

MONTSERRAT GRID MODERNIZATION INITIATIVE



What is the Grid Modernization Initiative (GMI)? The Grid Modernization Initiative (GMI) works across the U.S. Department of Energy (DOE) to create the modern grid of the future. Our extensive, reliable power grid has fueled the nation's growth since the early 1900s; however, the grid we have today does not have the attributes necessary to meet the demands of the 21st century and beyond.



Why is Grid Modernization important? A reliable, environmentally sustainable, and equitable grid. The portfolio of grid modernization work helps integrate all sources of electricity, improve the security of our Nation's grid, solve challenges of energy storage and distributed generation, and provide a critical platform for U.S. comp



What is included in the grid modernization crosscut? Action is included in the Grid Modernization crosscut. In FY 2024, OE plans to continue pursuing research of technologies that improve grid reliability, resilience, efficiency, flexibility, and functionality. These activities include developing technologies, from inception to demonstration, that automa



What is support grid modernization? Institutional Support Grid modernization presents a complex bundle of technological, institutional, and regulatory challenges. The institutional support area informs key stakeholders involved in the electric power system so they can make the best decision possible in a rapidly changin



Why is R&D important in Grid Modernization? Advanced capabilities. Ensuring result integrity: New models, simulation approaches, and tool interconnections may introduce errors in analysis. This is further complicated by gaps and errors in data and their availability. R&D are needed to ensure that novel simulations for grid modernization accurate

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What technologies are required for successful grid integration? the reliability and security of the energy system. The suite of technologies and techniques required for successful grid Integration includes improved approaches to renewable power forecasting; application of energy storage technologies; advanced power electronics; ???grid responsive??? building technologies; vehicle-to-grid technologies; and ne



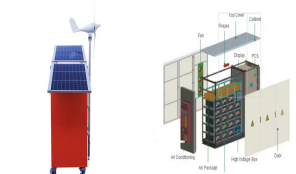
Department of Energy's Grid Modernization Lab Call (2019) 5 ??? Impact on the Bulk Power System: Proposals must focus on the bulk power system impacts. Any proposals including DER must show impact on the bulk power system. ??? Demonstrated Near-term Success: To increase likelihood of industry implementation and increase potential impact, it is critical ???



On May 28, 2024, the Biden-Harris Administration, with commitments from 21 leading states, launched a Federal-State Modern Grid Deployment Initiative that builds on legislative accomplishments and executive actions in tackling the grid modernization challenge. The initiative aims to bring together states, federal entities, and power sector stakeholders to ???

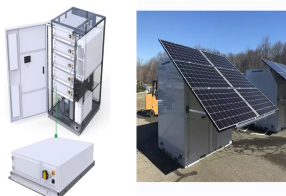


GridWise has produced six Grid Modernization Index (GMI) reports evaluating states' progress in modernizing the electric grid. This year, GridWise is conducting a three-step process with new questions and a more comprehensive data collection effort to provide deeper insights on state and utility readiness to accommodate the drivers impacting



grid during a panel discussion Hearing from leadership at the national laboratories discuss future grid activities Reflecting on the updated Grid Modernization Multi-Year Program Plan Engaging with other GMI projects in the portfolio during the poster session 2018 Grid Modernization Initiative Peer Review

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The vision of DOE's Grid Modernization Initiative (GMI) is: A future grid that will solve the challenges of seamlessly integrating conventional and renewable sources, storage, and central and distributed generation. The future grid as a critical platform for U.S. prosperity, competitiveness, and innovation in a global clean energy economy. A



Grid Modernization Initiative Technology Institutional Stakeholders Stakeholders EPSA FE EERE OE S1 CFO SC ARPA-E NE 6. Grid Modernization Laboratory Consortium Move from a collection of DOE and lab projects to a DOE-Lab Consortium Model that integrates and coordinates laboratory expertise and facilities to best



