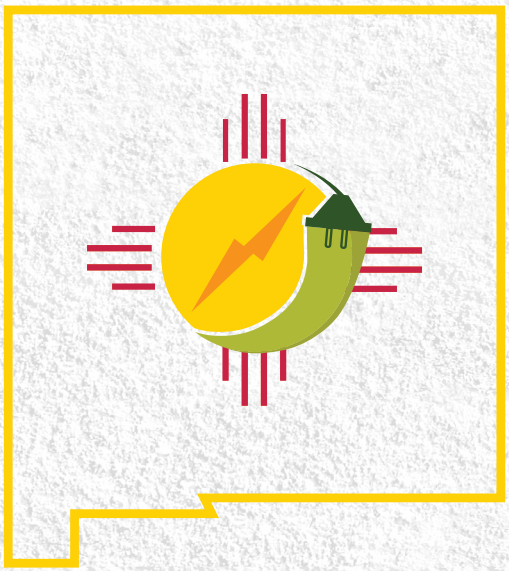
Study Commissioned By:

New Mexico Department of WORKFORCE SOLUTIONS



New Mexico Clean Energy Workforce Development Study

June 2020

Project Partners:

Center for Social Policy
Cradle to Career Policy Institute
Native American Budget & Policy Institute

Center for Civic Policy / Power4NM Coalition

Executive Summary - Overall Findings from Research

New Mexico's potential for clean or green energy is among the nation's best. The state's consistent and intense sunshine, wide open spaces, and consistently strong winds have made New Mexico an elite state in renewable energy potential. Tapping these natural advantages will create jobs in green construction, solar installation, wind turbine maintenance and other "new" professions, while also calling for new skills and competencies in more traditional trades. As more homes have residential solar, for example, it will become more common and necessary for electricians to have training and certification in solar systems. The jobs associated with clean energy are among the motivations behind the recently passed Energy Transition Act (ETA), a law that will fundamentally transform not only energy production in the state over time, but New Mexico's economy overall.

But as green job opportunities emerge in New Mexico, it is far from given that those jobs will replace those lost from the transition away from fossil fuels or be filled equitably by New Mexicans from diverse communities and backgrounds. Lessons from other states indicate that the clean energy industry lacks diversity in regard to both gender and race/ethnicity, and is unlikely to replace all of the jobs and revenue associated with fossil fuels unless intentional policy choices are made to make training opportunities open to all communities in New Mexico.

This report identifies best practices and recommendations to help New Mexico move into the green economy in a just and equitable way. While our report draws heavily from existing data from New Mexico and a landscape analysis of research conducted nationally, our primary focus was to include the voices of the New Mexico population in the discussion of how to prepare the state for this transition away from fossil fuel to more environmentally friendly forms of energy production.

This report used a combination of survey, interview, and focus group methodologies to identify concerns, best practices and areas of opportunity. Some key findings include:

- New Mexico's existing structure for green workforce training and credentialing has strong foundations, especially among its two-year institutions. Excellent standalone programs exist in wind turbine maintenance, solar installation, biofuels, and other emerging areas, from which more articulated career pathways can be built.
- In some cases, training programs have outpaced their local job markets, with low enrollment where local clean energy jobs have not yet materialized. A unified state strategy to support job development and align training with potential employers is needed.
- There is also limited public knowledge of the ETA and what it will mean for job growth in the clean energy industry. Furthermore, there is a perception that jobs available in this sector are limited to installation and do not pay high wages. These perceptions are not backed by the data, indicating a need for greater education and outreach about this emerging sector.
- Isolated partnerships are in place, but the state lacks a set of statewide processes for helping students access high-quality training outside their

immediate communities. This is due to both the hands-on nature of the training, lack of consistent broadband access for online coursework, and governance that complicates course-sharing across institutions.

- Prospective workers seeking training or retraining face a number of financial and logistical barriers. Paid apprenticeships, flexible schedules, online coursework and clear advisement are some of the strategies that can help them succeed.
- There is concern across the state that the jobs that may come from this transition will be limited to those with advanced degrees and those who live in urban areas or come from out of state.
- Given the economic challenges associated with COVID-19, the public is highly concerned about the state of the economy and drop in oil and gas revenue. However, the public appears ready to support aggressive steps to diversity the economy, including investing in clean energy workforce infrastructure.

On the basis of these findings, key recommendations for New Mexico include:

- Develop an aligned, comprehensive plan for clean energy workforce development that connects K-12 education, post-secondary education, and regional workforce needs.
- Create incentives to bring jobs and clean energy industries to communities in alignment with training programs, to ensure training leads to clear employment opportunities.
- Ensure that core industry competencies are included in curricula that prepare students to obtain industry-recognized credentials, and that credentials are stacked so individuals can build careers with certificates and degrees that add marketable skills and enable promotion into higher wage jobs.
- Support partnerships between colleges and universities that allow students statewide to take advantage of specialized training programs, through a combination of online and in-person coursework. These programs must provide hands-on experiences for students so that they not only have the certification needed to access clean energy jobs, but are prepared for the work in the field when they start.
- Invest in paid apprenticeships, internships, and stipends for students during retraining to ensure they can afford to invest time in retraining rather than seek immediate employment.
- Systematically examine data on the demographics of students in clean energy training programs, and provide incentives for programs to recruit students whose race, socioeconomic status, or gender are significantly underrepresented in their programs.
- Implement a statewide outreach program to educate the population on the timeline for the transition to clean energy, the jobs that will be created through this transition, and the skills and certifications that will be needed to access those jobs.

Impact of Coronavirus Disease on Research Approach

The COVID-19 pandemic has significantly impacted our state, and has impacted our ability to execute our original research design. In consultation with leadership from the Department of Workforce Solutions, we cancelled all large public events and moved all data collection from in-person interviews to computer or phone-based discussions. UNM also requested that we minimize potential harm to the community by avoiding research that requires personal interactions. Although these revisions presented significant challenges, we successfully executed our scope of work through an on-line survey and a series of on-line focus groups described in more detail below. We also included questions regarding COVID-19's impact on the state's economy in our focus groups scripts and survey.

Research Design and Methodology

Our research began with a comprehensive analysis of research on the clean energy workforce nationally and in other states. Our efforts were aimed at identifying any best practices for workforce preparation and obstacles to a successful transition to clean energy. This stage included informal interviews with researchers cited in our report.

Our team also analyzed of the state's higher education system to identify the resources already in place to provide job skills training in clean energy. Analysis began with website review of clean energy programs and pathways offered across New Mexico's 29 higher education institutions. We cross-referenced these with New Mexico Department of Workforce Solutions' (DWS) LASER website listing of career pathway education and training programs in the state, noting where programs are currently eligible for Workforce Innovation and Opportunity Act (WIOA) funding for green job training. This scan informed selection of informants for in-depth interviews with higher education officials from relevant programs in each region of the state. Semi-structured interviews were conducted with 20 administrators and faculty, representing 13 higher education institutions including Tribal, two-year, and four-year colleges and universities. Interviewees provided insight into current student and employer demand for clean energy training, best practices for ensuring industry-ready graduates, involvement of employers in clean energy programming, and other opportunities and challenges in creating new clean energy career pathways. Analysis of these findings included identification of any gaps in access across the state's diverse communities.

To analyze stakeholder views of the ETA and to understand their perceptions of training strategies, job creation, and potential barriers to ETA implementation, the research team partnered with the Center for Civic Policy and the Power4 NM to recruit and host seven focus groups throughout the state with a total of 64 participants. The Center for Civic Policy is New Mexico's largest convener of advocacy organizations focused on fostering broad, inclusive civic engagement among underrepresented communities through policy work, voter engagement, and issue education campaigns. CCP covenes the Power4 NM Coalition, which is made up of grassroots organizations who build power within underrepresented communities to ensure policies that promote safe, sustainable and equitable energy and economic development in rural communities throughout NM. We used

purposive sampling techniques and a "critical cases" approach to recruit participants with an emphasis on engaging the harder-to-reach communities who would have challenges participating in the on-line survey. Community organizations and the research team recruited participants by phone and email. Below is a short summary of those 6 sessions:

- Group 1 included a cross section of community leaders from across the state (n=14)
- Group 2 was composed of community members from Bernalillo and Rio Arriba Counties (n=7)
- Group 3 was composed of community members from Lea County (n=10)
- Group 4 was composed of residents from Chavez County (n=6)
- Group 5 included construction employees that work across the state (n=10)
- Group 6 was composed of community members from Doña Ana, Luna, Hidalgo and Grant Counties (n=17).

