Innovative Queue Management Solutions (iQMS) Demonstration Program - Generator Interconnection (TRACK 1)

Information

Description

The U.S. Department of Energy (DOE) Interconnection Innovation e-Xchange (i2X) and the Joint Office of Energy and Transportation, in collaboration with ENERGYWERX, are looking to partner with distribution utilities to pilot solutions to improve, optimize and accelerate processing of generator interconnection and electric vehicle supply equipment (EVSE) service load request queues. The Innovative Queue Management Solutions (iQMS) program provides $11.2 million in direct funding to solve emerging challenges to integrating the increasing number of non-residential, mid-scale clean energy projects (100 kilowatt (kW) to 5 megawatt (MW)) and EVSE into distribution grid networks.

The iQMS program plans to fund up to 25 electric distribution utilities to implement, test, and pilot different approaches to queue management that are aligned with their needs, capabilities, and goals. We encourage electric co-operatives, municipal electric utilities, and investor-owned distribution utilities to apply. The program, which will take place over 24 months, will enable the adoption of simpler, faster, and fairer queue management solutions and accelerate decarbonizing the nation's energy system.

Objective

The i2X program, led by the Solar Energy Technologies Office and the Wind Energy Technologies Office, was launched in 2022 to enable simpler, faster, and fairer interconnection of clean energy resources to the distribution and transmission grids. The i2X team has hosted dozens of events and convened virtual meetings with more than 2,000 stakeholders from across the U.S. electricity ecosystem. The program has funded 12 technical assistance projects with three national labs and more than six distribution utilities. The Transmission Interconnection Roadmap developed by the i2X team identifies 35 solutions to speed up the interconnection of clean energy onto the nation's transmission grid and clear the existing backlog of solar, wind, and battery projects to be built. The i2X team is currently drafting a Distributed Energy Resources Interconnection Roadmap, which will be released, in draft form, for public comment via a request for information in 2024. The Distributed Energy Resources Interconnection Roadmap will serve as a guide to key actions that stakeholders should take within the next 5 years and beyond to implement solutions to current DER interconnection challenges.

In April 2024, i2X and the Joint Office of Energy and Transportation (JOET), in collaboration with ENERGYWERX, publicly solicited feedback from stakeholders on ways to support distribution utilities as they explore solutions to improve, optimize and accelerate generator interconnection and EVSE service load request queue management on distribution grid.

The Challenge

Due to decarbonization goals and clean energy and EV charging tax incentives, interconnection requests for mid-scale projects and EV service load requests on the distribution grid are expected to increase. Examples of such projects include solar photovoltaic projects, community-scale distributed wind, battery

storage systems, and EVSE. According to stakeholder feedback and comments, many distribution utilities lack the tools and internal capabilities to adequately manage large queues of interconnection requests for mid-scale clean energy and EVSE projects seeking to connect to low hosting capacity grid networks without delays or high costs. Distribution utilities recognize that tools and procedures are needed to efficiently process these applications, or they risk becoming bogged down in interconnection and EVSE service load request backlogs.

Collaboration Opportunity

The iQMS program aims to address this interconnection challenge with $11.2 million of direct funding to distribution utilities to test and demonstrate queue management optimization solutions for interconnection and EVSE service load request or both, within 24 months.

The program is designed to encourage functional departments such as research, planning, Information Technology (IT), and operations to work together to improve data quality, interoperability, and integration among their internal IT systems, such as geographic information systems (GIS), distribution management system (DMS), or supervisory control and data acquisition (SCADA). By integrating and expanding the capabilities of internal IT systems, the program helps distribution utilities test, implement, and validate new queue management approaches, eliminating unnecessary work, reducing errors, increasing productivity, and delivering reliable interconnection and service load request services to customers, ultimately reducing costs to consumers.

Track 1: Generator Interconnection

- **Focus:** Distribution-level queue management solutions for generator interconnection of solar PV, wind, storage, small hydropower, and other clean energy technologies. This includes generator interconnection procedures, such as pre-application services, hosting capacity analysis and/or maps, customer-facing interconnection application portals, system impact studies, affected system studies, network upgrade mitigation, interconnection agreements, interconnection-related integration of grid enhancing technologies (GETs), and permission to operate procedures.
- **Total Funding:** $9.2 million
- **Funding Levels:** Funding is provided to selected partners in two phases. In each phase, the selected partnering distribution utility will demonstrate progress of internal capabilities to implement interconnection queue management solutions for mid-scale clean energy projects (100 kW to 5 MW).
    - **Phase 1 - Get Ready (8 Months):** Up **to 20 partnering utilities**, will each be awarded **$200,000** to take tangible actions towards determining the feasibility and value proposition of implementing a queue management optimization solution, combined with a plan to demonstrate this solution, under real-world conditions in Phase 2. Results of Phase 1 and lessons learned will be shared publicly.
    - **Phase 2 - Demo (16 Months):** Up to **8 best-performing partnering utilities** from Phase 1 will each receive **$650,000** to complete their proposed implementation plan and demonstrate how the solution performs under real-world conditions and scenarios. Results of these demonstrations and lessons learned will be shared publicly.

