Executive Summary

The American Jobs Project was borne of two tough problems: loss of middle-class jobs in America and congressional paralysis. It seeks to address these problems by taking advantage of one of the biggest market opportunities of our era—the advanced energy sector—and to do so at the state, not the federal, level. State and local leaders who leverage the unique strategic advantages of their state to grow localized clusters of interconnected companies and institutions are poised to create quality jobs. This report serves as a strategic guide to support those efforts.

Extensive research and more than sixty interviews with stakeholders and experts in Illinois have identified utility-scale batteries as showing particular promise in the state. Utility-scale batteries have growing demand in both balancing regions of Illinois and create a more secure, reliable grid.

Illinois is a leader in energy storage research and is well positioned to capitalize on its unique innovative ecosystem and advantageous location and climate for manufacturing. Opportunities to leverage this momentum to further serve growing regional, national, and global markets offer real benefits for the state economy and Illinois residents.

However, there are several barriers hindering Illinois' battery industry and preventing it from reaching its full potential. These barriers to growth range from high and unclear interconnection costs to a lack of alignment of workforce development and industry needs. Illinois must address these roadblocks in order to become a competitive hub for grid-scale, advanced energy storage.

To take full advantage of these opportunities, state leaders can pursue strategies to create a strong foundation for industry growth and to help Illinois businesses grow, innovate, and outcompete regional, national, and global competitors. With forward-thinking policies, Illinois' utility-scale battery industry can support over 3,150 direct, indirect, and induced jobs from 2017 through 2030. These direct jobs will spark local job growth and economic development as employees spend their earnings in the local economy.

Summary of Policy Recommendations

The analysis presented in this report culminates in recommendations for Illinois' leaders based on best practices in the United States and abroad. Each recommendation identifies opportunities for barrier removal and future growth in the utility-scale battery sector. While the recommendations are intended to be complementary and would be more powerful if adopted as a package, each can also be viewed as a stand-alone option.

Policy 1: Study Energy Storage Resources that Would Support Grid Resiliency and Corresponding Cost Effectiveness

Illinois could conduct a grid-wide feasibility study for energy storage technologies. By comprehensively analyzing the costs and benefits of energy storage, Illinois could strategically determine where increased deployment of storage technologies may be cost-effective. *Key players: Illinois Commerce Commission, Illinois Department of Commerce and Economic Opportunity.*

Policy 2: Promote Proper Valuation and Compensation for Energy Storage Benefits

The most significant barrier for the utility-scale battery industry is accurately valuing the multitude of services that batteries provide to the grid. The Illinois Commerce Commission could assign monetary values to the full range of services provided by energy storage, including peak demand reduction and improved reliability, among others. By recognizing the financial value of these services, the state could allow utilities to recoup more than the avoided cost rate, and therefore more accurately compensate utilities for the true value of procured energy storage. *Key players: Illinois Commerce Commission.*

Policy 3: Improve the Battery Interconnection Process

Illinois could streamline its interconnection rules to make the interconnection process more predictable and transparent. Reducing costs and uncertainty would make Illinois a more attractive location for private sector energy developers to do business. *Key players: Illinois Commerce Commission, Illinois General Assembly, utilities.*

Policy 4: Expand Utilities' Performance-Based Objectives

By incorporating a wider range of outcome-based utility performance metrics, Illinois could more comprehensively manage utility rates to achieve specific energy goals. As several major utilities already track additional metrics above and beyond what is required by the Energy Infrastructure Modernization Act, utilities are primed to expand required performance-based metrics that achieve a reliable, secure grid through technologies such as battery storage. *Key players: Illinois General Assembly, Illinois Commerce Commission, utilities.*

Policy 5: Explore Novel Funding Mechanisms for Battery Storage Projects

Like most new technologies, utility-scale storage projects carry a relatively high level of investment risk until they are proven efficient and reliable at scale. To overcome some of this risk and reduce barriers to capital-intensive energy storage investments, Illinois could employ novel financing mechanisms, such as allowing utilities to lease demonstration projects or adopting a technology-as-a-service model. *Key players: Illinois Commerce Commission, utilities, private developers, municipalities.*

