NC DEPARTMENT of COMMERCE
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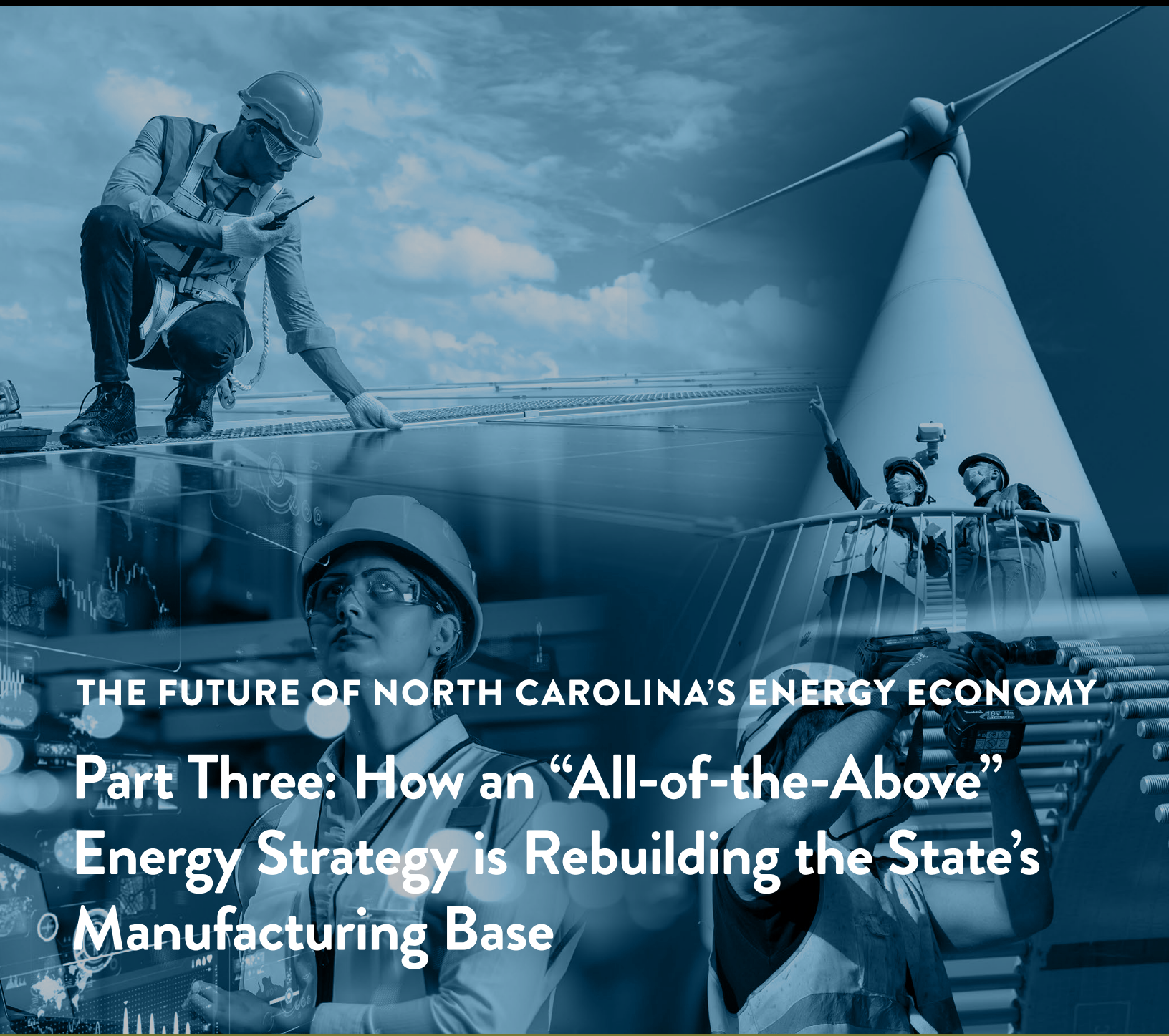


