CLIMATE

Despite President-Elect Donald Trump’s stated intention to withdraw US participation in the Paris agreement on climate change, US Special Envoy for Climate Change Dr. Jonathan Pershing went to Marrakech, Morocco, to take part in the 22nd Conference of the Parties (COP), held November 10-18. The State Department communication said, “The United States goes to Marrakech excited to begin this next step in our collective efforts and ready to work with our partners from around the world to make good on the promises made in Paris.” state.gov The Paris accord came into effect on November 4, 2016, and as of November 5 had been ratified by 97 of the 197 parties to the United Nations Framework Convention on Climate Change (UNFCCC). These nations produce 67.5% of world emissions. Because the Obama administration signed the agreement by executive action rather than by means of a treaty (the Paris agreement was an “accord,” not technically a “treaty”) that would have required Congressional approval, Trump upon taking office could exit by the same mechanism . . . after four years. The accord contains a provision that any nation wishing to withdraw must wait four years—the length of a US presidential term. pri.org Russia, the fifth-largest emitter of fossil fuels, has not signed onto the agreement, refraining primarily due to pressure from its large coal and steel producers. The Russian oil and gas sector has been less vocal on the subject, neither objecting nor openly supporting it. upi.com

The United States is not legally bound to honor its commitments, however, and Trump’s closest advisors have established positions opposing climate action. Well-known global warming denier Myron Ebell has been selected to lead the US Environmental Protection Agency (EPA) transition team. Ebell, Director of Global Warming and International Environmental policy at the Competitive Enterprise Institute, globalwarming.org, speaks and writes prolifically and has declared calls for climate change action “alarmism.” Leading the Trump Department of Energy (DOE) team is GOP lobbyist Mike McKenna, president of MWR Strategies. McKenna was director of policy and external affairs for the Virginia Department of Environmental Quality and worked with Energy Department during the George H.W. Bush administration. In 2016, through his consulting business, he has represented Koch Companies Public Sector LLC, Southern Company Services, Dow Chemical Co. and Competitive Power Ventures Inc. scientificamerican.com. He has been described as “an influential Republican energy lobbyist who has urged Republican lawmakers to deny climate science.” NYTimes.com

China couldn’t have invented global warming. In 2012 Trump tweeted, “The concept of global warming was created by and for the Chinese in order to make US manufacturing less competitive.” China’s Vice Foreign Minister Liu Zhenmin, however, told reporters at the United Nations talks in Marrakesh on November 16, 2016 that this couldn’t be true. It was Donald Trump’s Republican predecessors Ronald Reagan and George H.W. Bush who started climate negotiations in the 1980s, said Liu, even before China knew that negotiations to cut pollution
were starting. Liu added that increased US efforts to curb emissions through investing in new cleaner technologies and manufacturing could actually boost US competitiveness. He commented that China’s President Xi Jinping underlined the importance of cooperation between the two largest economies when Xi spoke to Trump just before the election, and promised China will continue its fight against climate change “whatever the circumstances.” He added that richer nations should take more responsibility than poor countries for financing the fight. bloomberg.com

Temperatures for the world from January through September 2016 were 1.2 degrees Celsius above pre-industrial levels, the World Meteorological Organization (WMO) announced November 7, 2016, and approximately 0.88 degrees Celsius above the 1961-1990 average. The increase was influenced earlier this year by the powerful El Niño event of 2015-16. Preliminary data for October indicated that the world remains on track in 2016 for the title of hottest year. If it does, then 16 of the 17 hottest years on record will have been in this century. The other one was 1998. wmo.int

The North Pole is an “Insane” 36F degrees warmer than normal as winter descends,” so reads a Washington Post headline of November 17, 2016. Fall 2016 has been a “zany year for the region” with multiple records being set for warm temperatures. Further, sea ice in the area is at a record low. Wapo.com

