# **Resiliency & Microgrids Working Group** Value of Resiliency – Tribal Resiliency Perspectives

Resiliency and Microgrids Team, Energy Division July 15, 2021



California Public Utilities Commission

# WebEx and Call-In Information

#### Join by Computer:

https://cpuc.webex.com/cpuc/onstage/g.php?MTID=eba5f9b00b8c200d6fdc454456f8e58a6

Event Password: RMWG (case sensitive)

Meeting Number: 146 278 7002

#### Join by Phone:

• Please register using WebEx link to view phone number.

(Staff recommends using your computer's audio if possible.)

#### Notes:

- Today's presentations are available in the meeting invite (follow link above) and will be available shortly after the meeting on <a href="https://www.cpuc.ca.gov/resiliencyandmicrogrids">https://www.cpuc.ca.gov/resiliencyandmicrogrids</a>.
- The CPUC website is undergoing an update. The above link will be posted as soon as possible after the Resiliency and Microgrids webpage has been restored.
- The meeting presentations today will be recorded. There will not be meeting minutes.

# WebEx Logistics

- All attendees are muted on entry by default.
- Questions can be asked verbally during Q&A segments using the "raise hand" function.
  - The host will unmute you during Q&A portions [and you will have a maximum of 2 minutes to ask your question].
  - Please lower your hand after you've asked your question by clicking on the "raise hand" again.
  - If you have another question, please "re-raise your hand" by clicking on the "raise hand" button twice.
- Questions can also be written in the Q&A box and will be answered verbally during Q&A segments.

### WebEx Tip

1. Click here to access the attendee list to raise and lower your hand.

2. Raise your hand by clicking the hand icon.

3. Lower it by clicking again.

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meeting audio



? QA

Participants



L' Snare

Unmute

# **WebEx Event Materials**



## Preliminary Resiliency & Microgrids Working Group Schedule

Month	Resiliency and Microgrids Working Group Topics				
February					
March	Standby Charges	Multi-Property Microgrid Tariff			
April					
May			Value of Resiliency		
June					
July					
August					
September				Microgrid	
October				Interconnection	
November	Customer-Facing Microgrid Tariff Revisit				
December					
January					
February					

Value of Resiliency: Working group participants to discuss resiliency valuation through an all-hazard approach to disruptions and mitigations by examining metrics, methodologies, and policy applications.

# Agenda

I.	<ul> <li>Introduction (CPUC Staff)</li> <li>WebEx logistics, agenda review</li> </ul>	2:00p – 2:05p
II.	RMWG Discussion Recap	2:05p – 2:10p
III.	<ul> <li>Tribal Resiliency Perspectives, Will Micklin of the Ewiiaapaayp Band</li> <li>of Kumeyaay Indians in Alpine, CA</li> <li>Q &amp; A and Discussion</li> </ul>	2:10p – 2:40p 2:40p – 2:50p
III.	<ul> <li>Tribal Resiliency Perspectives, Josh Simmons, Prosper Sustainably</li> <li>Q &amp; A and Discussion</li> </ul>	2:50p – 3:20p 3:20p – 3:30p
IV.	Additional Q & A Discussion	3:30p – 3:55p
V.	Closing Remarks, Adjourn • Provide information on the next meeting	3:55p – 4:00p

## Resiliency and Microgrid Working Group Recap of Discussions To-date

### 4 Pillars of Resiliency Valuation

- I. Baseline Assessment
- II. Mitigation Measure Assessment
- III. Resiliency Scorecard
- IV. Resiliency Response Assessment (post-disruption or modeling)

## Tools for Resiliency Planning and Assessment

- Interruption Cost Estimate (ICE) Calculator for localized short duration outages
- Power Outage Economic Tool (POET) -- for widespread, long duration outages)
- Resiliency and Reliability Optimization Tool transmission level
- REPAIR resiliency and reliability optimization tool at transmission level
- ReNCAT quity/social burden based resiliency resource planning tool

