

The Week That Was: 2020-03-07 / 14 (March 7 / 14, 2020)
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The Science and Environmental Policy Project

Quote of the Week: *“Aqueous vapor is a blanket, more necessary to the vegetable life of England than clothing is to man. Remove for a single summer-night the aqueous vapor from the air which overspreads this country, and you would assuredly destroy every plant capable of being destroyed by a freezing temperature. The warmth of our fields and gardens would pour itself unrequited into space, and the sun would rise upon an island held fast in the iron grip of frost.”* – John Tyndall (Heat: A Mode of Motion, 1861) [H/t William Happer]

Number of the Week: 15,000 parts per million (ppm) v. 400 ppm

THIS WEEK:

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

Freeman Dyson: When mathematician, physicist, and philosopher Freeman Dyson died on February 28, the world lost an exceptionally brilliant humanist. Writing in the Quadrant, Australian Tony Thomas based his comments, in part, on an extensive interview by philosopher Arnis Rītups in the Latvian Journal *Rīgas Laiks*. The interview gives an indication of the depth and extensive interests of Dyson. It is appropriately subtitled:

“Somehow the universe has a tendency to be as interesting as possible, more and more diverse, more and more interesting.”

At Cornell University, Dyson and Richard Feynman became friends and discussed quantum theory.

“This time—he [Dyson] was 25 then—coincided with the development of quantum electrodynamics theory, for which all of its authors—Schwinger, Feynman and Tomonaga—with exception of Dyson, received the Nobel Prize in 1965 (the Prize is usually awarded to no more than three scientists at a time). It took some time for Robert Oppenheimer, the father of the atomic bomb, to recognize the approach by the young British mathematician and physicist as correct, but once he had, he appointed him a life member of The Institute for Advanced Study in Princeton, which had been home to Einstein, von Neumann and Gödel. At the age of 30, without a doctoral degree—‘I despise the system of academic doctoral degrees in higher education’—he became a professor at the world’s most prestigious institute of exact sciences.”

Dyson participated in atomic research as a means of nuclear pulse propulsion for interplanetary space travel as *“a possibility of finding a reasonable way of getting rid of the produced nuclear weapons.”*

“In the last decade [prior to 2016] Dyson has become one of the most authoritative voices to assert that ‘global warming’ is first of all not global (it is limited to the cold regions, winter and nighttime); and second, there is no scientific evidence that it is dangerous, and third, that the related ideology and propaganda turns people’s attention away from much more pressing problems. Convinced that all misunderstanding between science and religion is caused by science attempting to be a religion and vice versa, Dyson has never concealed his religiosity and, in the

year 2000, added the Templeton Prize (worth one million pounds sterling) for contribution to the progress of religion and science to his array of more than twenty honorary PhDs from different universities.”

In another interview on You Tube, “The balance of carbon in the atmosphere”, Dyson discusses the importance of understanding the difference between observations and model outputs and that model outputs are no better than its inputs. For example, what are the quantities of carbon dioxide that are being absorbed by plants and going into the ground? This is not well understood and not modeled well. We will not know what will happen to carbon dioxide in the atmosphere without knowing how much is going into vegetation [and into the oceans]. Unfortunately, the US government is putting all its money into computer modeling and ignoring experiments that show what is occurring.

Ironically, some who should know better dismiss Dyson’s criticism of climate modeling because he is not a climate scientist. Yet, understanding the greenhouse effect requires an understanding of quantum theory along with probability theory, which Dyson understood but few climate “experts” do. Contrary to what journalists and politicians assert, it is not simple physics. See links under Science: Freeman Dyson, RIP.

Benefits of the Greenhouse Effect: John Tyndall was a prominent Irish experimental physicist noted for work in magnetism and diamagnetic polarity. He was a pioneer in infrared radiation, and he invented a differential spectrometer to detect the absorption of heat by small quantities of gases held in a sample tube. With such an instrument, he measured the relative infrared absorptive powers of gases such as nitrogen, oxygen, water vapor, carbon dioxide, ozone, methane, etc. Others had explored the idea of the greenhouse effect, that solar radiation can pass through gases, but part of radiation from the earth to space is absorbed. It was Tyndall’s experiments with exacting equipment that gave the ideas the needed experimental validity.

Tyndall recognized the differences in infrared absorption properties between dry air and moist air. In 1861 Tyndall gave an important paper “On the absorption and radiation of heat by gases and vapours” to the Royal Society which many consider as the founding of climate science. In 1896, Swedish chemist Svante Arrhenius made precise calculations, but ten years later recognized the calculations were erroneous after reviewing Tyndall’s 1861 paper.

As the above Quote of the Week illustrates, Tyndall found water vapor is the strongest absorber of radiant heat in the atmosphere and the principal gas controlling air temperature, particularly at night. Tyndall recognized that without the greenhouse effect much of the world would freeze at night, making it a barren planet with little, if any, complex life on land, except, perhaps, in the tropics. Without the greenhouse effect, growing plants would freeze. The claim by scientists at NASA-GISS that carbon dioxide is the control knob of the earth’s climate is contrary to both experimental and observational evidence.

See links under Challenging the Orthodoxy and

<https://royalsocietypublishing.org/doi/pdf/10.1098/rstl.1861.0001>

Benefits of Carbon Dioxide and the Greenhouse Effect: Thebestschools.org published a lengthy, fact-filled dialogue on global warming with William Happer, who knew Freeman Dyson. This dialogue prompted the Quote of the Week. In it, Happer brings up that CO₂ levels have been unusually low for the past few million years (about 300 parts per million (ppm)). One is tempted

to state that the low CO₂ is related to this Epoch of glaciation, the Pleistocene, over the past 2.6 million years. Indeed, it was concern with ice ages that prompted much of the early research on greenhouse gases, such as by Arrhenius. However, “there were ice ages in the Ordovician, some 450 million years ago, when the CO₂ levels were several thousand ppm.” So, adding CO₂ to the atmosphere will not necessarily protect the earth from another ice age.

In the dialogue is a clear graphic presentation of Radiation Transmitted by the Atmosphere, Figure 4, with the wavelengths of the radiation given. About 70 to 75 percent of the Downgoing Solar Radiation is transmitted through the atmosphere to the surface. About 15 to 30% of the Upgoing Thermal Radiation is transmitted from the surface to outer space, the balance keeps the atmosphere sufficiently warm to keep most of the land surface of the planet inhabitable.

In Figure 4 of that paper, The Total Absorption and Scattering by the Atmosphere is shown. As broken down into the Major Components: Water Vapor is the greatest greenhouse gas with the broadest cover of wavelengths; Carbon Dioxide (CO₂) covers narrower sets of wavelengths; Oxygen and Ozone cover even narrower sets of wavelengths; Methane covers even narrower sets of wavelengths; and Nitrous Oxide covers the narrowest sets of wavelengths. If a set of wavelengths is covered by an existing gas adding a gas to the atmosphere which covers the same wavelength has little effect.

Figure 5 of the dialogue gives the temperature profile of the Earth’s atmosphere, for mid-latitudes (such as Princeton, NJ). One should realize that especially for the troposphere, altitude below the Tropopause (about 11 km at Princeton) the temperature profile is an idealized concept. The Troposphere is dynamic with convection changing the temperature profile constantly.

Happer goes on to identify significant errors that exist in global climate modeling, particularly on the sensitivity of the planet to increasing CO₂. In the section Sub-titled “Logarithmic forcing by CO₂” he presents how calculations from the HITRAN database for CO₂, plotted on a logarithmic scale, give a triangular straight-line approximation of the absorption of CO₂ at a surface pressure of one atmosphere and a temperature of 300K (27C, 80F). After numerous calculations he states:

“Most climate models do not focus on the thermal radiation to space, which we have discussed above, but on the ‘radiative forcing’ of the change of radiation transport at, or just above, the tropopause. This is because heating and cooling of the stratosphere and troposphere are nearly independent. Surface and tropospheric warming should be similar, with 10% to 20% more tropospheric warming than surface warming because of the release of latent heat into the troposphere from ascending air. The basic physics of radiation to space and radiative forcing at the tropopause are similar.”

Errors on the sensitivity of the atmosphere to increasing CO₂ have been prevalent in all the recent reports of the UN Intergovernmental Panel on Climate Change (IPCC) and its followers. In short, these government entities are ignoring the scientific method and not testing their models against physical evidence.

Happer discusses the benefits of increasing CO₂ and discusses more “Bogeymen.” The summary states:

“The Earth is in no danger from increasing levels of CO₂. More CO₂ will be a major benefit to the biosphere and to humanity. Some of the reasons are:

- *As shown in Fig. 1, much higher CO₂ levels than today's prevailed over most last 550 million years of higher life forms on Earth. Geological history shows that the biosphere does better with more CO₂.*
- *As shown in Fig. 13 and Fig. 14, observations over the past two decades show that the warming predicted by climate models has been greatly exaggerated. The temperature increase for doubling CO₂ levels appears to be close to the feedback-free doubling sensitivity of $S = 1$ K, and much less than the 'most likely' value $S = 3$ K promoted by the IPCC and assumed in most climate models.*
- *As shown in Fig. 12, if CO₂ emissions continue at levels comparable to those today, centuries will be needed for the added CO₂ to warm the Earth's surface by 2 K, generally considered to be a safe and even beneficial amount.*
- *Over the past tens of millions of years, the Earth has been in a CO₂ famine with respect to the optimal levels for plants, the levels that have prevailed over most of the geological history of land plants. There was probably CO₂ starvation of some plants during the coldest periods of recent ice ages. As shown in Fig. 15–17, more atmospheric CO₂ will substantially increase plant growth rates and drought resistance.*
- *There is no reason to limit the use of fossil fuels because they release CO₂ to the atmosphere. However, fossil fuels do need to be mined, transported, and burned with cost-effective controls of real environmental problems — for example, fly ash, oxides of sulfur and nitrogen, volatile organic compounds, groundwater contamination, etc.*

"Sometime in the future, perhaps by the year 2050 when most of the original climate crusaders will have passed away, historians will write learned papers on how it was possible for a seemingly enlightened civilization of the early 21st century to demonize CO₂, much as the most 'Godly' members of society executed unfortunate 'witches' in earlier centuries.

