Sabrient Systems Sector Detector

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The Future of Energy, the Lifeblood of an Economy - Part 2 of 3

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Overview

In Part 1 of my 3-part commentary, I discussed the following topics: 1) A brief history of energy, 2) Fossil fuels remain dominant today, and 3) The push for renewables. *In case you missed it, you can read it here at Sabrient.com.*

In today's Part 2 below, I discuss: 1) Green legislation and subsidies encounter roadblocks, 2) Europe has hit a breaking point, and 3) Surging power demand from AI and other new technologies. Then I close as usual with Sabrient's latest fundamental-based SectorCast quantitative rankings of the ten U.S. business sectors, and current positioning of our sector rotation model.

And next week in Part 3, I will discuss: 1) Solving the US grid fragility problem, 2) The future is nuclear, 3) Rare earth elements, 4) Superconductors, and 5) Investment opportunities. So, watch for those next two emails.

To reiterate, I am writing this special 3-part series on Energy because: 1) it is the lifeblood of an economy, 2) it is a key component of inflation, 3) Al applications and datacenters are expected to surge global demand for electricity in the face of an already overburdened power grid, and 4) low energy costs benefit all aspects of the economy and raise our GDP growth rate, thus allowing us to more quickly grow our way out of debt rather than having to resort to austerity measures. In summary, it is essential that we have abundant, affordable, reliable, equitable, secure, and clean power generation, and the key energy sources to achieve that are natural gas today and nuclear in the longer term.

I began my professional career with Chevron Corporation, serving as a civil/structural design engineer and environmental compliance engineer for offshore oil & gas production, as well as senior analyst and operations manager in the oil shipping segment. I continue to follow the Energy sector to this day.

By the way, Sabrient's latest *Q3 2025 Baker's Dozen* launched on 7/18. *Small Cap Growth 47* launched on 7/16 as an alpha-seeking alternative to the Russell 2000 Index (IWM) for small cap exposure. The new *Dividend 53* launched on 8/8. And the annual *Forward Looking Value* portfolio launches this Friday 8/15 as an alpha-seeking alternative to the S&P 500 Value Index (SPYV).

As always, please email me your thoughts on this article, and feel free to contact me about speaking at your event!

Commentary - Part 2 of 3

Again, if you missed it, you can read Part 1 of my 3-part series here, and you can find a printable PDF version of Part 1 at this link.

Green legislation and subsidies encounter roadblocks:

As I discussed last time, there are glaring practicality issues with the West's widespread push for renewable energy (primarily wind and solar), including affordability, reliability, safety, supply chain risk, and the integration complexities of battery storage with existing infrastructure, not to mention the alternative forms of environmental degradation that these technologies wreak. The unresolved reality is that windmills only create power when the wind blows and solar farms only create power when the Sun shines, which betrays its intermittency.

Nevertheless, former Energy Secretary in the Biden Administration Jennifer Granholm lectured us in 2022 that, "We need to align electricity use with when clean energy is available…it's about smarter consumption to support our climate goals." In other words, households and businesses should adjust their energy use to better match when the wind is blowing or the Sun is shining! And then they managed to pass the misnomered Inflation Reduction Act (IRA) that heavily subsidized wind and solar projects and hastened the retirement of 104,000 megawatts (MW) of reliable coal and natural gas power plant capacity by 2030, according to a recent Wall Street Journal editorial board op-ed.

According to energy analyst and economist Ed Ireland, "One of the IRA's most egregious flaws is its provision of massive, open-ended subsidies for alternative energy or alt-energy...[which] artificially inflates the competitiveness of wind and solar, which, despite

technological advancements, remain intermittent and unreliable. Subsidizing renewables at such a scale diverts resources from more dependable energy sources.... The previous administration...knew natural gas was a superior fuel that would win out in a head-to-head matchup, so they declared...moratoriums on federal oil & gas leases, methane emissions regulations, new power plant emissions standards, subsidies for renewables and heat pumps, attempts to ban gas stoves, furnaces, and water heaters with impossible efficiency standards, a moratorium on LNG [liquefied natural gas] exports, and much more.... A challenge is the damage the war on fossil fuels did to US power grids. The US now faces a shortage of dispatchable power [i.e., readily able to meet fluctuations in demand] from natural gas, coal, and nuclear generators, just as new power demand...is starting to soar. A related issue is the shortage of natural gas-fired turbines."

