



The Energy Sovereignty Institute

WORKSHOP REPORT & FINDINGS

August 25, 2019

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Executive Summary

On June 27 and 28, 2019, the Energy Sovereignty Institute (ESI) convened approximately thirty-four representatives and community members from tribes across the state of New Mexico, with generous support from Cornerstones Community Partnerships and Enterprise Community Partners. These communities included members of the Navajo Nation and the Pueblos of Cochiti, Laguna, San Felipe, Santo Domingo, Santa Clara, Nambe, Picuris, and Jemez. We also had the opportunity to bring together key stakeholders from the energy, environment, and economic development sectors, including Sandia National Laboratories, Gallup Solar (Navajo non-profit), Enterprise Community Partners, The Sierra Club, Western Resource Advocates, NM Energy, Minerals and Natural Resources Department, Santa Fe Community College, PNE Energy, North Central NM Economic Development District, Public Service Company of New Mexico, and Kit Carson Electric Cooperative. In addition, seven undergraduate interns from the Sandia National Laboratories Indian Energy program, from various NM and out-of-state tribes, attended and participated in the event. Between these various groups, we structured a participatory and interactive two-day conversation.

After this gathering, it is ESI's understanding that this conversation should and must continue. While the knowledge in the room ranged from novice to expert, it becomes even more important to level the playing field of knowledge in the energy development space. This report suggests next steps and recommends two strategies to continue this work. First, we must make sure individuals are connected to one another, and this initial gathering started to do that. This may take form in a yearly gathering, similar to the workshop we hosted on June 27 & 28; or as facilitated gatherings that bring together individuals working directly in the energy development space and those individuals working within leadership in the many tribal communities throughout the state. Either way, we saw a need to be educating the doers and the policy/governing bodies about energy development and energy sovereignty. Secondly, there is a need for ESI to be in the field working directly with the end-user. It is recommended that ESI develops concepts with an emphasis on inter-organizational collaboration, economic development potentials, local capacity building, and adaptability to alternative energy technologies.

Now, this document is meant to be the start of an energy development/ energy sovereignty conversation and integrative process that will positively impact the larger tribal populations of New Mexico. The information within this document is meant to be a framework that will structure what ESI will become. Further work and considerations will be developed internally with support from individuals and partnering organizations vetted by ESI's funding partners and ESI leadership, but there will be a solid focus on developing energy sovereignty specifically within New Mexico and ESI's tribal partners.



ESI's technical assistance areas are focused around the development and provision of several conceptual energy development examples, including Blue Lake Rancheria and the Spokane Tribe which all reconcile current opportunities, best practices, and ideas for the inclusion and incorporation of renewable energy systems which benefit the local economy while supporting the cultural protocols of the Tribe.

Introduction & Overview

The Energy Sovereignty Institute (ESI) is a social initiative, designed to promote the benefits of decentralized energy systems and technologies in partnership with Native American communities and to advance their availability and use. ESI is a programmatic partnership between two established entities working in related fields: the Sustainable Native Communities Collaborative (SNCC) and the Microgrid Systems Laboratory (MSL).

The Sustainable Native Communities Collaborative (SNCC), a 501(c)3 non-profit design firm focuses on culturally and environmentally sustainable development with American Indian, First Nations, and Indigenous communities. Through planning, architectural design, technical assistance, and research, SNCC supports tribal communities' self-determination, impacts on the natural world, and development of healthy, green, culturally-responsive communities. SNCC, now part of MASS Design Group's a global non-profit platform, is focused on developing creative strategies for closing the housing gap in Indian Country.

The Microgrid Systems Laboratory is a collaborative effort to speed the transition to a more resilient, sustainable, and accessible electricity system worldwide, focusing on the deployment of microgrid systems and decentralized energy architectures. MSL works with a member consortium, including utilities, colleges and universities, national laboratories, and industry, in the areas of research, innovation, demonstration, and education. In the industrialized world, the practical impact is on grid modernization; and in the developing world, the focus is on energy access for rural populations and solutions to energy poverty.