"The global warming crusade has been driven by many forces: political imperatives, huge amounts of research funds for scientists willing to support politicians, crony capitalists getting rich from 'saving the planet,' the puzzling need by so many people to feel a sense of guilt, anxieties about overpopulation of the world, etc.

"But genuine science has not been one of the drivers. Widespread scientific illiteracy — alas, even in the scientific community — has facilitated this latest episode of human folly. I hope very much that this Focused Civil Dialogue contributes to increased scientific literacy."

See links under Challenging the Orthodoxy.

Methane Confusion: In a publication by the CO₂ Coalition, W. A. van Wijngaarden and William Happer (W & H) bring up the confusion between water vapor and methane. In addition, an analysis by Sheahen, Wallace, and D'Aleo covers that same confusion, somewhat differently.

The abstract of the W & H paper states:

Atmospheric methane (CH₄) contributes to the radiative forcing of Earth's atmosphere. Radiative forcing is the difference in the net upward thermal radiation from the Earth through a transparent atmosphere and radiation through an otherwise identical atmosphere with greenhouse gases. Radiative forcing, normally specified in Watts per square meter ($W m^{-2}$), depends on latitude, longitude and altitude, but it is often quoted for a representative temperate latitude, and for the altitude of the tropopause, or for the top of the atmosphere. For current concentrations of greenhouse gases, the radiative forcing at the tropopause, per added CH₄ molecule, is about 30 times larger than the forcing per added carbon-dioxide (CO₂) molecule. This is due to the heavy saturation of the absorption band of the abundant greenhouse gas, CO₂. But the rate of increase of CO₂ molecules, about 2.3 ppm/year (ppm = part per million), is about 300 times larger than the rate of increase of CH₄ molecules, which has been around 0.0076 ppm/year since the year 2008. So, the contribution of methane to the annual increase in forcing is one tenth (30/300) that of carbon dioxide. The net forcing from CH₄ and CO₂ increases is about 0.05 $W m^{-2}$ [per] year. Other things being equal, this will cause a temperature increase of about 0.012 C [per] year. Proposals to place harsh restrictions on methane emissions because of warming fears are not justified by facts.

However, as discussed above, in Figure 4 of Happer's dialogue, the ability of methane to absorb upgoing thermal radiation cover very narrow wavelength frequencies when compared with carbon dioxide, but there is little overlap in frequencies covered. However, there is great overlap in the frequencies covered of the ability of methane to absorb upgoing thermal radiation when compared with water vapor, the dominant greenhouse gas. Thus, in air rich with water vapor, such as the Arctic in summer, or New Zealand, the additional greenhouse effect of methane is tiny, virtually non-existent. Calculations showing that methane has a greenhouse effect many times that of carbon dioxide are therefore meaningless.

As the Sheahen, et al. report states:

"Much of the discussion of the greenhouse effect has been rooted in an incorrect picture of the atmosphere: nearly all climate models begin by assuming 'dry air' as the gas."

The climate modelers are modeling an imaginary atmosphere. See links under Challenging the Orthodoxy.

Authoritarian Progressives? The UN's unsubstantiated claims of a "climate crisis" are having an impact on state politics in the US.

"The Progressive Era was a period of widespread social activism and political reform across the United States that spanned the 1890s to the 1920s. The main objectives of the Progressive movement were addressing problems caused by industrialization, urbanization, immigration, and political corruption.": https://en.wikipedia.org/wiki/Progressive_Era

Progressives of the era included members of both parties intending to break down established centers of power and instituted changes to diffuse political and economic power in hopes to establishing the best system possible. John D. Rockefeller and the oil industry were favorite targets as well as political power in various localities such as Tammany Hall in New York City.

In various states, it now appears that claims of a “climate crisis” are opening the way for centralizing political power to a few. In Oregon, after her political opponents objected, the governor issued an executive order directing agencies to regulate greenhouse gas emissions. In Virginia, the state legislators passed a law banning use of fossil fuels for the generation of electricity by 2045. Previously, the Virginia State Corporation Commission tried to assure that electricity would be generated at lowest possible cost. The legislature stripped it of such powers. Thus, utilities can earn a profit by generating electricity from non-fossil fuels, no matter how costly, if the source is currently fashionable to the state legislators.

SEPP submitted a brief report demonstrating the absurdity of the legislation, “Virginia’s New Electric Utility Regulations – A Compendium of Errors: Fighting an imaginary problem with an imaginary solution that will bankrupt the average citizen.” The main points are:

- Fashionable threats have appeared in the past, such as the US running out of oil and natural gas.
- Dangerous global warming is an imaginary problem, contradicted by 40 years of atmospheric temperature trends.
- Wind and solar are an imaginary solution to reliable, predictable electricity from thermal sources and hydro-generation. Reliable electricity has produced the most prosperous era humanity has ever experienced.
- The costs for implementation of Virginia’s new utility regulations are staggering, exceeding the state median household income for the first year alone. [Based on estimates for other states from CEI in last week’s TWTW.]

See links under Defending the Orthodoxy.

Number of the Week: 15,000 parts per million (ppm) v. 400 ppm: Although estimates vary somewhat, varying significantly over the globe, Sheahen, et al. estimated the average concentrations of water vapor over the globe is about 15,000 ppm while the current estimate for carbon dioxide is slightly more than 400 ppm. Using computer models that ignore water vapor until the end of the calculations is like driving a car without a steering mechanism. You may get someplace, but who knows where? See links under Challenging the Orthodoxy.

NEWS YOU CAN USE:

Science: Freeman Dyson, RIP

Freeman Dyson, World-Renowned Physicist & GWPF Founding Member, Has Died Aged 96

Press Release, GWPF, Mar 1, 2020

<https://www.thegwpf.com/freeman-dyson-world-renowned-physicist-gwpf-founding-member-has-died-aged-96/>

[SEPP Comment: Includes Dyson’s introduction to Indur Goklany’s report: “Carbon Dioxide: The Good News.”]

Heretical Thoughts About Science and Society

An essay by Freeman Dyson, Edge, July 8, 2007

https://www.edge.org/conversation/freeman_dyson-heretical-thoughts-about-science-and-society

Freeman Dyson's War by Numbers

By Tony Thomas, Quadrant, Mar 9, 2020

<https://quadrant.org.au/opinion/qed/2020/03/freeman-dysons-war-by-numbers/>

Link to interview: Freeman Dyson

By Arnis Rītups, Rigas Laiks, Summer 2017

<https://www.rigaslaiks.com/magazine/freeman-dyson-18771>

Freeman Dyson - The balance of carbon in the atmosphere (144/157)

Video, You Tube, July 27, 2016

<https://www.youtube.com/watch?v=848X64FXGp0&list=PLVV0r6CmEsFzDA6mtmKQEGWfcIu49J4nN&index=144>

Freeman Dyson: Quotable Quotes

An important scientist has left us, but his books and interviews remain.

By Donna Laframboise, Big Picture News, Mar 2, 2020

<https://nofrackingconsensus.com/2020/03/02/freeman-dyson-quotable-quotes/>

New Video: I'm Older And Wiser Now

By Tony Heller, Real Climate Science, Mar 3, 2020

<https://realclimatescience.com/2020/03/new-video-im-older-and-wiser-now/>

Comments about Freeman Dyson

Censorship

Wikipedia Deletes “List of Scientists who Disagree with the Scientific Consensus on Global Warming”

By Staff, Electroverse, Via GWPF, Mar 7, 2020

<https://www.thegwpf.com/wikipedia-deletes-list-of-scientists-who-disagree-with-the-scientific-consensus-on-global-warming/>

Government looks to strengthen free speech on campus after Oxford's no-platforming of Amber Rudd

Education Secretary believed to be looking at increasing powers of university regulator

By Harry Yorke, The Telegraph UK, Via GWPF, Mar 6, 2020

<https://www.thegwpf.com/oxford-university-rebuked-uk-government-looks-to-strengthen-free-speech-on-campus/>

Challenging the Orthodoxy -- NIPCC

Climate Change Reconsidered II: Physical Science

Idso, Carter, and Singer, Lead Authors/Editors, Nongovernmental International Panel on Climate Change (NIPCC), 2013

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

Summary: <https://www.heartland.org/template-assets/documents/CCR/CCR-II/Summary-for-Policymakers.pdf>

Climate Change Reconsidered II: Biological Impacts

Idso, Idso, Carter, and Singer, Lead Authors/Editors, Nongovernmental International Panel on Climate Change (NIPCC), 2014

<http://climatechangereconsidered.org/climate-change-reconsidered-ii-biological-impacts/>

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

Climate Change Reconsidered II: Fossil Fuels

By Multiple Authors, Bezdek, Idso, Legates, and Singer eds., Nongovernmental International Panel on Climate Change, April 2019

<http://store.heartland.org/shop/ccr-ii-fossil-fuels/>

Download with no charge:

<http://climatechangereconsidered.org/wp-content/uploads/2019/01/Climate-Change-Reconsidered-II-Fossil-Fuels-FULL-Volume-with-covers.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, Nongovernmental International Panel on Climate Change (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

Global Sea-Level Rise: An Evaluation of the Data

By Craig D. Idso, David Legates, and S. Fred Singer, Heartland Policy Brief, May 20, 2019

https://www.heartland.org/_template-assets/documents/publications/SeaLevelRiseCCRIL.pdf

Challenging the Orthodoxy

Happer's Statement: CO₂ will be a major benefit to the Earth

By William Happer, The Best Schools, Accessed Mar 10, 2020

<https://thebestschools.org/special/karoly-happer-dialogue-global-warming/happer-major-statement/>

Methane and Climate

By W. A. van Wijngaarden and W. Happer, CO₂ Coalition, February 2020

http://co2coalition.org/wp-content/uploads/2019/11/MethaneClimate_WijnGaardenHapper.pdf

Regulating Greenhouse Gas Emissions: Methane - a more scientific view

By Thomas P. Sheahan, James P. Wallace III & ABD. Joseph S. D'Aleo, ICECAP, Mar 9, 2020

http://icecap.us/index.php/go/political-climate/regulating_greenhouse_gas_emissions_methane_a_more_scientific_vieww/

“Much of the discussion of the greenhouse effect has been rooted in an incorrect picture of the atmosphere: nearly all climate models begin by assuming ‘dry air’ as the gas.

