# 2026 Georgia Cleantech Innovation Outlook

*How 5 trends will impact Georgia,*
*its residents and companies in the coming year.*

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# Introduction

Cleantech innovation conversation in 2025 has been defined by surprise, pain and rapid retooling for the future. Political uncertainty remains a factor (especially around tariffs) as it did last year, however, 2025 saw painful and unexpected (in scale) pull back on federal support and incentives for deployment of mature cleantech technologies (wind, solar, EVs) and de-risking less mature ones (through the Loan Program Office). From the uncertainty, two macro trends, which color everything in cleantech, have emerged: rapidly increasing energy demand and reindustrialization. The headwinds coupled with these trends have created an even greater focus on local manufacturing and supply chains and innovating the cost out of cleantech products and services. As we look toward 2026, the innovation mandate elevates the technologies that align with these objectives.

With that backdrop, let's explore what 2026 will hold for cleantech innovation in Georgia. The Georgia Cleantech Innovation Hub will dive into five Cleantech trends that will impact innovation in the state for the year to come.


**1. The Era of the Electro-Industrial Stack:**
The critical technology stack that will enable electrification of everything and that will animate AI is moving on-shore

**2. Resilience and Cleantech Investments:**
In spite of headwinds, cleantech startup investments have been resilient, just like the technologies that are most funded

**3. Painkiller or Vitamin:**
Why it is a great time to be innovating in distributed energy



**4. Industrial Circular Economy:**
Innovations in the broader circular economy are awaiting a breakthrough moment, some niche industrial supply chains may be ready for lift off.

**5. Critical Juncture for Electric Vehicles:**
In the face of strong headwinds, what innovations are necessary to broaden adoption?

**Trends that missed the cut this year:**

- Circular Economy Innovation's Breakthrough Moment
- Impact of the One Big Beautiful Bill Act
- Clean Firm Utility-Scale Power

# 1. THE ERA OF THE ELECTRO-INDUSTRIAL STACK

The way we build and use machines is fundamentally changing. Software, once just a tool for digitized office work, is increasingly being used to control the physical world, from autonomous vehicles to automated factories. This set of technologies – batteries, electric motors, power electronics, and computer chips – that bridge bits and atoms is being affectionately called the "electro-industrial stack". This "new" technology stack and the manufacturing and supply chains that produce its components are now the front lines of geopolitical conflict and future economic and environmental prosperity.

## Evidence of the Trend

This technological paradigm shift has created robust debate and rapid, albeit uncoordinated responses. While the United States invented many of the technologies at the heart of the electro-industrial stack, China now dominates their global production, and dependency on a sole-source creates profound, multi-factored risks. For example, Chinese companies like CATL and BYD supply roughly 60% of the world's EV batteries. The U.S. now imports 80% of its large power transformers and 50% of its distribution units, components essential for the electric grid.

This trend is critical because these components are converging. The same technologies used to build an electric vehicle are also used to build drones, industrial robots, and home appliances. This means mastery of the stack is the key to modern manufacturing. Most critically for national defense, the ability to produce drones—now considered essential to modern warfare—depends entirely on controlling the supply chain for these components.

## Opportunity for Georgia

The emergence of the electro-industrial stack presents both a critical vulnerability and a massive opportunity, especially looking toward 2026 and beyond. The state's booming electric vehicle and battery manufacturing sector—a cornerstone of its future economy—is almost entirely dependent on the electro-industrial stack. Supply chain disruptions, whether for minerals, materials, motors, or chips, could expose a growing industrial base to significant bottlenecks.

However, vulnerability also creates an opportunity. Innovation is required to build the domestic supply chains that fortify the growing electro-industrial manufacturing base. The greatest opportunities will not be in software alone, but in new materials, components, processes and hardware and AI systems that form this stack. This includes developing new battery materials and chemistries, designing more efficient power electronics, and creating the software that allows electrified machines to be smarter, more precise, and more autonomous. Because Georgia houses the inputs (researchers, natural resources), demand (manufacturers), and key catalysts (logistics, workforce), innovators located here would have a built-in leg up on the competition.

