SSDA
SERVICE STATION DEALERS OF AMERICA AND ALLIED TRADES

SSDA News

Service Station Dealers of America and Allied Trades

VOLUME 39, ISSUE 7 JULY, 2025

INSIDE THIS ISSUE:

Trump Blocks EV Mandate	1
Netdriven	2, 3
EU Aims to Align Recycling Rules	4
Chemical Deals	4
Deep Sea Mining	5
Alaska Energy	6, 7
Oil Explorers	8. 9
NRG Data Center	10
Offshore Energy Resources	11
Health Risks, Plastics	12
Land Acquisition	13
3D Printing	14
Opinion: 5 Strategies	15, 16

SSDA-AT Praises President Trump for Blocking California EV Mandate, Defends Americans' Right to Vehicle Choice

By Roy Littlefield

SSDA-AT applauds President Trump for signing a joint resolution that effectively blocks California's attempt to mandate 100% electric vehicle (EV) sales by 2035.

SSDA-AT has long opposed this aggressive and impractical regulation and strongly supports the President's decision to restore consumer choice and protect the broader U.S. economy from the harmful consequences of a one-state policy driving national standards.

California's EV mandate would have required that all new vehicle sales in the state be electric by 2035—effectively eliminating gas- and diesel-powered vehicles from the new car market. SSDA-AT believes this policy was completely unreasonable. It failed to account for the diverse transportation needs of American drivers and the economic realities facing families, businesses, and rural communities. The mandate was disruptive, impractical, and would have caused serious harm to industries across the automotive sector.

Most importantly, the California regulation sought to impose one state's policy on the entire country. Because of the size of California's market, its mandates have nationwide implications for manufacturers, dealers, and consumers. SSDA-AT agrees with the Trump administration that this is a matter of federal jurisdiction. Vehicle emissions standards should be set by the federal government—not a single state—especially when air quality and vehicle markets cross state lines.

A patchwork of state regulations is unworkable and threatens to undermine the efficiency and predictability needed in a national economy.

SSDA-AT strongly supports the principle that all Americans should be free to choose the vehicle that works best for their lifestyle and budget—whether that's a gas-powered truck, a hybrid, or an EV.

The U.S. Constitution does not grant any state special status to dictate national consumer options or restrict access to proven and affordable vehicle technologies.

In addition to supporting the President's recent action, SSDA-AT is backing legislation in the 119th Congress that would permanently protect consumer vehicle choice.

The Preserving Choice in Vehicle Purchases Act of 2025 (S.996 and H.R. 346) would codify the federal government's authority to set nationwide vehicle standards and prevent states from issuing their own bans on internal combustion engines.

SSDA-AT will continue to work closely with the administration, lawmakers, and our members to ensure that consumer choice remains protected. We remain committed to supporting policy solutions that are practical, inclusive, and grounded in economic reality—rather than mandates that disregard the complexity of the American vehicle market.

How to Recognize the Signs of Email Fraud

Cybercrime Is on the Rise

Cybercriminals are finding increasingly clever ways to infiltrate your business and compromise your security. Net Driven wants to make sure your shop is protected from harmful digital attacks.

You may be thinking, "Cybercrime only targets large corporations. I have nothing to worry about." However, every year one in five small organizations is a victim of cybercrime. Cybercriminals target smaller organizations because they assume that these businesses have fewer defenses in place to prevent cyberattacks.

"Well," you say, "is there anything I can do to avoid a cyberattack if it comes my way?" Good news, 100% of cybercrime can be prevented through the vigilance of your "human firewall." What is this resource? It's you and your team members, who can form an impenetrable barrier against cybercrime by knowing the types of attacks and how to address them.

Email Fraud

Did you know that 91% of data breaches are conducted through email fraud? Email allows cybercriminals to impersonate another entity as a means to connect with and extort your business. The most common type of email fraud is phishing.

"Phishing" is a fraudulent email that claims to be from a legitimate source in order to access sensitive information such as passwords and credit card numbers. For example, popular phishing angles include security alerts on your professional or private accounts, changes to your health benefits and HR announcements. But when you interact with these fraudulent emails, such as clicking a link or attachment, you could be compromising your private information and putting your shop at risk.

Recognize the Signs of a Phishing Email

Phishing emails have evolved to target specific emails by appearing highly personalized, such as addressing you by name or repeating some information about your position. It's important to always look twice at an email, as it can appear innocent at first but contain some telltale signs of fraud.