THE FUTURE OF NORTH CAROLINA'S ENERGY ECONOMY

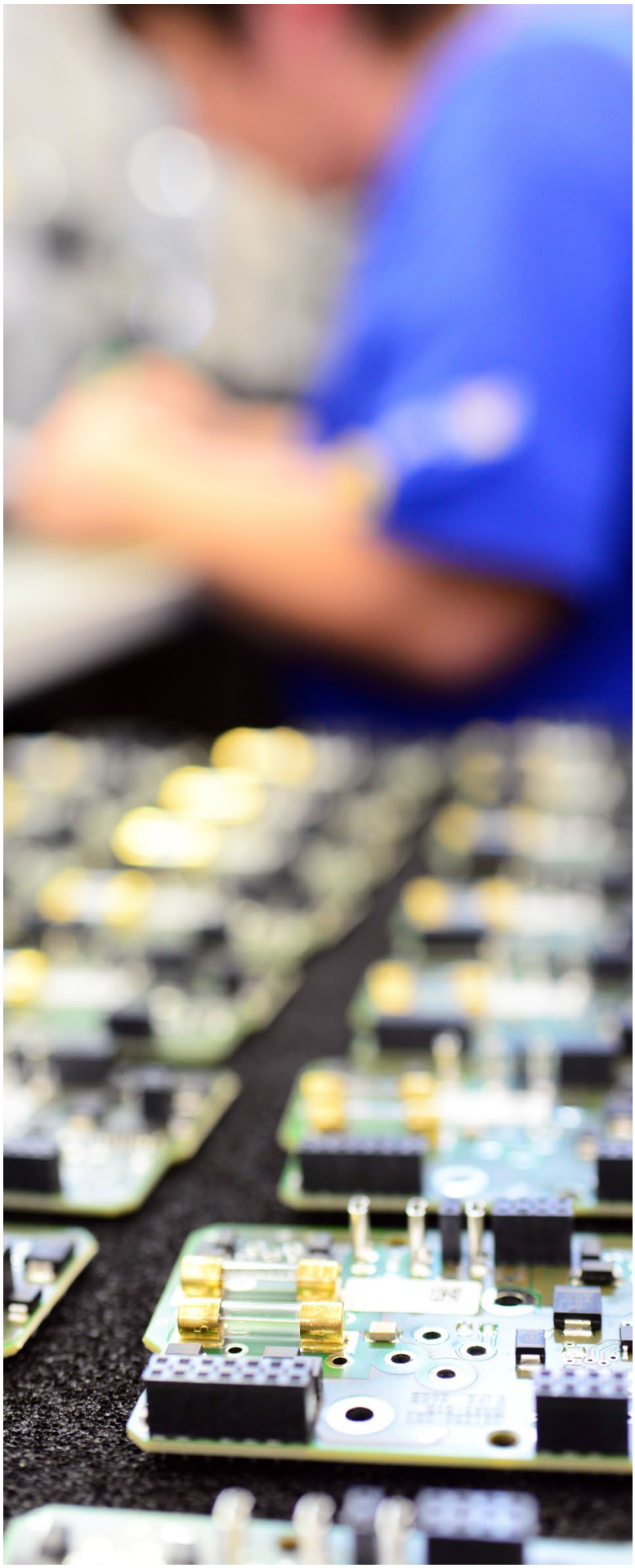
Part Three: How an "All-of-the-Above" Energy Strategy is Rebuilding the State's Manufacturing Base

NC DEPARTMENT OF COMMERCE | ENERGY & INFRASTRUCTURE OFFICE

Reshoring manufacturing capacity is critical to national security, economic resilience, and domestic job creation. Implementing this national "all-of-the-above" energy strategy has generated billions in economic investments and created tens of thousands of new jobs in North Carolina.

North Carolina is at the intersection of three major economic trends impacting the electric power sector: booming demand for computing power from data centers, the reshoring of manufacturing, and population growth, with North Carolina among the top five fastest-growing states since 2020.[1] Access to affordable, reliable, and diverse energy sources will determine whether—and how—North Carolina captures future economic opportunities as the U.S. races to build more resilient domestic supply chains and maintain its competitive edge in AI.

