

The Week That Was: 2017-05-27 (May 27, 2017)

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The Science and Environmental Policy Project

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Quote of the Week. *“There is no greater mistake than to try to leap an abyss in two jumps”*– David Lloyd George, During WWI, British Chancellor of the Exchequer, then Prime Minister [H/t Leo Goldstein]

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Number of the Week: Number of the Week: 1927 – 90 years ago

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THIS WEEK:

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

What Did Trump Learn? President Trump just returned from a meeting with the G-7, a group of industrialized nations. According to reports, some of the leaders of the G-7 countries tried to convince Trump of the need to commit to the Paris Agreement limiting carbon dioxide (CO₂) emissions, and he did not do so. Speculation abounds on what he will do in the coming weeks regarding the Agreement. He had stated he would announce a decision after the G-7 meeting.

Those advocating the Paris Agreement have never offered physical evidence that CO₂ emissions are the primary cause of global warming / climate change. They just assumed it. So did the UN Intergovernmental Panel on Climate Change (IPCC), and other political bodies such as the US Global Change Research Program (USGCRP), with a budget of about \$2.5 billion per year. It will be interesting to see if mere assumptions, accompanied by great publicity, will be good enough for President Trump to commit to a program that may cause massive damage to the US economy.

A brief examination of the economies of the G-7 countries is in order. Following is a list of the G-7 with the real gross domestic product (GDP) for 2018 as forecasted by the Organisation for Economic Co-operation and Development (OECD) in round brackets or parentheses.

The Group of 7 (G7) countries are Canada (2.34%), France (1.59%), Germany (1.74%), Italy (1.03%), Japan (0.83%), the United Kingdom (0.96%) and the United States (3.00%). For many economists, an economic growth rate of 2% or less is stagnation.

From this, one can conclude that there is no other country on the list whose economic policies are desirable for the US to imitate. It should be noted that from 1947 to 2016, the annual growth rate in the United States averaged 3.2%. But, during the Obama administration the annual growth rate did not exceed 2%. This was the worst recovery from an economic downturn (2008-2009) since the Great Depression (1930s). The forecast of 3% growth for 2018 may be optimistic, but it is consistent with US long-term growth. Mr. Trump has a powerful economic reason to abandon the Paris Agreement and no scientific justification for staying in the agreement.

The economies of countries such as the UK, Germany, and Italy are stagnating in part due to government policies that did not appropriately account for the increases in electricity costs that occur in shifting from reliable fossil fuel generation to unreliable solar and wind generation. Germany is compounding its problem by shifting from reliable nuclear generation and is being forced to expand power plants burning brown coal, which produces more CO₂ than black coal (a higher thermal content).

See links under After Paris!, After Paris! – US Against, Change in US Administrations and OECD (2017), Real GDP forecast (indicator). doi: 10.1787/1f84150b-en (Accessed on 28 May 2017) <https://data.oecd.org/gdp/real-gdp-forecast.htm>

[“Real gross domestic product (GDP) is GDP given in constant prices and refers to the volume level of GDP. Constant price estimates of GDP are obtained by expressing values of all goods and services produced in a given year, expressed in terms of a base period. Forecast is based on an assessment of the economic climate in individual countries and the world economy, using a combination of model-based analyses and expert judgement. This indicator is measured in growth rates compared to previous year.”]

Legal Tar Pit? Ironically, a report by the United Nations Environment Programme, a parent organization of the IPCC, provides clear reasons why the US should vacate its participation in the Paris Agreement and all related issues stemming from the United Nations Framework Convention on Climate Change (UNFCCC). Issued jointly with the Sabin Center for Climate Change Law at Columbia University in the City of New York, the report provides a review of litigation procedures and techniques that groups can use against governments and corporations that are “not doing enough to fight global warming” – whatever that means.

The executive summary demonstrates that the lack of physical evidence is no obstacle to the UN organizations to claim harm:

“Impacts such as heat waves and destructive coastal storms are growing in frequency and severity as a result of human-cause emissions. The costs to governments, private actors, and communities of dealing with these impacts are significant.

*“National and international policymakers have struggled to develop effective means of addressing both the underlying causes and the effects of climate change. Climate change mitigation and adaptation policies have emerged slowly and have often set targets based on political feasibility rather than **the consensus scientific understanding of what is required to stabilize the climate at an acceptable level.***

*“National and international policymakers have succeeded in creating some legal frameworks for climate action. Many nations have laws or policies addressing aspects of the climate problem, and the Paris Agreement provided for a catalogue of national commitments toward the goal of averting average global warming in excess of 1.5°C and 2°C. **Litigants have begun to make use of these codifications in arguments about the adequacy or inadequacy of efforts by national governments to protect individual rights vis-à-vis climate change and its impacts.**” [Boldface added.]*

As Chris Horner of the Competitive Enterprise Institute (CEI) said: *“Crucial legal predicate for pushing governments is code for the hook that activist green groups, attorneys general and courts are looking for.” “The key question, which this cryptically addresses, is the legal risk that results from staying in Paris,”*

No doubt, the state attorneys general and politicians who tried to censor independent review of the lack of physical evidence supporting the notion that CO2 is the control knob of climate are looking at how to apply this UN document for their purposes. The legal tar pits that it creates will

not benefit the public but only special interest groups seeking to limit economic growth. See links under After Paris!

Book Review “Clexit”: In “*Clexit: For a Brighter Future*” retired GE power engineer / executive Donn Dears writes a clear, succinct argument exposing the myths that the United States can safely and economically convert from fossil fuels to solar and wind. In so doing, he bares the folly of those who assert that the nation should remain in the United Nations’ Climate Treaties, including the UNFCCC and the 2015 Paris Agreement. The Agreement is so poorly justified that at the last moment then-President Obama demanded substantial changes to give it the appearance of a non-binding agreement. Yet, many politicians act as if it is as binding to the US as a treaty, even though it has no Senate approval as required by the Constitution for a binding treaty.

In *Clexit*, Mr. Dears demonstrates that it is impossible to cut human carbon dioxide (CO₂) and other greenhouse gases (GHG) emissions sufficiently to slow or stop climate change. To perpetuate this impossible concept and require major sacrifices by the US public in such a vain effort is an immoral waste of resources.

The Paris Agreement became effective on November 4, 2016 when 55 countries, emitting 55% of world-wide human CO₂ emissions, ratified it. Even though Mr. Obama did not bother to submit it to the Senate for approval, his Administration transferred hundreds of millions to a fund under the agreement, the Green Climate Fund, to be administrated by the UN – the same officials who helped create the myth that human CO₂ and GHGs emissions are the primary cause of climate change, which has been ongoing for hundreds of millions of years. A goal of the agreement is to have the fund grow to \$100 billion per year.

