blueprints
Energy Efficiency & Conservation Block Grant Program

Project Ideas for Tribes with Small Funding Amounts (≈ $10,000 – $15,000)

Introduction

Energy Efficiency and Conservation Block Grant (EECBG) projects can cover a wide range of focuses and varying levels of complexity. Simple, straightforward projects may require lower amounts of funding, be easier to manage and administer, and be able to supplement and fill gaps between other resources from your Tribal community. This document is intended to provide a sample of potential project ideas that are EECBG eligible and may appeal to Tribes who have funding allocations between $10,000 and $15,000. While not an exhaustive list, these projects may be able to be completed in addition to or alongside other work in your community or other EECBG projects.

EECBG Funding Options

Within the EECBG Program, which is a formula grant, Tribes eligible for funding can choose between receiving their EECBG award as a **grant** or as a **voucher** for technical assistance and/or equipment purchases and installation. The complexity of reporting requirements and administration varies between these options with vouchers generally being the easier option administratively and grants being the more flexible option.

When selecting between the grant and voucher option, consider all the activities that your Tribe wants to use EECBG funds for – both grants and vouchers can be used for technical assistance and equipment, but activities such as hiring in-house project staff support, printing materials, and paid promotions for engagement events are only eligible through the grant option.



Blue Lake Rancheria staff in front of a microgrid in Northern California. Source: Kellie Jo Brown

Detailed information about the requirements for each option is available online for technical assistance, for equipment rebates, and for traditional grants. The EECBG program is committed to supporting a technical assistance engagement approach that emphasizes respect for Tribal self-determination and sovereignty and involves collaboration with various stakeholders including the Tribal Council, Tribal facilities and maintenance teams, and utility providers.

SCEP
STATE & COMMUNITY ENERGY PROGRAMS

Sample Projects

Technical assistance (TA) can support energy planning, project implementation with studies, assessments, reviews of potential projects and contracts, and/or applying for funding. The lists below provide sample projects that can support energy planning and implementation activities.

TECHNICAL ASSISTANCE, STUDIES, AND ASSESSMENTS

- **Identifying and Applying for Funding.** Review available additional funding opportunities and develop a calendar and plan for applying.
- **Energy Efficiency and Opportunities Study.** Study which Tribally-owned buildings or buildings within the community are the most energy inefficient and have the most potential for improvement.
- **Energy Audits**. Perform an energy audit of key buildings (energy-using residential, commercial, and/or Tribal government buildings) to identify energy savings opportunities. EECBG funds can be used to hire an energy auditor and/or make recommended energy improvements.
- **Market and Workforce Assessment.** Assess the renewable resource potential and job opportunities for your area and within your Tribe.
- **Project Siting Study.** Study potential locations and costs for community solar or community wind. Research the benefits and impacts on land use, the environment, and your Tribal community.
- **Energy Supply and Reliability Study.** Study the issues and costs relating to power quality and how to improve resiliency to grid outages for Tribal members.
- **Energy Resiliency Plan.** Develop a conceptual plan on how energy resiliency for the Tribe may be improved.

EXAMPLE: ENERGY AUDITS

There are typically three types of industry-accepted energy audits: ASHRAE Level I, II, and III. Level I is the simple walk through, Level II includes an energy survey, and Level III is an investment grade audit. The latter should be used to determine precise energy efficiency measure and equipment needs. Costs vary depending on factors such as the size of the building, its use and complexity, goals of the audit, as well as labor costs in your region. The information below is a rough estimate to give a sense of the order of magnitude.

1. **ASHRAE Level I (Walk Through Analysis)**: estimated cost $0.05 - $0.12 per square foot
2. **ASHRAE Level II (Energy Survey and Analysis)**: estimated cost $0.10 - $0.30 per square foot
3. **ASHRAE Level II (Investment Grade)**: estimated cost $0.25 - $0.50 per square foot

Level of Audit Chosen and Building Size Will Determine Total Cost.

	25,000 sq. ft		50,000 sq. ft.		100,000 sq. ft.	
Level I	$1,250	$3,000	$2,500	$6,000	$5,000	$12,000
Level II	$2,500	$7,500	$5,000	$15,000	$10,000	$30,000
Level III	$6,250	$12,500	$12,500	$25,000	$25,000	$50,000

Source: See **Blueprint 2A: Energy Efficiency: Energy Audits, Building Upgrades (DOE)** for more information.

- **Regulatory Conditions Study.** Review and study regulations and requirements for siting solar/wind/biomass energy projects to determine how these can be streamlined.
- **Electric Vehicle (EV) Study.** Conduct a high-level EV charging infrastructure siting study or an EV feasibility/readiness study. This could be completed virtually, or, depending on the accessibility of the community, in person.

EXAMPLE: EV INFRASTRUCTURE FEASIBILITY STUDY

A $10,000 project budget for a Tribe interested in transportation electrification and potential community charging infrastructure could use TA assistance to receive:

- Virtual site assessments and listening sessions to review foundational needs, discuss charging infrastructure options, and identify respected Tribal members to gather additional data if needed. (Note: if your community is located within driving distance of the TA provider, an onsite assessment might be possible within a $10K budget.)
- Regular check-ins and virtual presentations of final recommendations and deliverables that reflect the Tribe's top priorities.
- A final written memo documenting findings and options identified by the study, an action plan for implementation, and potential funding strategies to support the recommendations.
- Information that would be needed from the Tribe, such as previous studies conducted on fleet usage and community needs, facility information, and limitations for site options (e.g., land ownership, historic preservation, NAGPRA, or other considerations).

Source: Informed by the Clean Energy to Communities (DOE) technical assistance project team.