Attribution - right and wrong

By Joseph S. D'Aleo, ICECAP, Mar 8, 2020

http://icecap.us/index.php/go/political-climate/attribution_right_and_wrong2/

IPCC AR5 WG2 on Yield Sensitivity: Statistical Malpractice

By Stephen McIntyre, Climate Audit, Mar 2, 2020

<https://climateaudit.org/2020/03/02/ipcc-ar5-wg2-on-yield-sensitivity-statistical-malpractice/>

[SEPP Comment: Ross McKittrick adds an excellent comment.]

Climate at a Glance,

By Staff, Heartland Institute, Accessed Mar 13, 2020

<https://climateataglance.com/>

Comments on Dr. Ollila's Claims that Greenhouse Effect Calculations Violate Energy Conservation

By Roy Spencer, His Blog, Mar 12, 2020

<http://www.drroyspencer.com/2020/03/comments-on-dr-ollilas-claims-that-greenhouse-effect-calculations-violate-energy-conservation/>

Dissolving Dungeness?

By Jim Steele, Landscapes and Cycles, Mar 8, 2020

<http://landscapesandcycles.net/dissolving-dungeness--.html>

[SEPP Comment: More on the nonsense that "The Pacific Ocean is so Acidic that it's Dissolving Dungeness" crabs using findings from magnification of 11,000 times. [Feb 1 TWTW]]

Misguided Math: Misinterpreted Science

Rebutting the Canadian Institute of Actuaries on Climate Change

By Staff, Friends of Science Society, Oct 6, 2019 [H/t Peter Salonius]

https://friendsofscience.org/assets/documents/Acturaries_Misguided_Oct_06_2019_FINAL.pdf

Kevin Sorbo discusses Climate Hustle 2 with Huckabee

By Charles Rotter, WUWT, Mar 3, 2020

<https://wattsupwiththat.com/2020/03/03/kevin-sorbo-discusses-climate-hustle-2-with-huckabee/>

Scientist: There actually ARE ways to reduce global temperature

Says Jeff Bezos of Amazon likely will waste \$10 billion on useless 'climate change' tactics

By Staff, World News Daily, Mar 2, 2020

<https://www.wnd.com/2020/03/scientist-actually-ways-reduce-global-temperature/>

“That might actually lower Earth's temperature, [Art] Robinson says, but we ought to consider whether or not that's a good idea in the first place.”

“Robinson says the current climate alarm is based on two lies:

“1. That the atmospheric carbon dioxide increase from human use of hydrocarbon fuels is causing a significant rise in Earth temperature.

“2. That this ongoing rise in temperature will catastrophically affect the Earth environment in such a way as to cause the deaths of billions of people.”

Defending the Orthodoxy

SB 851 Electric utility regulation; environmental goals.

Virginia's Legislative Information System, 2020 Session

Summary as Passed Senate, Accessed Mar 4, 2020

<http://lis.virginia.gov/cgi-bin/legp604.exe?ses=201&typ=bil&val=sb851>

Virginia’s ‘Clean Economy Act’ will have dirty results

By Paul Driessen, WUWT, Mar 4, 2020

<https://wattsupwiththat.com/2020/03/04/virginias-clean-economy-act-will-have-dirty-results/>

See link immediately above.

Oregon’s Dem Governor Signs A Climate Executive Order After GOP Lawmakers Flee For Idaho

By Chris White, Daily Caller, Mar 11, 2020

<https://dailycaller.com/2020/03/11/oregon-executive-order-climate/>

Link to executive order: Office of the Governor: State of Oregon

Executive Order # 20-04 – March 10, 2020 [H/t Richard Botteri]

Directing State Agencies to Take Actions to Reduce and Regulate Greenhouse Gas Emissions

https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf

Climate Change Obsessed Britain to Outlaw the “Throwaway Society”

By Eric Worrall, WUWT, Mar13, 2020

<https://wattsupwiththat.com/2020/03/13/climate-change-obsessed-britain-to-outlaw-the-throwaway-society/>

Questioning the Orthodoxy

Setting the Record Straight on the Climate Debate

By Mark Mendlovitz, The Pipeline, Mar 9, 2020

<https://the-pipeline.org/setting-the-record-straight-on-the-climate-debate/>

“Regardless, the theory is flawed, and the science is obviously not settled. Do not hold your breath waiting for the alarmists to admit it.”

Most Despised (Older) Generation In Fact Cleaned Up The Atmosphere, Left It In Far Better Shape!

By Kirye and Pierre Gosselin, No Tricks Zone, Mar 3, 2020

<https://notrickszone.com/2020/03/03/most-despised-older-generation-in-fact-cleaned-up-the-atmosphere-left-it-in-far-better-shape/>

New Study Asserts Cloud Cover Changes Drove The Post-1980s Solar Radiation Increase Important To Recent Warming

By Kenneth Richard, No Tricks Zone, Mar 2, 2020

<https://notrickszone.com/2020/03/02/new-study-asserts-cloud-cover-changes-drove-the-post-1980s-solar-radiation-increase-important-to-recent-warming/>

Innovation and ‘New Energy’

By Mark Mills, National Review, Mar 5, 2020

<https://www.nationalreview.com/magazine/2020/03/23/innovation-and-new-energy%E2%80%88/>

“Batteries, windmills, and solar panels are physical systems that also require mining and processing of minerals. But there’s one important distinction. Compared with hydrocarbons, ‘clean technologies’ require a three- to ten-fold greater tonnage of stuff extracted, processed, and assembled to deliver the same amount of energy. The sheer quantities of materials involved are staggering. A wholesale switch to ‘clean tech’ would be a gift to the world’s miners and result in a radical increase in U.S. imports, as America has discouraged its mining industries for decades.”

How Fossil Fuels Power The Internet

By Tsvetana Paraskova, Oil Price.com, Mar 4, 2020

<https://oilprice.com/Energy/Energy-General/How-Fossil-Fuels-Power-The-Internet.html>

CO2 doubling and beyond

By John Robson, Climate Discussion Nexus, Mar 11, 2020

<https://climatediscussionnexus.com/2020/03/11/co2-doubling-and-beyond/>

IPCC told to ditch 'outdated' method of measuring methane

Editorial, Farming UK, Mar 5, 2020

https://www.farminguk.com/news/ipcc-told-to-ditch-outdated-method-of-measuring-methane_55139.html

“There Are No Natural Resources” (Boudreaux on Simon’s ‘ultimate resource’)

By Robert Bradley Jr. Master Resource, Mar 10, 2020

<https://www.masterresource.org/simon-julian/there-are-no-natural-resources-boudreaux-on-simons-ultimate-resource/>

After Paris!

Paris Agreement & Climate Lawfare Threatens British Economy

By Staff, The Times, Via GWPF, Feb 28, 2020

<https://www.thegwpf.com/britains-economic-future-on-the-brink-as-climate-law-fare-threatens-most-infrastructure-projects/>

Time: Coronavirus is Messing Up pre-COP26 Climate Conferences

By Eric Worrall, WUWT, Mar 11, 2020

<https://wattsupwiththat.com/2020/03/11/time-coronavirus-is-messing-up-climate-action-meetings/>

Change in US Administrations

Georgia Welcomes Trump Administration’s NEPA Reform Proposals

By Chris Carr, Attorney General for Georgia, Mar 11, 2020

<https://morningconsult.com/opinions/georgia-welcomes-trump-administrations-nepa-reform-proposals/>

Trump’s EPA Makes Big Changes To Rule Banning ‘Secret Science,’ Obama-Era Officials Rage

By Chris White, Daily Caller, Mar 4, 2020 [H/t WUWT]

<https://dailycaller.com/2020/03/04/donald-trump-epa-andrew-wheeler/>

Problems in the Orthodoxy

China And India To Build 320 New Airports In Next 10 Years

By Staff, GWPF, Feb 28, 2020

<https://www.thegwpf.com/forget-heathrow-china-and-india-to-build-320-new-airports/>

Coal to remain key in Vietnam power expansion

By Paul Homewood, Not a Lot of People Know That, Mar 8, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/08/coal-to-remain-key-in-vietnam-power-expansion/>

“Having set such a ludicrously high bar, Vietnam can now turn round and claim it is doing better than promised!”