Groups three, four and six were conducted in Spanish using simultaneous interpretation for the facilitator, and the remaining three were conducted in English. The research team transcribed the interviews and used standard qualitative coding techniques to analyze for themes in the data.

Our team also conducted two focus groups with solar power employees that included a mix of installers, electricians, and project managers. There were five participants in the first group and six in the second. We also conducted five in-depth interviews with other workforce development researchers in the state, three with researchers from other states, and 12 with clean energy stakeholders who either work directly in the workforce development sector in New Mexico, or who are policy leaders in the area. To protect the anonymity of all respondents we do not quote individuals by name in our report, or list their identities.

Finally, to capture the views of a wider segment of the state, we sub-contracted with Pacific Marketing Research/Latino Decisions to field a statewide on-line survey. We administered the survey through the web, enabling participation across tablets, smart phones, and computers. Although most participants took the survey in English, it was also available in Spanish, and our team conducted a small number of surveys over the telephone for participants who did not have access to the web to ensure full participation of community members.

The survey provided a valuable replacement for the large community events that were cancelled due to COVID-19, as we captured the voices of 1,754 New Mexicans through the survey. This is considerably higher than the number of participants we projected for the three community events originally planned. To field the survey, we created an invitation on the Center for Social Policy web-page that explained the goals of the survey, and indicated the full report would be posted to that page when finished so potential participants could see how their input contributed to the larger effort. The invitation provided a direct link to the survey and respondents were provided a $5.00 incentive after completing the short survey. Prof. Gabriel Sanchez, a nationally recognized expert in survey design and research, oversaw the process and designed the content in partnership with several non-profit leaders across the state who supported distribution of the invitation through their networks. The survey was also distributed through Latino Decision web-panel of New Mexico adults.

Upon completion, the data were weighted to match the U.S. Census ACS for New Mexico adults on key demographics including education, race, gender and income. The survey was conducted from June 1, 2020 – June 24, 2020. We provide discussion of the key results in this report, and Appendix B of the full report includes the full results. This full report with all appendices is available at: https://csp.unm.edu/transition-to-clean-energy/index.html

Across our interviews, focus groups, and the on-line survey our team heard from a total of 1,864 individuals through our research process. This multi-method approach has led to a comprehensive study that met our goal of ensuring community voices are integrated into the strategic planning for clean energy workforce development.

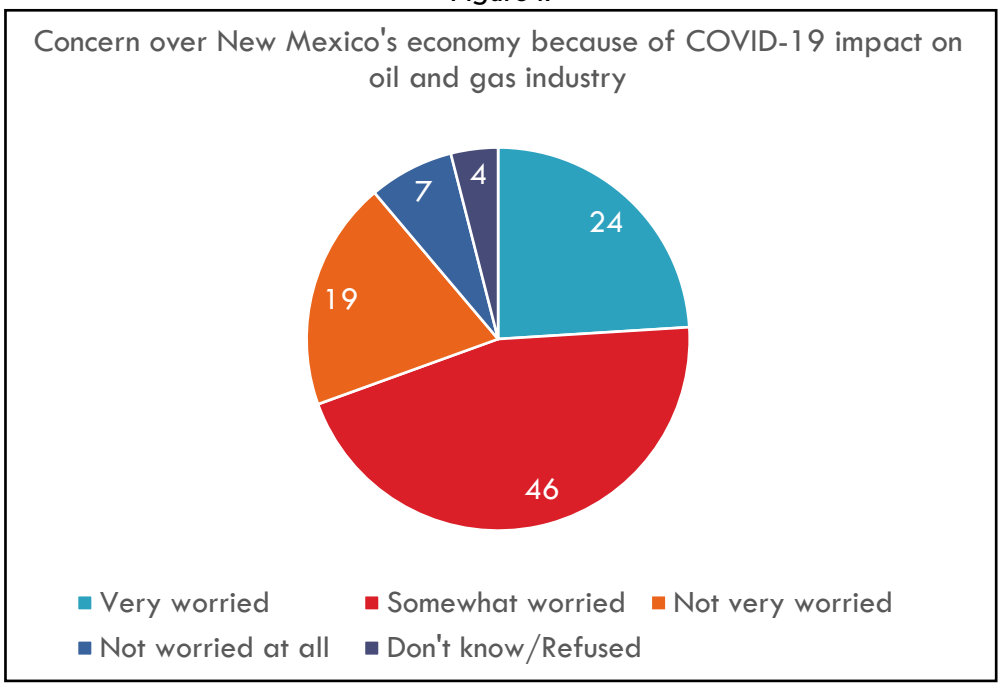
COVID-19 Has Devastated New Mexico's Economy – And Provides Opportunity for Transformation

The impact of COVID-19 on New Mexico's economy has been severe and was the context surrounding the survey and most of our interviews. The pandemic has led to highest unemployment rates in the nation since the Great Depression, with an unemployment rate in New Mexico jumping to 11.9% in April. It was therefore not surprising that 67% of survey respondents are worried about New Mexico's economy, given the impact COVID-19 has had on businesses.

As reflected in Figure 1 below, there is also great concern in the state about the oil and gas industry's ability to recover from tremendous adversity due to an unprecedented drop in demand. A robust 70% of New Mexicans are concerned about the state's economy, specifically because of COVID-19's impact on the oil and gas industry.

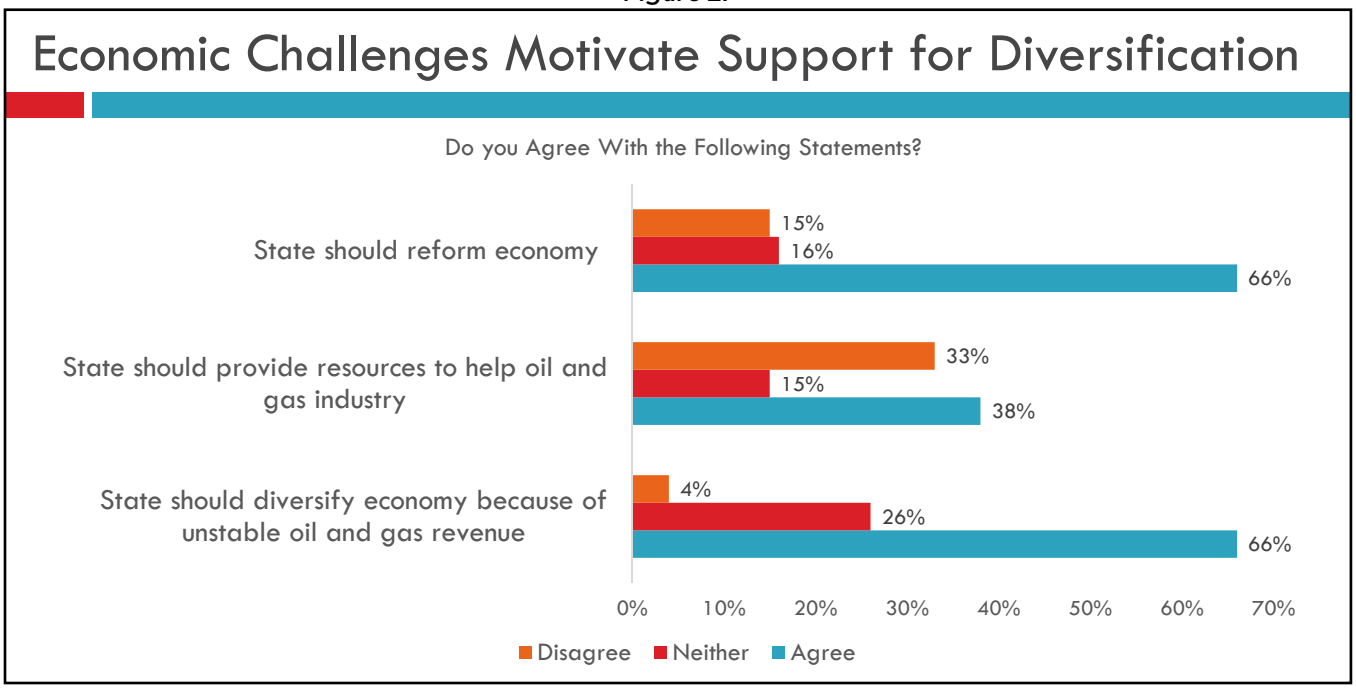
The economic crisis facing the state may provide a unique opportunity to radically