Recognizing energy's central role in driving economic growth, the NC Department of Commerce's Energy & Infrastructure Office is releasing a series of white papers examining North Carolina's energy sector and its connection to the state's future economic competitiveness and resilience. This third paper in the series shows how an "all-of-the-above" energy strategy is rebuilding North Carolina's manufacturing sector.



1. census.gov/newsroom/press-releases/2024/population-estimates-international-migration.html

Lessons from the COVID-19 Supply Chain Crisis

North Carolina's economy has changed significantly over the past several decades. In the 1990s, roughly 800,000 North Carolinians worked in manufacturing industries like textiles and furniture. Since then, the manufacturing workforce dropped by about half as companies moved production offshore. In the years since, communities across the state searched for ways to either rebuild their manufacturing base or attract new industries, achieving mixed results. While new industries like life sciences, technology, and finance flourished in the Raleigh and Charlotte metro regions, many rural communities struggled to find new employment drivers.

In 2020, the fragility of decades of offshore manufacturing was brought into stark relief. Global supply chains buckled under the pressure of disruptions caused by the COVID-19 pandemic, and the shortage of critical components like semiconductors was the subject of headline news as people waited months for automobiles and other everyday consumer electronics.

These supply chain constraints and product shortages also hit the energy sector. In the early days of the pandemic, one study found that supply chain disruptions in the solar industry could delay development of 2 GW of power in the interconnection queue.[2] Transformers saw wait times increase from a few months to one to two years and prices jumped three times what they were before the pandemic.[3,4]

Many of these supply chain constraints persist today. In the PJM electricity market, which spans from Illinois to northeast North Carolina, one recent procurement process revealed that the newest natural gas turbines would not enter service until 2030.[5]

In the years since the COVID-19 pandemic, news headlines have continually reinforced the need for the U.S. to reshore and diversify energy supply chains. Russia's invasion of Ukraine in 2022 demonstrated how dependence on a single energy source can leave nations vulnerable during geopolitical conflicts. Following the invasion, European nations accelerated efforts to end all imports of Russian gas by 2027.[6] And in North Carolina, Hurricane Helene demonstrated how access to distributed or local energy sources can shorten recovery times from natural disasters and mitigate other unexpected shocks to the grid.[7]

In addition to security, manufacturing the technology behind these energy sources delivers important benefits such as scaling production to drive down costs, improving performance, and spurring innovation. Like other industries, the United States has lost its competitive advantage in "learning by doing" in key energy technologies such as solar and battery manufacturing, where China now dominates more than 80 percent of the global market.[8]

2. woodmac.com/reports/power-markets-coronavirus-us-solar-pv-supply-chain-and-utility-scale-market-risk-397671
3. energy.gov/oe/articles/doe-and-industry-team-keep-lights-america
4. electricities.com/public-power/issues-policy/supply-chain
5. pjm.com/-/media/DotCom/committees-groups/committees/pc/2025/20250506/20250506-rri-addendum---post-meeting.pdf
6. commission.europa.eu/news-and-media/news/roadmap-fully-end-eu-dependency-russian-energy-2025-05-06_en
7. sepapower.org/resource/case-study-hurricane-helene-hot-springs-microgrid
8. clearpath.org/our-take/the-future-of-industry-made-in-america

