**Energy Alternatives**

**It took nearly eight years to sell the first 1 million battery-powered cars, trucks, and vans in the U.S., a milestone hit in 2018. It took just 10 months to go from 3 million sales to 4 million through June. Tesla still makes up 61 percent of the market. *(Financial Times, as it appeared in The Week magazine, August 4, 2023)***

**After a long spell of hot, dry weather in North Carolina, an old-timer remarked, “I’ll tell you why we haven’t had any thunderstorms. The good Lord can’t afford the electricity rates.” *(Lymamne B. Wescott, in Reader’s Digest)***

**You know what would have been a smart thing to do in these developing countries that need electricity? To have tried large-scale experiments with alternative energy sources: solar, wind, geothermal, etc. We could have tested and tried to perfect these technologies on a large scale in places that need it. That would have been smart. That’s why we didn’t do it. *(George Carlin, in When Will Jesus Bring the Pork Chops?, p. 54)***

**Clean power, beamed from space? It’s a dream from science fiction, but will soon be a reality – solar panels in orbit around the Earth, beaming energy down to power people’s homes. A start-up California company called Solaren Corporation is planning to launch an energy-gathering “solar farm” into orbit sometime before 2016. A satellite covered in solar panels would capture the powerful, unfiltered light from the sun for 24 hours per day, beaming it via radio waves to a receiver on the ground. The science behind the idea has already been demonstrated: Last year, a former NASA scientist used electromagnetic waves to transfer power between two stations on Hawaiian islands, 92 miles apart. San Francisco’s PG&E believes in the technology; with the permission of the California Public Utilities Commission, it has agreed to buy 200 megawatts of power from Solaren once the satellite is up and running. “We’re convinced it’s a very serious possibility that they0 can make this work,” PG&E spokesman Jonathan Marshall tells the San Francisco Chronicle. “It’s staggering how much power is potentially available in space. I say ‘potentially’ because a lot remains unknown about the cost and other details.” *(The Week magazine, May 1, 2009)***

**The U.S. coal industry employed 76,572 workers in 2014, fewer people than Arby’s (80,000), Dollar General (105,000), or J.C. Penney (114,000). Even if there were as many coal workers as there were 25 years ago (131,000), the coal industry would still employ fewer people than the retail shoe sales industry (224,000). *(The Washington Post, as it appeared in The Week magazine, April 14, 2017)***

**A concentrating human brain doesn’t even use a fourth as much energy as a home computer. *(L. M. Boyd)***

**Green breakthrough: Costa Rica has set a record by going 94 consecutive days using only renewable energy sources. The state-owned Costa Rican Electricity Institute said that from May 8 to August 9, the country generated about 78 percent of its electricity from hydropower, 12 percent from geothermal sources, and 10 percent from wind power. Solar power contributed a fraction of a percent. Earlier this year, during an especially rainy spring, the country went 75 days without burning fossil fuels to generate electricity. The volcano-rich country has been investing heavily in geothermal power plants to supplement hydroelectric plants during less rainy times of year. *(The Week magazine, September 4, 2015)***

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**The United States is now the biggest supplier of crude oil to the European Union, providing 18 percent of the bloc’s crude imports. Russia, accounted for as much as 31 percent of EU imports until the end of January 2022. *(CNN.com, as it appeared in The Week magazine, April 7, 2023)***

**The U.S. is producing more crude oil than at any time in its history. At 13.2 million barrels a day, the current output is above the 10.9 million barrels when President Biden took office in 2020 and the pre-pandemic peak of 13.1 million under former President Trump. The U.S. is now the world’s largest producer of crude oil, followed by Russia and Saudi Arabia. *(Newsweek, as it appeared in The Week magazine, December 8, 2023)***

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**With just one shock, an electric eel produces enough energy to light up every room in an average three-bedroom house. *(Harry Bright & Harlan Briscoe, in So, Now You Know, p. 142)***

**Solar investments are expected to attract more than $1 billion a day in 2023, overtaking investments in oil production for the first time, according to the International Energy Agency. Total global investment in energy is slated to hit roughly $2.8 trillion in 2023, with more than $1.7 trillion of that going into clean energy technologies. *(CNBC.com, as it appeared in The Week magazine, June 9, 2023)***

**The Gold Building in Toronto houses the Royal Bank of Canada. Its 14,000 windows are coated with a thin film of gold. The reflective properties of the 2,500 ounces of gold help reduce heating and cooling costs. *(The Daily Chronicle)***

**In ten minutes, a hurricane releases more energy than all the world’s nuclear weapons detonated at once. *(Harry Bright & Harlan Briscoe, in So, Now You Know, p. 80)***