A group of House republicans wrote a letter urging full repeal of the IRA, saying: "Leaving IRA subsidies intact will actively undermine America's return to energy dominance and national security. In 2024 alone, solar represented 61% of all new electricity generation in our nation, with more expected this year. By the end of this year, wind generation in the U.S. is expected to increase 11% from 2023 because of these subsidies. These numbers do not reflect a natural market shift. They are the result of government subsidies that distort the U.S. energy sector, displace reliable coal and natural gas and the domestic jobs they produce, and put the stability and independence of our electric grid in jeopardy."

Even the newly passed One Big Beautiful Bill Act (OBBBA) doesn't adequately address declining natural gas generation. Although the bill fixed many of the most egregious problems with the IRA by placing limits on new green subsidies, as a budget reconciliation bill it did not seek to repeal them. That will have to be done through separate congressional bills. At least the new bill preserves tax credits for nuclear energy (as well as geothermal and hydroelectric).

However, the uncertainty of continual political power shifts in the future that change the rules of the road has stifled investment in gasfired power generation. According to Doug Sheridan, founder of EnergyPoint Research in Houston, green subsidies pushed many
natural gas generators out of the economic picture because, "there simply isn't enough predictable revenue to support both renewables
and the new gas-fired generation needed to both back them up and service surging 24/7 demand.... Political swing-sets operating on
US power grids are eroding investor confidence, raising costs and delaying the buildout of the generation America needs. Until
politicians enact stable, bipartisan energy legislation—or wholesale prices surge—many developers of on-grid gas-fired plants will sit on
the sidelines...." Indeed, as a result, many natural gas generators have shut down, and new projects are not being built.

Sheridan concludes, "America's power sector needs durable rules—not shifting giveaways—to ensure economic prospects are sufficiently enticing." And Cato Institute's Travis Fisher asserts, "Congress must "codify [Trump's] executive actions, put it in statute, make it harder to overturn.... A lasting golden age requires durable, stable energy policy."

Notably, it wasn't just the federal government that was impeding gas-fired power. The Marcellus Shale is one of the world's richest natural gas deposits, underlying much of the Appalachian Basin of New York, Pennsylvania, and West Virginia. But in 2014, the New York State leadership chose to ban hydraulic fracturing there, thus depriving the state of cheap, accessible natural gas. Congressman (now EPA Administrator) Lee Zeldin, said at the time, "New York foolishly banned the 'safe extraction' of natural gas, gas hookups on new building construction, and gas stoves, while pushing to eliminate the sale of gas-powered vehicles, and blocking new pipeline construction.... This is a recipe for an energy and economic catastrophe. The idea that we can replace baseload forms of power with intermittent power like wind is simply delusional."

Under the New York Climate Act, greenhouse gas emissions must be cut by 40% by 2030 and have 100% zero-emission electricity by 2040. The State must also generate 9,000 MW of offshore wind energy by 2035, 6,000 MW of solar energy by 2025, and 3,000 MW of energy storage (i.e., batteries) by 2030. Those are pretty darn specific—and challenging—goals. And yet in 2021 they chose to close the Indian Point nuclear plant that was delivering 25% of New York City's electricity with zero carbon emissions, which made achieving that zero-emissions target even harder. John Howard, former interim chairman of the New York Public Service Commission, urged all parties to go back to the drawing board, saying, "We can flap our arms, [but] it doesn't mean we're going to fly. Let's face reality." Not to be outdone, California, Massachusetts, Michigan, and Minnesota also have very challenging emissions reduction goals coupled with onerous energy policies.

