

On the Grid: When America Leads 9/16/22



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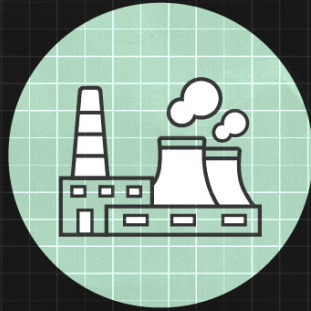
Yesterday, Third Way was honored to host US Secretary of Energy Jennifer Granholm, along with a diverse group of leaders from labor, the public and private sectors, and leading NGOs, to discuss how the suite of recently passed legislation is helping American industries carve out a competitive edge in the global clean energy marketplace. They also highlighted why, on climate and clean energy, *when America leads, the world benefits.*



These bills—CHIPS for America Act, Infrastructure Investment and Jobs Act, and the Inflation Reduction Act (IRA)—are accelerating actions that will make American energy affordable, secure, reliable and clean. This industrial strategy capitalizes on the strength of American innovators, companies, and workers to cut emissions, create new economic opportunities across the entire country, and secure the United States’ spot as a leader in emerging clean technologies. And we have new analysis that backs it up.

Boston Consulting Group (BCG) released an important new report, commissioned by Third Way and Breakthrough Energy, on where the US can build a durable competitive advantage in six emerging technologies. This will enable the country to compete in a clean energy market expected to be valued at \$2 trillion annually – for just these six technologies – through 2050.

This week, we’re putting the spotlight on the six technologies that give the US the best chance of winning a global competitive advantage—electrochemical long-duration energy storage (LDES), electric vehicles (EVs), low-carbon hydrogen (H₂), advanced nuclear small modular reactors (SMRs), direct air capture (DAC), and clean steel—outlining what investments have already been made and what we’re excited for on the horizon.

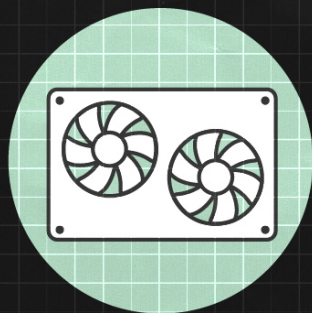


NUCLEAR

How do the provisions in the Bipartisan Infrastructure Law and Inflation Reduction Act support small modular reactors (SMRs)?

- The Bipartisan Infrastructure Law provides \$3.2 billion for the Advanced Reactor Demonstration Program and policy direction for SMR infrastructure planning.
- With a \$700 million investment, the Inflation Reduction Act helps the build-out of high-assay low-enriched uranium fuel and provides production and investment tax credits beginning in 2025.

What's on the horizon for SMR technology? American nuclear company, NuScale Power, is partnering with KGHM Polska Miedź, a Poland-based copper and silver producer, to deploy NuScale's VOYGR SMR plant in Poland as early as 2029. Following an initial agreement in February, the companies signed the first task order and a statement of commencement this week, marking a major milestone in Poland's clean energy game plan. This ongoing relationship came as NuScale continues to work with Romanian nuclear company Nuclearelectrica, showcasing both an international interest in American nuclear technology and the immense export potential as we continue to scale up nuclear innovation.



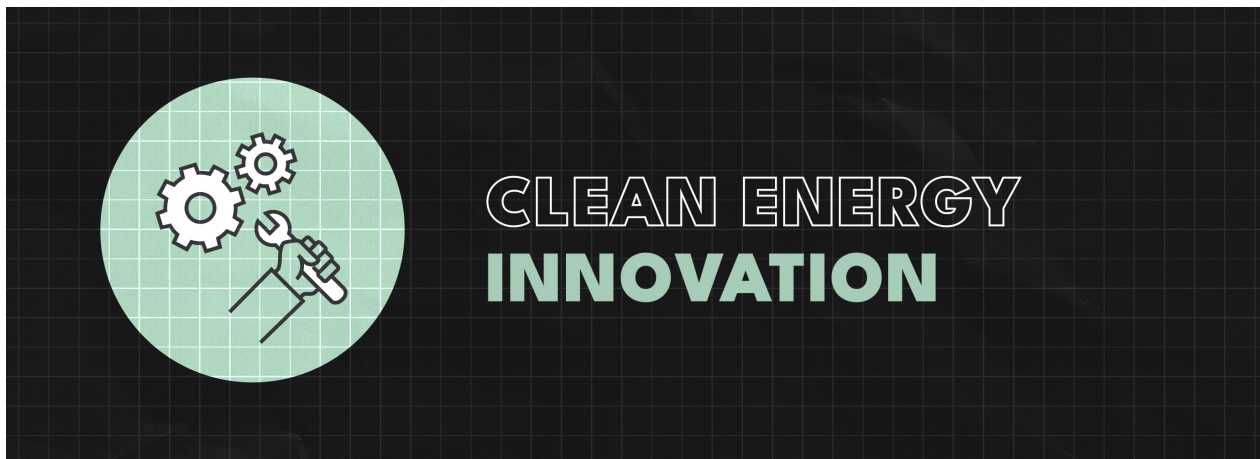
CARBON MANAGEMENT

How do the provisions in the Bipartisan Infrastructure Law and Inflation Reduction Act support direct air capture (DAC) technology?