## Tribal and Local Government Resilience Perspectives

- Paul Cummings, Nevada County Office of Emergency Services
- Will Micklin, Ewiiaaypaayp Band of Kumeyaay Indians, Alpine, CA
- Josh Simmons, Tribal Gap Analysis Project, Prosper Sustainably

#### EWIIAAPAAYP BAND OF KUMEYAAY INDIANS

### ROBERT PINTO, SR., TRIBAL CHAIRMAN

by WILL MICKLIN, CEO

INDIAN ENERGY AND THE VALUE OF RESILIENCY – THE FOUR PILLARS METHODOLOGY



#### The Native American Reservation Electricity Gap

• In the continental United States, Native Americans living on reservations are the Americans most likely to lack electricity access in the twenty-first century.

• The U.S. Energy Information Administration reported in 2000 that 14% of households on Native American reservations have no access to electricity, compared to 1.4% nationally.

•. The Native American Reservation Electricity Gap is not well quantified or documented.



#### EWIIAAPAAYP BAND OF KUMEYAAY INDIANS

Big Ewijaapaayp is 5,460.13 acres that covers over 8 l/2 sq. miles, and is located southeast of Mt. Laguna, approximately 47 air miles east of the city of San Diego and 19 miles air miles east of the unincorporated community of Alpine in east San Diego County. The northern portion of the Big Ewijaapaavp boundary parallels a high ridge of the Laguna Mountians near Mt. Laguna. This boundary drops away along a steep escarpment adjoining the Sawtooth Mountains Wilderness. The northwest corner (adjacent to the Pacific Crest Trail) at 6,000 ft. elevation lies one mile southeasterly of Mt. Laguna where State Route 1 runs north from Interstate 8 to State Route 76 through the community of Mount Laguna. The ridgeline at 5,600+ ft. to 6,400+ ft. in elevation, runs along two miles of the Reservation's eastern boundary above the eastern escarpment and adjacent to the Sawtooth Mountains Wilderness.

The Reservation is off-grid to the electric transmission grid and to all telecommunications services.

EBKI intends to co-locate broadband fiber media with an electrical conductor in conduit in underground trench conduit to electrify the Reservation and to deploy broadband services.

The path for transmission is a northwest to south route from Mt. Laguna/SR-1 running about 3 miles to the tribal community. Broadband will be deployed in the last mile via 2.5 GHz/3.5 GHz radio spectrum. A microgrid will share power among households and anchor institutions, and participate in a SGIP and load balancing programs for flex events and power shutoff.





#### INDIAN ENERGY RESOURCE POTENTIAL

According to recent studies and analysis conducted by the National Renewable Energy Laboratory (NREL) and the Department of the Interior, Indian lands have the following amounts of resources available for development:

- 1,331 million MWh wind resources (32% of US annual generation)
- 9,275 million MWh PV solar resources (200% of US annual generation
- 6,017 million MWh enhance geothermal resources (150% of US annual generation)
- 4 million MWh biomass (solids) resources (100% of US annual generation)
- 7 million MWh small/low hydropower resources (170% of US annual generation)
- 882 million barrels potential oil reserves
- 10 billion metric cubic feet potential gas reserves
- 1.2 billion tons potential coal reserves

#### Energy Policy Act of 1992

Since 1992, the Department of Energy has been tasked by Congress to provide financial and technical assistance to federally recognized tribes, tribal enterprises, Alaska Native villages and corporations for energy and energy related infrastructure development.

#### Energy Policy Act of 2005

Title V of the Act established the Office of Indian Energy Policy and Programs in the Department of Energy and create programs to support energy development by Indian tribes. Under Title V, the Office of Indian Energy is responsible to provide, direct, coordinate, and implement energy planning, education, management, conservation, and delivery of programs that:

- Promote Indian tribal energy development, efficiency, and use;
- Reduce or stabilize energy costs;
- Enhance and strengthen Indian tribal energy and economic infrastructure relating to natural resource development and electrification; and
- Bring electrical power and service to Indian land and the homes of tribal members located on Indian lands.
- The Office may provide competitive grants to Tribes or Tribal Energy Resource development organizations for:
  - Energy, energy efficiency, and energy conservation programs studies and activities supporting tribal acquisitions of energy supplies, services and facilities, including the creation of tribal utilities;
  - Planning, construction, development, operation of tribal electrical generation, transmission and distribution facilities;
  - Development, construction and interconnection of electric power transmission facilities with other electric transmission facilities.
- Develop a program to support and implement research projects in carbon sequestration, including forest, geologic and agricultural sequestration.
- The Secretary is also authorized to establish a loan guarantee program.
- Federal agency authority to give preference to tribes or tribal enterprises in the purchase of electricity or any other energy product or byproduct.
- The power marketing administrations shall encourage Indian tribal energy development through appropriate actions taken under their power marketing programs.

#### Energy Independence and Security Act of 2007 (PL 110-140)

The EISA established the Energy Efficiency and Conservation Block Grants Program (EECBG to provide grants and assist eligible entities in implementing strategies to:

- Reduce fossil fuel emissions;
- Reduce total energy use of eligible entities; and
- Improve energy efficiencies in transportation, buildings and other appropriate sectors.

#### **Indian Energy Status**

Electrification of the United States and its rural communities that constructed grid infrastructure providing low cost energy to every community no matter how remote, did not include Indian Country.

Today, a significant percentage of tribal communities suffer the economic and social effects of high cost energy or are off grid entirely.

Tribes must transition to distributed renewable energy producers with microgrid systems interconnected in regional "energy sheds" by 2030.

However, today, Indian Country endures high rates of off-grid communities, high energy cost, unreliable energy, inability to provide essential infrastructure for a tribal economy, and inability to monetize energy resources.

#### **Tribal Energy Projects**

- Renew USDA-DOE-BIA Memorandum of Understanding on Electrification
- Reduce requirements for DOE-IE grants, including cost matching, and prohibitions that are on payment of indirect costs, use of funds for tribal staff pay costs, and purchase of capital equipment.
- Build more flexibility into technical assistance funding
- Unlock DOE-IE grant recipients' ability to take on private third-party capital
- Work with Congress to codify universal electrification

#### **Collaboration with and between Federal Departments/Agencies**

- Support grants to tribal utilities for energy development and grid buildout
- Allow RUS to refinance loans to encourage uptake
- Offer zero percent interest RUS loans for tribes
- Review cumbersome and outdated grant/loan "materials list" application requirements
- Support co-location of Indian energy connectivity / tielines / electrification with broadband middle mile deployment
- Support for distributed generation by hybrid renewable energy systems, including integration of multiple fuel sources and energy conversion systems, such as waste gasification and micro-grids
- Support for tie lines interconnections to develop energy value hubs with integration of renewable energy distributed microgrids to develop "energy shed" and energy shed management systems. "Energy shed" is "that geographical area in which all power consumed within it is supplied within it" and an "energy shed management system" is whatever tool or process oversees the grid operations within the geographical bounds of the energy shed.
- Accelerate the deployment of clean energy technologies producing power for microgrids that are interconnected "energy sheds" in order to equitably transition Indian Country to a net-zero greenhouse gas emissions economy by 2030.
- In CA that means energy resiliency and adaptation to flex alerts and power shutoffs.

#### TRIBAL RECOMMENDATIONS

Tribes desire a reduction in the costly regulatory burdens that diminish economic opportunity for tribes seeking to make productive their tribal trust estate through energy development.

Five recommendations for administration executive action and congressional legislation.

#### **RECOMMENDATION #1: Trust Modernization**

Tribal energy opportunities are unreasonably complex and inflexible, and deprive tribes of the essential attributes necessary for energy development – certainty, transparency, reasonable cost, and access to capital. See GAO Analysis, "HIGH RISK: Actions Needed to Address Serious Weaknesses in Federal Management of Programs Serving Indian Tribes."

Tribes are not afforded a date certain for a responsible federal agency to make any of the numerous critical "go/no-go" decisions regarding critical elements to a project absent clear and consistent standards for such approval(s).

Financial incentives that are available to other entities, including both commercial entities and governments at all levels, are not available to tribes.