ESI's mission is to ensure that indigenous communities have access to the most current cultural, technological, policy and regulatory, and financing resources in support of their goals in energy generation, distribution, and consumption. By pursuing this mission in three main areas of endeavor, ESI will serve as:

1. A thought leader and principal point of contact for tribal energy sovereignty matters
2. A nationally recognized clearinghouse for related information, resources, and initiatives
3. A respected contributor to research critical to understanding the needs, challenges, and opportunities in the field.



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As part of the June 27/28 gathering, ESI has begun structured activities to learn more about community attitudes, values, and current practices in connection with energy. Based on these learnings, ESI will continue to scale up local knowledge with additional financial support from grants, strategic partners, and industry sponsors to offer a broader range of programs in support of its mission.

Ultimately, ESI's vision is that native communities can play a leadership role in the nation's transition to a sustainable, resilient, and equitable energy system. In the words of Henry Red Cloud of the Lakota Solar Enterprises Energy Sovereignty Initiative: "My biggest dream is for First Nation Communities to become energy independent before mainstream America."

Learning from the ESI Workshop Convening

ESI launched a two-day convening of tribal leaders in the energy field, including representatives from pilot projects and other thought leaders. This structured and facilitated conversation elicited key concepts and information about Indian attitudes toward energy and energy providers, economic goals and energy economy, and the concept of energy sovereignty within the context of tribal objectives. Specific topics on the agenda included:

- Energy sovereignty and tribal sovereignty
- Trends in the environment: climate change, decarbonization
- Regulatory and policy factors
- Tribal cultures and leadership in the national energy transition
- Federal, State, and local finance and technical resources
- Technology options
- Utility partnerships
- Workforce training opportunities

Input gathered from this event has started to inform the subsequent design and implementation of ESI's full range of programs. The convening was the first step in developing critical competencies, capabilities, and resources in support of sustainable community development in Indian Country. It has become the framework to understand how ESI can become a go-to resource to tribal energy development here in New Mexico.

The convening was held in the spring of 2019, at the University of New Mexico's School of Architecture, Planning, and Preservation. It included a focus on NM's Tribes and Pueblos and their energy needs and objectives. During the two-day gathering, there was both lecture-style information presentations, facilitated discussions, and separate break-out tracks. This gathering has built ESI's local New Mexico knowledge to understand the knowledge gaps and how to yield benefits to NM's native communities. During the two-days of discussions, we started to identify



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particular challenges, in a larger national effort, stakeholder network, and resource base as it grows over time. The full workshop agenda appears at the end of this report.

For this initial convening ESI had support/investment by Cornerstones Community Foundation and Remy's Good Day Fund, along with Enterprise Community Partners. The outlying goal is to increase these foundations' capacity and capability to serve and establish ways to support tribal energy development as it relates to community development. Through this investment, both Cornerstones and Enterprise will be able to yield greater impact than their limited resources can achieve on their own, while growing their universe of grantees and potential grantors in support of their efforts, by partnering with larger investors/funders, national allies, and prominent stakeholders in the field. This will also enable ESI to continue raising additional funding to expand its programs and projects, including those in NM.

Defining Energy Sovereignty

What does energy sovereignty mean in Indian Country? How do tribes think about their own energy development? After our two day gathering, we've started to understand that tribes have a wide range of definitions, and all start with how a tribe defines self-determination. This essential core is what defines tribal energy sovereignty, ranging from the idea of providing the energy, to a subsidized cost, to creating an economy around energy.

Knowing how individual tribes define this term, has helped us frame how we think about Energy Sovereignty, and this small initiative, knowing that we can't approach every tribe with the same conclusions. Every time we engage we need to ask specific questions about how the community, and how the leadership values energy development, and in what ways these processes can further their notion of sovereignty. What we've concluded during these two days is that more information needs to be shared, more information needs to be gathered, and lastly, there needs to be space to have these conversations in order to build the capacity of tribal entities to take on these complex concepts.

