Project Description

Develop and implement a pathway of technical and economic assessment leading to a 50% imported energy displacement in remote, islanded Alaskan community microgrids. This project marks the first time a consortium of DOE national laboratories and Alaska organizations is undertaking this type of project in a holistic way.

Expected Outcomes

• Document the full techno-economic development process for reducing imported fuel consumption by at least 50% in remote microgrids in Alaska.

• Identify investible opportunities (i.e., the business case) to attract the funding needed to implement these types of projects on a large scale.

• Create an implementation methodology for other communities to follow by documenting and publicizing the community assessment, data collection, project analysis, and development processes.

• Implement the methodology in two pilot communities, providing models so that additional communities can undertake similar efforts, including seeking private and public funding to implement project recommendations.

• Expand the existing Alaska Energy Data Gateway to make all relevant products from this work available to communities across Alaska.

• Ensure that this process is applicable internationally, helping to address issues around providing reliable power to isolated communities across the globe while providing a baseline of understanding for microgrids in general.

Significant Milestones

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<tr>
<th>Significant Milestones</th>
<th>Date</th>
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<tbody>
<tr>
<td>Complete Community Readiness Indices</td>
<td>7/1/2016</td>
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<tr>
<td>Identify pilot communities</td>
<td>8/1/2016</td>
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<tr>
<td>Complete initial draft of the remote system Design Basis Framework</td>
<td>4/15/2017</td>
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<tr>
<td>Complete generic business case analysis</td>
<td>7/1/2017</td>
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<tr>
<td>Complete final technical and business case studies for two pilot communities</td>
<td>10/1/2017</td>
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<tr>
<td>Complete expansion of the Alaska Energy Data Gateway, making all results available</td>
<td>10/1/2017</td>
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Progress to Date

• Developed community readiness indicators to assess capacity of communities to consider a revamp of their energy infrastructure.

• Selected and initiated analysis of the two pilot communities (Shungnak and Chefornak).

• Initiated detailed community-level data collection and design analysis on pilot communities.

• Convened project advisory committee comprised of a diverse group of Alaska stakeholders.

• Met with financiers to understand investment criteria.

• Screened and selected techno-economic modeling tools; screening criteria to be made available.

• Initiated planning for diesel system testing and storage technology options to inform modeling.

• Facilitated ongoing discussion with entities to leverage efforts while reducing potential for project overlap.

• Initiated updating of the Alaska Energy Data Gateway.