Federal Initiatives to Reshore the Nation's Energy Supply Chain

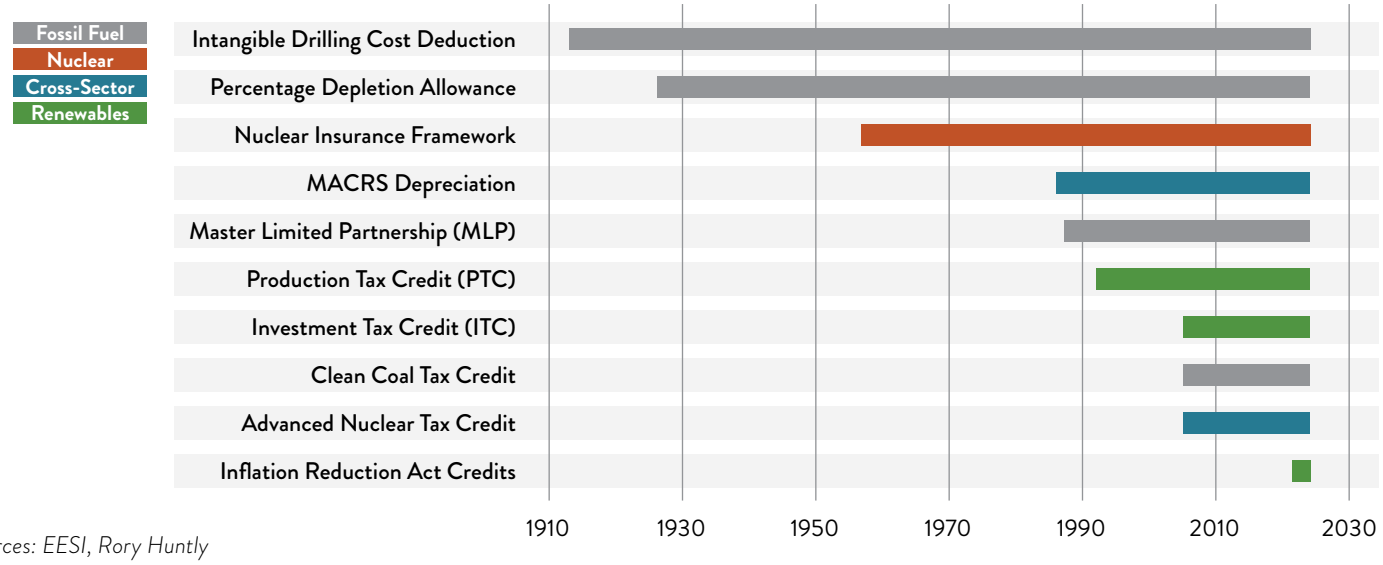
The federal government has introduced a range of incentives to strengthen domestic energy production and manufacturing. Most recently, the 2022 Inflation Reduction Act (IRA) expanded tax credits across a broad set of technologies—including nuclear, geothermal, hydrogen, solar, wind, batteries, and advanced manufacturing—to spur domestic energy investment and manufacturing.

Before being scaled back by the Reconciliation Act in July 2025, the IRA tax credits followed a long history of federal policies aimed at supporting domestic energy production.

For example, the oil and gas industry has benefited from subsidies like the Intangible Drilling Cost (IDC) Deduction for more than a century, which helped offset the high upfront costs of exploration.[9]

Since 1918, the IDC has allowed oil and gas companies to write off significant expenses incurred while drilling for new wells in the U.S. The deduction is often credited with helping to fuel the shale boom of the 1990s and 2000s, as it was especially advantageous for those deploying unconventional production methods, like horizontal drilling and hydraulic fracturing, that carried higher financial risks.[10] As a result of the shale revolution, the U.S. is the top producer of oil and natural gas in the world, providing a durable source of affordable energy to the country that is more resilient to worldwide supply shocks.[11, 12] These examples demonstrate that targeted, sustained government incentives help make energy sources more abundant and affordable.

Timeline: Major Federal Programs Subsidizing Energy Production



Sources: EESI, Rory Huntly

9. employamerica.org/expanding-energy-production/the-long-game-a-technical-tax-change-to-boost-american-energy-production
10. ifp.org/hot-rocks-part-two-how-public-policy-accelerated-the-shale-revolution
11. eia.gov/international/data/world/petroleum-and-other-liquids/annual-refined-petroleum-products-consumption
12. eia.gov/international/data/world/natural-gas/dry-natural-gas-production

However, the economic benefits of oil and gas production, from extraction itself to manufacturing of pipes, pumps, jacks, and other hardware, are concentrated in states with oil and gas resources, such as Texas, Louisiana, and Pennsylvania. States like North Carolina, with no economically viable oil or gas plays, cannot build economic development strategies around those sectors.

