

Yardeni Research



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Morning Briefing

Green Projects, Semis & Star Power

Check out the accompanying chart collection.

Executive Summary: President Trump's policies are regrading industry playing fields across economic sectors. Jackie discusses some of the ramifications for the companies hurt and helped. ... If Trump 2.0's attempts to dismantle Biden's Inflation Reduction Act succeed, they would pose existential challenges to many green energy projects—\$8 billion of which were already canceled during Q1. ... But semiconductor makers are beneficiaries of Trump's trip to Saudi Arabia: Several just got a windfall of new orders from the Middle East. ... Also: To power the AI systems of the future, new energy sources will have to be developed, says OpenAI's Sam Altman. He's reaching for the stars.

Industrials: Browning out Green Investments. When President Trump was campaigning for a second term, he made no bones about the fact that, once in office, he would encourage oil and gas drilling and end the Biden-era funding of green economy companies. He's been true to his word. Most notably, Trump and congressional Republicans have taken aim at President Biden's Inflation Reduction Act (IRA) of 2022.

The IRA was meant to provide funding and tax credits to promote US manufacturing of items needed to generate solar, wind, and other green sources of energy in addition to providing funding for the domestic production of and purchase of electric vehicles (EVs). Some of this was done directly via loans and some indirectly via tax credits. But now that funding is at risk, and many companies have pulled the plug on projects before shovels ever hit dirt.

Nearly \$8 billion of projects by clean energy companies were canceled during Q1. Some projects may have been derailed when the Trump administration froze IRA funds. (A federal judge has reinstated the funding while a lawsuit from six climate groups winds its way through the courts.) Other projects may have been aborted because Trump's proposed tariffs were expected to hike their costs so much that they would no longer be economically viable. Still others may have been abandoned because of the flimsy financial footing of the

start-up companies that ran them; they might have failed even if Trump never entered office.

Many of Trump's policies are still being hashed out in Congress or litigated in the courts, so there's much room for the proposals to change. Nonetheless, here's a look at where things stand today:

(1) Say goodbye to EV tax credits. Under the proposed Republican tax bill, tax credits for commercial and used EVs would end after this year. The \$7,500 consumer tax credit for purchasing new EVs would end at the end of this year. One exception: Consumers who purchase a car from manufacturers that have sold less than 200,000 vehicles would still enjoy the tax credit for another year.

Separately, Trump revoked Biden's 2021 executive order that half of all vehicles sold in the US be electric by 2030.

- (2) Say goodbye to new EV charging stations. The US Transportation Department in February suspended the EV charging program, which gave states more than \$3 billion to build out EV charging stations, pending a review. Earlier this month, 16 states including California sued the Trump administration, saying it was illegal for the federal government to withhold the funds, as they were part of the IRA, a May 7 Reuters article <u>reported</u>.
- (3) Say goodbye to clean energy tax breaks. The expiration for tax credits will be accelerated on clean hydrogen production facilities that start construction after the end of 2025. That might mean that hydrogen plants started in 2026 or later will receive the tax credit for less than 10 years, according to our friends at <u>Capital Alpha</u>.

"Credits for producing renewable energy or investing in it would start shrinking in 2029 and be eliminated after 2031. Those dates require projects to be finished by those deadlines, not just started, a move that would slow new construction," a May 13 WSJ <u>article</u> reported. The bill also limits the sale of tax credits. Tax credits for producing components for batteries would generally expire after 2031, and tax credits for producing wind-energy components would end after 2027.

The shares of solar companies actually rallied on the news of the tax bill's terms because investors were relieved that the tax credits would not be eliminated immediately. In addition, the bill limited products sourced from banned "foreign-influenced entities," which was interpreted as limiting the imports of solar products from China. Assuming that interpretation

is correct, beneficiaries would include companies like First Solar, which produces much of its own equipment domestically.

First Solar shares jumped 22.7% on Tuesday; but at \$191.60, they remain priced far below their June 2024 high of \$300.71. Likewise, the shares of SunRun, an installer of solar power systems, jumped 8.6% on Tuesday, but they too remain far below their August 2024 high of \$21.50.