Seeking a Common Ground

NASA Selects New Instrument to Continue Key Climate Record

By Steve Cole, NASA, Feb 26, 2020 [H/t WUWT]

<https://www.nasa.gov/press-release/nasa-selects-new-instrument-to-continue-key-climate-record>

Link to NASA's Earth Venture program

<https://essp.nasa.gov/>

Link to NASA's Explore Earth

<https://www.nasa.gov/topics/earth/index.html>

NASA satellite offers urban carbon dioxide insights

By Charles Rotter, WUWT, Mar 8, 2020

<https://wattsupwiththat.com/2020/03/08/nasa-satellite-offers-urban-carbon-dioxide-insights/>

Link to Orbiting Carbon Observatory 2

https://www.nasa.gov/mission_pages/oco2/index.html

Link to Orbiting Carbon Observatory-3 (OCO-3)

<https://ocov3.jpl.nasa.gov/>

Burned area trends in the Amazon similar to previous years

By Staff Writers, Paris (ESA), Mar 09, 2020

https://www.terradaily.com/reports/Burned_area_trends_in_the_Amazon_similar_to_previous_years_999.html

Link to paper: Temporal Anomalies in Burned Area Trends: Satellite Estimations of the Amazonian 2019 Fire Crisis

By Joshua Lizundia-Loiola et al., Environmental Remote Sensing Research Group, Jan 2, 2020

<https://www.mdpi.com/2072-4292/12/1/151>

Conservatives need to start being rational about climate change

By Harry Wilkinson, Free Market Conservatives, UK, Mar 9, 2020

<https://freemarketconservatives.org/conservatives-need-to-start-being-rational-about-climate-change/>

“There can be no honest answer from the Government about the costs involved in reaching Net Zero, because they are too astronomical. Nor can they be honest about the benefits, which do not exist. The right thing to do is to abandon the target and have the courage to explain why. Conservatives have appeased the green beast for too long, when it can never be satiated. At some point you have to stop.”

Science, Policy, and Evidence

Statement on CU Boulder Termination of its Center for Science and Technology Policy Research

By Roger Pielke Jr. His Blog, Mar 3, 2020

<https://rogerpielkejr.com/2020/03/03/statement-on-cu-boulder-termination-of-its-center-for-science-and-technology-policy-research/#more-1311>

It's Ministers Not Judges Who Are Skidding Off the Policy Runway

By Melanie Phillips, Her Blog, Feb 27, 2020 [H/t GWPF]

<https://www.melaniephillips.com/ministers-not-judges-skidding-policy-runway/>

After the Bushfires, What Now?

By Roger Underwood, Quadrant, Mar 8, 2020

<https://quadrant.org.au/opinion/doomed-planet/2020/03/after-the-bushfires-what-now/>
[SEPP Comment: *If humans eliminate CO2, there will be nothing to burn.*]

CSIRO forgets to mention: No study explicitly shows climate change caused bushfires

By Jo Nova, Her Blog, Mar 8, 2020

<http://joannenova.com.au/2020/03/csiro-forgets-to-mention-no-study-explicitly-shows-climate-change-caused-bushfires/>

Severn Flooding: Call for changes to reservoir management

By Paul Homewood, Not a Lot of People Know That, Mar 7, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/07/severn-flooding-call-for-changes-to-reservoir-management/>

“Well, it’s only taken twenty years to sink in!”

Somerset Levels Escape Flooding By Ignoring Eco Zealots

By Paul Homewood, Not a Lot of People Know That, Mar 5, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/05/somerset-levels-escape-flooding-by-ignoring-eco-zealots/>

Trillion Trees Act = Central Forestry Planning (ready for carbon, sustainability credits?)

By Robert Bradley Jr. Master Resource, Mar 12, 2020

<https://www.masterresource.org/carbon-capture-and-storage-ccs/central-planning-forestry-enviros-no/>

Review of Recent Scientific Articles by CO2 Science

The Interactive Effects of Elevated CO2 and Simulated Herbivory on a Leguminous Tree Species

Maia, R.A., Fernandes, G.W., Silva, A.I.S. and Souza, J.P. 2019. Improvement in light utilization and shoot growth in *Hymenaea stigonocarpa* under high CO2 concentration attenuates simulated leaf herbivory effects. *Acta Botanica Brasilica* 33: 558-571. Mar 13, 2020

<http://www.co2science.org/articles/V23/mar/a5.php>

Models Underestimate the Positive Impact of CO2 on Gross Primary Production

Haverd, V., Smith, B., Canadell, J.G., Cuntz, M., Mikaloff-Fletcher, S., Farquhar, G., Woodgate, W., Briggs, P.R. and Trudinger, C.M. 2020. Higher than expected CO2 fertilization inferred from leaf to global observations. *Global Change Biology*, <https://doi.org/10.1111/gcb.14950>. Mar 11, 2020

<http://www.co2science.org/articles/V23/mar/a4.php>

Elevated CO2 and Elevated Temperature Improve Potato Growth

Yubi, Y., Jun, L., Haiyang, N. and Xiuyun, Z. 2019. Collaborative influence of elevated CO2 concentration and high temperature on potato biomass accumulation and characteristics. *Open Chemistry* 17: 728-737. Mar 9, 2020

<http://www.co2science.org/articles/V23/mar/a3.php>

No Evidence Ocean Acidification Impairs Coral Reef Fish Behavior

Clark, T.D., Raby, G.D., Roche, D.G., Binning, S.A., Speers-Roesch, B., Jutfelt, F. and Sundin, J. 2020. Ocean acidification does not impair the behavior of coral reef fishes. *Nature* 577: 370-375. Mar 5, 2020

<http://www.co2science.org/articles/V23/mar/a2.php>

Model Issues

Every Day 10,000 People Die Due To Air Pollution From Fossil Fuels

By Roger Pielke Jr. His Blog, Mar 10, 2020

<https://www.forbes.com/sites/rogerpielke/2020/03/10/every-day-10000-people-die-due-to-air-pollution-from-fossil-fuels/#6b62a7f22b6a>

Link to major study: Loss of life expectancy from air pollution compared to other risk factors: a worldwide perspective

By Jos Lelieveld, et al. Cardiovascular Research, Mar 3, 2020

<https://academic.oup.com/circres/advance-article/doi/10.1093/cvr/cvaa025/5770885>

[SEPP Comment: From the Graphical Abstract: Using the novel Global Exposure Mortality Model (GEMM) few people die of respiratory diseases from PM 2.5 in Alaska, Canada, and Australia while many people in eastern US and Europe do? Another example of model excess?]

Have our climate models been wrong?

By Paul Matthews, Climate Scepticism, Mar 5, 2020 [H/t GWPF]

<https://cliscep.com/2020/03/05/have-our-climate-models-been-wrong/>

Link to audio: Have our climate models been wrong?

By Staff, The Inquiry, BBC, Mar 5, 2020

<https://www.bbc.co.uk/sounds/play/w3csythg>

Measurement Issues -- Surface

Calculating Temperatures Without Thermometers

By Tony Heller, Real Climate Science, Mar 2, 2020

<https://realclimatescience.com/2020/03/calculating-temperatures-without-thermometers/>

“Thirty-five percent (424) of the stations in 2019 were zombie stations, meaning that NOAA estimated data for all twelve months. This is done even for some of the thermometers which reported at least a little data in 2019.”

How to Measure the Temperature of the Earth

By Jerry Powlas, American Thinker, Mar 2, 2020

https://www.americanthinker.com/articles/2020/03/how_to_measure_the_temperature_of_the_earth.html

“The temperature of the Earth’ is an ambiguous term that cannot mean anything.”

Berlin 300-Year Station Shows Temperatures Were Just As Warm In The Mid 1700s – No CO2 Fingerprint

By P Gosselin, No Tricks Zone, Mar 1, 2020

<https://notrickszone.com/2020/03/01/berlin-300-year-station-shows-temperatures-were-just-as-warm-in-the-mid-1700s-no-co2-fingerprint/>

1919 or 2019?

By John Robson, Climate Discussion Nexus, Mar 11, 2020

<https://climatediscussionnexus.com/2020/03/11/1919-or-2019/>

Collaborative using UVM researcher using NSF grant to recreate regional temperature data
Discovering a missing piece of recent climate data
Press Release, University of Vermont, Mar 2, 2020
https://www.eurekalert.org/pub_releases/2020-03/uov-cuu030220.php

Measurement Issues -- Atmosphere

UAH Global Temperature Update for February 2020: +0.76 deg. C

By Roy Spencer, His Blog, Mar 2, 2020

<http://www.drroyspencer.com/2020/03/uah-global-temperature-update-for-february-2020-0-76-deg-c/>

Link to February 2020: Maps and Graphs

By Staff, Earth System Science Center, UAH, March 2020

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

https://www.nsstc.uah.edu/climate/2020/february2020/202002_Map.png

https://www.nsstc.uah.edu/climate/2020/february2020/202002_bar.png

Australia Bushfire Smoke Now Warming the Lower Stratosphere?

By Roy Spencer, His Blog, Mar 4, 2020

<http://www.drroyspencer.com/2020/03/australia-bushfire-smoke-now-warming-the-lower-stratosphere/>

Changing Weather

A history of droughts and flooding rains from 1782 – 1865 in Australia

By Jo Nova, Her Blog, Mar 11, 2020

<http://joannenova.com.au/2020/03/a-history-of-droughts-and-flooding-rains-from-1782-1865-in-australia/>

Met Office Does Not Know What “Extreme Weather” Is.

By Paul Homewood, Not a Lot of People Know That, Mar 9, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/09/met-office-does-not-know-what-extreme-weather-is/>

“On the 10th of the month, The Times published a report from a correspondent in Dover: One of the most awful nights ever known here is being experienced in the Channel tonight. The gale of this afternoon has increased into a hurricane, accompanied by a blizzard. The sea in the harbour is so rough that the waves are washing over the quays, and great excitement prevails, the greatest difficulty being experienced in holding the vessels to their moorings. But the Met remained phlegmatic. Their forecast for the 10th, issued at 8:30 pm on the previous day, merely suggested that in the South-west and in South Wales there would be ‘wind backing northwards and moderating; very cold, some snow.’”

Environment Blame Floods On “Climate Emergency”

By Paul Homewood, Not a Lot of People Know That, Mar 6, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/06/environment-blame-floods-on-climate-emergency/>

Record February Rainfall? Pretty Meaningless Actually.