Figure 1.



reform the state's economy. The public may be more supportive of an aggressive transformation toward clean energy if they perceive it could lead to job growth at a time when new jobs will be desperately needed. The survey provides early evidence of an appetite for this diversification of the economy. As reflected in Figure 2 below, 66% of respondents agree with the statement that the "economic challenges New Mexico is facing due to COVID-19 have provided an opportunity to fundamentally reform the state's economy, and our state's leaders should take advantage of that opportunity."

Figure 2.



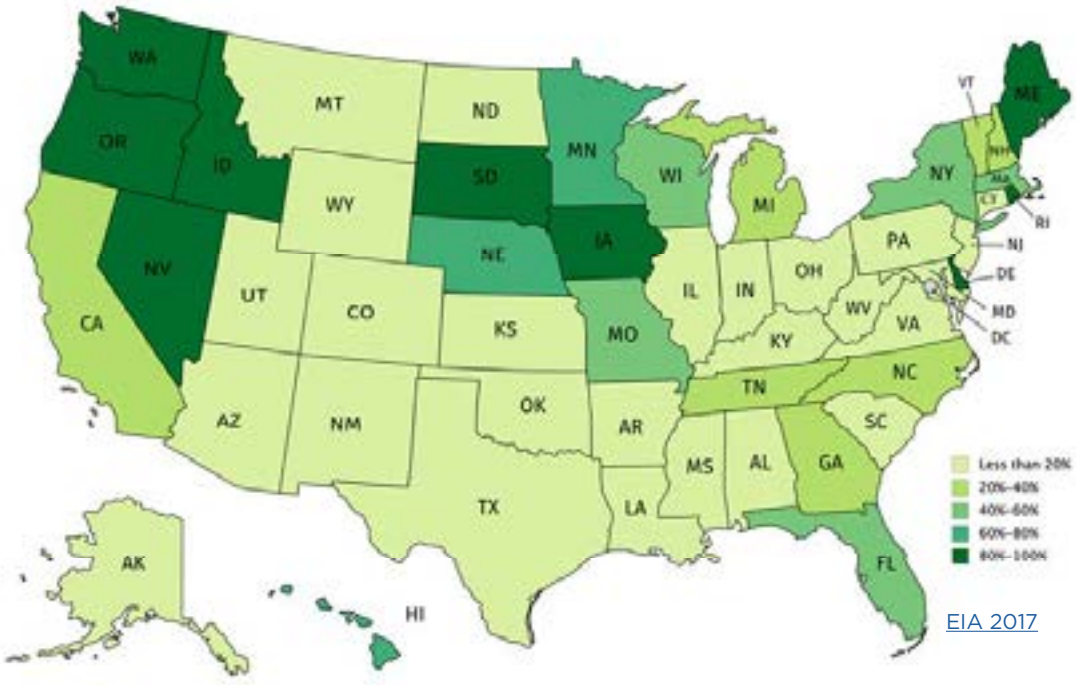
A similarly high percentage of respondents agree that the state should "diversify the economy because of unstable oil and gas revenue", of whom 46% strongly agree. The heavy reliance on the revenues generated from fossil fuel production are going to continue in the short term, but the state's population will be supportive of beginning the new economic development efforts. There is more modest support among New Mexicans for investing resources to help the the oil and gas industry recover quickly.

New Mexico Joins the National Transition Toward Clean Energy

The clean jobs movement has gained significant traction over the last ten years, as several states have adopted ambitious plans to develop clean energy resources. As the map below illustrates, prior to the passage of the ETA, New Mexico was among a wide swath of states that had been somewhat slow to transition toward clean energy. In the most recent study from the U.S. Energy Information Administration, states in the Pacific Northwest,

South Dakota, Iowa and Maine have been leading renewable energy production (see Figure 3). When we focus on the Southwestern states, Nevada and California are leading renewable energy production. New Mexico ranks 48th in percent of renewable energy production, being heavily reliant on fossil fuels that are tied strongly to the state's economy (NABPI and NMECD 2019).

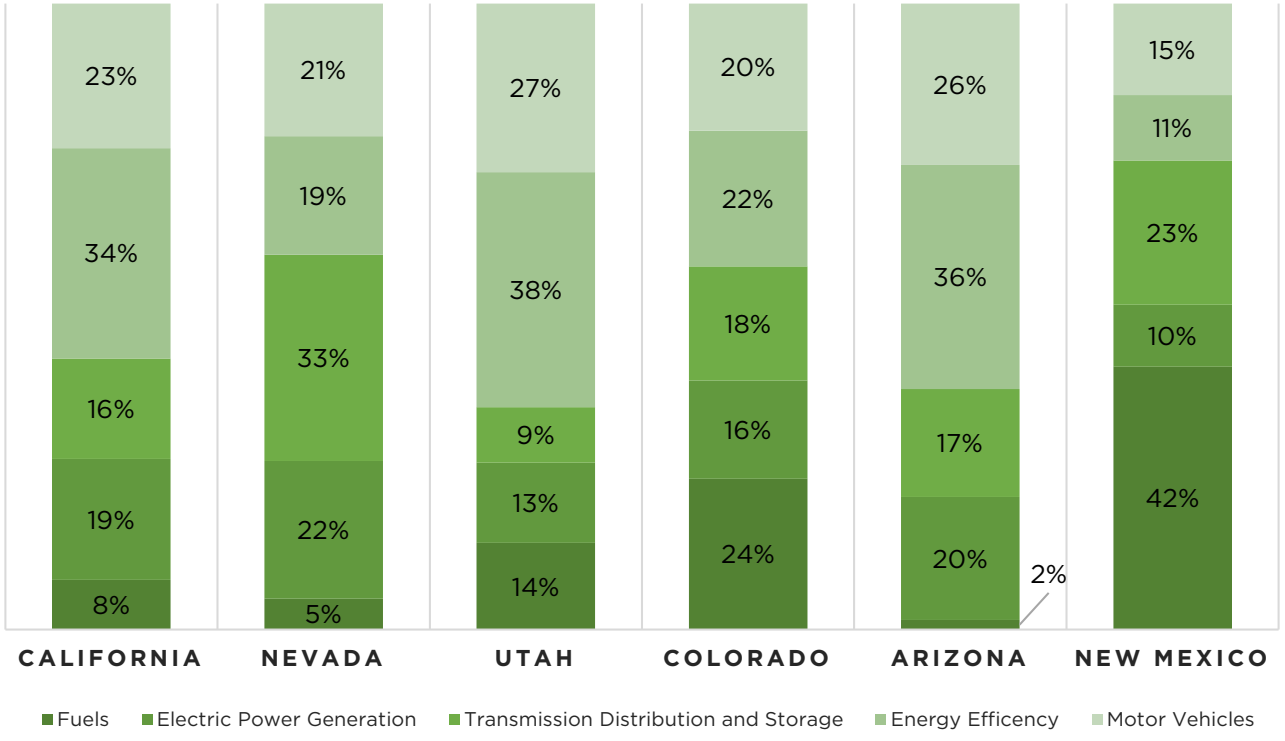
Figure 3. Percent Renewable Energy Production by State 2017



The reliance on fossil fuels in New Mexico is more apparent when we isolate the Southwestern states. As reflected in Figure 4, 42% of New Mexico's energy jobs come from fossil fuels – the highest in the region by a wide margin. As the transition to clean energy through the ETA begins to take shape, the distribution of jobs within the energy sector will shift significantly. A major emphasis in this report is to identify what is needed to make this a successful transition and to capture the public's views about this transformation.

