

RECHARGING AMERICA

The Construction Opportunity in America's Power Buildout, 2025–2030

An economic assessment of how rising power demand converts into construction-market spend, and why execution, not demand, decides who captures it.

MOCA SYSTEMS, INC.

Brandon Michalski
Principal, Chief Economist
MSI Economics
MOCA Systems, Inc.

THE OPPORTUNITY IN BRIEF

America's power-generation market is set to roughly double this decade. Generation construction spend rises from about $70 billion in 2025 to roughly $150 billion a year by 2030, nearly $691 billion of cumulative work, pulled forward by an announced $1.66 trillion in data-center and advanced-manufacturing investment as well as demand driven costs. For builders, EPC firms, equipment makers, and the capital that backs them, this is one of the largest sustained demand signals in a generation.

The catch is deliverability. Demand is abundant and well-documented; what gates the buildout is execution: equipment lead times, interconnection queues, skilled labor, and the sequencing of capital. The firms and investors who win are not those chasing demand, which is plentiful, but those who can clear the execution path. Volume here is delayed, not destroyed.

~$150B

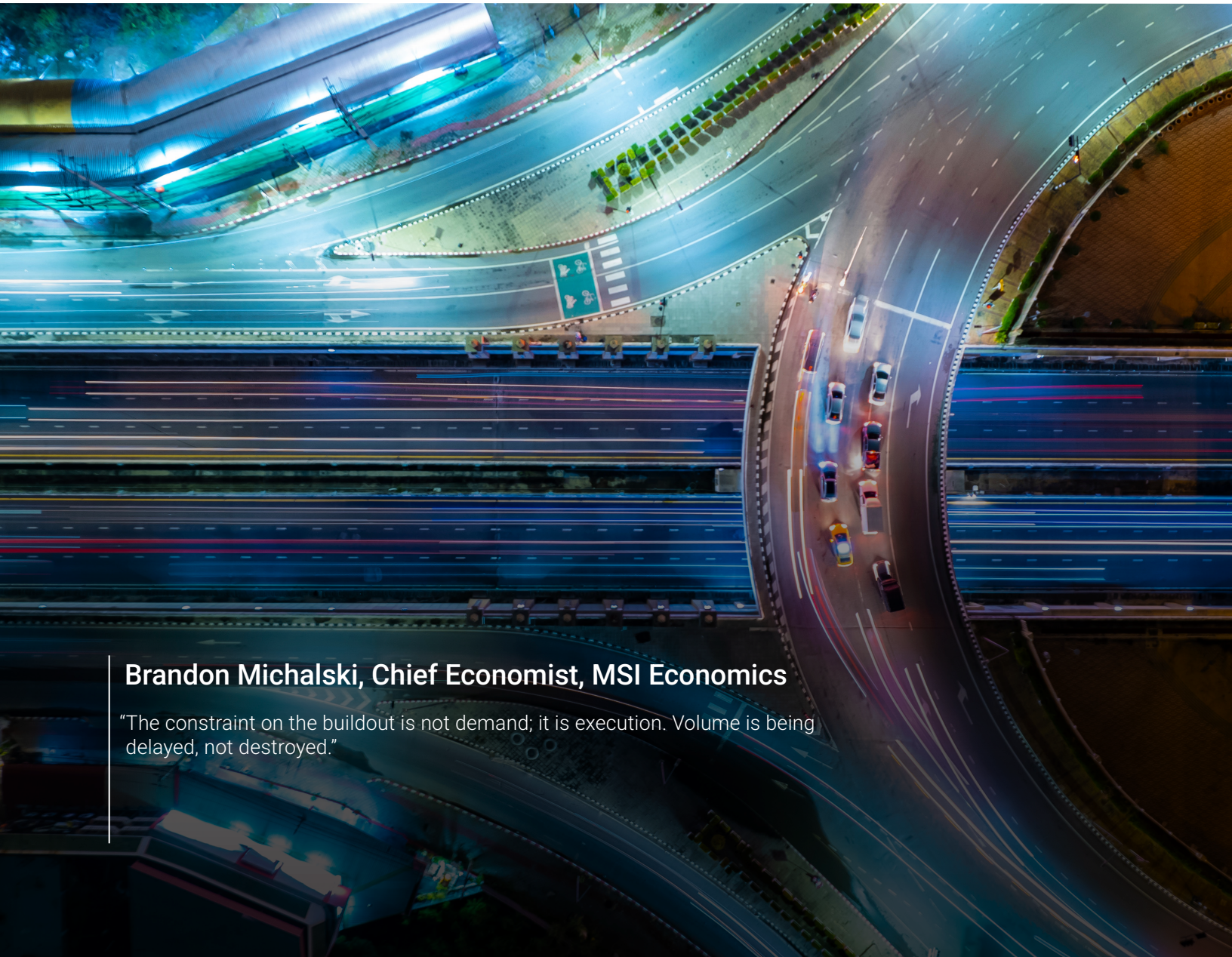
Annual generation construction market by 2030 (≈ 2× the 2025 level)

