Fast-tracking 13GW of New Capacity Using Existing Grid with $1.1B Savings

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The Challenge

- Utah has ~31 GW of active projects in PacifiCorp's interconnection queue (162 projects), with average connection timelines of 3-5 years—creating significant delays for new energy deployment.
- Utah's Operation Gigawatt initiative aims to double electricity capacity in 10 years to meet surging demand from data centers and industrial growth. Yet 67% of energy-generating plants will be offline in less than 20 years, with only 16% of those replaced with equivalent energy resources.
- New gas plants ordered today won't come online until 2030-2031 at earliest, creating a critical gap in meeting near-term capacity needs. Capital costs have surged: recent combined-cycle projects now cost $2,000/kW or more, up from $1,116-1,427/kW for 2026-2027 projects.
- Utah faces growing economic development constraints as electricity demand is projected to double in the next 10 years, driven by data centers, AI infrastructure, and industrial electrification.

The Solution

- Utah's 7.6 GW thermal fleet is severely underutilized—peaker gas plants operate at 24.3% capacity factor and oil/gas steamers at 15.5%. Similarly, existing renewables (solar 27.9%, wind 22%) use only a fraction of their interconnection capacity.
- Deployment of new generation at these existing underutilized plants can provide cost-effective energy and capacity without building new transmission infrastructure, bypassing lengthy interconnection queues.
- Utah can add up to 13 GW of capacity through surplus interconnection by 2030: approximately 7 GW at thermal sites, approximately 4 GW at renewable sites enabled by approximately 2.5 GW storage, without building new transmission infrastructure.
- Adding battery storage to existing solar and wind plants enables the addition of more solar and wind capacity at the same interconnection point. This combination with 6-hour batteries can achieve approximately 75% effective capacity factor (64.8% solar, 76.8% wind), transforming variable output into reliable, firm capacity.

Policy Recommendations

- PacifiCorp and other utilities should transparently evaluate surplus interconnection potential at existing resources and include cost-effective opportunities in their Near-Term Action Plans.
- Issue RFPs for projects at utility-owned sites, modify existing offtake agreements with independent power producers to add surplus capacity (blend and extend), and procure SIS resources wherever cost-effective for ratepayers—following best practices from OG&E and Xcel Energy.
- Utah should streamline permitting and fast-track projects connecting via surplus interconnection, recognizing that these projects are built at existing power plant sites with known points of interconnection, reducing land use conflicts and transmission infrastructure needs.
- Utah Governor's Office of Energy Development and local economic development agencies should highlight surplus interconnection capacity in site selection and readiness programs, helping data centers and industries access power faster while saving approximately $1.1B in grid costs.

Source: Miles Farmer et al., Utah Surplus Interconnection Opportunity, 2025

Key Impact Metrics

13 GW
New Clean Energy Capacity Available Through Existing Infrastructure

1-2 yrs
Accelerated Project Timeline vs. 3-5 Years for New Interconnections

$1.1B
Direct Cost Savings from Avoiding New Transmission Infrastructure

Explore Interactive Data Dashboard

Discover plant-level surplus capacity for each power plant in Utah, view renewable potential near plants, and cost competitiveness data

Visit Dashboard