

RE-INDUSTRIALIZATION AND RESHORING

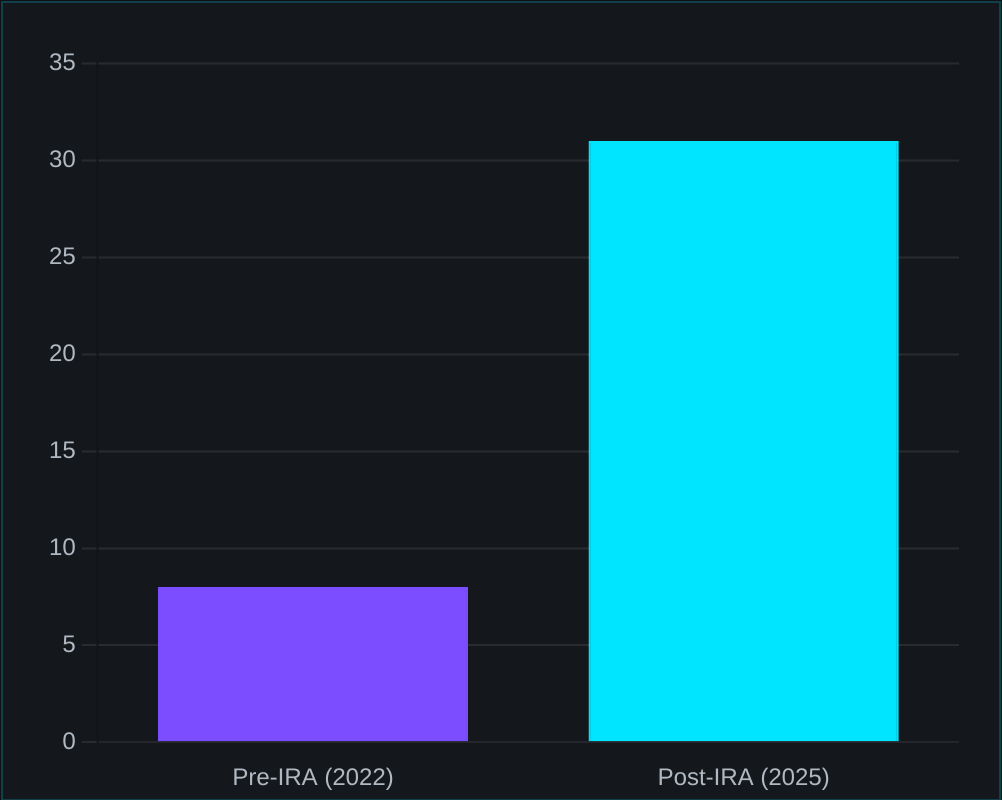
Solar + Storage, Semiconductors, and Data Centers
(2026-2030)

How America is Reshaping Global Manufacturing Through Integrated Green Industrial
Ecosystems

