Clean Energy Coalition For Santa Fe County

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The transition to a Hybrid Smart Grid is not just a strategic choice; it is an economic and physical necessity. The traditional, centralized grid model that served us for the 20th century is becoming financially and operationally unsustainable.

A Smarter Way

A Resilient, Proven, and Inevitable Energy Future for Santa Fe County

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Topic: A resilient energy future for Santa Fe County by transitioning to a Smart Electric Grid.

Core Tension: A Failing Centralized Model (The Push) vs. Strengths of the Distributed Model (The Pull).

Sleeve Notes

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Author's Notes:

The December 18, 2025, version of "**A Smarter Way"** is a collaborative effort led by Randy Coleman, the primary author, the team at the Clean Energy Coalition for Santa Fe County (CEC), and assistance from the NM Energy Policy Research Advisory. Artificial Intelligence from Google, Gemini Pro v3.0, was used for research and as an integrating and fine-tuning tool, with curation accomplished by Randy Coleman.

This document, A Smarter Way (NMEPRA 004), is a companion document to the **Energy Ethics Whitepaper**, **NMEPRA 003**. NMEPRA 003 introduces Public Owned Utilities as an enabler to achieving Energy Ethics in New Mexico. NMEPRA 004 then **provides details of an approach to achieving a renewable energy transition** in Santa Fe County that aligns with the principles outlined in NMEPRA 003.

This whitepaper should be a living document. It serves as a place to collect and refine ideas and convert them into actionable steps. Feedback from officials and stakeholders is vital for keeping this document relevant and impactful. We encourage contributions through regular meetings, such as regular review sessions, and dedicated digital platforms where Subject Matter Experts and citizens can share suggestions and updates. An online portal should also be available for ongoing feedback submissions. A systematically integrated update process will ensure that relevant feedback, continuous improvement, and engagement are enabled.

Table of Contents

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Introduction: Smarter Than What?

The **New Mexico Energy Transition Act of 2019 (ETA)**[1] set objectives to reduce fossil-fuel-generated electricity and transition to renewable energy sources. These sources include solar with battery storage, hydrogen, geothermal, and wind. The objectives increase over time, with energy sourced from renewables reaching **80% by 2040** and **100% by 2045.**

However, the ETA includes a caveat stating that the state can achieve 100% of the objectives only **"as long as safety, reliability, and impacts to customer bills are considered"**.

Currently, the ETA "Scorecard" is based solely on the accumulation of renewable energy projects and the amount of fossil fuel energy they replace. There are no other criteria for the scorecard, meaning projects are generally unrelated and do not represent an orchestrated approach to achieving ETA objectives.

While the ETA drives **PNM's Integrated Resource Planning (IRP) process**[2], its success depends on cobbling together projects to meet these goals. The overall effect is less efficient and could result in an unsustainable energy infrastructure, potentially ignoring the ETA's caveat about safety, reliability, and customer costs.

This document proposes a 'Smarter Way' that shifts from an ad hoc approach to a deliberate, resilient Hybrid Smart Grid. This ordered approach is particularly suited to Santa Fe County, given its unique geographic and demographic factors. The county's diverse landscape, comprising urban centers and rural areas, presents specific challenges and opportunities for energy distribution and grid resilience. Additionally, the existing infrastructure, including old transmission lines and outdated facilities, needs modernization to meet the growing energy demands of residents and businesses. Recent data indicate that 45% of the county's transmission lines are over 30 years old[3], contributing to frequent power outages, especially during peak demand periods. This document outlines strategies aligned with the Energy Transition Act's objectives to achieve a reliable, sustainable energy future for Santa Fe County.

Overview: The Urgent Case for a New Model

The three most pressing issues facing the U.S. electric power transmission and distribution system are **aging and inadequate infrastructure**, **complex and slow permitting processes**, and the need **to adapt to new loads and generation sources**. Aging equipment, such as transformers, is vulnerable to failure, while the system struggles to meet new demands from **electrification** and large facilities like **data centers**. Simultaneously, complex regulations and local opposition hamper utilities' ability to build new infrastructure.

Aging and inadequate infrastructure[4]

- **Aging equipment:** A significant portion of the grid's components, such as power transformers, are over 25 years old and are more prone to failure, increasing the risk of widespread outages. (Predictive analytics for aging U.S. electrical infrastructure: Leveraging machine learning techniques, 2023)
- **Outdated design:** Much of the existing infrastructure was built for a different era and lacks the capacity to handle the increased loads from modern energy demands and new renewable sources.

Complex and slow permitting processes[5]

- **Regulatory hurdles:** Building new transmission lines is complicated by a complex web of federal, state, and local permitting requirements that can take years to navigate.
- **Local resistance:** Strong local opposition to new infrastructure projects, especially large projects, creates significant delays and challenges for utilities.

Adapting to new loads and generation sources[6]

- **Increasing demand:** The grid is under immense pressure to meet growing electricity demand driven by economic growth, including data centers and manufacturing, as well as the push for economy-wide electrification.
- **Renewable integration:** The challenge for the existing transmission and distribution networks is to modernize, connect, and deliver power from new renewable energy sources, such as wind and solar, to where it's needed.
- **Ad-hoc approach to renewable projects:** Lack of planning and responsiveness to market needs results in the introduction of large, utility-scale projects that may not address the future needs of surrounding communities. These ad hoc projects

consume the renewable energy industry's available resources and hamper local communities' ability to respond.

The Proven Solution:

The 2024 CEC concept papers[7] introduced the idea of Santa Fe County transitioning to renewable energy. In this document, we transition from theoretical "concepts" to a proven, implemented strategy: the **Hybrid Smart Grid**, which combines federated Virtual Power Plants (VPPs) with a safely sited **Santa Fe County Energy Park**.

Additionally, this document draws upon the **NMEPRA 003 Energy Ethics in New Mexico** Whitepaper idea to use Community Solar as the wedge to achieve a Publicly Owned Electric Utility in Santa Fe County, as envisioned by the Santa Fe County Board of County Commissioners Ordinance 2025-124, dated 11 November 2025.

Parts 1–4 describe the concept of the 'Smart Grid,' including examples of its successful implementation elsewhere, the reasons this approach is inevitable, and funding options. Part 5 addresses the reasons for basing the Smart Grid on Community Solar, the transition to Virtual Power Plants, and some lessons learned. Parts 6 and 7 outline the path to establishing the foothold needed to get Santa Fe County started on the 'Smarter Way.'

Phase Summaries: To ensure clarity and reinforce the roadmap, we recast each phase with action-oriented headers:

Phase 1: Organize - Immediate Jump-Start Actions (First 6-12 Months) will focus on organizing task forces, pilot projects for resilience hubs, and securing federal and state funding.

Phase 2: Network - Build the Distributed Network by partnering with community centers and local governments to develop smart nodes and community microgrids, using federal and state grants.

Phase 3: Scale - Develop the Bulk Component by reinforcing the Santa Fe County Energy Park as the primary location for bulk energy storage and generation, ensuring safe and efficient energy distribution across the county.

Part 1 - The Core Concept: A Distributed, Federated, and Hybrid Smart Grid

The foundation of a resilient energy future for Santa Fe County is the transition from our current, monolithic grid to a Smart Electric Grid. This model combines proven concepts: a smart grid built on microgrids, a hierarchical structure, centralized management, and supplemental bulk-energy capabilities, rather than any single new technology.

The core of this model, as initially proposed by the CEC in 2024, is a hierarchical structure built from the ground up. In 2024, this was a forward-looking concept. Today, this "federated" model is a proven, financially viable, and rapidly expanding reality known as a **Virtual Power Plant (VPP)**.