The Paris Agreement calls for the US to cut GHG emissions by 80% by 2050, a concept proposed in 2007 in the US Senate, on which the Senate did not act. In a series of chapters surprisingly free of jargon one normally expects from an expert on electrical power, Mr. Dears demonstrates that unless there are unforeseen, breathtaking, technological breakthroughs, the stated goals of the Agreement are hopelessly fanciful.

Mr. Dears demonstrates that the Agreement is very one-sided, against industrialized nations. Based on 2014 data, the US and EU28 (28 countries in the European Union) emitted less than 25% of CO₂, while China and India emitted more than 36%, mostly for electricity. Yet, the agreement calls for the US and EU28 cutting emissions by 80% by 2050, with a world-wide cut of 50% (including China and India). Emissions from China and India can continue to grow until 2030.

Dears argues that world-wide emissions cuts of 50% cannot be achieved, even if the US, Europe, Russia, and Japan totally stopped all emissions!

Similarly, Mr. Dears addresses the myth that solar and wind can replace fossil fuels in the US. There is no cost-effective, reliable, non-fossil fuel, non-nuclear back-up that is commercially available. Solar and wind require full back-up when they fail.

Apparently, the politicians and others advocating the UN agreements and solar and wind as substitutes for fossil fuels cannot comprehend the scope of the problem. How many of those stridently advocating solar and wind would choose to use medical facilities, or even electronic devises, if they were powered exclusively by solar and wind?

See “*Clexit for a Brighter Future*”; By Donn Dears, Critical Thinking Press, Paperback, 2017 On Amazon, \$9.95 <https://www.amazon.com/Clexit-Brighter-Future-Donn-Dears/product-reviews/0981511937>, and Article # 3.

Anatomy of a Deep State: *Wall Street Journal* columnist Kimberley Strassel has a lucid article on the EPA Office of Scientific Integrity illustrating why the Trump administration will be in a long battle to restore scientific integrity in many agencies in the US government. Political operatives with science in their titles are no assurance that their performance and actions will be determined by observations and physical evidence. Efforts to change will be stridently resisted by those who benefit from the political state. See Article # 1.

Peak Oil Reversed? Those who recall the dire claims of the 1970s that the world will run out of oil (and the US out of natural gas) by the end of the 20th century may find an article on peak oil demand amusing. It is difficult to assess how much of this notion is based on realistic trends and how much on current fads that may vanish. See Article # 2.

Number of the Week: 1927 – 90 years ago. In his book discussed above, Donn Dears states that pumped hydro storage was first used in 1927 by Connecticut Power and Light. This involves pumping water uphill, when electricity is in excess; to be run through turbines and generate electricity when it is needed. There have been no major breakthroughs in recent years to supplant it. As Dears illustrates many of the same organizations that oppose fossil fuels also oppose pumped storage -- the only proven technology on a commercial scale to help make solar and wind reliable.

SEPP’S APRIL FOOLS AWARD THE JACKSON

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

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

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

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NEWS YOU CAN USE:

Commentary: Is the Sun Rising?

Cosmic rays on the rise as solar minimum approaches

By Paul Dorian, Vencore Weather, May 15, 2017 [H/t GWPF]

<https://www.vencoreweather.com/blog/2017/5/15/930-am-cosmic-rays-on-the-rise-as-solar-minimum-approaches>

Link to Intercontinental Space Weather Balloon Network

By Tony Phillips, Space Weather, Nov 4, 2016

<http://news.spaceweather.com/intercontinental-space-weather-balloon-network/>

Challenging the Orthodoxy -- NIPCC

Climate Change Reconsidered II: Physical Science

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

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

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

Climate Change Reconsidered II: Biological Impacts

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

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

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

Why Scientists Disagree About Global Warming

The NIPCC Report on the Scientific Consensus

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

<http://climatechangereconsidered.org/>

Download with no charge

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

Challenging the Orthodoxy

Richard Lindzen's talk in Prague

By Luboš Motl, The Reference Frame, May 17, 2017

<http://motls.blogspot.com/2017/05/richard-lindzens-talk-in-prague.html>

No, Santer et al. have not refuted Scott Pruitt

Guest essay by Leo Goldstein, WUWT, May 25, 2017

<https://wattsupwiththat.com/2017/05/25/no-santer-et-al-have-not-refuted-scott-pruitt/>

Link to Santer paper: Tropospheric Warming Over The Past Two Decades

By Santer, Solomon, Wentz, Fu, Po-Chedley, Mears, Painter & Bonfils, Scientific Reports, May 24, 2017

<https://archive.is/EOXfw#selection-461.0-461.46>

Link to Spencer's Rebuttal: Santer takes on Pruitt: The Global Warming Pause and the Devolution of Climate Science

By Roy Spencer, His Blog, May 25, 2017

<http://www.drroyspencer.com/2017/05/santer-takes-on-pruitt-the-global-warming-pause-and-the-devolution-of-climate-science/>

The Concerned Household Electricity Consumers Council Once Again Calls on President Trump and EPA to Revisit and Revoke the Scientifically Invalid CO2 Endangerment Finding

By Alan Carlin, Carlin Economics and Science, May 21, 2017

<http://www.carlineconomics.com/archives/3645>

“I have suggested how anyone who pays electric bills can petition the USEPA to do this.”

“Key Points of New Press Release:

1. Just released, with even more definitive research findings that make it even more certain that CO2 is not a pollutant but rather a beneficial gas that should not be regulated.
2. If the Endangerment Finding is not vacated, whether the current administration likes it or not, it is certain that electric utility, automotive and many other industries will face ongoing EPA CO2 regulation.
3. This scientifically illiterate regulation will raise energy prices thereby reducing U.S. economic growth and jobs.”

A Particularly Lunatic Week for Climate Alarmism

By Alan Carlin, Carlin Economics and Science, May 19, 2017

<http://www.carlineconomics.com/archives/3636>

“Given recent research showing that carbon dioxide emissions have no significant effect on global warming/climate change, a total of \$2.5 trillion seems a mite expensive for doing something that will have no significant effects on the alleged danger posed by climate change.”

Defending the Orthodoxy

Catastrophic climate change – a reminder of what the IPCC actually said

By Roger Andrews, Energy Matters, May 19, 2017

<http://euanmearns.com/catastrophic-climate-change-a-reminder-of-what-the-ipcc-actually-said/#more-18280>

“So how serious is climate change, really? Are you going to take to the hills? Me, I think I’ll stay home and wait for more data.”

