OCED
Office of Clean Energy Demonstrations

THE OFFICE OF
CLEAN ENERGY DEMONSTRATIONS

Energy Improvements in Rural or Remote Areas Program
Western Regional Briefing

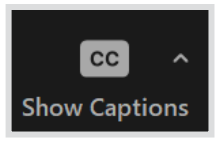
Office of Clean Energy Demonstrations

U.S. Department of Energy

April 1, 2024

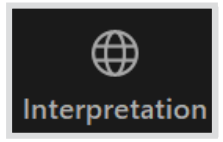
Webinar Logistics

How do I turn on live captions?



Click on the **“Show Captions”** button in the control panel at the bottom of your screen.

How do I turn on Spanish or ASL interpretation?



Click on the **“Interpretation”** button in the control panel at the bottom of your screen.

Is this webinar being recorded?

No, this webinar will not be recorded.

Will the slides be shared?

Yes, a copy of the presentation slides will be shared via email with registrants and on the OCED website within the next week.

Welcome!

Meeting Objectives

Introduce the **six Energy Improvement in Rural or Remote Areas projects** selected for award negotiations by the Office of Clean Energy Demonstrations (OCED) located in the Western region.

Provide transparency on the award process and opportunities to implementing clean energy projects in the United States.

Create an opportunity for participants to engage with DOE and selectees

Introductions

Emmanuel Taylor

Facilitator

Regina Galer
ERA
Program Manager,
OCED

Toniqua Hay
ERA
Stakeholder
Engagement Specialist,
OCED

Agenda

- Welcome
- Energy Improvements in Rural or Remote Areas Program Overview
- Regional Project Overviews
  - Advancing Energy Sovereignty for Taos Pueblo
  - Community Scale Rural Bioenergy Facilities
  - Energizing Rural Hopi and Navajo with Solar Powered Battery-Based Systems
  - Fort Lupton Microgrid
  - Hopi Nation Community Solar
  - Yakama Tribal Solar Canal & Hydro
- Community Benefits and Engagement
- Next Steps & Resources
- Feedback Session
- Wrap-up & Close

Opening Remarks

Energy Improvements in Rural or Remote Areas (ERA) Program

ERA Program Overview

The Bipartisan Infrastructure Law (BIL) authorizes DOE to invest **$1 billion in Energy Improvements in Rural or Remote Areas.** The DOE Energy Improvements in Rural or Remote Areas (ERA) Program is managed by the Office of Clean Energy Demonstrations.

Purpose

To provide financial assistance to improve, in rural or remote areas of the United States, the resilience, safety, reliability, and availability of energy and environmental protection from adverse impacts of energy generation.

Program Goals

1. **Deliver measurable benefits to households in rural or remote areas** by funding replicable energy projects that lower energy costs, improve energy access and resilience, and/or reduce environmental harm;
2. **Support new rural or remote energy system models** using climate-resilient technologies, business structures that promote economic resilience, new financing mechanisms, and/or new community engagement practices; and
3. **Build clean energy knowledge, capacity, and self-reliance in rural America**.

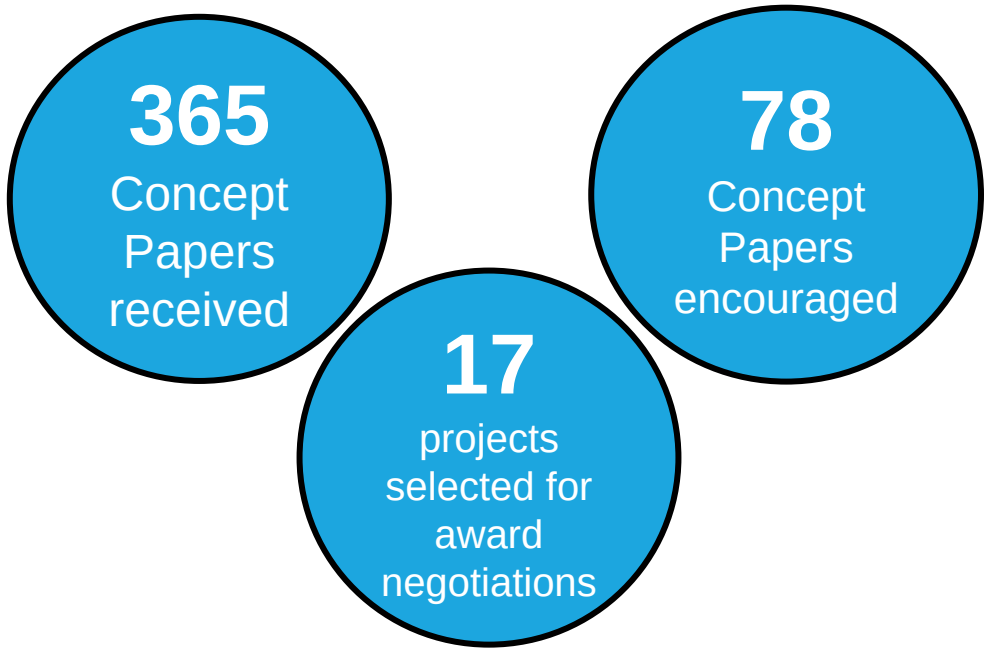
ERA $300M Funding Opportunity

In March 2023, DOE announced **$300 million** in total funding opportunity to increase energy affordability and promote climate resilience with an anticipated federal cost share ranging from **$5 to $100** million per project for single or multi-site demonstration project(s).

