The Role of Distributed Energy Resources in Economic Growth

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Renewable Energy Industries Association-NM

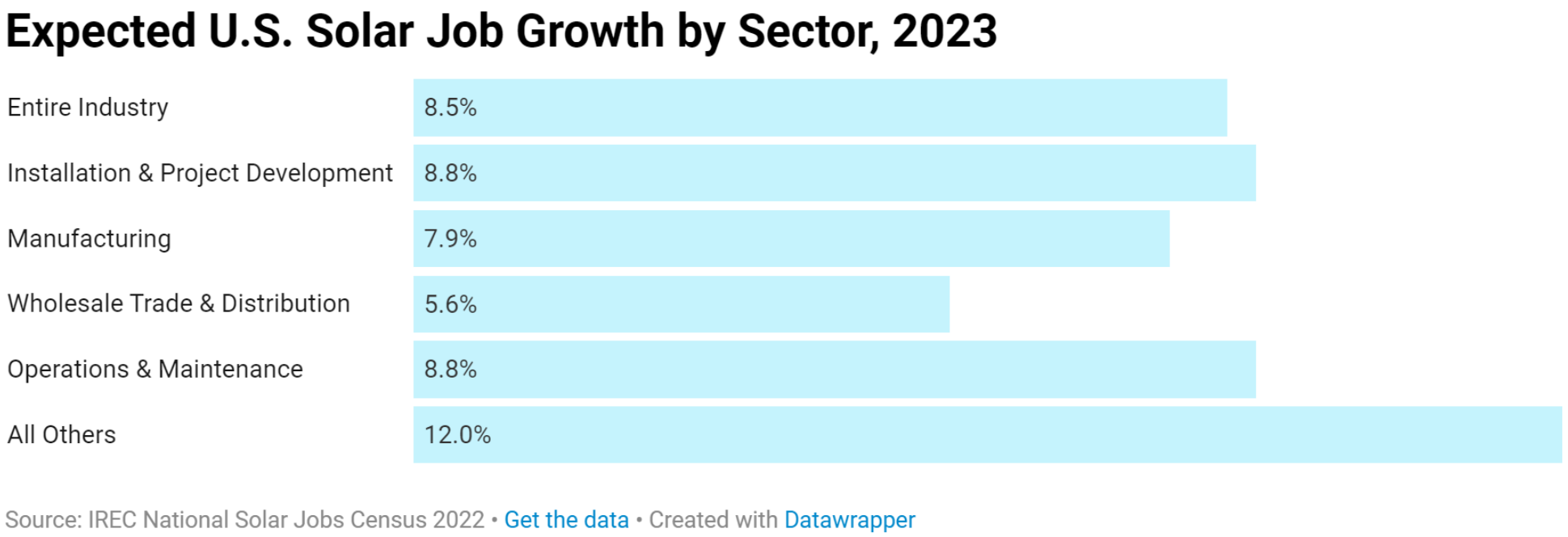
- New Mexico based trade organization representing 60+ diverse companies engaged in the renewable energy business with a focus on Distributed Energy Resources (DER). Founded in 2004.
- Mission is to support, promote and advance the transition to renewable energy in New Mexico helping to create more jobs, and a strong, healthy economic future for our state.
- Members and customers located throughout urban and rural New Mexico.
- Active in New Mexico regulatory and legislative environments.
- REIA is an affiliate of the Solar Energy Industries Association (SEIA).

The State of Solar in New Mexico

- 2,013 people are employed by New Mexico's solar industry.
- More than 1,777 megawatts of solar has been installed in New Mexico, enough to power 419,068 homes.
- An additional 4,011 megawatts is expected to be installed in the next five years.
- 84 solar companies are operating in New Mexico.
- The value of the New Mexico solar market is estimated at $3.2 billion; $433 million invested in 2022.

Source: Solar Energy Industries Association

Employment in the Solar Industry



What is the Current Situation?