(4) Some projects pull the plug, others launch. The new economic environment for green energy companies and projects has changed dramatically just in the past year, leading some projects to be cancelled even as others move forward. While only nine projects were cancelled in each 2023 and 2024, 16 have been cancelled so far this year, according to <u>E2 statistics</u>.

Bosch cancelled a \$200 million hydrogen fuel cell factory in South Carolina. Kore Power, a lithium battery cell manufacturer, canceled a planned \$1.3 billion factory in Arizona. The site of the proposed factory was listed for sale, and the CEO Lindsay Gorrill posted on LinkedIn that he is stepping down from his role as CEO but will remain on the board, a February 6 <u>article</u> in Manufacturing Dive reported.

Freyr Battery, now known as "T1 Energy," cancelled its plans to build a \$2.6 billion lithium battery cell factory in Georgia and has sold the property on which it was to be built. Instead, it opted late last year to buy a solar panel assembly operation in Texas and now plans to focus on solar panels instead of batteries, a February 10 Solar Power World <u>article</u> reported.

Mission Solar also plans to invest \$265 million to add 2 gigawatts of solar cell manufacturing to its campus in San Antonio, Texas, it <u>announced</u> in March. Solar production may be more protected by Trump tariffs, making it more attractive even if US tax credits fade away.

Information Technology: A Semiconductor Revival. The Trump administration has announced plans to rescind a Biden-era rule that prohibited or capped the sale of advanced semiconductors outside of the US in an effort to keep the technology out of "countries of concern." The details are expected in the next few weeks.

But before the ink is dry on the new rules, Saudi Arabia ordered billions of dollars of semiconductor chips from Nvidia, AMD, and others during President Trump's trip to the

Kingdom this week. More orders are expected as Trump continues on to Doha and Abu Dhabi. AMD signaled its optimism about the future by announcing a \$6 billion stock buyback program on Wednesday. It has all contributed to a furious semiconductor rally that has lifted the S&P 500 Semiconductors industry index by 43.6% since its April low.

Here are some additional details on what's led to the chip revival:

- (1) Lifting the AI Diffusion Rule. The "Diffusion Rule" had been opposed by many technology companies, including Microsoft, Oracle, and Nvidia, which believed it would limit US tech companies' opportunities abroad without achieving its goal of impeding China. Eliminating the rule means advanced semis can now be sold into India, Switzerland, Saudi Arabia, Israel, and Singapore among other countries. The move was expected to benefit chip makers including Nvidia, Intel, and AMD.
- (2) *Chip orders surge.* Nvidia <u>announced</u> on Tuesday a "partnership" that will help turn Saudi Arabia into a "global powerhouse in AI, cloud and enterprise computing, digital twins and robotics." The company is working with Humain, a subsidiary of the Saudi's Public Investment Fund that was launched this week to focus on AI.

Humain will build AI data centers (which Nvidia calls "AI factories") powered by several hundred thousand of Nvidia's most advanced chips over the next five years. Nvidia will train thousands of Saudi developers, teaching them the skills to work in accelerated computing and AI. And Aramco Digital will develop AI computing infrastructure using Nvidia platforms.

Humain also announced partnerships with AMD, Amazon's AWS, and Groq during President Trump's visit to Saudi Arabia. It will build additional data centers with AMD in Saudi Arabia and the US, using AMD chips and hardware. AWS <u>announced</u> it will invest \$5.3 billion-plus in a partnership with Humain, which will build an Al zone in Saudi Arabia. It will use AWS Al infrastructure and services. This is in addition to another infrastructure region that AWS is building in the country, which will be available next year.

(3) *Buybacks abound.* AMD's board of directors authorized a new \$6 billion share buyback program in addition to the \$4 billion of capacity remaining on an existing program. "Our expanded share repurchase program reflects the Board's confidence in AMD's strategic direction, growth prospects, and ability to consistently generate strong free cash flow," AMD CEO Lisa Su said in a *statement* on Wednesday.

AMD isn't alone. In February, ON Semiconductor announced a new \$3 billion share

repurchase program. ASM International <u>started</u> on April 29 a €150 million buyback program that it announced in February. KLA <u>increased</u> its share buyback program by \$5 billion, and Broadcom announced a \$10 billion buyback program.