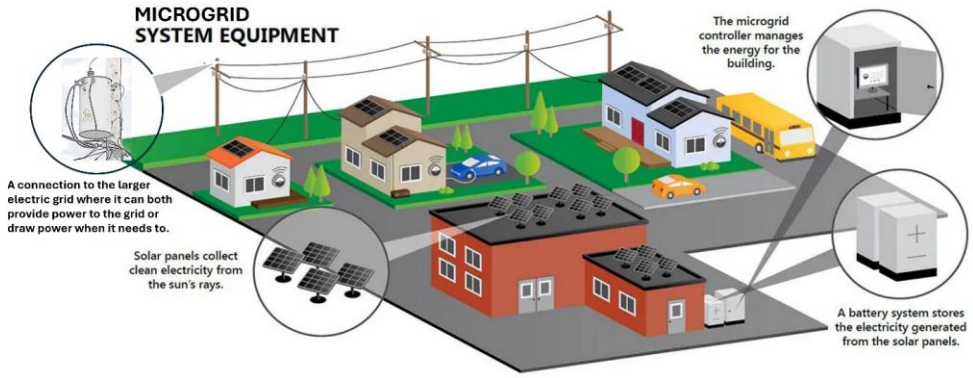
Three primary characteristics, **distributed**, **federated**, and **hybrid,** define the Smart Grid approach.

A. **Distributed**: The "Smart Node"

The Smart Electric Grid is, by its nature, distributed. It is composed of "nodes," which are the specific consumer or producer endpoints within the network. These nodes not only consume and produce electricity, but also information. A Smart Node is a home or facility equipped with solar panels and a battery that can communicate with the grid, allowing for participation in energy production and management.

- Standard Nodes: In a purely traditional grid, customers are "standard nodes," meaning they are entirely dependent on the provider's electric distribution system.
- Smart Nodes: A Smart Node is a customer who can also generate their own electricity (e.g., solar panels), store that energy (e.g., batteries), provide real-time usage data, and allow the provider's energy management system to control parts of the node. As shown in the "A Smart Node" diagram, this includes components such as Solar Panels, a Node Solar Power Module, a Node Battery Energy Storage, and a Node IP Address for communication. Unlike "standard nodes," which depend on the provider, a "Smart Node" actively participates in the network.

A Smart Node:



This distributed model achieves its goals by joining, or "federating," energy from small consumers (such as residences) with energy from larger consumers (such as communities or towns).

B. **Federations / VPPs**: From Micro-grids to Federations

The Smart Grid concept groups the individual nodes into a hierarchical structure.

- **Level 1: Micro-grids (Distributed Networks)**

Nodes are grouped within a community, building, or circuit to form "micro-grids". A microgrid is a smaller-scale power system that can generate, distribute, and manage electricity independently. A collection of generation sources, storage, two-way communication, and a control center is a key technology for achieving 100% renewable energy.

- **Level 2: Federation (Groups of micro-grids)**

Federations group pools of micro-grids together. These federations are organized within geopolitical boundaries, such as regions, cities, or counties, and may have unique requirements for power distribution. For example, the power requirements of cities and towns are typically different from those of agricultural or Native Land federations. Other forms of Federation could include Rural and Low-income and communities subject to seasonal wildfires. The Federation of micro-grids allows the smart grid manager to coordinate control at a larger scale than a micro-grid by micro-grid. The aggregation of multiple micro-grids into a single, dispatchable **Virtual Power Plant (VPP)**[8] then acts as a utility-scale resource.

Clarifying the governance model of these federations is crucial for smooth operation. A central smart grid management entity, as the decision-making authority in a federation, mediates disagreements among microgrids. This entity will be responsible for dispatch decisions, ensuring that all micro-grids within the federation operate harmoniously and efficiently. By outlining decision rights early, we can preempt potential stakeholder concerns and facilitate effective collaboration across inter-tribal or municipal boundaries.

C. **Hybrid:** Combining Distributed and Bulk Energy

An effective Smart Electric Grid is "hybrid". It does not rely only on a distributed network. It combines this new federated system with the traditional "bulk components" needed to support the baseline grid, such as distribution lines and utility-scale generation elements. This hybrid model blends traditional grid infrastructure with modern digital technologies, allowing for better integration of renewables, improved efficiency, and enhanced reliability.

It will also require four other elements to realize the County's vision for renewable energy fully:

• **Interconnection to the New Mexico electric grid** - includes oversight by the New Mexico Public Regulation Commission (PRC), agreements with existing providers like Public Service Company of NM (PNM) or any of the providers and co-ops, and the ability to distinguish renewable and fossil-fuel generation sources clearly.

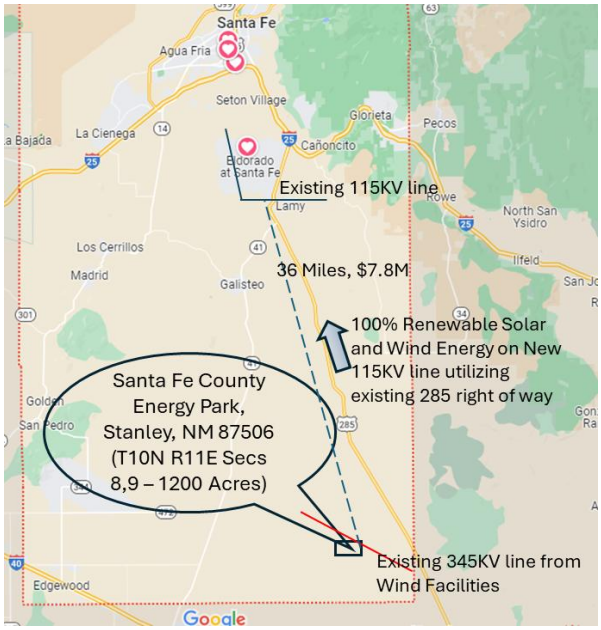
• **Utility-scale or bulk renewable energy generation and storage capability** - To close gaps that occur when energy demand exceeds the energy generated on the electric grid.

• **Bulk energy delivery to micro-grids** - The ability to transmit substantial amounts of energy (bulk energy) to the federations and distributed networks within the electric grid.

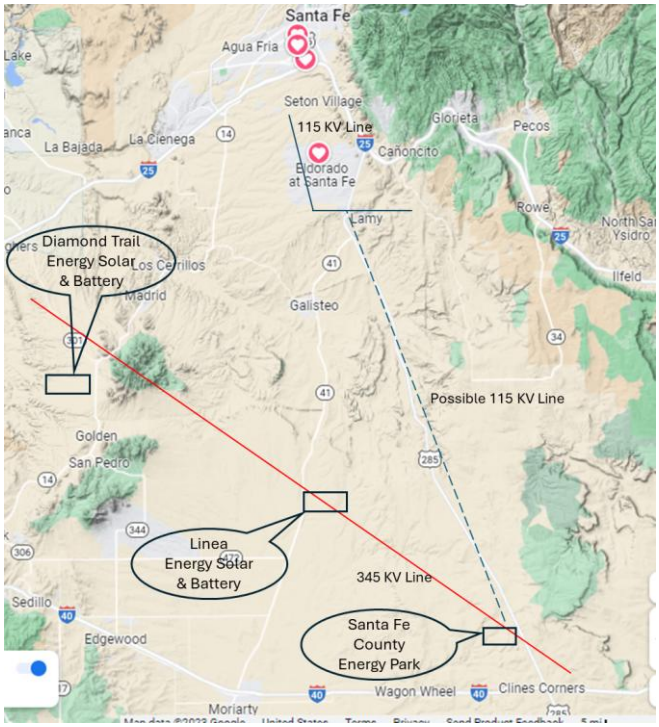
• **Fail-over capability** - A County-wide ability to transfer operations smoothly and quickly from centralized energy management to control by means of micro-grids and/or Smart Nodes in case of a failure or disruption to the primary grid.