Energy and environment writer Sarah Montalbano on Substack wrote an insightful piece about California's solar energy dilemma based on a recent EIA report, saying, "California has so much solar generation at peak hours that the grid operator must curtail 29% more electricity than it did in 2023.... Curtailment is an involuntary reduction of generator output to maintain grid stability. An oversupply of electricity flowing into the grid disrupts its careful balance and can be disastrous.... Hence why the California Independent System Operator (CAISO) had to curtail 3.4 million MWh [megawatt-hours] of utility-scale wind and solar output in 2024.... In the short term, California wants to export more of its wind and solar excess to neighboring states, likely at a negative price, which will in turn make neighboring gas and coal plants less efficient despite their necessary reliability attributes. In the long term, it wants to use more battery storage, which has enormous challenges, and build more transmission lines to send solar generation farther afield, which will cost billions of dollars that would not be necessary were it not for overbuilding.... It should be no surprise that in March 2025, California clocked the second-highest average residential electricity price...behind only the island state of Hawaii."

On the other hand, we have Texas, which seems to be acting more rationally after its humbling experience in 2021 with Winter Storm Uri that froze wind turbines and disabled solar panels, nearly collapsing the power grid. Since then, two new state bills were passed that set reliability standards for all Electric Reliability Council of Texas (ERCOT) power generators, including wind and solar, requiring them to be dispatchable. As a result, according to Ed Ireland, "Texas has emerged as a leader in the new paradigm of energy abundance,

with plans to almost double its current natural gas power generation capacity in the next few years," including more than 130 proposed natural gas-fired power plants targeting roughly 58,000 MW of new capacity for the ERCOT grid. In addition, Texas has seen a surge in cancellations of renewable energy projects, particularly grid-level battery storage projects that try to "time arbitrage" power needs by buying excess electricity produced during periods of low demand and high generation (e.g., mid-day for solar and wind) and then reselling it at higher prices come evening when demand is high but those solar and wind farms stop producing.

No doubt, our national grid is undergoing huge transformational changes and capacity upgrades. Some experts believe the future will evolve into a national "smart grid," in which the major utilities work together and help one another respond to system upsets and emergencies, thus reducing the risk of brownouts/blackouts. In addition, many AI data centers with their own dedicated power generation facilities will be prepared to sell excess power into this smart grid, providing additional sourcing diversification. So, perhaps the buildout of America's smart grid that doubles or even triples its capacity over the next decade makes for an attractive investment opportunity.

Regardless, the zeal for renewable energy at the expense of other fuel sources has strained the grid. All human attempts to advance society—from cars to highways to fuels to drugs to the Internet to Al—have negative side effects that come with the benefits. The hope is always that the good vastly outweighs the bad and that human ingenuity and technology can help mitigate the bad. But people around the world are coming to realize that wind and solar in their current stage might have more negatives than positives that aren't easily mitigated—particularly at scale, such as powering an entire city, state, or country—including greatly increasing the cost per unit of power, reducing grid reliability and security, and consuming scarce capital (including lavish taxpayer-funded subsidies) on low-ROI boondoggles.

Europe has hit a breaking point:

Looking "across the pond" to Europe, electricity produced from renewable sources costs about 5x the price of electricity from conventional sources (i.e., hydrocarbons), and the unreliability of renewable energy to provide baseline power has reared its ugly head. As Doug Burgum observed, "We just saw in Spain they were celebrating...that they'd shut down their last coal plant. And then a week after that they were celebrating the fact that they had their first day of 100% renewables on their system. And then the next week, they became a global news story because people were trapped in subways, all airline flights canceled, hospitals were panicking with lack of power because they had a blackout and grid failure. Because it defies physics; you can't run an electrical grid with just intermittent power."

He continued, "And the same phenomenon happened in Germany. I think it's very clear right now that...a lot of what I call the social media driven concerns were part of psyops operations from places like Russia. I mean, it was Russia's great advantage to get Germany to shut down nuclear, to shut down all their coal production. And hey, we have a solution. Just buy all your natural gas from us. So, Germany spent...\$500 billion on the 'transition'...to wind and solar.... They today produce 20% less electricity and that electricity cost three times as much...."