- The transition to renewables is happening during a transition to electric vehicles (EV) and building electrification. Extreme weather is creating a need for more resiliency.
- Homes and businesses are now able to generate their own energy with solar.
- Energy Transition Act requires replacing fossil fuel electrical generation with renewables that have variable generation, creating a need for significant amount of energy storage.
- Large scale renewables and storage take up more land than the equivalent amount of fossil fuel generation. Not in My Backyard (NIMBY) issue.
- Inflation Reduction Act will pump $369 Billion into economy. Unprecedented opportunity for state to take advantage of federal funds to invest in NM.
- Announcement by Governor that 43% of new vehicle sales to be EV by 2027.

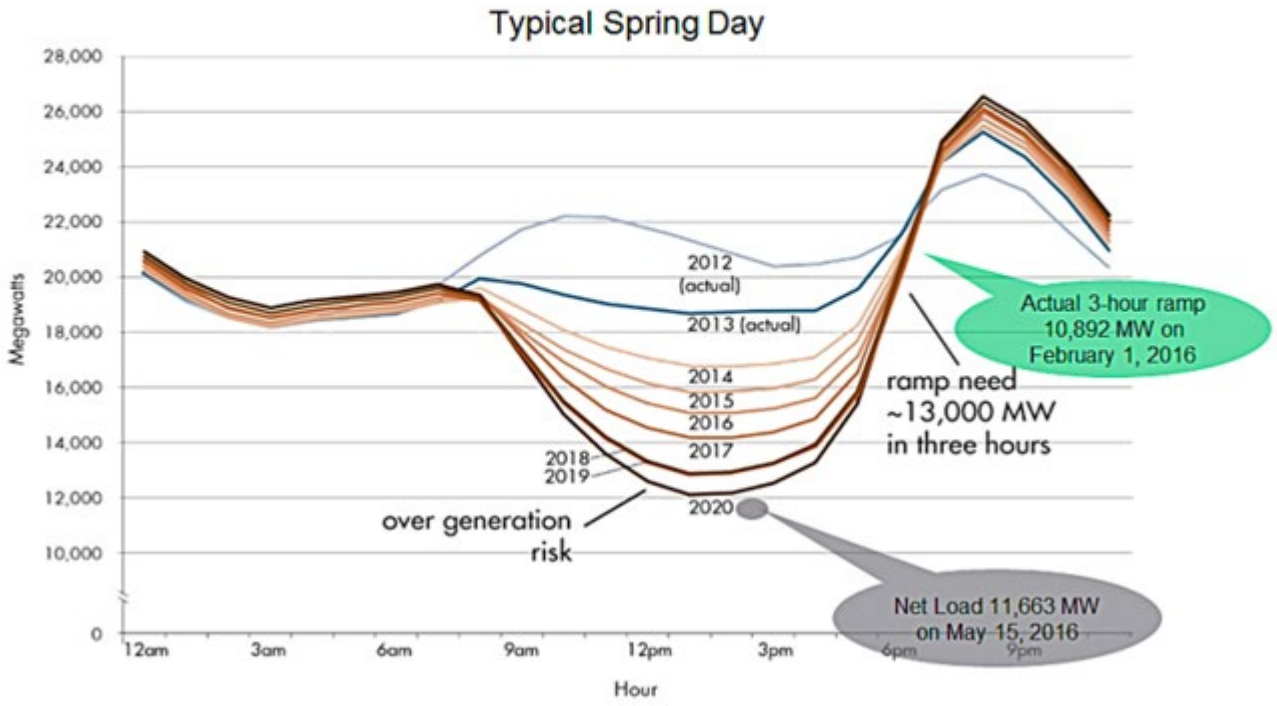
- We are in the early stages of disruptive industry that we can embrace.

The Important Role of Small Distributed Energy Resources

- Distributed Energy Resources – Small scale energy resources, such as rooftop solar, Community Solar and battery storage, usually situated near sites of electricity use.
- More than 40,000 solar systems installed at homes and businesses in New Mexico. Less than 1 % are paired with energy storage.
- Solar sales expected to triple in the U.S by 2030.
- Presently 2 GW of Behind the Meter (BTM) energy storage installed in the U.S. This is expected to increase to 27 GW by 2030.
- Electric Vehicles expected to increase in the U.S. from 3 million now to 26 million by 2030.
- Need to be open to new solutions: storage on the distribution system, microgrids, Virtual Power plants (VPP) & Vehicle to Grid (V2G) charging

California Duck Curve

Figure 2: The duck curve shows steep ramping needs and overgeneration risk



- As the amount of electricity generated from solar increases, the disparity from when electricity is generated and when it is needed increases. Over supply around noon time and under supply in early evening. Supply does not sync up with demand. The storage of energy is needed to address this issue.