Program Outcomes

1. Uses clean energy technologies that improve **reliability and/or resilience of energy systems**
2. **Reduces energy poverty**
3. Improves environmental performance of **energy generation** in rural or remote communities

Status to Date



Project Overviews

Advancing Energy Sovereignty for Taos Pueblo

Ravi Malhotra
President
ICAST

Project Overview & Timeline

- 5 MW Solar PV and 10 MWh BESS
- On Taos Tribal Land
- Kit Carson Electric Coop (KCEC) as off-taker for 25 years
- ICAST as developer
- Timeline:

Pre-Development Underway → **Begin NEPA in summer 2024** → **Installation & Commissioning YE 2025** → **M&V and O&M Training from 2026-2028**

ICAST

©ICAST 2024

Community Benefits

- No Equity Investment Needed
- Consistent Income for 25 Years
- Min. 33% Energy Cost Savings for Tribal Members
- Reduction of 275,000 tons of GHG emissions annually
- Local Energy Production ➔ Money Stays in Community
- Energy Resiliency
- Future Opportunities from Experience Gained
  - ✓ **Additional Projects – more Solar and BESS**
  - ✓ **Micro-Grid for Taos Pueblo and KCEC**

©ICAST 2024

Community Engagement

- Working with Taos Pueblo and KCEC since 2022
  - ✓ **Multiple meetings with Tribal Council**
- New Job Opportunities in a growing industry
  - ✓ **Community & Labor Engagement (Prevailing wages and Apprenticeship programs)**
  - ✓ **DEIA (beneficiaries are a Tribe and KCEC serves a LI community)**
  - ✓ **Investing in BABA**

ICAST

©ICAST 2024

Who We Are

- **22+ year old national 501C3 nonprofit**
  - ✓ Mission: Provide economic, environmental, and social benefits to LMI and DAC communities
- **Implement Green Solutions (Clean Energy, H&S)**
  - ✓ **One-Stop-Shop** (Assessment and Planning, Design, Installation, Financing, M&V, Training)
- **2024 Goal: Serve 60,000 LMI households**
- **Customers across 20 states**
  - ✓ State and Local Governments
  - ✓ Utilities
  - ✓ Multifamily Affordable Housing (MFAH)

©ICAST 2024

Community Scale Rural Bioenergy Facilities

Dr. Matthew D. Summers
Chief Operating Officer
West Biofuels

WEST BIOFUELS

PROJECT GOALS

- Complete the shovel-ready deployment of three community-scale forest bioenergy production facilities in each of the targeted rural California forest communities.
- Demonstrate that by aggregating the facilities in a cluster, the administrative and technical support can be cost-effectively supplied by West Biofuels to each during operations.
- Demonstrate that the operating costs and risks can be lowered by having centralized support for these relatively small power facilities for a model that can be replicated by thousands of other rural forest communities in the US.

EACH BIOENERGY FACILITY WILL:

WestBiofuels

- Execute BioMAT contracts to deliver power to the rural grid.
- Produce 3 MW (23,650 MWh/yr) of reliable/renewable/ distributed/baseload electricity.
- Utilize 28-35,000 dry tons/yr of residuals from sustainable forest management.
- Produce additional revenue and carbon sequestration from 5,600 tons/yr of biochar.
- Create 15.5 direct permanent well-paying jobs in these communities.
- Reduce potential for community related climate impacts including impacts associated with catastrophic wildfires.
- Provide direct and measurable benefits to local communities.

PROJECT TIMELINE

- Hat Creek Bioenergy Project
  - Located in Burney, CA
  - Currently in final phase of construction
  - Commissioning ETA Aug. 2024, COD ETC Sept. 2024
- Mariposa Bioenergy Project
  - Located in Mariposa, CA
  - Developing interconnection, air, and building permits
  - Equity and debt financial package is in process
  - Grading ETA Summer 2024, Construction ETA May 2025
- Mammoth Bioenergy Project
  - Located in Mammoth, CA
  - Local engagement and site Use Permit in process
  - Financial package to be completed
  - Construction ETA Fall 2026