By Paul Homewood, Not a Lot of People Know That, Mar 2, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/02/record-february-rainfall-pretty-meaningless-actually/>

Changing Climate – Cultures & Civilizations

Fire from the sky

By Staff Writers, Santa Barbara CA (SPX), Mar 09, 2020

https://www.spacedaily.com/reports/Fire_from_the_sky_999.html

Changing Seas

Industrialization or not, sea level rise was a constant phenomenon, finds new study

Faster sea level rise along NY, Boston recorded even before industrialization

By Soorya Kiran, International Business Times, Mar 2, 2020

<https://www.ibtimes.sg/industrialization-not-sea-level-rise-was-constant-phenomenon-finds-new-study-40337>

Study shows rapid sea level rise along Atlantic coast of North America in 18th century

Study found evidence for a period of enhanced pre-industrial sea-level rise of about 2-3 millimeters per year

Press Release, University of York, Feb 28, 2020

https://www.eurekalert.org/pub_releases/2020-02/uoy-ssr022820.php

Link to paper: A Preindustrial Sea-Level Rise Hotspot Along the Atlantic Coast of North America
By W.R. Gehrels, et al. Geophysical Research Letters, Feb 13, 2020

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019GL085814>

Looking For Acceleration In All The Wrong Places

By Willis Eschenbach, WUWT, Mar 8, 2020

<https://wattsupwiththat.com/2020/03/08/looking-for-acceleration-in-all-the-wrong-places/>

Waves and tides have bigger impact on marine life than human activity

By Staff Writers, Swansea UK (SPX), Mar 05, 2020

https://www.terrady.com/reports/Waves_and_tides_have_bigger_impact_on_marine_life_than_human_activity_999.html

Link to paper: Natural dynamics overshadow anthropogenic impact on marine fauna at an urbanised coastal embayment

By Ruth Callaway, et al., Science of The Total Environment, May 10, 2020

<https://www.sciencedirect.com/science/article/pii/S0048969720305192?via%3Dihub>

Climate Change Is Intensifying Arctic Ocean Currents

Melting ice means that strong Arctic winds create more energetic currents in the Beaufort Gyre.

By Hannah Thomasy, Eos, Mar 3, 2020 [H/t Bernie Kepshire]

<https://eos.org/articles/climate-change-is-intensifying-arctic-ocean-currents>

Coral reefs in Turks and Caicos Islands resist global bleaching event

Press Release, University of Illinois at Urbana-Champaign, Mar 3, 2020 [H/t WUWT]

https://www.eurekalert.org/pub_releases/2020-03/uoia-cri030320.php

Ocean changes almost starved life of oxygen

By Staff Writers, Exeter UK (SPX) Mar 04, 2020

https://www.terrady.com/reports/Ocean_changes_almost_starved_life_of_oxygen_999.html

Link to paper: Phosphorus-limited conditions in the early Neoproterozoic ocean maintained low levels of atmospheric oxygen

By Romain Guilbaud, et al. Nature Geoscience, Mar 2, 2020

<https://www.nature.com/articles/s41561-020-0548-7>

“Chemical changes in the oceans more than 800 million years ago almost destroyed the oxygen-rich atmosphere that paved the way for complex life on Earth, new research suggests.”

Changing Cryosphere – Land / Sea Ice

Arctic Meltdown Latest

Paul Homewood, Not A Lot Of People Know That, Mar 3, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/03/arctic-meltdown-latest/>

Finnish Meteorological Institute Reports Northern Hemisphere Snow Mass “Highest Levels In Year”!

By P Gosselin, No Tricks Zone, Mar 8, 2020

<https://notrickszone.com/2020/03/08/finnish-meteorological-institute-reports-northern-hemisphere-snow-mass-highest-levels-in-year/>

[SEPP Comment: Based on records starting in 1982.]

Svalbard Norway now has more polar bear habitat than it did two decades ago

By Susan Crockford, Polar Bear Science, Mar 1, 2020

<https://polarbearscience.com/2020/03/01/svalbard-norway-now-has-more-polar-bear-habitat-than-it-did-two-decades-ago/>

Agriculture Issues & Fear of Famine

FAO: ‘...early indications point to a near-record wheat production in 2020’

By Anthony Watts, Mar 9, 2020

<https://wattsupwiththat.com/2020/03/09/fao-early-indications-point-to-a-near-record-wheat-production-in-2020/>

Link to report: Amid generally well supplied cereal markets, early indications point to a near-record wheat production in 2020

FAO Cereal Supply and Demand Brief

By Staff, Food and Agriculture Organization, Mar 5, 2020

<http://www.fao.org/worldfoodsituation/csdb/en/>

Damaging impacts of warming moderated by migration of rainfed crops

Continued migration, however, may result in significant environmental costs

News Release, Colorado State University, Mar 6, 2020 [H/t WUWT]

https://www.eurekalert.org/pub_releases/2020-03/csu-dio030620.php

Link to paper: Climate adaptation by crop migration

By Lendsey Sloat, et al., Nature Communications,

[https://www.nature.com/articles/s41467-020-15076-4.epdf?author_access_token=CBdwM96Jm3Xgl1GluU54I9RgN0jAjWel9jnR3ZoTv0NQa4YzV-MWIs9-](https://www.nature.com/articles/s41467-020-15076-4.epdf?author_access_token=CBdwM96Jm3Xgl1GluU54I9RgN0jAjWel9jnR3ZoTv0NQa4YzV-MWIs9-SrWbXW_XjKqGJQEYkM2kaB2gkQztuxw7W6QXkOO2XNN2CMEZVE92bHzY4oNy516iXteYnQaEuWqn7ITno9IkXiyItJKRRw%3D%3D)

[SrWbXW_XjKqGJQEYkM2kaB2gkQztuxw7W6QXkOO2XNN2CMEZVE92bHzY4oNy516iXteYnQaEuWqn7ITno9IkXiyItJKRRw%3D%3D](https://www.nature.com/articles/s41467-020-15076-4.epdf?author_access_token=CBdwM96Jm3Xgl1GluU54I9RgN0jAjWel9jnR3ZoTv0NQa4YzV-MWIs9-SrWbXW_XjKqGJQEYkM2kaB2gkQztuxw7W6QXkOO2XNN2CMEZVE92bHzY4oNy516iXteYnQaEuWqn7ITno9IkXiyItJKRRw%3D%3D)

[SEPP Comment: How do crops migrate? Study assumes farmers continue with the same varieties.]

Lowering Standards

Met Office’s February Storms Misdirection

By Paul Homewood, Not a Lot of People Know That, Mar 11, 2020
<https://notalotofpeopleknowthat.wordpress.com/2020/03/11/met-offices-february-storms-misdirection/>

Harrabin Confuses Predictions With Reality.

By Paul Homewood, Not a Lot of People Know That, Mar 2, 2020
<https://notalotofpeopleknowthat.wordpress.com/2020/03/02/harrabin-confuses-predictions-with-reality/>

[SEPP Comment: In another post, Paul Homewood states that the BBC's Energy and Environment Analyst and one of their senior journalists on the environment and energy are demanding that "cheap" onshore windfarms get more subsidies!]

Communicating Better to the Public – Use Yellow (Green) Journalism? **Smears and science denial from the New York Times**

By Larry Kummer, Fabius Maximus website, Mar 6, 2020
<https://fabiusmaximus.com/2020/03/06/misinformation-from-ny-times/>

Times: Coronavirus will Kill All the Old Climate Skeptics

By Eric Worrall, WUWT, Mar 7, 2020
<https://wattsupwiththat.com/2020/03/07/times-coronavirus-will-kill-all-the-old-climate-skeptics/>

Fact-checking the NY Times' "Lies"

By Kip Hansen, WUWT, Mar 4, 2020
<https://wattsupwiththat.com/2020/03/04/fact-checking-the-ny-times-lies/>

[SEPP Comment: Indur Goklany is the author of the outstanding 2007 book on the environment: "The Improving State of the World." Since he relies on facts, not fiction, he is despised by the green press.]

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

Recent Trends in Amazon Fires

By Roger Pielke Jr. His Blog, Mar 6, 2020
<https://rogerpielkejr.com/2020/03/06/recent-trends-in-amazon-fires/>
[SEPP Comment: Despite headlines, no trends.]

Climate Alarmists Knowingly Use False Advertising to Push Radical Action

By H. Sterling Burnett, Townhall, Mar 5, 2020
<https://townhall.com/columnists/hsterlingburnett/2020/03/05/climate-alarmists-knowingly-use-false-advertising-to-push-radical-action-n2563276>

CO2 isn't very important but it is

By John Robson, Climate Discussion Nexus, Mar 11, 2020
<https://climatediscussionnexus.com/2020/03/11/co2-isnt-very-important-but-it-is/>

Sad Climate Scientists: "I see a group of people sitting in a boat ... floating right into a ... waterfall"

By Eric Worrall, WUWT, Mar 8, 2020
<https://wattsupwiththat.com/2020/03/08/sad-climate-scientists-i-see-a-group-of-people-sitting-in-a-boat-floating-right-into-a-waterfall/>

Communicating Better to the Public – Make things up.

Aussie Government ABC Predicts Mass Extinction in our Lifetimes

By Eric Worrall, WUWT, Mar 3, 2020

<https://wattsupwiththat.com/2020/03/03/aussie-government-abc-predicts-mass-extinction-in-our-lifetimes/>

Warming Marble Bar

By Jennifer Marohasy, Her Blog, Mar 1, 2020

<https://jennifermarohasy.com/2020/03/warming-marble-bar/>

Half of world's sandy beaches could disappear due to sea level rise by 2100

By Simon Boxall and Sbiy Kebede, The Conversation, March 2, 2020 [H/t Bernie Kepshire]

<https://theconversation.com/half-of-worlds-sandy-beaches-could-disappear-due-to-sea-level-rise-by-2100-132688>

[SEPP Comment: See link immediately below.]