## Resources to Learn More

The Electric Slide

Why Every Country Needs to Master the Electric Tech Stack

The Electrotech Revolution

The Electro-Industrial Stack Will Move the World

# 2. RESILIENCE AND CLEANTECH INVESTMENTS

2025, as expected, was not a banner year in cleantech investing, however, unlike previous boom-bust cycles in cleantech, investment in the sector has been surprisingly resilient to headwinds. Protectionism, a new investment thesis, underpins the resilience with production of energy, critical minerals, and infrastructure aligning with national strategic priorities. Moreover, as cleantech solutions that increase durability and speed recovery to shocks (weather related or supply) are being sought for higher/faster returns.

### Evidence of the Trend

Through the first half of 2025, the U.S. climate tech venture and growth investment totalled **$13.2 billion**, down 19% from the same period in 2024. The headline numbers suggest cooling, but dig deeper and a structural shift appears: investors are increasingly targeting infrastructure-adjacent plays, grid innovation, critical minerals and resilience technologies. For example, gridtech posted its strongest quarter ever in Q1 (with ~$316 million) amid rising energy demand and aging infrastructure. Meanwhile, a real and perceived gap in “first of a kind” (FOAK) financing remains acute: 69 % of surveyed investors expect funding for FOAK projects to shrink through 2026.

These patterns reveal that: (1) cleantech investment continues amid pullback in federal support, (2) there has been a rapid realignment of funding toward sectors aligned with resilience, and (3) there is a growing tension around funding for scale-up and commercial deployment.

## Opportunity for Georgia

These national trends carry potent implications for cleantech startups looking to do business in Georgia in 2026. The state boasts R&D strength in agriculture, energy infrastructure, aerospace, data centers and logistics — all of which align with resilience and grid modernization priorities. As capital flows shift from speculative early-stage to deployment-ready solutions, Georgia's established firms provide a testing ground for efficiency technologies in the built environment . At the same time, the persistent FOAK funding gap means that startups will need to do more than partner with a local industrial firm to scale their technology. Securing philanthropic, state/regional, or catalytic financial backing and having efficient scaling roadmaps will be necessary to navigate this critical commercialization step. With investors favoring technologies that map directly to energy security, supply-chain localization and resilience — all growing priorities in Georgia's manufacturing and logistics sectors — the state is well-positioned to be a hotbed for activity in the new normal.

## Resources to Learn More

Climate Tech Investor Pulse Check

2025 Climate Tech Investment: Capital Stacking Up for Energy Security & Resilience

# 3. PAINKILLER VERSUS VITAMIN

A common trope in startup product development is to build a “painkiller” and not a “vitamin”. For the majority of the last decade plus, distributed energy resources (aka DERs or small decentralized power sources like rooftop solar, and behind the meter energy storage) have been vitamins, providing tangible, but arguably nice-to-have economic benefits. However, with rising demand threatening to continue what has been a steady increase in electricity rates over the past five years, DERs are perhaps finally transitioning from vitamins to painkillers for end customers seeking affordability and for utilities aiming to deploy capacity solutions rapidly.

### Evidence of the Trend

A ChatGPT query uses roughly 10X the amount of energy of a traditional Google Short-term supply-demand dynamics and positive long-term economics have DER on the cusp being a viable option to serve customer load. Load growth, driven by industrialization and AI-driven computing power demand, is a primary catalyst. Globally, power demand from data centers is forecast to more than double (+165%) and drive a ~8GW increase in Georgia by 2030. Traditional, centralized renewable and fossil-based power projects take years to permit and build; this immediate demand creates a near-term capacity shortfall that distributed solutions are ideally suited to fill. While load growth itself does not necessarily lead to increased rates, it is believed that meeting the rapid pace of change will contribute to costs that lead to higher rates in the near term.

Second, the base economics of DER, primarily solar plus energy storage, are continuing to improve at a rapid pace. Solar-plus-storage systems have declined at an average annual rate of 5.4% per year nationally between 2016 and 2023 (NREL), and according to EnergySage, storage attachment rates with PV systems have increased to 45% (Energy Sage Q1 2025). Customers now cite “Savings on Utility Rates” as frequently as “Backup Power” and “Self Supply” as the reason for their interest or co-deployment of storage with solar (Energy Sage Q1 2025). While price parity with grid power has not yet been met in the majority of states, the tipping point where DERs are the financial hedge for consumers and businesses against rising utilities rates has never been closer.

## Opportunity for Georgia

Georgia and the Southeast have never been the hotbed for DER that Hawaii, California and the Northeast have been. A combination of low retail rates and a lack of state level incentives have historically led to poor economics for DER, and the sunset of the federal solar investment tax credit at the end of 2025 will only widen the gap in the near-term. While the story seems bleak for DER, the underlying economics fundamentals above, and new tools available to innovators make it an opportune time to enter this space.