HAT CREEK CONSTRUCTION UNDERWAY

COMMUNITY BENEFITS PARTNERS

WEST BIOFUELS

Educational Institutions

- Mammoth Lakes Fire Protection District
- High Sierra Energy Foundation
- Mammoth Lakes Trails & Public

Government

- CalFire
- US Forest Service
- Mariposa Chamber of Commerce
- Town of Mammoth Lakes*
- Eastern Sierra Council of Governments
- Mono County*

Community-Based Organizations

- Fall River Resource Conservation District*
- Pit River Resource Conservation District
- Sierra Nevada Conservancy
- Sierra Institute
- Mariposa County Resource Conservation District*
- Sierra Foothills Conservancy*
- Yosemite Sequoia Resource Conservation and Development Council*
- Sierra Business Council
- Inyo National Forest*
- Bioenergy Association of California*

- Project Team includes West Biofuels, Hat Creek Bioenergy, Mariposa Bioenergy, Mariposa Biomass Project, Mariposa County Resource Conservation District, Mammoth Bioenergy, and Whitebark Institute.
  - WBF and partners are committed to engaging with communities to confirm projects are aligned with community interests and standards
  - Team aims to contribute to local economic development by creating job opportunities, investing in local businesses, and supporting educational initiatives.

COMMUNITY BENEFITS PLAN: Diversity, Equity, Inclusion, and Accessibility (DEIA)

- WBF prioritizes the recruitment, development, and retention of talents from varied races, ethnicities, genders, ages, religions, disabilities, and sexual orientations.

- Partnership with Momentum to develop an internal DEIA Plan to create targeted local hiring goals, tracking company diversity, developing internal policies and procedures, identifying bias and DEIA training opportunities, and facilitating supplier diversity.

COMMUNITY BENEFITS PLAN: JUSTICE40

Assessment of impacted communities and groups:

- Each bioenergy project will significantly reduce greenhouse gas emissions related to power generation, resulting in net reduction of 5,621 metric tons of CO2/year due to a direct offset of fossil fuel combustion for power generation.
- Each region suffers exceptionally high risk of catastrophic wildfire. Removing excess biomass from forests for energy production will improve forest health and reduce wildfire potential

