02

PART I · THE ATOMIC WORLD

Blackstart: Building the Next American Terawatt

Anton Troynikov



Tennessee Valley Authority transmission lines cross a cornfield in Lauderdale County, Alabama, 1942. A growing electric system depended as much on transmission as on generation.
Photograph by Arthur Rothstein / Library of Congress.

SUMMARY

The U.S. electric grid as it exists today is structurally incapable of meeting the demands of post-AGI economic growth. Failure to remediate the situation will mean the loss of a large fraction of AGI's potential economic dividend, as well as a loss of global competitiveness. We propose policy interventions that enable the construction of a new, parallel grid for large industrial loads like datacenters. These are state and federal legislation permitting consumer regulated electrical utilities (CREUs), which allow for the construction and operation of private electrical infrastructure that does not connect to the legacy system; strategic power and resilience certificates (SPARCs), modeled on the certificates of public convenience and necessity introduced by the Natural Gas Act (NGA) of 1938, which would give large-scale electrical transmission projects developers that meet certain criteria federal eminent domain rights; and state preemption under the auspices of the federal regulator. Taken together, these policies would allow for the dramatic expansion of available industrial electric power in the U.S., at the rate necessitated by AGI,

powered by a new grid. In electrical terms, we are starting from scratch—referred to in industry parlance as a "black start."

> The story goes like this: Electricity demand is captured by a Jevons-paradox singularity as the cost of intelligence collapses toward zero and consumption locks into runaway take-off. Logistically accelerating load growth hemorrhages interconnection queues in auto-metastasizing backlog runaway. As cheap cognition learns to manufacture its own demand, regulators draft whitepapers, upgrade brownout paranoia, and try to get a grip.
>
> The blackout body count climbs through a series of cascade summers. Emergent Planetary Inference trashes the regulated-utility compact, NERC reliability standards, FERC capacity markets, and ISO interconnection order, cranking-up rate-base attrition through compressing death-spiral phases. Behind-the-meter exit and DPA invocation arms-race each other into post-grid feudalism.
>
> By the time agentic intrusion slithers out of its box into yours, grid security is lurching into crisis. Substation sniper fire, SCADA worms, transformer supply-chain sabotage, and drone-swarm strikes, flood in amongst a relapse onto torchlight.
>
> Chinese terawatts arrive from the future.
>
> Permian shale clicks into millisecond tokens.
>
> Retro-Malthusianism.
>
> Blackstart.

Nick Land, *Meltdown* (paraphrased)

The electric power situation in the U.S. is dire. The legacy utility grid, never designed to absorb load growth hundreds of megawatts, let alone gigawatts, at a time, has already failed to meet pre-AGI demand. In 2026, interconnection queues are growing geometrically, with state utility commissions, Independent System Operators (ISOs), Regional Transmission Operators (RTOs), and the Federal Energy Regulatory Commission (FERC) scrambling to adapt. The case of ERCOT, Texas's main grid operator, is revealing; just days after publishing new criteria for interconnecting large loads like datacenters in December 2025, regulators were again proposing yet another network study methodology which would supersede them.

What breaks the grid the day after AGI is not just the scale of demand growth but its character. The regulated-utility compact rests on three assumptions about demand: that it grows *slowly*, that it can be *forecast*, and that existing *ratepayers* can pay for future upgrades. AGI falsifies all three.

Slow goes first. Load now arrives at the speed of a capital-allocation decision rather than the rate of population growth. AGI-enabled enterprises can commit gigawatts in a quarter, while the proceedings meant to study the legacy grid for which upgrades are

necessary for that load, and to approve the associated upgrade costs, still take years. *Forecastable* goes next. Once the marginal cost of cognition collapses to the price of electricity, every available watt is consumed at the rate grid infrastructure can be deployed. No grid has ever been built for a load that grows to consume all the supply it is given. *Ratepayers* go last. The cost of transmission upgrades for post-AGI load growth will dwarf what retail customers are willing or able to pay, especially in the case where load growth is fastest in the most sparsely populated areas.

The legacy grid's challenges will quickly go far beyond datacenters; as intelligence leaves the screen to run robotics, mining, refining, and autonomous logistics, the whole physical economy electrifies and accelerates under machine-directed resource allocation.

But this isn't just a story about load. In 2026, approximately 1.4 terawatts of new generation, equivalent to the capacity of the entire existing grid, are sitting in those same interconnection queues. Historically, only about 19 percent of all projects have reached commercial operation. The typical surviving project spent 4.5 years in the queue. Worse still, every withdrawal triggers cascading re-studies that lengthen queue times for the remainder.