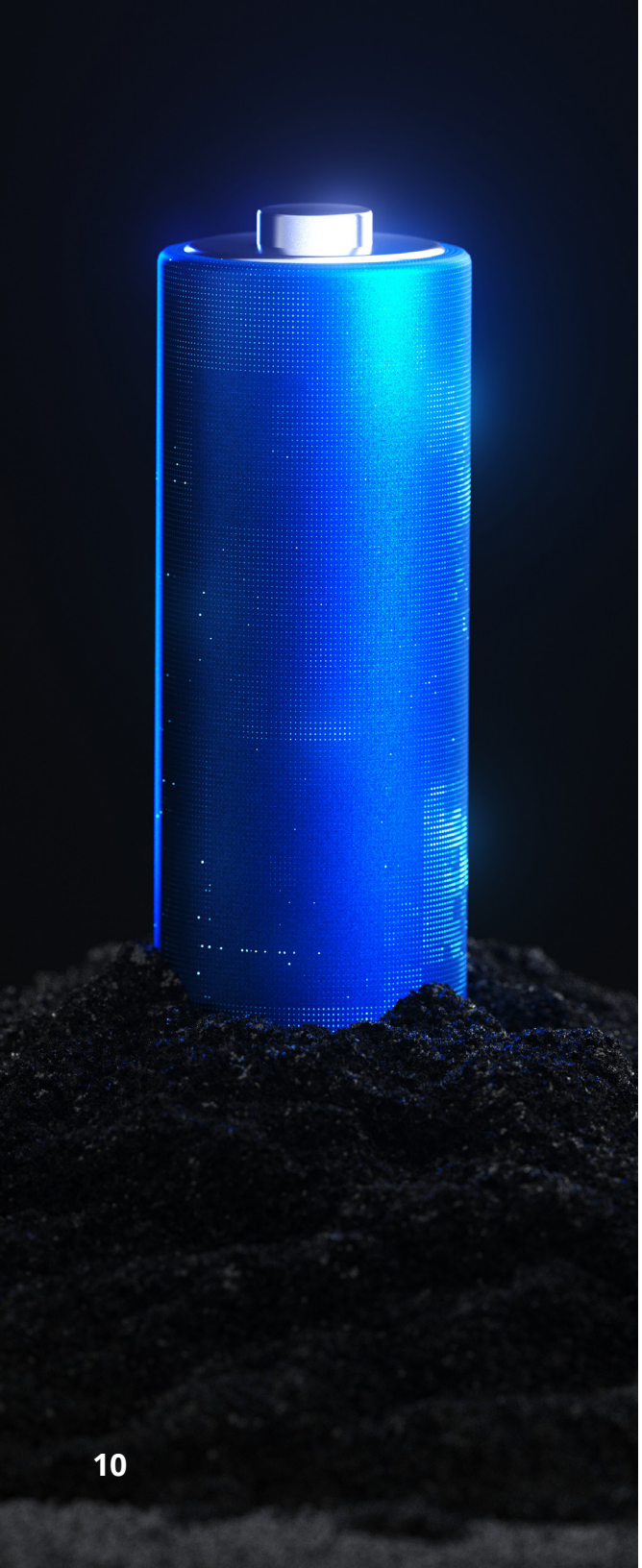
One area of focus will undoubtedly be stubborn "soft costs" related to DER deployment. Permitting, interconnection, customer acquisition, and contracting have quickly grown as a percent of total system cost (~50%) because they have not followed the same learning curve as equipment (panels, batteries, inverters). New AI-based tools have the potential to dramatically reduce soft costs; some conservative estimates suggest 30-50% reductions can be expected (Open Circuit, Latitude Media). Georgia startups, Wattch and LCOE.ai, are using data analytics and AI to improve production, reduce O&M costs, and set customers up to benefit financially from virtual power plants (VPPs). The key takeaway is that innovation is posed to drive out soft costs and maximize the value of distributed capacity (e.g. VPPs), so that the underlying positive economics of DER can play out and increase the affordability of electric power for a larger number of customers.

## Resources to Learn More

Energy Sage Q1 2025 Solar plus Storage Marketplace Report

NREL U.S. Solar Photovoltaic System and Energy Storage Cost Benchmarks

Is this moment for distributed energy different?