COMMUNITY BENEFITS PLAN: BENEFITS & METRICS

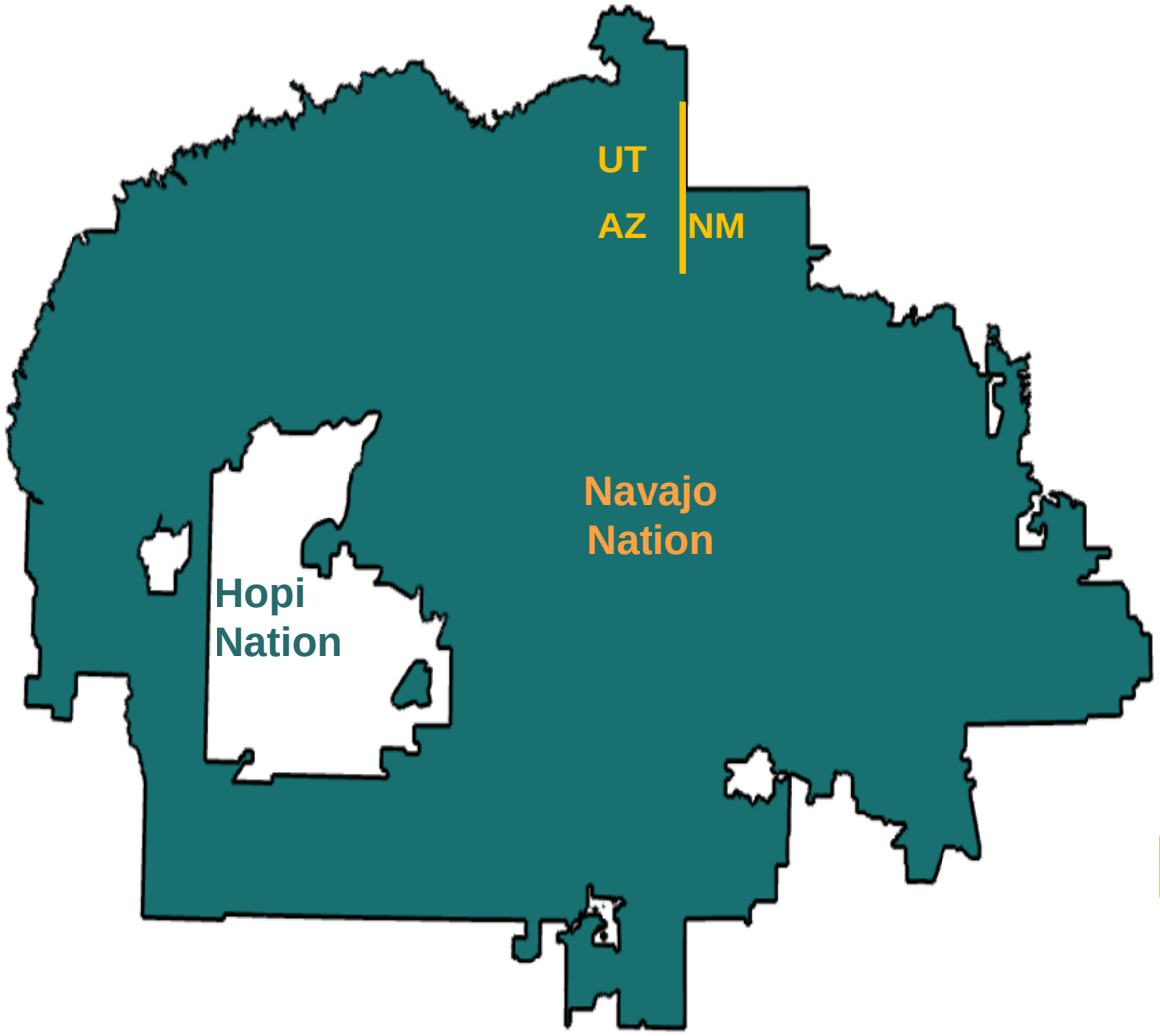
WestBiofuels

Benefits	Mechanism	Metrics
Decrease in environmental exposure and burden	Fossil fuels replacement for power generation with biomass	Emissions savings in MT CO2e/year
	Prevention of wildfires and wildfire-related emissions and damages	Bone Dry Tons of forest biomass collected
	Carbon sequestration through biochar production and use	Tons of biochar produced
Increase in high-quality jobs, clean energy job pipeline, and job training	Local targeted hiring in disadvantaged communities	FTE jobs created
	Creation of new clean energy careers	$ spent on education
	Workforce development and training around plant operations and maintenance, and safety	$ spent on development and training
Increases in clean energy enterprise creation and contracting	Local targeted hiring of contractors from Historically Underrepresented Groups	Value Of Contracts To Minority-Owned Businesses
Increased parity in clean energy technology access and adoption	Replacement of fossil fuels for power generation with biomass	Percentage increase of low-carbon energy share in PG&E energy mix
Increase in energy resilience	Baseload low-carbon energy source that can continuously sustain the grid while other renewables are not available	Number of PSPS events in a year
Increased community engagement in energy planning	Outreach, promotion, and education around biomass-to-bioenergy processes and related benefits to local disadvantaged community	Number of stakeholders' event

Energizing Rural Hopi and Navajo with Solar Powered Battery-Based Systems

Chelsea Chee
Deputy Director
Native Renewables

Energy Access on Navajo & Hopi



~15,000 homes do not have electricity

$$ Families spend up to 50% of income on energy

PROJECT GOALS

- **Electrify** ~300 homes
- **Educate & engage** communities
- **Grow** tribal workforce

Project Technology

- ~2.5 kW off-grid solar photovoltaic (PV) unit with battery storage
- Tier 1 PV modules & inverters designed for off-grid use
- Sealed lead-acid batteries that allow for minimal maintenance

Project Timeline

Community Benefits Plan

Community Engagement

Building relationships for years, have ongoing relationships with stakeholders throughout the Navajo and Hopi Nations