Questioning the Orthodoxy

Uncertainty about the Climate Uncertainty Monster

By Judith Curry, Climate Etc. May 19, 2017

<https://judithcurry.com/2017/05/19/uncertainty-about-the-climate-uncertainty-monster/#more-23042>

Climate alarmism: The mother of all availability cascades

Guest essay by Iain Aitken, WUWT, May 22, 2017

<https://wattsupwiththat.com/2017/05/22/climate-alarmism-the-mother-of-all-availability-cascades/>

Degrading Earth’s future climate

The practice of climate science shows little perspective and no humility

By Anthony J. Sadar, The Washington Times, May 21, 2017 [H/t ICECAP]

<http://www.washingtontimes.com/news/2017/may/21/climate-science-shows-lack-of-humility/>

The Popes of Global Warming Religion Write a Book

By Norman Rogers, American Thinker, May 25, 2017 [H/t Timothy Wise]

http://www.americanthinker.com/articles/2017/05/the_popes_of_global_warming_religion_write_a_book.html

After Paris!

UN REPORT: Courts Are An ‘Important Tool’ To Impose Global Warming Laws

By Michael Bastasch, Daily Caller, May 24, 2017 [H/t Cooler Heads]

<http://dailycaller.com/2017/05/24/un-report-courts-are-an-important-tool-to-impose-global-warming-laws/>

Link to report: The Status of Climate Change Litigation: A Global Review

By Staff Writers, United Nations Environment Programme and Columbia Law School, May 2017

<https://wedocs.unep.org/bitstream/handle/20.500.11822/20767/climate-change-litigation.pdf?sequence=1&isAllowed=y>

Who leads the world in the fight against climate change?

By Roger Andrews, Energy Matters, May 15, 2017

<http://euanmearns.com/who-leads-the-world-in-the-fight-against-climate-change/#more-18252>

Trump Has Already Won First Battle Over Paris Climate Agreement

By Bill Murray, Real Clear Energy, May 26, 2017

http://www.realclearenergy.org/articles/2017/05/26/trump_has_already_won_first_battle_over_paris_climate_agreement_110226.html

After Paris! – US Against

Republicans warn Trump: Staying in Paris deal will preserve Obama-era regulations

By Ben Wolfgang, The Washington Times, May 25, 2017

<http://www.washingtontimes.com/news/2017/may/25/republicans-warn-donald-trump-staying-paris-deal-w/>

“Because of existing provisions within the Clean Air Act and others embedded in the Paris Agreement, remaining in it would subject the United States to significant litigation risk that could upend your administration’s ability to fulfill its goal of rescinding the Clean Power Plan.”

[Senators Jim Inhofe, Mitch McConnell and others.]

The case for nixing the Paris Agreement

Carbon dioxide is a benefit to humanity

By William Happer, The Washington Times, May 23, 2017

<http://www.washingtontimes.com/news/2017/may/23/paris-agreement-should-be-nixed/>

The Scientific Argument against the Paris Climate Agreement

By Patrick J. Michaels, CATO, May 25, 2017

<https://www.cato.org/publications/commentary/scientific-argument-against-paris-climate-agreement>

The Looney Effort to Keep the US in the Paris Non-Treaty “Treaty”

By Alan Carlin, Carlin Economics and Science, May 25, 2017

<http://www.carlineconomics.com/archives/3656>

“The Fundamental Reason to Get Out: The “Treaty” Makes Everyone Worse Off Except the CIC”

[Climate-Industrial Complex]

Send the Paris climate deal to die in the Senate

By Christopher Horner, Washington Examiner, May 24, 2017

<http://www.washingtonexaminer.com/send-the-paris-climate-deal-to-die-in-the-senate/article/2623977>

Foreign Entanglements

By Donn Dears, Power For USA, May 24, 2017

<http://www.powerforusa.com/2017/05/23/foreign-entanglements/>

Renounce Climate Alarmism

By Leo Goldstein, WUWT, May 24, 2017

<https://wattsupwiththat.com/2017/05/24/renounce-climate-alarmism/>

Withdraw from Paris by Withdrawing from the U.N. Framework Convention on Climate Change

By Nicolas Loris and Brett Schaefer, The Heritage Foundation, May 25, 2017 [H/t Cooler Heads]

<http://www.heritage.org/environment/report/withdraw-paris-withdrawing-the-un-framework-convention-climate-change>

The ‘Princess and the Pea’

By Don Brunell, Camas Washougal Post Record, WA, May 27, 2017

<http://www.camapostrecord.com/news/2014/may/27/princess-and-pea/>

Change in US Administrations

U.S. is only holdout on Paris climate pledge at G7 summit

By Julia Manchester, The Hill, May 27, 2017

<http://thehill.com/homenews/administration/335405-us-is-g7-only-holdout-on-paris-climate-pledge>

Pruitt Unsure If EPA Will Replace Clean Power Plan

By Jack Fitzpatrick, Morning Consult, May 24, 2017

<https://morningconsult.com/2017/05/24/pruitt-unsure-epa-will-replace-clean-power-plan/>

“Environmentalists argue the Clean Air Act, which calls on the EPA to regulate dangerous air pollutants, requires some kind of rule on power plant emissions. The EPA has also not revoked its ‘endangerment finding,’ a position that greenhouse gases pose a threat to human health.”

“‘Paris represents basically the rest of the world applauding as we penalize ourselves and our economy,’ Pruitt said.”

Budget chief: Trump won't continue Obama's ‘crazy’ spending on climate

By Timothy Cama, The Hill, May 23, 2017

<http://thehill.com/policy/energy-environment/334744-budget-chief-no-crazy-climate-spending-like-obama>

Social Benefits of Carbon

Greener, Not Browner

By Patrick Michaels, CATO, May 15, 2017

<https://www.cato.org/blog/greener-not-browner>

[SEPP Comment: More on the Leaf Area Index (LAI) showing benefits of CO2 enhancement.]

American Trees Are Moving West, and No One Knows Why

Climate change only explains at least 20 percent of the movement.

By Robinson Meyer, The Atlantic, May 17, 2017 [H/t Dick Hoesel]

<https://www.theatlantic.com/science/archive/2017/05/go-west-my-sap/526899/>

Link to paper: Divergence of species responses to climate change

By Songlin Fei, et al. Science Advances, May 17, 2017

<http://advances.sciencemag.org/content/3/5/e1603055>

“Our results indicate that changes in moisture availability have stronger near-term impacts on vegetation dynamics than changes in temperature.” From the abstract.

[SEPP Comment: Does not recognize CO₂ enhancement. The author of *The Atlantic* article obviously does not realize there is very little old growth forest in the East, including the George Washington National Forest.]

Seeking a Common Ground **Rethinking “Sustainability”**

By Mark Carr and Bruce Everett, E21, May 10, 2017 [H/t Timothy Wise]

<https://economics21.org/html/rethinking-%E2%80%9Csustainability%E2%80%9D-2341.html>

“To many people, sustainability means simply thrift, resourcefulness, and long-term planning. In reality, the sustainability movement undermines human ingenuity and progress.”