#### **RECOMMENDATION #2: Electrification**

See previous slide.

#### **RECOMMENDATION #3: NEPA/Catex**

The National Energy Policy Act (NEPA), and its "rule of reason" and "categorical exclusions", have significantly damaged tribal energy development.

The NEPA process is inequitably implemented for Federally recognized Indian tribes. Projects that would qualify as a categorical exclusion under NEPA for non-tribal entities are precluded from a categorical exclusion for tribal entities because of the issues of "discretion" and "major federal action." Tribal projects that trigger NEPA cannot qualify for a categorical exclusion because the Secretary's discretion to approve or disapprove the tribal project is defined as a major federal action and, therefore, not an administrative or ministerial action that would qualify for a categorical exclusion. Any non-tribal entity would qualify for and receive a categorical exclusion because they are not a tribe and have no trustee that must provide a discretionary approval.

Therefore, even the least of tribal projects quickly becomes unproductive because of the disproportionate NEPA burden of additional cost and delay.

#### **RECOMMENDATION #4: Permitting**

Executive Order 13616 dated June 14, 2012, "Accelerating Broadband Infrastructure Deployment", Executive Order 13783 of March 28, 2017, "Promoting Energy Independence and Economic Growth", Executive Order 13821 dated January 8, 2018, and the U.S. Forest Service Final Rule to implement the Agriculture Improvement Act of 2018 dated April 8, 2020, "Streamlining and Expediting Requests To Locate Broadband Facilities in Rural America", providing for streamlining the Agency's procedures for evaluating applications to locate or modify communications facilities on National Forest System (NFS) lands intend that energy resources on private, state and federal lands should be developed. However, federal agency policies, and most especially US Forest Service policies, have impeded the development of energy on tribal lands.

NREL identified 33 Gigawatts (GW) of solar and wind energy potential in 18 California Forests, however, USFS forest lands support zero (0) MWs of energy in production since the agency issued its 2011 directives (regulations). USFS wind development policy make tribal energy projects unfinanceable because of three regulatory requirements unique to the USFS:

- A USFS wind permit may not grant 'exclusivity' to the site.
- Even after a wind developer obtains a USFS meteorological permit and spends 3 years to monitor wind speed on a particular site, the developer must compete with other developers for a construction permit for that site.
- The USFS initial application 'screening process' whereby the FS determines whether an applicant can even begin the NEPA permitting review process is a summary process that has been used by the USFS repeatedly to stymie wind development. The screening process is hasty, completely ignores the benefits of development, lacks transparency, and denies an applicant the ability to challenge or bring an appeal of a screening rejection of an application.

#### **RECOMMENDATION #5: Dual Taxation**

Federal, state or tribal taxes may or may not be applicable depending upon the particular facts of the transaction. Taxing authority is often determined by a balancing of the tribal, state and federal interests at stake.

With respect to taxation of transactions or activities, as opposed to property, taxing authority depends on the specific nature of the transaction being taxed, where the direct incidence of the taxation occurs and which party or parties are directly taxed.

Tribes, however, as tax-exempt governments are unable to monetize energy tax credits, were eligible for the cash in lieu of tax credits program only once, and are restrained from tax exempt bonding financing, and have limited access to capital.

The tangled legal status of dual taxation harms Indian tribes' energy development and is the biggest barrier to the benefits of tribal energy: business development, job creation, education, and improved health and public safety outcomes. An example of the financial impact of dual taxation on tribal energy projects is illustrated by the following wind project financial summary:

#### ILLUSTRATION OF PROJECT FINANCIALS

Consider a 100 MW wind project for 30 years

- PPA of \$70 per MW-hr
- Capacity factor of .30
- Construction 250 MM
- Royalty 6% to tribe
- Property tax 1%
- Sales tax 7.5%
- Possessory Interest 1%

#### SAMPLE SCENARIO

- Royalty revenue to tribe = \$1,103,760 per year
- Sales tax .075 (67% of costs) = \$12,562,500 year one
- Property tax .01 (67% of costs) = \$1,675,000 depreciated to 0 in 30 years. Yields average of \$837,500 per year.

