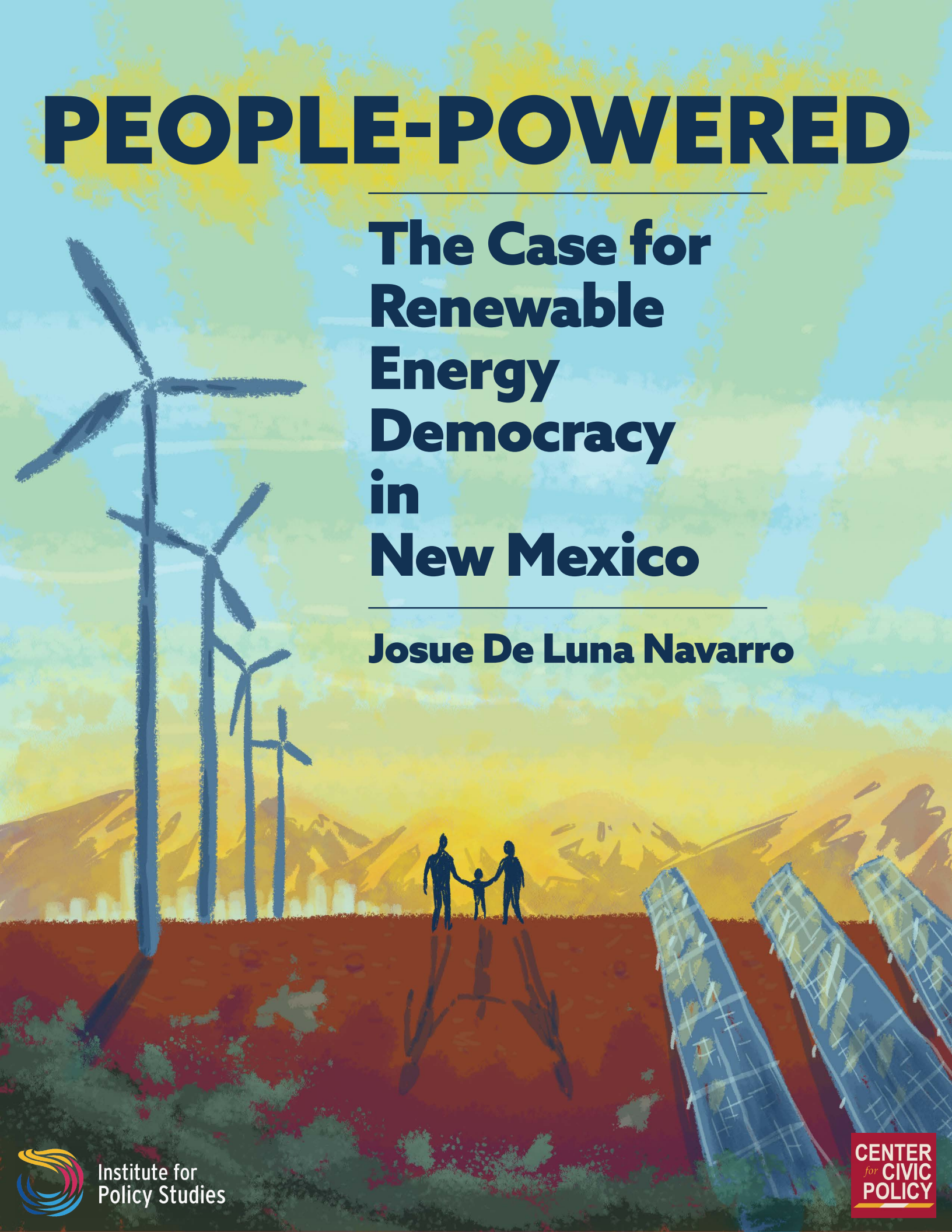
PEOPLE-POWERED

The Case for Renewable Energy Democracy in New Mexico



Josue De Luna Navarro

Institute for Policy Studies

CENTER for CIVIC POLICY

People-Powered: The Case for Renewable Energy Democracy in New Mexico

Josue De Luna Navarro
Institute for Policy Studies
Center for Civic Policy
December 2021

Josue De Luna Navarro is a Climate Justice Coordinator at the Center for Civic Policy in New Mexico and an Associate Fellow at the Institute for Policy Studies in Washington, D.C. He is a former New Mexico Fellow at the Institute for Policy Studies and, in New Mexico, Josue was the co-founder of the New Mexico Dream Team, the largest statewide undocumented-led organization in the state. Josue is an expert on issues regarding climate change, immigration and public health.

For nearly six decades, the **Institute for Policy Studies (IPS)** has provided critical research support for major social movements and progressive leaders inside and outside government and on the ground around the United States and the world. As the nation's oldest progressive multi-issue think tank, IPS turns bold ideas into action through public scholarship and mentorship of the next generation of progressive scholars and activists.

Based in Albuquerque, New Mexico, the **Center for Civic Policy (CCP)** is a nonpartisan tax-exempt 501c3 organization that works to empower and amplify the voices of everyday New Mexicans, especially those who experience oppression, to shape a more inclusive, responsive, and accountable democracy—using a racial, gender, class, and equity lens to build transformative power through collective responsibility and build thriving communities in New Mexico.

Table of Contents

Abstract

New Mexico has the opportunity to build wealth, equity and energy democracy. New Mexicans are standing on a gold mine today - a gold mine made of solar and wind energy. As the Energy Transition Act activates the potential for our energy sector to build renewable energy infrastructure, New Mexico is selling its potential to outside corporations. Today, New Mexicans are witnessing possibly the biggest opportunity for wealth development that the state has seen in decades. New Mexico is letting $207M leave our state by not creating a legal and financial pathway for public and community owned clean energy infrastructure. Along with the $207M in lost potential revenues, New Mexico is currently providing a total of $165M worth of tax credit to an already well-established clean energy industry. If New Mexico had built its existing wind and solar generation capacity as of 2019 under public ownership, we could have generated an additional $7.7 billion in economic benefits and 61,680 additional jobs. It is not to say that some contracts with the private sector (for example, for construction) will not be needed - however this case study is to show what New Mexico is losing by not creating a possibility for the public to own its clean energy. Along with a positive financial impact, public ownership would also address energy burden and barriers to implementing home energy efficiency and owning renewable generation capacity that Black, Indigenous, and People of Color (BIPOC) communities face. It will transform access to energy from a for-profit service to a basic human right for all New Mexicans.

Problem Statement

Climate change has made the need of decarbonizing our economy a priority. By passing the Energy Transition Act, New Mexico has joined a growing number of states to enact legislation requiring 100% renewable energy for its electric grid by 2050 or earlier. However, this transition is opening the doors to outside corporations to make profit out of the resources of New Mexicans. Any energy transition that doesn't guarantee a pathway to public ownership continues the problem of inequality and wealth extraction from our people. Regardless of the economic development and job creation private companies can bring, the system is designed so that shareholders of companies win. It excludes New Mexicans from a new opportunity to generate wealth.