Prior to the gathering, we asked participants what does energy sovereignty mean. And we were surprised by the variety and range of responses. A "word cloud" diagram appears below, based on workshop registrants' responses to the question: "What does Energy Sovereignty mean to you?"



Workshop Discussion Notes

Key concepts and ideas captured by the facilitators from the participants' discussions include the following:

Defining and Understanding Energy Sovereignty

- We (tribal community members) are leaders in this space.
- We (as natives, and Indians, as Indigenous people) get to lead this movement.
- We get to help and support our own people
- Aspects of Energy Sovereignty:
 - Tradition | Values | Connection to Mother Earth
 - Obligation to take care of the lands
 - Economic
 - Energy is a frame of reference to a position of power
- This is not about western tradition or the notion that "this land, this energy is mine"
- Our Mother Earth is about telling the whole story
 - The power of coal and the right to use coal as a source of power both economic and from an energy standpoint.
 - Coal is an expression of power and express sovereignty and must not be looked at as a negative in some communities.
 - Protecting Mother Earth is a return to values, native values, community values, traditional values.
- There are degrees of sovereignty from a conservative standpoint to a more liberal standpoint, and it's not the outsider that gets to define that. We as a people define what sovereignty means.
 - How to be independent



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- Balanced
- Self-sustaining
- What are the obligations of natives, Indians, Indigenous peoples to educate non-natives about taking care of the lands?
- Each tribe gets to determine their own terms and how to govern in their own way.

National Labs

- Goal is not to sell or promote one perspective, but give options.
- Develop processes in energy development and create frameworks to work within that are flexible.
- Give tribes with and without resources options to explore energy development.
- Develop solutions that the tribal communities are asking for.

Self-Governance

- Tribes, tribal leaders, are political bodies operating with a larger political system which is the United States.
- There are many combinations of governance which are driven by the body of political tribal leaders.
 - This is a combination of traditional ways of leading and modern ways of leading.
- Many tribal communities need to develop an energy mission statement.
 - Followed by an energy strategy.
 - And planning framework.
- It's understood that this concept of self-governance holds an obligation to have a dialogue with the surrounding New Mexico tribes, the tribes outside of New Mexico and a dialogue with the United States Federal Government.

Trends

- What are the best fits or scenarios within the community which the tribal government is serving?
- Control: Who gets to control the energy development? Is it an outsider coming in that is non-native? Or does the community have the capacity (technical and financial) to manage its own energy development?
- Renewables: These types of energy options are not always reliable and serve the communities' needs. Need to think broadly about the potential needs within the community.
- Concepts of "Behind the meter" or "In front of the meter". How does one decide which is best?
- What are the overall energy costs to the energy solutions chosen to implement?
- Are these options subsidized? Or fully paid for?
- How are the lands being used?



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Technical Presentations

A wide variety of technical presentations were offered, with the intent of capturing the need for a holistic, interdisciplinary approach to the many facets involved. This also illustrated the different sizes and complexities in project design (from residential solar to utility-scale generation, and community microgrid systems), and the concept that there are suitable starting points for any tribal community interested in developing its energy capacities. The expert presenters were as follows (presentation slides will be posted online):

Stanley Atcitty, Ph.D., Sandia National Laboratories

Stan manages Sandia's Indian Energy program and leads the Lab's power electronics subprogram as part of the DOE Energy Storage Program. He gave a comprehensive overview of grid architecture and functions, microgrids, and energy storage, as well as DOE and SNL technical assistance programs.

Key takeaways: technologies are proliferating, and opportunities are expanding for participation in Indian Country, and DOE and SNL can offer many types of support.

Contact: satcitt@sandia.gov | (505) 401-1431

Scott Beckman, North Central New Mexico Economic Development District

Scott is Community Development Manager of the North Central New Mexico Economic Development District. He provided a survey of the federal funding and support resources available for tribal energy projects.

Key takeaways: Multiple funding opportunities exist, at many stages of the energy project development pathway, and in many cases, different sources can be stacked or combined effectively.

