alone conform to, political boundaries. If the transmission lines of the system cross state boundaries, then electric currents on the system necessarily do likewise.” [Boldface was italics in the original] (p.2)*

Further:

*“In the Federal Power Act, 16 U.S.C. § 824(b)(1), Congress allocated regulatory jurisdiction over electric energy along lines 43 18 U.S.C. § 824(a)-(e) codifies the FPA § 201(a)-(e). In conformity with the parties’ practice, the FPA will usually be cited by reference to its original section numbers rather than as codified in the U.S. Code. drawn, in effect, by electrical engineers. That is, the electric power industry was divided into three categories — generation, local distribution, and transmission — and the states were given jurisdiction over ‘facilities used for the generation of electric energy or over facilities used in local distribution,’ while the Federal Power Commission (now known as FERC) was given jurisdiction over ‘the transmission of electric energy in interstate commerce.’” (p.2)*

Thus, by placing mandates that a percentage of electrical power must come from renewable sources, such as solar and wind, state governments are technically acting within the federal law, with the notable exception of influencing transmission.

After explaining that:

*“...for electromagnetic unity is dictated by a set of four fundamental physical principles known as Maxwell’s Equations. The import [A consequence] of these rules is that the sum of electrical currents flowing into any point in a circuit must equal the sum of currents flowing out, and the sum of voltages around any closed loop in a circuit must equal zero.*

*These rules explain (1) why physical events — such as the addition of electrical energy or an increase in electrical load — cannot be isolated on an interconnected grid, and (2) why energy flowing on an interstate grid cannot be cabined within an arbitrary geographical boundary. If a generator on the grid increases its output, the current flowing from the generator on all paths on the grid increases. These increases affect the energy flowing into each point on the network, which in turn leads to compensating and corresponding changes in the energy flows out of each point. The increased generator output also affects the electromagnetic fields and the voltages on the grid, which must adjust themselves to sum to zero around all closed loops within the system. The system flexes and the current flows in conformity with physical laws, and those laws do not notice, let alone conform to, political boundaries. If the transmission lines of the system cross state boundaries, then electric currents on the system necessarily do likewise.” (Pp 10 & 11)*

The brief asserts that:

*“In addition to moving electricity, the transmission grid is vital to the stability of the power system. Indeed, much of the capital investment in transmission systems has traditionally been driven by the need for stability rather than the need to move power.” (p 13)*

Herein we see a major problem when states mandate solar and wind onto the system. Such erratic generating facilities create external costs that are borne by the transmission system, not the generating facilities. Eventually, the costs are borne by the consumer. It is the need for stability that is causing significantly increasing costs to consumers on grids that have a high percentage of

electrical generation from unstable solar and wind. Providing stability is an external cost (social cost) for solar and wind.

An essay in the *Wall Street Journal* has another idea of modernizing the grid – converting AC transmission to DC transmission and running the lines underground. Energy expert Donn Dears effectively demolishes the argument explaining why it would be very expensive, not to mention the feasibility of the underground lines in the Appalachian or Rocky Mountains. See Article # 1 and links under Social Benefits of Carbon and Energy Issues -- US

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**BP Energy Review:** Those who have denounced President Trump for pulling out of the Paris agreement may not be happy with the latest BP Energy Review. In a telling graph it shows that from 2016 to 2017 US CO2 emissions fell by almost 1%, while EU and China’s emissions rose by over 1%, India’s rose by over 4%, Rest of Asia by over 2% and Rest of the World rose by over 1%. The difference for the US is the shift from coal-fired power plants to natural gas-fired plants.

Of course, President Trump had little to do with this, except he encouraged oil and gas development. More importantly, unlike many of his political opponents such as Governor Cuomo of New York, he has not tried to stop drilling and the construction of pipelines to deliver natural gas. See links under Energy Issues – Non-US.

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**Additions and Corrections:** Last week’s TWTW had two blunders. One, it had an incorrect conversion from metric tons to pounds – 88 MT = 194,000 lbs. As alert reader Ken Kok stated, “I think there is not a crane large enough to lift 14,780,000 lbs. (67000 tonnes).” Two, TWTW misstated that attorneys for cities are attorneys general, rather than the correct title of city attorneys.

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**Number of the Week: 3%.** The BP Energy Review places wind/solar at 3% of “Global Primary Energy Consumption, 2017.” The increase in natural gas and oil were greater than the increase in wind/solar. As Roger Andrews states, there is disagreement among several entities on the exact definition of Primary Energy Consumption and the numbers for BP are different than for IEA and the World Bank. See links under Energy Issues – Non-US and Alternative, Green (“Clean”) Solar and Wind.

