



What are Grid Enhancing Technologies (GETs)?

GETs are hardware or software that increases the capacity, efficiency, and/or reliability of transmission facilities. Grid operators use Dynamic Line Ratings, Advanced Power Flow Control and Topology Optimization for more usable grid capacity, more flexibility, and greater situational awareness. GETs help planners consider the full capabilities of the grid when designing new infrastructure.

Like energy efficiency measures for the bulk power grid, GETs modernize the grid and reduce costs. GETs reduce congestion costs, enable low-cost generation to interconnect to the grid, and maximize the value of new transmission investment.

While there are many domestic GETs vendors, their largest markets tend to be abroad where utility regulation directly rewards efficiency and cost savings. U.S. utilities don't have incentives to use these technologies, but state regulators have opportunities to unlock ratepayer savings with GETs using their existing authority and new federal funding.

WATT recommends the following priorities for state regulators:

1. Infrastructure Investment and Jobs Act (IIJA) implementation

The federal government allocated billions of dollars to states and utilities to support the deployment of GETs in the IIJA. State regulators can consult on and oversee the spending in grid resilience formula and competitive grant funding available to states and electric utilities, as well as approving investments stemming from \$3 billion in competitive funding for the Smart Grid Investment Grant program.

Opening dockets or comment periods to receive documentation on how stakeholders will avail themselves of federal funding will help ensure that customers benefit from IIJA programs. The IIJA funding opportunities cover a period of five years, and utilities should take full advantage of the federal cost share.

2. Require utilities to explain how GETs are evaluated in transmission planning

WATT suggests that regulators ask utilities whether they evaluate GETs and if the technologies could benefit ratepayers by improving the value of existing or planned transmission infrastructure, providing a bridge solution before new lines are in service, or as an alternative to a large-scale project.





3. Review GETs in the Integrated Resource Planning (IRP) process

IRPs require utilities to develop a publicly available, long-range plan for the best way to meet consumer needs over time, usually anywhere from 10-20 years. State regulators typically review the plan, order modifications if necessary, and approve it as the guidance document for future utility investment and operations decisions. More than half of states rely on IRPs. WATT suggests that state regulators review IRP proposals to determine if GETs were included to maximize the efficiency of existing grid infrastructure; if not, they can request an explanation for their omission from the individual utility.

4. Streamline interconnection processes

State regulators can examine the interconnection queue in their state and assess whether a proactive transmission build out and/or deployment of GETs could help connect low-cost resources to the grid. In states outside of an RTO, proactive transmission planning and process reform can help identify opportunities for GETs deployments. Given historic demand and weather, DLR, Advanced Power Flow Control and Topology Optimization deployed across the Kansas and Oklahoma grids were shown to enable twice as much renewable energy to interconnect onto the grid in the Battle Group's [Unlocking the Queue](#) study. The study found that the yearly production cost savings from GETs were nearly double their one-time installation cost.

5. Consider a transmission loading order approach to optimize the existing grid

WATT suggests that state regulators look to adopt a transmission planning loading order that prioritizes lowest cost and/or lowest carbon options first. In any proposed transmission planning loading order, optimization of the grid (via the utilization of low-cost tools such as GETs) would be considered first, then grid reinforcement, and then grid expansion. Such transmission planning loading order principles have been used internationally: Germany's [NOVA principle](#) emphasizes "grid optimization first, then grid strengthening before any further grid expansion."

[About the WATT Coalition >>](#)

The Working for Advanced Transmission Technologies (WATT) Coalition is a trade association supporting wide deployment of Grid-Enhancing Technologies (GETs), to accelerate the clean energy transition and lower energy costs. Members include grid technology, renewable energy, transmission owners, and investment companies. Learn more at watt-transmission.com and contact jselker@gridstrategiesllc.com with any questions.

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