~$691B

Cumulative electricity generation construction work, 2025–2030

$1.66T

Announced data-center + advanced-manufacturing investment through 2030



Brandon Michalski, Chief Economist, MSI Economics

"The constraint on the buildout is not demand; it is execution. Volume is being delayed, not destroyed."

1. A MARKET THAT DOUBLES AND CONCENTRATES

Demand is not spreading evenly across the country; it is piling up in a handful of regions. Data centers account for roughly three-quarters of the announced demand pipeline and advanced manufacturing for the rest, and both cluster where land, power, and incentives align. ERCOT (Texas), PJM, and MISO together represent about 87% of national implied construction spend, with ERCOT alone close to half. ERCOT's 46.8% peak-demand growth runs nearly three times PJM's and five times MISO's.

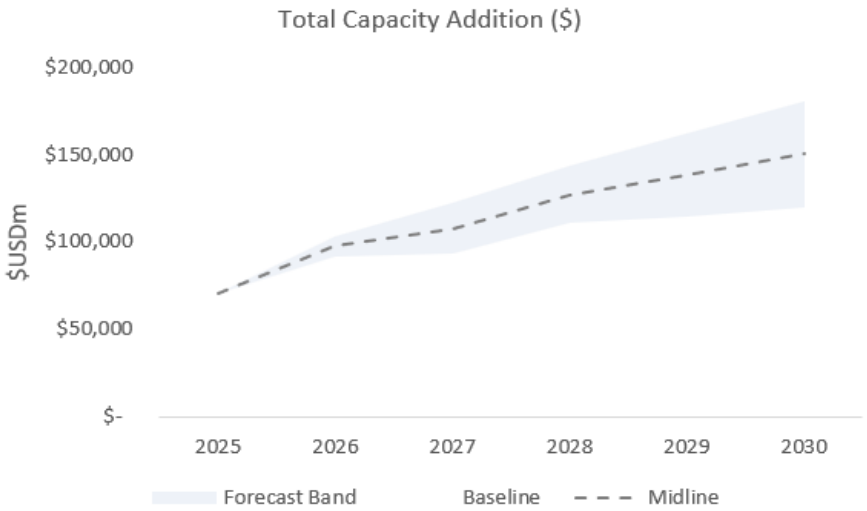
On a pure capacity basis, incremental load implies a construction ceiling near $161.5 billion (93,922 MW at a weighted $1.72M/MW). That ceiling is a measure of demand pressure, not a realizable forecast. It is the upper bound before execution constraints bite. The bottom-up, deliverability-adjusted market that actually gets built is likely to land nearer $150 billion a year by 2030. The gap between the two is the opportunity's defining tension.

Region (ISO/RTO)	Incremental MW	Implied Spend ($B)
ERCOT (Texas)	44,294	$76.2
PJM (Mid-Atlantic)	24,946	$42.9
MISO (Midwest)	12,560	$21.6
SPP	6,996	$12.0
SERC-East	2,232	$3.8
SERC-Central	2,214	$3.8
ISO-NE (New England)	680	$1.2
Total	93,922	$161.5

Table 1. Implied construction spend by region (capacity-driven ceiling). Incremental peak MW × $1.72M/MW weighted cost. Source: NERC 2025 LTRA; MSI Economics.

FIGURE A

U.S. Generation Construction Spend, 2015–2030 ($B): the doubling curve



Source: GlobalData; EIA AEO 2026; MSI Economics

WHAT THIS MEANS FOR YOU

Builders / EPC: The addressable market nearly doubles by 2030 and concentrates in Texas, the Mid-Atlantic, and the Midwest. Regional positioning beats national breadth.