New Mexico's Energy Transition Act aims to double renewable energy use in the state by 2025, and requires 50% renewable energy by 2030 and 100 percent carbon-free electricity generation by 2045 (2019). To achieve these targets, attention to the workforce will be crucial. Preliminary studies show the transition to clean energy through the ETA will create many new jobs in the wind and solar industries (see Table 1), but as our report details, there is much work ahead to reach this potential.

Figure 4. Percent of Energy Employment by Sector in the Southwest 2019



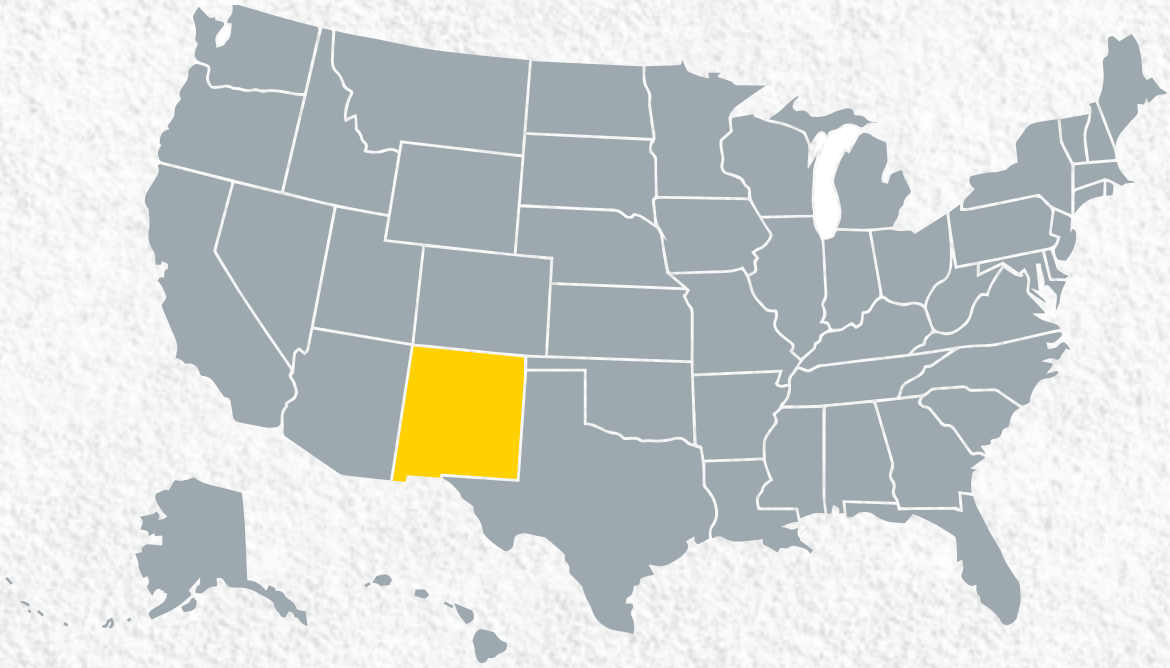
NASEO and Energy Futures Initative 2019

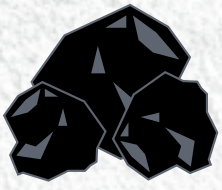
Table 1. Projected Growth in Clean Energy Industry in New Mexico

Energy Source	Installed Capacity	Existing Jobs	Added Capacity	Projected New Jobs
Solar	753	2,520	1,997	7,120
Wind	1,112	1,040	1,831	1,710
Total Clean Energy Jobs		3,560		8,830

(Long and Krishnaswami 2019)

Nationally, **New Mexico ranks 48th** in percent of renewable energy production.





Regionally, New Mexico has one of the **highest reliances** on fossil fuels. Currently **42% of New Mexico's energy jobs** come from **fossil fuels.**

Existing Clean Energy Operations in New Mexico Will Provide the Infrastructure for Expansion

New Mexico's natural resources make it uniquely positioned to lead the clean energy movement in the region. In fact, the benefits of solar power for New Mexico have been widely recognized. New Mexico is known for its ample sunlight, which makes the potential for solar power expansion very promising (WRCC 2020). The state is one of the top three in the nation for solar energy resources. However, the state ranks 17th in the number of solar installations, which suggests room for tremendous growth. One of the leading options to replace the San Juan Generating Station (SJGS) is solar energy, including a plan that would involve building 650 megawatts of solar and 300 megawatts of battery storage resources (Montoya Bryan 2020). As we discuss in more detail, jobs in the solar industry are in high demand and projected to grow sharply across New Mexico.

The state also has the third-highest potential for wind generating capacity in the nation (Hedden 2019). Wind energy is already a major source of energy in the state, as wind power contributed almost 19 percent of New Mexico's electricity generation in 2018, with approximately 1,950 megawatts of installed

NM has the **third-highest** potential for **wind generating capacity** in the nation.

In 2018, **wind energy** accounted for **nearly 19% of New Mexico's** electricity generation.

As the industry develops, it is projected that **generating capacity will double.**

This will **add** to the more than 2,000+ jobs in New Mexico already connected to the NM wind energy industry.

electricity generating capacity from more than 1,100 wind turbines (EIA 2020). The industry is still in early stages of development, with wind projects under construction or in advanced stages of development projected to double existing generating capacity in the near future (Powering NM 2020). This will produce even more jobs than the estimated 2,000+ jobs in New Mexico now that are directly connected to wind energy (AWEA 2020).

Jobs in the wind and solar industries range from construction jobs during initial installation to more long-term jobs that require technical training. The most promising labor sector for wind power are the technicians who maintain the wind turbine operation once it is up and running. These jobs are among the fastest growing jobs nationally (BLS 2019), and are housed almost exclusively in rural areas where the turbines are located (Robinson-Avila 2018). This may help address a concern we discussed later in this report that rural New Mexico may be left out of job opportunities produced by the transition to clean energy. Furthermore, the training infrastructure for these jobs is already in place, making wind energy an industry with huge potential and strong existing foundations in New Mexico.

New Mexico does not currently have any nuclear power plants in operation, but it does have the nation's second-largest uranium resource, equal to nearly one-third of U.S. uranium reserves (EIA 2020). Furthermore, most of the geographically large state of New Mexico has the potential to generate geothermal energy (EMNRD 2018). New Mexico Tribes also have biomass resources, as the state is in the top 10 for the largest concentration of tribal forests nationally. However, to tap this potential we must invest in preparing the New Mexican clean energy workforce.

Survey and Focus Groups Reveal the Need For Greater Community Outreach – Limited Knowledge of Clean Energy Jobs

This research aims to provide input from the community and to gauge their knowledge of the transition to clean energy and their attitudes and preferences regarding clean energy job production and training. Our research identifies the need for greater outreach to inform residents of the advantages of this transition for job growth and economic development, as well as the job opportunities that are available now in the industry. As reflected in Figure 5 below, only 45% of New Mexico residents have heard of the ETA according to our statewide survey. This was consistent with the focus groups data we collected, as very few New Mexicans who were not tied to the energy industry already were familiar with the state's goals to transition to clean energy or with the law itself.

The survey was designed to not only capture the attitudes of the public, but to also provide some information about the transition to clean energy through the data collection process. After reading a brief summary of the goals of the ETA, respondents were asked to provide their perceptions of how the law might benefit the state and their families. As reflected in Figure 6 below, once they learned more about the law, the majority (54%) of respondents believe that the wider community will benefit from the transition to clean energy. These numbers are consistent with the 52% who believe the law will benefit themselves and/or their families.

Figure 5.