RCP8.5 as BAU Study of the Day

By Roger Pielke Jr. His Blog, Mar 3, 2020

<https://rogerpielkejr.com/2020/03/03/rcp8-5-as-bau-study-of-the-day/#more-1303>

[SEPP Comment: See link immediately above.]

Communicating Better to the Public – Do a Poll?

Our survey. Almost half of Party members believe that human activity is driving global warming. Almost a third don't.

By Paul Goodman, Conservative Home, Mar 3, 2020

<https://www.conservativehome.com/thetorydiary/2020/03/our-survey-almost-half-of-party-members-believe-that-human-activity-is-driving-global-warming-almost-a-third-dont.html>

Expanding the Orthodoxy

Central Bankers Should Stay Out of the Climate Debate

By Daniel Ben-Ami, Spiked, Via GWPF, Mar 10, 2020

<https://www.thegwpf.com/central-bankers-should-stay-out-of-the-climate-debate/>

Questioning European Green

CCC Analysis Reveals The Frightening Cost Of Decarbonisation

By Paul Homewood, Not a Lot of People Know That, Mar 3, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/03/ccc-analysis-reveals-the-frightening-cost-of-decarbonisation/>

Europe Facing Massive Power Deficit

By Paul Homewood, Not a Lot of People Know That, Mar 3, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/03/europe-facing-massive-power-deficit/>

“As I have repeatedly pointed out, batteries and DSR may be fine for intraday smoothing, but are next to useless for covering longer shortages.

“Meanwhile, hydro is limited and hydrogen simply not feasible at scale during this timeframe, while interconnectors will not help when the shortages are Europe-wide.

“Which brings us back to gas fired generation, which, according to Timera, will still be crucial at least until 2050.”

[SEPP Comment: DSR – Demand-side response. Customers will stop using electricity when heavily penalize! What about when needed?]

EU Risks A Green Deal Backlash

By Staff, Financial Times, Via GWPF, Mar 4, 2020

<https://www.thegwpf.com/eu-risks-a-green-deal-backlash/>

Almost 3m elderly people turn off heating as ‘they cannot afford energy bills’

New research shows 18% of people over 65 are on ‘uncompetitive’ Standard Variable Tariffs

By Dimitris Mavrokefalidis, Energy Live News, Mar 10, 2020 [H/t GWPF]

<https://www.energylivenews.com/2020/03/10/almost-3m-elderly-people-turn-off-heating-as-they-cannot-afford-energy-bills/>

Questioning Green Elsewhere

Growth will be a thing of the past if businesses choose 'net zero'

By Rupert Darwall, The Hill, Mar 7, 2020

<https://thehill.com/opinion/energy-environment/486409-growth-will-be-a-thing-of-the-past-if-businesses-choose-net-zero>

The Virginia Clean Energy Act: What It Does and What It Will Cost You

By Stephen Haner, Jefferson Policy Journal, Feb 19, 2020

<http://www.jeffersonpolicyjournal.com/the-virginia-clean-energy-act-what-it-does-and-what-it-will-cost-you/>

The unholy crusade against gas appliances

Eco darling natural gas gives way to wind, solar and battery electricity – and slave labor

By Duggan Flanakin, WUWT, Mar 7, 2020

<https://wattsupwiththat.com/2020/03/07/the-unholy-crusade-against-gas-appliances/>

Renewable Subsidies Leading America Toward European-Style Energy Poverty

By Bill Peacock, Real Clear Energy, Mar 03, 2020

https://www.realclearenergy.org/articles/2020/03/03/renewable_subsidies_leading_america_toward_european-style_energy_poverty_485787.html

AOC’s Pitch for the Green New Deal Is Unhinged From Reality

By James D. Agresti, WUWT, Mar 5, 2020

<https://wattsupwiththat.com/2020/03/05/aocs-pitch-for-the-green-new-deal-is-unhinged-from-reality/>

Non-Green Jobs

Eleven million jobs at risk from EU Green Deal, trade unions warn

By Paul Homewood, Not a Lot of People Know That, Mar 11, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/11/eleven-million-jobs-at-risk-from-eu-green-deal-trade-unions-warn/>

Link to article: Eleven million jobs at risk from EU Green Deal, trade unions warn

By Frédéric Simon, EURACTIV.com, Mar 10, 2020

<https://www.euractiv.com/section/energy-environment/news/eleven-million-jobs-at-risk-from-eu-green-deal-trade-unions-warn/>

“This article is part of our special report Europe’s new Climate Law: Leaving no-one behind?”

Litigation Issues

BUSTED: State climate lawsuits are all about ignoring legislature to get cash stream

By Anthony Watts, WUWT, Mar 11, 2020

<https://wattsupwiththat.com/2020/03/11/caught-state-climate-lawsuits-are-all-about-ignoring-legislature-to-get-cash-stream/>

Climate Change Lawsuits Collapsing Like Dominoes

By Curt Levey, Inside Sources, Mar 5, 2020

<https://www.insidesources.com/climate-change-lawsuits-collapsing-like-dominoes/>

Honolulu Just Sued on Climate. Here's What You Need to Know.

By William Allison, Energy in Depth, Mar 9, 2020

<https://eidclimate.org/honolulu-just-sued-energy-companies-over-climate-change-heres-what-you-need-to-know/>

Heathrow ruling hits National Infrastructure Strategy

The Treasury has briefed the BBC that its National Infrastructure Strategy will not now be published with the budget statement next week, as had been intended.

Editorial, The Construction Index, Mar 6, 2020

<https://www.theconstructionindex.co.uk/news/view/heathrow-ruling-hits-national-infrastructure-strategy>

Subsidies and Mandates Forever

Another Day, Another Blunder: New Subsidies To Renewables Are A Costly Mistake

Press Release, GWPF, Mar 3, 2020

<https://www.thegwpf.com/another-day-another-blunder-new-subsidies-to-renewables-are-a-costly-mistake/>

Government's Green housing plan under fire as developers claim it is 'unworkable'

Ministers want tough standards to slash the carbon footprint of new homes

Housing bosses believe a deadline for the first changes this year is unrealistic

Developers will be banned from connecting properties to the gas grid

They will be encouraged to roll out air-source heat pumps, solar panels and better insulation

By Matt Oliver, Daily Mail, Mar 7, 2020 [H/t GWPF]

<https://www.thisismoney.co.uk/money/markets/article-8084233/Developers-claim-Governments-Green-housing-plan-unworkable.html>

The Government's murky wind subsidies revival is a costly blunder

By John Constable, The Telegraph, Via GWPF, Mar 4, 2020

<https://www.thegwpf.com/the-governments-murky-wind-subsidies-revival-is-a-costly-blunder/>

EPA and other Regulators on the March

EPA Refutes Study Claiming Glyphosate Boosts Cancer Risk

There is a lot of malicious misinformation on the internet about glyphosate. Much of it comes from academia.

By Geoffrey Kabat, ACSH, Feb 27, 2020

<https://www.acsh.org/news/2020/02/27/epa-refutes-study-claiming-glyphosate-boosts-cancer-risk-14600>

NY Times' Friedman Misrepresents EPA's Transparency Rule — Again

By Kip Hansen, WUWT, Mar 6, 2020

<https://wattsupwiththat.com/2020/03/06/ny-times-friedman-misrepresents-epas-transparency-rule-again/>

Energy Issues – Non-US

Germany Proves How Essential Natural Gas Is – And The U.S. Must Supply

By Jude Clemente, Forbes, Mar 8, 2020

<https://www.forbes.com/sites/judeclemente/2020/03/08/germany-proves-how-essential-natural-gas-is--and-the-us-must-supply/#72b6e2b2c215>

The Government's energy policy could cripple global Britain

By Matt Ridley, Global Vision, UK, Mar 8, 2020

<https://globalvisionuk.com/the-governments-energy-policy-could-cripple-global-britain/>

U.K. Energy Prices are Plunging, But Users are Facing Rate Hikes

By Rachel Morison, Bloomberg, Via GWPF, Mar 3, 2020

<https://www.thegwpf.com/uk-govt-punishes-voters-as-costly-climate-policies-drive-up-electricity-bills/>

[SEPP Comment: Higher network and policy costs.]

Energy Issues – Australia

Tasmania wins Freeloader Climate Fashion Award for aim to “be 200% renewable” by 2040

By Jo Nova, Her Blog, Mar 6, 2020

<http://joannenova.com.au/2020/03/tasmania-wins-freeloader-climate-fashion-award-for-aim-to-be-200-renewable-by-2040/>

Energy Issues -- US

Research & Commentary: Studies Show Fracking Ban Would Wreak Havoc on U.S.

Economy

By Tim Benson, WUWT, Mar 4, 2020

<https://wattsupwiththat.com/2020/03/04/research-commentary-studies-show-fracking-ban-would-wreak-havoc-on-u-s-economy/>

Link to report: America's Progress at Risk: An Economic Analysis of a Ban on Fracking and Federal Leasing for Natural Gas and Oil Development

By Staff, American Petroleum Institute, 2020

<https://www.api.org/~media/Files/Oil-and-Natural-Gas/Hydraulic-Fracturing/2020/fracking-ban-study-americas-progress-at-risk>

[SEPP Comment: Presented in the February 29 TWTW]

Russia Yanks A Leg From U.S. Shale's Three-Legged Stool

By David Blackmon, Forbes, Mar 7, 2020

<https://www.forbes.com/sites/davidblackmon/2020/03/07/russia-yanks-a-leg-from-us-shales-three-legged-stool/#3a9d91a3720a>

[SEPP Comment: Poor analogy the shale companies have become more resilient.]