Private capital: Demand visibility through 2030 is unusually high; the scarce asset is deliverable capacity, not customers.

Policymakers: The growth is real and locatable. The ceiling-to-forecast gap ($161.5B vs ~$150B) is execution friction that policy can shrink.

2. EXECUTION IS THE MOAT

The binding constraint is the availability of a narrow set of critical components: large power transformers, high-voltage switchgear, and heavy-frame gas turbines. Procurement timelines now routinely exceed project-development cycles. Transformer lead times have expanded from a pre-2020 norm of 24–30 months to as much as 30 months for large units and 33 months for generator step-up transformers, forcing equipment orders to precede or run parallel to final investment decisions rather than follow them. That reversal of sequencing is most acute in data-center markets, where hyperscale operators target commissioning near 18 months.

Two structural limits keep the constraint in place. Domestic manufacturing is thin: grain-oriented electrical steel, a key transformer input, has a single U.S. supplier in Cleveland-Cliffs, with roughly 80% of demand met by imports, and a limited fleet of specialized railcars plus route-clearance requirements add months to delivery, so incremental factory capacity does not translate directly into near-term throughput. Gas turbines run on a parallel clock: heavy-frame combined-cycle units are quoted at five to seven years from order to commercial operation, while aeroderivative units offer 18–24-month lead times at roughly a 50% per-kW cost premium, and schedule-pressured developers increasingly pay that premium for delivery certainty. The net effect is that equipment procurement, not permitting or financing, is the primary determinant of which projects advance in the near term.

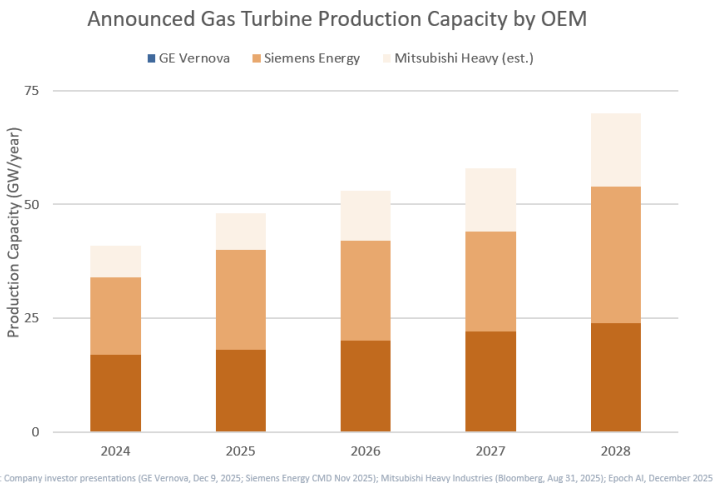
The supply response is real but backloaded. The three dominant turbine OEMs, GE Vernova, Siemens Energy, and Mitsubishi Heavy Industries, have revised production guidance up sharply, with combined annual capacity projected to exceed 70 GW by 2028 and more than 200 GW cumulatively through 2030 under conservative ramp assumptions, relief that arrives largely after the cycle's binding years.

Even where components are ordered, a credible read of the pipeline discounts megawatts that fail a four-condition filter: an advanced interconnection queue position, an executed interconnection agreement, reserved long-lead equipment, and committed financing. On that test, 30–50% of capacity scheduled for 2026 delivery is expected to slip, and the EIA-to-GlobalData delivery-risk spread reaches roughly 35 GW and $61 billion annually by 2030.

30–60 months	5 of ~16 GW	30–50%
Large transformer lead times (vs. 24–30 months pre-2020)	2026 data-center capacity actually under construction	Of 2026-scheduled capacity expected to be delayed

FIGURE B

Announced Gas Turbine Production Capacity by OEM



"The pipeline is large enough. The question is deliverability."

WHAT THIS MEANS FOR YOU

Builders/EPC: Equipment access and queue position are the competitive moat. Pre-positioned, fully-permitted projects command pricing power through 2027.

Private capital: Underwrite to the four-condition filter. Reserved long-lead equipment and a cleared queue slot are worth more than a low headline cost.

Policymakers: The fastest way to convert demand into built capacity is to clear the execution path: faster queues, compressed permitting, and domestic equipment throughput.