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David Breecker, Microgrid Systems Laboratory

David is the founder and President of the Microgrid Systems Laboratory (MSL), an innovation consortium focused on grid modernization in the industrialized world, and energy access in the emerging economies. He is a co-founder and co-director of the Energy Sovereignty Institute, answered questions on tribal resilience microgrids, and co-facilitated the workshop.

Key Takeaways: Microgrids are more complex than energy generation projects, but offer a much higher degree of autonomy and resilience; and several tribes have already achieved this goal, with others very interested.

Contact: david@microgridsystemslab.com

Christian Casillas, Ph.D.

Christian is a consultant on energy policy, sustainable development, and education, and served as an analyst for energy legislation in the 2019 NM legislative session. As part of the presentations on the NM Energy Transition Act and the policy and regulatory environment, he detailed the role of electric coops and their treatment under the ETA.



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Key Takeaways: A large number of NM's tribes are served by electric coops (not PNM), which are treated somewhat differently under the ETA and the overall regulatory regime. In particular, the coops have a more lenient Renewable Portfolio Standard and timetable, and responsibility for meeting those targets apparently lies with their Generation and Transmission supplier (i.e., Tri-State Electric).

Contact: cecasillas@gmail.com | (505) 670-0899

Camilla Feibelman, Sierra Club

Camilla is the Director of the Rio Grande Chapter of the Sierra Club. She was one of three panelists who provided an in-depth analysis of the NM Energy Transition Act and its relevance for tribal energy planning and projects.

Key Takeaways: The ETA will have very significant impacts on all NM tribes, especially in the Four Corners area, and may well create additional opportunities for Indian energy projects throughout the state; therefore an understanding of the new regulatory environment is important.

Contact: camilla.feibelman@sierraclub.org | 505-243-7767

Stephen Gomez, Ph.D., Santa Fe Community College

Steve is Chair - Trades, Advanced Technologies, and Sustainability at SFCC. He reviewed the Colleges' workforce training programs in renewable energy and sustainability technologies, including the new Smart and Microgrid Training Center, as well as a summary of courses and programs offered by other undergraduate institutions state-wide.

Key Takeaways: SFCC's smart grid, microgrid, solar energy, and bio-energy programs offer comprehensive workforce training opportunities in support of holistic energy sovereignty goals; other institutions throughout the state also offer relevant training in some areas.

Contact: stephen.gomez@sfcc.edu | (505) 428-1917

David Griscom, PNE USA

David is the Director of Solar Project Development- New Mexico for PNE USA, a national renewable energy development company. He surveyed the current state of the utility-scale solar generation industry, growth trends, and potential for tribal development; and also joined a panel discussion on utility partnerships.

Key Takeaways: The utility-scale PV solar generation market has been growing rapidly, and is projected to continue this trend, creating opportunities for NM tribes; commercial developers like PNE are eager to collaborate with interested tribal entities.

Contact: david.griscom@pne-ag.com | 312-878-4080

Timothy Horan, Children of the Sun Solar Initiative (COSSI)

Tim is the Executive Director of the Spokane Indian Housing Authority (SIHA). SIHA is installing the COSSI project, 650 kW of PV solar on 23 residences and 9 tribal buildings. He provided a



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detailed case study of the COSSI project, and discussed the tribe's plans for next-stage development of resilient energy systems.

Key Takeaways: Spokane achieved a significant PV generation project in response to an extended utility outage; however, true resilience will require a microgrid configuration.

Contact: tim@spokaneiha.com

Ken Hughes, NM Energy, Minerals and Natural Resources Dept.

Ken is a Clean Energy Specialist at the New Mexico Energy, Minerals and Natural Resources Department, where he manages the Sustainable Building Tax Credit program, Solar for Low & Moderate-Income Strategy, and the Energy Efficiency Working Group. He reviewed the state-level sources of funding and technical support for tribal energy projects.