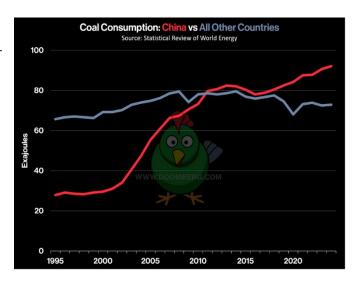
Growth in global primary energy production has been slowing over the past 40 years, which by extension also slows the growth rate of GDP. But Europe is the only region that is seeing its primary energy consumption fall, down 16% since its 2006 peak. So, its share of world GDP has also steadily declined. US Energy Secretary Wright points out that the UK is proud of its 40% reduction in greenhouse gas emissions, but they did it by reducing energy consumption 30% by shipping manufacturing (and associated jobs) overseas (and then shipping the products back as imports) and by lifting the price of energy to onerous levels (due to the high costs of renewables).

Spanish economist and investment manager Daniel LaCalle opined, "Due to climate change activism from its elected leaders, Germany [like the UK] has sold its future to China. France is in turmoil, Germany is in stagnation, so there is no growth in Europe. The countries that are showing growth are doing so through deficit spending and debt imbalances." Moreover, this misallocation of investment capital stunts productivity and GDP growth and raises energy costs, while providing poor returns on capital, leading to capital flight. This shifts GDP growth potential into developing markets that aren't able to "print & spend" endlessly on low-return projects and so are quite willing to scoop up cheap fossil fuels to fuel robust economic growth.

In his intriguing and insightful interview on Wealthion, Andrew Lees of MacroStrategy Partnership UK estimates that for every percentage point increase in the proportion of renewables adds 5% to the existing unit cost due to their intermittence and need for redundancy (aka backup supply) to ensure both baseline demand and peak fluctuations are met. As a result, a goal of increasing the proportion of renewable energy by 20 pps (from, for example, 20% to 40%) would double the price of energy, i.e., 5% x 20 = 100%, in his view.

Energy Secretary Wright believes that any power source that can't perform during peak demand times (like early evening) is just a "parasite" that adds unnecessary costs and complexity without contributing to the capacity of the grid. Andrew Lees asserts, "Energy is the foundation of an economy that allows everything else to grow and prosper, [and] 100% of GDP can be explained by energy. So, why would we go into renewable energy? The answer is, in a free economy you wouldn't. It's clearly not viable... Europe is committing economic suicide...so [capital] is looking for a relatively safe place to be."

China consumes nearly 3x as much power for manufacturing as the US, largely due to globalization and outsourcing, and Europe and the UK have outsourced even more to China, which produces much higher greenhouse gas emissions. Doomberg has posited, "It is indisputable which country has reaped the most benefit from the West's climatedriven self-impalement. While China has cornered the supply chains critical to the West's renewable energy ambitions, it has simultaneously indulged in coal consumption—by far the dirtiest and most carbon-intensive hydrocarbon—at a staggering scale. At the time of the first United Nations COP meeting in 1995, global coal consumption totaled 93.6 exajoules. By 2024, China alone had nearly equaled that, consuming 92.2 exajoules. It now consumes 56% of world output." This is illustrated in Doomberg's chart to the right. China continues to generate 60% of its baseload from thermal coal, which is burned to produce steam that drives turbines and is highly polluting. According to Reuters, with its economy slowing if not contracting, China is pressing its coal-fired power plants to stockpile more of the fuel and import less in an effort to shore up domestic prices.



Senator Ted Cruz of Texas has lamented, "First, foreign money from entities tied to the Chinese Communist Party flows into the United States to bankroll climate advocacy groups who litigate against American energy. Second, activist lawyers flood our courts with lawsuits designed not to win policy debates but to bankrupt energy producers and to dismantle energy infrastructure through sheer attrition...."

Energy expert Alex Epstein explained: "All the energy related problems we have experienced in recent years, which have been a lot: high gasoline prices, higher heating bills, higher electricity bills, and unreliable electricity...are the result of government-dictated green energy. And it's very simple. When you shackle the most cost effective and scalable source of energy, fossil fuels, and you subsidize unreliable solar and wind, that wouldn't otherwise be competitive, energy necessarily becomes more expensive, less reliable, and less secure.... And in fact, it's worse than that. There's an opportunity cost. Because were it not for these policies, energy would have gotten considerably cheaper and more reliable, especially with lower natural gas prices, which should have lowered electricity prices. Instead, they've gone up because we've added a bunch of wasteful energy and unreliable stuff. And it gets worse, since energy is the industry that powers every other industry. By making energy more expensive and less reliable, we make everything more expensive and less reliable, which means government-dictated green energy drives price inflation."

