Q3, 2024

Coal Energy

FROM THE MINE TO THE UTILITY

HAS CARBON CAPTURE'S TIME COME?

LEADERS IN MINE SAFETY AND TECHNOLOGY HONORED BY NMA, FEDERAL AGENCIES

POWER DEMAND IS SOARING

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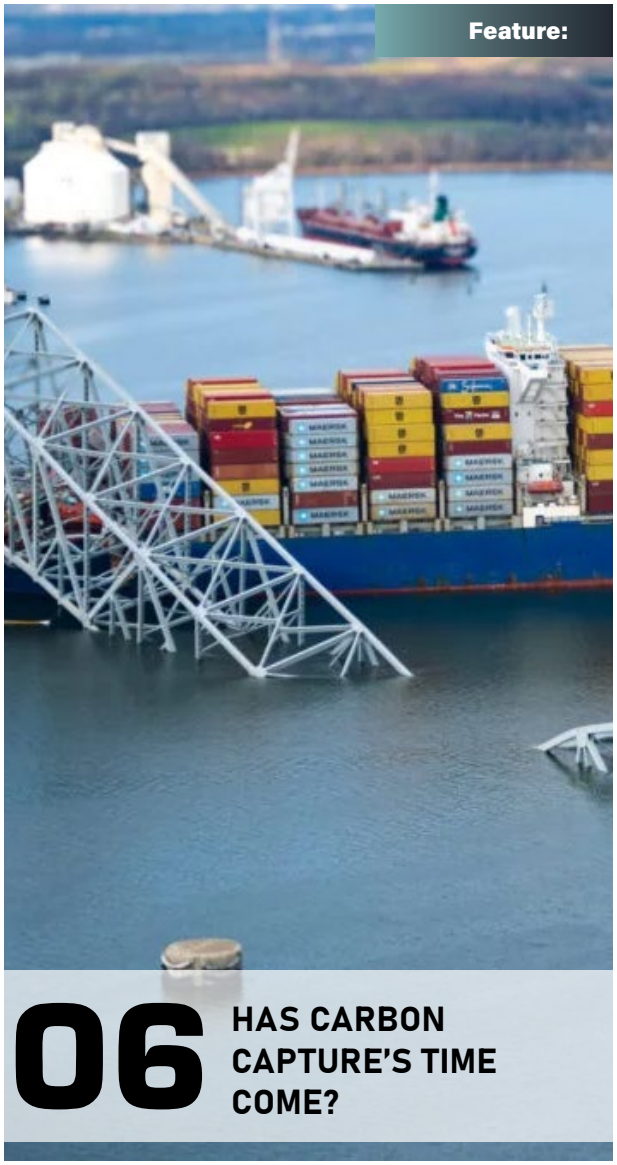

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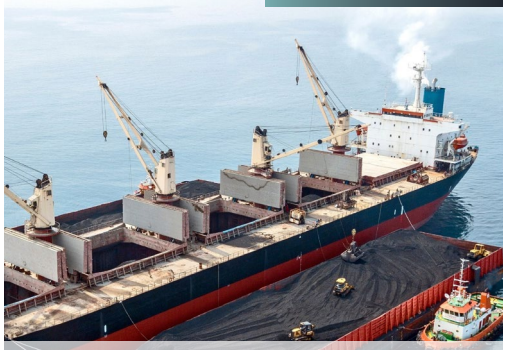

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LETTER FROM THE PUBLISHER

Dear Readers,

Welcome to Issue 3 of 2024 of ***Coal Energy!*** As we delve into the ever-evolving landscape of the coal industry, we are excited to bring you features that highlight critical developments and notable achievements within our sector.

In this issue, we explore the increasing demand for electricity in our feature titled "Has Carbon Capture's Time Come?" Here, we examine the role of carbon capture technologies in meeting the surging energy needs while ensuring environmental sustainability. This timely discussion is crucial as we navigate the balance between energy production and ecological responsibility.

Additionally, we celebrate the remarkable leaders in mine safety and technology who are being honored by the National Mining Association and federal agencies. Their dedication to safety and innovation is paving the way for a more secure and efficient mining industry, and we are proud to recognize their contributions.

As power demand continues to soar, we analyze the factors driving this unprecedented growth in our feature on soaring power demand. Understanding these dynamics is essential as we plan for the industry's future and the impact it has on energy consumers and the economy at large.

We take great pride in our readership base, which includes members from most of the nation's largest coal associations. Your engagement and support inspire us to deliver insightful content that resonates with our industry.

We would also like to extend our heartfelt gratitude to our advertisers, whose partnerships are invaluable to the success of ***Coal Energy.*** Thank you for your continued support and for believing in the importance of our mission.

Lastly, a sincere thank you to our readers. Your commitment to staying informed and engaged in the coal sector motivates us to keep delivering quality content that addresses the challenges and triumphs we all face.

We hope you enjoy this issue and find it both informative and inspiring.

Warm regards,

Maria Martonick

President

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Association Comparisons

www.nma.org

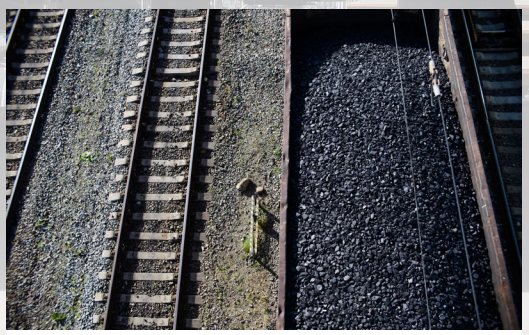
NATIONAL MINING ASSOCIATION (NMA)

Mission:

The NMA's mission is to build support for public policies that will help Americans fully and responsibly benefit from our abundant natural resources. Our objective is to engage in and influence the public process on the most significant and timely issues that impact mining's ability to safely and sustainably locate, permit, mine, transport and utilize the nation's vast resources.

NMA SERVES ITS MEMBERSHIP BY:

- Promoting the safe production and use of coal and mineral resources
- Establishing a strong political presence in the Nation's Capital
- Serving as the information center for and a single voice of U.S. mining
- Addressing the current and future policy needs of U.S. mining, mining equipment manufacturers and support for services members of NMA



www.movecoal.org

NATIONAL COAL TRANSPORTATION ASSOCIATION (NCTA)

Mission:

The mission of the NCTA is to provide education and facilitation for the resolution of coal transportation issues in order to serve the needs of the general public, industry, and all modes of transportation. This is accomplished through the sponsoring of educational fora and providing opportunities for the lawful exchange of ideas and knowledge with all elements of the coal transportation infrastructure.

www.asrs.us

AMERICAN SOCIETY OF RECLAMATION SCIENCES (ASRS)

Mission:

ASRS's mission is to represent and serve a diverse international community of scientists, practitioners, private industry, technicians, educators, planners, and government regulators involved in mineral extraction and disturbed ecosystem reclamation.