Here is a list of signs to identify a phishing email:

Fake "From" Email: Hackers often try to infiltrate businesses by impersonating a legitimate domain, such as a subscription service or vendor. Always make sure the "From" email is legitimate (e.g., ends in "@netdriven.com"). If you receive an email that seems out of the ordinary for your role (e.g., you work in sales but were billed an invoice), check with a coworker or supervisor to confirm that email is real and was meant for you.

Generic Greeting: Cybercriminals may not have access to your personal information, so they make do with generic email content. Openers such as "Dear Customer" may be a sign that the email was sent by a hacker.

Poor Writing: If you receive an email that is riddled with mistakes like misspellings and bad grammar and punctuation. Remember, a credible business would not send you an email that contains poor writing. Now, you may not be surprised to receive this email from your coworker who doesn't use punctu-

Continued on page 3

NET DRIVEN

Continued from page 2

ation, but keep your guard up if you receive an internal email has a strange tone or seems out of the ordinary.

Urgent Content: Urgency is a common cyber-criminal tactic, as they're trying to fluster you into making a snap decision and walking into the trap. If you receive an unexpected email whose subject line urges you to open immediately or whose body message tells you to click on a link or download an attachment now, take a step back. Ask yourself, "Is this email asking me to do something out of the ordinary? Is there a legitimate reason I would need to act now?"

Fake Links & Attachments: Phishing emails use fraudulent links and attachments to breach your security walls and gain access to payment and contact information or slip a virus into your software. Doublecheck any links before clicking to determine the link structure looks normal and matches the email sender. Does the URL represent a real website and start with "HTTPS:"? Similarly, don't click on an unexpected of funny-looking attachment.

Tips to Stay Vigilant & Protect Your Business

Constant vigilance will prevent a security breach every single time. First, follow the three fundament steps of thwarting a cyberattack:

Stop: Check and doublecheck your incoming emails. Never absentmindedly click on an email.

Look: Look twice before you interact. Do you see any signs that the message is a phishing scam?

Think: Does this email look real? Is anything out of the ordinary?

Additional steps to prevent a security breach:

Create unique, complex passwords for every account & never share your password(s) with anyone.

If an email looks "phishy," contact the sender in a different way, such as by phone or visiting their website in a different browser.

Don't log into an account using a login link in an email. Go to the actual login page and enter your credentials there.

Use second-hand verification if you receive a strange email from a company or coworker. Make sure you always know to whom you're responding.

Don't click on an email attachment if you don't know what it's for or what's inside.

If you suspect an email is fake, report it as a phishing attempt to your email service provider immediately.

Bottom Line: Provide Security Awareness Training

Your team can be your greatest cyber security asset or your biggest vulnerability, depending on how prepared they are to recognize and navigate a security threat.

We highly recommend providing security awareness training for your entire team, as trained employees are more likely to notice and report suspicious emails. Create guidelines for your team to follow in terms of identifying and reporting suspicious emails and other security threats.

http://www.webs.com/blog/2012/02/28/6-key-elements-to-a-good-website/

EU Aims to Align Recycling Rules for Plastic Bottles

The European Union is working to align the Single-Use Plastics Directive and the Packaging and Packaging Waste Directive regarding recycled content in plastic bottles.

The SUPD mandates 25% recycled content in PET bottles by 2025, while the PPWR allows recycled content from outside the EU under specific conditions.

A forthcoming EU implementation act is expected to address these discrepancies and clarify the status of chemical recycling and accounting methodologies like mass balance.

Recent Chemical Deals Indicate Shift in M&A Strategy

Recent merger and acquisition deals in the plastics industry feature unique approaches. LyondellBasell is selling four European plants to Aequita, contributing $300 million to the new business.

Teknor Apex has acquired assets of Danimer Scientific for $19 million from Chapter 11, venturing into bioplastics and material production.

TEKNOR APEX

Interior Will Investigate Deep Sea Mining Near American Samoa, Bloomberg

The waters off American Samoa could come up for lease for mineral exploration under a process the Trump administration will kick off.

The action from the Bureau of Ocean Energy Management is consistent with President Donald Trump's desire to extract critical minerals from the seabed, which can be used in products such as electric vehicle batteries, smart phones, and other technology.

Trump signed an executive order in April prodding federal agencies, including BOEM, to quickly review and issue seabed mineral exploration licenses and permits.