 2026-2030 Outlook  Integrated Ecosystems  Strategic Autonomy

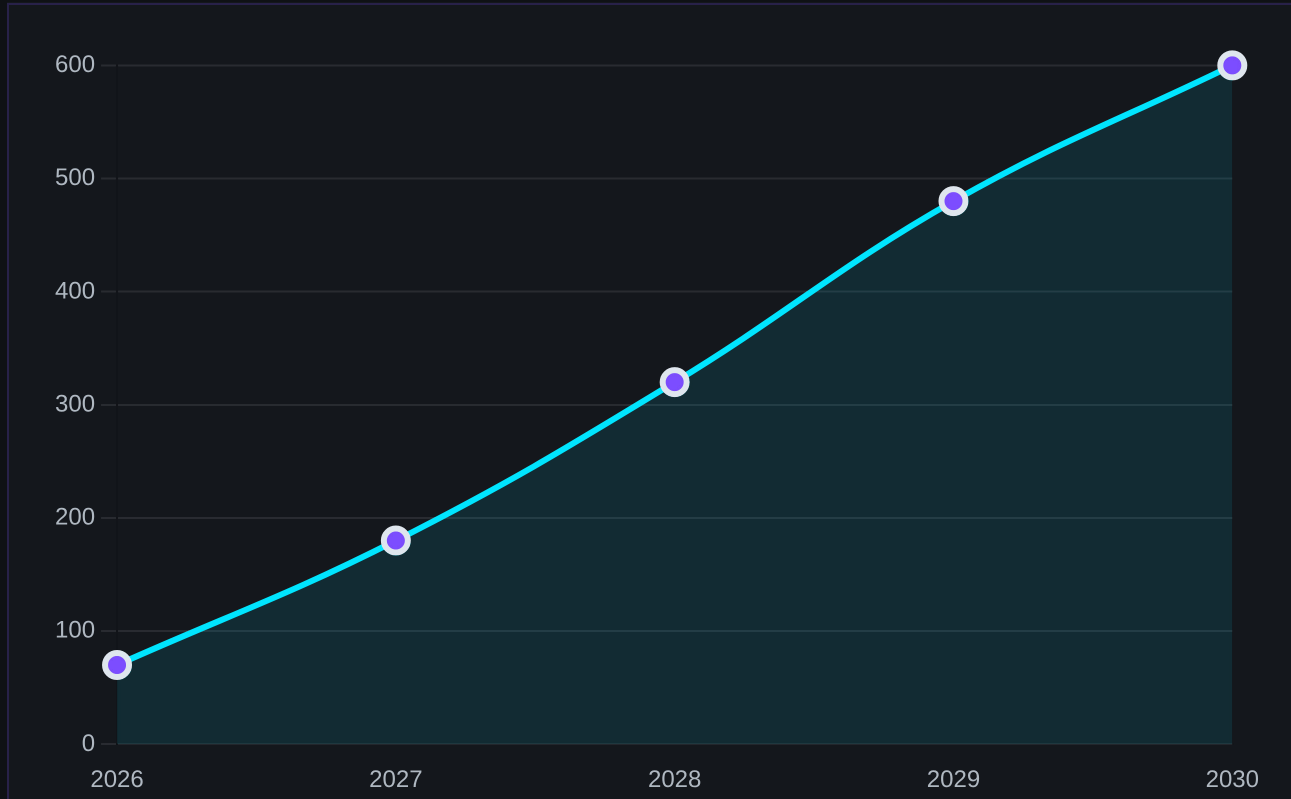
THE RESHORING REVOLUTION: A NEW ERA OF DOMESTIC MANUFACTURING

-  **Inflation Reduction Act (2022)**
Provided massive incentives for clean energy manufacturing in the United States, reversing decades of outsourcing.
-  **Complete Supply Chain Reshoring**
23 GW of solar module capacity, 34 GW of solar cell capacity, and 25 GW of inverter capacity now domestic.
-  **Global Alignment**
Europe's Green Deal Industrial Plan targets 1,236 GW of renewable energy capacity by 2030.
-  **Strategic Shift**
Moving from cost-driven globalization to resilience-driven localization for national security.



U.S. Solar Manufacturing Capacity (GW/Year)

ENERGY STORAGE EXPLOSION: THE BATTERY BOOM OF 2026-2030



U.S. Energy Storage Capacity Projections (GWh)



600+ GWh by 2030

Total energy storage capacity in the U.S. is expected to reach over 600 GWh by 2030, enough to power millions of homes.



Annual Growth Records

Storage will set new deployment records every year through 2030, adding 439 GWh total over the next five years.



Renewable Integration

Solar, wind, and battery storage forecasted to provide 99% of new electricity capacity in 2026.