EQUIPMENT PURCHASES AND INSTALLATION

- **Lighting Replacements.** Replacing lighting with more efficient LED lights can result in significant energy and cost savings. Solar PV powered lights use clean energy and can reduce demand on generators during power outages. Example projects include:
  - Replace existing lights with LED lighting in residential, community, and commercial buildings.
  - Replace existing security lights with solar PV powered security lights with motion sensors.
  - Replace existing street and parking lot lights with LED and/or solar PV powered lights.
- **Targeted Uses for Solar and Wind Power Installations.** Some solar and wind power projects can be targeted to meet specific needs, providing clean energy for individual appliances or dedicated equipment uses. Example projects include: Solar thermal water heating.
  - Solar PV powered “swamp” coolers.
  - Solar PV and solar direct drive refrigerators for perishable food or vaccine storage.



Rivgen hydrokinetic power system near the Igiugig Village in Alaska. Source: ORPC

- Solar PV or wind powered irrigation and water pumps.
- Solar PV powered subsurface pond aeration system for irrigation, ornamental, and catchment ponds and lagoons to improve aquatic habitat and water quality.

EXAMPLE: LIGHTING UPGRADES

Lighting projects can range from LED giveaways at community events to street lighting upgrades and vary substantially in cost and complexity of associated installation costs. The list below provides rough cost estimates of the number of lighting units that might be able to be purchased with $10,000-$15,000 (not including installation) and the typical uses for these types of lights:

- **Residential or Small Commercial LED screw-in indoor light bulbs**: typically used in lamps, light fixtures, and downlight/recessed lighting fixtures.
  - **Estimated cost per unit**: $2-$30 depending on the type of bulb
  - **Total number that could be purchased**: 300-5,000
- **Commercial LED indoor lamps:** typically used in ceiling mounted or recessed fixtures (e.g., T-8 or T-12)
  - **Estimated cost per unit**: $55-$350 depending on the type of bulb/fixture and ballast type
  - **Total number that could be purchased**: 30-180
- **Outdoor LED fixtures:** includes small-scale security lighting, wall sconces, decorative or pillar fixtures, etc.
  - **Estimated cost per unit**: $55-$350 depending on the type of bulb/fixture
  - **Total number that could be purchased**: 30-180
- **Street, Parking Lot, or Highway LED:**
  - **Estimated cost per unit**: $150-$1500 depending on the type of fixture and what's included (e.g., full pole or simple fixture)
  - **Total number that could be purchased**: 6-60

Source: Review of various major U.S. lighting retailers and distributors.

WORKFORCE TRAINING AND EDUCATION

- **Education Curriculum.** Develop a curriculum to use in schools or other Tribal community programs on energy efficiency, renewable energy, and the environmental, health, and societal benefits.
- **Workforce Development.** Increase and develop the skills of your Tribe to support clean energy projects, planning, and ongoing management and maintenance. In some cases, workforce development builds on the skills of existing workers and expands their areas of expertise. In other



Solar technology installations provided job training opportunities for Blackfeet Community College in Montana. Source: Melissa Little Plume Weatherwax

cases, it could be focused on expanding the existing workforce. Either approach can increase access to clean energy jobs. Identify and attend training programs and earn professional certifications.

- **Pool Funds for a Shared Energy Manager.** Combine funds with neighboring Tribes or state and local governments to hire a shared energy manager. Funding can be used for training as well as paying compensation to a hired member of your Tribe, or to hire a contractor.
- **Thermal Screening**: Train one or more Tribal members to conduct thermal imaging of your Tribe's residential and commercial buildings to identify areas of high energy loss. This activity may require the purchase of a thermal imaging camera (suitable models start at about $500) or a mobile phone camera accessory and watching a brief training that is available online. Energy losses identified by thermal imaging of homes and buildings can help justify funding for new insulation, weather stripping, and other energy efficiency opportunities. The thermal camera can also be used to check for hot spots and overheating electrical switch gear and motors, which helps to find potential failures and prevent fires.

COMMUNITY AND STAKEHOLDER ENGAGEMENT

- **Establish your Tribe's Community Vision.** Determine the collective vision for optimal renewable energy or EV charging deployment with your Tribe's community members.
- **Identify Priorities.** Determine your Tribe's interests and priorities for renewable energy or EV charging.
- **Develop Engagement and Educational Materials.** Develop materials for engagement with your Tribal leadership and community that reflect topics of interest to them. Communicate the economic, health, environmental, and social benefits that the Tribe may experience from energy planning and renewable energy generation and use, along with any potential consequences.
- **Engagement Events and Meetings.** Host Tribal community meetings – in-person or virtually – using funds to cover the costs of items such as meeting spaces, professional facilitators, or guest speakers.
- **Subject Matter and/or Professional Expertise.** Identify gaps in Tribal community or government resources and knowledge and address those gaps by bringing in external expertise or support.

CASE STUDIES

The case studies listed below offer examples of how small-funded projects, such as those described in this document, can inform Tribal decisions about potential future projects.

Renewable Energy: Planning for Sustainability & Self-Determination for the Navajo Nation (DOE): Investigating how renewable energy systems can provide sustainability and self-determination for the Navajo Nation.

Military Base Off-taker Opportunities for Tribal Renewable Energy Projects (NREL): Identifying opportunities for renewable energy projects on tribal lands to sell energy to the U.S. Department of Defense.

Renewable Energy Development in Indian Country: A Handbook for Tribes (NREL): Overview of the renewable energy project development process including finance, permits, and contracts.

Financing Renewable Energy Development: Perspectives from the Navajo Tribal Utility (DOE): Overview of Navajo Tribal Utility Authority (NTUA) renewable energy projects.

Tribal Case Studies and Lessons Learned – Moapa Band of Paiutes (DOE): Solar project overview and benefits.