ASRS promotes the advancement of basic and applied reclamation science through research and technology transfer in the Society's annual meetings, workshops, published proceedings, newsletters, Reclamation Matters publication, Reclamation Sciences, and the ASRS website.

www.acaa-usa.org

AMERICAN COAL ASH ASSOCIATION (ACAA)

Mission:

The ACAA advances the management and use of coal combustion products in ways that are environmentally responsible, technically sound, commercially competitive and more supportive of a sustainable global community.

www.americancoalcouncil.org/

AMERICAN COAL COUNCIL (ACC)

Mission:

American Coal Council (ACC) provides relevant educational programs, market intelligence, advocacy support and peer-to-peer networking forums to advance members' commercial and professional development interests.

ACC represents the collective interests of the American coal industry in advocating for coal as an economic, abundant and environmentally sound critical resource.

ACC serves as an essential resource for industry, policy makers and public interest groups. The Association supports activities and objectives that advance coal supply, consumption, transportation and trading.

www.futurecoal.org

FUTURECOAL

FutureCoal represents industry leaders, committed to building a sustainable future for global coal.

www.alltricitynetwork.org

ALLTRICITY NETWORK

Mission:

This short statement outlines the association's identity and business activities. The Mission Statement was modified to more clearly emphasize what the organization is, why it exists and who we serve:

Preparing the electric energy industry for the future through education and networking.

Since 1903, Alltricity Network has been an association by members, for members. Employees from member companies drive program content by serving on the association committees, presenting at events, writing in Alltricity Network's publications and providing feedback to the staff. Members also advocate for Alltricity Network, and the association sees growth because of the outstanding word-of-mouth promotion by members. When a member brings their colleague to an Alltricity Network event, that person experiences what the association is all about and leaves with an appreciation for the content and the trusted community of sharing. Electric energy professionals know they can get answers from Alltricity Network because of the knowledge and friendliness of the members. By working together through the association, they are driving their industry forward.

By: Bob Chase

Has Carbon Capture's Time Come?

If ever there was a question about the need for coal plants, it has certainly been dispelled now with the growing demand for electricity.

After 15 years of flat electricity demand growth, we're suddenly seeing soaring demand at the nation's utilities that grid operators are struggling to meet. The reshoring of manufacturing, electrification of vehicle fleets and the rapid emergence of data centers to power artificial intelligence are gobbling up electricity. The Department of Energy now expects U.S. electricity demand to double by 2050 and in some regions of the country it's going to grow far higher and faster.

Whether or not we can meet this demand and do it reliably and affordably will shape our economic future and the competitiveness of the U.S. economy on the world stage. Potential shortages of power – a real threat grid operators are warning could be here as soon as 2030 – could mean factories and data centers never built and countless unrealized jobs. If we don't get our energy policy right and meet surging demand, we risk short circuiting our economy and letting enormous opportunities slip through our fingers.

There are no silver bullet answers to the enormity of this challenge. Wind turbines, solar panels and batteries simply aren't going to get it done alone. The time for political correctness in energy policy is over.

What does that mean? First, we need to recognize we need today's existing power plants as a foundation to build upon. Instead of regulatory policy that aims to wipe out the coal and gas fleets, we need policy that reflects our new reality of soaring demand and the immense challenges of meeting it.

Fortunately, the tide is beginning to turn in favor of creative solutions. Microsoft, desperate for reliable, emissions-free power for its data centers, recently signed a 20-year power purchase agreement to bring a closed nuclear power plant back online (Three Mile Island).

We need more of this out-of-the-box thinking. The next place big tech and industrial companies should look for power is our coal fleet.If bringing nuclear power plants back online at enormous expense can be an attractive option for reliable power, investing in carbon capture and storage (CCS) at our existing coal plants is certainly worth a look.

Financial backing from data centers or large industrial companies to purchase power from CCS-equipped coal plants would immediately make the technology feasible. The largest barrier to making CCS work at scale is cost, not technology.

Because a limited number of CCS facilities have been built, the prototypes have been costly. But once CCS goes into production – with adequate financial support – the costs are expected to come down. And as production and deployment grows, we are likely to see improvements in efficiency and durability. Also, rather than sequester carbon emissions underground, there's significant potential to create new green uses for what is otherwise a waste gas. Consider the potential for green cement or even zero-emission jet fuel.

We need the essential, reliable power provided by the nation's coal fleet and big tech has the need and financial muscle to back a carbon capture moonshot.

For all the challenges that come with navigating the energy transition and meeting soaring electricity demand, this moment also offers tremendous opportunity. Perhaps none is greater than the potential for U.S. leadership on a technology indispensable to global emissions progress.

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Hilliard Products are Made in the USA.

EIA: Coal consumption to tick up following shoulder season decrease

GILLETTE, Wyo. — Coal consumption is predicted to continue a months-long downward trend this fall, though it should still account for around a sixth of total U.S. power generation through the end of 2025, according to the U.S. Energy Information Administration.

Per the latest EIA short-term energy outlook, federal energy officials see coal consumption dropping by 12% this month from September, which dropped 22% from August. The drop is attributable to what usually happens during the September and October shoulder season, during which electricity generation is typically reduced.

In November, coal consumption will start to tick back up, the EIA says, adding that coal consumption should increase by 32% as the winter season begins, power demand rises and forecast natural gas prices approach $3.20/MMBtu while coal prices remain relatively low.

Per the EIA, coal remains a significant fuel source for U.S. power generation in the mid-Atlantic and Midwest. Natural gas, however, has become more cost-competitive over the past decade due to the greater thermal efficiency of combined-cycle natural gas turbine plants.

"The higher energy yield that comes with lower heat rates means that the effective price of natural gas relative to coal is even lower than the nominal price indicates," the EIA says. **"However, with increases in electricity demand expected from the growth of data centers and other sources, we expect overall electric power sector coal consumption to increase from this year, even as coal production declines in 2025."**

With the increase in consumption and decrease in production, coal inventories held by electric power plants are predicted to fall to about 100 MMst by December 2025 from the 130 MMst predicted for the end of 2024.

Solar-generating capacity will approach the amount of U.S. coal-fired capacity by the end of 2025, though coal power plants tend to run at higher utilization rates over time, according to the EIA.

"We expect that coal will account for about 16% of total U.S. generation in 2024 and 2025, down from 17% last year," the EIA says.

Increasing generation from new solar is predicted to most likely affect natural gas generation, which the EIA says will fall from 42% of U.S. generation in 2024 to 39% in 2025. Additionally, the administration forecasts less natural gas generation next year as a result of rising natural gas prices as well as little new generating capacity coming online.

By: John Gallagher

Coal company sues Dali shipowners for over $100M

Baltimore bridge collapse curtailed Consol's exports, company claims

Francis Scott Key bridge collapse disrupted supply chains in and out of Baltimore.