3. WHERE THE CAPITAL LANDS

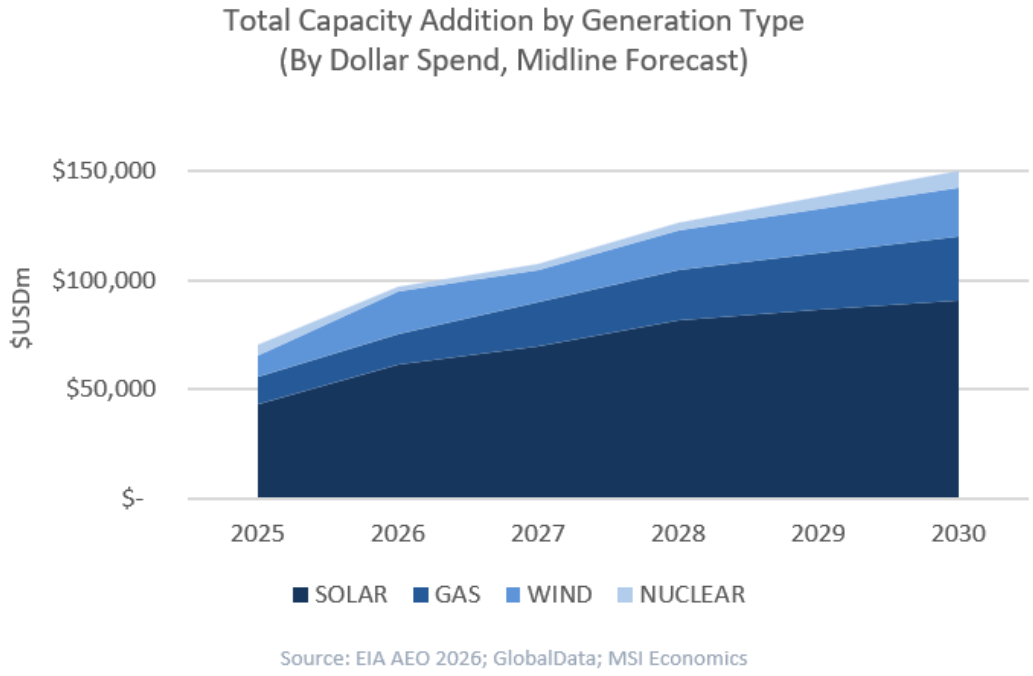
The technology mix reshapes who builds what. Solar is the volume anchor at roughly 74% of midline capacity additions and the lowest cost per MW; it is the steady earnings engine of the build cycle. Natural gas is the only dispatchable source scaling, the most constrained, and the only one whose per-MW cost is rising (up ~28% since 2022, more than twice solar's per-MW cost by 2030); it becomes the critical addition after 2027. Wind permits suggest a sharp 2026 rebound, after which the outlook turns highly uncertain. Nuclear contributes near-zero near-term volume at $9.5–10.0M/MW, six to seven times solar, but carries outsized strategic value for the late decade on the assumption that small modular reactors (SMRs) deploy on time.

Technology	Role in the build cycle	2030 spend (midline)
Solar	Volume anchor (~74% of adds), lowest $/MW	~$90.5B
Natural gas	Only dispatchable source scaling; cost rising	~$29.4B
Wind	2026 rebound, then high uncertainty	~$22.8B
Nuclear	Near-zero near-term; strategic late-decade	~$7.3B

Table 2. Technology contributions to the 2030 build cycle (midline capital cost). Source: EIA AEO 2026; GlobalData; MSI Economics.

FIGURE C

Technology Mix: Midline MW Additions by Technology, 2025–2030



Source: EIA AEO 2026; GlobalData; MSI Economics

Across all technologies, spend is roughly two-thirds material and permanent equipment and just under a third labor. That decomposition explains why the binding constraint sits upstream in manufacturing and supply chains (copper is up ~70% since 2020 and grain-oriented electrical steel has roughly doubled) rather than purely in field labor.

