

Project Description

EPE performed an investigation into the design and operation of Maine’s electric distribution system on behalf of the Maine Public Utilities Commission. The goal of the investigation was to identify the changes necessary to accommodate the increasing integration and operation of Distributed Energy Resources (DER) and the potential for a substantial increase in load resulting from climate change policies and initiatives that seek to encourage electrification in the heating and transportation sectors.

EPE targeted five key areas with critical impact on future utility design and operations to support renewables and electrification. These areas are:

- Tools for Modelling and Studies: Software, Data, and Integrations
- Grid Investment Needs: Forecasting, Planning, and Justification
- Renewables Integration: Interconnection Processes and Requirements
- System Construction: Distribution Equipment
- System Operations: Distribution Control Center

EPE then utilized public stakeholder feedback, gathered by project partner Grid Strategies, to create a gap analysis report which identified gaps between current capabilities and the present and future needs of both the utilities and public stakeholders. Building off the results of the gap analysis, EPE developed a comprehensive roadmap for each utility, including recommendations and time horizons for specific process modifications and program implementations.



EV Charging and Management



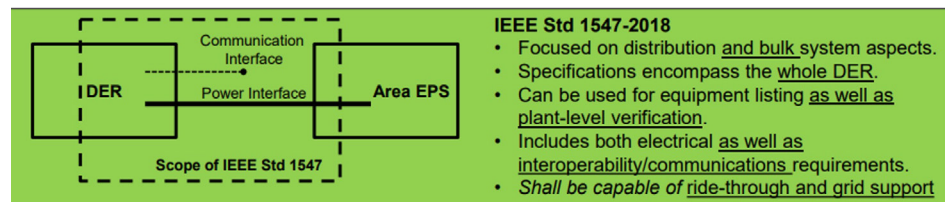
Energy Storage Systems



Solar PV



Heat Pumps for Cooling and Heating



To conclude the project, EPE presented each roadmap in a public webinar to the MPUC, the utilities, and other interested public parties. During this webinar, all parties had the opportunity to review the presented materials and ask questions related to the content, intentions, and direction of each recommendation. All of the reports and webinar materials are publicly available as part of [Docket 2021-00039](#)