A major U.S. coal company has added to the growing list of claims against the owner and manager of the Singapore-flagged ship that caused the collapse of Baltimore's Francis Scott Key Bridge earlier this year.

Consol Energy is suing Grace Ocean Private Ltd. and Synergy Marine Group for damages related to the Key Bridge collapse that "are expected to exceed $100 million," according to a lawsuit filed in a federal court in Maryland.

Grace Ocean and Synergy Marine, which owned and managed the container ship Dali when it rammed the bridge on March 26, filed for liability protection less than a week after the accident, attempting to limit their liability to $43.7 million by invoking the Limitation of Liability Act of 1851.

But Canonsburg, Pennsylvania-based Consol (NYSE: CEIX), which operates a coal export terminal in Baltimore, contends – as do all others claiming damages resulting from the bridge collapse – that the owner and manager were negligent and therefore their liability should not be limited.

"As a result of the blockage arising from the allision, claimant was required to effectively shut down operations at its Consol Marine Terminal [CMT], limiting the company's ability to ship coal for overseas export, resulting in severe economic impact including revenue loss and loss of storage," the coal company stated in its filing.

"Claimant has suffered and will continue to suffer damages in the form of lost profits and lost business as a result of the Key Bridge collapse attributable to the allision."

Consol ships approximately 65%-70% of its total export coal production to overseas industrial and metallurgical markets, with most moving through CMT, according to the company.

The importance of CMT was reflected in the stock market: Consol shares closed down 6.8% when the financial markets opened the day of the accident.

The nearly two-month shutdown of CMT between March and May was also reflected in the company's second-quarter earnings. Throughput volume at CMT was down 57%, to 2.3 million tons, compared with the same period a year ago.

CMT net income and adjusted earnings were $2.3 million and $5.2 million, respectively, in the second quarter compared to $21.1 million and $23.9 million, respectively, in 2023.

"All actual damage suffered by the claimant relates to the added cost from the loss of access, use, and maintenance of their property to pursue their economic interest," Consol stated in its court filing. **"All costs and business losses incurred by the claimant were and are a direct and foreseeable consequence of the Petitioners' intentional and reckless conduct."**

Power Demand from Data Centers Keeping Coal-Fired Plants Online

By: Darrell Proctor

The power generation sector is looking at numerous ways to provide enough electricity to satisfy demand from data centers. Bloomberg Intelligence recently said its research shows data centers, buildings filled with servers and other computing equipment for data storage and networking that supports operations and artificial intelligence (AI), could be responsible for as much as 17% of all U.S. electricity consumption by 2030. The U.S. Dept. of Energy (DOE) has said one data center can require 50 times the electricity of a typical office building.

Several technology groups are looking at nuclear power, including the use of small modular reactors (SMRs), to meet their electricity needs. Energy analysts have said natural gas, whether burned in large-scale facilities or peaker plants, also will be important.

Power consumption from data centers, though, also is benefiting coal-fired power plants, some of which may be kept running longer than expected in order to meet the increased demand for electricity from companies such as Google, Meta, Amazon Web Services (AWS), and others. Some coal-fired plants already have gotten a reprieve in areas where more energy is needed as data centers come online, or are in the planning stages.

The topic reportedly was discussed when C-suite executives from Alphabet (Google), AWS, Microsoft, Meta, Nvidia, and OpenAI met with government officials in Washington, D.C., last month to discuss ways to support U.S. infrastructure for AI, including data centers. Part of the discussion was about repurposing old coal sites as data center campuses. The DOE has said it will share resources with data center developers about how to repurpose former coal mines, or coal-fired power plants, to be home to data centers. Energy DELTA Lab, a collaborative effort that includes Dominion Energy Virginia and Appalachian Power, already is working on the Data Center Ridge project at a former mining site in Wise County, Virginia.

LIFE EXTENSION

Maksim Sonin, an energy expert who has collaborated with several companies, including Chevron and Shell, and is a Sloan Fellow at the Stanford University Graduate School of Business, said, **"Driven by recent trends in AI development, projected power consumption by data centers in the U.S. is expected to increase in the range from 8% to 17% by 2030—or potentially even higher, as progress in AI technologies is**

The 1,100-MW Fort Martin Power Station is located in Maidsville, West Virginia, on the Monongahela River. It has two coal-fired units. It is owned by Monongahela Power (Mon Power), part of FirstEnergy Corp.

not linear but exponential, as seen in Silicon Valley today." Sonin told POWER, **"With this sharp upward trend, it is highly likely that coal-fired power plants will remain a part of the U.S. energy system for longer, although their role is expected to diminish, as more renewable and other energy resources come online."**

"Coal plants will have an extension of their life due to data center demand," said Tim Echols, a commissioner and vice-chair of the Georgia Public Service Commission. Echols' home state is actively recruiting data centers and manufacturing facilities to provide jobs and boost local economies. It already added a significant new source of power when two nuclear reactors entered service at Plant Vogtle last year and this year, providing about 2,200 MW of new electricity output in the state. Plant Vogtle, where two other reactors have operated since the 1980s, is now the nation's largest nuclear power plant, with more than 4,600 MW of generation capacity.

Echols told POWER in an Oct. 16 interview that Georgia is preparing for a large increase in power demand. **"There could be a massive increase of capacity approved next year. Data centers will account for most of it,"** he said.

How to satisfy data center power demand is being discussed by utilities and energy officials nationwide. Allan Schurr, chief commercial officer with Texas-based Enchanted Rock, which provides microgrid backup power solutions to data centers and other critical infrastructure, said the debate also should include onsite generation.

"AI data centers require more generating capacity—that's a given," said Schurr. **"While we are waiting for nuclear power to bring substantial additional baseload to the grid, we don't want to needlessly 'recarbonize' our energy resources by extending the life of older, less-efficient fossil generation plants like coal."**

Schurr told POWER, **"Today's grid has significant available capacity with the exception of about 500 hours per year that can be mitigated with dispatchable generation. And the grid needs those 500 hours of additional capacity so we can continue to add solar and wind resources into the energy mix. Data centers can facilitate this dispatchable generation from their own onsite generation, making them assets to the grid instead of liabilities."**

The utilities and grid operators arguing to keep coal-fired plants online say it makes sense to keep existing baseload power sources operating, at least until more nuclear or renewable energy is available. That's why states including Nebraska, Virginia, and Utah among others, have plans to keep coal-fired units running to support the supply of electricity.

VIRGINIA IS WORLD DATA CENTER LEADER

DC Byte, a UK-based research group that tracks data centers worldwide, has said the U.S. is the world leader in the buildout of data centers. The group said Virginia—home to about half of all U.S. data centers—is the largest data center market worldwide. Loudoun County in Virginia is known as "Data Center Alley."