Solution

Clean energy infrastructure will increase exponentially in the next few decades. New Mexico is headed towards a cleaner future, but this doesn't necessarily mean a more just future. As New Mexico continues to prioritize the environment and the state's role to decarbonize our economy, it is critical to remind the State that, there is no climate justice without including economic benefits to poor communities. It is the state's obligation to ensure that the wealth being generated by our clean energy resources be kept by the people and not owned by corporations. The following policy recommendations will help achieve these objectives.

Short Term Policy Recommendations

- Enact a Community Solar Act that would prioritize grassroots solar energy development rather than corporate owned operations and a Local Energy Choice Act that would create a legal pathway for Tribal communities, municipalities and non-profits to choose and create their own solar farms and utility agencies.
- Create a New Mexican Community Ownership of Power Administration (COPA) - A financial and technical capacity program designed specifically to be a catalytic tool for a new energy system based on local, community benefit.

Long Term Policy Recommendations

- Require state agencies to enter into long-term Power Purchase Agreements (PPAs) with community-owned renewable projects.
- Create a Public Bank designed to direct funding and financing for the capital cost for community-owned renewables to frontline and disadvantaged communities.
- Set up an Energy Democracy office which would create a pipeline for frontline community input in guiding how New Mexico should transition away from investor owned utility infrastructure to a publicly owned infrastructure. The office would also create a foundation for an agency that would oversee public energy infrastructure.
- Enact a New Mexico Public Utility Holding Company Act.The bill would force the breakup and restructuring of corporate electricity monopolies, including taking back all corporate assets and distribution lines throughout the state.

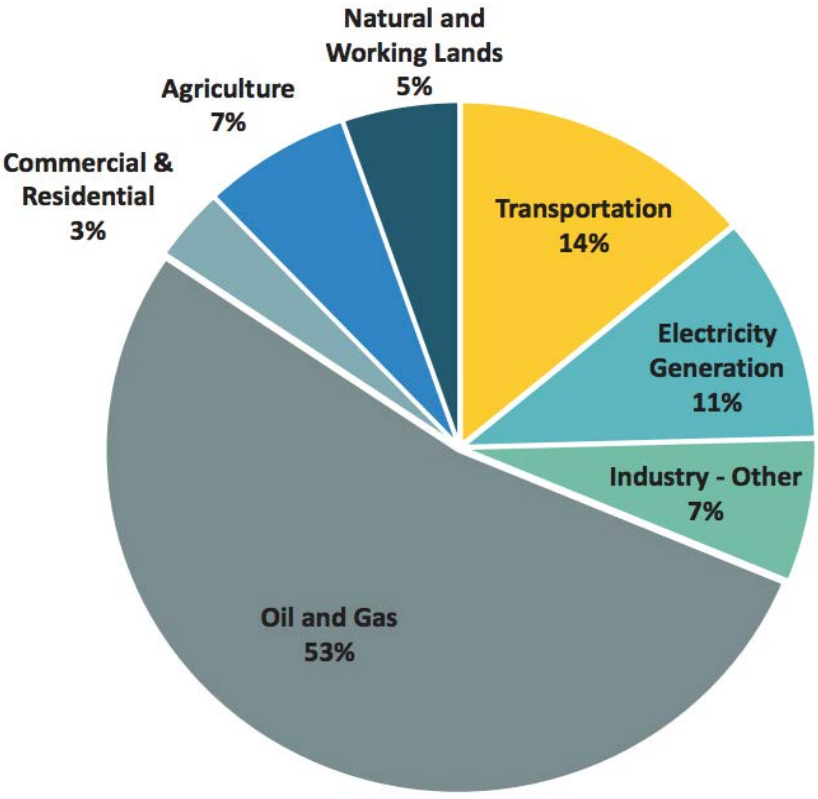
Background

Climate Change and the Role of the Energy Sector

Oil and Gas, transportation and the electricity sector are the main three sectors producing Greenhouse Gasses (GHG) in New Mexico. They account for 53%, 14% and 11% respectively as depicted in Figure 1. As of 2020, New Mexico produced 113.6 million metric tons (MMT) of GHG - directly impacting the ongoing global climate crisis the planet is experiencing.

It is critical to point out that the oil and gas sector remains more than half of all emissions. Addressing the climate crisis would entail, not only decarbonizing our electricity sector, but also shifting away completely from oil and gas operations. The current Energy Transition Act only addresses 11% of the state's emissions. If New Mexico is serious about addressing the climate crisis, the upcoming decade is crucial. New Mexico must phase out oil and gas extraction throughout the state while addressing the economic and social inequalities BIPOC communities experience.

Figure 1: Greenhouse Gases in New Mexico by Sector



The drivers of the climate crisis are also impacting New Mexicans directly. A report from

the Oil and Gas Threat map shows that 7% of NM's population lives near oil and gas operations. That comes with health hazards and exposure to pollutants that are hurting communities.

Climate change is putting at risk the infrastructure all New Mexicans depend on. In 2020, monsoon seasons have caused flooding, impacting small communities such as Truth or Consequences, while wildfires burned 3,000 acres of forest near Santa Fe. The state is also experiencing worrisome levels of extreme drought[1].

Things don't look better for the future in New Mexico. Scientists have noted in the New Mexico Climate Change Report 2020, that the state will experience bigger flash floods, stronger wildfires, longer droughts and significant ecological changes, such as smaller alpine meadows and wildlife extinctions[2].

The needed reduction of New Mexico's GHG levels, in order to reduce the state's role in the climate crisis, has commenced by decarbonizing the energy sector of New Mexico.

How New Mexico's Energy Grid Works

For ease of understanding the solutions proposed in this study, it is vital that the reader has a basic understanding of how the energy grid works, especially when it comes to how energy is sold.

Electricity is generated through various means, such as burning of coal or natural gas, solar energy, wind energy, and nuclear energy. In New Mexico, energy comes mostly from coal, natural gas, solar and wind energy. After energy is produced by a generation facility, it is transferred and sold[3] through transmission lines to Investor-Owned Utility (IOUs) companies. Those IOUs then transfer the energy through distribution lines to people's homes, buildings and public infrastructure. End users (homes, businesses, and public facilities) are charged for their energy use, typically with a specified rate per kWh of energy used over a month.

In New Mexico there are three major utility companies that serve the largest share of New Mexico's population: Public Service of New Mexico (PNM), Xcel Energy, and El Paso Electric (EPE). However, PNM holds the most rights to transmission lines in New Mexico and serves the largest populations in New Mexico as depicted in Figure 2 (right).