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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 Ville 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?***

**Solar Wind bombardment “worse than we thought”, but we \*know\* particles at 800km/s have No effect on our climate**

By Jo Nova, Her Blog, June 14, 2018

<http://joannenova.com.au/2018/06/solar-wind-bombardment-worse-than-we-thought-but-we-know-particles-at-800kms-have-noooo-effect-on-our-climate/>

Link to paper: Solar wind sputtering of wollastonite as a lunar analogue material – Comparisons between experiments and simulations

By Paul S. Szabo, et al. Icarus, Nov 1, 2018

<https://www.sciencedirect.com/science/article/pii/S0019103518301623?via%3Dihub>

Link to NASA web site: Solar Wind Strips the Martian Atmosphere

Visualizations by Greg Shirah, NASA, Nov 5, 2015

<https://svs.gsfc.nasa.gov/4370>

**The approaching solar cycle 24 minimum continues the long slide in solar activity**

Guest essay by Javier, WUWT, June 7, 2018

<https://wattsupwiththat.com/2018/06/07/the-approaching-solar-cycle-24-minimum/>

**Why the Sun Controls the Climate and CO2 is Meaningless**

By Staff Writer, CO2 is Life, June 9, 2018 [H/t Paul Homewood]

<https://co2islife.wordpress.com/2018/06/09/why-the-sun-controls-the-climate-and-co2-is-meaningless/>

#### ***Censorship***

**Peter Ridd's sacking pushes the limit of academic freedom**

James Cook University (JCU) may have damaged its reputation with a heavy-handed approach to the academic with minority views on climate change and the reef

By Gay Alcorn, Guardian, June 4, 2018

<https://www.theguardian.com/commentisfree/2018/jun/05/peter-ridd-sacking-pushes-the-limit-of-academic-freedom>

**JCU staff too scared to use their uni email – this is what “academic freedom” looks like**

By Jo Nova, Her Blog, June 15, 2018

<http://joannenova.com.au/2018/06/jcu-staff-too-scared-to-use-their-uni-email-this-is-what-academic-freedom-looks-like/>

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

**Climate Change Reconsidered II: Physical Science**

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

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

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

### **Climate Change Reconsidered II: Biological Impacts**

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

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

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

### **Why Scientists Disagree About Global Warming**

The NIPCC Report on the Scientific Consensus

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

<http://climatechangereconsidered.org/>

Download with no charge

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

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

S. Fred Singer, Editor, NIPCC, 2008

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

### **Heartland Institute Provides Science to EPA to Back Up Pruitt's Climate Change Views**

By Anthony Watts, WUWT, June 7, 2018

<https://wattsupwiththat.com/2018/06/07/heartland-institute-provides-science-to-epa-to-back-up-pruitts-climate-change-views/>

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

#### **An Open Letter To The Geological Society**

By Howard Dewhirst FGS et al, GWPF, June 6, 2018

<https://www.thegwpf.com/an-open-letter-to-the-geological-society/>

### **More Evidence Water Vapor Is The Big Climate Kahuna**

Guest Post by Joe Bastardi, Climate Change Dispatch, June 14, 2018 [H/t Paul Homewood]

<https://climatechangedispatch.com/more-evidence-water-vapor-is-the-big-climate-kahuna/>

### **Does Global Warming increase total atmospheric water vapor (TPW)?**

By Andy May, WUWT, June 9, 2018

<https://wattsupwiththat.com/2018/06/09/does-global-warming-increase-total-atmospheric-water-vapor-tpw/>

### **A “Significant” Goof in Nature Climate Change?**

By Patrick J. Michaels and Ryan Maue, CATO, June 14, 2018

<https://www.cato.org/blog/significant-goof-nature-climate-change>

Link to paper: Higher CO<sub>2</sub> concentrations increase extreme event risk in a 1.5 °C world

By Hugh S. Baker, Richard J. Millar, David J. Karoly, Urs Beyerle, Benoit P. Guillod, Dann Mitchell, Hideo Shiogama, Sarah Sparrow, Tim Woollings & Myles R. Allen, Nature, Climate Change, June 11, 2018

<https://www.nature.com/articles/s41558-018-0190-1>

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



## **Harvard scientists: Trump environmental policies could result in 80,000 more deaths per decade**

By Avery Anapol, The Hill, June 16, 2018

<http://thehill.com/policy/energy-environment/392597-harvard-scientists-trump-environmental-policies-could-result-in>

Link to commentary: A Breath of Bad Air: Cost of the Trump Environmental Agenda May Lead to 80 000 Extra Deaths per Decade

By David Cutler and Francesca Dominici, The JAMA Forum, June 12, 2018

[https://jamanetwork.com/journals/jama/fullarticle/2684596?utm\\_source=twitter&utm\\_medium=social\\_jama&utm\\_term=1585129396&utm\\_content=followers-article\\_engagement-image\\_stock&utm\\_campaign=article\\_alert&linkId=52856999](https://jamanetwork.com/journals/jama/fullarticle/2684596?utm_source=twitter&utm_medium=social_jama&utm_term=1585129396&utm_content=followers-article_engagement-image_stock&utm_campaign=article_alert&linkId=52856999)

*[SEPP Comment: The authors declare that the roll-back of some rules is an attack on science, but do not produce scientific evidence supporting the rules.]*

## **No Cabinet paper written, no Cabinet decision made, in 'political decision' to ban new oil exploration**

By Hamish Rutherford, Stuff, NZ, June 5, 2018

<https://www.stuff.co.nz/business/104447116/no-cabinet-paper-created-in-path-to-decision-to-ban-offshore-oil-exploration?rm=m>

*[SEPP Comment: Authoritarian government in full display.]*

## ***Questioning the Orthodoxy***

### **Ocean indicators suggest CO2 isn't the strongest driver of climate**

By Anthony Watts, WUWT, June 6, 2018

<https://wattsupwiththat.com/2018/06/06/ocean-indicators-suggest-co2-isnt-the-strongest-driver-of-climate/>

### **Despite Climate Claims, These Birds Are Not Declining**

Guest Essay by Kip Hansen, WUWT, June 7, 2018

<https://wattsupwiththat.com/2018/06/07/despite-climate-claims-these-birds-are-not-declining/>