- **Areas of Interest:** Queue management solutions must align with the utilities' interests, priorities, needs, and capabilities to significantly improve their queue management practices and timelines for mid-scale clean energy projects. Example solutions include, but are not limited to:
    - Advanced hosting capacity services and tools, such as dynamic hosting capacity maps equipped with point of interconnection cost data.
    - Fast-track or self-service interconnection screening or studies.
    - Use of load control management systems or other grid enhancing technologies.
    - Expanding existing internal software and IT capabilities used for managing interconnection requests for small-scale generators or battery storage systems (<100 kW) to accommodate interconnection screening or studies for mid-scale systems.
    - Automated technical screens or interconnection studies.
    - Dynamic or flexible interconnection solutions and services.
    - Group studies, or locational clustering for interconnection requests to co-optimize, generation, storage, EVSE, and flexible and scheduled loads (See Track 2).
    - Other queue optimization solutions.
- **Accelerated Option:** Selected partnering utilities that complete Phase 1 deliverables and show significant progress towards completing Phase 2 deliverables (including an internally approved plan to demonstrate their proposed solutions) at the time of applying for Phase 1 funding or 90 days before the end of the 8-month performance period of Phase 1 may be able to advance directly to Phase 2. In such cases, a selected utility may receive funding for both phases.
- **Collaboration and Technical Assistance:** Selected partnering utilities are expected to dedicate resources and assign staff to coordinate, collaborate, and provide progress updates to the iQMS team. Participants will be assigned to a cohort for DOE-funded technical assistance and sharing lessons learned throughout the 24-month timeframe.
- **Approval (if applicable):** Partnering utilities are encouraged to identify and begin work on internal and external approvals needed to conduct pilots in the active interconnection queue. For example, if the partnering utility is regulated by a public regulatory commission, it may be required to seek approval to engage in Phase 2 demonstrations on active generation interconnection requests. Selected utilities will also be responsible for getting regulatory approval, if necessary, to conduct pilots on active interconnection generation requests and demonstrate queue optimization solutions within the 24-month timeframe.

Track 1 & Track 2 Options

Distribution utilities interested in solutions for both generator interconnection and EVSE service load requests and energization queues must apply to Track 1 and Track 2. Up to 5 partnering utilities may be selected to receive funding for both tracks in Phase 1, with up to 2 utilities advancing to receive Phase 2 funding.

Projects Specifically Not of Interest

The iQMS team will not review or fund projects considered nonresponsive to this opportunity. The iQMS team considers the following types of projects nonresponsive.

- Projects without committed partnering distribution electric utilities operating in the United States.
- Projects that focus on convening stakeholders or conducting research to produce new frameworks, grid modeling capabilities, propose new electricity regulations, or compile strategies for improving queue management practices.
- Projects that solely focus on improving queue management practices for small-scale (<100 kW) generators, storage systems, or EVSE.
- Projects that focus on off-grid applications or plug-n-play technologies for generators or EVSE or both.
- Projects that focus solely on transmission-level management solutions.
- Projects that focus on marketing efforts or business development activities for existing or new solutions or products.
- Projects to support or fund specific interconnection applications or service requests.
- Projects that propose solutions or technologies not based on sound scientific principles (e.g., violates the laws of thermodynamics).

Event Updates

How to Participate

1. Attend the Informational Webinar/Objective Strategic Session on **August 29, 2024 from 3:00-4:00 PM ET:** **Click Here to RSVP**
2. Attend the Informational Office Hours Session on **September 19, 2024 from 3:00-4:00 PM ET:** **Click Here to RSVP**
3. Download the iQMS Project Proposal Template: **Click Here to Download**
4. Complete the online application form. Upload the your iQMS Project Proposal and submit: **Click Here to Submit** **(Submissions are due NLT October 16, 2024 by 3:00 PM ET)**

Important Dates

Objective Strategic Session

Informational Webinar/ Objective Strategic Session (August 29, 2024): Join ENERGYWERX and the i2X iQMS team for an informational webinar on the Interconnection Innovation e-Xchange Interconnection Queue Management Innovative Queue Management Solutions Pilot Demonstration Program. 3:00-4:00PM ET **Click Here to RSVP**

Information "Office Hours" Session(s)