Everyday New Mexicans, don't necessarily benefit directly from the wealth being accumulated by IOUs. Their profits will end up benefiting shareholders, who are not

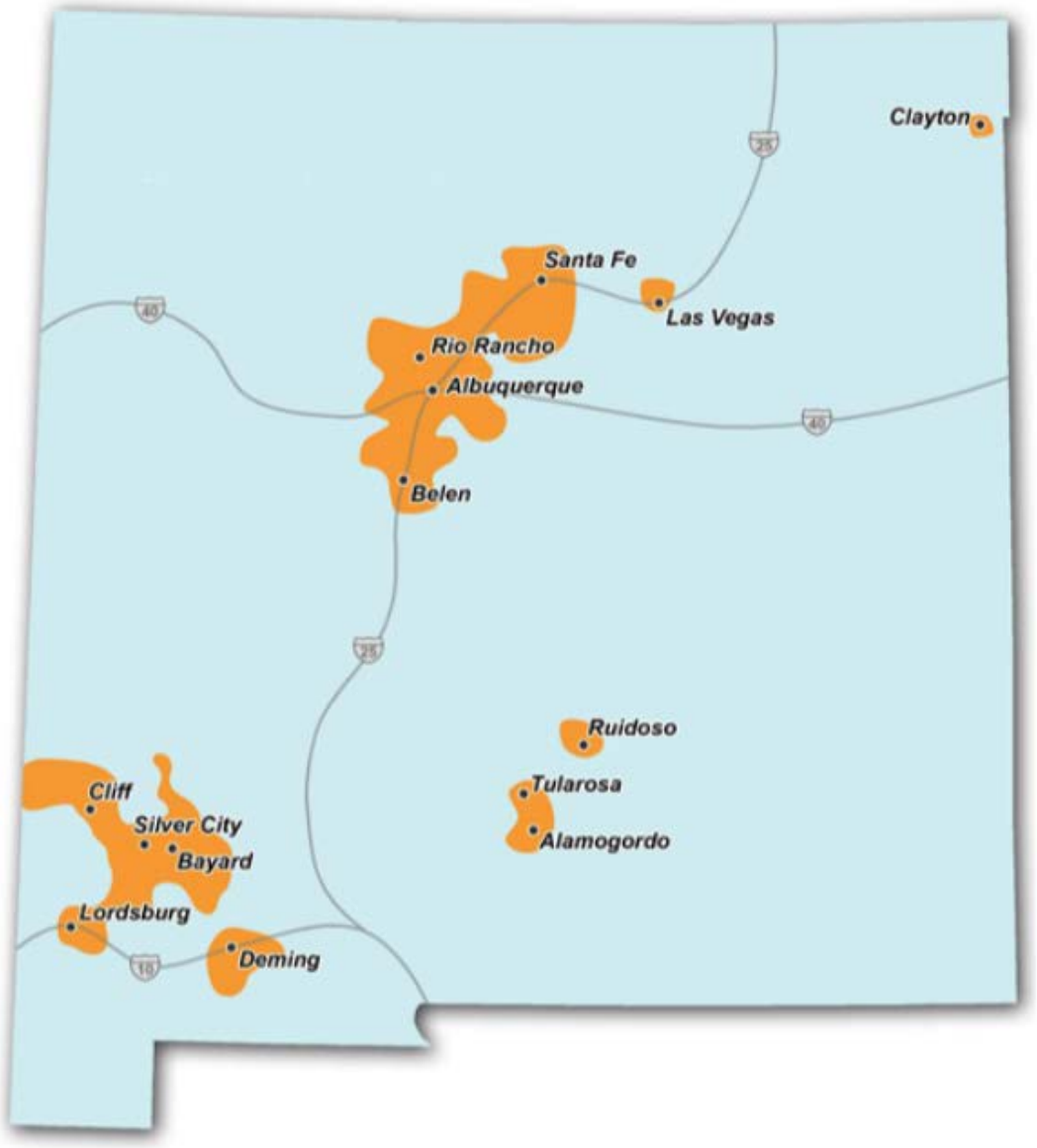
1 21.5% of New Mexico is experiencing exceptional drought levels, while 44.8% live in extreme drought. https://www.drought.gov/drought/states/new-mexico Accessed July 28, 2021

2 " Late-winter and spring snowpacks are projected to decline. Reduced snowpacks and the resulting reductions in runoff and soil moisture are expected to make the water supplies for the Southwest's cities, agriculture, and ecosystems even scarcer " https://www.ucsusa.org/sites/default/files/attach/2016/04/Climate-Change-New-Mexico-fact-sheet.pdf

3 The sale of energy is usually via Purchase Power Agreements (PPAs)

representative of the communities mostly depending on that energy.

Figure 2: PNM Service Territory



Energy Transition Act

In 2018, the Energy Transition Act was signed by Gov. Michelle Lujan Grisham, a landmark legislation requiring 50% of New Mexico's electricity to be generated from renewable energy sources by 2030. This increases to 80% by 2040, and by 2045 the state's electricity grid will be 100% carbon-free. This particular law is a push for Investor Owned Utility (IOUs) to abandon coal and natural gas plants and invest in more clean energy infrastructure in the state.

As expected, the push for utility companies to adopt more clean energy has incentivized outside investment to come to New Mexico to own assets in the clean energy sector. Recently, the Albuquerque Journal reported that Avangrid — an energy company based in Connecticut and owned in part by the Spanish company Iberdrola — would buy PNM, New Mexico's largest utility, for $4.3 billion. The merger is currently still being revised and under discussion. However the merger is a clear example of what is bound to happen in states like New Mexico. If the deal passes, Avangrid will become the largest clean energy company in the US. But it is still unclear how this will benefit and build wealth for New Mexicans as most shareholders and owners of the corporation are outside of New Mexico and even the US.

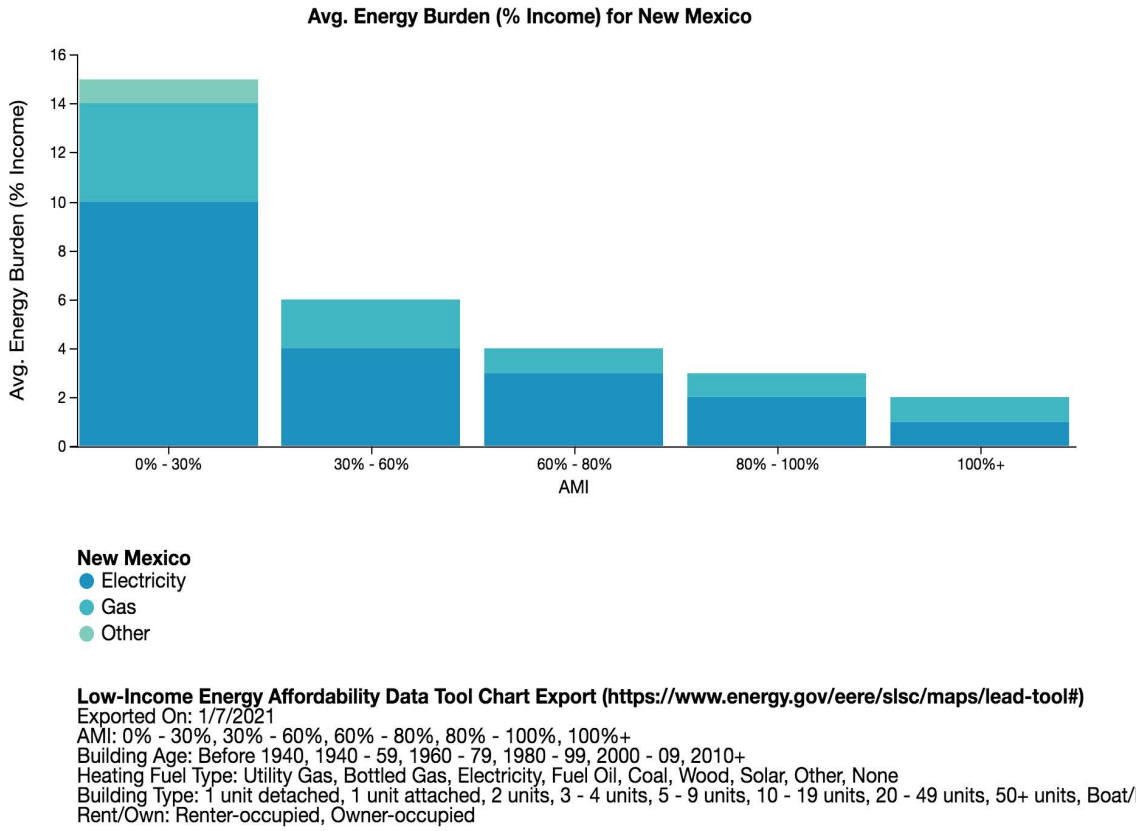
It has also been reported that Pattern Energy's is building a 1,000MW wind farm in NM, the largest ever wind farm in North America. A wind farm of that magnitude is designed to produce at least 3.06 billion kWh in a year. Assuming the company goes into a PPA with a utility company close to the national average of $0.02/kWh, they will be producing $61million worth of clean energy from a resource we should all directly benefit financially from.