The 2024 CEC concept papers introduced the **Santa Fe County Energy Park concept** for Bulk Energy production. This idea has become even more helpful, as the Energy Park's location not only crosscuts the 345 KV existing line and adjoins the 285 rights-of-way, but also already has the necessary substation in place, making the designated land already in use for energy production. It comprises 1,200 acres near Stanley, NM. The juxtaposition of the Energy Park to the proposed Linea Solar and Battery storage facility, the proposed Diamond Trail Solar and Battery Storage facility, and the ties to the existing 345 KV and the link to the 115 KV would create a significant energy corridor of upwards of 3 GW of AC and Battery Storage. Maintaining energy production along this corridor eliminates the need to "pepper" the County's open spaces with additional Bulk Energy Sites and will help preserve them.

Santa Fe County Energy Park



Santa Fe County Energy Corridor



Part 2 - Case Studies: From Proven Concept to Scaled Reality

The 2024 CEC concept papers cited two key examples: the federated recovery in Puerto Rico and the hybrid grid in Mueller, TX. In 2025, these concepts are no longer just models; they are a reality on a scale, best demonstrated by the success of Virtual Power Plants (VPPs). A VPP is the functional, market-based term for a "federated" network of "smart nodes."

1. Original Model (Puerto Rico):

The 2017 hurricane that ravaged Puerto Rico's grid prompted a federally funded effort to create **Federated and Distributed Solar Microgrids**. The plan included large federated microgrids for Vieques (12.5 MW) and Culebra (3 MW), as well as a 17-megawatt VPP designed to network 7,000 home solar-plus-battery systems.

- **2025 Success**: As of July 2025, the VPP concept is a massive success. Sunrun, the VPP operator, is now dispatching **over 37,000 home batteries** to support Puerto Rico's grid. The utility (LUMA) anticipates over 75 energy shortfall events between July and October 2025. In response, the VPP is acting as a single, dispatchable power plant, helping to address generation shortfalls of **nearly 50 MW** and preventing multiple load-shedding events (i.e., rolling blackouts), thereby preventing 70+ blackouts.[9] This capacity of 50 MW is equivalent to powering approximately 38,000 homes, giving a concrete sense of the scale and impact of the VPP initiative.

2. Original Model (Mueller, TX):

The Mueller Neighborhood's SHINES project illustrates the hybrid model. It integrates 2 MW of rooftop solar panels with a **1.5 MW / 3.2 MWh bulk lithium-ion battery**. Crucially, it "does not meet the power requirements of the neighborhood," so it "integrates with the existing electric grid" as a fallback. This project demonstrated how a hybrid system could use a bulk battery for "energy arbitrage" - storing cheap power at night and selling solar power during expensive peak hours.

- **2025 Success:** The concept is now mainstream. In 2024, Sunrun's VPPs alone supported U.S. grids with a combined peak **of nearly 80 megawatts**—more capacity than many traditional fossil-fuel peaker plants. This VPP comprises over **20,000 customers** across 16 programs. In California, Sunrun's "CalReady" VPP, with over 16,000 homes, delivered a peak of **54 MW** in 2024. In 2025, that single VPP has quadrupled to **75,000 homes** and will provide **375 MW** of peak capacity.[10]

3. New Model (Policy): California's DSGS Program

California's DSGS Program is no longer just a private-sector effort. In August 2023, California launched the "Demand Side Grid Support" (DSGS) program, creating what is now considered the world's largest VPP.[11]

- As of late 2024, the program had enrolled **37,558 customers** representing **288 MW** of capacity. Sunrun's VPPs in California (16,000+ homes). (2024 Season Highlights: Option 3/Storage VPP, 2024)
- By August 2025, enrollment had surged to **over 720 MW** of customer battery capacity, with dispatchable capacity exceeding **400 MW** during grid events.
- A recent Brattle Group study confirmed its financial value: every $1 invested in the program saves ratepayers $2 by avoiding the need for new, expensive gas plants. (Brattle Report Finds California's Distributed Power Plant Program Could Deliver Hundreds of Millions in Cost Savings While Supporting Grid Reliability, 2025) (Hledik et al., 2025)

4. New Model (Resilience): The NC "Beehive Microgrid."[12]

The federated model's value for resilience, as proposed for Puerto Rico, is now being implemented in North Carolina. Following the devastation of Hurricane Helene in September 2024, a $5 million grant was funded by the NC State Energy Office (using federal Infrastructure Investment & Jobs Act funds) to create the "Beehive Microgrid" project.

- **The "Hives":** The project will build up to **24 stationary microgrids** at critical facilities (fire stations, food banks) in the six counties most affected by the hurricane.
- **The "Bees":** It will also create **two mobile microgrid hubs**—trailers with portable solar and batteries—that can be dispatched to disaster areas as needed and then return to the "hives" to recharge.
- This project perfectly demonstrates the CEC's federated concept, providing a tangible, community-focused, and shareable resilience network.

5. North Carolina (Disaster Response):

Post-Hurricane Helene, NC, utilized federal funds to build the "Beehive Microgrid," consisting of stationary microgrids at critical facilities ("hives") and mobile solar/battery trailers ("bees").

Part 3 - The Inevitability Argument: Why the Distributed Model is the Only Path Forward

The transition to a Hybrid Smart Grid is not just a strategic choice; it is an economic and physical necessity. The traditional, centralized grid model that served us for the 20th century is becoming financially and operationally unsustainable. This reality creates a powerful "push" away from the old model, while the clear advantages of the distributed model create an irresistible "pull" toward this new future. A significant factor driving this shift is the declining cost of solar-plus storage. Since 2010, these costs have decreased by 70%, making the distributed model economically viable and further diminishing the appeal of the centralized system.[13] By anchoring the inevitability of this transition in economic trends, the case for the Hybrid Smart Grid becomes grounded in both practicality and economic foresight.

A. **The "Push":** The Failure of the Centralized-Only Model

Our current grid is a marvel of engineering, but it is rigid, aging, and being overwhelmed by 21st-century demands.

- **Vulnerability:** The centralized model, which relies on a few large power plants and thousands of miles of long-distance transmission lines, is defined by **single points of failure**. As we've seen nationwide, a single wildfire, ice storm, or physical attack can sever these lines, plunging entire regions into darkness. The economic cost of these weather-related outages alone runs into billions of dollars annually.[14]
- **Inflexibility:** The grid is straining under massive, unforeseen load growth. New demands from **AI data centers and the widespread electrification of vehicles and buildings** are creating demand spikes that the old system struggles to handle.
- **Inefficiency & Cost:** This model is now failing the most basic cost-benefit test. It is **slow and expensive** to build new, large-scale transmission lines to meet this new demand. Furthermore, pushing all power from a central plant over hundreds of miles results in significant **energy loss** from transmission, a fundamental inefficiency that consumers pay for.

B. **The "Pull":** The Strengths of the Distributed Model

The distributed, federated model directly solves the failures of the centralized system. It is not just an alternative; it is a superior solution.

- **Resilience:** A distributed grid is built from the **"bottom up"**. It has no single point of failure. If the main transmission line goes down, a community "micro-grid" can "island" itself and continue to operate, keeping critical services online. The micro-grid creates a level of local resilience that is impossible in the old model.

- **Scalability & Speed:** This is perhaps its greatest strength. A utility cannot build half a power plant, but a distributed grid can **come together gradually, node by node, and community by community**. A Virtual Power Plant can be aggregated and deployed in **under 12 months** to meet new demand, whereas a new gas peaker plant or a large-scale transmission project requires many years of planning and construction.
- **Consumer-Driven:** The distributed model changes the fundamental relationship between the utility and the customer. It empowers homeowners and businesses to become **"prosumers"** (producer-consumers). They are no longer just passive ratepayers; they are active participants who can receive compensation for sharing their stored energy, helping to stabilize the grid while also accelerating their own return on investment.