Though the IRA tax credits have been scaled back, these policies have already driven billions of dollars in new investments to expand and diversify the nation's energy supply—with North Carolina capturing more than 10 percent of those investments. Diversifying energy supplies and onshoring manufacturing to support them allow states like North Carolina to build economic development strategies that capture value from energy industries, even without oil and gas resources. Communities that once struggled with the loss of legacy manufacturing sectors are now benefiting from a new generation of energy-related industries.

North Carolina's Manufacturing Base is Being Rebuilt in the Energy Sector

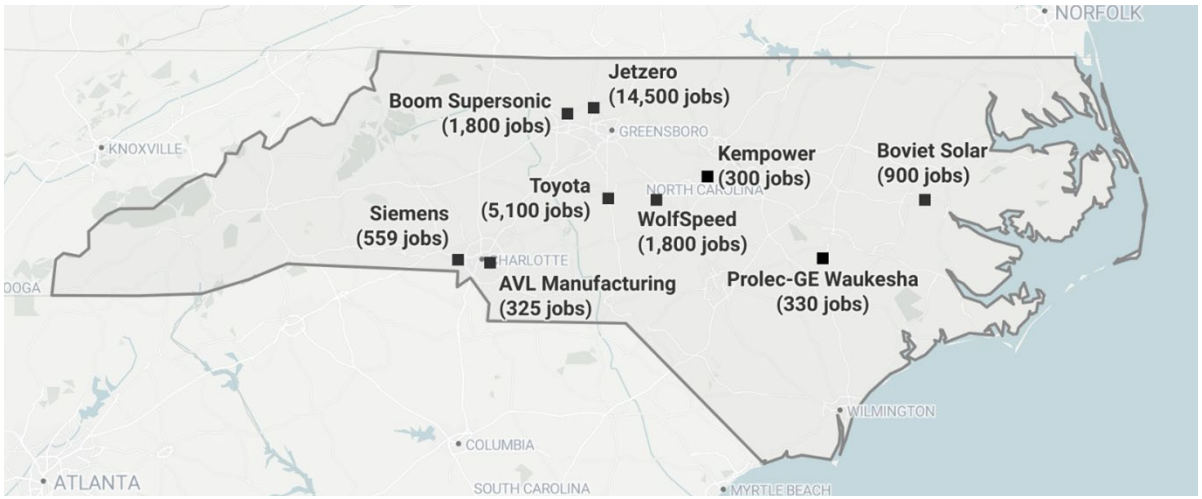
Since 2022, at least $24 billion in private-sector energy investments have been announced across North Carolina. Nearly 90 percent of the jobs tied to these investments are in manufacturing. [13, 14]

Despite federal policy uncertainty, North Carolina has emerged as a national leader in attracting energy and manufacturing investments. The state was named the #1 state for business in 2025 and consistently outcompetes other states for major projects.[15] Even in today's challenging policy environment, energy leads all sectors in the number of announced competitive economic development projects this year.[16]

North Carolina's success includes securing more than 35,000 new jobs tied directly to the energy supply chain. These investments span manufacturing facilities for batteries, solar panels, small modular reactors (SMRs), transformers, and other technologies essential to electricity generation. The state is also highly competitive in industries supported by these technologies, such as electric vehicles and sustainable aviation fuels. These investments are helping North Carolina supply energy technologies to both domestic and international markets.

The scale of investment is substantial, ranging from hundreds to thousands of jobs per project. Many of these investments are in rural areas or communities that have struggled with the loss of traditional manufacturing. An estimated 82 percent of energy-related investments are in North Carolina counties facing chronic economic distress, high unemployment, and low household incomes.[17]

More than 34,000 energy jobs have been announced in North Carolina since 2022.