Energy Burden in New Mexico[4]

Regardless of the type of energy development coming into New Mexico, the cost of energy directly impacts BIPOC and low-income communities.

According to the Department of Energy (DOE), the average energy burden across all incomes in New Mexico is 6-8%, which is similar to the average nationwide energy burden of 7.2%. However, the households with 0 - 30% of Area Median Income (AMI) (the households with the lowest income) have to pay 15% of their income for utility bills.

Figure 3: Extracted data from DOE LEAD Tool depicts the relationship between energy burden and income level in New Mexico. Energy burden can go substantially higher (up to 15%) than the average national energy burden (7.2%).



4 "Low-income households face disproportionately higher energy burden. Energy burden is defined as the percentage of gross household income spent on energy costs. According to the U.S. Department of Energy's (DOE) Low-Income Energy Affordability Data (LEAD) Tool the national average energy burden for low-income households is 8.6%, three times higher than for non-low-income households which is estimated at 3%. In some areas, depending on location and income, energy burden can be as high as 30%. Of all U.S. households, 44%, or about 50 million, are defined as low-income." - https://www.energy.gov/eere/slsc/low-income-community-energy-solutions#:~:text=Energy%20burden%20is%20defined%20as,income%20spent%20on%20energy%20costs.

Energy burden can be addressed through different policies including energy cost discount programs, energy efficiency and weatherization programs. Even though these programs contribute to decarbonizing the electric grid, they do not address the inequity of wealth extraction by utility companies and clean energy developers.

Public ownership of utilities would not guarantee energy burden to decrease. However, the not-for-profit utility rates and the ability to reinvest revenues for energy efficiency programs in the communities most impacted would create a pathway for low-income BIPOC communities to adjust their energy burden.

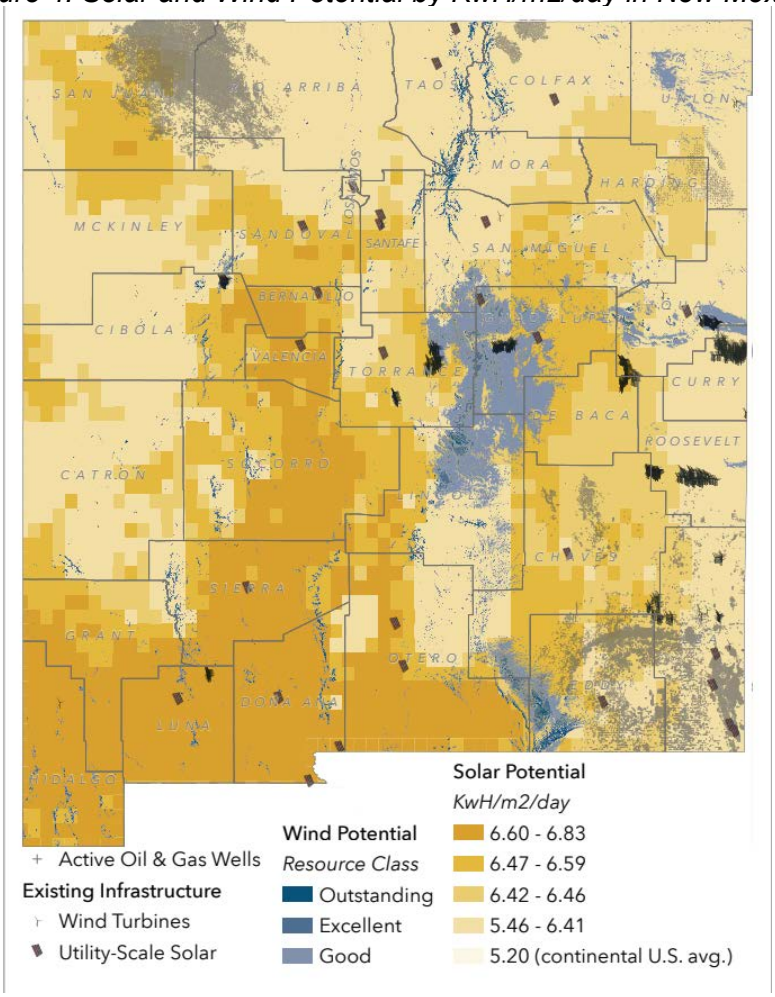
Wind and Solar Potential of New Mexico

As of 2019, there were 26 wind and 93 solar farms operating in New Mexico and providing energy to utility companies, either through the electricity wholesale market or through Power Purchase Agreements (PPAs). None are significantly operated or owned by communities of New Mexico. This means that New Mexican communities have no direct benefit from such revenues.

According to the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) New Mexico has the capacity to produce an estimated 435 billion kWh annually in wind energy. According to the Lawrence Berkeley National Lab, the average cost of a Power Purchase Agreement (PPA) for wind energy is estimated to be $0.02/kWh[5]. This translates to New Mexico having the capacity to produce $8.70 billion in wind energy.