Part 4 - The Financial Case: A Shift from Public Cost to Public-Private Investment

A. The Market-Driven Model (VPPs):

Investment-Worthy & Profitable

Cheaper than Alternatives: A VPP costs utilities half as much as a new natural gas peaker plant or utility-scale battery.[15]

System-Wide Savings: VPPs save all ratepayers (even non-participants) by reducing the need for expensive infrastructure builds (a 60 GW VPP could save $15-$35 billion nationally).[16]

Direct ROI: Homeowners are paid for their participation, accelerating their own ROI on solar and batteries. Each $1 invested in VPP infrastructure can save the average household approximately $150 per year in electricity costs, providing a compelling financial incentive for community involvement.

B. The Resilience-Driven Model (Community Microgrids):

Securing Public Grants

ROI as Cost Avoidance: The measure of value for critical infrastructure (hospitals, fire stations) is “avoided downtime” during external outages.

New Federal Funding: The Public Partnership can lead efforts to secure grants specifically for this purpose.

Example: The NC "Beehive" project, funded by $5M from the federal Infrastructure Investment & Jobs Act.

Example: The DOE's "Community Microgrid Assistance Partnership" (C-MAP), which is actively funding rural and tribal microgrid projects in the Southwest.

C. Grant Opportunities:

The Public Partnership can secure federal grants, such as the DOE’s "Community Microgrid Assistance Partnership" (C-MAP)[17], which targets rural and tribal projects in the Southwest.

To illustrate the shift to a public-private investment model, consider a potential funding mix scenario. An example allocation could use a 60/40 split between private capital and public grants. This structure can increase investment appeal by demonstrating balanced, shared financial responsibility, making the model more actionable and attractive to decision-makers.

Part 5 - Community Solar as the basis for Publicly Owned Utilities

A. Concept - The transition from dependency on Investor-Owned Utilities (IOUs) to publicly owned utilities is what energy economists call **"Grid Defection"** or **"Municipalization,"** and it is the specific reason why investor-owned utilities (like PNM) fought the New Mexico Community Solar Act so aggressively in court. [18, 19, 22, 23]

If you view Community Solar not just as a "bill discount" but as a **structural shift**, it effectively acts as a "training wheels" program for public ownership.

Here is the roadmap of how Community Solar serves as the technical and legal basis for a Publicly Owned Utility (POU).

1. The "Gateway Drug" to Public Power: Decoupling Generation

The traditional utility monopoly relies on a vertical chain: **They generate it - They transmit it - They sell it to you.**

Community Solar breaks the first link.

- **The Shift:** For the first time, a group of neighbors or a city (like Santa Fe County) can legally say, "We are generating our own power off-site, and we are just using your wires to move it."
- **The Precedent:** Once a community proves it can finance, build, and manage its own 5-megawatt solar garden, the argument that "only a massive utility is sophisticated enough to manage power" dissolves.

2. The Legal Mechanism: "Community Choice Aggregation" (CCA)

"Community Choice Aggregation" (CCA) is the specific policy tool that turns Community Solar into a Public Utility. [20, 21]

- **What it is:** CCA (often called **"Local Choice Energy"** in New Mexico bills) allows a city or county to become the **exclusive buyer** of electricity for its residents. [23]
- **How it uses Community Solar:** Instead of just one solar garden for 500 subscribers, a county with CCA powers could contract 20 community solar gardens to power the *entire city*.

- **The Result:** They no longer sell the power; they become merely the "delivery driver," paid a flat fee to maintain the poles and wires while the county sets the rates and chooses the green energy sources.

  o *Status:* "**Local Choice Energy**" bills have been introduced in the NM Legislature repeatedly but have failed due to utility lobbying. Community Solar is the "proof of concept" that makes CCA viable in the future.

3. The "Virtual Power Plant" (The Technical Basis)

Virtual Power Plants align with the **Clean Energy Coalition for Santa Fe County's** argument for microgrids. [24]

- **The Concept:** If you have enough Community Solar gardens scattered around a county, combined with battery storage, you create a **Virtual Power Plant (VPP)**. [25, 26]

- **The Public Utility Angle:** A county-owned utility wouldn't need to build a billion-dollar coal plant. It would just need software to manage these scattered solar assets. The lack of a physical infrastructure lowers the "barrier to entry" for a city wanting to start its own utility. It makes "public power" cheaper and less risky to launch.

4. The Financial "Keep It Local" Loop

Currently, utility profits often leave the state (in the form of dividend checks to shareholders).

- **Community Solar Model:** The subscribers (residents) own the benefits.

- **Public Utility Model:** If Santa Fe County or a Tribal entity owned the solar arrays, the "profit" (the difference between the cost of solar and the retail rate) stays in the local budget.

  o *Example:* This revenue could fund the Fire Department or road repairs, rather than going to corporate overhead. Better application of revenue is the strongest political argument for moving from "subscribing" to "owning."

5. The Hurdle: The "Poles and Wires" Fight

There is one massive catch. Even if a community generates all its own solar power, the private utility still owns the physical copper wires and poles.

- **The "Exit Fee":** If a city/county tries to leave the utility entirely (Municipalization), the utility will charge an exorbitant "exit fee" or "stranded asset cost" for the infrastructure.

• **The Workaround:** This is why **Community Solar + CCA** is the smarter route than a hostile takeover. You don't buy the wires; you stop buying the product *inside* the wires

Summary: The Evolution

Stage	**Status in NM**	**Who Owns the Power?**	**Who Owns the Wires?**
1. Traditional Monopoly	Current Standard	Utility (PNM)	Utility (PNM)
2. Community Solar	**Just Starting (2025)**	**The Subscribers (You)**	Utility (PNM)
3. Community Choice (CCA)	Proposed Legislation	**The City/County**	Utility (PNM)
4. Full Public Utility	The "End Game"	**The City/County**	**The City/County**

B. Example - Boulder, CO, is the textbook example of how a utility can use "legal attrition" to defeat even a wealthy, motivated city. [27, 28]

Boulder spent **10 years and roughly $30 million** on lawyers and consultants, only to give up in 2020 and sign a new franchise agreement with Xcel Energy. (Boulder ends 10-year municipalization effort as voters OK historic deal with Xcel, 2020)

The reason they failed is precisely why the **Community Solar / Community Choice** path (discussed in **Concept**) is now considered the smarter route.

1. The "Poison Pill": Why Boulder Failed

Boulder attempted a **hostile takeover** (condemnation) of the physical grid. Xcel Energy defeated this by inflating the price tag of the "breakup" until it became unaffordable for voters.

- **The "Separation" Cost:** Xcel claimed that tight integration of the grid and operations was the reason that Boulder couldn't just "buy the wires." They successfully argued in court that Boulder would have to build **duplicate substations** right next to the existing ones to "physically separate" the

systems. These claims ballooned the estimated cost from ~$200 million to nearly **$1 billion**. (Xcel Energy Partnership, 2020)

- **Stranded Assets:** Xcel demanded payment for all the investments they *would have* recouped if Boulder had stayed. These payments are the "exit fee" trap.

2. The Lesson: Don't Buy the Hardware

The failure of Boulder taught the rest of the country a crucial lesson: **Owning the wires is a liability; owning the power is the asset.**

The Boulder lesson is why the **Community Choice Aggregation (CCA)** model is superior for New Mexico:

• **Boulder's Mistake:** "We want to own the hardware (poles) AND the software (power)." **FAILED** because the hardware fight is too expensive.

• **The CCA Workaround:** "You (PNM) keep the hardware and the maintenance headaches. We will take over the purchasing rights." **SUCCEEDS** (e.g., Marin Clean Energy in California) because it bypasses the asset valuation lawsuit entirely.

3. New Mexico's "Soft" Municipalization

Since a "hard takeover" failed in Boulder, New Mexico advocates are now using a strategy of **"Soft Municipalization"** via Community Solar.

• Instead of trying to buy the *whole* grid at once, communities build "islandable" microgrids (solar + battery) for critical infrastructure first.