	Labor: 29.0%			Material: 67.5%			Equipment: 3.5%		
Year	Civil	Mech.	Elec.	Civil	Mech.	Elec.	Civil	Mech.	Elec.
2025	$2,262.18	$10,162.35	$2,036.97	$5,265.42	$23,653.75	$4,741.23	$273.02	$1,226.49	$245.84
2026	$3,125.13	$14,038.98	$2,814.01	$7,274.01	$32,676.93	$6,549.86	$377.17	$1,694.36	$339.62
2027	$3,458.90	$15,538.38	$3,114.56	$8,050.90	$36,166.92	$7,249.40	$417.45	$1,875.32	$375.89
2028	$4,070.23	$18,284.65	$3,665.03	$9,473.82	$42,559.11	$8,530.67	$491.24	$2,206.77	$442.33
2029	$4,444.00	$19,963.72	$4,001.59	$10,343.80	$46,467.28	$9,314.04	$536.35	$2,409.41	$482.95
2030	$4,817.94	$21,643.56	$4,338.30	$11,214.17	$50,377.26	$10,097.77	$581.48	$2,612.15	$523.59

Table 3. Total Weighted Labor, Material, & Equipment (Midline, by scope), $USD Million. Source: MSI Economics

~$330B

Cumulative material & permanent equipment, 2025–2030 (67.5%)

~$142B

Cumulative skilled-labor spend, 2025–2030 (29%)

~$17B

Construction equipment (3.5%): outsized timing leverage

WHAT THIS MEANS FOR YOU

Builders / EPC: Solar provides baseline backlog; gas is where scarcity pricing concentrates post-2027. Capability across both captures the cycle.

Private capital: Gas's rising per-MW cost and dispatchable scarcity make it the asymmetric bet; solar is the volume base; nuclear is a long-dated option.

Policymakers: Material and equipment throughput, not field labor alone, is the lever. Supply-chain resilience relieves more bottlenecks than broad subsidy.



SECTION 04

4. CAPITAL IS MOVING UP THE STACK

The financing structure of the buildout is shifting in ways that favor patient, infrastructure-style capital. Private capital is moving upstream into generation ownership, backed by 15–20-year power purchase agreements that turn volatile commodity exposure into contracted, bond-like cash flows. Large-load developers are increasingly funding their own grid infrastructure rather than waiting on utilities, and federal financing has been reweighted: roughly $30 billion of clean-energy loans were canceled and redirected toward gas and nuclear, with a further $53 billion under revision.

For private equity and infrastructure investors, this is the structural opening: contracted, scarcity-protected generation assets in supply-constrained regions, where execution capability, not capital availability, is the differentiator. Capital is plentiful; deliverable projects are not.

THE PE/ INFRASTRUCTURE LENS

Asset quality: 15–20-year PPAs convert merchant risk into contracted, durable cash flows.

Scarcity premium: Deliverable capacity in ERCOT/PJM/MISO is the bottleneck, and the source of pricing power.

Edge: Backing developers who clear the four-condition filter beats bidding up scarce, shovel-ready assets.



Contracted offtake + supply scarcity + concentrated demand = an infrastructure-style entry point where execution capability, not capital, is the scarce input.

SECTION 05

5. OUTLOOK: DON’T STRAND THE GROWTH

Three signals frame the rest of the decade. First, 2026 is the planning horizon that matters: near-term volume is throughput-limited and dominated by pre-positioned projects, so the dollarized surge of roughly 40–50% above 2025 is largely already spoken for. Second, gas becomes the critical dispatchable addition after 2027 as deferred demand and new turbine capacity (OEM output exceeding 70 GW by 2028) release together. Third, outer-year volume is contingent, not committed; it depends on whether the deferred pipeline converts.