### **Svalbard polar bear data 2016 through 2018 shows no impact of low ice years**

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

<https://polarbearscience.com/2018/06/15/svalbard-polar-bear-data-2016-through-2018-shows-no-impact-of-low-ice-years/>

## ***After Paris!***

### **Coal Use To Explode By 43% Worldwide! ...German Energy Expert: "Foundation Of The Paris Accord Has Collapsed"**

By P Gosselin, No Tricks Zone, June 12, 2018

<http://notrickszone.com/2018/06/12/coal-use-to-explode-by-43-worldwide-german-energy-expert-foundation-of-the-paris-accord-has-collapsed/>

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

### **Attacks on Scott Pruitt are Sure Sign He Is Over the Target**

By Tim Ball, A Different Perspective, June 15, 2018

<http://drtimball.com/2018/attacks-on-scott-pruitt-are-sure-sign-he-is-over-the-target/>

*[SEPP Comment: Exception to the comments by Tim Ball regarding Myron Ebell, head of the Trump transition team for EPA. Both the Clinton campaign and the Trump campaign had*

*transition teams well before the election. The Clinton team was several times larger than the Trump team. Ebell's EPA team wrote an excellent review of the strengths and weaknesses in the EPA and its endangerment finding.]*

### **So Which Is It: High Energy Prices Or Low?**

By Francis Menton, Manhattan Contrarian, June 11, 2018

<https://www.manhattancontrarian.com/blog/2018-6-11-so-which-is-it-high-energy-prices-or-low>

### **What Will Be the Outcome of the Great Climate Scam?**

By Alan Carlin, Carlin Economics and Science, June 15, 2018

<http://www.carlineconomics.com/archives/4475>

### **Swift (and Angry) Reaction to Trump Move to Save Coal, Nuclear Plants**

By Staff Writers, Power, Mag, June 1, 2018

<http://www.powermag.com/swift-and-angry-reaction-to-trump-move-to-save-coal-nuclear-plants/?pagenum=2>

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

#### **GAO to look into Trump's reduction of carbon social costs**

By Miranda Green, The Hill, June 13, 2018

<http://thehill.com/policy/energy-environment/392066-gao-to-look-into-trump-administrations-reduction-of-social-cost-of>

*[SEPP Comment: Will the GAO examine the benefits of increased carbon dioxide?]*

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

#### **Grenfell and the Problem of Carbon Targets**

By James Heartfield, Spiked, June 14, 2018 [H/t GWPF]

<http://www.spiked-online.com/newsite/article/grenfell-and-the-problem-of-carbon-targets/21500#.WyPdY6dKguW>

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

#### **The debate: my presentation**

By Judith Curry, Climate Etc. June 12, 2018

<https://judithcurry.com/2018/06/12/the-debate-mann-titley-moore-curry/#more-24162>

*[SEPP Comment: Curry's presentation during the "State of the climate debate" in which she articulated major disagreements.]*

### **Climate Change: A Plea For Legislation, Not Litigation**

By Richard Weekley, IBD, June 11, 2018

<https://www.investors.com/politics/commentary/climate-change-litigation/>

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

#### **Thermal Behavioral Resilience of a Threatened Desert Lizard**

Moore, D., Stow, A. and Kearney, M.R. 2018. Under the weather? -- The direct effects of climate warming on a threatened desert lizard are mediated by their activity phase and burrow system.

*Journal of Animal Ecology* 87: 660-671. June 17, 2018

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

### **The Transgenerational Plasticity of the Purple Sea Urchin**

Wong, J.M., Johnson, K.M., Kelly, M.W. and Hofmann, G.E. 2018. Transcriptomics reveal transgenerational effects in purple sea urchin embryos: Adult acclimation to upwelling conditions alters the response of their progeny to differential pCO<sub>2</sub> levels. *Molecular Ecology* 27: 1120-1137, June 16, 2018

<http://www.co2science.org/articles/V21/jun/a10.php>

“Transgenerational plasticity (TP) is an adaptive mechanism by which parents can influence the phenotype of their offspring to be better suited to cope with abiotic stresses and/or changes in their environment. TP is postulated as a means by which marine organisms can successfully respond to future predictions of ocean acidification, reducing concerns of species' collapse-and possible extinction-as a result of projected declines in seawater pH levels. Nevertheless, TP research is limited, and more studies into this topic should help scientists better understand its potential as an adaptive mechanism to environmental stress.”

### **Elevated CO<sub>2</sub> Helps Mitigate the Negative Growth Effects of Soil Arsenic Contamination**

Fernandez, V., Barnaby, J.Y., Tomecek, M., Codling, E.E. and Ziska, L.H. 2018. Elevated CO<sub>2</sub> may reduce arsenic accumulation in diverse ecotypes of *Arabidopsis thaliana*. *Journal of Plant Nutrition* 41: 645-653. June 14, 2018

<http://www.co2science.org/articles/V21/jun/a8.php>

### **A 145-year Continent-wide Increase in Mountain-top Species Richness**

Steinbauer, M.J., *et al.* Accelerated increase in plant species richness on mountain summits is linked to warming. *Nature* 556: 231-234. June 11, 2018

<http://www.co2science.org/articles/V21/jun/a7.php>

“The end result of these facts is that if the atmosphere's temperature and CO<sub>2</sub> concentration rise together, plants are able to successfully *adapt* to the rising temperature, and they experience no ill effects of the warming. Under such conditions, plants living near the *heat*-limited boundaries of their ranges do not experience an impetus to migrate poleward or upward towards cooler regions of the globe.”