• This creates a "public utility" piece-by-piece without ever triggering the massive lawsuit that killed the Boulder effort.

Summary: The "Boulder" vs. "Community" Path

Feature	**The Boulder Path (Municipalization)**	**The NM Path (Community Choice)**
What you buy	The Poles, Wires, Trucks, & Substations	The Contracts for Electricity
The Fight	Eminent Domain Lawsuit (Legal)	State Legislature Bill (Political)
The Enemy's Defense	"It will cost $1 billion to separate the wires."	"This will destabilize the grid."
Outcome	**High Risk / High Cost**	**Low Risk / High Impact**

The Takeaway: Boulder tried to kick down the locked front door. Community Solar and CCA are attempts to pick the lock instead.

Part 6 - Addressing Key Hurdles: A Plan for Policy, Regulation, and Equity

A. Political & Regulatory Hurdles (The "How-To")

- **The NM Public Regulation Commission (PRC):**
    - Hurdle: The PRC must approve all utility plans and rates. So the PRC must be informed and partnered; utilities are biased toward self-owned, centralized assets.
    - Mitigation (Partnership, not Protest): Formally intervene in the PRC's **Grid Modernization Docket (22-00089-UT)**[29]. The PRC's own draft rules frame the VPP network as a cost-saving **"Non-Wires Alternative"**.
    - Mitigation (Legislative Action): Champion the reintroduction of the 2025 **"Power Up New Mexico" bill (HB 13)**[30], which provides a state-level mandate for VPPs.
- **The Renewable Energy Transmission Authority (RETA):**
    - Role: RETA is not a hurdle for the local network, but a *potential partner* for the bulk component. They will still have to be engaged to develop that partnership. The smart grid approach is a significant departure from RETA's current view of the future.
    - Mitigation (Correct Engagement): Engage RETA *only* as a potential financing and development partner for the high-voltage transmission line needed to connect the **Santa Fe County Energy Park**.
- **New Legal Pathways (The "Tailwind"):**
    - Use the new **Microgrid Law (HB 93)**[31] as the explicit legal and regulatory path for PRC approval of the 20 MW+ Santa Fe County Energy Park, taking advantage of its 2035 "safe harbor" provision.
    - Use the **Community Solar Program (SB 84)**[32] as the *proven precedent* for a successful, state-approved distributed energy model that works with utilities.

B. Financial Threats (The "What If")

- **Threat:** Pull-back of Federal Funding.
    - Mitigation: Emphasize the **market-driven VPP model**, which is independently profitable by providing cost-effective grid services, making it a durable business model rather than a grant-dependent project.

    - Mitigation: Frame resilience hubs as **critical public safety infrastructure** (like a fire truck), justifying their use of county capital improvement funds or bonds, with grants serving as accelerants rather than foundations.
- **Threat:** Push-back from Investor-Owned Utilities (IOUs).
    - Mitigation: Frame the VPP as a **"Non-Wires Alternative"**. It is a *cheaper option* for the IOU to *purchase* peak capacity from than to build a new gas plant.
    - Mitigation: Propose an explicit partnership model in which the IOU participates as the operator or primary beneficiary of the grid services, aligning its business model with county resilience goals.

C. Societal Downsides (The "Who")

- **Downside:** Risk of an "Energy Divide" (Equitable Participation).
    - Mitigation: Adopt the *exact* model from New Mexico's **Community Solar Program**. By *mandate*, the program *allocates* 30% of project capacity to low-income households.
    - Mitigation: Prioritize C-MAP and other grant funding to **fully subsidize** the initial "Community Resilience Hubs" in low-income, rural, and tribal communities.
    - Mitigation: Develop **"Community Smart Node"** (or Community Solar/Storage) models to allow residents (including renters) to "subscribe" and receive bill credits and resilience benefits with no upfront personal investment.

Part 7 - A Phased Implementation Plan for Santa Fe County

A. Phase 1: Immediate Jump-Start Actions (First 6-12 Months)

- **Form a "Santa Fe County Smart Grid Task Force":**
    - Action: The County Commission, in partnership with the County Growth and Land Management leaders, should formally convene a task force.
    - Who: This group must include representatives from County emergency management, local utilities (PNM, etc.), tribal governments, and community groups like CEC.
    - Stakeholder Responsibilities:
        - County Emergency Management: Will develop emergency response protocols and ensure that energy strategies align with public safety needs.
        - Local Utilities (PNM, etc.): Will provide technical expertise on the current grid infrastructure and assist in integrating the new smart grid technologies into existing systems.
        - Tribal Governments: Will participate in decision-making to ensure energy equity and alignment with cultural and regional priorities.
        - Community Groups (CEC, etc.): Will advocate for community interests, facilitate public engagement, and contribute insights on localized energy needs.
    - Justification: This creates a single, official body responsible for the project, moving it from a "concept" to an active initiative. It directly follows the paper's recommendation for a collaborative approach.
- **Launch a "Community Resilience Hub" Pilot Project:**
    - Action: Select 2-3 critical county or community-owned facilities (e.g., a rural fire station, a community center in Galisteo or Seton Village, or a key water pump station) to be the first 'Smart Nodes'.
    - Target: Criteria for selection will include the facility's vulnerability to power disruptions, its potential community impact in terms of providing essential services during outages, and its readiness for integration into the Smart Grid network.
    - Justification: This is a small, tangible, and obvious first win. It provides immediate resilience, serves as a real-world testbed for technology, and acts as a "proof of concept" to build public and political support.

- **Aggressively Pursue Federal Seed Funding:**
    - Action: The new Task Force's priority should be to prepare and submit grant applications to new, highly relevant federal programs.
    - Target: Specifically, the design of the **DOE's Community Microgrid Assistance Partnership (C-MAP)** funds *exactly* this type of planning and development in rural and tribal communities in the Southwest.
    - Justification: This leverages the new funding landscape we identified. Securing a federal grant would fund the initial planning, engineering, and pilot projects, removing the primary barrier (cost) and validating the approach.
- **Initiate "Santa Fe County Energy Park" Zoning and Land Use Actions:**
    - Action: The County can begin the non-financial work on the Energy Park immediately. First actions include formally identifying the 1,200 acres near Stanley in the Sustainable Land Development Code.
    - What: Begin the necessary studies and zoning changes to designate this land as a "Renewable Energy Generation & Storage Zone".
    - Justification: This is a low-cost policy action that "de-risks" the project for future private partners. It sends a clear market signal about *where* the county wants bulk infrastructure to go, reinforcing the core concept of siting it safely away from communities.

B. Phase 2: Build the Distributed Network (The "Federation")

- Establish policy to encourage Smart Node development (incentives, simple interconnection). Strategies could include offering financial incentives, such as tax credits or grants, to households and businesses that install smart nodes. Additionally, implementing a streamlined permit process can reduce administrative burdens and accelerate the installation of these technologies. One specific perk could be expedited permitting or a small property tax rebate for early adopters of Smart Nodes. This tangible incentive will highlight the immediate benefits and motivate more households to participate. To further support adoption, the county could develop public awareness campaigns that highlight the benefits of smart nodes for improving energy efficiency and resilience.
- To fulfill the ETA caveat stating that the state can achieve 100% of the objectives only **“as long as safety, reliability, and impacts to customer bills are considered”**, these criteria should be framed as measurable design specifications that define clear targets for safety, reliability, and cost-effectiveness. By setting explicit metrics for these crucial factors, decision-making processes can be more informed and aligned with the overall goals. For example, specific targets for metrics such as outage frequency, service restoration time, and cost per megawatt-hour for consumers should be established.