Inflation Reduction Act (IRA)

- Will invest $369 Billion in renewal energy and climate change initiatives over the next 10 years.
- 30% tax credit for wind and solar systems. Government bodies, native American governments and non-profits are eligible for direct pay.
- 10% additional tax credit for systems in “Energy Communities.”
- Up to 20% additional tax credits for systems that are in low-income communities.
- Additional tax incentives for domestically produced solar components. Maxeon solar factory in NM to employ 1,800 people.
- Other incentives for build out EV networks, upgrades to home electrical systems and building electrification.

Community Solar

- 200 MW of Community Solar approved by state legislature in 2021; the legislation has provision to incentivize participation by local businesses.
- Rulemaking at the Public Regulation Commission (PRC) has been approved and projects have been awarded. Significant more demand for projects that the 200 MW limit.
- All awarded bids exceeded the 30% requirement for low-income subscribers.
- Projects are primarily in rural areas throughout the state and will provide significant economic benefits to local communities.
- Typical projects (5 MW limit) uses about 25 acres of land, significantly less than utility scale solar and is less invasive on the rural landscape.
- The PRC is expected to open a docket for a lessons learned in first tranche; they have the authority to authorize additional capacity.

Solar for All Grant

- $7 Billion Environmental Protection Agency grant enabled by the IRA.
- NM Energy Minerals & Natural Resources Dept (EMNRD) is working with the NMPRC and NM Indian Affairs Dept on grant application for $250 million.
- Funding can only be used residential solar investment for low income and disadvantaged communities.
- Would expand the Community Solar program and deployment of solar systems on residential homes.
- Leverage other sources of federal funds.
- Build workforce development in the solar industry.

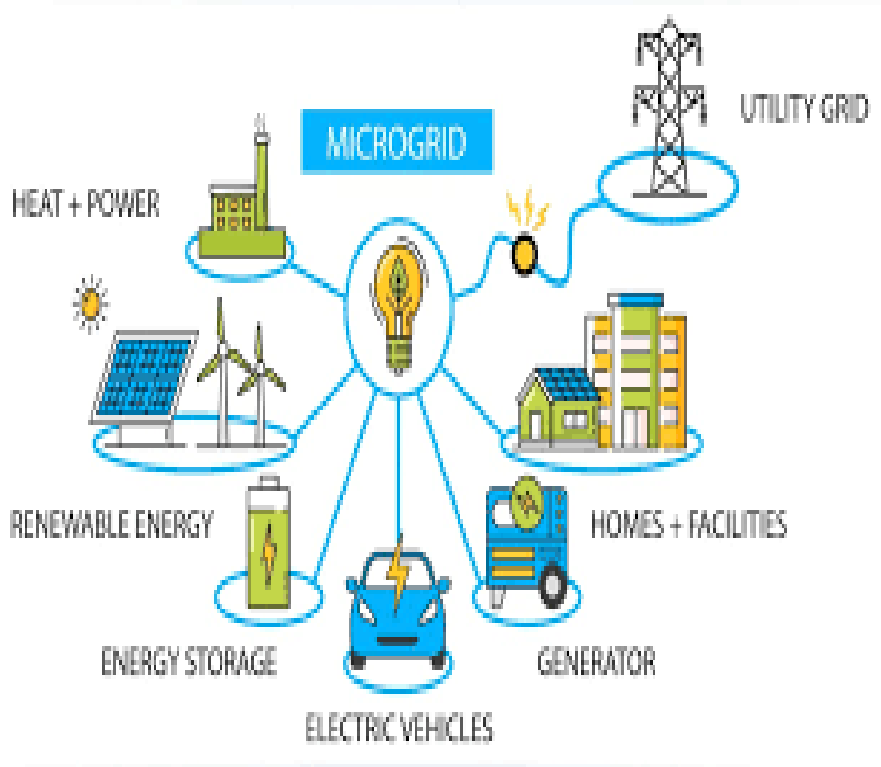
Commercial Property Assessed Clean Energy (CPACE)