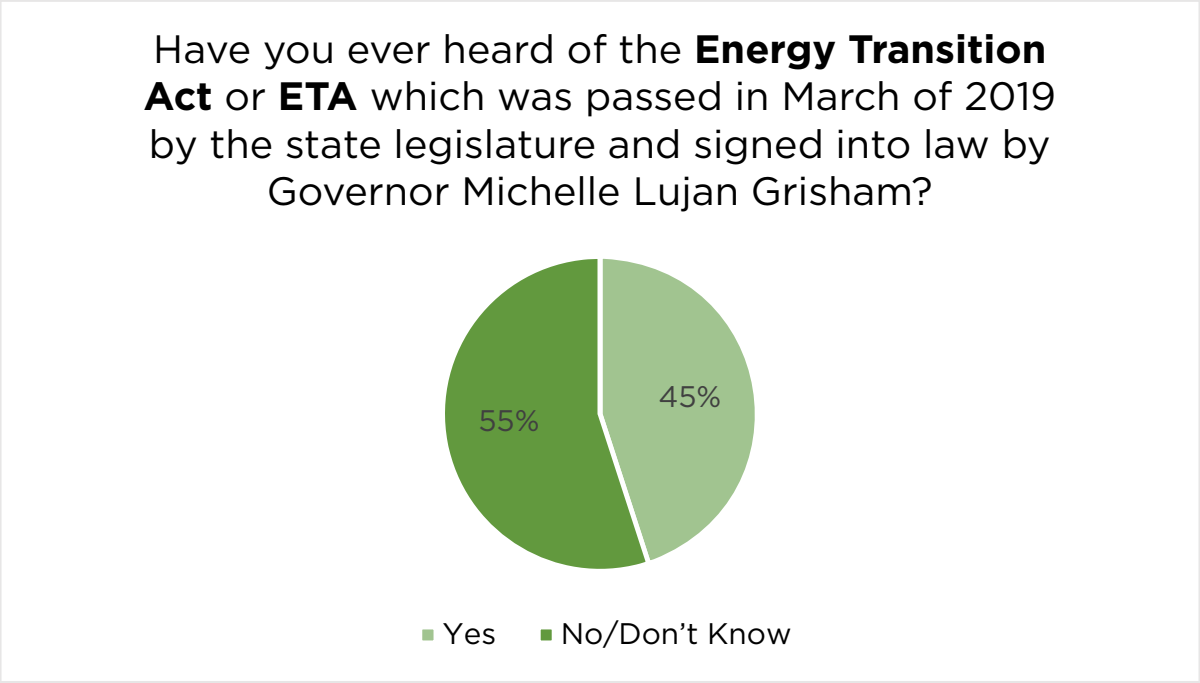
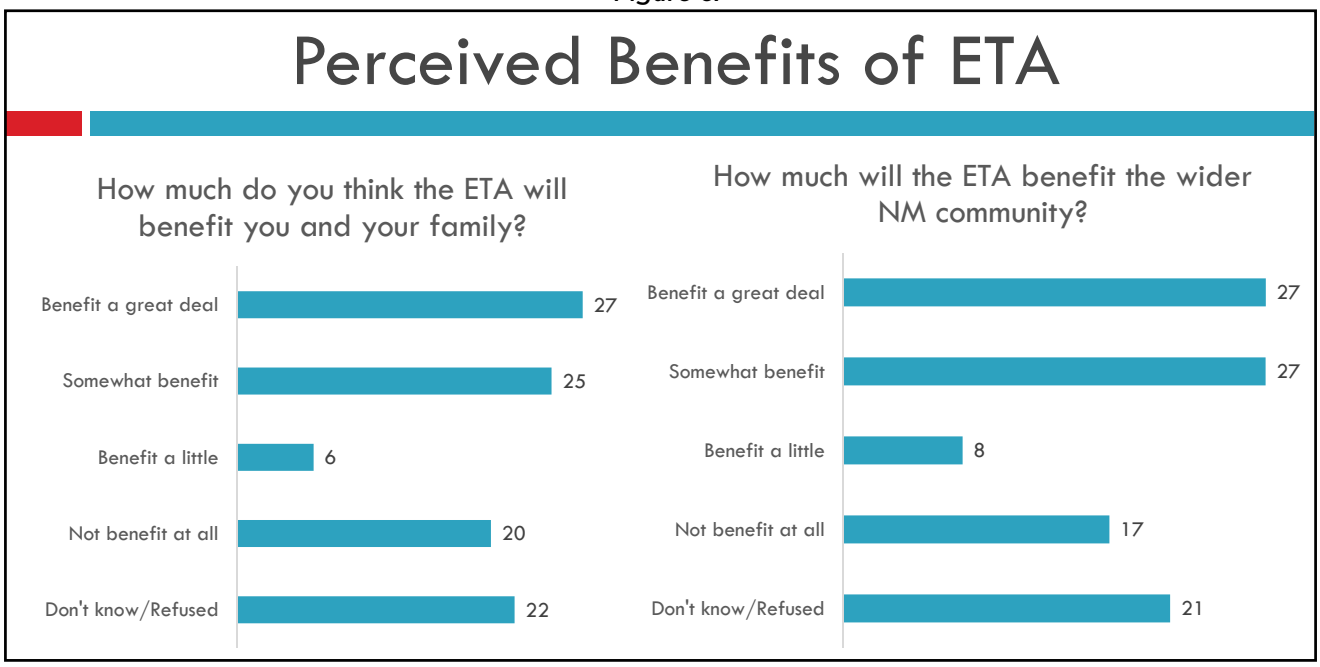


Figure 6.



The Energy Transition Act

Passed in the 2019 New Mexico Legislative Session and signed into law by Governor Lujan Grisham, **The Energy Transition Act** sets **statewide standards** for renewable resources that will make New Mexico a leader in renewable energy.

- 50% Renewable Energy by 2030
- 80% Renewable Energy by 2040
- 100% Renewable Energy by 2045

The Energy Transition Act (ETA) will also help New Mexico transition from fossil fuels toward a more **clean energy-based economy.**

Our focus group analysis also found that lack of knowledge about the ETA is an issue that needs attention. According to a participant in Rio Arriba:

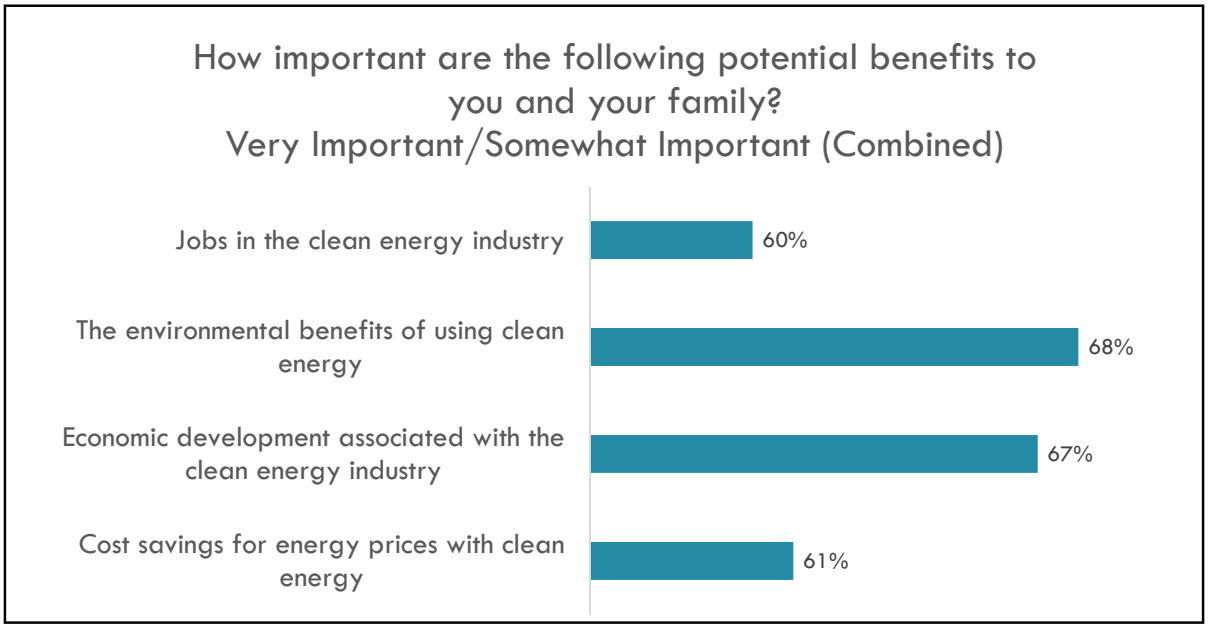
> **"People don't know what the Energy Transfer Act is...they don't know the bill name or the details of what the bill did. Much of what is being shared in the local media about the transition is what people are using as a kind of baseline of information around what the bill does. Depending on what part of the state you are in the media, you know, media and the local officials may be biased one way or the other as well. There is a lot of misinformation too."** *-Organizational Stakeholder, Rio Arriba County*