Utility-Scale Focus

20.2 GW / 62.4 GWh expected in the utility-scale market in 2026 alone.

THE DATA CENTER EXPLOSION: AI AND CLOUD COMPUTING POWERING GROWTH

\$6.7 Trillion

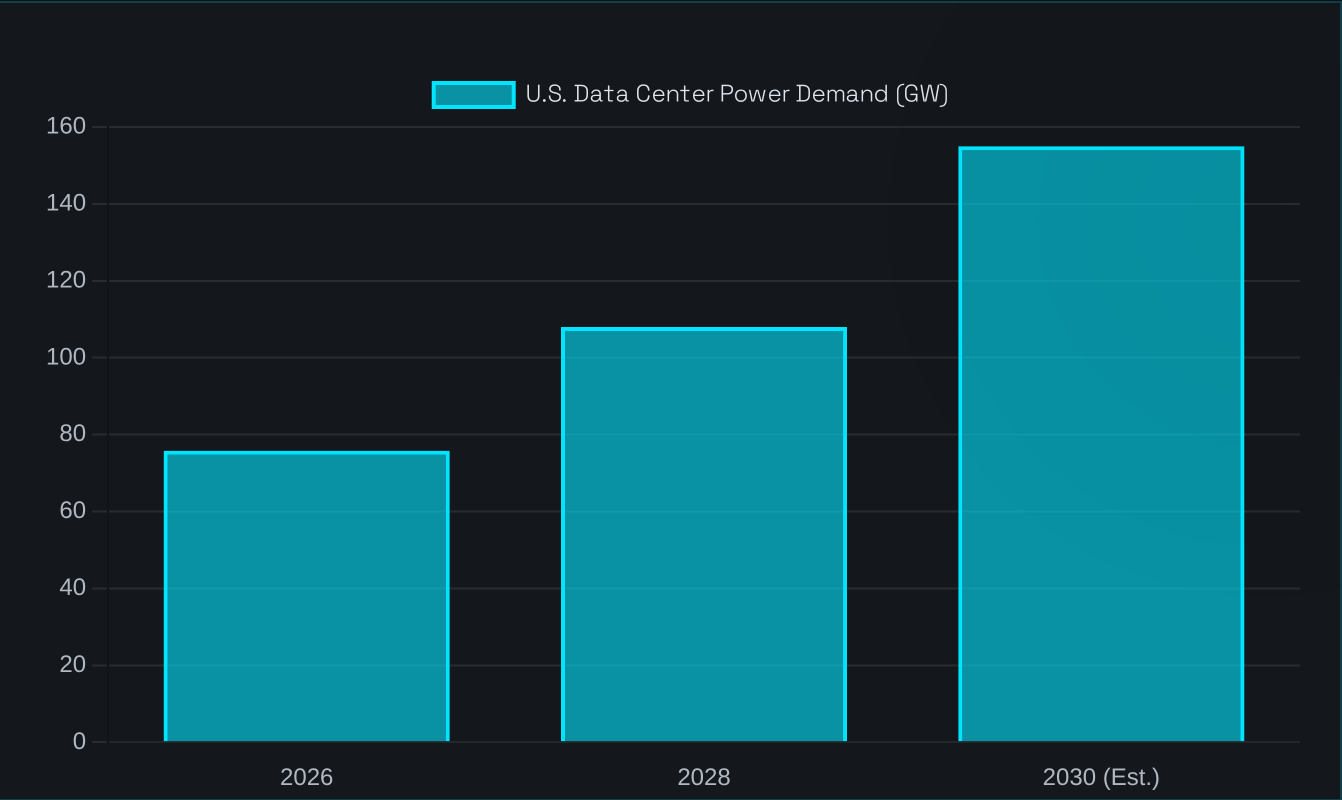
INFRASTRUCTURE INVESTMENT BY 2030

945 TWh

GLOBAL ELECTRICITY DEMAND BY 2030

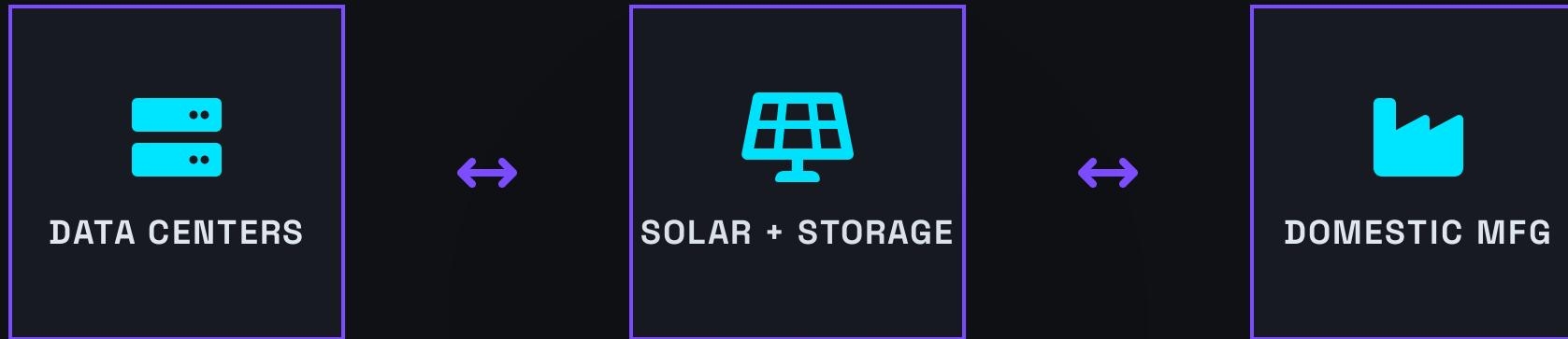
\$2.0 Trillion

CLOUD MARKET VALUATION BY 2030



-  **AI as Primary Driver:** Machine learning and AI workloads are consuming the majority of new data center capacity, requiring specialized high-density power infrastructure.
-  **Scale of Transformation:** U.S. data center power demand is expected to nearly triple by 2030, reaching over 150 GW of total capacity.

THE RENEWABLE-DATA CENTER SYNERGY: CO-LOCATION AS STRATEGIC IMPERATIVE



Demand Driver

Data center power requirements are driving **232 GWh** annual solar generation growth—a **65% increase** through 2030.

Strategic Partners

Tech giants are moving beyond grid purchases to partner directly with solar and battery producers for **reliable, 24/7 sustainable power**.

Grid Resilience

On-site renewable generation and storage reduce grid stress, with each GW of data center capacity driving **200+ MW** of solar demand.