Two Competing Narratives on Carbon Dioxide

Is carbon dioxide our friend or our foe?

Guest essay by Iain Aitken, WUWT, May 14, 2017

<https://wattsupwiththat.com/2017/05/14/two-competing-narratives-on-carbon-dioxide/>

Review of Recent Scientific Articles by CO₂ Science

A Reduction in US Drought Over the Period 1901-2014

McCabe, G.J., Wolock, D.M. and Austin, S.H. 2017. Variability of runoff-based drought conditions in the conterminous United States. *International Journal of Climatology* **37**: 1014-1021. May 25, 2017

<http://www.co2science.org/articles/V20/may/a16.php>

[SEPP Comment: What little change that has occurred is less drought.]

One Thousand Years of Drought on the Southeastern Tibetan Plateau

Nie, C.Y., Zhang, Q.B. and Lyu, L. 2017. Millennium-long tree-ring chronology reveals megadroughts on the southeastern Tibetan Plateau. *Tree-Ring Research* **73**: 1-10. May 24, 2017

<http://www.co2science.org/articles/V20/may/a15.php>

A New Analysis of European Sea Level Rise

Watson, P.J. 2017. Acceleration in European mean sea level? A new insight using improved tools. *Journal of Coastal Research* **33**: 23-38. May 22, 2017

<http://www.co2science.org/articles/V20/may/a13.php>

An Absence of Trends in Extreme Sea Levels in the Pearl River Estuary

Wang, W. and Zhou, W. 2017. Statistical modeling and trend detection of extreme sea level records in the Pear River Estuary. *Advances in Atmospheric Sciences* **34**: 383-396. May 19, 2017

<http://www.co2science.org/articles/V20/may/a12.php>

[SEPP Comment: No long-term trends of increasing rates.]

Indirect Positive Effects of Ocean Acidification Can Overpower Sometimes Observed Direct Negative Effects

Connell, S.D., Doubleday, Z.A., Hamlyn, S.B., Foster, N.R., Harley, C.D.G., Helmuth, B., Kelaher, B.P., Nagelkerken, I., Sara, G. and Russell, B.D. 2017. How ocean acidification can benefit calcifiers. *Current Biology* **27**: R95-R96. May 18, 2017

<http://www.co2science.org/articles/V20/may/a8.php>

[SEPP Comment: The benefits of CO2 enrichment may override any suspected harm by a slight lowering of pH.]

Changing Weather

An American-Canadian Treasure

By Donn Dears, Power For USA, May 16, 2017

<http://www.powerforusa.com/2017/05/16/an-american-canadian-treasure/>

NOAA: Above-normal Atlantic hurricane season is most likely this year

By Anthony Watts, WUWT, May 25, 2017

<https://wattsupwiththat.com/2017/05/25/noaa-above-normal-atlantic-hurricane-season-is-most-likely-this-year/>

Natural Factors, Not CO2, Driving Switzerland's Surprising Snow (Non)Trends

Strongly fluctuating snow cover in Switzerland appears to be coupled to ocean cycles By Dr. Sebastian Lüning and Prof. Fritz Vahrenholt (German text translated/edited by P Gosselin), No Tricks Zone, May 26, 2017

<http://notrickszone.com/2017/05/26/natural-factors-not-co2-driving-switzerlands-surprising-snow-nontrends/#sthash.FYQwWbjF.dpbs>

Changing Seas

Robust Natural Variability Affirmed In Global Sea Level Rise Rates – No Correlation With CO2 Forcing

By Kenneth Richard, No Tricks Zone, May 25, 2017

<http://notrickszone.com/2017/05/25/robust-natural-variability-affirmed-in-global-sea-level-rise-rates-no-correlation-with-co2-forcing/#sthash.v0d8LPrG.dpbs>

Sea level rise hysteria can be cured by looking at tide gauge data

By Jo Nova, Her Blog, May 26, 2017

<http://joannenova.com.au/2017/05/sea-level-rise-hysteria-can-be-cured-by-looking-at-tide-gauge-data/>

“The big unasked question above: Do CO2 emissions cause Fremantle to sink?”

China to partly fund new CSIRO climate research centre

By Adam Morton, Sydney Morning Herald, May 22, 2017

<http://www.smh.com.au/environment/china-to-partly-fund-new-csiro-climate-research-centre-20170521-gw9sr2.html>

“Based in Hobart, the \$20 million centre will examine the role oceans will play in future climate change, including their influence on floods and drought. It will be half funded by China's Qingdao National Laboratory for Marine Science and Technology.”

Changing Cryosphere – Land / Sea Ice

Oh noes! Antarctica ‘greening’ due to climate change

By Anthony Watts, WUWT, May 18, 2017

<https://wattsupwiththat.com/2017/05/18/oh-noes-antarctica-greening-due-to-climate-change/>

Link to paper: Widespread Biological Response to Rapid Warming on the Antarctic Peninsula

By Matthew Amesbury, Current Biology, May 18, 2017

[http://www.cell.com/current-biology/fulltext/S0960-9822\(17\)30478-5?_returnURL=http%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0960982217304785%3Fshowall%3Dtrue](http://www.cell.com/current-biology/fulltext/S0960-9822(17)30478-5?_returnURL=http%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0960982217304785%3Fshowall%3Dtrue)

[SEPP Comment: On the Western edge of the Antarctic Peninsula, hardly representative of the Continent. May be due to CO2 enrichment.]

Changing Earth

New Paper: Geothermal Heat A Leading Driver Of Surface Temperatures

By Kenneth Richard, No Tricks zone, May 22, 2017

<http://notrickszone.com/2017/05/22/new-paper-geothermal-heat-a-leading-driver-of-surface-temperatures/#sthash.DzSBPeLG.dpbs>

[SEPP Comment: First part deals with Antarctica.]

Lowering Standards

Academic Global Warming Advocates and the Power of Incoherent Jargon

By Norman Rogers, American Thinker, May 13, 2017

http://www.americanthinker.com/articles/2017/05/academic_global_warming_advocates_and_the_power_of_incoherent_jargon.html

ACMA, media watchdog, says lies by omission at the ABC are OK

By Jo Nova, Her Blog, May 20, 2017

<http://joannenova.com.au/2017/05/acma-lies-by-omission-at-the-abc-are-ok/>

[SEPP Comment: Lengthy post exposing failure of the Australian Communications and Media Authority to assure Australian Broadcasting Corporation is not biased.]

The Conceptual Penis as a Social Construct

A hoax shows how easy it is to fool peer review

By Matt Ridley, Rational Optimist, May 25, 2017

<http://www.rationaloptimist.com/blog/mocking-gender-studies/>

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

Surprising: NASA’s Global visualization in 3D of Carbon Dioxide in Earth’s Atmosphere

By Anthony Watts, WUWT, May 12, 2017

<https://wattsupwiththat.com/2017/05/12/surprising-nasas-global-visualization-in-3d-of-carbon-dioxide-in-earths-atmosphere/>

Communicating Better to the Public – Make things up.