Fort Lupton Microgrid

William Thomas
Energy Systems Specialist
United Power

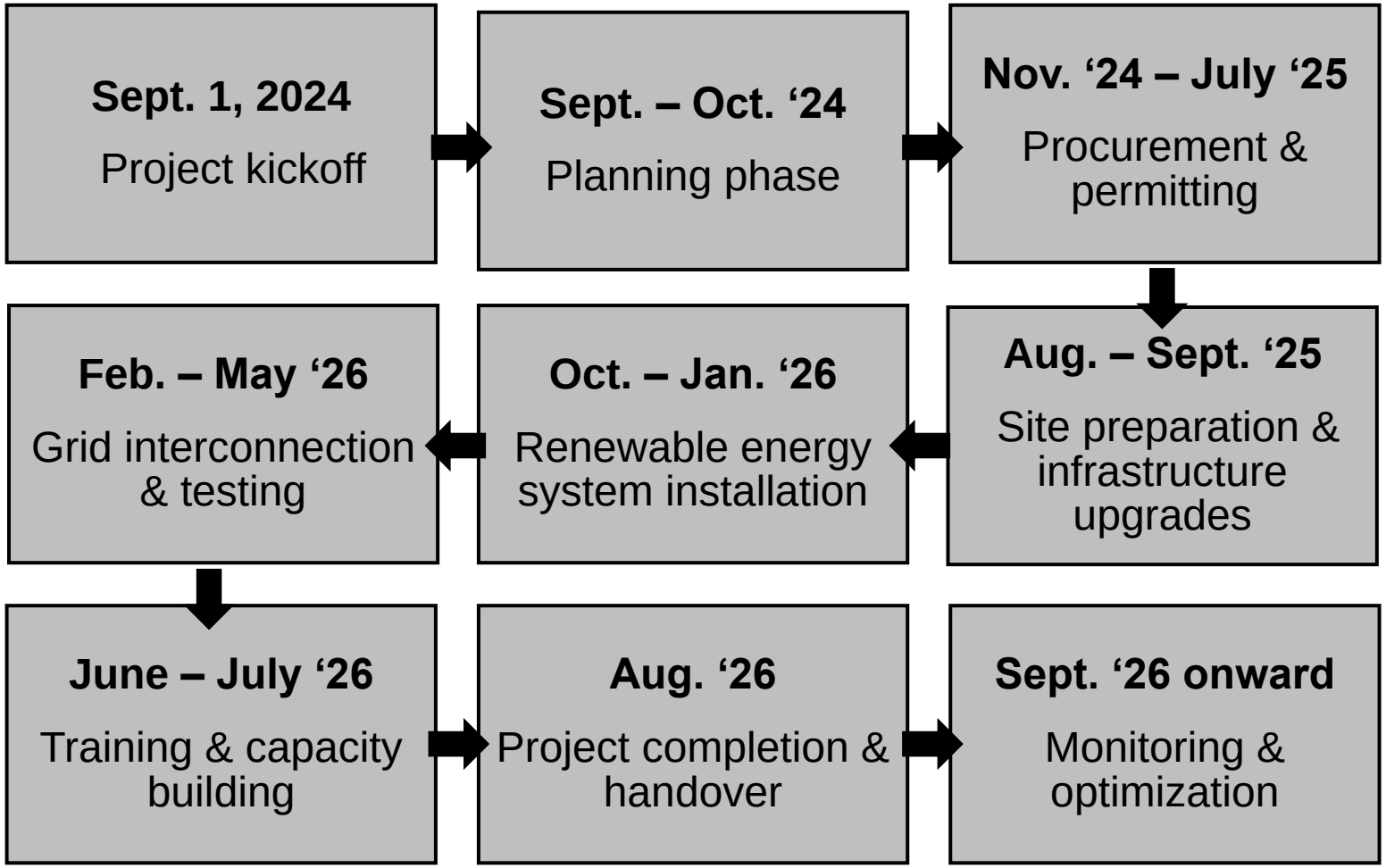
Fort Lupton Project Overview

- United Power and Schneider Electric together developed the Fort Lupton microgrid project
- Aims to bolster energy resilience in Fort Lupton, CO, by supporting energy and water consumers in the community
- Demonstrates a new energy system model, while building clean energy knowledge, capacity, and self-reliance in rural America

Technologies at Fort Lupton Water Treatment Plant

- Integration of distributed energy resources management system to optimize control, enabling a smooth transition for the utility to become a distribution system operator
- Addition of a 1.5 MW transformer or a 750-kW transformer
- Replacement of the existing diesel-fuel generator with a 300-kW natural gas generator
- Installation of a 500 kW / 1,147 kWh battery to supplement the back up generator
- Installation of up to 900kW of floating solar photovoltaics on the reservoir
- Integration of the distributed energy resources through a smart microgrid control system with islanding operation capability

Estimated timeline



Community Benefits

Background & Experience

- Commitment to delivering high-quality jobs, minimal environmental impacts, and benefits to disadvantaged communities
- Extensive involvement in local communities for 85 years

Community Dynamics & Stakeholders

- Challenges with water treatment plant reliability and infrastructure gaps
- Stakeholder engagement including local government, advocacy groups, and educational institutions

Engagement Strategies & Implementation

- Quarterly meetings with stakeholders
- Bilingual education/outreach activities and collaborative monitoring programs
- Continuous engagement efforts starting upon grant award

Community Benefits - continued

Quality Jobs & Workforce Development	• Prevailing wage requirements in construction contracts • Job postings targeted towards Fort Lupton and Brighton DAC • Partnerships with Aims Community College for workforce training and development
Diversity, Equity, Inclusion, Accessibility (DEIA)	• Formation of the IDEA Committee promoting diversity and inclusion • Commitment to diversity in workforce and community engagement • Multilingual outreach, education, and recruitment efforts
Justice40 Initiative	• Addressing environmental hazards and economic disparities • Project's alignment with Justice40 policy priorities • Strategies for incorporating DEIA considerations into project planning and implementation

United Power's comprehensive approach integrates community and labor engagement, DEIA principles, workforce development, and Justice40 goals, ensuring equitable benefits and opportunities for all stakeholders involved.