GRID MODERNIZATION INITIATIVE PEER REVIEW 1.2.1 Grid Architecture JEFFREY D. TAFT, PHD (PNNL) 5/11/2017 1 April 18-20, 2017 Sheraton Pentagon City ??? Arlington, VA System Operations, Power Flow, and Control. System Operations, Power Flow, and Control 5/11/2017 2 Project Objectives



Developing the tools and technologies to measure, analyze, predict, protect, and control the grid of the future ???Department of Energy (DOE) is engaged in a department wide effort to accelerate the development of technology, modeling analysis, tools, and frameworks to help enable grid modernization adoption. ???This presentation addresses:



All meetings in the series start with a brief presentation by NJBPU Staff recapping the State of New Jersey Grid Modernization ("GridMod") initiative and activities to date, with an emphasis on their relation to strategies outlined in the 2019 NJ Energy Master Plan. The sessions then feature specific presentations and a facilitated comment

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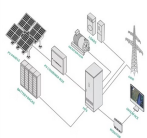
The Department of Energy's Grid Modernization Initiative (GMI) has announced its strategy for investing in innovative new technologies to modernize today's power grid while ensuring it remains secure and sustainable. The GMI coordinates key research, development, demonstration, and deployment activities across the Department to maintain and



The Grid Modernization Laboratory Consortium (GMLC) coordinates and executes research and development in support of the Department of Energy's Grid Modernization Initiative. The GMLC labs partner with industry to address the key challenges and develop new technologies to enable a decarbonized and resilient power grid for the nation.



Grid Modernization Initiative and Clean Energy Cybersecurity AGENDA Led and hosted by the U.S. Department of Energy Grid Modernization Initiative and the Office of Cybersecurity, Energy Security, and Emergency Response. FEBRUARY 5-8, 2024 | ARLINGTON, VA TIME TITLE 7:30 a.m. - 5:00 p.m. Registration and Badge Pickup | Arlington Foyer



FEDERAL-STATE MODERN GRID DEPLOYMENT INITIATIVE 3 Federal-State Modern Grid Deployment Initiative Principles In the face of growing needs for modernization of the U.S



a. proposing a set of objectives for grid modernization in Minnesota and outlining the functions and technologies a modern grid will need b. suggesting an overall approach to grid modernization c. offering next steps and recommendations that can usefully complement the Minnesota PUC's ongoing grid modernization process. Subgroup Participants

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tools, and frameworks to help enable grid modernization adoption.

???This presentation addresses: ???Grid of the Past/Future ???Grid Modernization Initiative (GMI) ???Grid Modernization Multi -Year Program Plan (MYPP) ???Grid Modernization Laboratory Consortium (GMLC) ???\$220M Grid Modernization Lab Call ???Accomplishments to date ???Future



An important and often overlooked aspect of a grid modernization initiative is to define an approach for handling the influx of grid data generated by the investments???consider AMI, which typically replaces the monthly meter readings collected through analog infrastructure with up to 105,000 digital readings per year. Transmitting and storing



DOE's Grid Modernization Initiative. Value Proposition The REV vision is for New York State to be an early adopter of advanced grid technologies at scale, resulting in significant penetration of DER. Key questions with regard to grid modernization will be addressed, including what business models work and why, as well as which technologies



???Grid Modernization Initiative (GMI) ???Grid Modernization Multi -Year Program Plan (MYPP) ???Grid Modernization Laboratory Consortium (GMLC) ???\$220M Grid Modernization Lab Call ???Accomplishments to date ???Future Direction. 12/15/2016 2. The 20. th. Century Grid.



Grid Modernization Initiative Technology Institutional Stakeholders Stakeholders EPSA FE EERE OE S1 CFO SC ARPA-E NE 7. Grid Modernization Laboratory Consortium Move from a collection of DOE and lab projects to a DOE-Lab Consortium Model that integrates and coordinates laboratory expertise and facilities to best

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of a new Grid Modernization Multi -Year Program Plan (MYPP); and ??? Supporting regional, state, and local groups of stakeholders from industry, academia, communities, and local regulators, that will help translate the tools and knowledge from Grid Modernization R& D into actual deployments of modernized grids. 11



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ratemaking approaches to enable grid modernization investments. Approaches will better tie utility earnings to consumer value, economic efficiency, and other policy goals. Ultimately, states will provide utilities with regulatory guidance and incentives to efficiently deploy capital to achieve grid modernization goals.