Many stakeholders whose work focuses on training the clean energy workforce identified the need to improve outreach to students that highlights the quantity and quality of jobs available in this sector. Community members echoed these sentiments, suggesting that state agencies and community organizations should increase outreach so that community members can **"understand this aggressive plan so we know how to access its benefits."** *-Community member, Dona Ana*

Despite the need for greater outreach to the community regarding the ETA, we did find strong evidence that when provided with some basic background information about the law, the community recognizes the value of the effort. For example, Figure 7 below shows the importance survey respondents placed on various potential benefits of the transition to clean energy.

The community places the highest value on the environmental benefits of using clean energy and the overall economic development opportunities associated with the clean energy industry. Cost savings for energy prices and jobs in the clean energy industry were also identified as important by 60% of respondents. These findings suggest that outreach efforts should focus on these benefits, which have traction across the state. Our team has provided some preliminary examples in our full report of info-graphics that could be used as part of an outreach effort.

Figure 7.



Similar to what we observed in the survey data, the qualitative data we collected reveal that there is optimism for the jobs that may come from this transition, but lack of clarity on what these jobs will look like and when they will be here. For example, community stakeholders described the importance of the economic opportunities that will come from the ETA, stating that they needed more outreach and education on how to tap into job opportunities and to ensure that these jobs are available to residents and families throughout New Mexico.

> **"Folks want the economic opportunity, they want to be able to tap in, and they want to feel they have long-term and well-compensated jobs for their families. They want to bring that energy and that work in Northern New Mexico, and tap into that. There is also a lot of uncertainty about how to do that, how do we get into the job field? What are these jobs like? What are the jobs that are even available? There is just a want for more information, more detail. People are asking, how stable are the jobs? What does it take to actually get into that field or job?"** -*Organizational Stakeholder, Rio Arriba*

We also heard from some parts of the system that are working well. For workers already earning clean energy credentials, program administrators note that opportunities are plentiful but that more outreach about these jobs may be needed. **One said, "If you don't get a job when you graduate [from our program], you don't want to work in wind. … I've got more employers looking for graduates than I've got graduates right now."**

New Mexicans are Concerned About Access to Clean Energy Jobs

The survey provides information to inform outreach efforts aimed at directly addressing fears or concerns the public may have about this transition to clean energy. Given how vital the oil and gas industry has been to New Mexico's economy, and the limited information the public may have about clean energy, we anticipated some anxiety across the population when they learned of the significant shift in energy production over time through the ETA.

Our team utilized what we heard from community members to help focus our overall analysis so that we could determine if these concerns are substantiated by existing research, and if there were any lessons learned that could help overcome these challenges as the state begins to implement the ETA.

Respondents to the survey were provided the phrase below and asked to indicate how concerned they were with each obstacle or challenge associated with the transition to clean energy:

The transition from fossil fuels to clean energy will bring many benefits to New Mexico, but the phasing out of fossil fuel production has generated some concerns as well. How concerned are you about each of the following potential obstacles or challenges associated with the transition to clean energy?

The results in Figure 8 suggest that there is wide concern about several potential obstacles for specific segments of the state's population. This includes significant concern that all of the jobs that come from clean energy will go to

Figure 8.

Concerns of Community Regarding Access to Clean Energy Jobs

- That all of the jobs that come from clean energy will go to people who live in Albuquerque and Santa Fe without equal access to New Mexicans who live in rural areas – **72%**
- That all of the jobs that come from clean energy will go to people with advanced education without many jobs for New Mexicans who only have a high school education – **76%**
- That all of the training opportunities to be competitive for jobs in clean energy will only be available in the urban areas of the state, making it challenging for those who live in the rural areas to acquire training – **74%**
- That small businesses that rely on the mining of fossil fuels will suffer when that industry is phased out - **60%**

people who live in Albuquerque and Santa Fe (72%), and that all of the training opportunities to be competitive for jobs in clean energy will only be available in the urban areas of the state, making it challenging for those who live in the rural areas to acquire training (74%). There is also high concern (76%) that all of the jobs that come from clean energy will go to people with advanced education, without many jobs for New Mexicans who only have a high school education. Finally, a sizable share (60%) of respondents are concerned that the small businesses that rely on the mining of fossil fuels will suffer when that industry is phased out.

Qualitative results overwhelmingly revealed that rural communities hope to see that clean energy jobs are distributed throughout the state, with rural communities seeing equal access to ETA job development and training. This is made even more critical by a severe job shortage in many rural areas.

According to one rural resident from Chavez County, **"there are just no jobs here unless you want to work in the fields or in service. We have a lot of dairies here and the hours and working conditions are tough. We need new industries to come here that offer better pay and long-term jobs".**

Our interviews and focus groups also made clear that residents of rural areas of the state feel that they will be disproportionately impacted by closures of fossil fuel operations, so they should be prioritized in any investment in clean energy infrastructure. In the southern, southeastern and Four Corners area, the majority of residents in our study stressed that it is critical to diversify economies that are reliant on traditional energy and extraction industries. According to a resident in Luna County:

> **"Our mine is the least copper producing mine of Freeport Mac Mines...it makes you wonder what the future is and that's why I have an interest in seeing beyond mining and going into other industry. In the southwest region of the state, we have sunshine and wind 90% of the time.**

> **We need to diversify economically and create different jobs here."** *-Community member, Luna*

Residents and members of community organizations from Lea County emphasized that extending clean energy jobs to areas dominated by oil and gas is essential to reduce the negative impacts of dropping oil prices on local workers:

> **"These opportunities need to actually go into rural communities that are so highly dependent on not only oil and gas and agriculture, but also private prisons. We need to think about how to promote job training in rural areas, not just in New Mexico but across the country so we can stimulate and keep those economies alive."** *-Community organizer, Lea County.*

Clean Energy Jobs Should Address Rural Residents' Concerns if Proper Steps are Taken

One of the more positive findings from our landscape analysis is that the transition to clean energy need not leave rural New Mexico out of economic development opportunities. However, more outreach is needed to help inform the community about the positive impact the ETA can have for rural counties in the state.

Where many industries have been pulled from rural spaces into more urban areas, the clean energy industries have the potential for positive impact on rural economies and workforces (Hatlestad, Rock, and Veazey 2019). This is most evident when it comes to wind energy production. Currently, 99 percent of America's wind capacity is in rural areas (E2 2018), and more than 300,000 people were employed in wind in rural areas in 2019 (NASEO and EFI 2019). In rural areas across the Midwest states, the solar, wind and energy efficiency sectors are booming and the majority of clean energy jobs per capita are in rural areas. In 2016, nearly 8,000 jobs were added in rural areas across 12 states in the Midwest, which equates to a 6 percent yearly growth in clean energy jobs. In 11 of the 12 Midwest states, rural clean energy jobs outpaced urban clean energy jobs and economy-wide employment (E2 2018).

These national numbers are consistent with what we learned from interviews. One rural college administrator in New Mexico said in an interview that industrial scale wind and solar operations can have a revitalizing effect on rural communities even if they only produce a modest number of jobs. This is because they dramatically expand the tax base, and the jobs they do produce pay well.

