i2X Innovative Queue Management Solutions (iQMS) for Clean Energy Interconnection and Energization

The Innovative Queue Management Solutions (iQMS) for Energy Interconnection and Energization program provides up to $11.2 million to distribution utilities to pilot innovative software solutions for managing renewable energy and electric vehicle (EV) charging interconnection and energization queues.

The U.S. Department of Energy (DOE) Interconnection Innovation e-Xchange (i2X) program and Joint Office of Energy and Transportation, through a Partnership Intermediary Agreement with ENERGYWERX, announced the program on August 14, 2024, and announced $2.1 million for twelve projects selected for Phase 1 negotiations on January 7, 2025.

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- **Track 1: Generator Interconnection:** This track will provide up to $9.2 million to utilities to pilot distribution-level queue management software solutions for interconnection of mid-scale solar photovoltaics, wind energy, energy storage, small hydropower, and other projects. Phase 1 selectees each receive $200,000 and Phase 2 selectees each receive $650,000.
- **Track 2: Electric Vehicle Supply Equipment Load Requests:** This track will provide up to $2 million to utilities to pilot distribution-level queue management software solutions for EVSE load requests and energization queues. Phase 1 selectees each receive $100,000 and Phase 2 selectees each receive $250,000.

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Phase 1 Selectees

American Electric Power (AEP)
Distribution Utility Partner: Appalachian Power
Track: Track 1
Award Amount: $200,000
Location: Tennessee, Virginia, and West Virginia
Project Description: AEP will enhance distributed energy resource (DER) interconnection

services for Appalachian Power Company customers by implementing automated solutions for queue management, pre-application services, technical reviews, and impact studies. Automating these processes will improve queue visibility for interconnection applicants, streamline pre-application reporting, and allow technical reviewers to efficiently handle growing application volumes. After successful pilot tests, AEP will implement these improvements in its other service regions.

Duquesne Light Company
Track: Track 1
Award Amount: $200,000
Location: Pennsylvania
Project Description: Duquesne Light Company will create an automated, streamlined interconnection process using advanced data sources like geographic information systems, advanced metering infrastructure, and workload management tools. These changes will increase the efficiency of the interconnection process, reduce errors, and provide a better experience for interconnection customers.

Eversource Energy
Track: Track 1
Award Amount: $200,000
Location: Connecticut
Project Description: Eversource is expanding its load flow analysis software to enable hourly, substation-level analyses that incorporate DER and load profiles to quickly gather detailed grid data. The enhanced system will feature a user-friendly online interface supported by grid data and geospatial mapping. This upgrade will reduce analysis time for new interconnection requests from days to minutes, improving efficiency and scalability by providing planning engineers quicker turnaround times and less restrictive interconnection requirements.

La Plata Electric Association (LPEA)
Track: Track 1
Award Amount: $200,000
Location: Colorado
Project Description: LPEA will collaborate with the National Renewable Energy Laboratory (NREL) and Camus Energy to enhance interconnection study processes and frameworks using power-flow models and time-series analysis enabled by advanced metering infrastructure (AMI). This project will examine thermal, voltage, and protection impacts of proposed interconnection projects, explore flexible interconnections, and safely expand hosting capacity. LPEA will use NREL's interconnection analysis and hosting capacity

solutions, while Camus Energy will connect AMI data with corresponding DERs and analyze load data. NREL and Camus Energy will also develop solutions for LPEA engineers. The project will expand DER capacity in LPEA's territory and equip planning engineers with tools to manage high-DER environments.

LeapTran, Inc.
Distribution Utility Partner: Guadalupe Valley Electric Cooperative
Track: Track 1
Award Amount: $200,000
Location: Texas
Project Description: Leaptran's Forecasting-Based Generator Interconnection Analytics Software Tool (F-AST), developed with Guadalupe Valley Electric Cooperative, will streamline interconnection for renewable energy projects over 100 kilowatts in rural distribution networks. F-AST integrates advanced forecasting for net load and behind-the-meter solar energy at feeder and substation levels, enhancing existing hosting capacity tools rather than replacing them. This project will expedite interconnection queue management, improve grid forecasting and capacity assessment, and reduce costs and delays for customers, enabling smoother integration of additional energy resources.

National Grid USA
Track: Track 1 & 2
Award Amount: $300,000
Location: Massachusetts and New York
Project Description: ConnectNow from National Grid will streamline the interconnection process with a unified web-based application for distributed generation and electric load requests, including EV chargers. The application creates a single queue for all customer loads and DERs at each feeder or substation, providing planning engineers with a comprehensive view for better management. The project addresses delays and cost-sharing complexities in connection requests by developing three software modules: a pre-application research assistant, a connection schedule and finance module, and a portfolio management tool. The ConnectNow system will allow applicants to self-assess the financial viability of combined distributed generation and EV load requests before entering the interconnection queue.

NetMeterGO.com
Distribution Utility Partner: Paducah Power System
Track: Track 2
Award Amount: $100,000
Location: Kentucky

Project Description: NetMeterGO will develop an automated interconnection workflow to give rural utilities the ability to quickly and efficiently energize EVSE infrastructure. The workflow will include a customer-facing portal for applications, an early evaluation process, a process map, and data inventory and business requirements based on EVSE interconnection process themes. The projects will reduce the time it takes to power up projects and start generating revenue.

Puget Sound Energy (PSE)
Track: Track 1 & 2
Award Amount: $300,000
Location: Washington
Project Description: PSE is partnering with Clean Power Research to transform its interconnection process using PowerClerk®, an online tool to address bottlenecks and improve efficiency. The tool will streamline internal workflows, enhance communication between PSE and applicants, and provide clearer information to applicants. By modernizing its interconnection queue, PSE aims to interconnect more DERs effectively. PSE will also address EV load requests in this centralized system, enabling effective coordination between request types and supporting Washington's energy goals while maintaining safe, reliable, and affordable energy delivery.

Warren Rural Electric Co-Op Corporation (WRECC)
Track: Track 1
Award Amount: $200,000
Location: Kentucky
Project Description: WRECC is enhancing its interconnection management capabilities through software solutions for interconnection queue management and streamlined submissions for proposals that require engineering studies. The project includes tools for monitoring and reporting renewable energy output to the Tennessee Valley Authority and local partners, along with a digital map highlighting cost-effective interconnection areas. These advancements will improve workflow automation, accelerate project approvals, and support efficient deployment of renewable energy within WRECC's service territory.

Xcel Energy Services, Inc.
Track: Track 1
Award Amount: $200,000
Location: Colorado
Project Description: Xcel Energy will implement flexible interconnection (FI) solutions to meet Colorado's community solar project and DER requirements. By enabling FI tariffs and managing physical constraints, the project will integrate more DERs, alleviate

interconnection bottlenecks, and support the goal to deploy 50 megawatts of community solar annually. It will also enhance Xcel's operational capabilities and build stakeholder confidence through innovative, scalable solutions for higher DER integration.

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