How to Recognize ‘Science Denial’

Climate change, scientific consensus, and fake experts

By John Cook, National Review, May 15, 2017 [H/t Dennis Ambler]

<http://www.nationalreview.com/article/447616/climate-change-science-denial-oren-cass-whos-denier-now-essay-response>

“There is a consensus of evidence that human activity is causing all of recent global warming. Not some of it. Not even most of it. All of it.”

[SEPP Comment: The Research Assistant Professor at the Center for Climate Change Communication at George Mason University has defined the all-time basis of scientific truth! “If I agree with his claims, he is an expert; if I disagree, he is not an expert.”

Mr. Cook now claims some warming comes from bad data!]

Virginia lawmakers push for \$1B in grants to aid cities dealing with sea level rise

By Tamara Dietrich, Hampton Daily Press, May 22, 2017 [H/t Timothy Wise]

<http://www.dailypress.com/news/science/dp-nws-billion-dollar-infrastructure-20170522-story.html>

“Hampton Roads is experiencing the second-highest rate of sea level rise in the country, behind New Orleans. Scientists say it's a result of melting ice sheets and warming seas, but aggravated locally by land subsidence caused by groundwater extraction and a phenomenon known as post-glacial rebound.”

[SEPP Comment: the 7-foot sea level rise from melting ice sheets, etc. is NOAA / NASA fiction.]

Guardian’s Seed Nonsense

By Paul Homewood, Not a Lot of People Know That, May 21, 2017

<https://notalotofpeopleknowthat.wordpress.com/2017/05/21/guardians-seed-nonsense/>

Questioning European Green

Germany’s Energiewende “An Economic, Social and Ecological Disaster”, Writes Top German Socialist!

By P Gosselin, No Tricks Zone, May 19, 2017

<http://notrickszone.com/2017/05/19/germanys-energiewende-an-economic-social-and-ecological-disaster-writes-top-german-socialist/#sthash.Kkbp8ne.dM9nu7bO.dpbs>

Questioning Green Elsewhere

Carbon emissions, carbon intensity and the global trade in CO2

By Roger Andrews, Energy Matters, May 24, 2017

<http://euanmearns.com/carbon-emissions-carbon-intensity-and-the-global-trade-in-co2/#more-18321>

[SEPP Comment: Trying to make sense of CO2 exports and imports in the modern economy.]

Funding Issues

Trump’s Budget Eliminates Funding For UN Global Warming Programs

By Michael Bastasch, Daily Caller, May 23, 2017

<http://dailycaller.com/2017/05/23/trumps-budget-eliminates-funding-for-un-global-warming-programs/>

President Trump's Budget Plan Weakens U.S. Weather Prediction

By Cliff Mass, Weather Blog, May 25, 2017

<http://cliffmass.blogspot.com/2017/05/president-trumps-budget-plan-weakens-us.html>

Innovative finance needed to find \$300 billion a year for climate losses

By Laurie Goering, Reuters, May 15, 2017

<http://www.reuters.com/article/us-climatechange-finance-idUSKCN18B21Z>

U.N.'s Global Warming Fraudsters Are More Interested In Climate Cash Than Climate Change

Editorial, IBD, May 17, 2017

<http://www.investors.com/politics/editorials/u-n-s-global-warming-fraudsters-are-more-interested-in-climate-cash-than-climate-change/>

Cap-and-Trade and Carbon Taxes

The Carbon Tax Rebate Scam

By H. Sterling Burnett, American Thinker, May 23, 2017

http://www.americanthinker.com/articles/2017/05/the_carbontax_rebate_scam.html

Subsidies and Mandates Forever

Virginia Governor Orders Power Plant Carbon Regulations

By Sonal Patel, Power, May 18, 2017

http://www.powermag.com/virginia-governor-orders-power-plant-carbon-regulations/?mkt_tok=eyJpIjoiTkRnME9HSmhOVE5pT0dNeiIsInQiOiIxZD0ZORU00Qnk5UmNVZnlCcWVVUks4S1dzUFRITnpyWIZoQ2hYN1c0VTQ3V1ZjNzZHbmlaFFGclVSZzJFYldHNUE4NEI5eUpKcWxMZDYzTWVZWTh5aCsyK2hIR0V5QzVSK3VCWIN5MFwvWCtBM3JRKzZldEFDMVFZajZmYldtQ3YifQ%3D%3D

EPA and other Regulators on the March

Despite four decades and \$500 billion, the Energy Department hasn't accomplished much

By Mark Mills, The Hill, May 18, 2017

<http://thehill.com/blogs/pundits-blog/energy-environment/333894-despite-four-decades-and-500-billion-the-energy>

Energy Issues – Non-US

OPEC Doubles Down on its Losing Hand

By Staff Writers, The American Interest, May 25, 2017

<https://www.the-american-interest.com/2017/05/25/opec-doubles-down-on-its-losing-hand/>

OPEC Lost \$76 Billion Last Year Due To US Fracking

By Andrew Follett, Daily Caller, May 15, 2017

<http://dailycaller.com/2017/05/15/opec-lost-76-billion-last-year-due-to-us-fracking/>

From: EIA Estimates: OPEC net oil export revenues

By Staff Writers, EIA, May 15, 2017

<https://www.eia.gov/beta/international/regions-topics.cfm?RegionTopicID=OPEC&scr=email>

Fixing Ofgem, the UK's Gas and Electricity Regulator

By John Constable, GWPF, May 16, 2017

<http://www.thegwpf.com/fixing-ofgem-the-uks-gas-and-electricity-regulator/>

Election 2017: UK small business energy costs have increased 43% and Tory price cap could make it worse

Exclusive: Planned crackdown on energy prices could see even more crippling costs for British small and medium-sized companies

By Zlata Rodiovona, Independent, UK, May 19, 2017

<http://www.independent.co.uk/news/business/news/election-2017-uk-small-business-energy-cost-increase-tory-price-cap-conservatives-manifesto-a7740941.html>

Norway

By Staff Writers, EIA, Dec 28, 2016

<https://www.eia.gov/beta/international/analysis.cfm?iso=NOR>

“Norway is Europe's largest petroleum liquids producer, the world's third-largest natural gas exporter, and an important supplier of both petroleum liquids and natural gas to other European countries.”

“About 97% of all electricity generation in Norway comes from hydropower.”