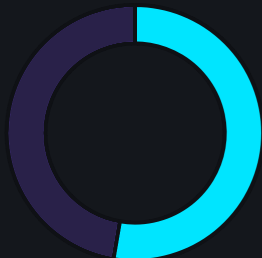
SEMICONDUCTORS: THE CRITICAL ENABLER OF THE ENTIRE ECOSYSTEM



CHIPS Act Investment

\$52.7 Billion allocated for semiconductor manufacturing tax credits and direct funding.

Spurring massive private investment in new domestic fabrication facilities (fabs).



Critical Applications

Essential for **Solar Inverters**, converting DC to AC power for the grid.

Powering **Battery Management Systems** (BMS) for safe and efficient energy storage.

Driving the high-performance processors required for **AI Data Centers**.



Strategic Geography

New hubs emerging in **Texas, Arizona, New York, and Ohio**.

Synergistic co-location: Fabs locating near solar and battery manufacturing to minimize supply chain friction.

Creating a resilient, integrated domestic technology base.

ELECTRO-INDUSTRIAL CLUSTERS: THE NEW ECONOMIC GEOGRAPHY



CLUSTER DEFINITION

Integrated Hubs

Geographic concentrations of interconnected industries: data centers, semiconductor fabs, battery manufacturing, and solar production.

Strategic Synergy

Industries are co-located to maximize energy efficiency, reduce logistics costs, and share a specialized workforce.