Policy 6: Create an Energy Storage Working Group

Currently, the Illinois energy storage sector does not have organized leadership. Bringing stakeholders together in an energy storage working group could facilitate a better understanding of the costs, benefits, and policy barriers to energy storage; foster industry relationships; and identify growth opportunities in the state. *Key players: Illinois Commerce Commission, Illinois Department of Commerce and Economic Opportunity, utilities, Argonne National Laboratory, local industry leaders.*

Policy 7: Target Foreign Direct Investment to Expand Illinois' Utility-Scale Battery Industry

State and local leaders could attract investment from global companies to address supply chain gaps and expand employment opportunities for Illinoisans. Foreign direct investment missions could be a natural extension from the activities of the existing state and regional economic development organizations. *Key players: Illinois Office of Trade and Investment, Southwestern Illinois Trade and Investment Council, World Business Chicago.*

Policy 8: Create an Anchor Company Tax Credit

Batteries require many components, making supply chain management a significant challenge. Illinois could support the development of a robust in-state supply chain by offering a tax credit to companies that successfully recruit other job-creating, battery-related businesses and suppliers to Illinois. *Key players: Illinois General Assembly, Illinois Department of Commerce and Economic Opportunity, local industry leaders.*

Policy 9: Grow Regional Cluster-Based Investment through Multi-Asset Renewal Funds

Illinois could overcome traditional investment barriers and reduce risk by establishing a multi-asset renewal fund (MARF) to support cluster-based value chain investment. The state could design a MARF that balances investment risk profiles within a cluster portfolio in order to facilitate investment in the entire advanced energy cluster. *Key players: World Business Chicago, Clean Energy Trust, Global Cleantech Cluster Association.*

Policy 10: Expand Formal Degree Programs to Include Battery Technology

As advanced energy technologies—such as energy storage—are deployed with more regularity, the value of targeted knowledge and skillsets increase. Incorporating industry-specific technical training in degree programs can make graduates more attractive to in-state employers in the advanced energy sector. *Key players: Illinois Board of Higher Education, four-year colleges and universities, local industry leaders.*

Policy 11: Align Community College Efforts and Connect to Private Sector Needs

Community colleges provide invaluable workforce training and certification programs for students entering technical industries; it is therefore critical that community college programs align with industry needs. The Illinois community college network could increase system-wide coordination and collaborate with industry players to more effectively meet training needs in the advanced energy sector. *Key players: Illinois Community College Board, community colleges, local industry leaders.*

Policy 12: Coordinate and Expand Stackable Credentials to Upgrade Worker Skillsets

Although more than half of the jobs in Illinois require a level of training in between a high school diploma and a bachelor's degree, only 42 percent of the Illinois workforce is trained to this middle-skill level. Explicitly promoting stackable credential programs could reduce barriers to mid-level education and strengthen workforce skillsets. *Key players: Illinois Community College Board, local industry leaders.*

Policy 13: Create One Central Body to Oversee Public Education

At present, the K–12 education system, the community college system, and the state university system all operate in independent silos under the direction of unique governing boards. Unifying public education systems under one umbrella entity could facilitate connections and improve coordination among the systems, ultimately helping students transition and better meet the needs of industry employers. *Key players: Illinois State Board of Education, Illinois Community College Board, Illinois Board of Higher Education.*

Policy 14: Seek Philanthropic Dollars Via a Foundation Liaison

Illinois is in the midst of a severe budget and economic crisis, which makes it difficult for the state to commit public funds to noncritical investments. By leveraging philanthropic resources, Illinois could better support underfunded workforce and infrastructure development programs without adding to the state's budget deficit. *Key players: Governor, Illinois Department of Commerce and Economic Opportunity.*

Policy 15: Increase Capital for Fund of Funds By Selling Insurance Premium Tax Credits

Illinois' fund of funds provides critical financial investments to venture funds throughout the state. As the legislature addresses ongoing budget shortfalls and redirects money to various programs, the state could sell insurance premium tax credits to ensure the fund of funds maintains adequate support. *Key players: Illinois General Assembly, Illinois Department of Commerce and Economic Opportunity.*

Policy 16: Invest In and Retain Illinois STEM Talent

In recent years, the state budget crisis and booming out-of-state technology markets have made it difficult for Illinois colleges, universities, and companies to recruit and retain talented scientists and engineers. The state should consider establishing a tax credit to incentivize Illinois-educated professionals to maintain their residency after graduation. *Key players: Illinois General Assembly, Illinois Board of Higher Education.*