Now BOEM is asking the public to submit information, comments, and expressions of interest in the leasing of minerals on the American Samoan Outer Continental Shelf, according to an pre-publication notice from the Bureau of Ocean Energy Management.

The area in question spans 18.1 million acres and is located near the eastern limit of the shelf.

Some of the information BOEM is requesting addresses environmental sensitivity, potential hazards, the kinds of preliminary activities needed to develop mining plans in the area, and estimates of reasonable and fair rental rates.

The request for information was spurred by an unsolicited mineral lease sale request from Impossible Metals Inc., a San Jose, Calif.-based company that wants to mine an area located offshore American Samoa, BOEM said.

The RFI doesn't mean the area will be leased, but environmental groups were nevertheless quick to castigate BOEM's action.

"It's despicable that the Trump administration is racing to auction off our oceans to the highest bidder, putting whales, corals, and fish at risk," Emily Jeffers, a senior attorney at the Center for Biological Diversity, said in a statement. "If this destructive plan goes forward, it'll be the first-ever deep-sea mining in US waters, and scientists have barely begun to understand all the harms that could cause."

"Every scientific expedition into the deep sea reveals undiscovered species that have the potential to provide innovations like medicines that could benefit humankind," Addie Haughey, Earthjustice's legislative director for lands, wildlife, and oceans, said in a statement.

Moreover, mining the seafloor won't solve the US' supply chain problems, Haughey said.

"Market uncertainty, a lack of processing capacity, and technological advancements all call into question the value of this dangerous mining proposal," she said.

The nascent deep-sea mining sector has yet to take off in a significant way, partly due to the difficulty of scraping up minerals miles under the sea, and partly because the rules governing international waters—where most of the riches are thought to be—are still up in the air.

To the Trump administration, the undersea reserves of nickel, cobalt, copper, manganese, titanium, and rare earth elements offer a way for the US to steer away from dependence on hostile foreign nations.

The National Oceanic and Atmospheric Administration has said it will review applications for exploration licenses as fast as possible. NOAA in April called the push for deep-sea mining "the next gold rush."

BOEM
Bureau of Ocean Energy Management

Opinion: Alaska Shows the US is Open for Energy Investment By Mike Sommers

President Trump's top energy and environmental officials' recent visit to Alaska underscores the administration's commitment to restoring American energy leadership.

For the first time in years, administration officials toured the North Slope, a critical area for safe and responsible oil and natural gas development. The visit by Interior Secretary Doug Burgum, EPA Administrator Lee Zeldin and Energy Secretary Chris Wright reflects a strategic national policy shift with far-reaching implications for U.S. security, economic strength and global influence.

Alaska shows the world that America is once again open for energy investment. From Prudhoe Bay and the National Petroleum Reserve-Alaska to Cook Inlet, the state is home to some of the nation's most valuable untapped resources that can be developed safely and responsibly. The Trump administration is working closely with Alaskan leaders to expand access to these strategic assets — a partnership already generating projects that will meet rising energy demand, create high-paying jobs and deliver vital revenue to state and local communities.

At the heart of this approach is the Trump administration's recognition that America's strength lies in the abundance and diversity of its energy resources. Restoring American energy dominance requires a forward-looking, pro-growth strategy that prioritizes oil and natural gas while advancing innovation in carbon capture, geothermal and emerging fuels. Together, these resources contribute to our energy security and economic prosperity and create a diverse and resilient energy portfolio that reinforces America's leadership.

Congress should play its part to encourage long-term investment in U.S. energy infrastructure by advancing a predictable policy framework. Industry is ready to lead, but it needs clear, consistent policies that provide the confidence to invest at scale. This is especially important as lawmakers consider updates to energy tax provisions in the ongoing reconciliation negotiations.

Significant progress has already been made in advancing the president's energy dominance agenda. Through reconciliation, Congress has proposed expanded lease sales, modernizing permitting, reversing the punitive methane fee and preserving competitive tax incentives. These measures will help put American energy back on a trajectory of leadership and innovation.

Across the country, and particularly in states like Alaska, companies are putting American capital and ingenu-

Continued on page 7

Opinion: Alaska Shows the US is Open for Energy Investment By Mike Sommers

Continued from page 6

ity to work building infrastructure that drives economic growth and enhances energy security. Some of the most promising efforts underway involve scaling up lower-emission technologies that pair naturally with traditional energy such as hydrogen and carbon capture, which can be advanced using American natural gas. These are some of several tools that can enhance U.S. competitiveness in a rapidly evolving global energy market.