PJM Interconnection, the grid operator that serves Virginia, the District of Columbia, and 12 other states, has conceded some coal-fired power plants will need to continue operating, and miles of new transmission lines must be built, to satisfy ever-increasing demand for electricity. Other power sources will help—Japan's Sumitomo Corp. announced it will partner with CEP Solar (based in Richmond, Virginia) to add 1.5 GW of solar and battery energy storage to support data center growth in the region.

"The system is in a major transition right now, and it's going to continue to evolve," Ken Seiler, PJM's senior vice president in charge of planning, said in a December stakeholders' meeting about how the grid operator can supply more power as it waits for more renewable energy resources to come online. **"And we'll look for opportunities to do everything we can to keep the lights on as it goes through this transition."**

DC Byte in its 2024 Global Data Center Index wrote, **"Virginia currently has over 6 GW in the development pipeline including projects under active construction as well as Committed and Early Stage campuses."** The group noted, **"Cloud is the greatest driver of growth in Virginia. AWS [Amazon Web Services] operates over 40 facilities in the state and Microsoft operates a massive campus in Boydton as well as a smaller facility in Loudoun County. Both companies have more self-build campuses in the pipeline and are also major colocation tenants across the market."**

DC Byte added, **"In 2022, Loudoun County's primary power supplier Dominion Energy announced that it would not be able to meet power demand in the market. Delays in power delivery are expected until 2025 or 2026 while new power infrastructure is built. In the meantime, Dominion Energy would be providing power incrementally."** Dominion officials have said they project that power demand in the utility's territory will increase by 85% over the next 15 years.

PJM is backing a $5.2 billion plan for new transmission lines across several states to bring power to Virginia. The lines would carry electricity produced at several coal-fired power plants that have been slated for closure, including the Longview, Fort Martin, and Harrison stations in West Virginia.

In Maryland, meanwhile, PJM has asked Texas-based Talen Energy Corp. to keep Brandon Shores and Herbert A. Wagner—two other coal-fired facilities located near Baltimore—online at least through 2028. The plants had been scheduled to close by June 2025.

OPERATING EXTENSION FOR OMAHA COAL PLANT

The 644-MW North Omaha Station in Nebraska was scheduled to close in 2023. Instead, Google and Meta data centers caused the area's power demand to spike, which led the Omaha Public Power District to decide that the two coal-fired units at North Omaha were needed to maintain reliability of the local power grid. The utility has

said it will keep the coal-burning units online at least through 2026.One Google data center is in Papillon, a town about 12 miles southwest of Omaha. DC Byte said the Google facility uses more power than the Meta office, and added that its data shows Google uses more electricity in Nebraska than it uses elsewhere in the U.S. The company also is planning more data centers in the state.

Data from Meta and other groups shows that the company's data center in Sarpy County, about 25 miles southwest of Omaha, last year used almost as much power as the North Omaha station produced. The Meta campus includes nine separate complexes, encompassing about 4 million square feet.

The Omaha Public Power District has estimated that as much as two-thirds of the projected growth in power demand around Omaha will come from data centers, which are being built on what used to be farmland. Local officials have said opposition to wind and solar farms in rural areas has curtailed additional renewable energy resources that could supply power. The utility has been developing a 2,800-acre solar power project in rural York County, about 100 miles from Omaha, but area residents have voiced concerns about the installation. The utility also has said regulatory issues have slowed plans to replace coal-fired generation with natural gas-fired units.

Meta's presence in Omaha was sought by state and local officials; a special electricity rate for industrial customers was created in 2017. That rate was then marketed to Google to entice the search engine giant to build in the area.

GEORGIA COURTING DATA CENTER OPERATORS

Georgia Power is buying electricity from a sister company, Mississippi Power (both are part of Southern Co.), to help meet power demand in Georgia. The deal came after Georgia Power officials reportedly told state regulators that growing demand for electricity would overrun supply by year-end 2025. Georgia officials have been actively looking to bring data centers and manufacturing plants to that state, and Gov. Brian Kemp earlier this year vetoed a bill that would have suspended a tax break for data centers (the bill had bipartisan opposition). Had the bill become law, the tax break would have been under the review of a special commission on data center energy planning.

Kemp in a statement said, **"The bill's language would prevent the issuance of exemption certificates after an abrupt July 1, 2024 deadline for many customers of projects that are already in development—undermining the investments made by high-technology data center operators, customers, and other stakeholders in**

reliance on the recent extension, and inhibiting important infrastructure and job development."

Georgia Power has a deal with Mississippi Power to buy 750 MW of electricity through 2028. Mississippi Power is providing the energy from its Victor J. Daniel Electric Generating Plant, better known as Plant Daniel, where two coal-fired units have operated for the past 50 years. The plant also has two natural gas combined-cycle units. It is the state's largest power plant, with nearly 1.6 GW of generation capacity, including 500 MW from its two coal-fired units.

Mississippi Power had planned to retire the coal-burning steam turbines in 2027. The deal with Georgia Power, though, could extend that lifecycle. Jeffrey Grubb, the utility's director of resource planning, reportedly was asked by Georgia Power's lawyers about the agreement, and said, **"Because those units would have been either retired or sold off-system and we needed certainty that they would be there to serve our customers."**

Echols, the PUC co-chair, on Wednesday told POWER the contract with Mississippi Power is open to any kind of generation source.

"Our contract with Mississippi Power calls for 750 MW, and it doesn't matter where it comes from. That may mean an [operating] extension for the coal plant, or it may not," he said. **"Mississippi could do 750 MW of solar plus storage, they could bring in 750 MW of wind power from a neighboring state."**

Echols noted that a move by regulators in 2022 extended operations for two coal-fired units at Georgia Power's Plant Bowen, one of the nation's largest coal-burning power plants, with about 3.4 GW of generation capacity. Echols said, **"In the 2022 IRP [integrated resource plan] ... our commissioners delayed the closure of units 1 and 2 at Plant Bowen. I imagine as we evaluate that in next year's IRP, we will also delay the closure for another three years.**

We'll have to wait and see what the utility is asking for and how the commissioners feel we need to move forward."
Echols told POWER, **"There could be a massive increase of capacity approved next year. Data centers will account for most of it."** Echols also offered, **"I think there is a scenario where we approve two more AP1000 [reactors] at Plant Vogtle if the federal government provides bankruptcy insurance or overrun insurance for another expansion at the site."**

OTHER EFFORTS

DC Byte has identified Salt Lake City, Utah, as a growing market for data centers. Meta already operates a 4.5-million-square foot complex in Eagle Mountain, Utah, south of Salt Lake City.

State lawmakers have pushed legislation to keep the Intermountain Power Project, a coal-fired station near Delta, Utah, open past the facility's scheduled 2025 closure date. Officials have looked at ways to have the state take over the plant. Lawmakers this year did pass legislation intended to extend the life of Rocky Mountain Power's coal-fired stations in Emery County.