- To clearly define the implementation timeline, we propose the following schedule: By Q2 of 2026, finalize and approve incentive policies, ensuring that all legal and administrative frameworks are in place. Launch a public awareness campaign and expedite the permitting process by Q3 of 2026. Implement financial incentives, such as tax credits or grants, by Q4 of 2026, aiming to have the first batch of Smart Nodes established by Q1 of 2027.
- Partner with community centers, tribal governments, and local utilities to pilot community microgrids, using new federal grants (like C-MAP) as seed funding.
- Use the pilot projects as a template to expand "Smart Node" and "Community Smart Node" development.
- Create the **Santa Fe County Smart Energy Management Center (SEMC)**, using modern AI-driven platforms to manage the federated VPP network.

C. Phase 3: Build the Bulk Component (The "Hybrid")

- Re-affirm the **Santa Fe County Energy Park** as the sole location for new *bulk* BESS.
- Leverage the "de-risked" zoning to solicit private partners for its construction, ensuring Battery Energy Storage Systems (BESS) are safely away from communities while connecting to existing high-voltage transmission lines.
- Purpose: To provide utility-scale renewable generation and, crucially, to co-locate large-scale BESS **safely away from communities**.
- Location: Re-propose the 1,200-acre site near Stanley, NM, citing its proximity to existing high-voltage lines and its safe distance from residential areas.

Conclusion: A Clear and Actionable Path Forward

The Vision:

The transition to a federated, hybrid smart grid is no longer a question of "if" but "when" and "how". The 2024 concept is now a proven, financially sound, and necessary strategy being implemented nationwide. Santa Fe County can lead by adopting this model, enhancing resilience, reducing long-term costs, and securing a safe, reliable energy future.

Imagine the year 2030 in Santa Fe County: not a single school experienced a power outage lasting more than 15 minutes. Communities thrive with significantly reduced, consistent renewable energy costs, and local businesses burgeon under reliable power. These are not just hopes but achievable realities through our committed transition efforts.

To measure the success of this transition, it is crucial to define key performance indicators. These could include improvements in resilience, such as reductions in outage duration and frequency; cost savings, particularly in operational and infrastructure expenses; and an increased share of renewable energy in the County's energy mix.

Specific KPIs to consider are: increasing the percentage of renewable energy usage to 80% by 2028, reducing the average power outage duration to less than 15 minutes, achieving a 30% reduction in operational costs, increasing the average annual energy savings per household by $150, and ensuring 30% of new energy projects benefit low-income households. Tracking these metrics will enable officials to evaluate progress effectively and communicate the transition's successes to stakeholders and the public.

Pass a "Smart Energy Future" County Resolution:

- Action: The County Commission should pass a resolution that formally adopts the "hybrid smart grid" as the county's official energy strategy.
- The resolution would state the County's commitment to prioritizing distributed "Smart Nodes" and federated microgrids, while directing that all new bulk storage be sited in the designated (and remote) Energy Park.
- Justification: This provides clear, top-down political support and a guiding principle for all future energy-related decisions, aligning policy with the Sustainable Land Development Code.

Host a "Santa Fe County Energy Future Summit":

- Action: The County and the CEC should co-host a public summit for citizens, local leaders, and potential private-sector partners.
- Purpose: To present this updated, proven model, showcasing the successful VPP and community microgrid case studies (like in California and North Carolina).

- Justification: This will shift the public narrative, build consensus, and formally invite private industry (like VPP aggregators) to the table.

Issue a Formal Request for Information (RFI):

- Action: The County should issue a formal RFI to the energy industry.
- Purpose: To solicit concrete, innovative proposals and partnership models for financing, building, and operating both the distributed VPP network and the utility-scale Energy Park.
- Justification: This leverages the concept of shared responsibility and uses market competition to find the most innovative and cost-effective solutions, rather than having the County invent the solution itself.

The Approach to Santa Fe County Board of County Commissioners Resolution 2025-124

Santa Fe County Sustainable Energy Utility Project:

Since 2023, CEC has been advocating for an approach that we believe will not only meet Santa Fe County's requirements to transition to renewable energy but also serve as the basis for the County to **"Future-Proof" itself into the 2050s and beyond**. We characterize the Smart Electric Grid as: "Distributed to take the stress out of the County Grid, Hybrid to bring more energy to the grid, and Federated to make sure that the Grid is equitable." The concept of the Smart Electric Grid has been presented throughout the County and Santa Fe City, as well as in the State, and even to PNM. Across the board, the Smart Electric Grid concept was generally well-received. The discussions with the County staff raised the primary question, "The County has no responsibility to deliver power on the grid to its constituents. What would you have us do?" Our response has always been, **"Take on the role of Leadership**." We have no pride in authorship and recognize that real work often changes and improves the concept. The most important outcome now is that the discussions have begun.

Resolution 2025-124 does not explicitly reference the New Mexico Energy Transition Act of 2019 (ETA); however, it establishes the transition to renewable energy as the primary driving principle of the Project. Parsing the resolution establishes the framework that is the vision of the Santa Fe County Board of County Commissioners (BCC). The first pass of parsing the resolution reveals a set of Guiding Principles. Guiding principles are fundamental beliefs, values, or rules that provide a framework for decision-making and behavior, acting as a strategic roadmap.

Guiding Principles for the Santa Fe County Sustainable Energy Utility Project:

1. **Produce the outcomes envisioned by the NM ETA.**
2. SF County established the baseline for the project in Resolutions 2013-7, 2017-68, 2023-074, and participation in the Local Governments for Sustainability (ICLEI).
3. The BCC has the authority to provide for the Health, Safety, and General Welfare of its residents.
4. The future of the County is moving towards an "All-Electric" Economy.
5. Continue the trends towards renewables that have already been established in the County.
6. Local control of energy resources establishes energy resilience and meets the mission of the BCC.

7. NM Law already authorizes counties to acquire, operate, and maintain an electric utility.
8. The County has experience providing utility services to its residents (water).
9. The County with SFCC has experience with the development of Microgrids.
10. Project success has already been proven nationwide and in NM.

The resolution contains a set of high-level derived requirements that any potential alternative under review shall apply to. The ability to demonstrate these requirements, or, conversely, the inability to do so, will serve as a selection metric.

High-Level Requirements for the Santa Fe County Sustainable Energy Utility Project:

1. **Renewable Energy sources shall be solar and/or wind.**
2. Decrease in the cost of renewable energy sources shall be reflected in lower energy rates for the consumers.
3. Locally generated and managed energy shall provide resilience over reliance on the legacy grid.
4. Local energy production shall also include storage to increase resilience, public safety, and health.
5. Locally produced energy shall serve as a more affordable energy source for low and fixed-income and senior residents.
6. A suitable solar electric micro-grid pilot project shall be actively developed.
7. The County shall collect the energy-generated revenues from within the County to promote local prosperity.
8. The County Energy Utility shall utilize any elements of the existing water utility experience in providing utility energy services to its residents.
9. The Project shall demonstrate how the existing solar facilities in the County are integrated.
10. The County shall be capable of restructuring the power grid and energy markets to serve its residents best.

The Project is to be overseen by the Santa Fe County Manager, Mr. Gregory S. Schaffer. This whitepaper suggests that an early milestone should be hosting a **Santa Fe County Energy Future Summit**. Out of this summit should come a team of subject matter experts, as well as energy stakeholders and residents, that will support the development of both the Phase 1 deliverables and the Phase 2 Final Report.

Immediate Next Steps:

1. Schedule and announce the date for the Santa Fe County Energy Future Summit within the next 30 days to engage all stakeholders and residents.
2. Following the summit, establish a working group composed of subject matter experts, energy stakeholders, and residents to guide the development of project deliverables.
3. Begin the Analysis of Alternatives (AoA) process by coordinating an initial meeting with the selected working group.
4. Initiate a Cost-Benefit Analysis (CBA) to evaluate project options, incorporating feedback from the working group.
5. Establish a timeline to ensure regular progress updates to the commissioners, with the first update scheduled for three months post-summit.