Republican leaders in the Senate recognize what's at stake. Alaska Sen. Lisa Murkowski and others recently wrote, "many American companies have made substantial investments in domestic energy production and infrastructure based on the current energy tax framework." They understand that the consequences of changing these provisions extend beyond local economies. These investments are vital to America's broader security and long-term competitiveness.

Alaska offers a blueprint for what's possible when smart policy meets American resourcefulness. The state's vast reserves and innovation-friendly leadership support not only traditional energy development, but also encourage advancements in hydrogen, carbon capture and integrated energy systems. Lawmakers can take American energy leadership to the next level by incentivizing the use of these cutting-edge technologies.

At the American Petroleum Institute, we believe leadership begins with producing energy at home, removing regulatory roadblocks, and providing the certainty needed to invest long term. The best energy strategy is one that values both legacy resources and emerging technologies and gives each the space to thrive.

As Congress returns to the negotiating table on President Trump's tax and budget priorities in the "Big Beautiful Bill," lawmakers have a historic opportunity to restore American energy dominance. With the right policy framework, the U.S. can unleash innovation, attract private investment, and reassert its leadership on the world stage.

Now is the time to double down on American energy abundance. The world is watching. Our allies are eager for cleaner, U.S.-made fuels. Our competitors, especially China, are racing to control the energy supply chains of the future. Meanwhile, American workers are ready to build the infrastructure that will power the next generation.

We have the resources. We have the technology. With the right policy, we can lead the world.

One of the North Slope's Most Successful Oil Explorers is Bullish on a New Discovery, Anchorage Daily News

The oil explorer whose last major discovery in Alaska opened a new frontier for North Slope development believes he's sitting on another promising find in a remote area.

Geologists familiar with Bill Armstrong's work and North Slope geology say he and his team are likely on to something.

Armstrong, who is based in Colorado, discovered the huge Pikka field on the western edge of the North Slope oil patch in 2013.

That led to additional nearby discoveries, including ConocoPhillips' Willow field. It sparked what the oil industry in Alaska describes as a renaissance in new activity. It led to forecasts for a big turnaround in the oil flow that's vital to state revenues. After Pikka and Willow are completed, North Slope production should rise to about 650,000 barrels of oil daily in 2033, up from about 480,000 barrels today.

Armstrong says his latest discovery, Sockeye-2, could once again attract more oil companies to a little-explored area on state land, leading to a "second renaissance."

"If you're a betting man, it's happening," he said in an interview. "It was speculative before this past drilling season. But not anymore."

'Probably done it again'

Sockeye-2 is about 100 miles east of Pikka. It's not far from the Arctic National Wildlife Refuge, where President Donald Trump has repeatedly called for drilling, and where conservation groups have long fought such activity.

The only development in the area is ExxonMobil's Point Thomson field, which produces a type of light oil called natural gas condensate.

Armstrong's company, Lagniappe Alaska, teamed up with major oil companies, Apache and Santos, to drill the well early this year. The companies are exploring a 325,000-acre leasehold.

Apache and Santos are publicly traded companies, which tend to be cautious when they release statements about future prospects.

In March, Santos' Bruce Dingeman "expressed excitement about the discovery" of Sockeye-2, according to a statement from the company.

"We are pleased with the Sockeye-2 well exploration discovery and its confirmation of resource potential" across the leasehold, Dingeman said.

An oil-flow test at Sockeye-2 was "successful" and demonstrated "the exceptional productivity of this shallow-

One of the North Slope's Most Successful Oil Explorers is Bullish on a New Discovery, Anchorage Daily News

Continued from page 8

marine reservoir," Apache said in a statement.

Geologists familiar with the North Slope say early signs at Sockeye indicate there's a good chance it could lead to more discoveries in the area.

"Armstrong probably has done it again" by focusing on new, unknown areas, said David Houseknecht, a senior research geologist emeritus with the U.S. Geological Survey.

Houseknecht, who has long studied the North Slope's hydrocarbon prospects, has previously pointed to the area as having high potential for oil discoveries.

"For my money, this is an area that is highly prospective, and it has very few wells that have been drilled," Houseknecht said. "So it's an excellent area in which to explore because there's very little known about it."

"It looks like there are many more opportunities to pursue," he said, based on the data he's seen so far about Sockeye-2 and previous activity.