### **The Combined Impact of Ocean Warming, Acidification and Eutrophication on a Green Seaweed**

Gao, G., Clare, A.S., Chatzidimitriou, E., Rose, C. and Caldwell, G. 2018. Effects of ocean warming and acidification, combined with nutrient enrichment, on chemical composition and functional properties of *Ulva rigida*. *Food Chemistry* 258: 71-78. June 10, 2018

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

### ***Models v. Observations***

#### **New Study: The Sun and volcanoes Caused the Pause**

By David Whitehouse, GWPF, June 12, 2018

<https://www.thegwpf.com/the-sun-and-volcanoes-cause-the-pause/>

Link to paper: Causes of irregularities in trends of global mean surface temperature since the late 19th century

By Chris K. Folland, Olivier Boucher, Andrew Colman, and David E. Parker, *Science Advances*, June 6, 2018

<http://advances.sciencemag.org/content/4/6/eaao5297>

[SEPP Comment: Comparing 40 CMIP5 models using surface data since 1891, which is spotty. Wallace, *et al.* used econometric techniques on comprehensive atmospheric data to explain all temperature increase since 1978.]

**New Met Office study suggests natural factors, including the sun, are the biggest reason behind “the pause”**

By Anthony Watts, WUWT, June 7, 2018

<https://wattsupwiththat.com/2018/06/07/new-met-office-study-suggests-natural-factors-including-the-sun-are-the-biggest-reason-behind-the-pause/>

***Changing Weather***

**100-Year Russian Arctic Temperature Reconstruction Shows 1930s Just As Warm As Today!**

Russian Arctic in 1920-1940 was warmer than today

By Dr. Sebastian Lüning and Prof. Fritz Vahrenholt (German text translated/edited by P.

Gosselin), No Tricks Zone, June 9, 2018

<http://notrickszone.com/2018/06/09/100-year-russian-arctic-temperature-reconstruction-shows-1930s-just-as-warm-as-today/>

***Changing Climate***

**Global Cooling Led To More Extremes Of Rainfall**

By Paul Homewood, Not a Lot of People Know Than, June 10, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/06/10/global-cooling-led-to-more-extremes-of-rainfall/>

*[SEPP Comment: From the pioneering work of H.H. Lamb]*

**Swedish Researchers Confirm 20th Century Warming “Does Not Stand Out” Over Past 2500 Years! [Off the Coast of Western Sweden]**

By P Gosselin, No Tricks Zone, June 13, 2018

<http://notrickszone.com/2018/06/13/swedish-researchers-confirm-20th-century-warming-does-not-stand-out-over-past-2500-years/>

Link to paper: Tracing winter temperatures over the last two millennia using a NE Atlantic coastal record

By Irina Polovodova Asteman, Helena L. Filipsson, & Kjell Nordberg, Climate of the Past, Jan 9, 2018

<https://www.clim-past-discuss.net/cp-2017-160/cp-2017-160.pdf>

***Changing Seas***

**Disappeared: Tide gauges showing negative absolute sea level rise removed from data base**

Guest essay by Albert Parker, WUWT, June 7, 2018

<https://wattsupwiththat.com/2018/06/07/disappeared-tide-gauges-showing-negative-absolute-sea-level-rise-removed-from-data-base/>

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

**Antarctica's Ice May Be More Durable Than We Thought**

A study found that the East Antarctic Ice Sheet has survived higher temperatures than we've created.

By Avery Thompson, Popular Mechanics, June 13, 2018 [H/t GWPF]

<https://www.popularmechanics.com/science/environment/a21347236/antarcticas-ice-more-durable/>

Link to paper: Minimal East Antarctic Ice Sheet retreat onto land during the past eight million years

By Jeremy D. Shakun, et al. Nature, June 13, 2018

<https://www.nature.com/articles/s41586-018-0155-6>

### **Ice Loss? Maybe**

By David Whitehouse, GWPF, June 15, 2018

<https://www.thegwpf.com/ice-loss-maybe/>

Link to paper: Mass balance of the Antarctic Ice Sheet from 1992 to 2017

The IMBIE team, Nature, June 13, 2018

<https://www.nature.com/articles/s41586-018-0179-y>

### **“Antarctica loses three trillion tonnes of ice in 25 years”–BBC**

By Paul Homewood, Not a Lot of People Know Than, June 14, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/06/14/antarctica-loses-three-trillion-tonnes-of-ice-in-25-years-bbc/#more-34015>

“Despite the apocalyptic headline, ice loss has only been contributing about 0.3mm a year to sea level rise, about an inch per century. Given that sea levels have been rising at around 8 inches a century since the 19<sup>th</sup> C, there is no evidence that this is not a long-term phenomenon we are seeing.”