**On January 30, 2002, Japan's last coal mine was closed. The closure was due to high production costs. The country now imports all the coal it burns. *(The Daily Chronicle)***

**Learn to love those ugly wind farms: Southern Sweden may be home to big cities such as Stockholm and Gothenburg, said Ingvar Persson, but the north is fast emerging as our nation's industrial powerhouse. The lithium-ion battery-cell factory in Skelleftea keeps taking new orders, the state-owned metals company LKAB has made "giant investments" in its northern iron mines, and a zero-emission steelworks has opened to Lulea. This boom is able to go on even as Sweden is furiously decarbonizing our economy because the vast northlands are dotted with out-of-the-way wind-power farms. But factories there are gobbling up an ever greater share of that clean electricity, and the south could soon experience shortages, leaving Stockholmers wondering how they'll power "their dishwashers or charge their Teslas." Some Swedish politicians say new nuclear reactors could meet that demand. But "even if we ignore the risk of accidents or toxic waste that persists for 100,000 years," building and running those power plants will triple electricity prices for years to come -- squelching growth across the country. No, the only way forward is to allow more wind turbines to go up in the south. Yes, "even where they interfere with someone's view of the sea." And we'll also have to make it easier to lay ugly, high-voltage lines. If we are to truly go green, Swedes must stop being NIMBYs. *(The Week magazine, April 2, 2021)***

**Thomas Edison, the famed inventor, likely might have welcomed more-efficient LED bulbs, which generate almost no heat and use up to 90% less energy than incandescent bulbs while lasting up to 25 times longer. Incandescent bulbs are not very efficient. Only about 5% of the energy used by an incandescent bulb produces light; the remaining 95% or so is lost as heat. This is why you let an incandescent bulb cool off before unscrewing it. The Energy Department rules date back to the Obama administration. The new rules don't affect bulbs that you already own; they also exempt special-pupoese incandescents such as those used inside ovens. Yet by the time the new rules rolled around, the critics had gone quiet, possibly because companies and consumers have already started voting for better lighting efficiency with their wallets. *(David Hamilton, in The North Platte Gazette,***

***August 8, 2023)***

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**Sen. Joe Manchin, the West Virginia Democrat who chairs the Senate Energy Committee and is shaping President Biden’s climate legislation, owns stock valued at between $1 million and $5 million in a coal brokerage firm that he founded in 1988. Last year, Manchin made $491, 949 in dividends from his stock in Enersystems. *(The New York Times, as it appeared in The Week magazine, October 1, 2021)***

**In the U. S., Sen. Joe Manchin, owner of a coal company that’s made him at least $4.5 million, vetoed a proposal to reward power plants for weaning themselves off fossil fuels. Why not, asks Sen. Joe, wait a few more years? *(William Falk, in The Week magazine, November 12, 2021)***

**Natural gas stockpiles in European Union member states are now 95 percent full on average. Russia provided about 40 percent of Europe’s gas before it invaded Ukraine and supplies were cut off, but an unusually warm autumn and stepped-up imports of liquefied natural gas have created a temporary glut, with prices dropping nearly 40 percent since August. *(The Economist, as it appeared in The Week magazine, November 18, 2022)***

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**Nuclear fusion: Scientists re-created the energy source of the sun by generating a fusion reaction that produced more energy than it used. The Lawrence Livermore National Laboratory used the world’s largest laser – made up of 192 beams – to blast a peppercorn-size pellet of hydrogen isotopes encased in diamond. In a brief, brilliant flash, the deuterium and tritium atoms achieved fusion, generating about 1.5 times more energy than had been used to heat the pellet. The technology is still decades away from commercial viability, but the experiment was a huge leap forward. “It looks like science fiction,” says physicist Ambrogio Fasoli, “but they did it.” *(The Week magazine, December 30, 2022 / January 6, 2023)***

**A third of America's nuclear power plants could be taken offline in the next several years, with competition from natural gas driving down energy prices and making nuclear power a money loser. Nuclear power currently generates 20 percent of the country's electricity. Replacing the electricity produced by a single nuclear reactor would require building more than 800 average-size wind turbines or 15.8 million solar panels. *(Axios.com, as it appeared in The Week magazine, December 14, 2018)***

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**The Biden administration has approved the nation's first large-scale offshore wind farm, with construction to begin as soon as later this year. The Vineyard Wind project will site 84 turbines 14 miles off the Massachusetts coast and create enough electricity to power 400,000 homes. *(Reuters.com, as it appeared in The Week magazine, May 28, 2021)***

**The federal auction of six off-shore wind leases off the coasts of New York and New Jersey raised a record $4.37 billion last week. Once the 488,000-acre sites are fully developed, they are expected to produce up to 7 gigawatts of clean energy, enough to power nearly 2 million homes. *(CNBC.com, as it appeared in The Week magazine, March 11, 2022)***