# 4. INDUSTRIAL CIRCULAR ECONOMY

The shift from linear (take-make-waste) economies to circular ones—where materials and products are kept in circulation for as long as possible through recycling, reuse (including repair and repurposing) and regeneration—faces enormous technical and implementation challenges. Widespread adoption of the circular economy principles across industries is not yet viable; in select, high-value industrial niches, particularly Battery and Critical Mineral Recycling, there is potential for lift-off in 2026 and the decade to come. This segment of the industrial circular economy is transitioning from a nascent concept to a strategic national priority and one where Georgia is well-positioned to lead.

### Evidence of the Trend

Acute geopolitical and broader economic forces have made critical minerals (US Department of the Interior) and an overlapping subcomponent of these the rare-earth elements (NETL) topics of everyday conversation. These feedstocks underpin many of the fundamental components of the electro-industrial stack (see previous trend) such as high-strength permanent magnets and catalysts. Like the components of the electro-industrial stack, China has developed an advantaged position in critical materials (particularly for graphite, magnesium, lithium and cobalt) and REEs (70% of the world's mining capacity and >80% of its processing capacity) that gives it considerable trading leverage in supply chains the feed critical industries. Domestic buyers across the automotive and technology sectors needing to pivot in the face of export controls welcome domestic sources of secure supply.

While China has integrated an ore-to-finished product supply chain today, U.S.-developed technology for battery and REE recycling and the US holds a distinct advantage on zero-to-one innovation. Companies like Redwood Materials, Cyclic Materials, and Ascend Elements are demonstrating that the U.S. possesses technologies that are capable of recovering up to 95% of materials with efficient processes that are competitive with virgin mining.

## Opportunity for Georgia

Georgia is uniquely positioned to both lead and to benefit from an industrial circular economy.  The state is deeply entrenched in the domestic EV supply chain. Hyundai, Kia, and Rivian are making massive manufacturing investments in the state, creating a closed-loop system that will demand local recycling infrastructure. By 2026 and beyond, Georgia will have one of the densest corridors of battery and EV manufacturing in North America. Georgia is also sitting on a wealth of high REE concentration kaolin mining tailings and carbon rich forest waste byproducts that with the right technology innovation could be turned into feedstocks for local battery and automotive manufacturers. Innovators who focus on this niche—specifically materials and process development, AI-driven sorting technologies—are positioned to capture substantial value. The immediate impact will be the creation of high-tech manufacturing and engineering jobs, reduced reliance on volatile international supply chains, and the establishment of a state-based competitive advantage that secures Georgia's role as an economic hub in the future of mobility and energy.