*[SEPP Comment: Error range of +/- 50%]*

### **Antarctic Ice Loss Tripled, from near zero to an extremely tiny number! (Nobody mention those volcanoes)**

By Jo Nova, Her Blog, June 15, 2018

<http://joannenova.com.au/2018/06/antarctic-ice-loss-tripled-from-near-zero-to-an-extremely-tiny-number-nobody-mention-volcanoes/>

### **Environment Canada maps of polar bear population and status assessments 2018**

By Susan Crockford, Polar Bear Science, June 11, 2018

<https://polarbearscience.com/2018/06/11/environment-canada-maps-of-polar-bear-population-and-status-assessments-2018/#more-118428>

### ***Changing Earth***

#### **Fuego volcano injected large amounts of sulfur dioxide into stratosphere, may induce some short-term global cooling**

By Anthony Watts, WUWT, June 9, 2018

<https://wattsupwiththat.com/2018/06/09/fuego-volcano-injected-large-amounts-of-sulfur-dioxide-into-stratosphere-may-induce-some-short-term-global-cooling/>

### ***Lowering Standards***

#### **BBC Blame Climate Change For Mammal Extinctions–Official Report Says Otherwise**

By Paul Homewood, Not a Lot of People Know Than, June 14, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/06/14/bbc-blame-climate-change-for-mammal-extinctions-official-report-says-otherwise/>

### ***Communicating Better to the Public – Go Personal.***

**“An Ingenious Feat of Investigative Reporting” ... that was not.**

By Russell Cook, Gelbspan Files.com, June 7, 2018

<http://gelbspanfiles.com/?p=6901>

### ***Expanding the Orthodoxy***

## **Pope warns energy bosses of global destruction without fuel shift**

By Philip Pullella, Reuters, June 9, 2018

<https://af.reuters.com/article/commoditiesNews/idAFL5N1TB0A9>

## **Climate change campaigners find ally Orthodox Church leader**

By Staff Writer, The Courier, Ohio, June 6, 2018 [H/t Dennis Ambler]

<http://thecourier.com/national-news/2018/06/06/climate-change-campaigners-find-ally-orthodox-church-leader/>

“Faith can help us because we scientists have tried everything. We can’t say what’s happening in a more compelling way when we warn about the end of civilization,” said Hans Joachim Schellnhuber, an adviser to the German government on climate issues and founding director of the Potsdam Institute for Climate Impact Research.”

## ***Questioning European Green***

### **Compendium of Germany’s Energiewende**

By Staff Writers, Vernunftkraft, Vie GWPF, June 6, 2018

<https://www.thegwpf.com/compendium-of-germanys-energiewende/>

Link to report: COMPENDIUM for a sensible energy policy

[https://www.thegwpf.com/content/uploads/2018/06/1.6.\\_Kompendium-der-Energiewende\\_Englisch\\_.pdf](https://www.thegwpf.com/content/uploads/2018/06/1.6._Kompendium-der-Energiewende_Englisch_.pdf)

## **Germany pours cold water on EU’s clean energy ambitions**

By Frédéric Simon, Euractiv, June 11, 2018 [H/t GWPF]

<https://www.euractiv.com/section/energy/news/germany-pours-cold-water-on-eus-clean-energy-ambitions/>

## **Green Nightmare: Germany’s Clean Energy Flops While Global Fossil Fuels Boom...**

By Paul Homewood, Not a Lot of People Know Than, June 14, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/06/14/green-nightmare-germanys-clean-energy-flops-while-global-fossil-fuels-boom/>

## **Why Britain can never rely on wind power**

By Andrew Montford, Spectator, UK, Via GWPF, June 11, 2018

<https://www.thegwpf.com/andrew-montford-why-britain-can-never-rely-on-wind-power/>

## ***Funding Issues***

### **Voices of reason in the ‘climate wars’**

By Judith Curry, Climate Etc. June 10, 2018

<https://judithcurry.com/2018/06/10/voices-of-reason-in-the-climate-wars/#more-24179>

[SEPP Comment: Curry’s presentation of the Mat Nisbet paper which analyzed: “\$556.7 million in ‘behind-the-scenes’ grants distributed by 19 major environmental foundations from 2011-2015 in the immediate aftermath of the failure to pass cap-and-trade legislation in 2010.

“Nisbet found that more than 80 percent of those funds were devoted to promoting renewable energy, communicating about and limiting climate change and opposing fossil fuels, while only two percent, or \$10.5 million, was invested in technologies that would lower carbon emissions like carbon capture storage or nuclear energy. The donations themselves were also very concentrated; more than half of the money disbursed by the philanthropies was directed to 20 organizations in total.”]

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

#### **US House Votes Down Social Cost of Carbon**

By Ron Clutz, Science Matters, June 10, 2018

<https://rclutz.wordpress.com/2018/06/09/us-house-votes-down-social-cost-of-carbon/>

### ***Litigation Issues***

#### **Federal Judge Stumps Trial Lawyers Handling NYC's Climate Lawsuit with One Question**

By Michael Bastasch, Daily Caller, June 13, 2018

<http://dailycaller.com/2018/06/13/federal-judge-trial-lawyers-nyc-climate-lawsuit/>

“A federal judge posed a question to lawyers representing New York City in its global warming lawsuit against five major oil companies — does the city invest in fossil fuels?”

### ***Cap-and-Trade and Carbon Taxes***

#### **No Scientific Basis for Canadian Carbon (CO<sub>2</sub>) Tax plan**

By Tim Ball, A Different Perspective, June 15, 2018

<http://drtimball.com/2018/no-scientific-basis-for-canadian-carbon-co2-tax-plan/>

#### **[Massachusetts] Senate passes bill to promote a clean energy future**

By Staff Writers, Wareham Wicked, June 15, 2018

<http://wareham.wickedlocal.com/news/20180615/senate-passes-bill-to-promote-clean-energy-future>

“Most importantly, the policies enacted in this legislation will have measurable benefits in the health of the global environment.”