Armstrong's "credibility is high" given his Pikka discovery and accuracy about its oil potential, said Mark Myers, a former director of the U.S. Geological Survey and a petroleum geologist with a deep background in North Slope exploration.

Armstrong appears to have a "very competent" geological team, Myers said.

The techniques that allowed Armstrong to discover Pikka led to additional nearby discoveries such as ConocoPhillips' Willow field, Myers said.

The same could happen with the Sockeye field, Myers said. The discoveries are possible in part because of recent advancements in three-dimensional seismic processing and interpretation that helps identify characteristics in reservoirs.

"So it's a learning behavior," Myers said. "Once you have that initial discovery, there's opportunity for more of them like that in the area. And I think that's what's going to happen out east. Now that he's found how the play works, there's probably a lot of running room for new discoveries."

'Good oil'

Sockeye-2 is part of a field that could contain 700 million barrels of recoverable oil, Armstrong said.

"We know it's good oil and it flows really well," he said.

But it's just one of multiple opportunities the companies are eyeing in the area, Armstrong said.

NRG Expects to Line Up New US Data Center Deals This Quarter, RigZone

NRG Energy Inc. is working on deals to power US data centers “all over the country” and will reveal details with second-quarter results, according to the top executive of the independent generator.

These are huge, complicated deals and it’s sensitive to figure out when to announce them, Chief Executive Officer Larry Coben said on Bloomberg TV.

Data centers are supercharging growth in electricity demand, and shares of power generators, long unloved by Wall Street, have rallied since early last year in this new paradigm. Investors are rewarding companies signing deals to supply power to tech giants.

It’ll take all kinds of resources - including natural gas, nuclear, solar, wind, hydro and batteries - to meet needs for artificial intelligence, Coben said. Houston-based NRG will help meet this new demand thanks to turbine orders for natural gas plants and through its $12 billion deal with LS Power Equity Advisors LLC announced last month, he said.

“Every time there’s not a data center deal for a month, people wonder if they are real,” Coben said. “But now that we’ve seen the last two, they are clearly real.”

U.S. Dept. of Interior Urged to Fully Leverage Offshore Energy Resources

The American Petroleum Institute joined more than 100 other energy trade groups and organizations in urging the Department of the Interior to develop a new five-year offshore leasing program that fully leverages the U.S. Outer Continental Shelf as a secure source of affordable, reliable energy.

"Revising the five-year offshore leasing program to take full advantage of our rich offshore resources through expanded access and development in the Gulf of America, Alaska, Pacific, and Atlantic will help sustain America's growing energy advantage for decades to come," the groups wrote in comments to Interior's Bureau of Ocean Energy Management (BOEM).

"America's oil and natural gas producers are critical to our economy and the energy resources they provide will be needed far into the future. ... The administration must reject previous policies that blocked and restricted lease sales and closed off planning areas. A new, robust and more predictable five-year offshore leasing program should be developed that includes expanded access and consistent lease sales, which reflects the reality of global energy demand and the many long-term benefits of OCS production."

Interior Secretary Doug Burgum directed BOEM in April to begin the process of developing a new schedule for offshore oil and gas lease sales. The development of a new program follows the previous administration's disregard for the offshore development process, including the release of the weakest offshore program in history.

According to the U.S. Energy Information Administration, U.S. offshore production accounts for 14% of total U.S. crude oil production, or nearly 2 million bopd. Robust offshore oil and natural gas development could generate over $8 billion in additional government revenue by 2040.

Common Phthalate Plasticizers Pose Health Risks, EPA Finds, c&en

A draft risk evaluation for DCHP the EPA released in December found concerns for workers associated with 9 of 24 uses evaluated under TSCA. It did not find any uses of DCHP under TSCA that raise health concerns for consumers.

The agency plans to release draft evaluations for BBP and DIBP in July.

The EPA set off the risk evaluation in December 2019, when it designated DEHP, DBP, DCHP, BBP, and DIBP high-priority substances. Under TSCA, the agency is required to complete risk evaluations within 3 years of the initiation date, although a 6-month extension is possible.

EPA sued over missed deadlines

A coalition of advocacy groups sued the EPA in September 2023 for failing to meet the deadlines for those 5 phthalates and 15 other chemicals that the EPA designated high priority in December 2019. Under a consent decree, the EPA agreed to enforceable deadlines to complete the evaluations. The agency is now rolling out those evaluations and expects to complete them by Dec. 31, 2026.

