Native Alaskan communities endure extreme energy costs and dependency on diesel fuel due to their remote locations, compounded by a harsh climate that demands high energy use. Initiatives are now turning the tide with sustainable, community-tailored energy solutions that respect local values and strive for environmental harmony.

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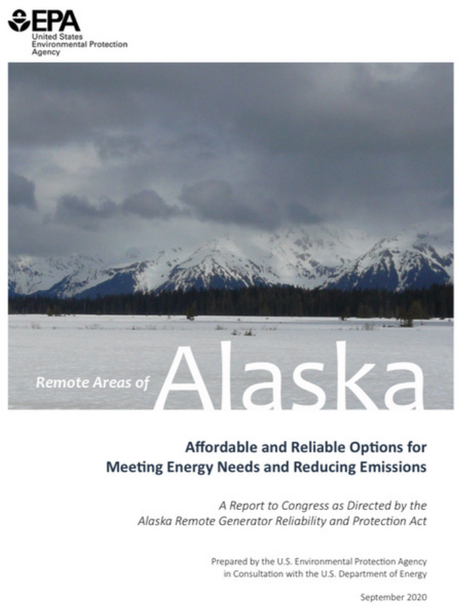

in an affordable and reliable manner using existing emissions control technology or other technology that achieves similar emissions reductions. This report fulfills that mandate. In this report, an overview of energy generation in remote areas of Alaska and potential energy-saving and emission control measures is provided. Those measures include replacement of older diesel generators with lower-emitting generators, fuel switching, add-on emission controls for diesel generators, installation of renewable energy generation, energy efficiency, new electric transmission interties, and community collaboration. This report also provides a discussion of ways that the federal government can assist in implementing those measures. Several federal government programs already provide assistance, including programs overseen by EPA, U.S. Department of Energy (DOE), Denali Commission, U.S. Department of Agriculture (USDA), and the U.S. Department of the Interior, Bureau of Indian Affairs (BIA). Continued support of those programs likely provides the best pathway for assisting the remote areas of Alaska. This report is submitted in consultation with the DOE, as required by the Alaska Remote Generator Reliability and Protection Act.

promoting the reduction of emissions:

Measures

- Diesel generator replacement
- Fuel switching
- Add-on emission controls
- Renewables
- Energy efficiency
- New electric transmission interties
- Community collaboration

Agencies and Programs

- **EPA:** Diesel Emissions Reduction Act Grants
- **DOE:** Office of Indian Energy, Tribal Energy Loan Guarantee Program, Weatherization and Intergovernmental Programs Office, Grid Modernization Laboratory Consortium - Alaska Microgrid Partnership
- **USDA:** Rural Energy for America Program, High Energy Cost Grant
- **BIA:** Energy and Mineral Development Program Grant, Tribal Energy Development Capacity Grant
- **Denali Commission**

Energy Needs and Generation in Remote Areas

More than 190 communities in remote areas of Alaska are scattered over long distances and are not connected to population centers by road and/or power grid. For purposes of this report, remote areas are generally those areas that are not accessible by the Federal Aid Highway System (FAHS), or whose only connection to the FAHS is through the Alaska Marine Highway System. Remote areas also include those that are connected to

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The IO Nanogrid team's unique blend of skills, experience, and cultural insight gives us a competitive edge. Our collective background in renewable energy, business management, psychology, and direct community engagement forms the bedrock upon which our project stands.