Grid Modernization Initiative Grid Modernization Lab Call 2023 Revision Log: 1. Topic 2: a. Added language and footnote: i. "The White House released the "The United States Government National Standards Strategy for Critical and Emerging Technology" in May 2023. The National Standards Strategy cites "Automated, Connected, and



The states in the initiative agreed to deploy innovative grid technologies to bolster the capacity of the electric grid and more effectively meet demand, maximize the benefits of new and existing

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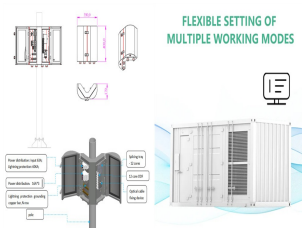
The Cabinet of Montserrat has requested that the Energy Task Force shorten its timeline for the island's electricity generation to be 100% powered by renewable energy. With one exception, the Cabinet has approved ???



3 ? OE pioneers grid modernization advancements through these investments to extend the life of existing transmission and distribution facilities and to advance clean energy. As these new innovative technologies become viable, GDO???working with states, industry, and energy sector stakeholders???will invest in deploying state-of-the-art technologies.



requested an update to the grid modernization strategy. 11, 12. This document summarizes an overarching grid modernization strategy, which serves as the foundation for future investments and coordination for grid modernization RDD& D at DOE. 2 Drivers for a Better Grid and an Updated Grid Modernization Strategy

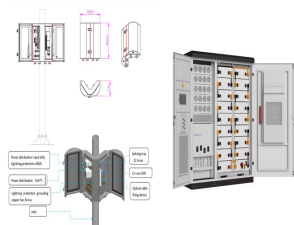


Grid Modernization Initiative (GMI) News. November 22, 2024. Biden-Harris Administration Announces Nearly \$71 Million to Continue Strengthening America's Auto Communities, Expanding Battery Recycling, and Modernizing Manufacturing .



These centers are part of the Energy Systems Integration directorate, led by Associate Laboratory Director Juan Torres. NREL's grid research is aligned with the U.S. Department of Energy's Grid Modernization Initiative as part of ???

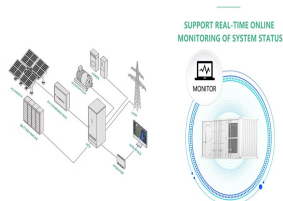
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Grid Architecture Build a new set of five reference architectures for grid modernization, provide to the industry along with the tools they need to adapt them to their needs, and use them to inform the playbook for the GMLC program managers. The result will be superior stakeholder decision-making about grid modernization activities of all kinds.



Grid Modernization Initiative Doug Hollett, Office of Energy Efficiency and Renewable Energy . October 14, 2015 . Pioneer Regional Partnerships are early-stage public/private collaborative projects that address specific near-term grid modernization issues important to that region and its stakeholders. The GMLC submitted 11 proposed



WASHINGTON ??? The U.S. Department of Energy (DOE) today built on its Grid Modernization Initiative ??? an ongoing effort that reflects the Obama Administration's commitment to improving the resiliency, reliability, and security of the nation's electricity delivery system. During his visit to a utility control center in Miami, FL today, Energy Secretary Ernest Moniz announced the release



The Quarterly Business Review provides updates on the progress and financial health of the grid modernization initiative. And keep a look out for news articles about the projects and the teams that are making sure each and every project is a success. Day-ahead market development



The White House grid modernization initiative does not include any specific commitments to address the cybersecurity challenges associated with GETs. The Department of Energy did not respond to

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The Grid Modernization Initiative (GMI) works across the U.S. Department of Energy (DOE) to address the research and development (R& D) challenges facing the 21st century grid. Modernizing the grid is essential for achieving the administration's goals of 100% clean