5 "The national average price of wind PPAs has dropped to below 2¢/kWh—though this nationwide average is dominated by projects that hail from the low-priced interior of the country, where the wind resource is strongest. This sub-2¢/kWh average, which is possible in part due to federal tax support, falls below the projected future fuel costs of gas-fired generation. Utility-scale solar PPA prices have also declined precipitously, pressuring wind's competitive position." https://emp.lbl.gov/wind-technologies-market-report

Figure 4: Solar and Wind Potential by KwH/m2/day in New Mexico

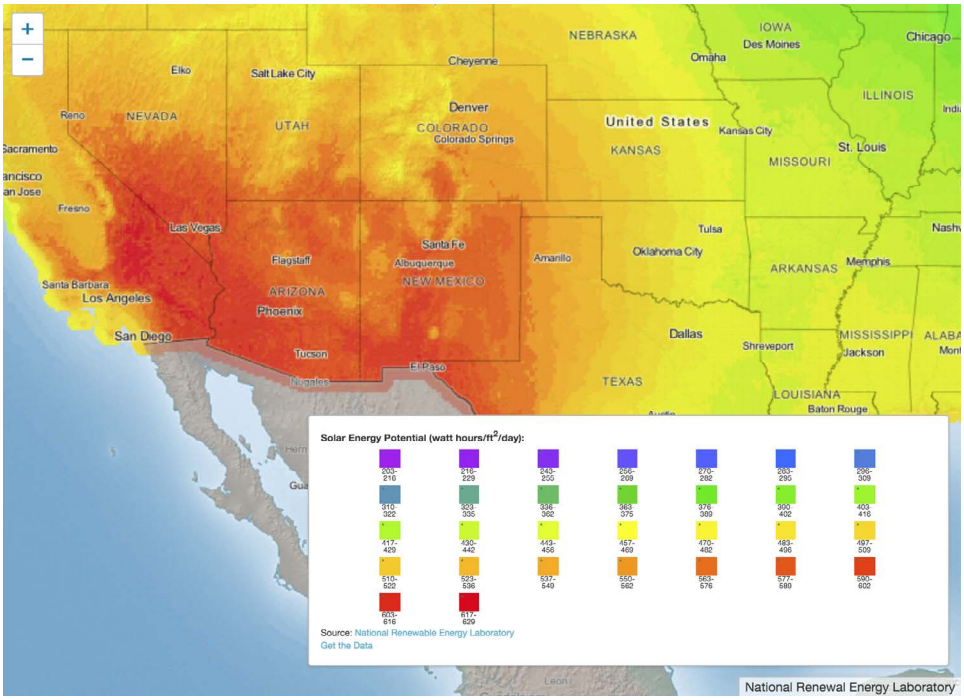


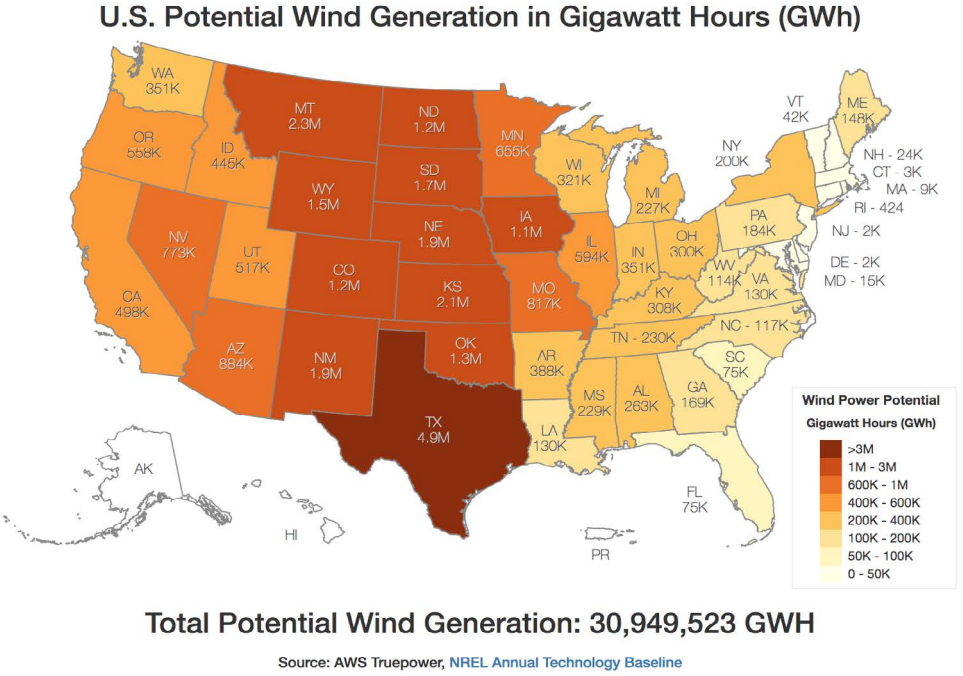
In terms of solar energy potential, New Mexico has a potential to generate 6.60 to 6.83 kWh/m^2/day in the sunnier parts of the state and 5.46 to 6.41 kWh/m^2/day in the less "sunny" area, as depicted in the figure above. That means that if, for example, a community in Las Cruces, NM - a city known to be one of the sunniest in New Mexico - decided to install their own microgrid completely solar generated in a field of 30 acres, they would produce up to 829,2 MWh a day. This is enough to power 28,000 homes [6], while Las Cruces only has 39,925 households. A 30-acre solar development could power more than two-thirds of the households in the city. There is no question about how solar and wind energy is the energy of the future. According to a Lawrence Berkeley National Lab 2020 report, "Over the past 5 years, solar (31%) and wind (28%) have accounted for 59% of all capacity additions to the U.S. grid (utility-scale solar was 18%)". Most substantial growth happening in New Mexico is not coming from home-owner rooftop solar implementation - it is the utility scale infrastructure that is growing the most. In the

6 As of 2020, the average residential electricity customer in the U.S. uses about 10.715 megawatt-hours per year (https://www.eia.gov/tools/faqs/faq.php?id=97&t=3).

same report, it is noted that 4.7% of the generation of energy in New Mexico is coming from solar - 3.8% is utility-scale[7].

Figure 5: Solar and Wind Energy Generation Potential in New Mexico





Total Potential Wind Generation: 30,949,523 GWH

Source: AWS Truepower, NREL Annual Technology Baseline

7 This means that most of the clean energy growth is not happening under the control of homeowners or communities. The growth is attributable to IOUs and outside companies creating the infrastructure and therefore directly benefiting from ownership.

Tax Incentives

Through New Mexico's Renewable Energy Production Tax Credit, energy generation facilities producing renewable energy qualify for tax credit against personal or corporate income tax. In 2020, clean energy companies qualified for a collective total of $165 million of tax credit[8]. The calculation is based on the 2020 tax credit list of eligible wind and solar energy producers provided by EMNRD[9]. The tax credits New Mexico provides to these wind and solar plants are intended as an incentive to bring more developers to the state.

How Much Money is Being Made from the Sale of Clean Energy

The energy of the future is clean renewable energy. With Joe Biden's new administration, the ETA, and the current efforts in decarbonizing the energy sector and modernizing New Mexico's grid, we can only expect the clean energy infrastructure to expand. In December alone, the ABQ Journal noted that "In December, Xcel Energy inaugurated the state's largest solar facility to date – a $900 million, 522-megawatt project in Roosevelt County to supply customers in eastern New Mexico and West Texas. Avangrid also completed a 306-MW wind complex in Torrance County, including a 166-MW wind farm to supply Facebook's data center in Los Lunas, and a 140-MW facility to supply Public Service Co. of New Mexico customers." The ABQ journal has also noted that "New Mexico alone would net $17 billion in new investments and 13,700 jobs by 2030, plus $467 million in land-lease payments and $329 million in new state and local taxes". However none of this infrastructure will be owned by New Mexicans, but rather, by outside corporations.