- The Bipartisan Infrastructure Law provides \$3.5 billion for regional DAC hubs through 2026 and \$115 for DAC competitions, including pre-commercial and commercial projects.
- The Inflation Reduction Act expands the 45Q tax credit up to \$180 per ton for certain DAC facilities and lowers capture thresholds to 1,000 metric tons per taxable year.

The landmark provisions across these bills are making it easier to deploy DAC technology at scale and companies are taking advantage! Last week, CarbonCapture Inc, a US climate tech company, **announced** a partnership with Frontier Carbon Solutions to permanently remove five million tons of atmospheric carbon within the decade.

This Wyoming-based initiative, appropriately named Project Bison, is a testament to the power of public-private sector relationships. Project Bison is the **first** carbon capture facility to inject and store carbon underground in federally approved wells, a feat made possible by federal legislation! By providing added financial support, the provisions in the Inflation Reduction Act pushed Project Bison's timeline forward by several months. Carbon capture is an integral component of our decarbonization strategy and milestones like Project Bison are only the tip of the iceberg as we take advantage of the billions of dollars in new climate investment.



How do the provisions in the Bipartisan Infrastructure Law and Inflation Reduction Act support long-duration energy storage (LDES)?

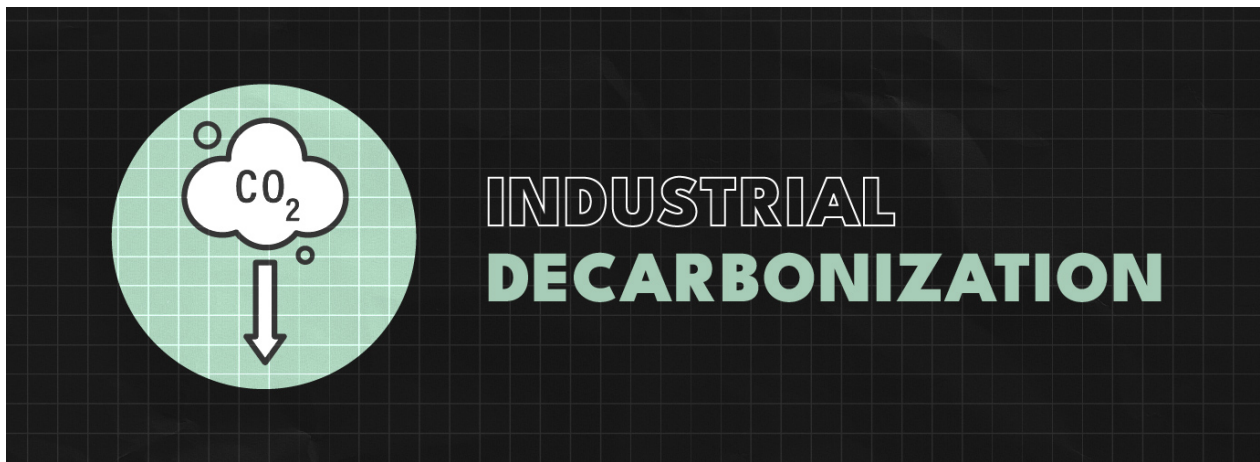
- The Bipartisan Infrastructure Law allocates \$505 million for energy storage demonstration projects along with \$6 billion for battery manufacturing and recycling.
- The Inflation Reduction Act features the 45X production credit features that will incentivize production across the energy storage value chain.

What are we watching in the energy storage sphere? In the last two months, China has **begun commissioning** the world's largest vanadium redox flow battery (VRFB). This is part of the nation's plan to demonstrate large-scale, long-duration energy storage (LDES) technologies all over the

country. Currently, the scale of China’s demonstration projects for these technologies exceeds anything in any other country.

State-supported scientists in China claim to have developed the VRFB technology on their own, but a recent **NPR investigation** found that the license for this technology was transferred from UniEnergy Technologies, a spinout company from Pacific Northwest National Laboratory in Richland, Washington.

This raises a recurring theme in technology development and innovation: the US continues to “innovate here” but “build elsewhere.” To compete on a global scale and bring back good manufacturing and technology development jobs, we need to keep our innovations here by making it easier for startups, spinouts, and high-tech companies to build their technologies here using American materials and labor.



How do the provisions in the Bipartisan Infrastructure Law and Inflation Reduction Act support hydrogen technology?