### ***Subsidies and Mandates Forever***

#### **Subsidy-free renewables need policy changes, report claims**

By Craig Richard, Wind Power, June 14, 2018

<https://www.windpowermonthly.com/article/1485104/subsidy-free-renewables-need-policy-changes-report-claims>

Link to report: Can German renewables become competitive within 5 years?

By Staff Writers, Aurora Energy Research, June 2018

<http://www.auroraer.com/wp-content/uploads/2018/06/Aurora-Report-Can-German-Renewables-become-competitive-within-5-years-June-2018-1.pdf>

*[SEPP Comment: For wind power to be competitive in a free enterprise market, we must design that market to meet the needs of wind power?]*

### ***Energy Issues – Non-US***

#### **BP Energy Review**

By Paul Homewood, Not a Lot of People Know That, June 15, 2018

<https://notalotofpeopleknowthat.wordpress.com/2018/06/15/bp-energy-review/>

Link to report: Statistical Review of World Energy, 2018

Global primary energy consumption grew strongly in 2017, led by natural gas and renewables, with coal's share of the energy mix continuing to decline

By Staff Writers, BP, 2018

<https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>

#### **Carbon Bubble or Green Babble**

By Staff Writers, GWPF, June 11, 2018

<https://www.thegwpf.com/carbon-bubble-or-green-babble/>

Link to report: Carbon Bubble or Green Babble? Models Of Stranded Fossil Fuel Assets Cannot Be Trusted

By John Constable and Gordon Hughes, Global Warming Policy Foundation, 2018

<https://www.thegwpf.org/content/uploads/2018/06/Bubble-Babble.pdf>

A critique of: 1. Mercure JF, Pollitt H, Viñuales JE, et al., Macroeconomic impact of stranded fossil fuel assets, Nature

Climate Change (2018). doi:10.1038/s41558-018-0182-1 See:

<https://www.nature.com/articles/s41558-018-0182-1>

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

#### **Brief Amicus Curiae of Electrical Engineers, Energy Economists and Physicists in Support of Respondents in No. 00-568**

Charles J. Cooper, Counsel of Record, Supreme Court, State of New York, et al v. Federal Energy Regulatory Commission, et al. May 31, 2001

<https://www.findlawimages.com/efile/supreme/briefs/00-568/00-568.mer.ami.engineers.pdf>

#### **AC and DC Transmission Lines**

By Donn Dears, Power For USA, June 12, 2018

<http://ddears.com/2018/06/12/ac-and-dc-transmission-lines/>

#### **DC Transmission for Cutting CO2 Emissions**

By Donn Dears, Power For USA, June 15, 2018

<http://ddears.com/2018/06/15/dc-transmission-for-cutting-co2-emissions/>

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

#### **GOP offshore drilling proposal triggers debate**

By Miranda Green, The Hill, June 14, 2018

<http://thehill.com/policy/energy-environment/392302-gop-offshore-drilling-proposal-triggers-debate>

[SEPP Comment: Federal government sharing oil royalties with states is upsetting?]

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

#### **China and India Want to Buy More U.S. Oil to Counter OPEC**

By Debjit Chakraborty, Bloomberg, June 14, 2018

<https://www.bloomberg.com/news/articles/2018-06-14/prized-oil-buyers-mull-uniting-on-u-s-crude-to-fight-opec-clout>

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

#### **Stranded Assets Booming: coal Prices Double as Demand Rises**

By Staff Writers, Financial Times, Via GWPF, June 13, 2018

<https://www.thegwpf.com/what-stranded-assets-coal-prices-double-as-demand-rises/>

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

#### **NuScale says its SMR promises cost savings**

By Staff Writers, World Nuclear News, June 6, 2018 [H/t Toshio Fujita]

<http://www.world-nuclear-news.org/NN-NuScale-says-its-SMR-promises-cost-savings-06061802.html>



### ***Alternative, Green (“Clean”) Solar and Wind***

#### **How much of the world’s energy is supplied by renewables?**

By Roger Andrews, Energy Matters, June 14, 2018

<http://euanmearns.com/how-much-of-the-worlds-energy-is-supplied-by-renewables/>

#### **The Aberdeen Bay Offshore Wind Farm**

By Euan Mearns, Energy Matters, June 11, 2018

<http://euanmearns.com/the-aberdeen-bay-offshore-wind-farm/#more-22162>

### ***California Dreaming***

#### **Remember when the massive California wildfires of 2017 were blamed on global warming?**

**Never mind.**

By Anthony Watts, WUWT, June 10, 2018

<https://wattsupwiththat.com/2018/06/remember-when-the-massive-california-wildfires-of-2017-were-blamed-on-global-warming-never-mind/>

Link to Press Release: CAL FIRE Investigators Determine Causes of 12 Wildfires in Mendocino, Humboldt, Butte, Sonoma, Lake, and Napa Counties

By Staff Writers, California Department of Forestry and Fire Protection, June 8, 2018

[http://calfire.ca.gov/communications/downloads/newsreleases/2018/2017\\_WildfireSiege\\_Cause.pdf](http://calfire.ca.gov/communications/downloads/newsreleases/2018/2017_WildfireSiege_Cause.pdf)

*[SEPP Comment: Meteorologist Cliff Mass had it right, the fires were caused by localized, intense winds blowing down power lines.]*

### ***Other News that May Be of Interest***

#### **Mystery "Missile Launch" Explained**

By Cliff Mass, Weather and Climate Blog, June 13, 2018

<http://cliffmass.blogspot.com/2018/06/mystery-missile-launch-explained.html>

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

#### **Pick a number between 1 and ...**

By Staff Writers, Climate Change Predictions.org, June 14, 2018

<http://climatechangepredictions.org/uncategorized/6059>

“A secret draft version of the next report by the United Nation’s influential panel of climate experts, to be given to governments in April, will say a reliable upper limit can no longer be put on how quickly the world will warm.