Without a doubt, the incoming investment for wind and solar energy has brought jobs to rural communities. However, is it truly beneficial for our communities if they don't get to own and control the energy being produced by their own resources?

According to the available public data from the U.S. Energy Information Agency (EIA) and shown in Appendix A, New Mexico produced a total of 10 million MWh in 2019 solely from utility-scale wind and solar energy generation. Some of this energy is being exported to outside utility companies in California, Arizona and Colorado, while the rest is used by residential and commercial ratepayers in New Mexico. Based on a conservative cost of 0.02$/kwH for both wind and solar energy from the Lawrence Berkeley National Lab, New Mexico is producing $206 million worth of energy. None is directly owned by New Mexicans but rather by for-profit corporations.

---

8 Data was calculated by using the rate at which the state is giving tax credits and the amount of MWh the companies are registering available for the tax credit. Calculations were made by multiplying "x"MWh energy qualified for tax credit (from https://www.emnrd.nm.gov/ecmd/wp-content/uploads/sites/3/UpdatedQueueREPTC9.18.2020.pdf, accessed on 11/29/2021) by the applicable "y" cents of tax credit per MWh.

9 Includes data from companies in the waitlist for approval for tax credit. According to NM statute,to qualify, an energy generator must have a capacity of at least 1 megawatt and be installed before January 2018. Each generating station has a minimum energy production they have to meet in order to qualify for tax credit.

Public Ownership - Energy Democracy

The idea of democratizing utilities in New Mexico is simple - make utilities publicly owned by New Mexicans. Public ownership of the energy infrastructure is a step towards a more just and equitable economy for communities who have been historically marginalized by the energy system.

A publicly owned electricity infrastructure can bring prosperity to New Mexico. According to the Next Systems Project, every megawatt of power generation capacity that is locally owned can add $2.5 million and 20 jobs to the local economy, and redirect an additional $5.4 million of electricity spending locally over the project's lifetime (assuming a 25-year lifetime). If we had chosen to develop our solar and wind generation capacity as of 2019 (3,084 MW) through local ownership instead of outside corporate ownership, it would have generated additional economic growth of $7.7B and 61,680 additional jobs[10].

One of the biggest advantages of the model of public ownership of energy is the reinvestment of revenues into communities. This means that part of the surplus revenue that a public utility would gain would be reinvested in energy efficiency and better energy infrastructure, directly benefiting members of the community.

Examples of Public Owned Energy

There is only one state in the US that currently works with 100% publicly-owned energy infrastructure. Nebraska, since 1933, has managed to provide public owned energy to the state. The legal pathway of how Nebraska utilities became publicly owned started with the Enabling Act (1933), which allowed 15 percent of eligible voters in an area to petition to create a publicly owned utility. Then the Public Utility Holding Company Act (1935) forced the breakup and restructuring of corporate electricity monopolies. FInally with the assistance of the Rural Electrification Act (1936), by 1949 Nebraska became the first (and to date, only) state with exclusively publicly owned utilities.

Today, 171 entities - municipal electric systems, public power districts, and rural electric cooperatives - provide energy services to Nebraska while also creating opportunities for public input on how energy is generated and distributed in the state.

The public infrastructure has ensured that ratepayers have low-cost electricity and that surplus revenues go back into the community through energy efficiency programs. According to the Nebraska Public Power District "Nebraskans pay at least 15 percent below the national average for the electric energy they use". It also states that "local payments made in-lieu-of-taxes help lower everyone's tax burden, and utility revenues get invested in programs and services that best suit local values and needs".

---

10 The total capacity of all the facilities included in appendix A and B equals 3,000 MW (it includes both solar and wind energy facilities). Using the data provided by The Next Systems Project ($2.5 million/MW and 20 jobs/MW) we multiplied the total MW capacity of all facilities by the $2.5 million. The same procedure was done to get the number of jobs it would produce.

Simply put, it allows electric utilities to focus on providing quality service to the population instead of maximizing profit.

A similar structure in New Mexico would not only help push for a cleaner environment and address the climate crisis, but would also ensure economic benefits for historically marginalized communities across the state.

Policy Recommendations

Short-term policies that would start building the pathway to a publicly-own grid include:

Community Solar Act

A Community solar act would create a legal pathway for non-profits, municipalities, and community organizations to create community solar farms. A community solar farm is a solar generating facility collectively owned by members of the community in which it is located, and which it serves. This would allow community members who cannot install rooftop solar panels (because they rent their homes, or they cannot afford the upfront cost of solar panels, or for any other reason) to get net metering credits on their utility bills while at the same time generating more renewable energy. A community solar program is based on an opt-in basis in which community members choose to not get services from utility companies but rather the community solar farm. A policy like this could generate local jobs and economic development. It should require state agencies, local governments and utilities to enter into Power Purchase Agreements to buy the energy from community solar farms. It should also require the state to create pathways for communities to obtain funding and financing to start their own community solar farm.

Create a New Mexico Community Ownership of Power Administration (COPA)

This is a financial and technical capacity program to assist communities to transition to a new energy system based on local, community benefit. It would provide legal, technical, and other assistance to communities to take over the ownership of utilities, and create mechanisms for new community owned utilities and existing rural electric coops to access finance to invest in their infrastructure.

Local Energy Choice Act

It would allow a local community to pool its electricity demand and create a local utility, who would choose where to buy electricity from (whether by setting up their own community-owned power generation facilities or acquiring electricity from generation facilities of their choice), and work in conjunction with distribution line owners (such as the Investor-Owned Utility) in the service area to transmit and distribute that electricity to homes and businesses. A Local Energy Choice Act would make it legal for communities and Tribal Nations to create utilities and decide where their energy comes from, while also controlling energy costs and keeping energy dollars circulating in local economies.

Long-term policies that would ensure New Mexico can be prosperous in a future in which our people get to control the state's energy resources:

Set up a Public Bank

New Mexico must create a public bank to provide financial pathways to communities for the development of public owned clean energy. A public bank would make it possible for publicly owned utilities to access low-cost capital to invest in their grid infrastructure, freeing them from having to depend on big banks.

Setting up an Office of Energy Democracy

The transition from a mostly Investor-Owned Utility model to a public ownership model requires the input of frontline communities. Creating an office of energy democracy would not only create a structure for community input in the process, but would also create a foundation for a state agency to oversee a statewide publicly owned energy infrastructure.

New Mexico Public Utility Holding Company Act

This bill would force the breakup and restructuring of corporate electricity monopolies, including taking back all corporate power generation assets and transmission and distribution lines throughout the state.

Conclusion

New Mexico faces the opportunity to change its utility ownership structure to ensure everyday New Mexicans benefit from community wealth development. The example of Nebraska shows that it's possible to build a grid that treats energy as a needed public service instead of a product sold for profit.