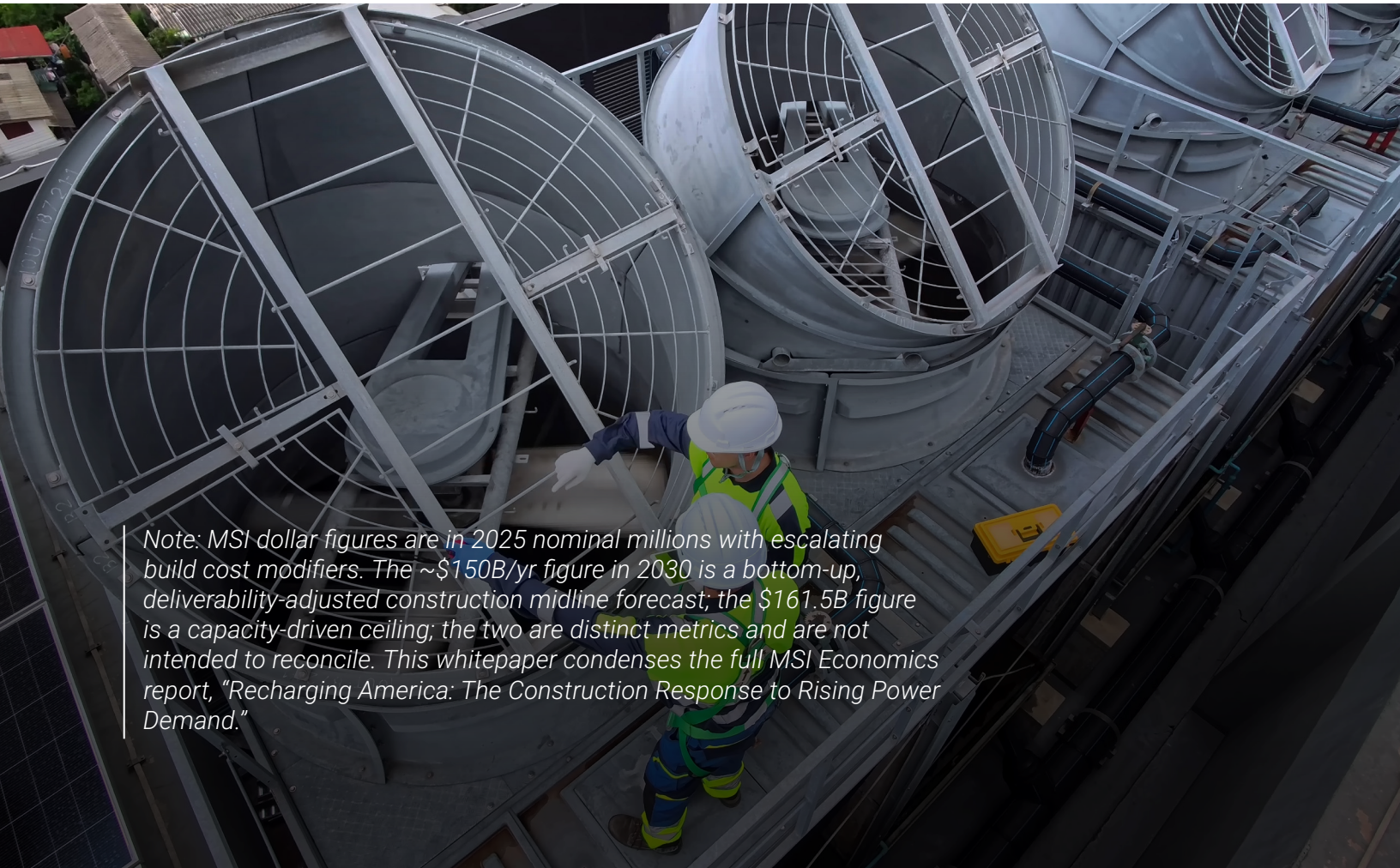
The policy reading is straightforward and worth stating plainly: the growth is real, locatable, and largely privately financed, but it is also fragile at the execution layer. The OBBBA construction-start deadline of July 4, 2026 for solar and wind tax-credit eligibility, the pace of interconnection reform, and domestic equipment throughput will each decide how much announced demand becomes built capacity. The most effective interventions clear the execution path (faster queues, compressed permitting, supply-chain and workforce capacity) rather than adding broad financial incentives to demand that is already abundant. The opportunity is here to be captured or stranded; the difference is execution.

WHAT TO WATCH THROUGH 2030

Equipment throughput (transformer, switchgear, and grain-oriented electrical steel capacity): the hardest near-term gate, with no announced GOES expansion.

Policy stability: the July 4, 2026 OBBBA deadline, interconnection reform, and the durability of federal financing reweighting.

Pipeline conversion: how much deferred 2028+ capacity clears the four-condition filter and becomes committed volume.



Note: MSI dollar figures are in 2025 nominal millions with escalating build cost modifiers. The ~$150B/yr figure in 2030 is a bottom-up, deliverability-adjusted construction midline forecast; the $161.5B figure is a capacity-driven ceiling; the two are distinct metrics and are not intended to reconcile. This whitepaper condenses the full MSI Economics report, “Recharging America: The Construction Response to Rising Power Demand.”

Brandon Michalski
Principal, Chief Economist
MSI Economics
MOCA Systems, Inc.

MOCA
SYSTEMS, INC.