> **"You see ranches and farms that really spring back to life, you see new equipment being purchased; the tax base is incredible for schools, roads — I don't think there's anything better for rural NM than renewable energy, solar, wind."**

Community stakeholders also stressed how economic development associated with clean energy jobs would address a host of underlying social ills that plague rural New Mexico.

> **"I would say for Luna and Hidalgo there is a lot of aspiration and hope and hunger for something new because these communities... solar and wind aren't just**

> **a job industry but actually a savior for a lot of these communities. Especially with Luna County and Hidalgo County not only being the highest rate of unemployment and highest levels of addiction, but also the highest suicide rates within the state … folks are just hungry."** -*Community Organizer, Hidalgo and Luna County*

However, even as renewable energy presents many opportunities for rural communities, limited internet connectivity is a potential barrier for rural residents to be able to participate in coursework and other online training opportunities.

New Mexico has some of the lowest rates of broadband access in the nation, and this inequity has been spotlighted by the COVID-19 pandemic, where opportunities for online work and distance learning have been uneven across the state. In 2016, New Mexico ranked 48th nationally in the percentage of households with broadband internet subscriptions. These data suggest that about 26 percent of the state's population lacks access to broadband internet. This lack of access is even more severe in rural and tribal populations, who face multiple barriers such as cost, feasibility, and physical structure to accommodate broadband internet (Sanchez, Roybal, and Joshi 2020). Increasing access to broadband services will require long-term efforts but is essential to ensuring equitable access to trainings to develop the rural clean energy workforce.

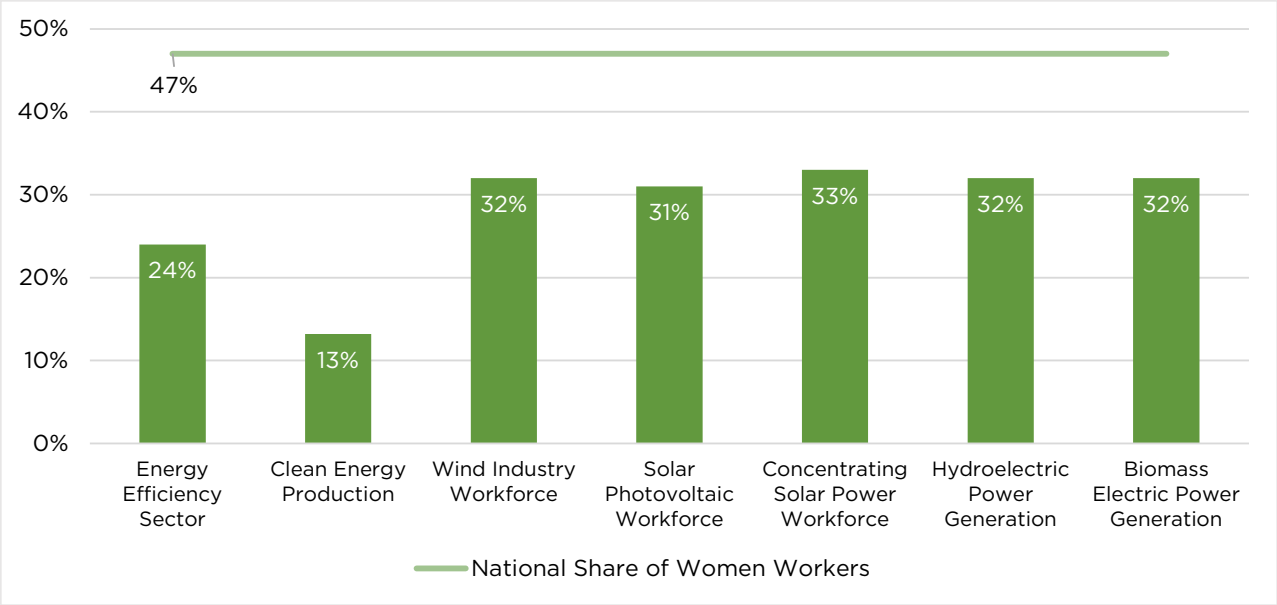
The Public's Concerns Regarding Diversity are Valid – Diversity Challenges in the Clean Energy Sector

A key lesson from national data is that transitioning to clean energy does not inherently translate to a more diverse or equitable workforce without intentional policy efforts. In short, national reports make clear that the clean energy industry is older, dominated by male workers and lacks racial/ethnic diversity compared to the overall U.S. workforce. It is critical that the state look for avenues to ensure the state's diverse and economically disadvantaged communities are not left out of the opportunities created in these emerging industries.

For example, in the clean energy production and energy efficiency sectors, fewer than 20 percent of workers are women and less than 10 percent are African American/Black (Brookings 2019). These disproportions are magnified when looking at positions that require professional training such as engineering (Welton and Eisen 2019).

Figure 9 below from Brookings provides a closer look at gender representation across specific job categories in clean energy. Women comprised 47 percent of all employed workers in 2016, so that is the baseline for comparison purposes. Within the clean energy industry, women make up between 24 and 32 percent of workers (NASEO and EFI 2019). In clean energy production and energy efficiency, women comprised less than 20 percent of employed workers (Brookings 2019).

Figure 9. Percentage of Women in Clean Energy Workforce by Sector



Source: Brookings 2019; NASEO and EFI 2019

The gender disparity in the clean energy workforce is even greater when considering positions of power (Pearl-Martinez and Stephens 2016). About 61 percent of energy companies in the country have no female representation on their board of directors (GMI 2012). One concrete step to address lack of gender representation in this industry could be to diversify training and apprenticeships so that avenues for career development are available to women. In California, for example, a recent study found gender diversity in apprenticeships is minimal, with women representing between 2 and 6 percent of the apprenticeship participants (Luke et al. 2017).

There is also a lack of representation among racial and ethnic minorities within the clean energy labor sector, and advocates have been calling for greater diversity for some time (Taylor 2011). Interestingly, while Latinos appear to be represented well in this labor market, the share of Black workers across the clean energy workforce is consistently lower than their share of the national workforce (Table 2). Research has suggested that African Americans face barriers to accessing these jobs, including living in areas where clean energy industries are not as abundant, and discrimination from employers similar to what this community faces in the overall labor market (Harper-Anderson 2012).

Table 2. Percentage of People of Color in Clean Energy Workforce by Sector

Workforce Type	Sector Average-Latino	National Workforce Average-Latino	Sector Average-Black	National Workforce Average-Black
Wind Industry Workforce	21%	17%	8%	12%
Solar Photovoltaic Workforce	20%	17%	7%	12%
Concentrating Solar Power Workforce	22%	17%	7%	12%
Hydroelectric Power Generation	20%	17%	8%	12%
Biomass Electric Power Generation	17%	17%	8%	12%
Energy Efficiency Sector	16%	17%	8%	12%

Source: NASEO and EFI 2019

Our qualitative interviews suggest that New Mexicans are aware of the lack of diversity in the clean energy sector, as many participants in our groups and interviews clearly and directly asserted the need for the ETA to diversify the workforce and develop new jobs for rural communities, communities of color, and women. It was suggested consistently that job creation efforts should reduce traditional entry barriers for these groups. The quotes below reflect this larger theme from our interviews:

> **"We have all seen national numbers on clean energy jobs and that industry does not look at all like New Mexico. Green industry jobs are mostly filled by white men; we are of course concerned that this will happen in New Mexico."** *-Non-profit leader*

> **"Making sure workforce development programs are in the communities that are transitioning away from fossil fuels is key to the success of this initiative. Diversity is key and it includes groups like formerly incarcerated individuals, women, people of color, and other underrepresented individuals in the renewable energy workforce. Low barriers to entry, whether that is cost, geographical accessibility, and ensuring these apprenticeship programs are not just the union pipeline...We need to make sure that happens."** *-Statewide policy advocate*

Finally, stakeholders suggest that creating a diverse workforce includes building strategies that prioritize hiring New Mexican workers.