“Professor Ian Lowe, an environmental scientist and president of the Australian Conservation Foundation, said he hoped the report would convince the Australian Government of the seriousness of the issue because it was still listening to the “10 or 12 sceptics of the world.”

“In the worst case scenario, the world could warm up to 11 degrees in response to a doubling of carbon dioxide, a 2005 study that harnessed the power of 90,000 computers worldwide found. This is much greater than previous predictions of between 1.5 to 4.5 degrees.”

Sydney Morning Herald 1 Mar 2006 – screen copy held by this website

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**Big picture, small picture**

By Staff Writers, Climate Change Predictions.org, June 12, 2018  
<http://climatechangepredictions.org/uncategorized/9814>

“In a speech to the Council on Foreign Relations, Environmental Protection Administrator Gina McCarthy said climate change, if unchallenged, will bring about droughts, food shortages, economic disruption and other consequences.

“She also warned that the changing climate could make the morning caffeine rush a thing of the past.

“‘Climate change puts the world’s coffee-growing regions at risk,’ Ms. McCarthy said, adding that governments must consider climate change when making virtually every policy position, even those that on the surface seem to have nothing to do with the environment.”  
Washington Times, 11 Mar 2015

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### **Brother, you are not of the faith!**

By Staff Writers, Climate Change Predictions.org, June 10, 2018  
<http://climatechangepredictions.org/uncategorized/5991>

“Martin Dix, senior research scientist at CSIRO Atmospheric Research in Aspendale, says measuring today’s greenhouse gas levels is one thing, but predicting future levels is an altogether different matter.

“No scientific data, no matter how comprehensive, is ever going to produce anything like a definitive projection of how much greenhouse gases will continue to build in the atmosphere, nor of how the earth’s climate will behave as they do. Humankind is unpredictable and nature is chaotic.”  
Sydney Morning Herald, 21 Jun 2005

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## **ARTICLES:**

### **1. Upgrade America’s 19th-Century Electric Grid**

The U.S. relies on regional networks vulnerable to terrorism and blackouts.

By Charles Bayless and Thomas Petri, WSJ, June 4, 2018[ H/t William Readdy]

[https://www.wsj.com/articles/upgrade-americas-19th-century-electric-grid-1528152728?emailToken=b0b672a8079bef6fd258a9457d054b79t7zFeCos20SczlTVd7JIYaHfqA6Q+GzOvu1wzz0zPr/xliZmr9AeKSBvvikv7HOqUz7tLU8lvnijQz9uviopvGTFGC6NQEe8PKMIR8aQfI%3D&reflink=article\\_email\\_share](https://www.wsj.com/articles/upgrade-americas-19th-century-electric-grid-1528152728?emailToken=b0b672a8079bef6fd258a9457d054b79t7zFeCos20SczlTVd7JIYaHfqA6Q+GzOvu1wzz0zPr/xliZmr9AeKSBvvikv7HOqUz7tLU8lvnijQz9uviopvGTFGC6NQEe8PKMIR8aQfI%3D&reflink=article_email_share)

Link to paper: Future cost-competitive electricity systems and their impact on US CO2 emissions

By Alexander E. MacDonald, et al, Nature, Jan 25, 2018\

[https://www.nature.com/articles/nclimate2921.epdf?referrer\\_access\\_token=UFRN7nzxAJaXtt08kylntzRgN0jAjWel9jnR3ZoTv0OGwGQFvD-allZRSRRgXBDM1EwcgXXNkKmc0NQJQ1t8u2dbkZ5cIxCitLlh-KD2eZHCpxgs5lycV56dNo3YuBDQYMR4p86ON\\_VHpsLPrOL0H9BXI4ZMGpUsgGHRvI3BiGeuV\\_CERB4KgjSPfoF150BCFic8M7gnGs1v2urDW-oVv6EFgNs0hZq0hPWGuj15DmYCWkvwg66Bxpnu17ighQ2Yy80aWwrWINBbGvoHZjpJZb3KNowLMLLESeohNRw86j8RsIU8Qgm8pikJwLlcw3kEatjSW2MNGrnjthoJDjOgqxtgmt-m4zvDM1-YwO5ss8MMNouFIN8ukrPDMwC8BbRRvpKcyC-](https://www.nature.com/articles/nclimate2921.epdf?referrer_access_token=UFRN7nzxAJaXtt08kylntzRgN0jAjWel9jnR3ZoTv0OGwGQFvD-allZRSRRgXBDM1EwcgXXNkKmc0NQJQ1t8u2dbkZ5cIxCitLlh-KD2eZHCpxgs5lycV56dNo3YuBDQYMR4p86ON_VHpsLPrOL0H9BXI4ZMGpUsgGHRvI3BiGeuV_CERB4KgjSPfoF150BCFic8M7gnGs1v2urDW-oVv6EFgNs0hZq0hPWGuj15DmYCWkvwg66Bxpnu17ighQ2Yy80aWwrWINBbGvoHZjpJZb3KNowLMLLESeohNRw86j8RsIU8Qgm8pikJwLlcw3kEatjSW2MNGrnjthoJDjOgqxtgmt-m4zvDM1-YwO5ss8MMNouFIN8ukrPDMwC8BbRRvpKcyC-)