#### SAMPLE RESULTS

<ul> <li>Royalty \$15,193,070</li> </ul>	35%
• Sales Tax \$12,562,500	29%
• Property Tax \$15 107 727	35%

Please consider that a tribe today would benefit from only the royalty payment, or 35% of total project revenues. Sales tax at 29% of total revenues and property tax at 35% of total revenues would be claimed by local government.

- Pillar 1 Baseline Assessment
- Pillar 2 Mitigation Measures
- Pillar 3 Resiliency Scorecard
- Pillar 4 Resiliency Assessment (post-disruption)

#### Pillar 1 – Baseline Assessment

- High percentage off-grid
- Lack of appropriations for electrification
- · High cost of extending grid connectivity to tribal lands
- Lack of support for infrastructure co-location for broadband and energy projects
- Infeasibility of amortizing capital infrastructure costs to small rate payer base
- Higher percentage unreliable energy
- Substantial majority high cost energy
- 25% to 50% non-federal share (tribal match) for grant awards
- Exclusion of indirect cost rates, limited direct costs
- Complex grant applications with high cost engineering and finance requirements
- Lack of grants for design, engineering, and finance deliverables
- Lack of grants for grant preparation
- Uncertainty in permit applications (ROW, met towers, lidar) no time deadlines for review, no appeal
- Limited access to capital, and lack of implementation of Buy Indian Act
- Loan program unresponsive to tribal needs and responsive to institutional lenders
- Barriers to tribal bonds
- Inability to monetize energy tax credits
- Barriers to tribal tax revenues
- State/local government taking of revenues from tribal sales & possessory interest tax
- Lack of support for tribal energy administrative/technical capacity
- Lack of support for microgrid management of energy sheds
- Lack of effective feed-in tariffs, load balancing, power shutoff events

- Pillar 1 Baseline Assessment
- Pillar 2 Mitigation Measures
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#### Pillar 2 – Mitigation Measures

- Fund electrification of tribal lands
- Support co-location of energy connectivity with broadband deployment
- Expense capital costs of infrastructure improvements while rate payer amortizes operations, maintenance and repair costs
- 0% non-federal share (tribal match) for grant awards
- Allow indirect cost rates for grant awards
- Evaluate grant applications on deliverables and outcomes instead of requiring complex and expensive design, engineering and finance
- Implement E.O.s that expedite permit awards
- Remove barriers to tribal bonds (essential government function test)
- Authorize 3<sup>rd</sup> party conduits for energy tax credits and cash in lieu of tax credits
- Remove dual taxation on tribal lands
- Support tribal energy administrative/technical capacity among all tribes
- Support microgrid management of energy sheds
- Support tribal participation in feed-in tariffs, load balancing, power shutoff event programs
- Mandate implementation of Buy Indian Act

- Pillar 1 Baseline Assessment
- Pillar 2 Mitigation Measures
- Pillar 3 Resiliency Scorecard
- Pillar 4 Resiliency Assessment (post-disruption)

### Pillar 3 – Resliency Scorecard – Quantifying and Valuing

- Support 100% distributed generation of renewable energy through diverse renewable energy technologies by 2030
- Support adoption of 100% electric vehicles and systems for tribes by 2030
- Support co-location of energy connectivity with broadband deployment
- Support microgrid implementations for all tribes in "energy shed" with interties among regional tribes to support management, load balancing, and energy sharing
- Individual tribal "energy sheds" to include renewable energy technologies of solar, wind, geo-thermal, waste to energy, tidal, and lake/run-of-the-river hydro (not dam hydro); and excluding biomass
- Support tribal by-product energy production of biogas (waste to energy) and hydrogen
- Support development of hydrogen motors for hydrogen fuel production within "energy sheds"
- Support feed-in tariffs not based on energy cost avoided formula
- Develop and quantify cost/impact estimator in financial models that support underground transmission (including co-location of broadband fiber media and electric conductors) and "energy shed" among microgrids by quantifying total cost of wildland fire, high wind, incident and weather damage repair/replacement, and climate change impacts, etc.