Stuart Adams, president of the Utah Senate, during the legislative session this summer said, **"The United States has a real problem. We do not have enough power for our data centers. AI development is technology that we have to embrace, and power is the key to it."**

Building more infrastructure to support that AI development was among the reasons those tech company execs met last month on Capitol Hill. Reports said the discussion included repurposing former coal sites to house data center campuses, in part because those sites usually have access to power lines, water, and a local workforce.

The DOE's Pacific Northwest National Lab, which is leading the "coal-to-X" redevelopment campaign, in a guide to the program wrote, **"A retired coal site could even be redeveloped to combine a data center with new clean energy on the same site."**

As Schurr of Enchanted Rock noted, generating onsite power via a microgrid, or through a renewable energy resource, could be preferable to using coal-fired generation. That's of particular importance for data center operators looking to build in remote areas where they need plenty of land, and where there's a lack of transmission infrastructure. Sonin reiterated that coal will play a role in satisfying power demand from data centers, but like Schurr, noted other fuels could work with coal to reduce the environmental impact of keeping coal-fired power plants online.

Sonin told POWER, **"Emerging technologies that, for instance, allow for substituting some of the coal with ammonia, a carbon-free hydrogen derivative, through a process known as co-firing, may help address public environmental concerns. Current advancements, particularly the potential for upscaling production trains, could reduce the cost of ammonia facilities by 30% and more, making this chemical a viable solution for cutting emissions from coal plants."**

PRESS RELEASE

EMPLOYEE SAFETY & MINE RECLAMATION EFFORTS

PA Coal Alliance members awarded for environmental enhancements and employee safety

(Harrisburg, PA) The Pennsylvania Coal Alliance (PCA) announced the winners of its annual mine safety and reclamation awards. Recognition is given for superior employee safety records and the completion of outstanding reclamation at coal mine sites throughout the Commonwealth of Pennsylvania.

Reclamation Awards

The PA Coal Alliance also recognizes the environmental enhancements and outstanding reclamation work completed by its members companies. Awards are made based on scores from the Pennsylvania Department of Environmental Protection (DEP) including number of acres previously affected by Abandoned Mine Lands (AML), the number of acres mined, and post-mining land use.

Small Project (Under 25 Acres)

Robindale Energy Services, Inc.
Soberdash Site, Westmoreland County

An abandoned coal refuse pile was removed, 12 acres of land was re-contoured, and proper soil nutrients were incorporated into the cover material during reclamation to provide a sustainable vegetative cover that significantly reduces erosion into the nearby Sewickley Creek.

Mid-Size Project (25-75 Acres)

RoxCoal, Inc.
Sarah Mine, Somerset County

RoxCoal reclaimed 43.5 surface acres from a deep mine site, taking special care of High Quality (HQ) and Cold Water Fishes (CWF) stream classifications during the reclamation process.

Best Overall

PBS Coals, Inc.
Tipple Mine, Somerset County

The 134-acre Tipple Mine was reclaimed and planted with crops and grasses. The restoration of cropland has provided farming back to the local farmers and the grasses provide habitat for wildlife. Reclamation at the Tipple Mine also removed buried abandoned mine refuse.

Safety Awards

The Keystone Mine Safety Awards are presented by PCA to recognize outstanding safety records at mine sites, with awards for both Manufacturer and Service Providers and Producers. Awards are based on Mine Safety Health Administration

or the Occupational Safety and Health Administration safety date, whichever is applicable, and are determined by non-fatal loss (NFDL) rates.

Keystone Mine Safety Manufacturer and Service Provider Safety Awards:

Small Field Service Provider
Musser Engineering
NFDL 0.00
3,025 man-hours

Large Field Service Provider
JENNCHEM, LLC
NFDL 3.81
262,275 man-hours

Large Manufacturer
Jennmar Conveyors
NFDL 0.00
88,491 man-hours

Keystone Mine Safety Producer Safety Awards:

Small Surface Mine
Junior Coal Contracting Incorporated
Hoover Job
NFDL 0.00
58,839 man-hours

Large Surface Mine
Heritage Coal & Natural Resources, LLC
Mast Mine
NFDL 0.00
167,087 man-hours

Small Continuous Mine
Rosebud Mining Company
Knob Creek
NFDL 0.00
47,388 man-hours

Large Continuous Mine
Rosebud Mining Company
Madison Mine
NFDL 1.23
162,464 man-hours

Longwall Mine
Consol Pennsylvania Coal Company LLC
Bailey Mine
NFDL 0.70
1,710,245 man-hours

WVU Coal Rush Honors WV Miners, Coal Industry

West Virginia's coal industry and coal miners were celebrated and honored in front of a national television audience during the WVU v Iowa State football game, which was broadcast on the Fox network.

The West Virginia University football team wore the new all-black "Coal Rush" uniform which was designed to pay tribute to the work ethic and bravery of the West Virginia coal miner and celebrate our state's coal industry.

Our players entered the field joined by miners from Arch Resources' Leer Mining Complex in Grafton where the Coal Rush concept was derived. The miners also accompanied the team as they made the "Mountaineer Mantrip" player-walk into the stadium.

The miners, representatives of the WVU Mining Engineering Student Mine Rescue Team and other industry officials were honored during the game. During half time, as part of a show comprised of hundreds of lighted drones flying above the stadium, the drones spelled out "Coal Never Quits".

In the days leading up to the game, Pat McAfee, former WVU kicker, ESPN commentator, and current host of the Pat McAfee Show, highlighted the importance of the coal miner to West Virginia and the country. During the game broadcast, national commentators continually lauded the history, heritage, and impact of the mining industry.

This was a very special evening, and, as an industry, we are appreciative of WVU's acknowledgement of coal's role in shaping our state and people.

NMA
National Mining Association

NMA Presses Forward in D.C. Circuit Court in Defense of Affordable, Reliable Electricity

WASHINGTON, D.C. – The National Mining Association (NMA) issued the following statement from Rich Nolan, NMA President & CEO, in response to the U.S. Supreme Court's decision not to issue an emergency stay concerning the Environmental Protection Agency's (EPA) Clean Power Plan 2.0 rule, also referred to as CPP 2.0.

> Statement from Rich Nolan, NMA president and CEO: **"While we're disappointed that some of the justices failed to recognize the immediate harm to industry and consumers posed by this reckless rule, we look forward to continuing to make our case in the D.C. Circuit. By constructing a rule that offers power plant operators the choice of either employing technologies that do not yet exist on a commercial, affordable scale or shutting down, the EPA has wrested control of our nation's energy policy with neither the legal authority nor expertise to do so, all at the exact time that electricity demand is forecast to double. If this rule is allowed to stand the results for the American people and economy will be catastrophic."**

While Showcasing Groundbreaking Equipment and Solutions for Mining, MINExpo INTERNATIONAL® 2024 Breaks All Records

WASHINGTON, D.C. – From September 24-26, in Las Vegas, Nev., the National Mining Association (NMA) hosted 45,000 attendees and more than 2,000 exhibitors from 148 countries who came to see more than 850,000 square feet of exhibits at the world's largest mining show, breaking all prior show records. The wide offering of innovative products and services showcased a leading-edge industry rising to the challenge of meeting soaring global materials and energy demand in a safer, smarter, more environmentally responsible and more efficient manner than ever before.