Resolution 2025-124 established six evaluation criteria. These criteria establish the need for a classic Analysis of Alternatives (AoA) followed by a Cost-Benefit Analysis (CBA).

The initial element of any AoA or CBA is to define the nature and scope of the task at hand. The evaluation criteria identified in the resolution include more than just the technology questions that drive the operational aspects of a publicly owned utility in the County. The six evaluation criteria are:

Technical · Define the selected alternatives and identify the scope of the services that the alternatives can provide to the county residents. Ensure that the alternatives address existing models across the country and in New Mexico, both successful and unsuccessful. Develop architectural models for each alternative to identify the cost elements that support the CBA. One alternative shall be “doing nothing” to establish a baseline for comparison. The Phase 1 preliminary assessment architectures will serve as the basis for the more detailed Phase 2 feasibility study. The architecture for both phases shall reflect how the architecture can deliver the High-Level Requirements above.

Stakeholder Roles · The stakeholder set shall be the same for each alternative. Stakeholders will be both part of the study team and performers in the architecture. It will be from this stakeholder set that the concept of federation will be defined. How will ongoing input from tribal governments, utilities, and community groups be structured and maintained throughout implementation?

Timeline & Milestones · For each alternative, what are the specific deadlines and success metrics for each implementation phase, and how will progress be reported to the Commission?

Costs and Funding · Each alternative will include a breakdown of cost elements for comparison. Each element will have an identified funding source. A project cost and funding profile aligned with the project timelines shall also be part of the study. The analysis shall address what the backup plan is if federal grants or state funding are delayed or reduced during critical project phases.

Legal Pathways · The Phase 1 analysis shall address a complete legal/regulatory analysis. What are the next steps if Community Choice Aggregation or related legislation fails again in the NM Legislature?

Public Engagement · In addition to the initial Energy Future Summit, there shall be continued public engagement through workshops and study groups. The County will supply web space to enable public engagement. How will the County ensure broad, ongoing public input and buy-in, especially from low-income and rural residents?

SANTA FE COUNTY
BOARD OF COUNTY COMMISSIONERS

RESOLUTION NO. 2025 - 124

A RESOLUTION DIRECTING THE COUNTY MANAGER OF SANTA FE COUNTY TO PERFORM A STUDY TO DETERMINE THE FEASIBILITY OF CREATING A PUBLICLY OWNED ELECTRIC UTILITY

WHEREAS, our nation's top scientists released the Fourth National Climate Assessment (NCA) in November 2018, and their key message on Energy for the Southwest region stated: "[t]he ability of hydropower and fossil fuel electricity generation to meet growing energy use in the Southwest is decreasing as a result of drought and rising temperatures. Many renewable energy sources offer increased electricity reliability, lower water intensity of energy generation, reduced greenhouse gas emissions, and new economic opportunities"; and

WHEREAS, producing solar and wind energy uses considerably fewer water resources than other forms of energy; and

WHEREAS, the Santa Fe County ("County") Board of County Commissioners ("Board") adopted Resolution 2013-7, which established sustainable resource management principles and directed staff to "lead by example" with respect to implementing cost-effective waste reduction, recycling, and clean energy strategies in County operations; and

WHEREAS, the Board passed Resolution No. 2017-68, which adopted and supported the goals set in the Paris Agreement and expressed the Board's intention to support greenhouse gas emission reduction within the County and the community; and

WHEREAS, on April 27, 2021, the Board a ratified the County's commitment to climate action by approving participation in the Local Governments for Sustainability (known as ICLEI) Race to Zero Program and adopting the Race to Pledge Zero; and

WHEREAS, the Board adopted Resolution 2023-074, initiating a Countywide Climate Action Plan Phase I to increase energy efficiency and resiliency, including through renewable energy infrastructure projects; and

WHEREAS, renewable energy and storage are among the cleanest sources of energy with which New Mexican residences and businesses can power its establishments to achieve better air quality and reduce greenhouse gas pollution; and

WHEREAS, many state and local governments in New Mexico, including the County, have already begun reducing their greenhouse gas emissions through implementing energy efficiency, waste reduction, recycling, water conservation, fleet efficiency, and renewable energy production in County facilities and operations; and

WHEREAS, the Board has the authority to provide for the safety, preserve the health, promote the prosperity and improve the morals, order, comfort and convenience of the County or its residents; and

WHEREAS, the provision of electric energy to the residents of the County is an essential part of what residents depend upon for their well-being; and

WHEREAS, locally generated and managed energy provides resilience over reliance on the large-scale grid system; and

WHEREAS, New Mexico law authorizes municipalities and counties to acquire, operate, and maintain an electric utility for the generation and distribution of electricity; and

WHEREAS, extreme and unpredictable weather patterns resulting from climate change now urgently require the use of energy from non-fossil fuel sources; and

WHEREAS, the costs of solar and wind power have dropped significantly, and these lowered costs are passed on to power users through decreased rates; and

WHEREAS, the generation of local solar energy plus storage increases resilience while supporting public safety and community health; and

WHEREAS, given the cost of living in the County continues to rise, disproportionately impacting residents with low and fixed incomes, particularly seniors, solar energy will provide a more affordable energy source; and

WHEREAS, it is in the best interests of the County to collect the revenues generated by the sale of electricity within the County to promote local prosperity; and

WHEREAS, the County already has 28 solar facilities powering its buildings and resources, producing over 3 million kWh of solar energy annually; and

WHEREAS, the County already operates a water utility that serves 4,334 customers, generates more than $9 million in revenue per year, and fulfills County sustainability goals through water conservation measures; and

WHEREAS, the County partnered with Santa Fe Community College in 2014 to develop a campus micro-grid and solar education and training, that provides island-able solar energy and battery storage for the college; and

WHEREAS, the retention of local control of its energy resources is of the highest importance and in the best interest of energy resilience and health of our community; and

WHEREAS, the County ownership of electricity infrastructure on new developments will ensure a just and imminent transition to renewable energy including the restructuring of the power grid and energy markets to best serve community values and interests; and

WHEREAS, there are more than 2,000 publicly owned electric utilities in the USA, and several in the state of New Mexico, which successfully provide energy to their residents at lower costs than their alternatives; and

WHEREAS, the County actively develops energy-intensive facilities that may be suitable for a solar electric micro-grid pilot project, such as resiliency hub facilities or at public housing facilities.

NOW, THEREFORE, BE IT RESOLVED that the Santa Fe County Board of County Commissioners hereby initiates a sustainable energy utility project to be placed on present or

future county property and that the County Manager shall begin to investigate the feasibility of implementing this project.

BE IT FURTHER RESOLVED that the following be evaluated:

1. The benefits that may accrue to the residents of the County with review and impact to respective stakeholders.
2. The costs involved in the creation of a publicly owned sustainable electric energy utilities.
3. The different options and scales available for the County to create or a publicly owned sustainable energy utilities or variations thereof.
4. Previous studies and models both successful and unsuccessful to establish public electrical energy utilities in New Mexico.
5. A phase 1 wherein the consultant conduct a preliminary assessment of legal, technical, community interest and feedback, and financial viability to be completed within 90 days of procurement; a phase 2 feasibility study assessing, i.e., independent consultant, load modeling, valuation pathways, legal/regulatory analysis, public engagement through workshops, study groups.
6. Written reports and presentations after each phase to BCC and the public.

BE IT FURTHER RESOLVED that County staff will:

1. Procure the services of a contractor to undertake the feasibility study described in this Resolution.
2. In evaluating the qualifications of potential contractors for the feasibility study described in this Resolution, the County shall give weight to vendors who: (a) have experience working with local, rural, and Tribal governments on sustainable utility development; and (b) demonstrate an understanding of the unique context of New Mexico and the Southwestern United States.
3. The feasibility study described in this Resolution shall be completed within 365 days of the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED ON THIS 10th DAY OF NOVEMBER, 2025.