Informational Office Hours (September 19, 2024): ENERGYWERX and the i2X iQMS team will host open office hours for potential applicants. Participants are encouraged to come prepared to ask questions. The session will take place on **September 19, 2024 from 3:00-4:00 PM ET. Click Here to RSVP**

Submission Deadline(s)

Submissions are due NLT October 16, 2024 at 3:00 PM ET

Process Details

Timeline(s)

- **Submissions Open (August 14, 2024 - October 16, 2024):** Interested utilities must complete a submission form (for government review only) no later than October 16, 2024, by 3:00 PM ET. Applicants must download, complete, and upload an iQMS project proposal **(maximum ten pages) using template provided below and in the application**. The evaluation and selection criteria can be found in the template at the bottom of this webpage.
- **Informational Webinar/Objective Strategic Session (August 29, 2024):** Join ENERGYWERX, DOE and the Joint Office for an informational webinar about this collaboration opportunity on August 29, 2024, from 3:00-4:00 PM ET.
- **Informational Office Hours (September 19, 2024):** ENERGYWERX, DOE, and the Joint Office will host open office hours for potential applicants. Office hour participants are encouraged to come prepared to ask questions. The session will take place on September 19, 2024, from 3:00-4:00 PM ET.
- **Applications due NLT October 16, 2024 @ 3:00 PM ET**
- **Review and Selection (October 17, 2024 – January 2025):** All applicants will receive notifications of selection status **in January** 2025. Each selected applicant will be invited to negotiate the project Statement of Effort (SOE) which contains details about deliverables, milestones and timeline for Phase 1 and Phase 2.
- **Selected Projects Negotiation and contracting (January 2025 – May 2025):** Selected applicants need to complete all negotiations and necessary contractual paperwork no later than May 2025. Selected projects that cannot complete negotiations and contractual paperwork by May 2025, will not be funded.
- **Selected Projects Phase 1 Kick-off (May 2025):** Successfully negotiated projects can begin as early as May 2025, if all required agreements have been signed. Projects must start no later than May 2025. Selected projects that cannot officially start by May 2025, will not be funded.
- **Accelerated Option Deadline (August 2025)**
- **Phase 1 Project Results Completed (January 2026)**
- **Phase 2 Projects Kick-off Deadline (March 2026)**
- **Phase 2 Project Results Completed (July 2027)**

***All dates are subject to change**

Link(s) to Apply

Complete the online application form. Upload the your iQMS Project Proposal and submit: **Click Here to Submit** **(Submissions are due NLT October 16, 2024 by 3:00 PM ET)**

Resources from Webinar(s)

Slide Deck(s)

Coming soon.

Transcript(s)

Coming soon.

Video Recording(s)

Coming soon.

Webinar Q&As

Coming soon.

Eligibility & Review Criteria

Funding Eligibility

All applicants must meet the following requirements:

- Applicant must qualify as a domestic entity. To qualify as a domestic entity, the entity must be organized, chartered, or incorporated (or otherwise formed) under the laws of a particular state or territory of the United States. The entity must have majority domestic ownership and control and have a physical place of business in the United States.
- Applicant must certify that it is not owned by, controlled by, or subject to the jurisdiction or direction of government of Country of Risk. The U.S. Department of Energy defines Country of Risk to include China, Russia, North Korea, and Iran. This list is subject to change.
- U.S. distribution electric utilities as applicants are preferred. Applicants other than distribution electric utilities are eligible to apply but are required to provide supporting evidence of a highly committed electric utility partner (partnering utility).

Merit Review Process & Evaluation Criteria

The i2X and the Joint Office teams will review and evaluate each application according to the merit review criteria, program policy factors, and the overall portfolio of proposed projects. In conducting the review, the teams may seek the advice of qualified non-federal personnel as reviewers. The applicant, by submitting its application, consents to the use of non-federal reviewers. The merit review criteria consist of statements in three parts. The team will score each application's merits by agreeing or disagreeing with the merit review criteria statements to assign points according to a scale shown below. All statements have equal merits. This point-scale applies to scoring merit review criteria only.

Agreement Status	Points
Not Applicable/Unknown	0 points
Strongly Disagree	0 points
Disagree	1 point
Agree	3 points
Strongly Agree	5 points

Application Merit Review Criteria

Criteria 1: Scope & Feasibility

- The proposed project explores a queue management solution specific to challenges for integrating mid-scale (100 kW-5 MW) clean energy projects into distribution networks.
- The proposal identifies a value proposition and potential benefits to the partnering utility in using proposed new queue management solution.
- The proposed queue management solution has potential to improve the efficiency of current practices of a partnering utility's queue management for mid-scale generator interconnection (Track 1), or service requests of EVSE (Track 2), or both (Track 1 and Track 2) leading to shorter queue timelines for new clean energy projects.
- The proposal explains how the proposed solution queue management solution aligns well with the partnering utility priorities, interests, and goals.
- Phase 1 activities are specific and feasible to implement within an 8-month period.
- Phase 2 activities are specific and feasible to implement within a 16-month period.
- The proposal describes how the partnering utility may seek approval, regulatory or otherwise, if necessary, to demonstrate the proposed queue management solution under real-world conditions or with participating customers (e.g., a new process pilot).