"The response this year was beyond what we could have expected with unparalleled networking and dealmaking like we've never seen before," said Rich Nolan, NMA president and CEO. **"From the exhibitors to the new space in the convention center and our new streaming platform NMA TV, everyone stepped up their game and the results were extraordinary."**

The show included a speaker series featuring: Mike Rowe, writer, narrator, producer, recording artist, Emmy-Award winning TV host, New York Times Best Selling author, and the CEO of the mikeroweWORKS Foundation; Kevin O'Leary, respected investor, author, venture capitalist, and judge on ABC's Shark Tank and CNBC's Money Court Reality Show; Danica Patrick, former professional racecar driver; Jon Dorenbos, magician, motivational and keynote speaker, former NFL player; and Dr. Kelly Monahan, managing director of the Future of Work Research Institute, Upwork, former Director of Future of Work, Meta, and Organizational Behaviorist.

The agenda also featured two panel discussions. A producers panel was moderated by Denise C. Johnson, Group President of Caterpillar Inc. and MINExpo Chair, and included: Cassie Boggs, Interim President and CEO, Hecla Mining Company; Mark Bristow, President and CEO, Barrick Gold; Mitch Krebs, President and CEO, Coeur Mining, Inc.; Paul Lang, Chief Executive Officer, Arch Resources, and Chairman of the NMA Board of Directors; and Vicky Peacey, General Manager, Resolution Copper. A manufacturer's panel was moderated by Rich Nolan and included: Rod Duncan, President/Vice-Chairman, J.H. Fletcher & Co; Gary Johansen, Vice President of Power Systems Engineering, Cummins Inc.; Denise C. Johnson; Group President of Caterpillar Inc. and MINExpo Chair; Sean K. McLanahan; President & CEO, McLanahan Corporation; Danette Swank, President, Philippi-Hagenbuch, Inc.; and Bob Wise, Chief Operating Officer, Jennmar.

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WORLD NEWS

NEW REPORT EXAMINES COAL'S CONTRIBUTION TO ADVANCING UN SUSTAINABLE DEVELOPMENT GOALS IN ASEAN

Vientiane, Laos - A report titled "Addressing UN Sustainable Development Goals in the ASEAN Coal Value Chain", jointly released by FutureCoal and ASEAN Centre for Energy (ACE), underscores the contributions of the coal value chain in driving progress toward the United Nations Sustainable Development Goals (SDGs).

Launched during the 24th ASEAN Energy Business Forum (AEBF-24), the report presents coal as a resource in the ASEAN region's journey to fuel its economic growth, maintaining social equity, and environmental stewardship.

The report highlights that since 2000, Southeast Asia has witnessed a substantial surge in energy demand, with electricity consumption growing at an average annual rate of 4.4%. Coal has been central to meeting this demand, providing a reliable and affordable energy source that supports industrial growth, infrastructure development, and economic resilience across ASEAN.

Future Coal's Director of Strategy and Sustainability, Paul Baruya, emphasised coal's role as a driver of socio-economic development in the region. *"Coal not only fuels economic growth but also generates substantial revenues that fund essential public services, including healthcare, education, and infrastructure development. By creating job opportunities and reinforcing energy security, coal is integral to the prosperity and stability of ASEAN nations. 'Responsible' investment requires a balanced approach to all fuels and technologies, especially in emerging and developing countries where coal drives sustainable development."*

The report underscores coal's multifaceted contributions to a range of SDGs:

- **Economic Growth and Poverty Alleviation:** Coal is a catalyst for economic growth by providing affordable energy, supporting business activities, and creating jobs across various sectors, contributing to SDG 1 (No Poverty), SDG 8 (Decent Work and Economic Growth), and SDG 10 (Reduced Inequalities).
- **Environmental Stewardship and Innovation:** Advanced coal emission abatement technologies play a supporting role in achieving SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action). Innovations like high-efficiency low emissions (HELE), co-firing coal and sustainable biomass, utilising combined heat and power to extract the maximum energy out of a tonne of coal, circulating fluidised bed systems to add fuel flexibility, and reusing by-products and waste from coal to move to a circular economy. These technologies can reduce emissions by up to 99%, driving a sustainable energy future.
- **Social Equity and Well-Being:** The coal industry prioritises the health, safety, and well-being of its workers and surrounding communities through comprehensive healthcare programs, educational initiatives, and gender equality workshops, contributing to SDG 3 (Good Health and Well-Being), SDG 4 (Quality Education), and SDG 5 (Gender Equality).

FUTURECOAL

ASSOCIATION OF SOUTHEAST ASIAN NATIONS | A COMMUNITY OF OPPORTUNITIES FOR ALL

Baruya highlighted the role of FutureCoal's Sustainable Coal Stewardship (SCS) in advancing the industry's alignment with the UN Sustainable Development Goals.

"Our Sustainable Coal Stewardship philosophy guides the global coal value chain toward more sustainable and responsible practices—improving mining processes, enhancing combustion efficiency, and exploring innovative uses for coal beyond traditional power generation. This approach addresses environmental concerns and positions coal as a key player in the transition to a sustainable and responsible future."

The collaboration between FutureCoal and the ACE reflects a shared commitment to advancing ASEAN's sustainable development agenda. The report is a critical resource for policymakers, industry leaders, and communities, offering a comprehensive perspective on coal's strategic importance in the region's energy landscape.

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Leaders in Mine Safety and Technology Honored by NMA, Federal Agencies

LAS VEGAS, NEV. – In a ceremony in Las Vegas, Nev., the National Mining Association (NMA), the U.S. National Institute of Occupational Safety and Health (NIOSH), and the U.S. Office of Surface Mining Reclamation and Enforcement (OSMRE) honored outstanding achievements in mine safety, technology and reclamation.

Safety

The NMA's Sentinels of Safety Award recognizes coal and mineral mining operations in 10 categories for recording the most hours in a calendar year without a single lost-time injury. A minimum of 4,000 hours is required for award consideration. The award categories reflect the safety accomplishments of both small and large mines.

Twenty American mining operations – six coal mines and 14 mineral/metal mines – were honored for their extraordinary safety performance in 2023.

"No matter the size of the company, or the material mined, these awards show that safety is of the utmost importance across this diverse and vibrant industry," said Rich Nolan, NMA president and CEO. **"As the demand for mined materials continues to grow, so does our industry's unshakeable focus on safety, and the innovative ways that modern mining utilizes advanced technologies to reduce risks across the mine environment."**

Initiated in 1923 by then Commerce Secretary Herbert Hoover, a former mining engineer, the Sentinels of Safety Award program remains the nation's most prestigious recognition of mine safety and has helped foster a strong safety commitment on the part of U.S. mines.