OPERATIONAL MODEL

Circular Supply Chains

The output of one industry (e.g., semiconductors) serves as a direct input for another (e.g., solar inverters) within the same region.

Localized Resilience

Integration reduces reliance on volatile global supply chains and mitigates the impact of geopolitical disruptions.



REGIONAL IMPACT

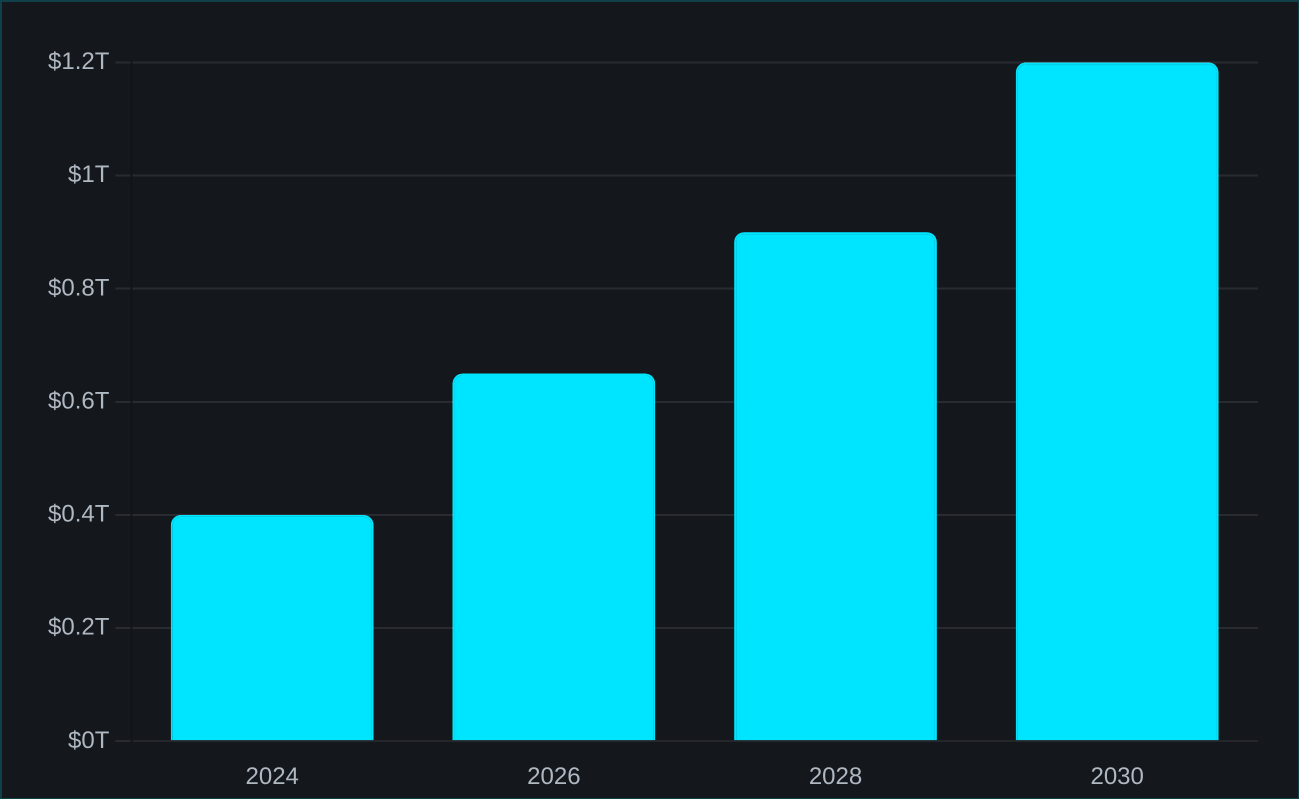
Emerging Hubs

Clusters are rapidly forming in strategic locations across Arizona, Texas, New York, and Ohio.

Economic Scale

Each cluster generates tens of thousands of high-wage jobs and attracts billions in private sector investment.