Today, New Mexico is losing $207 million a year by subsidizing and allowing our clean energy resources to be sold for profit. We have the potential to build a clean energy state in which a publicly-owned energy system could generate economic benefits for New Mexicans and not outside corporations. By opting for public ownership of energy, New Mexico can lower energy costs and reinvest in energy efficiency for BIPOC and frontline communities. This would decrease the energy burden experienced by households in the state.

New Mexico must act boldly and commit to a future in which we collectively own and benefit from the generation and distribution of electricity instead of depending on for-profit corporations for this essential service.

Appendix

New Mexico Wind And Solar Energy Farms Producing and Selling Energy to the Southwest Energy Market and NM Utility Companies Data from EIA: https://www.eia.gov/opendata/qb.php?category=902962

Wind Energy Facilities

Wind Facility	Operator (MW Capacity)	Energy Capacity of Facility (MegaWatts)	Owner	Energy Production in 2019 (kWh)	Revenue from Energy Production
New Mexico Wind Energy Center(PNM)	NextEra Energy Resources (FL)/ FPL Energy (204MW)	204 MW	NextEra Energy Resources (FL)	625,106,592	$12,502,131.84
Caprock Wind Ranch	Babcock & Brown (80MW)	80 MW	Cielo Wind Power (TX)	320,798,000	$6,415,960.00
San Juan Mesa Wind Project	Edison Mission Group (120MW)	120 MW	Edison Mission Group (CA)	403,830,000	$8,076,600.00
Aragonne Wind Facility	GE Energy (90MW)	90 MW	Babcock and Brown (Aus)	282,408,000	$5,648,160.00
High Lonesome Mesa Wind Ranch	Edison Mission Group (100MW)	100 MW	Edison Mission Group	253,908,000	$5,078,160.00
Red Mesa Wind Energy Center (PNM)	NextEra Energy Resources (102.4MW)	102.4 MW	Wanzeck Construction (North Dakota/ TX)	219,898,000	$4,397,960.00
Macho Springs I Wind Power	Element Power (50.4MW)	50.4 MW	Element Power (OR)	132,292,000	$2,645,840.00
Wildcat Wind, LLC	Exelon Generation Company LLC	27.3 MW	Exelon (IL)	92,644,000	$1,852,880.00
Broadview Energy Prime I	Pattern Energy	9.9 MW	Pattern Energy	38,170,000	$763,400.00
Broadview Energy Prime II	Pattern Energy	9.9 MW	Pattern Energy	37,961,000	$759,220.00
Anderson Wind Project I	Goldman Sachs	15 MW	BayWa R.E./ Renerco (Germany/ Germany)	18,220,000	$364,400.00
Anderson Wind Project II	Goldman Sachs	15 MW	BayWa R.E./ Renerco (Germany/ Germany)	44,302,000	$886,040.00

Roosevelt Wind Project, LLC	EDF renewables/ Allianz/Bank of America Merrill Lynch/BlackRock	250 MW	Infinity Windpower/ EDF renewables	1,112,754,000	$22,255,080.00
El Cabo - Iberdrola Renewables	Iberdrola Renewables (Spain)	278 MW	Avangrid	1,132,857,000	$22,657,140.00
Broadview Energy, JN	Broadview Energy	98.9 MW	Broadview Energy	690,977,000	$13,819,540.00
Broadview Energy, KW	Broadview Energy	142.6 MW	Broadview Energy	552,354,000	$11,047,080.00
Grady Wind Energy Center	Pattern Energy/ ND	117.3 MW	Pattern Energy Operators	402,635,000	$8,052,700.00
AEM Wind, LLC (This might be Sterling Wind)	N/A	29.9 MW	N/A	91,621,015.2	$1,832,420.30
La Joya Wind Project	Avangrid	250 MW	Avangrid	766,062,000	$15,321,240.00
Taiban Mesa Wind	FPL Energy	50 MW	FPL Energy	153,212,400 273,024,496.8	$3,064,248.00
Owaissa	N/A	89.1 MW	N/A	273,024,496.8	$5,460,489.94
Guadalupe Mountains	N/A	134.3 MW	N/A	411,528,506.4	$8,230,570.13
MILO Wind Project	EDF renewables	49.7 MW	EDF Renewable Asset Holdings, Inc.	220,788,000	$4,415,760.00
Casa Mesa Wind Energy Center	NextEra Energy Resources	50 MW	Casa Mesa Wind, LLC	153,212,400	$3,064,248.00
Mesalands Community college	N/A	1.5 MW	N/A	2,899,000	$57,980.00
Sterling I	Poyentia Renewables/ Greengate Power (Canada)/Paul First Nation Renewable Energy LP	29.9 MW	AEM Wind LLC	132,852,000	$2,657,040.00
Texico Wind	Texico Wind LP/Cielo Wind Power	1.9 MW	Cielo Wind Power/ Mortenson	1,357,000	$27,140.00
Total		2,397.4 MW		8,567,671,410 kWh	$171,353,428.21

Solar Energy Facilities

Solar Facility	Operator	Energy Capacity of Facility (MegaWatts)	Owner	Energy Production in 2019 (kWh)	Revenue from Energy Production
First Solar Cimarron I	First Solar (AZ)	30 MW	Southern Power (GA)	61,710,000	$1,481,040.00
Hatch Solar Energy Center I	NextEra Energy Resources (FL)	5 MW	NextEra Energy Resources (FL)	11,959,000	$287,016.00
Solar Roadrunner	NRG	20 MW	NRG (NJ and TX)	51,221,000	$1,229,304.00
Albuquerque Academy	N/A	1 MW	Albuquerque Academy	N/A	$0.00
SunE SPS 1 (Dollarhide)	SunE SPS1, LLC (SunEdison)	10 MW	Southwestern Public Service Co (Xcel)	19,030,000	$456,720.00
SunE SPS 2 (Jal)	SunE SPS2, LLC	10 MW	Southwestern Public Service Co (Xcel)	19,834,000	$476,016.00
SunE SPS 3 (Lea)	SunE SPS3, LLC	10 MW	Southwestern Public Service Co (Xcel)	18,209,000	$437,016.00
SunE SPS 4 (Monument)	SunE SPS4, LLC	10 MW	Southwestern Public Service Co (Xcel)	20,615,000	$494,760.00
SunE SPS 5 (Hopi)	SunE SPS5, LLC	10 MW	Southwestern Public Service Co (Xcel)	18,591,000	$446,184.00
Questa	Chevron Technology Ventures	1 MW	Chevron Technology Ventures	1,695,000	$40,680.00
SunE EPE2, LLC (Las Cruces)	SunEdison	12 MW	El Paso Electric	29,120,000	$698,880.00
SunE EPE1, LLC (Chaparral)	SunEdison	10 MW	El Paso Electric	25,416,000	$609,984.00
Macho Springs II Solar Farm	Southern Power and Turner Renewable Energy (GA)	50 MW	Macho Springs Solar LLC (Southern Company GA)	138,876,000	$3,333,024.00
Los Lunas Solar Energy Center	PNMR	7 MW	PNMR	15,075,000	$361,800.00