Key Takeaways: A wide array of funding and other resources are available to tribal projects in-state, but require a careful grasp of their particular focus and applicability, as detailed in the presentation.

Contact: ken.hughes@state.nm.us | (505) 476-3320

Joseph Kunkel, MASS Design Group, Sustainable Native Communities

Joseph, a citizen of the Northern Cheyenne Nation, is a Design Director at MASS Design Group, leading a portfolio of indigenous work as part of the Sustainable Native Communities. He is a co-founder and co-director of the Energy Sovereignty Institute and co-facilitated the workshop.

Key Takeaways: Energy Sovereignty is a natural extension of general sovereignty concepts and discussions, and a matter of considerable importance to tribes (note: no presentation available).

Contact: joseph@sustainablenativecommunities.org

Steve Michel, Western Resource Advocates

Steve is deputy director of Western Resource Advocates' clean energy program. He was a panelist on the NM Energy Transition Act and the policy and regulatory environment for tribal energy projects.

Key Takeaways: See Camilla Feibleman on the ETA panel, above.

Contact: smichel@westernresources.org | 505-820-1590

Cathy Newby, Public Service Company of New Mexico (PNM)

Cathy is the Director of Tribal Government and Customer Relations with PNM. She participated in the panel discussion on utility partnerships and discussed PNM's involvement in tribal energy projects, including the new PV solar generation partnership with the Jicarilla Apache Nation and the City of Albuquerque.

Key Takeaways: PNM's Tribal Government staff is eager to collaborate with NM tribes on energy projects, and the ETA may create additional opportunities to do so.

Contact: Cathleen.Newby@pnmresources.com



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Luis Reyes, Kit Carson Electric Cooperative

Luis is Chief Executive Officer and General Manager at Kit Carson Electric Cooperative, Inc. (KCEC). He participated in the panel discussion on utility partnerships and discussed KCEC's involvement in tribal energy projects, including the PV solar generation partnership with Picuris Pueblo.

Key Takeaways: good utility partnerships require trust between the parties and a business-like approach to clarity and transparency in expectations and responsibilities; commercial developers also have an important role to play.

Contact: lreyes@kitcarson.com | 575-741-0213

Les Rubin, Pueblo of Picuris

Les is the Finance Director of the Pueblo of Picuris. In addition to his participation in the utility partnerships panel discussion, he presented on Picuris' 1-megaWatt solar array project with funding support from DOE's tribal infrastructure grants program.

Key Takeaways: Picuris' project demonstrates how an NM tribe can utilize the existing funding resources to develop significant solar generation projects, with a partnership structure and favorable economic results.

Contact: financedirector@picurispueblo.org | (575) 779-4022

Esther Toporovsky, Enterprise Community Partners

Esther is the Senior Program Director for National Initiatives at Enterprise Community Partners, a non-profit that has invested over \$36 billion to build or preserve over 530,000 affordable rental and for-sale homes nationwide. She detailed the financing structures and sources available to support affordable housing development, and the relationship to green and sustainable design.

Key Takeaways: Affordable housing and associated green programs can support many types of residential-scale energy projects; Enterprise is an active partner in NM and eager to work with tribes to advance their energy and housing goals.

Contact: etoporovsky@enterprisecommunity.org | (212) 284-7104

Maureen Vosburgh, Cornerstones Community Partnerships

Maureen is the Development Director of Cornerstones Community Partnerships and acts as the Project Manager of Cornerstones' Solar Initiative. She described the Solar Initiative, its history of funding tribal energy projects in NM, and plans for the future.

Key Takeaways: Cornerstones has accomplished numerous community energy projects in NM; and with a new multi-year financing commitment in hand, is seeking additional sites and partners (note: no presentation available).

Contact: mvosburgh@cstones.org | 505-982-9521

Gina Willetto, Gallup Solar

Gina is currently an employee of the Navajo Nation and recently completed training with Gallup Solar, a non-profit organization that provides information and knowledge to individuals who are



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interested in solar systems. She offered an overview of the Gallup Solar program and the Solar Home Systems it provides.