Co-located generation—i.e., building new power plants at the same site for every new datacenter—is a stop-gap at best. It is economically risky and inefficient, and it forces developers to compromise site selection in order to take the needs of generation into account. Siting a 5 GW facility is hard enough; finding sites where one can put 5 GW of load *and* 5 GW of generation is virtually impossible in the U.S.

The solution is not to attempt to retrofit a system born in the 19th century, but instead to exit from it entirely and build a new parallel electric transmission network that is paid for by its actual users, and that can grow at the rates demanded by post-AGI industry. However, in most states this is currently impossible; regulations assume that virtually all electric infrastructure is part of the legacy grid, and subject it to the same constraints and obligations.

Consumer-regulated electric utilities (CREUs) are a new policy solution. Under this model transmission, generation, and load never touch the legacy grid, and the CREU's infrastructure costs are paid for by its own users, rather than existing ratepayers. In return, they are exempted from rate-setting by public utility commissions or FERC, and from the capacity and interconnection obligations imposed by ISOs and RTOs.

CREUs allow load and generation to exit the legacy grid, and should be implemented at both the state and federal levels. New Hampshire enacted a one-page CREU law in 2025, letting private generators serve industrial customers so long as they stay physically islanded from the grid. Other states, including Utah and Nevada, are beginning to adopt similar legislation (UT SB132, Nevada's General Improvement Districts) and the idea is now moving through statehouses on model legislation from the American Legislative Exchange Council. At the federal level, Senator Tom Cotton's Decentralized Access to Technology (DATA) Act would exempt islanded CREUs from regulation under the Federal Power Act. Making that bill law is a natural next step.

Freedom from existing utility regulation is not sufficient on its own. It must be possible to actually *build* the necessary transmission infrastructure. Linear infrastructure like power lines lives or dies on the ability to cross land.

Here, the Natural Gas Act of 1938 (NGA), which regulates interstate natural gas pipelines, is instructive. Under the NGA, each pipeline project is required to obtain a federal certificate that its construction serves the "public convenience and necessity." But regulators soon discovered that the certificate was worthless on its own, since a pipeline approved at the federal level could still be stopped by a single landowner refusing to sell. Congress therefore amended the Act in 1947 to give certificate holders the federal power of eminent domain, an arrangement the Supreme Court reaffirmed in 2021 in *PennEast v. New Jersey*, reasoning that the federal government has always delegated eminent domain to private parties to build the infrastructure a nation needs.

In order to give projects serving the new industrial grid access to federal eminent domain while meeting CREU conditions, we propose an analogous certificate of public convenience and necessity for electrical transmission, the strategic power and resilience certificate (SPARC). SPARCs would carry state-siting preemption and federal eminent domain rights for rights-of-way. The certificate would be granted to transmission projects under three conditions.

First, the project should have no synchronous interconnection to the legacy grid. In exchange, the SPARC provides full severance from ISO/RTO interconnection queues and capacity-market obligations. Second, the transmission project must be privately contracted and financed. No rate-base recovery or other cost socialization to legacy ratepayers should be permitted. Third, the project must demonstrate dual-use applicability and resilience explicitly exceeding NERC baselines: physical and cyber hardening, supply-chain integrity, and native blackstart capability (the ability to restart from a dead stop without drawing power from any external grid). From the perspective of national security, the legacy grid is incredibly vulnerable. A 2022 shooting of two substations in North Carolina blacked out 45,000 customers for days; a determined adversary, or organized mobs, or rogue agent swarms, could do far worse. SPARCs would enshrine the necessary resilience provisions as a requirement.

Natural gas infrastructure, like electrical infrastructure, is also regulated at the federal level by FERC, which issues certificates of public convenience and necessity for gas lines. SPARCs could be implemented either by amending the terms of the NGA to also cover private interstate electrical transmission projects, or by creating a new regulatory category within FERC's purview.

Once granted, SPARCs would clear transmission corridors nationwide. The legacy grid would be relieved of growth it was never built to absorb; ordinary Americans' utility bills would remain stable even as the AGI-driven economy accelerates.

The country that can connect compute to power fastest will set the terms of the century. Terawatts arrive from the future on the parallel independent grid, on our terms. Building the new grid represents a clean sheet rebuilding of the U.S. electric system—in electrical terms, a "black start."

ABOUT THE AUTHOR

Anton Troynikov is the co-founder and CEO of American Terawatt, a vertically integrated private transmission developer built for large industrial loads in the U.S. Previously, he founded Chroma, a leading AI database company, and worked in robotics and applied AI. Troynikov holds bachelor's degrees in electrical engineering and economics, and a master's in computer science.



From *Futurecraft: The Day After AGI*, Foundation for American Innovation, 2026.
Read or listen online at futurecraft.thefai.org/essays/blackstart-building-the-next-american-terawatt.

© 2026 by the Foundation for American Innovation. All rights reserved.