- The Bipartisan Infrastructure Law provides a whopping \$9.5 billion for clean hydrogen research and development, \$8 billion of which directly funds four regional clean hydrogen hubs.
- Additionally, \$500 million will support hydrogen manufacturing and recycling. The Inflation Reduction Act provides new hydrogen investment and production tax credits, with incentives to encourage a less carbon-intensive hydrogen production pathway.

These investments are helping steer clean hydrogen infrastructure in the right direction, but the private sector still has a key role to play. Last month, Air Products, an international chemical company, took a major step by committing **\$15 billion** for clean hydrogen projects to drive down emissions across heavy transportation and industrial sectors. The CEO of Air Products, Seifi Ghasemi, joined us yesterday for our event with Sec. Granholm.

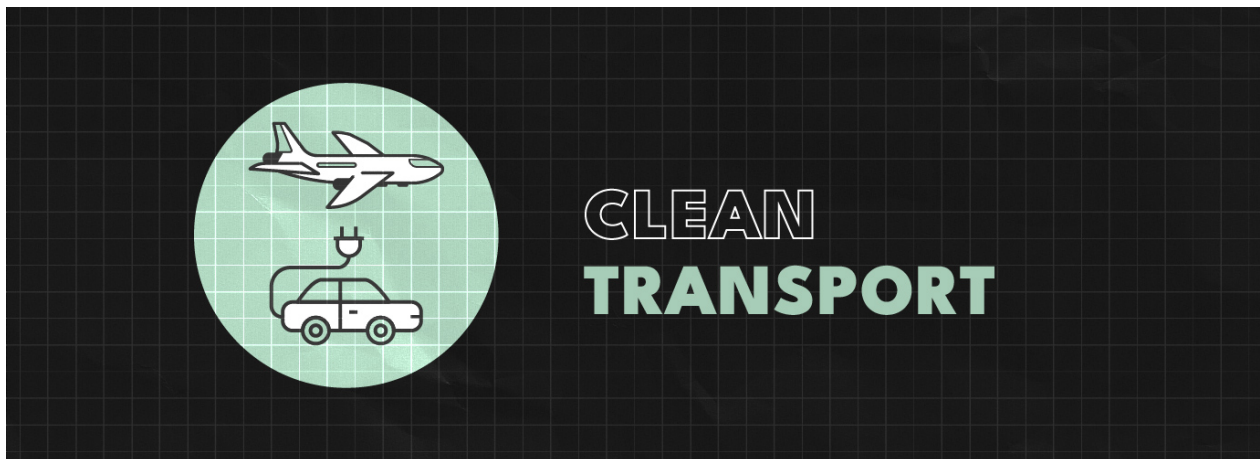
When it comes to clean steel, provisions in the two pieces of legislation are laying the foundation for widespread industrial decarbonization. Here’s how:

- The Bipartisan Infrastructure Law allocates \$3.5 billion for carbon capture utilization and sequestration (CCUS) projects that will help cut emissions across some of our heaviest polluting industries. Additionally, the bill provides \$500 million for industrial emissions demonstration projects.
- The Inflation Reduction Act is packed with provisions to deploy clean steel. The package expands the 48C tax credit, incentivizing existing facilities to retool for cleaner manufacturing and building new advanced manufacturing facilities. The bill also provides \$5.8 billion for the Advanced Industrial Facilities Deployment Program, lowering the financial barriers for cleaner manufacturing, along with a slew of provisions that help manufacturers calculate and disclose the embodied carbon of their products.

As more low-carbon products hit the market, there's no shortage of buyers, especially when the federal government is opening its purse. As the world's biggest customer, the US government is leveraging its purchasing power to create early demand for low-carbon materials with a **Buy Clean initiative**, first launched back in February.

This week, the Administration **announced** an updated series of recommendations that will prioritize the purchase of low-carbon steel, concrete, asphalt, and flat glass. For all of you keeping track at home, that's **nearly half** of all US manufacturing emissions and 98% of all government construction purchases. Our **video** explains how Buy Clean policies are key to spurring industrial decarbonization!

Among other key policies, the task force will leverage \$350 million to expand the adoption of environmental product declarations (EPDs), making it easier to calculate the carbon pollution emitted as goods like cement and steel are produced. Keeping these receipts is useful for many reasons, but especially as demand for cleaner goods skyrockets. Friendly agreements like the "**Green Steel Deal**" are creating markets for low-carbon products and our continued investment is helping American industries and American workers build out a competitive advantage.



How do the provisions in the Bipartisan Infrastructure Law and Inflation Reduction Act drive the build-out of electric vehicles?