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**A Canadian company has developed a portable wind turbine small enough to fit in a backpack, said Elissaveta Brandon in Fast Company. “Called Shine, it weighs just 3 pounds, it’s about the size of a water bottle, and it can charge any USB device, or up to four phones (though not at the same time).” Designed with campers in mind, the contraption contains a tripod that can be stabbed into the ground and “held down with tensioned cables – a bit like setting up a tent.” The blades then unfold from the zeppelin-shaped turbine to reveal “a micro version of a regular wind turbine.” The company behind it, Aurea, said the mechanism sets up easily on uneven terrain and “works at wind speeds up to 28 mph.” *(The Week magazine, June 17, 2022)***

**Inevitably, quasars have aroused intriguing mystery. They fluctuate rapidly in brightness and are remarkably small, celestially speaking – only a few times larger than our solar system. Yet we can see then at such prodigious distances that they must be emitting energy at an unheard-of rate. In fact, some quasars produce more energy than a hundred large galaxies, totaling as many as 10,000 billion stars. In one second a typical quasar throws out enough energy to supply all the earth’s electrical needs for billions of years. *(Kenneth F. Weaver, in Reader’s Digest)***

**More than half of the world’s population relies on dung, wood, crop waste, or coal to meet their basic energy needs. (Don Voorhees, in The Essential Book of Useless Information, p. 157)**

**Solar power ought to be able to run almost everything, when you consider how little trouble the sun has pulling people out-of-doors. (Bill Vaughan, in Reader’s Digest)**

**When we think of energy, we’re getting conditioned to think of oil and nuclear reactors. We’re overlooking the greatest source of energy of them all: the sun. We know plants are green and don’t give the matter a second thought. Maybe we should. Because chlorophyll, the agent that makes plants green, is what makes plants the providers of energy to the world’s living organisms. And that means all animals, including people. Plants, after all, provide the basic food for everything that moves. And it all comes from the sun. *(Bernie Smith, in The Joy of Trivia, p. 236)***

**The tail propulsion of dolphins is superior in efficiency to that of ship propellers; they use less energy to achieve a given speed. *(Isaac Asimov’s Book of Facts, page 122)***

**The treadmill was used in English prisons for nearly seventy-five years. Idea was to put criminals to useful purpose; by walking the treadmill they created a power source for mechanical tools. In 1895 in England there were still in use thirty-nine treadmills and twenty-nine hand cranks, also a source of power supplied by criminals, only on a smaller scale. *(Bernie Smith, in The Joy of Trivia, p. 23)***

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**"Like another character named Don, President Donald Trump is tilting at windmills, said Michael Biesecker in the Associated Press. In recent weeks, the president has repeatedly -- like the fictional Don Quixote -- mistaken a benign device for turning the wind into energy for something monstrous. At rallies and in speeches, Trump has falsely claimed that wind turbines diminish nearby property values by 75 percent, and nonsensically warned that if they're used to generate electricity, TVs won't work during calm weather. "Turn off the television darling, please," he sarcastically said. Last week, Trump claimed the noise from wind farms "causes cancer.” He also said the turbines slaughter birds -- all "while spinning his arm like a turbine and making an unpleasant whirring sound."**

**Trump is parroting a "grab bag" of debunked claims" promoted by the fossil fuel industry," said Dan Vergano in BuzzFeudNews.com. Studies have found "No conclusive evidence" that wind turbine noise causes any health problems. Wind farms do kill 500,000 birds a year, but cars and power lines kill 600 million and cats kill more than 2 billion. And, of course, wind energy is integrated into a power grid that has other sources, so there's no danger of a TV blackout on calm days. So why does Trump hate wind turbines? Trump's base wishes "we could go back to the 1950s, said Paul Krugman in The New York Times, so they love it when he mocks "hippie-dippie," unmanly things like wind and solar power." Besides, the coal-mining and oil industries lavishly donate to the GOP. The sad irony is that coal -- unlike wind -- fills the atmosphere with pollutants that damage the heart and lungs , and actually does cause cancer.**

**Donald Trump's feud with wind farms is also personal, said Philip Bump in The Washington Post. In 2006, he bought land on the coast of Scotland to build a golf course, and became embroiled in a prolonged and ultimately unsuccessful battle against a planned wind farm off the coast that he felt "would spoil the views" for his golfers. For years, Trump embraced and tweeted "any negative information about wind turbines," with "breathless pseudo-concern about their effects." In a happy coincidence for him, his grudge against wind power now overlaps with "the policy agenda of the Republican Party." *(The Week magazine, April 19, 2019)***

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