Community Engagement

- As an electric distribution cooperative, United Power prioritizes active community engagement to foster collaboration and accountability
- The co-op is committed to working closely with local communities to ensure high-quality job creation, minimal environmental impact, and significant benefits for disadvantaged communities and underrepresented groups
- With 85 years of active involvement in the local community, United Power maintains franchise agreements with each community it serves, including the majority-minority population of Adams County and the rural regions in Weld County, like Fort Lupton

Community Engagement - continued

- The co-op's engagement extends to serving on local boards, participating in cooperative infrastructure planning, supporting community events, and providing capital credits to cooperative members
- United Power has two union work groups, both under current collective bargaining agreements with the International Brotherhood of Electrical Workers, Local 111 (IBEW Local 111)
- The cooperative pledges to integrate prevailing wage requirements into construction contracts and evaluate bids based on criteria that prioritize wages, benefits, apprenticeships, training, and community outreach

Hopi Nation Community Solar

Kristen Parrish
Associate Professor
Arizona State University

Project Team

Arizona State University

Lead

Hopi Utilities Corporation

Community Partner

BoxPower

Microgrid EPC Firm

Copyright © 2023 Arizona Board of Regents

Project Overview

Solar PV Array and Battery to Serve Municipal Complex

Technology Overview

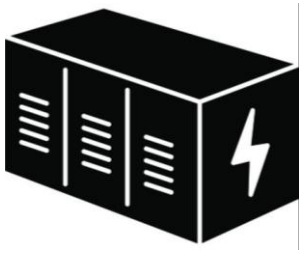
System Components

1.25 MW Solar PV Array

Sized to serve the Hopi Municipal Complex at the Turquoise Trail Site

Load Control

Optimize the microgrid operations with building load control



4000/900 kWh/kW Battery

Battery storage to support 24/7 operations

130 kW Backup (Diesel Generator)

Keeping existing generator in the loop for backup

Copyright © 2023 Arizona Board of Regents

Estimated Project Timeline

Phase	Activity	Year 1				Year 2				Year 3				Year 4				Year 5			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
Phase 1	Microgrid Sizing																				
	Cost-Benefit Analysis																				
	Secure Tribal Approval & Land Use																				
Phase 2	Microgrid Design																				
	Environmental Review																				
	Microgrid Mgr & Eng Training																				
	Permitting																				
	Develop and release RFP																				
	Evaluate responses; interview firms																				
	Select firm; Award contract																				
Phase 3	Procurement																				
	Construction																				
Phase 4	Microgrid Operator & Tech Training																				
	Commissioning																				
	Operate & Maintain																				
Phase 1-4	Community Engagement																				

Copyright © 2023 Arizona Board of Regents

Community Benefits Plan

Supporting the Hopi Tribe as they rewrite their energy story

- Address the economic devastation from the closure of the Navajo Generating Station in 2019.
- Hire and train **8-12 laborers** for solar PV and Battery Energy Storage construction jobs.
- BoxPower committed to a Hopi hiring preference.
- Conduct training for members of the Hopi Nation on microgrid design, construction, and operations.

Ongoing Community Engagement

- The OCED project team is in regular conversations with the Water and Energy Council, a subgroup of the Tribal Council.
- We are working to identify the most appropriate means of engagement with Tribal members; so far, training and hosting site visits is of most interest.