In the biting words of technology prophet and supply-side capitalist George Gilder, "A world delusional about energy and obsessive about climate performs many foolish, egregiously costly, and sacrificial rituals...." Furthermore, as entrepreneur David Friedberg of the All-In Podcast team opined, "The reality is, although everyone would love to see zero-emission renewable energy usage grow, such technologies still create significant environmental damage in mining the necessary metals and disposing of used up equipment, even with a slightly smaller carbon footprint. And most importantly, there is no realistic scenario today for eliminating fossil fuels that will sustain our creature comforts and ongoing economic growth. Even if all of the advanced Western countries were willing to degrade our way of life (including slashing usage of cars, air conditioning, and electricity generation), the developing world would not."

No, we surely cannot ignore all the people around the world who live in poverty but aspire for better. Again, affordable energy is the lifeblood of a healthy economy and society. The modern lifestyle of the average Westerner requires about 13 barrels of oil equivalent per year (BOE/yr), while the average citizen of the developing world consumes about 3 BOE/yr, and in Africa it's less than 1 BOE/yr, according to Energy Secretary Wright. As Daniel Yergin of S&P Global asserts, "The [energy] transition, with the objectives it embodies, is more likely to be successful if it also addresses economic growth and energy security, as well as energy access for the billions of people in the developing world who currently do not have it."

According to Treasury Secretary Bessent, "The history of humanity teaches a simple lesson. Energy abundance sparks economic abundance. That's why the World Bank should encourage an 'all-of-the-above' [hydrocarbons, nuclear, geothermal, hydropower, wind, solar] approach to energy development. Such an approach will make World Bank financing more effective, and it will reconnect the Bank to its core mission of economic growth and poverty alleviation." One caveat on this pragmatic sentiment is that some commentators push back on the "all-of-the-above" approach given that wind and solar are unable to provide the 24/7 reliability required by utilities and Al datacenters. They argue that rather than an "all-of-the-above" approach, we must employ a "best-of-the-above" approach.

Surging power demand from AI and other new technologies:

Interestingly, even famed economist Nouriel Roubini—affectionately known as "Dr. Doom" over the past 17 years, although he considers himself to be "Dr. Realist"—has reversed his persistent doomsday narrative. He now expects an investment boom in disruptive technologies including AI, quantum computing, robotics, and automation, with impacts coming much faster than previously expected. By 2030, he anticipates US GDP growth could double to 4% annually, with productivity surging to 3% (like in Treasury Secretary Bessent's "3-3-3" plan).

As Meta Platform CEO Mark Zuckerberg said in a post, "Over the last few months we have begun to see glimpses of our AI systems improving themselves. The improvement is slow for now, but undeniable. Developing superintelligence is now in sight. It seems clear that in the coming years, AI will improve all our existing systems and enable the creation and discovery of new things that aren't imaginable today.... At Meta, we believe that people pursuing their individual aspirations is how we have always made progress expanding prosperity, science, health, and culture.... We believe that building a free society requires that we aim to empower people as much as possible.... The rest of this decade seems likely to be the decisive period for determining the path this technology will take...."

The US EIA estimates that total US electricity consumption will hit a record of nearly 4,200 terawatt-hours (TWh) this year, and ICF International forecasts a 25% increase in US electricity demand by 2030 (5,200 TWh) and 78% by 2050 (7,400 TWh), driven largely by AI-related initiatives. Globally, Goldman Sachs is forecasting a 165% increase in datacenter power demand, driven largely by AI workloads. Management consulting firm McKinsey & Company expects datacenter demand in the US will grow from 5.2% of total power consumption this year to 11.7% in 2030. Moreover, McKinsey projects that global datacenter capacity will triple by 2030, costing \$6.7 trillion in capex, with AI workloads accounting for 70% of that demand growth, costing \$5.2 trillion. Just amazing stuff.