(4) A look at the numbers. It's not surprising that semiconductor companies are buying back their shares—the S&P 500 Semiconductors industry stock price index fell by 35.1% from its peak in January through April's low. The index has enjoyed a 43.6% bounce since April, leaving it down only 6.8% from its peak (*Fig. 1*).

The S&P 500 Semiconductors industry index had rallied dramatically in recent years, rising 300% from the start of 2023 to its peak in January. The sharp move left the index's valuation stretched near 35. At the height of the selloff, Semiconductors' forward P/E fell to a low of 19.8 on April 3; it has since recovered a bit to 26.0 (*Fig. 2*).

Semiconductor stocks may have also come under pressure because the industry's astronomical revenues and earnings growth has slowed, though continued to improve. The S&P 500 Semiconductors industry posted revenue growth of 30.9% in 2024, but that's expected to moderate to 26.0% this year and 17.3% in 2026 (*Fig. 3*). Likewise, earnings growth has decelerated from 49.1% in 2024 to an expected 40.6% in 2025 and 26.8% in 2026 (*Fig. 4*).

Net earnings estimate revisions for the industry have been negative over the last eight months (<u>Fig. 5</u>). That may change given the new orders that many of these players have coming out of the Middle East.

Disruptive Technologies: Tapping Star Power. Sam Altman, CEO of OpenAI, was quoted in *The Information* discussing the harnessing of energy emitted by stars to power AI systems on Earth, according to a summary in Google's <u>AI Overview</u>. Altman reportedly said that the great amounts of power that will be needed to build and operate AI systems requires an energy breakthrough. He's working on a solution using nuclear fusion; and further down the line, Altman sees the development of Dyson spheres as a possibility.

Never heard of a Dyson sphere? We hadn't either. It's a mega structure that would harness the energy of a star in space and somehow transmit it to Earth or another planet. It could encapsulate the star or it could rotate around the star like a satellite. (Some star gazers believe that seeing a Dyson sphere in space at the present time would be proof positive of intelligent alien life.)

Here on Earth, humans are making progress toward building a Dyson sphere, a May 12 *Forbes article* pointed out. An engineering professor at the University of Glasgow, Colin McInnes, published a *paper* in January about ways to create a stable Dyson sphere that uses two stars.

As for how to get the star's energy down to Earth, scientists at the California Institute of Technology have developed MAPLE, an experimental lightweight structure with solar panels and transmitters. It has succeeded at wirelessly transmitting power to Earth, according to a 2023 article in a university *magazine*. So Altman may be on to something.

Calendars

US: Wed: MBA Mortgage Applications; OPEC Monthly Market Report; Daly; Waller; Jefferson. **Thurs:** Retail Sales Total & Ex Autos 0.0% & 0.3%; Empire State Manufacturing Index -10; Philadelphia Fed Manufacturing Index -11; Industrial Production 0.2%; Capacity Utilization 77.8%; Business Inventories 0.2%; NAHB Housing Market Index 40; Initial Claims 229k; Headline & Core PPI 0.2%m/m, 2.5%y/y & 0.3%m/m, 3.1%y/y; Powell; Barr. (FXStreet estimates)

Global: Wed: Germany CPI 0.4%m/m, 2.1%y/y; Spain CPI 0.6%m/m, 2.2%y/y; Cipollone; Nagel; Escriva; Breeden. Thurs: Eurozone GDP 0.4%q/q, 1.2%y/y; Eurozone Industrial Production 1.8%m/m, 2.5%y/y; Eurozone Employment Change 0.1%q/q, 0.8%y/y; Germany WPI 0.2%; UK GDP 0.0%m/m, 0.6%q/q & 1.2%y/y; France CPI 0.6%m/m, 0.8%y/y; UK Industrial Production Headline & Manufacturing -0.5%m/m, -0.9%y/y & -0.5%m/m, 0.5%y/y; Japan GDP -0.2%q/q, 3.2%y/y; Australia Unemployment & Participation Rates 4.1% & 6.8%; DeGuindos; Elderson; Cipollone; Dhingra. (FXStreet estimates)

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