## Resources to Learn More

US Critical Mineral List

Rare Earth Elements – A Subset of Critical Minerals

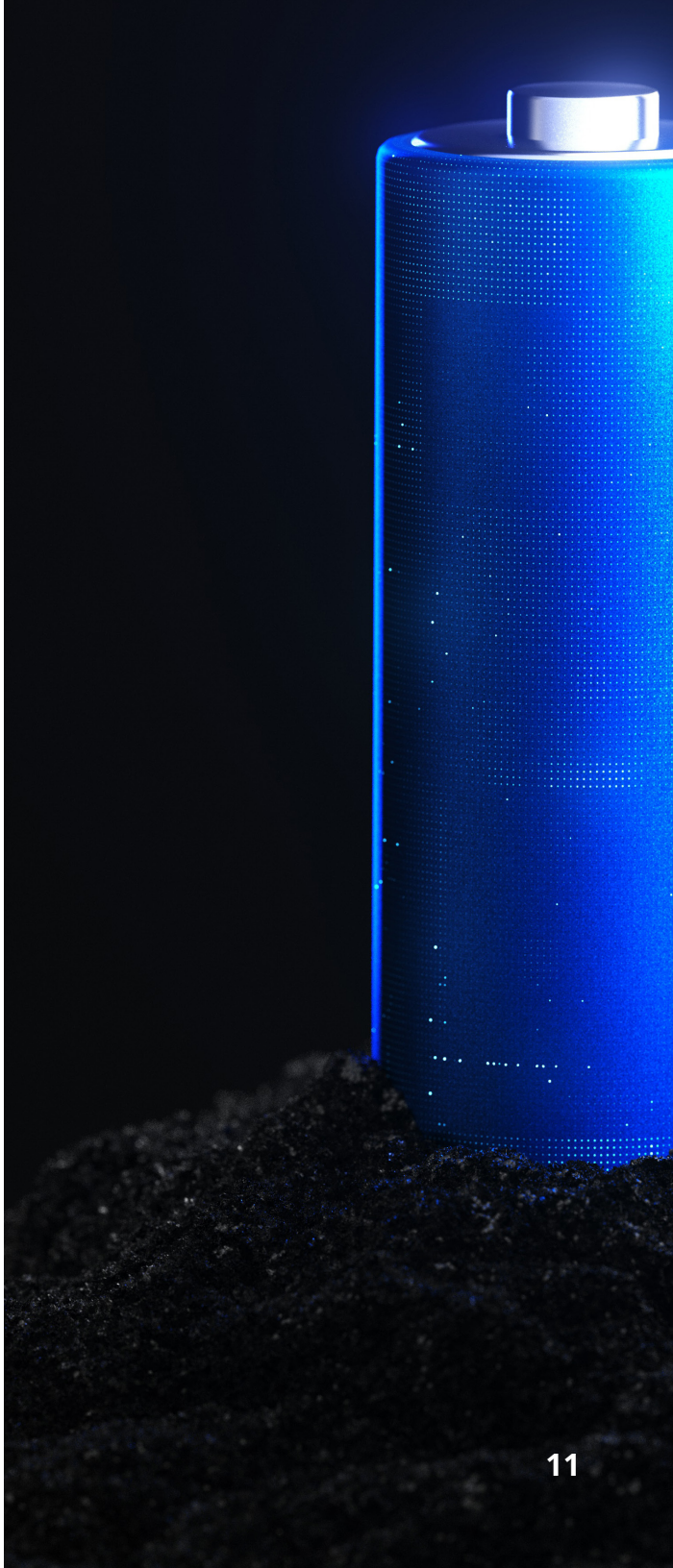
The Challenging Economics of Battery Recycling

The Mine Is American. The Minerals Are China's

How China Took Over the World's Rare Earths Industry

China Trade War Risks Stifling America's Electric Car Movement

Latitude Media: Building a supply chain for rare earth elements



# 5. CRITICAL JUNCTURE FOR ELECTRIC VEHICLES

Electric transport in the US has passed the early adopter phase to the early majority, however, 2025 presents a critical juncture for automakers and EVs. Amid shifting political priorities and economic pressures, innovation remains a key component of the drive toward mass market adoption. While total cost of ownership wins for EVs over internal combustion vehicles, there is still a gap in up front cost for equivalently equipped vehicles. And while charging infrastructure has filled many of its early coverage gaps, there is still an experience gap when it comes to charging and range that leads potential U.S. consumers from purchasing an EV.

### Evidence of the Trend

The expiration of federal clean vehicle tax credits in September, increased pressure on OEMs to make EVs more affordable. According to McKinsey, U.S. consumers rank purchase price as the second most important factor when considering an EV, and only a third of customers are willing to purchase an EV when the price exceeds that of a comparable ICE vehicle (McKinsey, 2025). With roughly 40-50% of the vehicle bill of material cost locked up in battery and drive train, the areas of focus and innovation are clear, but also include efforts to design more cost-effective vehicle architecture, including streamlined electronic architecture. It is widely known that Rivian was able to remove ~1.6 miles (44 lbs) of wiring from its R1S and R1T models in its second generation vehicles, which decreased cost to manufacture and improved reliability and serviceability (InsideEVs 2024).

Simultaneously, consumers expect range and fueling experience for EVs that approach that of an ICE vehicle. The minimum acceptable range is now ~300 miles with 400+ miles being preferred (McKinsey 2025). As for charging time, while most considering an EV purchase state that 30 minutes is sufficient to go from low state of charge to 80%, at least just over 30% expect charge times to be less than 20 minutes (McKinsey 2025). While the average EV does not yet meet these criteria; charging times under 20 minutes are possible for a handful of premium models direct-current (DC) fast chargers. Innovation and cost out on high voltage electrical system architecture in EVs, as well as, in the experience, including reliability, at charging infrastructure may entice buyers whose cost expectations have already been met.