THE GREEN INDUSTRIAL MATERIALS MARKET: \$1.2 TRILLION OPPORTUNITY



Projected Global Market for Green Industrial Materials (USD Trillions)

\$1.2 Trillion Market Size

The global market for green industrial materials is expected to grow to \$1.2 trillion by 2030, driving massive capital flows.



Investment Concentration

Capital is flowing into solar manufacturing, battery production, semiconductor fabs, and data center infrastructure.



Policy Support

Government incentives like the IRA and CHIPS Act are accelerating private sector investment and reshoring.



Competitive Advantage

Early movers in reshoring are gaining significant market share and establishing long-term technological leadership.

WORKFORCE DEVELOPMENT AND SUPPLY CHAIN INTEGRATION



WORKFORCE DEVELOPMENT

● Job Creation

Hundreds of thousands of **skilled manufacturing jobs** are being created across new electro-industrial clusters.

● Specialized Training

Billions invested in **upskilling programs** to meet the demand for advanced manufacturing and semiconductor fabrication.

● Community Impact

Revitalizing regions that lost manufacturing decades ago, providing **high-wage career paths** for local workforces.



SUPPLY CHAIN INTEGRATION

● Localization

Moving raw material processing, component manufacturing, and final assembly **closer together** to reduce lead times.

● Resilience

Integrated domestic supply chains reduce exposure to **geopolitical disruptions** and global logistics bottlenecks.

● Cost Efficiency

Significant reduction in **transportation costs** and inventory requirements through regional cluster integration.

KEY PROJECTIONS AND NUMBERS: THE SCALE OF TRANSFORMATION

600+ GWh U.S. ENERGY STORAGE (2030)	4.5 TW GLOBAL SOLAR/WIND (5YR)	945 TWh DATA CENTER DEMAND (2030)	\$2.0T CLOUD MARKET (2030)
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CATEGORY	METRIC / PROJECTION	TARGET YEAR	ECONOMIC IMPACT
 Infrastructure	Data Center Investment	2030	\$6.7 Trillion Capital Flow
 Manufacturing	Green Industrial Materials	2030	\$1.2 Trillion Market Size
 Energy	New Data Center Capacity	2026-2030	100 GW Load Growth
 Technology	Semiconductor Reshoring	2026-2030	\$52.7B CHIPS Act Stimulus

STRATEGIC IMPLICATIONS: WHY THIS MATTERS

STRATEGIC AUTONOMY

Nations are building **independent manufacturing capabilities** to reduce reliance on volatile global supply chains and mitigate geopolitical vulnerabilities.

Reshoring critical sectors like semiconductors and solar ensures long-term sovereignty over essential infrastructure.

NATIONAL SECURITY

Secure supply lines for **energy and technology** are now recognized as fundamental pillars of national defense.

Localized production reduces exposure to foreign trade weaponization and ensures the integrity of critical digital and power systems.

TECHNOLOGICAL LEADERSHIP

Investing in reshoring positions nations at the **forefront of the clean energy transition** and the AI-driven digital revolution.

Early movers in electro-industrial clusters gain a decisive competitive advantage in the next generation of global industry.

ENVIRONMENTAL ALIGNMENT

Reshoring enables **sustainable production practices** and significantly reduces carbon emissions associated with long-distance transportation.

Integrated ecosystems facilitate resource efficiency and waste reduction, aligning industrial growth with climate goals.

THE FUTURE OF MANUFACTURING IS INTEGRATED, LOCAL, AND GREEN

CONVERGENCE

Solar, batteries, semiconductors, and data centers are merging into a single, unified industrial ecosystem.

NEW MODEL

Electro-industrial clusters are replacing traditional global supply chains with resilient, localized hubs.

STRATEGIC IMPERATIVE

Re-industrialization is now essential for economic resilience, national security, and technological leadership.

The 2026-2030 inflection point marks the most significant manufacturing restructuring in decades.