- With over \$3 billion for domestic battery production and recycling and \$7.5 billion in grants for EV charger deployment along highway corridors and communities, the Bipartisan Infrastructure Law is building a strong electric vehicle industry.
- The Inflation Reduction Act is making it easier, and more affordable, for Americans to switch to electric vehicles with a tax credit of up to \$7,500 through 2032. These tax credits include stipulations meant to encourage domestic sourcing for EV components, helping build out reliable supply chains at home. This bill is a win for EV buyers and producers: \$2 billion in Domestic Manufacturing Conversion Grants will support automakers looking to retool their facilities to produce EVs while the 48C manufacturing tax credit encourages EV production. Tack on the 30C tax credit to further expand EV charging infrastructure and we really start to electrify America's roads!

If you've been following what's happening with electric vehicles, you've noticed an uptick in private investments. Whether it's a **\$2.5 billion investment** in an EV battery plant in Indiana or the announcements from companies like **Piedmont Lithium** and **SPARKZ**, that are building plants here in America to develop domestic supply chains for critical raw materials and vehicle components, it's clear that America's appetite for EVs is only growing!

Coupled with GM's recent **announcement** that the 2024 Chevy Equinox EV will start at just \$30,000—one of the most affordable price points for EVs thus far—we're excited to see an equitable and electrified transportation future on the horizon.



For nearly seven months, European energy markets have been threatening to crack under the strain of Putin's war in Ukraine. With winter fast approaching and gas prices surging nearly 200% compared to 2019 costs, the European Union is trying to take all the necessary precautions.

Last week, Lindsey Walter, Director for International Policy for Third Way's Climate and Energy Program and Co-Founder of Carbon-Free Europe, traveled to Brussels. There, she listened to

conversations as EU member states gathered with the European Commission for an extraordinary Energy Council. Energy ministers discussed emergency measures to stabilize the growing energy crisis and curb soaring prices, culminating in a proposed regulation, **released** on Wednesday.

We'll get to the details below. It's important to note that this crisis could have enormous implications for the United States. If energy prices continue to spike—and they're already extremely high—and supply is further constrained, Europe could enter a steep recession. We could also see gas rationing and the shuttering of heavy industry in some EU Member States. This could impact the US economy as well, though economists are divided on how much of a hit it would be. Even more worrisome, it could fuel a broader resurgence of extreme Right-wing populism. Already, we've seen the far Right organize protests against rising energy costs in Germany and the Czech Republic, become part of the new government in Sweden, and be poised to take control of the Italian government. While a mix of EU and country-specific issues are contributing to the success of extremism in Europe, it would endanger action on all of the issues we hold dear.

So, what is the EU doing about it? Here's a quick recap:

1. **A coordinated, mandatory EU-wide reduction in electricity demand** by 5% during peak hours and another 10% cut in monthly electricity consumption. This follows the EU's previous agreement to cut **gas usage** by 15% on a voluntary basis.
2. **A mandatory price limit of €180 per-megawatt hour for electricity generation from generators, with lower costs to cut costs for customers.** In the EU, the most expensive electricity generator that fulfills the demand—currently gas—sets the price for every power plant generating electricity. That means companies generating electricity from wind, solar, and nuclear get enormous profits, and consumers suffer. This measure would redirect that excess revenue and ensure customers pay less for electricity through the winter.
3. **Temporary solidarity contribution for the fossil fuel sector.** Oil, gas, coal, and refinery companies that are generating excessive profits will be charged a temporary 33% fee for “surplus profits” to help offset rising energy costs.
4. **Financial support mechanisms** that allow Member states to lower electricity costs for small- and medium-sized businesses.

The EU is also considering further **liquidity support** to financially help energy companies struggling to meet collateral demands. Countries like Sweden, Finland, and Germany are offering credit lines for companies on the verge of defaulting. This will be a costly endeavor—our **analysis** shows that in order to offset high energy prices and keep the energy industries in Europe afloat, it will cost the EU 72-140€ billion a year.



WHAT WE'RE READING & LISTENING TO

- **Thomas Friedman**, in *the New York Times*, succinctly outlines how the US, as an arsenal of democracy on the world stage, can lead the charge against Russia's energy blackmail and supercharge energy security by leading the transition to clean energy.
- **Robinson Meyer**, in *the Atlantic*, takes the notion of personal responsibility for climate change to the next level by framing the argument against careers that are negatively impacting the climate and clean energy movement.
- **Laura McGann and Matt Yglesias**, in *Bad Takes* unpack the climate justice movement's opposition to the Inflation Reduction Act.

ON SOCIAL

Alex Laska, Senior Policy Advisor for Transportation, outlined how the CHIPS and Science Act is bringing jobs to the Buckeye State and other parts of the midwest.



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President Biden is in Ohio today celebrating the groundbreaking at Intel's new semiconductor plant [#IntelOhio](#). Since [@POTUS](#) signed the [#CHIPSAct](#) one month ago today, we've already seen a flurry of announcements from chipmakers planning to expand production in the US: 1/