Copyright © 2023 Arizona Board of Regents

Yakama Tribal Solar Canal & Hydro

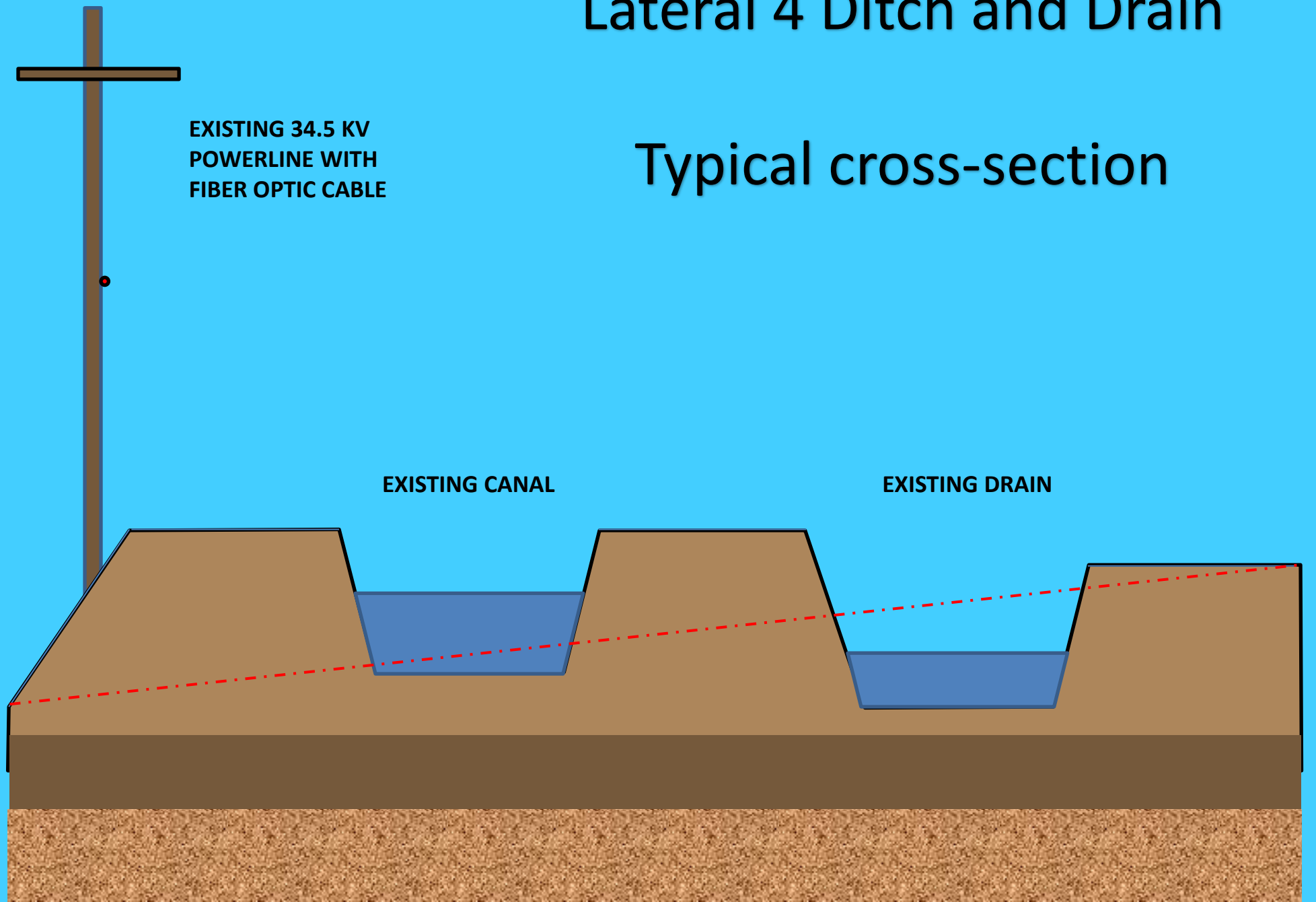
Ray Wiseman
General Manager
Yakama Power

TRIBAL ENERGY

- The Yakama Nation's goal was to find land already out of production with no cultural resource issues.
- Converting this existing right-of-way:
  - Allows for renewable energy production
  - Conserves water, cooler and cleaner water for fish,
  - Increases public safety
  - Provides new transmission capacity for system upgrades.

