



CASE STUDY: Input-Output Economic Impact Modeling

Situation

As the global demand for renewable energy continues to increase, the infrastructure necessary for new energy markets will require the manufacture of devices and components that harness renewable resources or make energy utilization more efficient. An industry trade association called upon The Hill Group to quantify the economic impact of Michigan’s new energy manufacturing.

Solution

The Hill Group selected new energy devices and components based on current levels of activity in Michigan and preliminary evaluation of future importance and significance. Shifts in demand and estimates of supply for each device were used to calculate direct, indirect, and induced economic impacts including total economic output, jobs supported, and tax revenues.

The Hill Group study revealed that Michigan, unrivaled in its manufacturing prowess, could leverage its existing core of manufacturers, highly-skilled workforce, and strong industrial supply chains to emerge as a premier location for the manufacture of new energy devices and their components. Through the development of an agglomeration economy, similar to automobile manufacturing, the state’s production and intellectual assets could make Michigan the future hub of new energy manufacturing.

CLIENT

INDUSTRY TRADE
ASSOCIATION,
STATE OF
MICHIGAN

INDUSTRY

ENERGY

PROJECT

POLICY RESEARCH
AND ANALYSIS

PRIMARY AND
SECONDARY
RESEARCH

ECONOMIC IMPACT
ASSESSMENT

Sectors and Devices	Inputs Supply and Demand	Out
Advanced Energy Storage Electric Vehicle (Unique Components) Fuel Cell - Stationary Fuel Cell - Portable Lithium Ion Battery	Supply of device and component mfg. in MI Estimated changes in demand for device(s)*	Direct Impact Includes changes in production that result from final demand changes Indirect Impact Includes changes in production of inputs resulting from changes in demand for a final product Induced Impact Includes the changes in household spending patterns as result of altered household income from direct and indirect impacts
Biomass Biomass Gasification Power System Cellulosic Ethanol Production Facility	Supply of device and component mfg. in MI Estimated changes in demand for device(s)*	
Solar Photovoltaic Panel Polycrystalline Silicon	Supply of device and component mfg. in MI Estimated changes in demand for device(s)*	
Wind Wind Turbine	Supply of device and component mfg. in MI Estimated changes in demand for device(s)*	

*Based on secondary research and assuming market viability



Results

- Quantified the potential direct, indirect, and induced economic impact of new energy manufacturing
- Provided objective data to aid in the decision making of policymakers, manufacturers, and others

Behind the Scenes

The Hill Group utilized input-output analysis to estimate the economic impact of the state's manufacturing activities for new energy devices within the advanced energy storage, biomass, solar, and wind subsectors. Demand for these subsectors was forecasted to grow significantly, both nationally and statewide.

About The Hill Group, Inc.

Founded in 1953, The Hill Group, Inc. is a premier provider of management counsel, specializing in strategy, execution, and measurement. Our team of consultants has deep experience across several industries, enabling our team to draw on best practices from a variety of sectors to help our clients grow, innovate, and achieve maximum potential.

Strategy – *Envisioning an organization's future, capitalizing on its opportunities, identifying strategic priorities, and implementing positive change.*

- Strategy Development
- Decision Support and Analysis
- Strategic Planning and Management
- Business Planning and Feasibility Assessments
- Mergers, Acquisitions, and Strategic Alliance Planning
- Market Research and Analysis

Execution – *Ensuring that an organization is efficiently and effectively utilizing its resources to its full potential.*

- Process Improvement and Innovation
- Business Model Development and Resource Allocation
- Financial Assessment and Management
- Turnaround, Business Transformation, and Change Management
- Governance Assessment and Development

Measurement – *Increasing an organization's performance through measurement and continuous improvement.*

- Measurement
- Business Analytics and Intelligence
- Economic Impact Assessment
- Employee Opinion, 360-Degree Feedback, and Service Quality Surveys
- Industry Benchmarking Surveys

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