SANTA FE COUNTY
BOARD OF COUNTY COMMISSIONERS

By: _____
Camilla Bustamante, Chair

ATTEST:

_____ Date: 11/11/25
Katharine E. Clark
Santa Fe County Clerk

SFC CLERK RECORDED 11/12/2025

3

Approved as to form:

Walker Boyd
Santa Fe County Attorney

COUNTY OF SANTA FE)
STATE OF NEW MEXICO) ss

BCC RESOLUTIONS
PAGES: 4

I Hereby Certify That This Instrument Was Filed for Record On The 12TH Day Of November, 2025 at 03:01:17 PM And Was Duly Recorded as Instrument # 2071273 Of The Records Of Santa Fe County

Witness My Hand And Seal Of Office
Katharine E. Clark
Deputy _____ County Clerk, Santa Fe, NM

SFC CLERK RECORDED 11/12/2025

4

References

1. New Mexico Energy Transition Act (SB 489), 2019 https://www.nmlegis.gov/Sessions/19%20Regular/bills/senate/SB0489.pdf
2. Title: Public Service Company of New Mexico (PNM) 2026 Integrated Resource Plan Source: Gridworks URL: https://gridworks.org/initiatives/pnm-2026-integrated-resource-plan/
3. Title: PNM Grid Modernization Source: PNM URL: https://www.pnm.com/grid
4. Title: The Aging US Power Grid: Navigating Toward Modernization | SEPA Source: Smart Electric Power Alliance URL: https://sepapower.org/knowledge/the-aging-us-power-grid-navigating-toward-modernization/
5. Clean Energy U.S. Permitting Delays Hold Back Economy, Cost Jobs https://cleanpower.org/wp-content/uploads/gateway/2024/04/ACP-Pass-Permitting-Reform_Fact-Sheet.pdf
6. Title: America's Grid Isn't Ready for the Green Transition | TIME Source: TIME URL: https://time.com/6957384/america-grid-green-transition/
7. Clean Energy Coalition for Santa Fe County. , Alternative Concept Whitepaper, https://www.cleanenergycoalitionSFC.org
8. Department of Energy. (n.d.). Virtual Power Plants. Department of Energy. https://www.energy.gov/lpo/virtual-power-plants
9. Title: Sunrun Deploys 37,000 Home Batteries to Support Puerto Rico's Power Grid Amid Increased Demand | Nasdaq Source: Nasdaq URL: https://www.nasdaq.com/articles/sunrun-deploys-37000-home-batteries-support-puerto-ricos-power-grid-amid-increased-demand#:~:text=SAN%20FRANCISCO%2C%20July%2021%2C%202025,and%20helps%20prevent%20rotating%20blackouts.
10. Title: Sunrun's Distributed Power Plant Quadruples in Size to 75,000 Solar-Powered Batteries to Support California's Grid Source: Sunrun URL: https://investors.sunrun.com/news-events/press-releases/detail/340/sunruns-distributed-power-plant-quadruples-in-size-to#:~:text=More%20than%2056%2C000%20Sunrun%20customers,energy%20costs%20for%20all%20ratepayers.
11. Title: California Is Building the Biggest Virtual Power Plant in the World — CA Solar & Storage Association Source: California Solar & Storage Association URL: https://calssa.org/press-releases/2025/9/8/california-is-building-the-biggest-virtual-power-plant-in-the-world#:~:text=SACRAMENTO%E2%80%94In%20the%20final%20weeks,(VPP)%20in%20the%20world.
12. Title: North Carolina Launches Clean Energy Microgrid Initiative to Boost Disaster Resilience | NC DEQ Source: North Carolina Department of Environmental Quality URL: https://www.deq.nc.gov/news/press-releases/2025/08/12/north-carolina-launches-clean-energy-microgrid-initiative-boost-disaster-resilience

13. Solar Energy Industries Association, & Wood Mackenzie Power & Renewables. (2024, December). U.S. solar market insight Q4 2024. https://seia.org/research-resources/solar-market-insight-report-q4-2024/
14. Title: Duke Energy files to recover $1.1 bln in hurricane costs | Reuters Source: Reuters URL: https://www.reuters.com/business/energy/duke-energy-files-recover-11-bln-hurricane-costs-2024-12-27/
15. Title: Pathways to Commercial Liftoff: Virtual Power Plants 2025 Update Source: Smart Energy Decisions URL: https://www.smartenergydecisions.com/research/pathways-to-commercial-liftoff-virtual-power-plants-2025-update/
16. Real Reliability The Value of Virtual Power https://www.brattle.com/wp-content/uploads/2023/04/Real-Reliability-The-Value-of-Virtual-Power-Full-Report.pdf
17. Office of Electricity. (n.d.). Community microgrid assistance partnership. U.S. Department of Energy. https://www.energy.gov/oe/community-microgrid-assistance-partnership
18. KUNM News. (2025, January 17). FRI: New Mexico to receive $17 million in federal housing funds, + More. KUNM. https://www.kunm.org/kunm-news-update/2025-01-17/fri-nm-supreme-court-rejects-utilities-challenge-to-community-solar-rule-more
19. Creyts, J., & Guccione, L. (2014). The Economics of Grid Defection: When and Where Distributed Solar Generation Plus Storage Competes with Traditional Utility Service. RMI. https://rmi.org/insight/the-economics-of-grid-defection-when-and-where-distributed-solar-generation-plus-storage-competes-with-traditional-utility-service/
20. Sustainability Directory. (2025, November 10). Grid Defection. Sustainability Directory. https://lifestyle.sustainability-directory.com/term/grid-defection/
21. Public Power New Mexico. (n.d.). Regional Aggregation - Local Choice Energy. Public Power New Mexico. https://www.publicpowernm.org/local-choice-energy
22. Public Power New Mexico. A PRIMER ON LOCAL CHOICE ENERGY, https://www.nmlegis.gov/handouts/WNR%20082522%20Item%204%20Local%20Choice%20Energy%20FAQ.pdf
23. United States Environmental Protection Agency. (2025, August 19). Community Choice Aggregation. US EPA. https://www.epa.gov/green-power-markets/community-choice-aggregation
24. Clean Energy Coalition for Santa Fe County. , Alternative Concept Whitepaper, https://www.cleanenergycoalitionSFC.org
25. Department of Energy. (n.d.). Virtual Power Plants. Department of Energy. https://www.energy.gov/lpo/virtual-power-plants
26. Martin, L., & Brehm, K. (2023, January 10). Clean Energy 101: Virtual Power Plants. RMI. https://rmi.org/clean-energy-101-virtual-power-plants/
27. City of Boulder – "Settlement Agreement between Public Service Company (Xcel) and City of Boulder"https://bouldercolorado.gov/sites/default/files/2021-05/settlementagreementfullyexecuted9220200.pdf
28. Penrod, E. (2020, August 11). Budget pressures, COVID-19 drive Boulder to settlement talks with Xcel Energy. Utility Dive.

29. New Mexico Register / Volume XXXVI, Issue 4 / February 25, 2025 NOTICE OF PROPOSED RULEMAKING DOCKET NO. 22-00089-UT
https://www.srca.nm.gov/nmac/nmregister/xxxvi/PRCnotice_xxxvi04.pdf
30. New Mexico House Democrats. (n.d.). Bill to “Power Up New Mexico” passes House.
https://www.nmhousedemocrats.com/latest-news/bill-to-power-up-new-mexico-passes-house
31. New Mexico Legislature. (2025). 2025 Regular Session - HB 93: Advanced grid technology plans.
https://www.nmlegis.gov/Legislation/Legislation?chamber=H&legType=B&legNo=93&year=25
32. SENATE BILL 84 55TH LEGISLATURE - STATE OF NEW MEXICO - FIRST SESSION, 2021
https://www.nmlegis.gov/Sessions/21%20Regular/bills/senate/SB0084.pdf

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