**U.S. Department of Energy (DOE)  
Clean Energy to Communities (C2C) Program**

Summary of Technical Assistance (TA) Support

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| Icon  Description automatically generatedBuildings |
| Icon  Description automatically generatedClean Power |
| Climate Mitigation and Resilience |
| Cross-Sectoral Justice |
| A picture containing text, clipart  Description automatically generatedJobs and Economic Development |
| Icon  Description automatically generatedMobility |

**Tok, Alaska**

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From May to October 2023, the National Renewable Energy Laboratory (NREL) supported the Tanana Chiefs Conference (TCC), a consortium of 39 villages and 37 tribes in Alaska. NREL conducted detailed project economic modeling and component sizing for an envisioned retrofit and helped provide a proof of concept for a power purchase agreement (PPA) model, that was originally scoped through a DOE Office of Indian Energy (DOE-IE) technical assistance (TA) effort.

* NREL worked with TCC to refine the design (component sizing) of one or more of the envisioned retrofits analyzed previously.
* NREL worked with TCC to conduct detailed financial modeling of one or more of the envisioned retrofits.
* Impact

Since the completion of the previous TA effort, TCC worked on refining a project concept whereby energy produced by a photovoltaic (PV)-battery system will be sold to the Alaska Village Electric Cooperative under a PPA. The Expert Match TA provided a detailed component sizing analysis and financial modeling to better assess the technical and financial feasibility of the proposed PPA concept.

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**Background**

Ann Arbor is a city of approximately 122,000 people located in southeast Michigan. The city and its residents are leaders in sustainability and climate action. Their A2ZERO Climate Action Plan outlines their just transition pathway to community-wide carbon neutrality by 2030. With equity as a focus, they are implementing strategies to improve home energy efficiency (EE) and electrify appliances. Toward this, the city wants to explore community geothermal heating and cooling to serve a variety of building types including rental and affordable housing. The city has applied to DOE’s Geothermal Heating and Cooling Design and Deployment program and garnered the support of City Council to pursue these projects, but they need to understand the concept’s feasibility in order to make a “go, no-go” decision.

Under a DOE-IE funded TA effort, NREL conducted modeling to identify appropriate component size ranges for proposed PV-battery retrofits for three TCC communities. The analysis results included high-level technical and economic performance metrics of the envisioned retrofits. The three communities span a range of sizes, in terms of annual electricity consumption. The results for a given community are broadly applicable to other TCC communities with similar annual consumption.

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Description automatically generated with low confidence Expert Match Team

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For more information, visit:  
**energy.gov/eere/clean-energy-communities-program**

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