Energy Issues -- US

Energy Forecasts are Contaminated

By Donn Dears, Power For USA, May 19, 2017

<http://www.powerforusa.com/2017/05/19/energy-forecasts-are-contaminated/>

EI President Kuhn: How smarter energy infrastructure can power America

The head of the trade group for U.S. IOUs outlines five policy reforms for a cleaner, more resilient grid in this guest post

By Thomas Kuhn, Utility Dive, May 17, 2017

<http://www.utilitydive.com/news/ei-president-kuhn-how-smarter-energy-infrastructure-can-power-america/442873/>

“The following is a guest post from Tom Kuhn, president of the Edison Electric Institute, the association that represents all U.S. investor-owned electric companies.”

Washington’s Control of Energy

Lessons from the Dakota Access Pipeline

By Bette Grande, Real Clear Energy, May 17, 2017

http://www.realclearenergy.org/articles/2017/05/17/lessons_from_the_dakota_access_pipeline_110223.html

The protests over DAPL were never really about the river crossing, as the environmentalists involved suggested. DAPL crosses under the Missouri River two times in North Dakota.

Signs of oil boomlet in North Dakota after pipeline finished

By James MacPherson, AP, May 13, 2017 [H/t Bill Balgord]

<http://abcnews.go.com/US/wireStory/pipeline-completion-feeds-signs-north-dakota-oil-boomlet-47390695>

Oil and Natural Gas – the Future or the Past?

China makes 'flammable ice' breakthrough in South China Sea

By Alec Macfarlane, CNN, May 19, 2017

<http://money.cnn.com/2017/05/19/news/china-flammable-ice-sea/>

Return of King Coal?

Enviros Claim China’s Coal Plants Are Greener Than The US’

By Chris White, Daily Caller, May 17, 2017

<http://dailycaller.com/2017/05/17/enviros-claim-chinas-coal-plants-are-greener-than-the-us/>

[SEPP Comment: Yes! Because greener coal-fired power plants cannot be built in the US thanks to the greens.]

China’s Belt and Road Initiative still pushing coal

By Feng Hao, China Dialogue, May 12, 2017 [H/t GWPF]

<https://www.chinadialogue.net/article/show/single/en/9785-China-s-Belt-and-Road-Initiative-still-pushing-coal>

“Officials and leaders from over 110 countries will gather in Beijing on May 14-15 for the first ever Belt and Road Forum. China’s ambitious attempt to boost economic growth across a vast area stretching from its southeast coast all the way to Africa is known as the Belt and Road Initiative (BRI).”

“China was involved in 240 coal power projects in 65 of the Belt and Road countries between 2001 and 2016.”

China, India dominate coal ownership as some shun climate risks: report

By Alister Doyle, Reuters, May 16, 2017

<http://uk.reuters.com/article/us-climatechange-coal-idUKKCN18C0HB>

Coal to be India’s energy mainstay for next 30 year: policy paper

By Staff Writers, Reuters, May 15, 2017

<http://economictimes.indiatimes.com/industry/energy/power/coal-to-be-indias-energy-mainstay-for-next-30-years-policy-paper/articleshow/58686733.cms>

Coal India wins tax-cut boost as environmentalists fret

By Krishna N. Das, Reuters, May 25, 2017 [H/t GWPF]

<https://www.reuters.com/article/us-india-tax-power-idUSKBN18L0N4>

Nuclear Energy and Fears

Emissions reduction without tears

By Martian Livermore, The Scientific Alliance, May 26, 2017

<http://scientific-alliance.org/node/1050>

China National Nuclear ready to mass produce gen-3 reactors -official

By Muyu Xu and David Stanway, Reuters, May 24, 2017 [H/t GWPF]

<http://www.nasdaq.com/article/china-national-nuclear-ready-to-mass-produce-gen3-reactors-official-20170524-00348>

EIA Sees Nuclear Capacity Drop By 2050

By Staff Writers, Nuclear Street, May 16, 2017

https://nuclearstreet.com/nuclear_power_industry_news/b/nuclear_power_news/archive/2017/05/16/eia-sees-nuclear-capacity-drop-by-2050-051601#.WSigMWjyuUI

Alternative, Green (“Clean”) Solar and Wind

Wind turbines are neither clean nor green and they provide zero global energy

We [UK] urgently need to stop the ecological posturing and invest in gas and nuclear

By Matt Ridley, The Spectator, May 15, 2017

<https://www.spectator.co.uk/2017/05/wind-turbines-are-neither-clean-nor-green-and-they-provide-zero-global-energy/#>

Energy & Environmental Newsletter: May 22, 2017

By John Droz, Jr. Master Resource, May 22, 2017

<https://www.masterresource.org/alliance-for-wise-energy-decisions/energy-environmental-newsletter-may-22-2017/>

California Dreaming

California Governor Brown imposing massive regulations for meaningless climate goals

Guest essay by Larry Hamlin, WUWT, May 19, 2017

<https://wattsupwiththat.com/2017/05/19/california-governor-brown-imposing-massive-regulations-for-meaningless-climate-goals/>

Health, Energy, and Climate

Changing the Narrative About Haiti

By Bjørn Lomborg, Project Syndicate, May 19, 2017

<https://www.project-syndicate.org/commentary/haiti-most-effective-policy-interventions-by-bjorn-lomborg-2017-05>

[SEPP Comment: Evaluating what is important with a restricted budget.]

Environmental Industry

The Environmental-Industrial Complex

By Donn Dears, Power For USA, May 9, 2017

<http://www.powerforusa.com/2017/05/09/the-environmental-industrial-complex/>

Other Scientific News

NASA: Human activities now affecting space [weather]

Space weather events linked to human activity

By Anthony Watts, WUWT, May 17, 2017

<https://wattsupwiththat.com/2017/05/17/nasa-humans-activities-now-affecting-space/>

Other News that May Be of Interest

Study: trees in cities actually make pollution worse during heat waves

By Anthony Watts, WUWT, May 18, 2017

<https://wattsupwiththat.com/2017/05/18/study-trees-in-cities-actually-make-pollution-worse-during-heat-waves/>

Link to paper: Effect of VOC Emissions from Vegetation on Air Quality in Berlin during a Heatwave

By Galina Churkina, et al. Environmental Science & Technology, May 17, 2017

<http://pubs.acs.org/doi/abs/10.1021/acs.est.6b06514>

[SEPP Comment: Long recognized. The Blue Ridge Mountains of Virginia and the Smoky Mountains of Tennessee and North Carolina were not so named by the colonists for their transparent air.]

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BELOW THE BOTTOM LINE:

Scientist nearly gives game away!

By Staff Writers, Climate Change Predictions.org, May 26, 2017

<http://climatechangepredictions.org/uncategorized/8193>

“Climate change over the past two million years has boosted human evolution by forcing us to adapt to changing conditions and allowing us to migrate to new areas.

“Researchers found that far from hindering our development, periods when the earth is either cooling or warming up have actually been highly beneficial.