Recipients for 2023 include the following:

Large Group Category

- Large Coal Processing, Shoal Creek Mine, Peabody* Oakman, Ala.
- Large Metal/Nonmetal Mill, Red Dog Operations, Teck Alaska Inc.* Kotzebue, Alaska
- Large Underground Metal, Leeville, Nevada Gold Mines operated by Barrick* Carlin, Nev.
- Large Bank or Pit, Lamesa Plant, US Silica Co. La Mesa, Texas
- Large Dredge, Briggs Plant, Vulcan Construction Materials, LLC Victoria, Texas
- Large Open Pit, Bald Mountain Mine, KG Mining (Bald Mountain) Inc.* Ely, Nev.
- Large Quarry, Pennsuco Quarry, Titan Florida LLC Medley, Fla.
- Large Surface Coal, El Segundo, Peabody Energy Company,* Grants, N.M.
- Large Underground Coal, Skyline Mine #3, Canyon Fuel Company LLC Helper, Utah
- Large Underground Nonmetal, Ames Mine, Martin Marietta Materials, Inc. Ames, Iowa

Small Group Category

- Small Underground Metal, Twin Underground, Nevada Gold Mines operated by Barrick* Golconda, Nev.
- Small Bank or Pit, Mission Materials, Mission Materials Wantage, N.J.
- Small Coal Processing, #1 Plant, N F C Mining, Inc. Prestonsburg, Ky.
- Small Dredge, Kimaterials Incorporated, Kimaterials Inc Old Monroe, Mo.
- Small Metal/Nonmetal Mill, Aggrock Quarry, Heidelberg Materials Midwest Agg, Inc. Charlestown, Ind.
- Small Open Pit, Stripping Crew, River Products Company Inc Iowa City, Iowa
- Small Quarry, Cleveland Quarry, Vulcan Construction Materials, LLC Cleveland, Tenn.
- Small Surface Coal, Boone North No. 1 Surface Mine, Raven Crest Contracting, LLC Ashford, W.Va.
- Small Underground Coal, Trace Fork #2, Coking Coal, LLC Eolia, Ky.
- Small Underground Nonmetal, Wingdale Mine, Wingdale Materials LLC Wingdale, N.Y.

Technology

In addition, NIOSH also recognized winners with its annual Mine Safety and Health Technology Innovation Awards. Honorees are selected due to the significant advancements they have made to enhance mine safety by applying technology or improved processes in innovative ways.

The following companies were recognized for 2024:

- **CONSOL Energy*** and KGC Solutions received the 2024 NIOSH Mine Safety and Health Technology Coal Sector Innovation Award for the Electronic Mine Examination Collections Tool, an innovative recordkeeping system for an improved hazard communication, analysis of root causes and accident prevention.
- **Freeport-McMoRan*** received the 2024 NIOSH Mine Safety and Health Technology Metal Sector Innovation Award for the Full Deposit Robotic Copper Cathode Stripping Machine, an application of innovative robotic technology to cathode sampling and labeling for reduced exposure to hazards and improved reliability.
- **Innovative Wireless Technologies and Allegheny Metallurgical Longview Mine** received the 2024 NIOSH Mine Safety and Health Technology Coal Sector Innovation Award for the SENTINEL System, an innovative expanded system offering wireless communication, monitoring and tracking for faster and safer response to heating events.

Reclamation

OSMRE also recognized two companies with its 2024 Excellence in Surface Coal Mining Reclamation National Award, which is the highest honor given to coal mining companies with exemplary coal mine reclamation in the United States.

This year, OSMRE honored:

- Navajo Transitional Energy Company, Yazzie Reclamation, Navajo Mine, Fruitland, N.M.
- Black Mesa Pipeline, L.L.C. (ONEOK, Inc.), Black Mesa Pipeline, Preparation Plant and Pump Station No. 1, Black Mesa Mine, Navajo County, Ariz., on Navajo Nation.

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By: Rich_Nolan

Power Demand Is Soaring. We Need Every Tool Available to Meet It.

The U.S. Department of Energy recently made a startling admission. U.S. electricity demand is going to double by 2050 and meeting that soaring demand is going to require the equivalent of building 300 Hoover Dams.

As extraordinary as that estimate is, it's likely far too low. In many regions of the country, utilities and grid operators are warning power demand is growing far faster and higher.

Electrification of the economy with adoption of heat pumps and electric vehicles is part of the demand sea change. So is industrial onshoring of new energy-hungry battery and semiconductor manufacturing plants. But the electricity demand gamechanger is the explosive growth of AI and the enormous data centers needed to support it.

Running an internet search using AI consumes more than ten times as much energy as a traditional Google search. And the type of processor needed to run AI uses as much power as an average American home.

The newest and largest class of data centers are so large their power demand is equal to that of a city the size of Seattle. Dozens of these facilities are now in development.

In Virginia, the nation's data center capital, the state's largest utility expects power demand to jump 85% in the next 15 years with power demand from data centers quadrupling.

AEP, a utility with service territory in 11 central states serving 5.6 million customers, has reported that companies representing 15 gigawatts of new power demand – mainly from data centers – are seeking connection by 2030. That's power demand equivalent to what's needed for 10 million homes.

With the emergence of data centers and rising industrial activity, Georgia's main utility, Georgia Power, has boosted its demand projections sixteen-fold from a year ago.

And not to be outdone, the Electric Reliability Council of Texas, the grid operator for most of the state, announced this summer it expects power demand to nearly double in the state in just six years.

Across the country, utilities and grid operators are left wondering where exactly is the power going to come from?

While power demand surges, efforts to meet it are in disarray. In fact, thanks to the U.S. Environmental Protection Agency (EPA), many regions of the country are losing essential existing capacity faster than they can replace it.

The EPA is using a blitz of rules with impossible technology mandates to wipe out the nation's coal power plant fleet and make it all but impossible to build new baseload coal and natural gas power plants. Rules targeting the existing natural gas fleet are also forthcoming.

And while EPA tears down the capacity we currently rely on, efforts to build new capacity are stuck in first gear. Permitting, financing and supply chain problems are tying up or derailing energy and infrastructure projects all over the country.

According to the Lawrence Berkley National Laboratory, roughly one-third of utility-scale wind and solar siting applications submitted over the last five years were canceled, while

about half of wind and solar projects experienced significant delays.

Nationally, we're supposed to be building thousands of miles of high-voltage transmission lines each year to move remote wind and solar power to demand centers. We completed just 55 miles last year.

The nation's grid operators are now adamant we face an alarming mismatch between the power we need and what we're going to have available. In fact, the nation's grid reliability watchdog is already warning of blackouts for much of the country by the close of the decade. But even if the worst grid emergencies can be avoided, our self-imposed power shortages threaten immense economic damage.