And regarding peak demand capacity (in TW, as opposed to total consumption in TWh), Energy Bad Boys on Substack observes, "The DOE expects electricity demand for data centers to increase by 52,000 MW by 2030, representing about 6.7% of the current average peak demand in the United States.... [In addition], the DOE expects roughly an additional 50,000 MW of demand growth from other sectors of the economy, resulting in the expected peak demand for the country increasing from 774,000 MW to 889,000 MW in 2030, a 15 percent increase, or 2.3% annual growth. If not for data center demand the expected rate of growth would only be 1.1%." As a result, whereas previous datacenters intended just for cloud applications typically generated 100-200 MW, today's Al datacenters need to be 2,000 MW (i.e., 10x the old size) to satisfy peak demand.

Texas in particular is expected to see the highest growth rate in electricity demand in the US in the next two years. The US EIA expects ERCOT to average 11% annual demand growth, driven by massive new datacenters and cryptocurrency mining facilities. Dozens of planned projects on the table include:

- 1. Meta Platforms' two proposed mega-facilities, costing over \$2.3 billion as it moves beyond just social media and ad revenue to become the infrastructure layer for consumer Al
- 2. Energy Abundance Development Corporation of Houston's "Data City," a 50,000-acre 5-GW Al hub in Laredo
- 3. The Stargate Project in Abilene, which is an AI partnership between OpenAI, SoftBank, and Oracle that could total \$500 billion in infrastructure (including up to 20 datacenters)

The Energy Crisis on Substack discussed ERCOT's push for natural gas-fired power to support the state's desire for West Texas datacenter buildouts. Texas is also taking strides in nuclear power, as I will discuss later.

But while electricity consumption has been increasing only gradually over the past few years, prices have surged about 30% since 2021—even though oil & gas prices have remained subdued—largely due to capital spending to upgrade aging infrastructure with a priority placed on renewable energy sources. This cannot continue, especially in the face of the upcoming surge in electricity demand from power-intensive technologies like AI training models, cryptocurrency mining, electric vehicle charging, automation, robotics, and broad electrification of society across home appliances, transportation, buildings, industry, and defense, as well as desalination for drought-prone areas and the strategic reshoring of energy-intensive factories.

According to entrepreneur David Friedberg, "[The AI] ramp up is like no one's ever seen in history [and we] haven't yet seen the ramp up of robotics and automation. There's going to be a breakthrough in the next year or two that's going to unleash this additional demand curve. We're going to have 100 million robots in the United States. They're all electrified. They all have to get charged up. That power has got to come from somewhere.... And as everything gets automated...Al becomes the great accelerant of the global economy." Friedberg goes on to say, "If I saw [the US] adding a terawatt of electricity production capacity per year, I would [shut up] about the [massive federal] debt. The critical lynchpin for all those other points of abundance being unleashed is the energy equation."

In an effort to grow US capacity for AI and broad electrification while revitalizing the long-time steel-producing Rust Belt regions around western Pennsylvania, which also happens to be home to the Marcellus Shale formation (and its extensive natural gas deposits), the Trump Administration has begun nurturing datacenter and energy infrastructure investments there. Several companies have stepped up—to the tune of \$92 billion in pledged capital. Alphabet and Blackstone have each committed \$25 billion for datacenters and related infrastructure over the next two years, and AI startup CoreWeave announced a \$6 billion investment. Power utility companies like FirstEnergy and Constellation Energy are part of a consortium committing several billion for electricity generation in the area.

Deregulation also should help spur development. The Competitive Enterprise Institute (CEI) cites a crippling \$2.1 trillion in annual federal regulatory costs that must be absorbed by our economy. I have written often that our federal government must: 1) slash our overreliance on low-ROI government spending and its record of inefficient capital allocation, including the picking of winners and losers (like unreliable renewables over reliable fossil fuels and nuclear), and 2) unleash organic growth in the private sector through fiscal policies like lower taxes, deregulation, and incentives to reshore strategic manufacturing and produce affordable, reliable, and secure electrical power.

In the wake of the OBBBA passage, the eminent George Gilder stated, "The combination of meaningful tax rate reductions, deregulation, especially in the energy sector, and the growing economic power of AI points to good news for investors for years to come." In addition to the new bill, President Trump just signed an "AI Action Plan" executive order that fast-tracks the permitting of

"qualifying projects" like large datacenters (over 100 MW) and supporting infrastructure (like semiconductor factories) that exceed \$500 million in committed capex, removes federal regulations that hinder AI deployment, and creates full-stack AI export packages to ensure the US becomes the primary global supplier of AI technologies.