Criteria 2: Project Team & Workplan

- The primary applicant is a U.S. distribution utility.
- The project team includes a partnering U.S. distribution utility highly committed to perform activities in Phase 1 and Phase 2 of the project.
- The project team includes key staff and decision makers in the partnering utility and its vendors, when applicable, to implement Phase 1 and Phase 2 tasks collaboratively.
- Phase 1 includes at least one milestone that shows how the project team will design and develop an enhanced or new solution using or expanding existing capabilities or developing new capabilities internally or working with vendors or solution providers, when applicable.
- Phase 1 tasks include meaningful milestones that demonstrate readiness to advance to Phase 2.
- Phase 1 includes a milestone to provide a detailed plan of how the partnering utility will implement queue management solution in Phase 2.

Criteria 3: Impact & Scalability

- The proposed solution has great potential to simplify queue management practices, increase process efficiency, certainty and reduce overall costs and timelines.
- The proposed solution applies to multiple distributed energy technologies such as solar photovoltaics, wind, or battery storage (Track 1).
- The proposed solution applies to multiple manufacturers of electric vehicle supply equipment (Track 2).
- The proposed solution pilot demonstration in Phase 2 has potential to be fully implemented at scale in the partnering utility service territories (e.g., multiple service territories, or across multiple states if utility crosses multiple states).
- The proposed solution has potential to be adapted by a wide range of distribution utilities across different geographic regions.

Program Goals and Policy Factors

The iQMS team will apply the following factors when reviewing and evaluating applications to select the most impactful projects.

- The proposed project aligns well with the i2X program goals, priorities, on-going efforts, and planned activities.
- The proposed project aligns well with the Joint Office and DOE's programmatic interests and priorities.
- The proposed solution creates synergies and efficiencies for both the generator interconnection (Track 1) and EVSE service load requests (Track 2).
- The proposed project expands the geographic diversity of organizations which received or are receiving support from the U.S. government.
- The proposed project supports organization with limited resources or urgent needs.
- The proposed project expands direct support to underserved or disadvantaged communities or groups.
- The proposed project incorporates equity, diversity, and inclusion elements.

Application Materials

Applicants are required to answer 11 questions in a form online and upload a project proposal narrative (maximum 10 pages) using the provided template. Applicants are also required to upload resumes for project members and any other supporting documents, separately.

Link to Track 1 template here

Frequently Asked Questions

FAQs

Is this opportunity open to individual U.S. persons? Do you provide funding to develop with an energy project?

No. The iQMS program does not offer funding to individuals. It also does not fund activities to develop energy projects.

How can an applicant submit an application for both tracks, the Generator Interconnection (Track 1) and Electric Vehicle Supply Equipment Load Request (Track 2)?

An applicant is encouraged to apply for both Track 1 and Track 2. The applicant will need to submit a separate application for each track.

How much funding will be provided to applicants, if selected?

- *Track 1: selected applicants/projects will receive $200,000 for Phase 1. If selected to move on to phase 2, applicants/projects will be eligible to receive $650,000.*
- *Track 2: selected applicants/projects will receive $100,000 for Phase 1. If selected to move on to phase 2, applicants/projects will be eligible to receive $250,000.*

Are there any restrictions on how many applications an organization can submit?

No. There are no restrictions on the number of applications an organization can submit. An applicant is encouraged to apply for both Track 1 and Track 2.

How much involvement is expected from the applicants?

Selected project teams are expected to devote time and resources to ensure Phase 1 and Phase 2, if selected, deliverables and milestones are met. The project team is expected to participate in the technical assistance cohort throughout the project period to share challenges, opportunities, efficiencies and lessons learned. The information collected through the cohort will be shared publicly throughout the project period.

What data will be collected and how will it be shared from selected projects?

The project team is expected to participate and share data in the technical assistance cohort throughout the project period to share challenges, opportunities, efficiencies and lessons learned.

How committed should identified partners be when applying? Can potential partners be included in the application even without firm commitments?

It is not recommended that an application put forward potential partners.

Questions

If you have any questions, please contact ENERGYWERX: **info@energywerx.org**

Quick Links

RSVP to Webinar Sessions

- **Informational Webinar/ Objective Strategic Session (August 29, 2024):** Join ENERGYWERX and the i2X iQMS team for an informational webinar on the Interconnection Innovation e-Xchange

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Application

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Downloadable Files

No items found.