- Financing mechanism that allows low cost, long term funding for energy efficiency, water conservation and renewable energy projects for commercial buildings.
- Financing is repaid through an assessment on the property.
- Financing is tied to the property, not an individual or entity. Assessment transfers to the new owner when property is sold.
- Business development tool supported by many business organizations including NAIOP.
- HB228-Improvement Property Assessment Act was chaptered in 2023. Updates earlier legislation.
- An RFP has been issued by the state for a contract administrator.
- Individual Counties approve the program.

PNM BESS Project

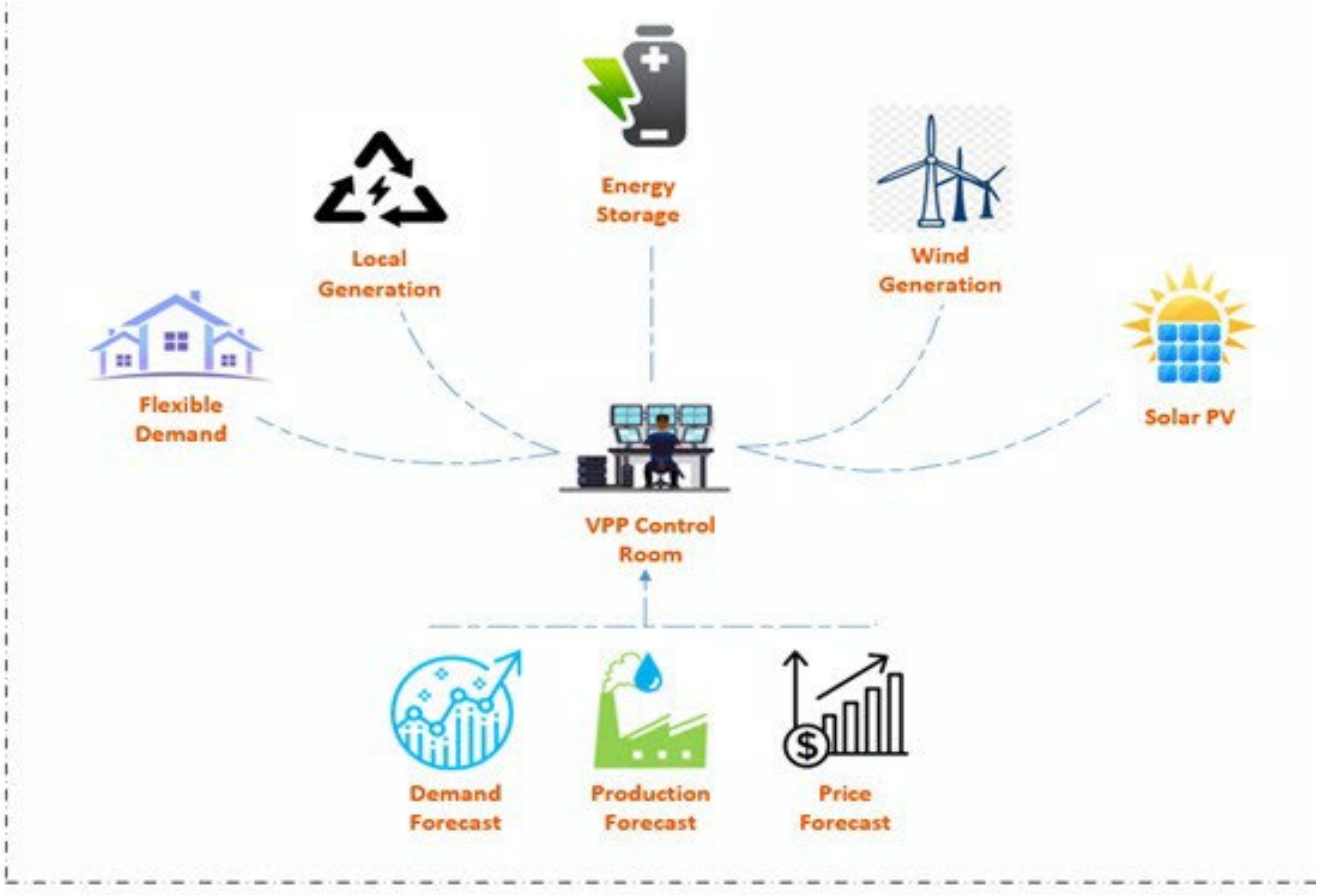
- Filing at PRC on May 3, 2023, Docket # 23-00162-UT, pending approval.
- Battery storage projects will be located at two existing PNM solar facility sites in Bernalillo and Valencia Counties.
- Designed to assist with voltage support and power quality on two overloaded distribution feeder lines, increase solar hosting capacity and assist in meeting load growth.
- PNM determined that the BESS project is the most cost effective among the feasible alternatives.
- Project is intended to be operational in June, 2024.
- PNM expects to request approvals for similar battery distribution storage in the future.