In December 2023, the American Chemistry Council (ACC), an industry trade association, filed a similar lawsuit against the EPA for failing to meet its deadlines to evaluate diisodecyl phthalate (DIDP) and DINP.

Chemical manufacturers asked the agency to assess the human health risks of DIDP and DINP in 2019. The industry is promoting the two phthalates as safer alternatives to DEHP for use as plasticizers in making PVC.

In early January, during the final days of the Biden administration, the EPA finalized risk evaluations for DIDP and DINP. The agency found health risks to workers not wearing PPE for 6 of 49 uses of DIDP and 4 of 47 uses of DINP. It did not find any risks to consumers.

The ACC's High Phthalates Panel welcomed those evaluations at the time, saying that the EPA's findings reconfirmed manufacturers' full confidence in the safety of DIDP and DINP.

The panel declined to comment on EPA's draft evaluations for DEHP and DBP. A spokesperson notes that the panel promotes the benefits of the long-chain phthalates DIDP and DINP, not low-molecular-weight phthalates like DEHP and DBP.

Environmental and public health groups also declined to comment on the evaluations. Such groups are typically more concerned about phthalates in uses regulated by the FDA than those regulated by the EPA under TSCA.

In December, a coalition of public interest advocacy groups, represented by Earthjustice, sued the FDA to push the agency to reevaluate phthalates in food packaging. The agency has not updated its safety assessments for phthalates in food packaging in at least 40 years, the groups claim.

Houston-Based EOG Resources Working to Acquire Encino Wells and Land Across Ohio, Yahoo

EOG Resources, a Houston-based energy company, has announced plans to acquire Encino Acquisition Partners and increase its Utica acreage to 1.1 million.

Encino Acquisition Partners, a joint venture of the Canada Pension Plan Investment Board (CPP Investments) and Houston-based Encino Energy, owns 675,000 acres in the Utica Shale, including oil and natural gas wells in Stark, Columbiana and Carroll counties.

It also has leases to operate in public lands, such as Valley Run Wildlife Area in Carroll County, Zepernick Wildlife Area in Columbiana County, Leesville Wildlife Area in Carroll County.

Encino previously had an office in Louisville that came with the purchase of Chesapeake Energy's assets in 2018. During the pandemic, the company sold the five-story office building at 2321 Energy Drive and moved to a smaller regional office in the Carrollton area.

“When we established Encino Acquisition Partners with Encino Energy in 2017, we envisioned creating a company that would be a leader in acquiring U.S. oil and gas assets," Bill Rogers, head of sustainable energies at CPP Investments, said in a prepared statement. "Since then, it has done just that, and we are pleased with EAP’s success and the strong returns this investment has delivered."

A spokesman for the pension board declined to comment further.

"It is our understanding that the sale has not been finalized at this time," Karina Cheung, ODNR spokesperson said in a statement.

Who is EOG Resources?

The investment board has 98% ownership of Encino Acquisition Partners. It and Encino Energy will fully exit the partnership for a full sale to EOG Resources.

The $5.6 billion transaction, which includes Encino's debt, is expected to close in the second half of this year. EOG Resources will fund the acquisition with $2.1 billion of cash on hand and $3.5 billion of debt.

"This acquisition combines large, premier acreage positions in the Utica, creating a third foundational play for EOG alongside our Delaware Basin and Eagle Ford assets," Ezra Y. Yacob, the company's chairman and CEO, said in a prepared statement.

"Encino's acreage improves the quality and depth of our Utica position, expanding EOG's multi-basin portfolio to more than 12 billion barrels of oil equivalent net resource."

Yacob added that the acquisition will "enhance the returns of our business and create long-term value for our shareholders." The acquisition is expected to boost free cash flow and result in a 5% increase to its quarterly dividend.

Is There a 3D Printing Opportunity in Rare Earth Metals? 3d print .com

For the past decade, voices have been heard exclaiming of a crisis in rare earths. Now, with Chinese restrictions on the exports of Rare Earths, a crisis foretold a thousand times has come to pass. Is there perhaps a role that 3D printing can play to alleviate this crisis? In some surprising ways, 3D printing may help to mitigate the pain of Rare Earths withdrawal.