“Experts from the National History Museum and Cambridge University have identified five key time periods when shifts in global climate have resulted in accelerated social and genetic evolution.

“Chris Stringer of London’s Natural History Museum and author of The Origin of Our Species told the Sunday Times: ‘Climate change has been a major player in our evolution. It created the conditions that encouraged our early ancestors to come down from the trees and later to spread out of Africa and across the globe. It made us what we are today.’

“The Royal Society is holding a conference this week where details of recent research will be released. **The scientists are keen to point out they are not suggesting that modern global warming is beneficial.**” Daily Mail, 21 Nov 2011 [Boldface Added]

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ARTICLES:

1. Anatomy of a Deep State

The EPA’s ‘Science Integrity Official’ is plotting to undermine Trump’s agenda.

By Kimberley A. Strassel, WSJ, May 25, 2017

<https://www.wsj.com/articles/anatomy-of-a-deep-state-1495753640>

Exposing some of the difficulties the new administration faces in changing Washington, the journalist writes:

“On May 8 a woman few Americans have heard of, working in a federal post that even fewer know exists, summoned a select group of 45 people to a June meeting in Washington. They were almost exclusively representatives of liberal activist groups. The invitation explained they were invited to develop ‘future plans for scientific integrity’ at the Environmental Protection Agency.

“Meet the deep state. That’s what conservatives call it now, though it goes by other names. The administrative state. The entrenched governing elite. Lois Lerner. The federal bureaucracy. Whatever the description, what’s pertinent to today’s Washington is that this cadre of federal employees, accountable to no one, is actively working from within to thwart Donald Trump’s agenda.

“There are few better examples than the EPA post of Scientific Integrity Official. (Yes, that is an actual job title.) The position is a legacy of Barack Obama, who at his 2009 inaugural promised to ‘restore science to its rightful place’—his way of warning Republicans that there’d be no more debate on climate change or other liberal environmental priorities.

“Team Obama directed federal agencies to implement ‘scientific integrity’ policies. Most agencies tasked their senior leaders with overseeing these rules. But the EPA—always the overachiever—bragged that it alone had chosen to ‘hire a senior level employee’ whose only job would be to ‘act as a champion for scientific integrity throughout the agency.’

“In 2013 the EPA hired Francesca Grifo, longtime activist at the far-left Union of Concerned Scientists. Ms. Grifo had long complained that EPA scientists were ‘under siege’—according to a report she helped write—by Republican ‘political appointees’ and ‘industry lobbyists’ who had ‘manipulated’ science on everything from ‘mercury pollution to groundwater contamination to climate science.’

“As Scientific Integrity Official, Ms. Grifo would have the awesome power to root out all these meddlesome science deniers. A 2013 Science magazine story reported she would lead an entire Scientific Integrity Committee, write an annual report documenting science ‘incidents’ at the agency, and even ‘investigate’ science problems—alongside no less than the agency’s inspector general.

“And get this: ‘Her job is not a political appointment,’ the Science article continues, ‘so it comes with civil service protections.’ Here was a bureaucrat with the authority to define science and shut down those who disagreed, and she could not be easily fired, even under a new administration.

“Ms. Grifo perhaps wasn’t too busy in the Obama years, since EPA scientists were given carte blanche to take over the economy. She seems to have been uninterested when EPA scientists used secret meetings and private email to collude with environmental groups—a practice somewhat lacking in scientific integrity.

“She has been busier these past few months. In March the Sierra Club demanded that the EPA’s inspector general investigate whether the agency’s newly installed administrator, Scott Pruitt, had violated policy by suggesting carbon dioxide might not be the prime driver of global warming. The inspector general referred the matter to . . . the Scientific Integrity Official. So now an unelected, unappointed activist could pass judgment on whether the Senate-confirmed EPA chief is too unscientific to run his own agency. So much for elections.

*“There’s also that ‘scientific integrity’ event planned for June. Of the 45 invitations, only one went to an organization ostensibly representing industry, the American Chemistry Council. A couple of academics got one. The rest? Earthjustice. Public Citizen. The Natural Resources Defense Council. Center for Progressive Reform. Public Employees for Environmental Responsibility. Reporters Committee for Freedom of the Press. Environmental Defense Fund. Three invites alone for the Union of Concerned Scientists. Anyone want to guess how the meeting will go?
“*

This is a government employee using taxpayer funds to gather political activists on government grounds to plot—let’s not kid ourselves—ways to sabotage the Trump administration. Ms. Grifo did not respond to a request for comment.

“Messrs. Pruitt and Trump should take the story as a hint of the fight they face to reform government. It’s hard enough to overcome a vast bureaucracy that ideologically opposes their efforts. But add to the challenge the powerful, formalized resistance of posts, all across the government, like the Scientific Integrity Official. Mr. Obama worked hard to embed his agenda within government to ensure its survival. Today it is the source of leaks, bogus whistleblower complaints, internal sabotage.

*“Pitched battle with these folks is no way to govern. The better answer is dramatic agency staff cuts—maybe start with the post of Scientific Integrity Official?—as well as greater care in hiring true professionals for key bureaucratic posts. The sooner department heads recognize and take action against that deep state, the sooner this administration might begin to drain the swamp.”

2. Get Ready for Peak Oil Demand

There’s a growing consensus that the end of ever-rising consumption is in sight. The big question that many oil companies are debating: When?

By Lynn Cook and Elena Cherney, WSJ, May 21, 2017

<https://www.wsj.com/articles/get-ready-for-peak-oil-demand-1495419061>

SUMMARY: In a lengthy article journalists write:

“The world’s largest oil companies are girding for the biggest shift in energy consumption since the Industrial Revolution: After decades of growth, global demand for oil is poised to peak and fall in the coming years.

“New technologies that improve fuel efficiency are starting to push down the amount of gasoline and diesel that’s needed for transportation, and a consensus is growing that fuel demand for passenger cars could fall as carbon rules go into effect, electric vehicles gain traction and the internal combustion engine gets re-engineered to be dramatically more efficient. Western countries’ growth used to move in lockstep with their energy consumption, but that phenomenon is starting to decouple in advanced economies.

“While most big oil companies foresee a day when the world will need less crude, timing when that peak in oil demand will materialize is one of the hottest flashpoints for controversy within the industry. It’s tough to predict because changes to oil demand will hinge on future disruptive technologies, such as batteries in electric cars that will allow drivers to travel for hundreds of miles on a single charge.

“Hitting such a plateau would mark the first time that demand has declined even when economies are growing since Col. Edwin Drake jury-rigged a pipe to drill for oil in Pennsylvania in the late 1850s. Yet, for many companies and investors, the question isn’t whether this immense turning point will happen—it’s when.

“Getting that timing right will separate the winners from the losers, and it has become a major preoccupation for energy economists and a flashpoint for controversy within the industry.