Key Takeaways: The special challenges of rural electrification for the Navajo Nation require a community-based collaborative approach, with streamlined technology solutions and grass-roots installation training (note: no presentation available).

Contact: gallupsolar@gmail.com | 505-728-9246

Conclusions & Next Steps

The general conclusion is that the workshop was highly successful and met a clear need in the NM Native American Community for a reliable source of information and an integrated perspective on the evolving energy opportunity landscape. At the same time, it emerged clearly that the sheer volume of information and technical detail involved will require additional efforts to optimize the impact and practical results.

Over the two days we had together with the group, while we had amazing participation from tribal leaders in the field of energy and utilities, we did not have political leaders. This was in some ways understandable, because we know how busy these leaders must be governing their communities. In the future we want to develop methods that reach these political leaders, this could be in the form of an Energy Sovereignty workbook, a short white paper on the importance of energy and energy development, or a series of short videos that document the success stories of those tribes doing the work directly. What we've found in the past that works, is to elevate and lift-up stories that inspire and get more to take on this difficult work, with the hopes that this will impact communities who need these resources the most.

There are several program areas and specific projects that ESI can undertake as its next stage of development, depending on funder interest and levels. These include:

- Host a second workshop, targeting other tribes and/or governments and staff
- Host an annual workshop in 2020 of the same type
- Conduct on-site workshops with individual tribes focused on staff and government
- Provide Technical Assistance with specific energy projects, plans, proposals
- Develop and support a policy advocacy framework to represent NM tribes' interests
- Create a website to function as an online clearinghouse and resource base, beginning with the expert presentations and resources from the 2019 workshop
- Research unelectrified Navajo and other NM tribal populations, develop innovations to address this challenge
- Hire a part-time ESI Project Manager

All of these are valid and potentially high-impact activities for ESI to pursue. Choices and strategies will be made based on funder input and level of constituents' interest.



2019 Workshop Agenda

DAY ONE | Thursday | June 27, 2019

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|-------------------------|---|
| 8:30 - 9:00 AM | Check-in and registration at the door |
| 9:00 - 9:30 AM | Welcoming Remarks/Opening Prayer |
| 9:30 - 10:30 AM | Attendee introductions |
| 10:30 - 10:45 AM | Introducing the Energy Sovereignty Institute |
| 10:45 - 11:00 AM | COFFEE BREAK |
| 11:00 - 11:45 AM | Energy Sovereignty -- discussion |
| 11:45 - 12:15 PM | Trends in the Energy Environment -- discussion |
| 12:15 - 1:45 PM | LUNCH BREAK (on your own) |
| 1:45 - 2:45 PM | National Leadership Role and Cultural Factors for Tribes -- discussion
Video presentation: Blue Lake Rancheria microgrid webinar |
| 2:45 - 3:00 PM | COFFEE BREAK |
| 3:00 - 5:00 PM | Specialized Presentations: resources and context <ul style="list-style-type: none">• Indian Energy Technical Assistance and Tribal Energy Planning Process• State, Federal, and Commercial Funding Resources• Policy and Regulatory Environment, NM Energy Transition Act panel |

DAY TWO | Friday | June 28, 2019

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| 8:30 - 10:15 AM | Specialized Presentations: Specifics and Technologies |
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- Technologies presentations and panel

10:15 - 10:30 AM	COFFEE BREAK
10:30 - 11:00 AM	Technologies Q&A and discussion
11:00 - 12:00 PM	Breakout groups by technology
12:00 - 1:30 PM	LUNCH BREAK (on your own)
1:30 - 2:00 PM	Technology breakout groups: report-out
2:00 - 2:45 PM	Utility Partnerships
2:45 - 3:30 PM	Workforce and Training Opportunities
3:30 - 3:45 PM	COFFEE BREAK
3:45 - 4:00 PM	ESI Planning -- Input
4:00 - 4:45 PM	Energy Sovereignty Revisited
4:45 - 5:00 PM	Concluding Remarks