Gas-Heavy ISO-New England Braces for Steep Influx of Wind, Solar, Storage

By Sonal Patel, Power Mag, Mar 12, 2020

<https://www.powermag.com/gas-heavy-iso-new-england-braces-for-steep-influx-of-wind-solar-storage/>

[SEPP Comment: Thanks to heavy subsidies the new sources are 68% wind, 15% solar, 11% battery storage! Good luck consumers!]

New York's Self-Inflicted Green Energy Crunch, Temporarily Postponed

By Francis Menton, Manhattan Contrarian, Mar 13, 2020

<https://www.manhattancontrarian.com/blog/2020-3-13-new-yorks-self-inflicted-green-energy-crunch-postponed-again>

[SEPP Comment: No pipeline needed, just lots of trucks.]

New York's Cuomo vs. the Grassroots on Wind & Solar

By Sherri Lange, Master Resource, Mar 11, 2020

<https://www.masterresource.org/wind-siting-issues/cuomo-vs-grassroots-wind-solar/>

Oil and Natural Gas – the Future or the Past?

Saudi Aramco to invest \$110 billion into Jafurah unconventional gas field

The field has an estimated gas volume of 200 trillion cubic feet of rich raw gas

By Carla Sertin, Oil and Gas Middle East, Feb 23, 2020

<https://www.oilandgasmiddleeast.com/drilling-production/36227-saudi-aramco-to-invest-110-billion-into-jafurah-unconventional-gas-field>

Covid-19 and Russia collusion to kill shale! Film at 11.

By David Middleton, WUWT, Mar 9, 2020

<https://wattsupwiththat.com/2020/03/09/covid-19-and-russia-collusion-to-kill-shale-film-at-11/>

[SEPP Comment: Middleton discusses a characteristic of a free market economy that many in authoritarian states and experts do not understand – the freedom to enter and leave the industry when economic conditions change. It may be costly, but there is no government requirement involved.]

Global Oil Producers Face Brutal Reckoning After Epic OPEC+ Fail

By Jack Farchy and Javier Blas, Bloomberg, Mar 6, 2020

<https://www.bloomberg.com/news/articles/2020-03-06/global-oil-producers-face-brutal-reckoning-after-epic-opec-fail>

Alpine High: Oil's well that ends well... Except when it doesn't.

By David Middleton, WUWT, Mar 4, 2020

<https://wattsupwiththat.com/2020/03/04/alpine-high-oils-well-that-ends-well-except-when-it-doesnt/>

It's 'Oh Frack Yeah' for US Oil and Natural Gas

By Jakob Puckett, Real Clear Energy, March 10, 2020

https://www.realclearenergy.org/articles/2020/03/10/its_oh_frack_yeah_for_us_oil_and_natural_gas_486308.html

“Methane’s atmospheric effects are more potent in the short term, but when its effects are evaluated over the standard 100-year outlook, it has half the warming effects as CO2.”

[SEPP Comment: More like one-tenth, perhaps. The issue is silly.]

Unexpected discovery: Blue-green algae produce oil

By Staff Writers. Bonn, Germany (SPX), Mar 10, 2020

https://www.biofueldaily.com/reports/Unexpected_discovery_Blue_green_algae_produce_oil_999.html

Link to paper: Triacylglycerol and phytyl ester synthesis in *Synechocystis* sp. PCC6803

By Mohammed Aizouq, et al. PNAS, Mar 2, 2020

<https://www.pnas.org/content/early/2020/02/25/1915930117>

Return of King Coal?

Guardian Climate Crisis: Coal Use is Not Falling Fast Enough

By Eric Worrall, WUWT, Mar 9, 2020

<https://wattsupwiththat.com/2020/03/09/guardian-climate-crisis-coal-use-is-not-falling-fast-enough/>

Nuclear Energy and Fears

UK – Three quarters of Gen Z doesn't even know Nuclear is “low carbon”

By Jo Nova, Her Blog, Mar 12, 2020

<http://joannenova.com.au/2020/03/uk-three-quarters-of-gen-z-doesnt-even-know-nuclear-is-low-carbon/>

Pentagon seeks designs for portable nuclear reactors

By Ed Adamczyk, Washington DC (UPI), Mar 09, 2020

https://www.nuclearpowerdaily.com/reports/Pentagon_seeks_designs_for_portable_nuclear_reactors_999.html

[SEPP Comment: Easier to install than portable wind turbines.]

Alternative, Green (“Clean”) Solar and Wind

It's Easy to be Fooled by a Climate Alarmist

Dispelling the fallacies of a solar company owner

By Gregory Wrightstone, Medium.com, Via WUWT, Mar 11, 2020

<https://wattsupwiththat.com/2020/03/11/its-easy-to-be-fooled-by-a-climate-alarmist/>

Energy & Environmental Newsletter: March 2, 2020

By John Droz, Master Resource, Mar 2, 2020

<https://www.masterresource.org/alliance-for-wise-energy-decisions/energy-environmental-newsletter-3-2-2020/>

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

Three days of clouds and solar and battery fails leaving remote community cut off without phones

By Jo Nova, Her Blog, Mar 7, 2020

<http://joannenova.com.au/2020/03/three-days-of-clouds-and-solar-and-battery-fails-leaving-remote-community-cut-off-without-phones/>

Elon Musk's Battery Farm Is an Undeniable Success

It's the bet that saved Australia tens of millions of dollars.

By Caroline Delbert, Popular Mechanics, Mar 10, 2020

https://www.popularmechanics.com/science/a31350880/elon-musk-battery-farm/?source=nl&utm_source=nl_pop&utm_medium=email&date=031120&utm_campaign=nl19667222&src=nl

“By storing power up to its capacity of 100 MW, this “battery” can absorb brief blips in the grid surrounding it, reducing outages for residents and easing the burden on businesses or facilities that lose money, product, and more during those outages.”

“The dedicated battery farm can power 30,000 homes for **up to an hour**, which relieves the burden on the grid during hot summer days when failure is most likely.” [Boldface added.]
[SEPP Comment: An expense required by the closing of coal-fired power plants. Is the battery farm successful during the second hour?]

Alternative, Green (“Clean”) Vehicles

Automakers required to sell more electric vehicles under new legislation in Washington state

By Staff, Seattle Times, Mar 9, 2020 [H/t Cooler Heads]

<https://www.seattletimes.com/seattle-news/automakers-required-to-sell-more-electric-vehicles-under-new-legislation-in-washington-state/>

“The bill requires automakers in 2022 to make about 5% of the vehicles sold in Washington state to be electric or other types of zero-emission vehicles such as those fueled by hydrogen, according to Metz. That will increase to around 8% by 2025.”

Carbon Schemes

The carbon capture con

By Viv Forbes, American Thinker, Mar 6, 2020

https://www.americanthinker.com/blog/2020/03/the_carbon_capture_con.html

Carbon capture and storage has stalled needlessly – three reasons why fears of CO₂ leakage are overblown

By Stephanie Flude and Juan Alcade, The Conversation, Mar 4, 2020

<https://theconversation.com/carbon-capture-and-storage-has-stalled-needlessly-three-reasons-why-fears-of-co-leakage-are-overblown-130747>

Health, Energy, and Climate

Air Pollution And Mortality: Measuring The Long And Short Of It

By Fred Lipfert, ACSH, March 10, 2020

<https://www.acsh.org/news/2020/03/10/air-pollution-and-mortality-measuring-long-and-short-it-14619>

Climate crisis on back-burner as pandemic threat looms

By Marlowe Hood, AFP, Mar 8, 2020 [H/t WUWT]

<https://news.yahoo.com/climate-crisis-back-burner-pandemic-threat-looms-092249218.html>

“Any climate change benefits from the coronavirus outbreak are bound to be undone by what one analyst called ‘revenge emissions’”

Following The Money: The Impact Of Physician Migration

By Chuck Dinerstein, ACSH, Mar 9, 2020

<https://www.acsh.org/news/2020/03/09/following-money-impact-physician-migration-14620>

Yes, Wuhan to the rescue

By John Robson, Climate Discussion Nexus, Mar 11, 2020

<https://climatediscussionnexus.com/2020/03/11/yes-wuhan-to-the-rescue/>

“Still, when the advent of COVID-19 fulfills your dreams, you might want to think again about those dreams.”

Other Scientific News

Ancient shell shows days were half-hour shorter 70 million years ago

By Staff Writers, Washington DC (SPX), Mar 10, 2020

https://www.terraily.com/reports/Ancient_shell_shows_days_were_half_hour_shorter_70_millions_years_ago_999.html

Link to paper: Subdaily-Scale Chemical Variability in a *Torreites Sanchezi* Rudist Shell: Implications for Rudist Paleobiology and the Cretaceous Day-Night Cycle

By Niels J. de Winter, et al., Paleoclimatology and Paleoclimatology, Feb 5, 2020

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019PA003723>

Antarctic subglacial lakes are cold, dark and full of secrets

By Allison Mills for MTU News, Houghton MI (SPX) ,Mar 05, 2020

https://www.spacedaily.com/reports/Antarctic_subglacial_lakes_are_cold_dark_and_full_of_secrets_999.html

Link to paper: Biogeochemical Connectivity Between Freshwater Ecosystems beneath the West Antarctic Ice Sheet and the Sub-Ice Marine Environment

By Trista J. Vick-Majors, et al., Global Biogeochemical Cycles, Feb 26, 2020

<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019GB006446>

Geologists determine early Earth was a 'water world' by studying exposed ocean crust

By Staff Writers, Ames IA (SPX), Mar 04, 2020

https://www.terraily.com/reports/Geologists_determine_early_Earth_was_a_water_world_by_studying_exposed_ocean_crust_999.html

Link to paper: Limited Archaean continental emergence reflected in an early Archaean 18O-enriched ocean

By Benjamin W. Johnson & Boswell A. Wing, Nature Geoscience, Mar 2, 2020

<https://www.nature.com/articles/s41561-020-0538-9>

Weather Radar Shows Spring Bird Migration

By Cliff Mass, Weather Blog, Mar 6, 2020

<https://cliffmass.blogspot.com/2020/03/weather-radar-shows-spring-bird.html>

“So why did the birds decide on Wednesday night to begin moving northward. Yes, it was the right time of the year...but there is something else. The meteorology was nearly perfect.”