Micro Grids



- a small network of electricity users with a local source of supply that is usually attached to a centralized to a national grid but is able to function independently.

Virtual Power Plants (VPP)



- DERs, including BTM solar systems and EVs, can be grouped and controlled by a utility to support the power system.
- Drivers include declining costs, technological advances, Inflation Reduction Act (IRA) and FERC Order 2222.
- Nationally, by 2030 BTM solar expected to grow from 27 GW to 83 GW. BTM storage from 2 GW to 27 GW and EVs from 3 million to 26 million by 2030.
- This model is considered a Lower Cost Resource Adequacy.
- Pilot Projects by PG&E/Sunrun and others.

VPP California Program-Sunrun & PGE Collaboration

- Peak Power Awards program exclusively for Sunrun customers.
- Enrollment extended from 7,500 to 8,500 (34 megawatts) for SunRun solar plus storage customers.
- Designed to provide grid support from 7-9 pm, August –Oct, 2023.
- Enrollees are provided $750 one time payment and free Next thermostat.
- Three-month pilot program.
- Cannot be enrolled in other demand response programs.

Vehicle to Grid (V2G)

- Technology is in vehicles now.
- Maximize use of big battery in vehicle when it is not in use garage. No need for separate battery for solar.
- Example of use of the grid as 2 way.
- Can help to balance electrical generation with load. Use Rate structures as a means to match supply with demand. Charge EV when rates are low and discharge when rates are high.
- Resiliency for when the grid is down.
- New NM PRC Interconnection rule does not address V2G.
- V2G part of future NM PRC rulemaking on grid modernization?

Challenges Moving Forward

- Energy Storage attachment rate with solar systems in NM is very low. Need incentives so that these systems can provide resiliency and grid support.
- Solar Market Development Tax Credit is underfunded and some families have been denied the tax credit.
- Having the necessary resources to apply for federal grants.
- The state is currently reliant on oil & gas revenues to fund state operations. The transition will a fossil fuel free economy will not be easy. Needs to just and orderly.
- There is an enemy among us in the renewable energy industry. Predatory companies are taking advantage of New Mexicans. We will root them out.

NM Legislation on Small Scale Energy Storage

- HB32/HB547-Energy Storage System Income Tax Credit in 2023 legislative session was passed, but not chaptered.
- 40% tax credit for energy storage systems with limit of $5,000 on residential and $150,000 on commercial properties, $4 million annual cap, 5-year sunset.
- New Mexico is behind most states in the attachment rate of solar with storage. This type of legislation would help to jumpstart this market.
- Many benefits include helping New Mexico become a leader in this fast growing industry, addresses resiliency concerns, economic growth, job creation.

- Legislation similar to HB32/HB547-Energy Storage System Income Tax Credit.
- Update the Solar Market Development Tax Credit annual amount to $20 million.
- Update the Distributed Generation Disclosure form, possible other actions.
- Assist counties to approve the implementation of CPACE.
- Request that utilities recognize the value of BTM storage.
- Recognize the value of small-scale storage and V2G at the PRC and in future proceedings at the PRC.
- Pilot programs at the three Investor-Owned Utilities to create VPP and V2G.

Questions?

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