## Opportunity for Georgia

Georgia has established itself as a hub in the domestic EV and battery manufacturing supply chain (hosting major investments from Hyundai, LG Chem, Kia, SK Battery America and Rivian), and has a growing innovation ecosystem capable of complementing its supply chain strength. Proximity to local supply chain assets creates an advantageous environment for innovators, especially when it comes to innovations that drive cost out of vehicles. R&D collaborations are more likely to flourish when the barriers between researchers and end users are low and where design-build-test cycles are short. Multiple Georgia universities house advanced material institutes that are working on battery related materials, and Georgia Tech's Advanced Battery Center is advancing translational R&D and early commercialization of new chemistries, materials, and processes. Numerous corporations, including Southwire, Novelis, and Huber have R&D presence in the state that directly contributes to EV and Battery solutions. And startups, like Weav3D, Wow Charging, Invisible Urban Charging and Metzev, are innovating on materials, charging solutions and supply chain solutions for the industry. The challenges that EV OEMs and the charging ecosystem face, while daunting, present a unique opportunity for partnerships between established global players and Georgia's growing cleantech innovation ecosystem that promise to improve the affordability of EVs, their charging experience, and support broader adoption.

## Resources to Learn More

New twists in the electric-vehicle transition: A consumer perspective

2025 Rivian R1T And R1S Cut 1.6 Miles Of Internal Wiring

Novelis EV Battery Enclosure

Georgia Tech Advanced Battery Center

# 6. HOW DID WE DO

Last year, we made a number of prognostications about macro trend impacts on cleantech innovation in Georgia. So, how did we do?

**Impact of a New Policy:** We, like many, underestimated the speed and depth of change that new policy brought to cleantech. Cuts to programs (EPAs Greenhouse Gas Reduction Fund, climate-equity, Loan Program Office) and tax credits (ITC, PTC) were deeper and more widespread than many expected. Tariffs and FEOC (Foreign Entity of Concern) impacts are being felt, but there is not yet certainty on the future of these actions. One thing has remained true is that economic fundamentals remain in favor of energy, transportation and building technologies that improve affordability, efficiency and resilience. Reindustrialization of critical industries, like the components of the electro-industrial stack, will also support cleantech innovators. Moreover, there are some policies, like making the New Market Tax Credit permanent, that will support critical industry expansion.

**Corporate Market-Making:** Public announcements were not as common on these types of partnerships in the last year, however, that does not necessarily mean that progress had stalled in this area. Demand signaling will continue to be a factor that draws innovators into creating new businesses and products. Perhaps the push for local supply and reindustrialization will replace corporate market making as the key demand signal innovators need.

**AI Everywhere All at Once:** The industry continued to charge ahead prompting some to predict an AI-bubble, however, others have postulated that we are not there yet. Regardless, the key stakeholders are still preparing for the massive infrastructure buildout and working on plans to avoid or mitigate the externalities of AI-growth (e.g., affordability of utilities, water availability). As highlighted above, AI solutions are well positioned to support the transition, especially in driving down historically stubborn soft costs related to DER deployment.

**Cleantech as Resilience:** Resilience has certainly become one of the words used to describe technologies that have previously used "cleantech" or "climatetech" as monickers. While the term is sometimes "overused" in this context, the ability to enable people, companies, and communities to withstand harsh weather, natural disasters and other catastrophes and recover faster is one value proposition of cleantech products. Because of its climate and the vulnerability of many of its communities, Georgia will remain both a breeding and testing ground for cleantech products to contribute to resiliency.

**Emergence of SAF Hubs:** As with the Corporate Market-Making trend, announcements of progress in the past year have not materialized, however, again, that does not mean that work is not being done behind the scenes or that the fundamentals that make Georgia a great place for a SAF Hub have changed. Policy did not negatively impact SAF as much as other cleantech spaces (e.g., survival of the 45Z tax credit), however, some changes to land-use provisions may have increased the favorability of crop-based fuel pathways. Execution on this trend may have a longer time horizon.

### Resources to Learn More

Outcomes of the OBBBA

Tax Implications of the OBBBA on Technology Based Economic Development

Bright Spots and Sunsets in the OBBBA

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# Learn more about the Hub.

The Georgia Cleantech Innovation Hub endeavors to make innovation the driver of a robust cleantech economy that lifts people and communities throughout Georgia and the Southeast. Its programs are designed to build an innovation ecosystem that creates jobs in growth industries, commercializes technology that reduces pollution, waste and increases the efficiency of resource use. In 2025, the Hub secured funding to lay the groundwork for Georgia's first cleantech incubator facility and experiential learning programs targeted at increasing awareness of careers in cleantech innovation for early-tenure college students. The organization has bold plans to expand its reach, relevance and impact in the coming year. Join us.

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