Deming Solar Energy Center	PNMR	5 MW	PNMR	18,871,000	$452,904.00
Alamogordo Solar Energy Center	PNMR	5 MW	PNMR	11,031,000	$264,744.00
Las Vegas Solar Energy Center	PNMR	5 MW	PNMR	15,075,000	$361,800.00
Albuquerque Solar Energy Center	PNMR	5 MW	PNMR	4,173,000	$100,152.00
Deming Solar Energy Center Expansion	PNMR	5 MW	PNMR	18,871,000	$452,904.00
Los Lunas Solar Energy Center Expansion	PNMR	5 MW	PNMR	15,075,000	$361,800.00
Manzano Solar Energy Center	PNMR	5 MW	PNMR	18,061,000	$433,464.00
Otero County Solar Energy Center	PNMR	5 MW	PNMR	17,263,000	$414,312.00
Meadow Lake Solar	PNMR	9 MW	PNMR	23,748,000	$569,952.00
Sandoval County Solar	PNMR	5 MW	PNMR	15,325,000	$367,800.00
Cibola County Solar	PNMR	8 MW	PNMR	19,768,000	$474,432.00
Roswell Solar	Roswell Solar LLC	70 MW	Next Era Energy	164,512,000	$3,948,288.00
Caprock Solar 1	Infigen Energy	25 MW	Infigen Energy (Duke Energy)	64,316,000	$1,543,584.00
Chaves County Solar	NextEra	70 MW	NextEra	165,830,000	$3,979,920.00
South Valley Solar Energy Center	PNMR	10 MW	PNMR	24,170,000	$580,080.00
Santa Fe Solar Energy Center	PNMR	9.5 MW	PNMR	23,882,000	$573,168.00
Santolina Solar Energy Center	PNMR	10.5 MW	PNMR	24,706,000	$592,944.00
Rio Rancho Solar Energy Center	PNMR	10 MW	PNMR	1,346,000	$32,304.00

Rio De Oro Solar Energy Center	PNMR	10 MW	PNMR	12,083,000	$289,992.00
Rio Communities Solar Energy Center	PNMR	10 MW	PNMR	24,138,000	$579,312.00
Kit Carson	Terraform Arcadia	1 MW		2,843,000	$68,232.00
Vista Solar Energy Center	PNMR	10 MW		22,967,000	$551,208.00
Walmart Truth or Consequences	SSA Solar of NM 3, LLC	5 MW	SSA Solar of NM3/ Wal-Mart	1,797,000	$43,128.00
WSMR I	Siemens Government Technologies Inc	2 MW	Army/Federal	6,406,000	$153,744.00
Syncarpha El Rito I	Syncarpha El Rito I, LLC	1.5 MW	C T Corporation System	61,000	$1,464.00
Syncarpha Eagle Nest I	Syncarpha Eagle Nest I, LLC	1 MW	Sol Lunar Solar/ Kit Carson Electric Cooperative, Guzman Energy, and Syncarpha Capital	2,348,000	$56,352.00
Sue Cleaveland High School	Terraform Arcadia	1.2 MW	Washington Gas Energy Systems of Virginia	2,207,000	$52,968.00
Storie Lake Solar	MSM Solar LLC	1.8 MW	Urban Grid Holdings, LLC	3,176,000	$76,224.00
Springer Solar I		1 MW	Springer Electric Coop	2,455,000	$58,920.00
Silver City WWTP	Affordable Solar Silver City, LLC	1 MW	Affordable Solar Silver City, LLC	1,941,000	$46,584.00
San Miguel Energy Center I	PNMR	1.8 MW	PNMR	8,872,000	$212,928.00
San Miguel Energy Center II	PNMR	1.8 MW	PNMR	4,833,000	$115,992.00

SEV NM Phase 2	Altus Power America Management, LLC	1 MW	Altus Power America Management, LLC	2,971,000	$71,304.00
Rio Rancho HIgh School	Terraform Arcadia	1 MW	Terraform Arcadia	860,000	$20,640.00
RC Energy AA LLC Solar Facility	RC Energy AA LLC	5 MW	RC Energy AA LLC	1,956,000	$46,944.00
Prosperity Energy Storage Facility Hybrid	Public Service Co of NM	1 MW	Public Service Co of NM	578,000	$13,872.00
Middle Daisy	Onyx Asset Services Group	5 MW	Onyx Asset Services Group	13,060,000	$313,440.00
Los Alamos Solar	Los Alamos County	1 MW	Los Alamos County	1,502,000	$36,048.00
Holloman Solar Facility	El Paso Electric Co	5 MW	El Paso Electric Co	12,261,000	$294,264.00
Hatch Solar Energy Center I	Hatch Solar Energy Center I, LLC	5 MW	Hatch Solar Energy Center I, LLC	11,959,000	$287,016.00
Grants CDEC 2	Lightsource Renewable Energy Asset Management, LLC	1 MW	Lightsource Renewable Energy Asset Management, LLC	92,000	$2,208.00
GSE NM1	Altus Power America Management, LLC	1 MW	Altus Power America Management, LLC	3,578,000	$85,872.00
Facebook 1 Solar Energy Center	NMRD Data Center, LLC	10 MW	NMRD Data Center, LLC	23,609,000	$566,616.00
Facebook 2 Solar Energy Center	NMRD Data Center, LLC	10 MW	NMRD Data Center, LLC	24,181,000	$580,344.00
Facebook 3 Solar Energy Center	NMRD Data Center, LLC	10 MW	NMRD Data Center, LLC	24,649,000	$591,576.00
Eubank Landfill Solar Array	Suncore Photovoltaics, Inc	1 MW	Suncore Photovoltaics, Inc	3,293,000	$79,032.00
Columbus Solar Project	New Mexico Renewable Development LLC	1 MW	New Mexico Renewable Development LLC	5,127,000	$123,048.00

City of Truth or Consequences PV	SSA Solar of NM 4, LLC	1 MW	SSA Solar of NM 4, LLC	3,556,000	$85,344.00
City of Rio Rancho WWTP	New Mexico Renewable Development LLC	1 MW	New Mexico Renewable Development LLC	618,000	$14,832.00
City of Gallup Solar	Standard Solar	5 MW	Standard Solar	17,362,000	$416,688.00
Cimarron Solar Facility	Southern Power Co	30 MW	Southern Power Co	61,710,000	$1,481,040.00
Carrizozo Solar	SoCore Energy LLC	3 MW	SoCore Energy LLC	6,666,000	$159,984.00
CNMEC Solar Energy Center	New Mexico Renewable Development LLC	3 MW	New Mexico Renewable Development LLC	5,217,000	$125,208.00
Bluewater CDEC 1	Lightsource Renewable Energy Asset Management, LLC	1 MW	Lightsource Renewable Energy Asset Management, LLC	11,000	$264.00
Blue Sky One	SSA Solar of NM, LLC	10 MW	SSA Solar of NM, LLC	2,841,000	$68,184.00
Alta Luna	TPE Alta Luna, LLC	30 MW	TPE Alta Luna, LLC	69,319,000	$1,663,656.00
Total		**686.6 MW**		**1,470,477,000 kWh**	**$1,663,656.00**