We're on a trajectory to short-circuit our own economic potential by not having the power supply available to meet new industrial demand. Tightening supplies are already reflected in prices. Electricity price inflation is now 50% higher than economy-wide inflation.

When data centers or newly proposed car or battery plants can't find available or reasonably priced power, they simply won't be built, leaving untold jobs and tax revenue on the table.

In just one county in Northern Virginia, tax revenue from data centers is projected to reach $1.5 billion a year by 2030. But that's only if the data centers can find available electricity.

Meeting the enormous electricity demand now on our doorstep requires using every tool at our disposal, including the very plants EPA is determined to close.

The nation's coal power fleet is a deeply valuable asset that can help preserve grid reliability, meet soaring demand and get us to our energy future. It's past time for energy and regulatory policy to recognize it. Derailing the nation's economic and industrial potential is a mistake we simply don't have to make.

EVENTS

NCTA (NATIONAL COAL TRANSPORTATION ASSOCIATION)

November 20, 2024
On Track Live
Webinar

December 18, 2024
On Track Live
Webinar

May 19 – 22, 2025
NCTA 2025 Spring and Operations & Maintenance Conferences
InterContinental San Antonio Riverwalk
111 E Pecan St,
San Antonio, TX 78205

ASRS (AMERICAN SOCIETY OF RECLAMATION SCIENCES)

June 1 – 5, 2025
2025 Meeting Butte, MT

ACAA (AMERICAN COAL ASH ASSOCIATION)

January 28 – 29, 2025
ACAA 2025 Winter Membership Meeting
The Omni Grove Park Inn
290 Macon Ave,
Asheville, NC 28804

ALLTRICITY NETWORK

November 6, 2024
November 2024 Safety Roundtable
Austin Energy
2500 Montopolis Dr
Austin, TX 78741

November 13, 2024
Generation Renewables Conference
Evergy, One Kansas City Place
1200 Main St., Suite 114
Kansas City, MO 64105

November 20, 2024
PLANNING SESSION: 2025 Alltricity Network Fall Convention
Burns & McDonnell
9191 S. Jamaica St.
Englewood, CO 80112

February 11 – 12, 2025
Grounding Workshop & February Safety Roundtable
Tri-State Generation & Transmission Association
1100 W 116th Ave.
Westminster, CO 80234

March 19 – 20, 2025
2025 Transmission & Substation Renewables Conference
Tri-State Generation & Transmission Association
1100 W 116th Ave
Westminster, CO 80234

May 5 – 7, 2025
2025 Alltricity Network Spring Conference
Thompson Dallas Hotel, by Hyatt
205 N Akard St
Dallas, TX 75201

May 21 – 23, 2025
2025 Safety Conference
SRP's PERA Club
1 E Continental Dr
Tempe, AZ 85281

September 29 – October 1, 2025
2025 Alltricity Network Fall Convention
Loews Kansas City Hotel
1515 Wyandotte St
Kansas City, MO 64108

FUTURECOAL

November 6 – 7, 2024
FT Commodities Asia Summit
In-Person & Digital
The Westin Singapore

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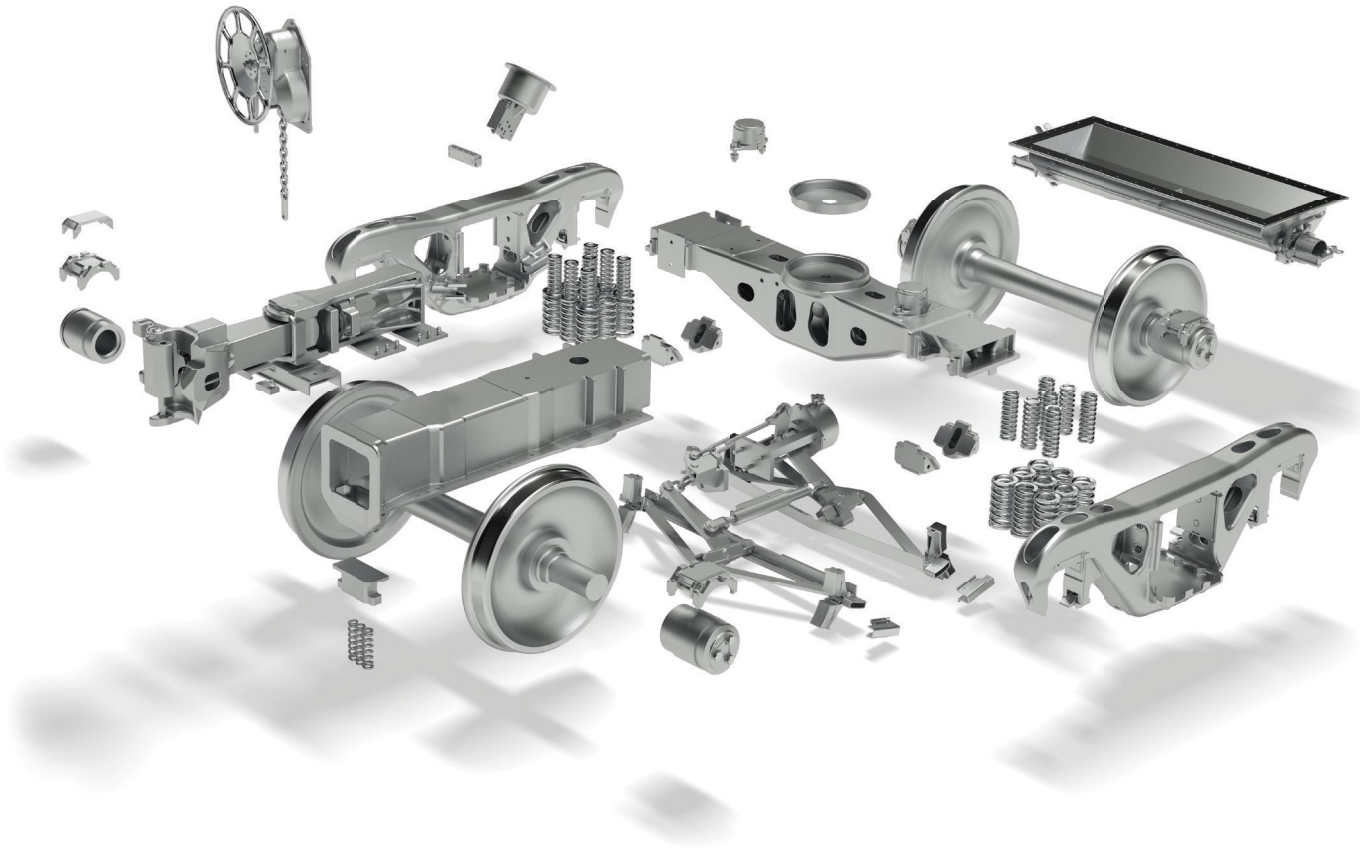

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