And coming soon is an executive order entitled, "Zero-Based Regulatory Budgeting to Unleash American Energy," focused on broad deregulation of burdensome red tape in the energy sector. It will eliminate hundreds of complex regulations and mandate that certain agencies set an automatic "sunset" date for existing and future energy-related regulations unless they are actively reviewed and extended (with public input). These include many from the Federal Energy Regulatory Commission (FERC), which regulates interstate pipelines, storage facilities, interstate electricity transmission and sales, and LNG terminals.

Furthermore, the president has signed the Genius Act, which seeks to: 1) legitimize cryptocurrencies, bolster consumer protections, and provide a regulatory framework for dollar-backed stablecoins thereby accelerating adoption, 2) cement the US as the crypto capital of the world and the US dollar as the world's reserve currency, and 3) ensure that blockchain technology, cryptocurrencies, and the associated power requirements (especially for "Proof-of-Work" systems, aka "mining") are fully supported. Although new coins are created by decentralized mining rather than government edict, the US is the world's leader in crypto mining with nearly 38% of the network's hashrate versus second-place China's 21%.

By the way, according to technology and crypto expert and former CTO of Coinbase, Balaji Srinivasan on Substack, this new law fully legalizing stablecoins also suggests that every other asset, property, or thing of value (digital or physical) also can be secured "onchain," i.e., cryptography. He says, "The blockchain is the basis by which we can build a code-based order on the Internet." This implies even greater demand for electricity.

Coming up next time:

In Part 3 of this 3-part series on the Future of Energy, I will wrap up with: 1) Solving the US grid fragility problem, 2) The future is nuclear, 3) Rare earth elements, 4) Superconductors, and 5) Investment opportunities.

Latest Sector Rankings

Relative sector rankings are based on Sabrient's proprietary SectorCast model, which builds a composite profile of each of over 1,400 equity ETFs based on bottom-up aggregate scoring of the constituent stocks. The Outlook Score is a Growth at a Reasonable Price (GARP) model that employs a forward-looking, fundamentals-based multifactor algorithm considering forward valuation, historical and projected earnings growth, net revisions to Wall Street analysts' consensus earnings estimates, quality and sustainability of reported earnings, and various return ratios. It helps us predict relative performance over the next 3-6 months.

In addition, SectorCast computes a Bull Score and Bear Score for each ETF based on recent price behavior of the constituent stocks on particularly strong and weak market days. A high Bull score indicates that stocks held by the ETF recently have tended toward relative outperformance when the market is strong, while a high Bear score indicates that stocks within the ETF have tended to hold up relatively well (i.e., safe havens) when the market is weak. Outlook score is forward-looking while Bull and Bear are backward-looking.

As a group, these three scores can be helpful for positioning a portfolio for a given set of anticipated market conditions. Of course, each ETF holds a unique portfolio of stocks and position weights, so the sectors represented will score differently depending upon which set of ETFs is used. We use the iShares that represent the ten major U.S. business sectors: Financials (IYF), Technology (IYW), Industrials (IYJ), Healthcare (IYH), Consumer Staples (IYK), Consumer Discretionary (IYC), Energy (IYE), Basic Materials (IYM), Telecommunications (IYZ), and Utilities (IDU). Whereas the Select Sector SPDRs only contain stocks from the S&P 500 large cap index, I prefer the iShares for their larger universe and broader diversity.

The table shows the latest fundamentals-based Outlook rankings and our full sector rotation model:

The rankings have shifted to a slightly bullish bias given that: 1) cyclicals and secular growth sectors have moved toward the top of the rankings, and 2) the Outlook scores have generally risen, with 3 sectors above 50. Strongly bullish rankings would entail cyclical and economically sensitive sectors dominating the top half of the rankings with scores above 50 and defensive sectors in the lower half.