[AjnlSrLeX05B0pA3O9tdTTR0uhKLuNy\\_2QK4tCZ5zYDss9yfQcmt1lPr7jqvAAaY3sFf-vLotm1m\\_WsxSioyctr3y5ItzSqUPhfMOD-0lggaMuA2qtTCaMNt&tracking\\_referrer=www.wsj.com](https://www.wsj.com/articles/government-is-bad-at-picking-energy-winners-1528913411)

SUMMARY; The essay from two board members of the Climate Institute begins:

*“The U.S. electrical system is inefficient and vulnerable to natural and man-made threats—from severe weather and solar storms to cyber and electromagnetic attacks. To stay competitive in the 21st century, the U.S. should upgrade its system before it’s too late.*

*“What is commonly known as ‘the grid’—consisting mostly of aboveground transmission wires—is actually a patchwork of three regional networks that share few interconnections. Periods of high demand, such as a prolonged heat wave, can trigger regional imbalances in electricity supply and demand, leaving consumers to contend with price spikes and blackouts or brownouts. Insufficient transmission capacity also means that during periods of low local demand, surplus electricity is wasted rather than sold to other regions.*

*“The U.S. grid relies on alternating-current technology, a legacy of its 19th-century creation. But a direct-current system would be far superior. Thanks to technological breakthroughs, direct-current technology can now transmit electricity over longer distances with less power loss than existing alternating-current networks.*

*“The Climate Institute has proposed constructing a new overlay network that balances the generation and consumption of electrical power. The North American Supergrid is a concept for a multinodal, high-voltage direct-current transmission network that would extend across the lower 48 states, eventually linking with Canada and Mexico. The new grid would work as a resilient backbone to the existing electrical grid. Built largely underground alongside highways or railway rights of way, it would also be less vulnerable to attack.*

After additional details the essay continues:

*“...A 2016 study from the National Oceanic and Atmospheric Administration’s Earth System Research Laboratory estimated that a similar supergrid could achieve roughly an 80% reduction in power-sector carbon emissions, relative to 1990 levels.*

*Upfront private investment could reduce costs for consumers and taxpayers. The projected cost of as much \$500 billion over 30 years to construct the North American Supergrid would be outweighed by eventual savings to U.S. electricity consumers, according to the NOAA study.”*

The essay concludes with arguments invoking the interstate highway system.

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## **2. Government Is Bad at Picking Energy Winners**

Government intervention in the energy markets, as contemplated, will lead to an energy grid that is less reliable and resilient than the one we have today.

Letters, WSJ, June 13, 2018

<https://www.wsj.com/articles/government-is-bad-at-picking-energy-winners-1528913411>

*“Your editorial ‘Rick Perry’s Obama Imitation’ (June 6) is largely on point. However, it is important for the public to understand the ultimate consequence of policies like those proposed by*

*Energy Secretary Rick Perry. Government intervention in the energy markets, as contemplated, will lead to an energy grid that is less reliable and resilient than the one we have today. Subsidizing only certain plants leads to a greater supply of power generation than would otherwise be available based on undistorted market prices. While the existence of the subsidies creates greater overall costs for consumers, this generation oversupply will result in lower revenues for the plants that don't enjoy a subsidy. Lower revenues mean less capital available for investment and maintenance. Investment in new plants and technology will be hampered and the existing stock of plants will become less reliable and suffer increased outage rates, ultimately leading to an outdated grid that is significantly less secure than it should be.*

*"Even those plants that receive subsidies are unlikely to make material investment in support of reliability. The very mandate that keeps them operational is the result of administrative fiat. Those supports can be withdrawn just as easily as they were implemented. Many voices are coming out in opposition to Secretary Perry's initiative. However, this is simply the latest and broadest effort to use out-of-market subsidies to support a particular form of energy production. If they continue, these efforts—whether intended to favor renewables or bail out uneconomic coal and nuclear power plants—will ultimately lead to the demise of competitive markets. Politicians and regulators should be looking for market-based solutions."*

Paul Segal  
CEO, LS Power  
New York

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*"Natural-gas dependence on pipeline transportation adds a huge layer of vulnerability to both cyber and physical attack. This exposure is minimized where generation facilities are able to maintain fuel stockpiles on-site, as with coal and nuclear.*

*"During the 2014 polar vortex, coal provided effectively 100% of the incremental response to the increased electric demand. Even after all of the coal unit retirements since 2014, coal was still able to provide 55% of the incremental generation in the bomb cyclone early this year.*

*"You applaud FERC's investigation of compensation for "fast-start resources," but it's another attempt to accommodate the renewable-energy and natural-gas duopoly.*

*"In fact, the overarching task of grid managers today is accommodating the distortions caused by the investment tax credit for solar and the production tax credit for wind renewable energy. Due to billions in taxpayer subsidies, these resources have driven wholesale market prices below the variable cost of coal and nuclear generation, but consumers don't see lower bills because they're paying for the cost of new transmission at an annual clip of \$20 billion to move renewable energy to population centers.*

*"Despite the phaseout in the 2015 omnibus bill, wind developers can still qualify for 10 years of subsidies with startup by the end of 2023. Correcting these problems requires much more than chipping away at renewable subsidies."*

Dennis Rackers  
Fordland, Mo.