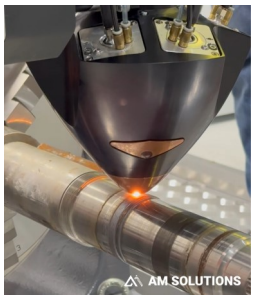
3D Printing Alternatives

One option is to 3D print rare earth structures and components so they need less material to function well. We can also optimize the functioning of low-performance materials by changing the properties and geometry of components so that higher performance can equal or approach that of Rare Earths. We could perhaps use 3D printing to 3D print permanent magnets that replace the functionality of Rare Earths. There is research going on in this arena, with people looking to recycle materials into 3D printing magnets, while bound filament magnets from TU Wien also could provide an alternative, as could magnets made with vat polymerization. Through microstructure optimization, we can also perhaps make higher-performance magnets. We could also complete topology optimization to match needs with performance.

Additive Drives makes 3D printed electric motors, which could optimize coilings and performance to reduce the need for Rare Earths. Others have looked at Direct Ink Writing, powder bed fusion, and other AM processes for magnet production. We can also produce actuators entirely using 3D printing to optimize performance and reduce rare earths. Researchers and Domin are doing work in that field.

We could also relatively quickly develop novel alloys using additive itself. Through this process, specifically interesting alloys, without the offending Rare Earths, could be used for certain specific applications. Technologies such as Metalysis could be used to skip a few steps and make high-end alloys locally. Meanwhile, 6K, Metal Powder Works, and Continuum Powders could be used to recycle old planes and other things into 3D printing powder that doesn't need new Rare Earths in it. We can replace metal components with high-performance polymer components made out of materials like PAEKs. Composites can also be used to replace metal components. If companies would need new tooling or new local production moving away from Rare Earths, then 3D printing could play a role in developing this tooling. Since Rare Earths themselves are made through sintering and pressing processes, we could even sinter optimized components directly while optimizing microstructure. This, done with binder jet or powder bed, could optimize performance even further. In molding or pressing, and perhaps even in precipitation-like processes, 3D printed components can also optimize production. ORNL labs commercialized a magnet recycling process for hard drives in 2016. Using additive, we can perhaps aid in quickly making inexpensive disassembly lines that use robots to take apart things like hard drives. This may make magnet recycling more attractive.

On the whole, we can see a number of very specific and attractive opportunities that exist for the additive manufacturing industry with regard to Rare Earths. The most commercially exciting opportunities lie in creating a direct magnet production technology in permanent magnets, either out of metals or polymers. New processes for topology optimization of existing magnets and increasing the performance of magnets through changing microstructure could also have a global impact. New magnetic materials that can lead to new magnet geometries and processes in conformal magnet creation could also be the basis for industrialization. Bound filament magnets could be a very inexpensive path to magnet production. Better batteries and electric motors will always be an interesting proposition. Recycling magnets more efficiently will also be of high interest. Generally, we can see that our industry, through lightweighting and making things more efficient, reduces the need for Rare Earth Elements. But, more specifically, there are several paths where we could help resolve reliance on Rare Earths.



Opinion, 5 Strategies to Avoid Getting Over-Extended and Over-Exhausted, Smart Brief

The alarm rings at 5 a.m. You jump out of bed to squeeze in a workout before your first meeting at 7. By noon, you've tackled multiple projects, answered 47 emails and skipped lunch. Evening brings more work, family obligations and a nagging feeling that you're still not doing enough. Sound familiar?

Many ambitious professionals find themselves caught in this cycle, attempting to accomplish everything simultaneously while driving relentlessly forward. The inevitable result? Over-extension and over-exhaustion.

What ambitious individuals often miss isn't motivation or commitment — it's the ability to dial in their focus, dial down their effort and avoid going on autopilot. Here are five ways to achieve your goals while preserving your energy and well-being:

1. Pace your ambitions

Time is finite, and as science fiction writer Ray Cummings noted, "Time is what keeps everything from happening all at once." When we try to squeeze all our ambitions into the same period, we create a traffic jam of competing priorities.

What's helpful is to pace your ambitions by planning in arcs and with time horizons, determining which ambitions are for now, soon and later. Think of it like an artist's creative periods — different seasons with different focuses and intensities.

Also, consider the pace at which you want to operate. Don't assume you have to be hard driving all the time. That's not sustainable. Is this a season for full-throttle effort? Or do your life stage and goals better match a more measured pace? Align your goals accordingly.