Other News that May Be of Interest

Panic and the Coronavirus: Is There is Better Approach?

By Cliff Mass, Weather Blog, Mar 13, 2020

<https://cliffmass.blogspot.com/2020/03/panic-and-coronavirus-is-there-is.html>

BELOW THE BOTTOM LINE:

A dam right across the North Sea

By Staff Writers, Texel, Netherlands (SPX), Mar 04, 2020

https://www.terraily.com/reports/A_dam_right_across_the_North_Sea_999.html

Link to paper: NEED The Northern European Enclosure Dam for if climate change mitigation fails

By Sjoerd Groeskamp and Joakim Kjellsson, AMS, Feb 13, 2020

<https://journals.ametsoc.org/doi/10.1175/BAMS-D-19-0145.1>

Banning the Sale of Firearms and Ammunition Because of Wuhan Virus? An Illinois Mayor Just Signed an Executive Order to Do It

By Katie Pavlich, Townhall, Mar 13, 2020

<https://townhall.com/tipsheet/katiepavlich/2020/03/13/illinois-mayor-may-ban-firearms-ammunition-as-part-of-emergency-over-wuhan-virus-n2564916>

Claim: A 2017 Ice Locked Arctic Research Vessel was Evidence Scientists are Unprepared for Global Warming

By Eric Worrall, WUWT, Mar 2, 2020

<https://wattsupwiththat.com/2020/03/02/claim-iced-in-research-vessel-evidence-scientists-are-unprepared-for-global-warming/>

Climate change at Mount Rainier to increase 'mismatch' between visitors, wildflowers

Press Release, University of Washington, Mar 9, 2020 [H/t WUWT]

https://www.eurekalert.org/pub_releases/2020-03/uow-cca030920.php

[SEPP Comment: Visitors cannot change with peak season?]

Climate Change Could Threaten Sea Snails in Mid-Atlantic Waters

Common whelk live in one of the fastest-warming marine areas, Rutgers-led study says

Press Release, Rutgers, Mar 11, 2020 [H/t WUWT]

<https://www.rutgers.edu/news/climate-change-could-threaten-sea-snails-mid-atlantic-waters>

ARTICLES

1. Covid-19 Makes Oil Markets Sweat

Russia's push for lower prices gets a boost from a demand shock. Can U.S. shale producers survive?

By Daniel Yergin, WSJ, Mar 10, 2020 [Before the WHO declaration of a worldwide pandemic]

https://www.wsj.com/articles/covid-19-makes-oil-markets-sweat-11583856025?mod=opinion_lead_pos5

TWTW Summary: The noted author on the oil industry states:

The oil-exporting alliance between Saudi Arabia and Russia collapsed on Friday after almost four years. The OPEC+ deal, which the two countries brokered in 2016 after a debilitating 2014 price collapse, is over, called off by the Russians. Result: a free-for-all in the world oil market, lower prices and a battle for market share. The No. 1 target in Russia's crosshairs is the U.S. shale industry.

John D. Rockefeller in the 19th century described this kind of battle as 'good sweating'—low prices that put pressure on competitors. The term takes on added meaning now. The sweating in the market, as in a growing number of sick people, is a symptom of the new coronavirus.

The outlook for oil looked much better at the beginning of the year. The 'phase one' U.S.-China trade deal appeared poised to boost the world economy and increase demand for petroleum. But

the coronavirus epidemic and subsequent shutdowns in China caused demand to plummet in the world's largest importer of oil. Elsewhere demand has tapered.

The result has been an unprecedented shock to the global oil market. IHS Markit, where I work, estimates that in the first quarter of 2020 global demand cratered by 3.8 million barrels a day [b/d] compared with the same period in 2019. This would be the largest drop ever, bigger even than during the 2008 financial crisis. Before Russia's decision on Friday, oil prices had already fallen almost 30% since the year began.

According to Statista, the 2019 daily demand was 100.3 million b/d.

The Saudis, who cut oil output in 2019, were pushing the idea of further cuts out to the end of the year by the Organization of the Petroleum Exporting Countries and its non-OPEC allies as a way to stem the price decline caused by the virus. But on Friday Russian Energy Minister Alexander Novak delivered a clear message: Russia is not on board. Prices fell another 10%. On Monday Saudi Aramco announced it is slashing prices and boosting production, and the plummet followed.

The Russians provided a clue to their thinking on the virus by canceling the St. Petersburg International Economic Forum, the global conclave that is Vladimir Putin's answer to Davos. It was scheduled for June. The Russians see a global pandemic that will continue to bring oil prices down. A production cut would be a Band-Aid that would work only for a few weeks.

Consider also the relationship between Russia and Saudi Arabia. Mr. Putin's visit to Saudi Arabia last fall, during which he presented King Salman with a Siberian falcon, showed a growing relationship that extended beyond oil. But relations have since cooled, especially regarding oil. Moscow and Riyadh have different perspectives. Russia's budget relies on \$42 a barrel. Saudi Arabia needs a considerably higher price, particularly to fund its ambitious Vision 2030 reform program.

The two countries have a fundamentally different view of the growth in U.S. shale oil production. Saudi Arabia has largely accommodated itself to the idea that American shale is here to stay. Not Russia. Moscow has asked why it should restrain its oil output and surrender market share to its strategic competitor, the U.S. Since the 2016 OPEC+ deal, U.S. oil output has grown by 4.8 million barrels a day—almost a 60% increase.

Russia may be an energy superpower, but it has been overtaken by America, which produces more oil and more gas—and considerably more oil than Saudi Arabia. The U.S. is also on the way to becoming one of the world's major exporters of natural gas, in its liquefied form. That provided another reason for Moscow to promote the 'good sweating' to stem U.S. production.

The market disarray is also Moscow's payback for sanctions the U.S. imposed in December on the \$11 billion Nord Stream 2 pipeline, which is meant to carry Russian natural gas under the Baltic Sea to Germany. The sanctions forced the barge laying the undersea pipe to stop work abruptly—a week or so short of completion.

One can surmise that Moscow interpreted the sanctions not as punishment for invading Ukraine or interfering in the 2016 U.S. presidential election, but as a way to favor U.S. natural gas exports to Europe. Support for that theory came from President Trump, who in a tweet last

summer announced that Europe would be buying ‘vast amounts of LNG’ from the U.S. He signed the sanctions bill a few months later. Moscow didn’t think this was a coincidence.

The author concludes that Russia and Saudi Arabia can tolerate low oil prices for a long time. Others believe that it may not be so long. See links under Oil and Natural Gas – the Future or the Past?

2. West’s Biggest Reservoir Is Back on the Rise, Thanks to Conservation, Snow

Lake Mead, near Las Vegas, reaches its highest level in six years after successful efforts to slash water use

By Jim Carlton, WSJ, Mar 11, 2020

https://www.wsj.com/articles/a-conservation-success-story-lake-mead-is-rising-again-11583786913?mod=hp_lead_pos10

TWTW Summary: The reporter states:

The largest reservoir in the Western U.S., Lake Mead, is rising again after more than a decade of decline, and at least some credit goes to the local National Hockey League team.

‘Reality check!’ Ryan Reaves, right wing for the Vegas Golden Knights, yells as he body-slams a man through a plate-glass window for excessive lawn watering in a television commercial. ‘Vegas is enforcing water waste big time.’

Ads like this began airing last year as part of a campaign by the Southern Nevada Water Authority to persuade the more than two million residents of this sprawling desert metropolis to use less water. Using a carrot-and-stick approach, including paying landowners to remove grass and fining for overuse, the agency said it has cut total Colorado River water consumption by 25% over the past two decades, even as the population it serves has grown around 50%.

The savings are crucial because Lake Mead, which is fed by the Colorado River, supplies more than 40 million people in seven states in the fast-growing Southwest and had dropped precipitously during a drought between 2000 and 2015, undermining a \$1.4 trillion economy tied to the river, according to Arizona State University estimates. Expanded conservation across the region, combined with snowier winters in the Colorado’s headwaters, have reversed the decline. Since 2016, Lake Mead has risen 25 feet to 1,096 feet as of Tuesday, leaving it 44% full and at its highest level in six years.

An accompanying graph shows Nevada’s consumption of Colorado River water peaked at 100 billion gallons in 2002 and was down to 76 billion in 2018. Meanwhile, the Irvine Ranch Water District in Orange County, CA, has been able to cut its per capita drinking-water use by nearly one-fifth by conservation programs such as higher assessment rates based in increasing use. The report continues:

“One reason for the plunge in use has been a massive conversion of water-sucking turf grass to drought-tolerant lawns. In 2015, the Metropolitan Water District of Southern California doled out about \$350 million in rebates for conversion of water-intensive turf grass to drought-tolerant lawns—seven times what had been budgeted.”

Most of Nevada's water is now recycled, including from sinks and showers. Much of the recycled water is returned to Lake Mead, where the Southern Nevada Water Authority has stockpiled enough water to account for about seven feet of the reservoir or more than two years of its allotted supply of 300,000 acre-feet a year.

With most water used outdoors, the agency focused on reducing consumption on the lawns and golf courses that carpet the Las Vegas Valley, which sits in a desert that receives only four inches of rain annually.

Building codes were amended to prohibit new turf in the front yards of new homes, while rebates were paid to yank out nearly 200 million square feet of grass—enough to cover 3,350 football fields.

The report concludes discussing golf courses that converted to desert landscaping.