“Forecasts for peak oil demand diverge by decades. The Paris-based International Energy Agency argues that demand will grow, albeit slowly, past 2040. And the two biggest U.S. oil companies, Exxon Mobil Corp. and Chevron Corp. , say peak demand isn’t in sight.

“But some big European producers predict that a peak could emerge as soon as 2025 or 2030, and they are overhauling their long-term investment plans to diversify away from crude oil. Royal Dutch Shell PLC and Norway’s Statoil SA are placing bigger bets on natural gas and renewables, including wind and solar.

“‘Nobody knows’ when demand will peak, says Spencer Dale, group chief economist for BP PLC , which issues a widely watched annual outlook. The company’s base case calls for a peak in the mid-2040s—with the caveat that it could come sooner or later. ‘There are huge bands of uncertainty around that,’ Mr. Dale says.

“The uncertainty stems from a host of variables, including the pace of technological changes that will make renewables and electric vehicles more cost-competitive; the toughness of new regulations aimed at curbing greenhouse-gas emissions and climate change; and the rate of economic growth in developing countries, which is currently driving the increase in oil demand.

“Those factors are making it much harder to predict long-term demand than in the past, according to many energy-industry executives and economists.

“Calling it accurately is high stakes for an industry sitting on trillions of dollars of crude-oil reserves. Whenever it finally does happen, the tipping point from global oil-demand growth to decline will reverberate through the energy world, knocking down oil prices and some companies’ shareholders.

“The idea that electric vehicles and alternative forms of energy will increasingly displace crude oil is one that big-name investors are starting to ask about.

“‘We have lots of clients in the financial sector asking about peak demand,’ says Linda Giesecke, research director at Wood Mackenzie, an energy consulting firm. ‘It’s because you have this threat of disruptive technology’ such as electric vehicles, she says. ‘If it is disruptive, it will come fast. That’s why it’s so hard to forecast.’

“Case in point: Shareholders of Occidental Petroleum Corp. voted this month to ask the company to assess long-term impacts of climate change on its business. It was the first time such a proposal passed at a major U.S. oil-and-gas company. BlackRock Inc., the world’s largest asset manager, supported the resolution, marking the first time it went against management wishes to support such a climate resolution

“Historically, producing crude oil has been a growth industry, if a cyclical one, with energy demand moving in step with economic output. Since 1965, global oil consumption has increased from 30 million barrels a day to nearly 95 million.

“During those decades, companies built strategic plans around the assumption that they would always need to find more oil, and analysts obsessed over whether there would be enough crude in the ground to fuel growth. When oil hit its high over \$147 a barrel in the summer of 2008, some of the run-up was fueled by concern about hitting maximum output, or so-called peak oil, the point at which normal declines in output from producing oil fields outpace the industry’s ability to develop new supply.

“Now, peak-oil theory has been turned on its head, and forecasting peak demand has taken center stage.

“Some companies, particularly European energy outfits, see the tipping point coming soon enough that they are talking about it publicly, and overhauling their long-term investment plans to accommodate a greater emphasis on natural gas and renewables. Shell and Statoil say peak oil demand could come as soon as the mid-2020s, though around 2030 is more likely; the chief executive officer of France’s Total SA says he wouldn’t be surprised if it happens by 2040.

“But the American companies are betting on a more bullish future. Exxon Mobil, the largest U.S. oil company, sees no end to the world’s need for more crude. In its forecast through 2040, Exxon predicts that oil will remain the dominant fuel source, as demand for both plastics and transportation grows, mostly because of increasing incomes across Asia. It does expect to see huge strides made in fuel efficiency, with the vehicle fleet improving to 50 miles a gallon from the current 30 MPG, but thinks the growth in other areas will have a bigger influence on oil use.

“Chevron’s outlook is similar: It expects roughly half the world’s energy needs will be met by oil and natural gas combined by 2040. Saudi Arabia’s national oil company, Saudi Arabian Oil Co., says demand is unlikely to peak before 2050.” [The report continues highlighting some of the disagreements,]

3. The Race to Build a Better Battery for Storing Power

Long-term, utility-scale storage would turn solar and wind energy into on-demand sources of electricity

By Ken Wells, WSJ, May 21, 2017

<https://www.wsj.com/articles/the-race-to-build-a-better-battery-for-storing-power-1495418640>

SUMMARY: After a lengthy discussion on the need for better batteries, the reporter writes: *“Little wonder, then, that big-name companies such as Microsoft Corp. are testing the waters. The software and cloud-storage giant is in the midst of a three-year research deal with the Texas Sustainable Energy Research Institute at the University of Texas-San Antonio to determine how utility-scale battery technology might help it better and more cleanly manage the power needs of its 100 or so data centers around the world.*

“This summer, Microsoft plans to test a number of battery technologies at its \$1 billion Boydton, Va., data center. The idea is to “see what chemistries work best” and to determine how best to integrate them into the local electrical grid, says Brian Janous, Microsoft’s director of energy strategy.

“What’s alluring, he says, is that renewables anchored by large-scale batteries eventually could give their owners not just the ability to generate some portion of their own power needs, but to produce and save surplus power that can be sold back to the grid. Indeed, a corporate utility-scale battery system might in itself become a “grid asset” if integrated, say, into a utility’s emergency backup power plan to cope with outages, Mr. Janous says.

“While many current projects employ familiar lithium-ion—the battery of cellphones, laptops and electric vehicles—others are testing more esoteric chemistries and technologies. Prominent among these are liquid electrochemical systems known as flow batteries that are constructed in large tanks and have the theoretical advantage of being unlimited in size and capacity. To add battery capacity, you increase the size of the tank or link a series of tanks together.

“Flow batteries are made by taking electrolytes—a brew of metallic salts such as those that can be rendered from common metals—and pumping them through an electrochemical cell. The cell consists of a positive and negative electrode, separated by a membrane. Electricity is generated by the exchange of ions between the cathode and anode. The electrolyte flowing one way charges the battery; to discharge it you reverse the flow.

“To understand the scale of these things, consider that a flow battery installed in 2014 on an almond farm in Turlock, Calif., is housed in four cylindrical, three-story-high, beige metal tanks. The battery serves the farm’s solar-powered irrigation system.

For long-duration storage, flow batteries are the most likely candidates among all current technologies because they can be easily scaled to gargantuan size, and they have few moving parts and a long working life, says Mr. Srinivasan. What’s holding them back is cost: Most flow batteries use the element vanadium as an electrolyte, but it is very expensive. “We need dirt-cheap materials,” he says.

“Both Harvard and MIT are working on materials research, and Argonne is using sophisticated computer technology to invent synthetic compounds that can replace expensive natural ones like vanadium. “We’ve made tremendous progress with batteries in the past four years alone. With batteries it’s all about finding the magic materials,” he says.”

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