Advances in climate science continue to establish how serious a four-year delay in action during the coming US presidential term—or retreat to past inaction—might be. A paper published in the journal Science Advances by an international team of experts warns the Earth could warm faster than previously believed. In its most recent forecast the Intergovernmental Panel on Climate Change (IPCC) had estimated an increase of between 2.6C and 4.8C degrees above pre-industrial levels by 2100 with a “business as usual” approach. The new research finds a rise of between 4.78C to 7.36C by 2100 if we continue using large amounts of fossil fuels. The higher estimate came from examining how the Earth’s climate has reacted over nearly 800,000 years, and augments the warning of scientists regarding feedback effects. Looking at previous patterns, co-author Dr. Tobias Friedrich said, “Our results imply that the Earth’s sensitivity to variations in atmospheric carbon dioxide increases as the climate warms.” independent.co.uk

Another set of researchers has found the Earth is soaking up less carbon than we thought—a condition that could make the warming go faster than expected. Soil is viewed as a carbon sink, meaning it absorbs more carbon than it releases into the air; and past models predicted it could function in that role through at least the end of the century. The new study, published in the journal Science, September 22, 2016, used carbon dating to calculate the age of stored carbon in soil samples from all over the world. “Most of the models currently used in soil carbon studies don’t incorporate radiocarbon data,” said Yujie He, a postdoctoral researcher at the University of California Irvine and the new study’s lead author. Because previous models don’t account for the actual age of the carbon that’s stored in the soil, scientists may have been overestimating how quickly carbon can be stored in the ground and how long it stays there. These new results suggest the process can take a lot longer than scientists previously
assumed—up to thousands of years, instead of just tens or hundreds. This conclusion means that previous research may have significantly overestimated how much carbon the world’s soil will be able to store this century. The new study suggests the world’s soil can absorb only half the amount previously believed likely.  

Could threat of coffee scarcity due to climate change turn some of those climate skeptics into believers? A report released in September by the Climate Institute, a nonprofit organization in Australia, cited a study in the March 2015 issue of the journal *Climatic Change* that found climate change “will reduce the global area suitable for coffee by about 50 percent across emission scenarios.” Warmer weather is exacerbating the threat of diseases like coffee rust and pests like the coffee berry borer, a type of beetle that a 2011 report said caused annual losses of hundreds of millions of dollars in coffee beans. Coffee plants thrive in stable environments where a precise combination of temperature and precipitation allows beans to prosper while keeping their taste profile. Countries once offering the proper mix of climate factors, including Colombia, Mexico, Brazil, Ethiopia and Vietnam, have become less hospitable because of shifts in weather patterns scientists say can be attributed to climate change. “It’s a severe threat,” said Doug Welsh, the vice president of coffee at Peet’s Coffee and a member of the board of World Coffee Research, an international group founded by coffee companies intent on protecting their cash crop. “It’s anecdotal, but I don’t know any coffee farmers who don’t believe that their weather, and with it their disease and productivity issues, have changed dramatically over the last decade.”  

ENERGY  

Despite the campaign rhetoric, Trump administration insiders and energy analysts are predicting renewable energy will get a pass as the new President comes into office. “Everything with renewables continues; the credits will remain in place,” stated a major Trump financial contributor who said he is a member of the transition team and spoke on the condition of anonymity. Energy sector growth has been largely in solar and wind in recent years, and much of the momentum is from private investment, although tax credits at the federal level and renewable portfolio standards at the state level remain the two main drivers, according to Dan Reicher, executive director of the Streyer-Taylor Center for Energy Policy and Finance at Stanford Law School. Trump’s campaign promise to bring back coal jobs could be a tough task, since the closure of coal-fired power plants and the decline in domestically consumed coal has more to do with low natural gas prices than it does with the EPA. If Trump proceeds to remove regulatory hurdles to the fracking of natural gas from tight shale formations, the cost of coal will become even less competitive. Trump likes nuclear power, and he may talk about the zero emission attributes of nuclear plants, but, the insider said, there is little that can be done to reverse the economic challenges that nuclear power faces.  