2. Coordinate, choose, compromise

If you are over-extended and feeling tension or conflict in all you want to do, consider these three strategies:

Coordinate: Create better goal alignment to reduce friction and feelings of time pressure. Shoot to have your goals work together toward a common, desired outcome.

Choose: Sometimes courage is needed to accept trade-offs and choose what matters most now. We tend toward optimism and think we can put more on our plates. Yet, we'd be well-served by subtracting goals to create more peace and ease.

Compromise: Reinterpret a goal to make it more doable or postpone it for another time.

Not giving your all can feel uncomfortable. Managing this feeling is a mind game. What helps is to reframe the story you tell yourself. One option is to believe that FOMO is a sign you're doing it right. It's along the lines of what James Clear shared in a 2024 newsletter: "You're not focused enough unless you're mourning some of the things you're saying no to."

3. Dial down your effort

When you're feeling over-exhausted and not resilient, challenge the level of effort you're putting toward specific goals.

Ask yourself:

How good do you want to be at this particular ambition?

Is this goal worth your hard work and determination?

What level of effort makes sense given your motivation and desired outcome?

Not all ambitions are created equal. We don't always have to give everything our maximum effort to reach our desired level of success. Consider adjusting the effort you apply to the goal or renegotiating your desired outcome.

Dialing down our effort isn't easy for most of us. We need to challenge ourselves to make things easier. Greg McKeown, in his book "Effortless," suggests asking, "What if this could be easy?" This prompt gets us thinking differently about what's required.

Opinion, 5 Strategies to Avoid Getting Over-Extended and Over-Exhausted, Smart Brief

Continued from page 15

Other practical approaches include time-boxing (giving yourself a set amount of time for a task) and applying the Pareto principle (focusing on the 20% of effort that delivers 80% of results). Remember: not everything in our lives has to be done at an excellent or best-effort level.

4. Create a break plan and then take them!

Taking breaks may sound obvious, but the problem is that we don't take them. According to Slack's 2023 Workforce Index, 50% of knowledge workers rarely or never take breaks during the workday.

Create a plan and schedule breaks to prompt your action. Include breaks across different time horizons:

Micro-breaks: Even short breaks of one to ten minutes can improve attention, increase creativity and reduce exhaustion. For example, mindfulness or deep breathing can help reset your nervous system and lower stress levels.

We may think we don't have time for breaks, but we often have five- or ten-minute windows. Track how you use these moments.

Are those minutes spent scrolling social media? Could you do something different, like taking a walk or reading, for better restoration?

Soul days: Block a day or half-day on your calendar dedicated to activities you enjoy that fill your soul. This might include time in nature, exploring an interest or hobbies — anything that energizes and restores you.

5. Be proactive in managing your well-being

Don't wait until you feel over-extended and over-exhausted. It can be easy to continually push and drive, thinking we can restore ourselves later. Often, people who experience burnout ignore the warning signs.

Put an appointment on your calendar once a month to assess how you are doing:

Ask yourself: "Is how I'm operating right now sustainable?" Rate your current state on a scale of 1-5, with five being very sustainable and one being not sustainable at all.

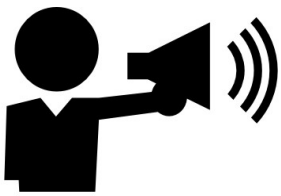
Reflect on: What's working and what's not working to support my sustainability?

Make a change: Identify one action you can take to restore, protect or support your energy, or a structure to put in place to support your sustainability.

Research shows that while recovery practices improve well-being, we paradoxically neglect them when we need them most. By proactively checking in with yourself, you can catch potential issues before they become problems.

It takes proactively managing ourselves to avoid over-extension and over-exhaustion. Start today by implementing just one strategy: pace one ambitious goal over a longer timeline, identify an area to dial down your effort or schedule three micro-breaks for tomorrow.

Small, consistent changes in how you approach your ambitions will help you maintain your energy while still achieving meaningful goals across both life and work.



1532 Pointer Ridge Place, Suite G
Bowie, Maryland 20716

Phone: 301-390-0900
Fax: 301-390-3161
E-mail: rlittlefield2@wmda.net

SSDA®
SERVICE STATION DEALERS OF AMERICA
AND ALLIED TRADES

For more information on SSDA-AT, please contact:

Roy Littlefield, Managing Director/ Editor

rlittlefield2@wmda.net ✦ 301-390-0900 ext. 137

Published monthly by the Service Station Dealers of America and Allied Trades, ©