- Pillar 1 Baseline Assessment
- Pillar 2 Mitigation Measures
- Pillar 3 Resiliency Scorecard
- Pillar 4 Resiliency Assessment (post-disruption)

#### Pillar 4 – Resiliency Assessment

- Affordable
- Reliable
- Support tribal economy dispersed economy after C19 pandemic
- Support electric replacements of carbon fuels larger and longer loads
- Support co-location of energy connectivity with broadband deployment
- Support infrastructure resilient to climate change impacts

   microgrids, "energy sheds", load balancing, and energy sharing
- Provide essential infrastructure demanded by a dispersed economy
- Sustainable and valued by the rate payer
- Responsive to climate change risks, as resilient and adaptive technology

# **Discussion and Q&A**





# Working with California Tribes on Resiliency

**CPUC Resiliency and Microgrid Working Group** July 15, 2021



# PROSPER Building Thriving Communities SUSTAINABLY

# Presenter Introduction

Josh Simmons

President and Founder

Prosper Sustainably

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### **Background**

>J.D. USD, M.E.S.M. UC Santa Barbara

Licensed California Attorney

>SY Chumash Env Director ('07-'14)

# Prosper Sustainably, LLC

## >Woman Owned Small Business

### Provide energy, climate, and env consulting services for Tribes and other communities

- Grant Writing, Project and Program Planning, Project Management
  - Energy, Climate and Resilience Planning and Projects (Pala, Rincon, San Pasqual)
- Training and Capacity Building
  - California Tribal Gap Analysis
  - Tribal Climate Health Project
  - Tribal Pollution Prevention Action Project

### Founded in 2014



# **Prosper Sustainably**

https://prospersustainably.com/

# CTGA CALIFORNIA TRIBAL GAP ANALYSIS ABORATING ON CLEAN ENERGY AND CLIMATE CHANG **CA Tribes** Tribal-Serving Agencies **Secondary**

Data

### GOALS

Identify tribal priorities, needs, and barriers in clean energy and climate change adaptation and resilience

Provide recommendations for State programs, funding, technical assistance, etc. to address needs (to inform future State investments)

- Primarily informed and shaped by tribal input

Advance collaboration and build relationships between Tribes and State (ALL CA TRIBES)

# **Tribal Resiliency Considerations**

## >Increasing Impacts $\rightarrow$ Increasing Importance of Resiliency

- Wildfire, PSPS outages, flooding, drought, species migration, energy costs, etc.

## Sovereign and Unique Communities

-Sovereignty, historic injustices, economics, program ineligibility, jurisdiction, etc.

## >Capacities and Resources vs. Need (individually and collectively)

-Staffing, Policy and Regulations, Funding

## Tribal Resiliency Planning and Projects

- -General resources and practices for Tribes
- Rincon, Pala Energy, and San Pasqual examples

# Recommendations

### Development and Pre-Deployment of the 4 Pillars Methodology

- Value of 4-Pillar Methodology for Tribes
- Research and review pre-existing, relevant tribal feedback and info
- Outreach to Tribes with tribal specific content
- Tribal focused workshops/listening sessions
- Identify and share information about current opportunities

## Deploying the 4 Pillars Methodology

- Grants (or similar funding program) for resiliency planning
  - Use pre-established criteria to identify and select best candidates
  - Allow Tribes to lead without an inflexible requirement to use the 4 Pillars Methodology
- Successful planning projects  $\rightarrow$  Funding for implementation
  - Eligibility for funding, eligibility to apply for funding, increased odds of receiving funding, etc.

# THANK YOU! QUESTIONS?

### **Josh Simmons**

President, Principal Consultant, Attorney Prosper Sustainably (805) 617-5685 jsimmons@prospersustainably.com www.prospersustainably.com



# **Discussion and Q&A**



# **Upcoming Meetings**

• Thursday, July 29, 2021, 2-4PM

Topic: Value of Resiliency – Where do we go from here? Discussion Forum

NEW Working Group Topic: Interconnection

• Thursday, August 12, 2021, 2-4 PM



# California Public Utilities Commission

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