The momentum of renewable energy growth is impressive. According to US Department of Energy statistics, in just the first five months of 2016 more solar power was generated than 2006 through 2012. There are now more than three solar power jobs in the United States for
every job mining coal. Associated Press. Around the world in 2015, green energy accounted for more than half of net added electricity generation capacity. “This transformation and the growth of renewables is led by the emerging countries in the years to come, rather than the industrialized countries,” stated Dr. Fatih Birol, executive director of the International Energy Agency (IEA). Net capacity is new capacity minus retired capacity, such as old hydro being taken offline. The IEA said Asia will be the “engine of growth,” led by China and India. “China is a completely separate chapter,” said Birol. “China alone is responsible for about 40% of growth in the next five years.” Nevertheless, the IEA expects the US and Europe to be second and third in new renewable generation. Despite recent growth, green energy still provides a relatively small share of the world’s electricity—23% in 2015, with much of that from existing hydropower dams. Green sources are expected to provide only 28% of electricity generation by 2021. theguardian.com

Solar costs are falling dramatically. The IEA says solar could become the world’s largest source of electricity by mid-century, providing about one-fourth of its power—a success related to large decreases in price. Production costs for Chinese solar modules have fallen 70 percent since 2009, and are expected to fall to 36 cents per Watt by 2017. GreenTech Media. for solar modules. (This means the cost of a solar module that has 1 watt of peak generating power is $0.36. Counting other costs of installation, the installed cost would be approximately twice as much and counting profits to providers would be more. Another article in GreenTech Media predicts total cost for utility scale installations to fall below $1.00 by 2020.) “Yesterday’s PV cost reduction roadmaps are no longer relevant today,” said Shyam Mehta, Senior Analyst at GTM Research and author of the report on “PV Technology and Cost Outlook, 2013-2017.” GreenTech Media. “Three or four years ago, the industry was targeting one-dollar-per-watt costs in 2013; today, we are at 50 cents per watt, and there is currently little consensus on what is a realistic goal for the module supply chain to set for itself over the next three to five years.” While precipitous cost reductions from 2010 to 2012 were made possible by cutthroat pricing in the polysilicon and PV materials markets, the report foresees future declines coming from technology innovations such as diamond wire sawing for PV wafers, advanced metallization solutions, and increased automation in place of manual labor. greentechmedia.com and nationalgeographic.com

One seldom-mentioned factor that makes possible solar reductions is the lowering of intellectual property barriers. According to a new report from the International Center for Trade and Sustainable Development (ICTSD), “the basic approaches to solving the specific [clean energy] technological problems have long been off-patent. What are usually patented are specific improvements or features.” Competition between sellers brings the price of these components down. “Most of the patents in renewable energy were in the 1970s, and so they’re off-patent now,” said Jigar Shah, president and co-founder of Generate Capital. “So, if India wants to manufacture solar panels in India, they can.” As developing countries expand manufacturing of clean energy, renewables will reach the economies of scale needed to further suppress costs. Falling costs in the solar industry will benefit developers in the United States and Europe by expanding the market. “There are many opportunities for the US solar industry to innovate—all along the supply chain—that are created by growth in solar anywhere in the
world,” explained MIT Professor of Energy Studies, Jessika Trancik. “And falling costs due to innovation in components sold in a global marketplace, regardless of where that innovation happens, drives the growth of solar markets.”