Source: NC Governor's Office. Graphic created with Datawrapper.

13. e2.org/announcements
14. energymomentum.us/?search=NC&mode=state
15. cnbc.com/2025/07/10/north-carolina-top-state-for-business-america.html
16. edpnc.com/wp-content/uploads/2025/07/NC-EDAR-Q2-2025.pdf
17. *NC Commerce analysis of data from E2. e2.org/announcements. Counties that face chronic economic distress are identified by NC Commerce's County Distress Ranking system.*

Battery Manufacturing: A Growing Subsector

Battery manufacturing has become one of the fastest-growing segments of North Carolina's energy economy. These investments represent more than just electric vehicle components—they're building the infrastructure for a more resilient and flexible energy system. Battery technology enables the integration of renewable energy sources by storing power when it's abundant and releasing it when needed, making the electric grid more reliable, stable, and efficient.

North Carolina's battery supply chain encompasses everything from raw material mining and processing to component manufacturing, final assembly, and recycling.[18] This comprehensive network positions the state as a critical hub in the national effort to build domestic energy storage capacity.

Toyota's battery manufacturing facility in Randolph County illustrates the transformative potential of energy-related investments. Since announcing the battery plant in late 2021, Toyota has become the largest employer in the county in under four years. The company plans to hire 5,100 employees, representing nearly 8 percent of Randolph County's entire labor force.[19]

The project marks Toyota's first battery manufacturing investment in North Carolina and has become a cornerstone of the state's battery and electric vehicle supply chain, serving markets across the nation and around the world. Toyota's investment has also catalyzed additional investments in the region. In 2024, Fujihatsu announced a partnership with Toyota to co-locate a cell casing manufacturing facility in Liberty, providing a direct input for the EV battery plant.[20]

Satellite imagery of the Toyota battery manufacturing plant outside of Liberty, NC. Source: Google Earth imagery, September 2025.

Later that year, Green Metals, Inc. announced plans to develop a $19.8 million facility for battery waste handling for Toyota's manufacturing plant, illustrating how anchor investments can generate complementary business development across the lifecycle of these technologies.

North Carolina's battery supply chain demonstrates how energy investments are rebuilding the state's manufacturing base with greater diversity and resilience than previous industrial models. Rather than relying on a single link of the supply chain, the state has attracted companies across the entire battery ecosystem, creating economic security through diversification while reducing dependence on distant suppliers.

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18. *This resource/research is a product of the work of the NC Battery Industry Partnership, a project led by the Appalachian Energy Center at Appalachian State University and made possible by grant funding from the NC Collaboratory.*
19. *commerce.nc.gov/news/press-releases/2023/10/31/toyota-announces-additional-3000-jobs-8-billion-investment-randolph-county-battery-manufacturing*
20. *edpnc.com/news/fujihatsu-and-toyotsu-battery-components-north-carolina-announcement*
21. *cedc.com/article/green-metals-inc-coming-to-liberty*

Conclusion

For years, there has been broad consensus across the political spectrum that reshoring manufacturing capacity is critical to national security, economic resilience, and domestic job creation. Implementing this national "all-of-the-above" energy strategy has generated billions in economic investments and created tens of thousands of new jobs in North Carolina, many of which are helping rebuild the manufacturing base in the state's most economically disadvantaged communities. It has also created growth opportunities in states without traditional fossil fuel extraction sectors, while providing essential resources to support expanding energy needs. In the final paper of this series, we will explore the career pathways created by these new investments and how the state's workforce development system can meet the evolving demands of the energy economy.

The Energy and Infrastructure Office (EIO) at the North Carolina Department of Commerce helps the state capture future economic opportunities by ensuring access to affordable, reliable, and diverse energy sources. EIO guides communities, businesses, and policymakers through the energy transition while maximizing economic benefits from an "all-of-the-above" strategy. The office collaborates with local governments, utilities, industry leaders, and workforce experts to promote job creation in the evolving energy economy and position North Carolina's industries for long-term competitive advantage.

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