Lateral 4 Ditch and Drain

Typical cross-section

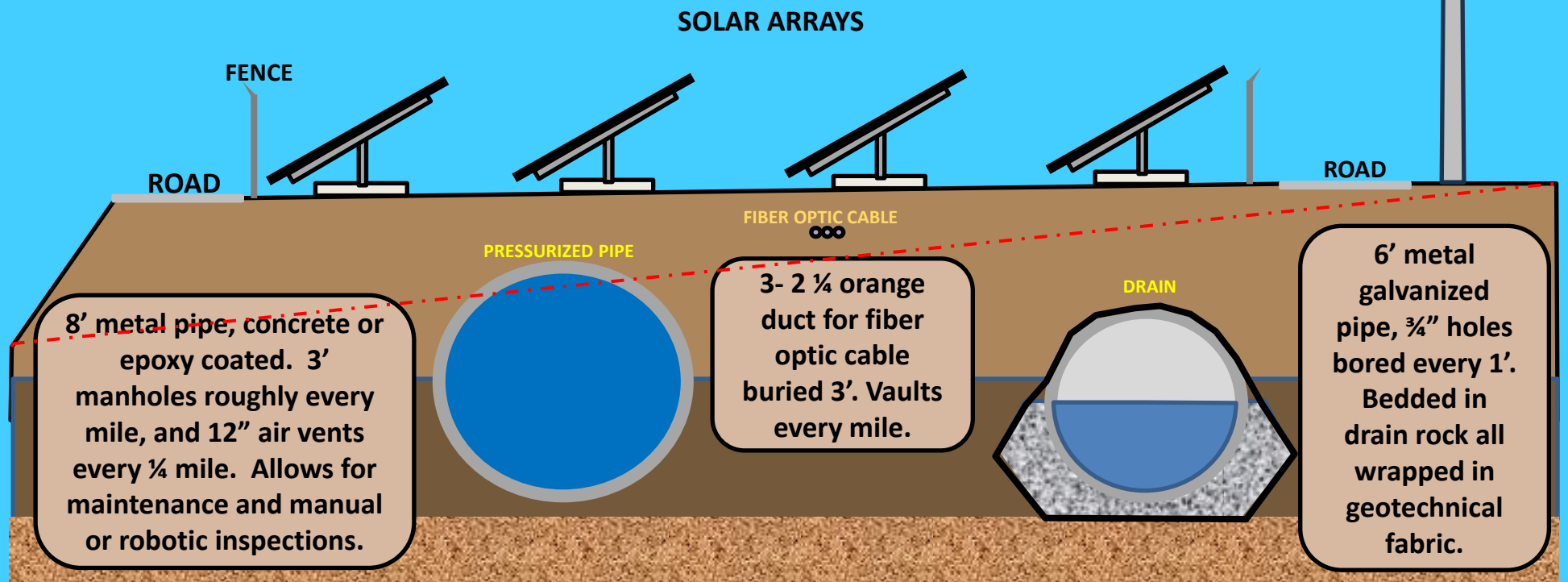


Lateral 4 Ditch and Drain

TYPICAL CROSS SECTION – PIPE SIZES WILL VARY WITH ACRES SERVED AT THAT LOCATION

Move power line to the North and upgrade to 115Kv, with 12.5Kv, and Fiber optic cable. All installed on 90’ poles.

Steel frames attached to concrete ballasts which support over 2000 panels per mile. All power produced would be delivered to the new power line to the north. Allows for emergency access, and all components can be disassembled and moved and then replaced.



Community Benefits Plans

Prioritizing Community Benefits in OCED Projects

OCED **requires** applicants to include a Community Benefits Plan (CBP) to help ensure broadly shared prosperity in the clean energy transition.

By **prioritizing community benefits**, we can ensure the next chapter in America's energy story is marked by greater justice, equity, security, and resilience.

Community & Labor Engagement

Diversity, Equity, Inclusion, & Accessibility

Investing in the American Workforce

Justice40 Initiative

Next Steps & Resources

Get Involved

How could this project impact me?

Learn more about OCED's Community Benefits Plan Framework →

Is there an ERA project near me?

Learn more about the selected projects here →

Project selected

WE ARE HERE

Announcement and Negotiations
Projects have been selected, but awards have not been made

What is an ERA project?

Learn more →

Project awarded

NEPA engagement during phase 2 →

1 ~5 years

2 ~5 years

3 ~2-4 years

4 ~2-4 years

Anticipated phases

Phase 4: Ramp-Up & Operate
Community Benefit Commitments Public

Phase 3: Install, Integrate, Construct
Community Benefit Commitments Public

Phase 2: Project Development
Community Benefit Commitments Public

Phase 1: Project Planning
Community Benefit Commitments Public

Ongoing community engagement throughout each phase

Learn more about project phases →

When are the ERA project-specific briefings?

Learn more and register here →

How do I stay informed?

Sign up for updates →

OCED
Office of Clean Energy Demonstrations

Community Benefit Commitments Public
Go/No-Go Decisions

Feedback Session

Ground Rules for Discussion

Submit questions using the Q&A feature

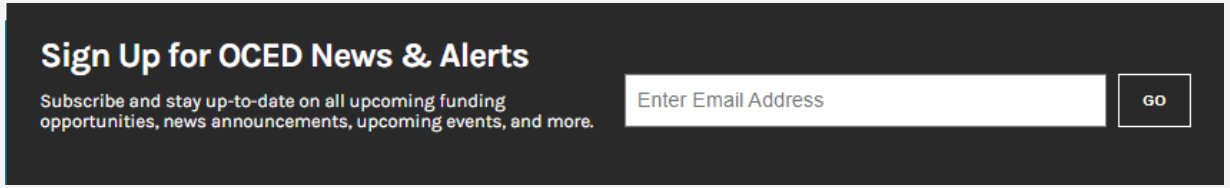
Reserve judgement

One idea at a time

It is okay to build on the ideas of others- Clarifying questions are okay

For more information

- **For questions regarding ERA projects in the Western region**
  West_ERA2970@hq.doe.gov
- **OCED Website & Newsletter Sign-up**
  energy.gov/oced
  Scroll to bottom to sign up here:



- **OCED Exchange (RFIs, NOIs, and FOAs)**
  oced-exchange.energy.gov
- **Follow us on LinkedIn**
  linkedin.com/company/doe-oced/

Resources

- **ERA Program**
  - OCED ERA Program Webpage
  - ERA Selections for Award Negotiations | Department of Energy
  - Federal Energy Funding for Rural and Remote Areas: A Guide for Communities
  - Rural or Remote Areas Geospatial Dashboard
- **Justice40 Initiative**
  - https://www.energy.gov/diversity/justice40-initiative
- **Energy Justice Dashboard (BETA)**
  - https://energyjustice.egs.anl.gov/
- **Climate and Economic Justice Screening Tool**
  - https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5

Thank you!

OCED

Office of Clean Energy Demonstrations

For more information, please visit energy.gov/OCED