Another reason renewables will continue to grow is this: they are technologies, not fuels. Fossil fuels inevitably become more expensive to produce as quantities decrease, but wind and sun are free, and as such the costs of developing solar and wind systems come down with scale and increases in efficiency. In other words, while government subsidies have helped wind and solar get a foothold in global power markets, economies of scale are the true driver of their falling prices. And these economies exist regardless of how competing power sources are priced. “We’re in a low-cost-of-oil environment for the foreseeable future,” said Michael Liebreich, chairman of the advisory board for Bloomberg New Energy Finance (BNEF). “Did that stop renewable energy investment? Not at all.” Prices for oil and gas have fallen in recent years and investments have started to decline. The number of oil rigs active in the United States fell in early 2016 to the lowest since records began in the 1940s. Producers from small drillers to petrol-producing nation-states are threatened with insolvency. “What we’re talking about is miscalculation of risk,” said BNEF’s Liebreich. “We’re talking about a business model [for fossil fuel production] that is predicated never-ending growth, a business model that is predicated on being able to find unlimited supplies of capital.”

INEQUALITY

Equal opportunity to vote has been a central objective of civil rights advocates throughout US history, but registration obstacles and long lines due to reduced numbers of polling places and restricted voting hours kept many citizens from casting their votes in the 2016 presidential election. That situation had been predicted. “Wisconsin Is Systematically Failing to Provide the Photo IDs Required to Vote in November” was a headline in The Nation on September 29, 2016. Three days earlier a New York Times banner had declared, “As ID Laws Fall, Voters See New Barriers Rise.” Whether voter suppression influenced the outcome of this particular contest or not, there is broad agreement that the electoral system failed large numbers of would-be voters, and that many of the disenfranchised were minorities. This result was enabled by the Supreme Court’s 2013 decision to nullify the preclearance section of the Voting Rights Act of 1965. That portion of the law, passed under the President Lyndon Johnson administration to prevent voter suppression on the basis of race, required that states with a history of such practices gain approval from US Department of Justice before making any changes to voting regulations. Republican legislatures in state after state took advantage of the new ruling to enact measures that might reduce voting among customarily Democratic constituencies, especially minorities. Voting rights advocates persuaded federal appeals courts to strike down restrictive laws in North Carolina, Texas, and elsewhere as violations of both the US Constitution and what remains of the Voting Rights Act, but those suits are now headed to the Supreme Court, where they are far more likely to be denied if a Trump-nominated conservative justice fills the seat formerly held by Antonin Scalia.
White nationalist leaders are praising Trump’s decision to name Steve Bannon as his chief strategist. Several have said they view Bannon as an advocate in the White House for hardline positions on Mexican immigration, Muslims, and refugee resettlement. Bannon is a former naval officer and Goldman Sachs banker who led conservative site Breitbart News for five years before becoming Trump campaign CEO. David Duke, former Ku Klux Klan leader, Peter Brimelow, who runs the white nationalist site VDARE, and Brad Griffin, a blogger who runs the white nationalist website Occidental Dissent praised the choice. Jared Taylor, who runs the site American Renaissance, said, “I suspect one of Steve Bannon’s important functions will be as an anti-waffler, who will encourage President Trump to keep his campaign promises.” Chairman of the American Nazi Party Rocky J. Suhayda wrote, “Perhaps The Donald IS for ‘REAL’ and is not going to be another controlled puppet.” Protesting the label ‘white nationalist,’ though, was Matt Parrott, a spokesman for the Traditionalist Worker Party. He preferred the term civic nationalist because “we don’t see being for your race as a negative thing.”

Alt-right, civic nationalist, or white supremacist labels aside, this faction of American politics expects Bannon and the Trump administration to oppose the multiculturalism that has come to seem normal to at least half of those who voted in the November election.

Critics of the appointment who have spoken publicly to date include the Anti-Defamation League, the Council on American-Islamic Relations, the Southern Poverty Law Center, People for the American Way, If Not Now, #AllofUs2016, other liberal organizers and activists and progressive millennial activist groups, and a number of congressional Democrats. While the powerful American Israel Public Affairs Committee (AIPAC) refused to comment citing “a long-standing policy of not taking positions on presidential appointments,” smaller Jewish groups have registered their concern. cnn.com and theguardian.com