Technology (dominated by the mega-cap Big Tech titans and Al-driven highflyers) remains at the top with a robust Outlook score of 97, despite having by far the highest

Sector	ETF	Outlook Score	Bull Score	Bear Score	Net Score: Neutral Bias	Net Score: Bullish Bias	Net Score: Defensive Bias
TECHNOLOGY	IYW	97	57	49	97	90.0	58.7
HEALTHCARE	IYH	59	43	52	59	44.1	55.3
FINANCIALS	IYF	54	56	51	54	73.6	48.9
INDUSTRIALS	IYJ	48	52	52	48	62.1	50.6
BASIC MATERIALS	IYM	38	46	56	38	44.5	63.4
TELECOMMUNICATIONS	IYZ	38	56	57	38	68.4	67.7
CONSUMER STAPLES	IYK	30	41	63	30	29.9	90.0
CONSUMER DISCRETIONARY	IYC	27	51	53	27	52.9	45.9
UTILITIES	IDU	19	40	60	19	24.0	72.4
ENERGY	IYE	16	38	55	16	18.2	49.7

forward P/E—a lofty 29.8x (although lower than the 31x it hit last month). However, because of its rising EPS growth estimate of 19.4%

(vs. 18.4% just last week), the forward PEG (ratio of P/E to EPS growth) of 1.54 remains relatively modest—keep in mind that investors will always "pay up" for strong growth. Tech also displays by far the highest return ratios, favorable insider sentiment (open market buying), as well as solidly positive analyst revisions to earnings estimates (second only to Financials).

Because many Tech stocks are riding secular growth trends (i.e., little cyclicality), no other sector comes close to the consistent sales growth, margins, operating leverage, and return on capital. And Tech not only benefits from its own product development and productivity gains, but those products help other companies with their product development, product delivery, and productivity—so Tech benefits by helping all sectors grow and prosper.

Rounding out the top 5 are Healthcare, Financials, Industrials, and Basic Materials (which is boosted by rising commodity prices). At the bottom of the rankings remain Energy and Utilities. Because of the capital spending going into building out the power grid and infrastructure, Utilities and Industrials have been the best performing sectors this year. However, the Utilities sector as a whole suffers from relatively high valuations for only modest projected earnings growth over the next 12 months (8.2%). But this should change as datacenters get built and power demand ramps up. Although US electricity consumption has been increasing only gradually over the past few years, ICF International forecasts a 25% increase in by 2030 and 78% by 2050, driven largely by Al-related initiatives.

Keep in mind, the Outlook Rank does not include timing, momentum, or relative strength factors, but rather reflects the consensus fundamental expectations at a given point in time for individual stocks, aggregated by sector.

Notably, our ETF rankings continue to display much stronger Outlook scores for the cap-weight indexes, like SPY (53) and QQQ (71), over the equal-weight indexes, like RSP (37) and QQQE (47), which reflects the higher quality of the mega cap companies that dominate the cap-weight indexes. You can learn more about gaining access to Sabrient's ETF Scorecards, which rank roughly 1500 ETFs, by visiting: http://highperformancestockportfolios.com

Sector Rotation Model

Our rules-based Sector Rotation model, which appropriately weights Outlook, Bull, and Bear scores in accordance with the overall market's prevailing trend (bullish, neutral, or defensive), returned to a <u>bullish</u> bias in May when the SPY closed solidly above its 200-day moving average several days after previously eclipsing its 50-day. (*Note: In this model, we consider the bias to be bullish from a rules-based trend-following standpoint when SPY is above both its 50-day and 200-day simple moving averages, but neutral if it is between those SMAs while searching for direction, and defensive if below both SMAs.)* The SPY had suffered a dreaded "death cross" during the April selloff when the 50-day average crossed down through the 200-day, but it recovered in late-June when the 50 crossing back above the 200.

As highlighted in the table above, the Sector Rotation model suggests holding **Technology (IYW)**, **Financials (IYF)**, and **Telecom (IYZ)**. However, if you prefer a <u>neutral</u> stance, it suggests holding Technology, Healthcare (IYH), and Financials. Or, if you prefer to take a <u>defensive</u> stance due to overbought technicals and lofty valuations, it suggests holding Consumer Staples (IYK), Utilities (IDU), and Telecom.

Disclosure: At the time of this writing, of the securities mentioned, the author held a position in LNG.

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