



A Pivotal Time For Innovators In Energy To Capitalize On Federal Funding To Grow Innovation Into Manufacturing

The United States has set ambitious goals for a net-zero future, determined to be competitive in the global transition to clean energy. From batteries to solar panels, much of the nation's clean energy materials are manufactured elsewhere, but passage of the Bipartisan Infrastructure Law (BIL) has been an important step toward onshoring our clean energy supply chain.

The BIL dedicates nearly \$1.2 trillion over ten years to increasing U.S. infrastructure, resilience, and supporting a transition toward a clean energy future. As we approach the two-year anniversary of its passage, it is important to note the significant investments the BIL has made, highlight the opportunities it presents, and recognize that more must be done to support these critical industries.

Lithium batteries will power the majority of vehicles manufactured over the next fifty years and continue to become a critical energy source for power grids and all kinds of consumer, medical, military and industrial electronics. In 2022, the U.S. awarded more than \$3 billion in BIL funding to U.S. battery materials and recycling to help meet this growing demand. Despite the massive demand growth, which is expected to increase six-fold by 2030, the U.S. remains largely dependent on imports.

As lithium batteries become an increasingly fundamental element of transportation and energy, the technologies they power will shape the global economy of the 21st century – and as it stands today, the U.S. captures only a small fraction of the market. The BIL, however, will provide additional critical funding to help support U.S. job creation and innovation to reduce our reliance on vulnerable global supply chains that threaten our climate goals and national security.

Recently, the U.S. Department of Energy announced it intends to make available a second round of funding to support U.S. battery production and recycling. The announcement of this additional \$3 billion in BIL funding is welcome news to American businesses and workers seeking to drive economic growth, create resilience in our supply chains, and reduce our dependence on unstable foreign producers. While this announcement is one of the latest among many ongoing BIL-funded efforts, it is vital we recognize its importance to increasing U.S. production and jobs, as well as supporting entrepreneurial innovation.



Funding Innovation

Unparalleled in its culture of entrepreneurship, the U.S. sees ample new projects enter the clean energy market each year. The problem is that most can't make it to full-scale manufacturing, largely due to lack of resources.

The U.S. must invest heavily in its early innovators to support all stages of battery production – and we can begin to do so through capitalizing on funds allocated by recent policy initiatives.

The BIL, Inflation Reduction Act (IRA), and the CHIPS and Science Act all provide targeted funding to build stronger domestic battery and semiconductor manufacturing, but some questions remain on implementation.

To help guide policymakers, the Department of Energy created Li-Bridge, a public-private alliance representing the U.S. battery ecosystem, which authored a report detailing a robust action plan. It begins with the evident – obtaining key raw materials – and outlines broader objectives which align with these recent policies to construct a resilient domestic manufacturing base.

A key opportunity within the landmark legislation is the federal funds dedicated to existing domestic manufacturers and early-stage innovators.

A key challenge remains, though, in fostering the future of the U.S. battery manufacturing ecosystem. Currently, there is a lack of R&D and pilot-scale line capacity for the commercialization of new lithium battery technology. This leads to increased costs and project timelines, particularly for new and smaller companies seeking to commercialize new materials, components, and processing equipment. The result is reduced commercial value and missed opportunities.

To get new technologies from concept to production, the U.S. must provide commercialization support to new domestic companies developing battery products, from new funding streams to advising and even assistance with filing patents.

Increasing Incentives for Investment

An important attribute of the IRA is enticing investments in domestic companies within the lithium battery supply chain. Through its tax incentives, the IRA can help incentivize the growth of the U.S. battery supply chain.



We need to encourage investments which localize the production and manufacturing of lithium batteries and their components. Offsetting costs for private companies through government funding and R&D incentives will aid in the development of these technologies and ensuring local innovation becomes local manufacturing.

Building a Talent Pipeline

The U.S. industry currently has an opportunity to build a world class workforce training structure in battery-grade material processing, active material and component production, cell manufacturing, and end-of-life battery logistics.

The education of skilled battery engineers and manufacturers is essential for establishing and improving domestic manufacturing in our supply chains. Battery producers working alongside government, community colleges, apprenticeships, and trade schools will help train workers and nurture the growth of the industry.

The time to act is now

The decisions being made today will directly impact the trajectory of supply chain flows and business ecosystems for decades to come. The U.S. can build on the current momentum to create policies which will sustain a resilient domestic supply chain.

Batteries are the future of not just our country's transportation and energy systems but are also the center of the world's clean energy movement. We have a solid foundation, the innovators, and much to celebrate, but we must remain focused on capitalizing on our investments to realize our vast potential.

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