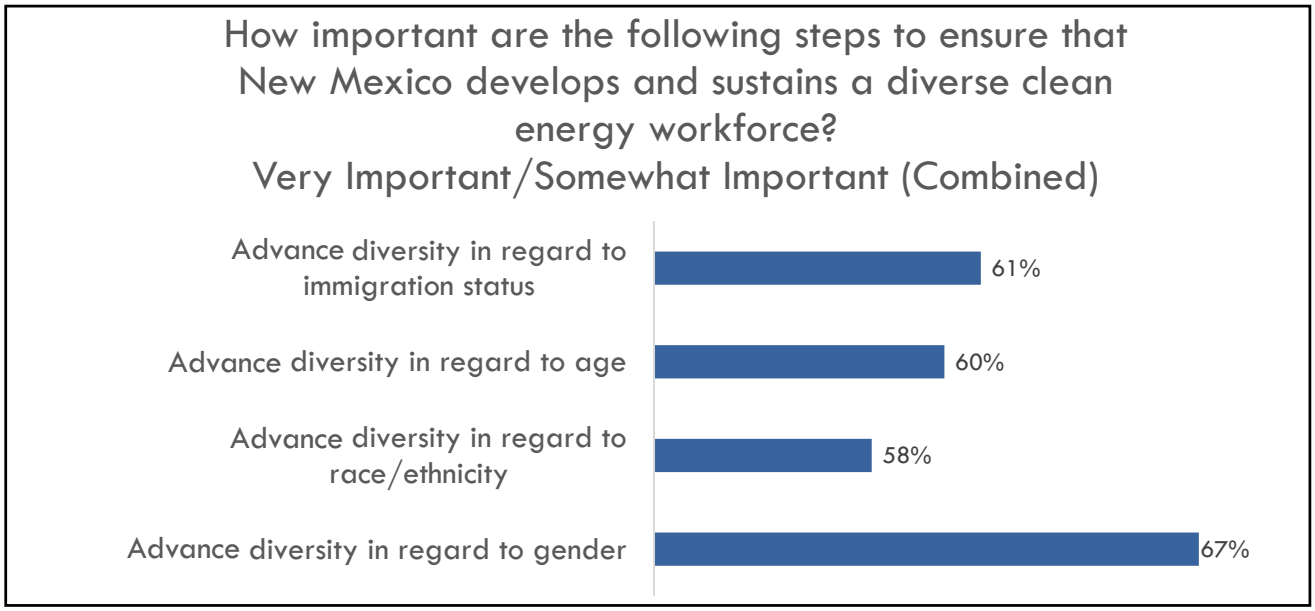
> **"We don't want these to be another set of jobs that go to Santa Fe or out-of-state corporations. We want the economic opportunity; we want to be able to tap into jobs and to get long-term and well-compensated jobs for our families. We want that energy and work in Northern New Mexico."** *-Community Member, Rio Arriba*

Several employers echoed these claims and suggested that the state should incentivize local job development by offering loans and grants to businesses.

> **"I would encourage the state to keep in mind the 'how' in keeping jobs here locally after we implement renewable energy. We need to think about how is this going to happen? I think the state should provide loans and grants to businesses that want to open up that have those renewable sources that are ready to take on whatever. I think that would very much stimulate the economy."** *-Business owner, Albuquerque*

The concerns and suggestions that we heard in interviews help contextualize the high support from survey respondents for ensuring all New Mexicans have equal access to training and jobs in the clean energy industry. As Figure 10 below illustrates, New Mexicans believe it is important that the state take the steps necessary to ensure that New Mexico develops and sustains a diverse workforce in clean energy. This ranges from 58% of respondents identifying that it is important to advance racial and ethnic diversity, to 67% who believe advancing gender diversity in the clean energy workforce is important. Ensuring diversity is developed and sustained in regard to age and immigration status was also supported by 60% and 61% of respondents, respectively.

Figure 10.



Efforts Needed to Integrate Younger Workforce into Clean Energy Jobs

Given the high support for ensuring age diversity in the clean energy workforce, our research includes a specific focus on young workers. Young adults who are entering the workforce for the first time face unique barriers. Currently, youth and young adults experience an unemployment rate that is more than double the national rate (CLASP 2020). In New Mexico, 16.5% of young people between 16 and 24 are not in school or work (Lewis and Burd-Sharps 2015), and that number is higher in rural areas. For instance, 41.9% of young people between 16 and 24 are not in school or work in Sierra County (Lewis and Burd-Sharps 2015).

These barriers are likely to be worsened by the COVID-19 pandemic and the associated rise in across-the-board unemployment. The shift into clean energy offers an opportunity for younger generations to find sustainable employment in the energy sector. In fact, it is most likely the next generation will be the principal influencers of the clean energy shift.

Our focus group with solar installation teams operating in New Mexico provided insights into challenges the clean energy industry is facing with younger workers, but also identified that there is an interest in recruiting young workers into the field. The quote below from a manager responsible for hiring reflects what we heard in these groups more broadly.

> **"We have a lot of interest in hiring young workers because we know we need them. Most of my guys are in their 30's and 40's and were recruited from other industries like construction. My boss has asked me to hire two new younger workers from a recruitment fair next weekend, so this is a priority. We do not have good luck with the younger guys though. They come out of the trade schools with certificates but struggle when they get into the field. It's one thing to connect panels or wire up the electricity in the classroom; they get on the roof with the wind and the weather and they want to quit. Most of our young guys do not last more than a couple of weeks."** *-Local Solar Company Manger*

A research brief by CLASP (2020) points to several practices to engage younger generations in the clean energy workforce, including giving younger workers access to job training programs. The quote above suggests these training programs should consider requiring field work and apprenticeships that are hands-on, to help younger workers get a better idea of what lies ahead. Community stakeholders from New Mexico supported these practices. They commonly advocated for integrating training opportunities into high school education and through creating summer internship and employment opportunities. According to one teacher in Las Cruces:

> **"What I want to see happen is creating programs to employ youth during the summer … and putting students [and] young people through the same experience that I had. I'd like to see our youth engaged in summer employment programs. Not just for them to have a summer job, but also [to] provide other skills that we can teach during that summer experience. I personally would like to have some funding for our young people to get them out into the clean energy workforce early to provide these opportunities, so that when they leave high school their skill sets are a little bit broader."** *-School Teacher, Doña Ana County*

Our landscape analysis identified some creative approaches other jurisdictions have taken to integrate youth into the clean energy For example, a high school in western Colorado developed a hands-on course on all aspects of solar panel development and installation. The students used their design to install solar panels on the science building of their school to replace traditional energy, and based on the success of this effort are currently implementing the same approach across the county.[1]

Disconnect Between New Mexico's Existing Clean Energy Jobs and Perceptions of the Public

Along with an overall lack of knowledge about the ETA, we found evidence that there may be a narrative permeating the state suggesting that clean energy jobs are sparse and are low-paying compared to other sectors requiring similar skills. Below are some of the quotes that reflect this concern.

> **"Students do not understand the many job opportunities that exist in the state beyond oil and gas. I have seen a tendency, I think, for students to perceive that all there is available are installation jobs. We need more outreach to the student population to inform them of the many jobs available with college degrees and technical training, as it seems that we only promote the extremes, PhD-level jobs and the installation jobs."** *-Higher Education Administrator*

> **"I am planning to start a job with the oil and gas industry when I finish school. This is not based on wanting to work in that industry; I would rather work in something that is better for the environment. I have been told that my job prospects here in New Mexico though are better in oil and I want to stay here if I can."** *-Student in an energy training program*

> **"While it may be true to say that there is not a high demand among the state's student population, we must recognize that this is largely due to a lack of marketing to these students and direct recruitment. These kids are from here and want to stay here but get snatched up by out-of-state companies because they are not aware that the jobs exist here in New Mexico, because we often lump all clean energy jobs together and emphasize the more entry-level positions like installation."** -Higher Education Administrator

To assess the accuracy of these concerns that clean energy jobs are scarce and low-paying, we looked to analysis of the current state of clean energy jobs in the state, by the New Mexico Department of Workforce Solutions, Economic Research and Analysis Bureau. Their full analysis is available as an appendix in the full version of our report.

Their analysis estimated that there were 11,490 jobs in the clean energy industry in

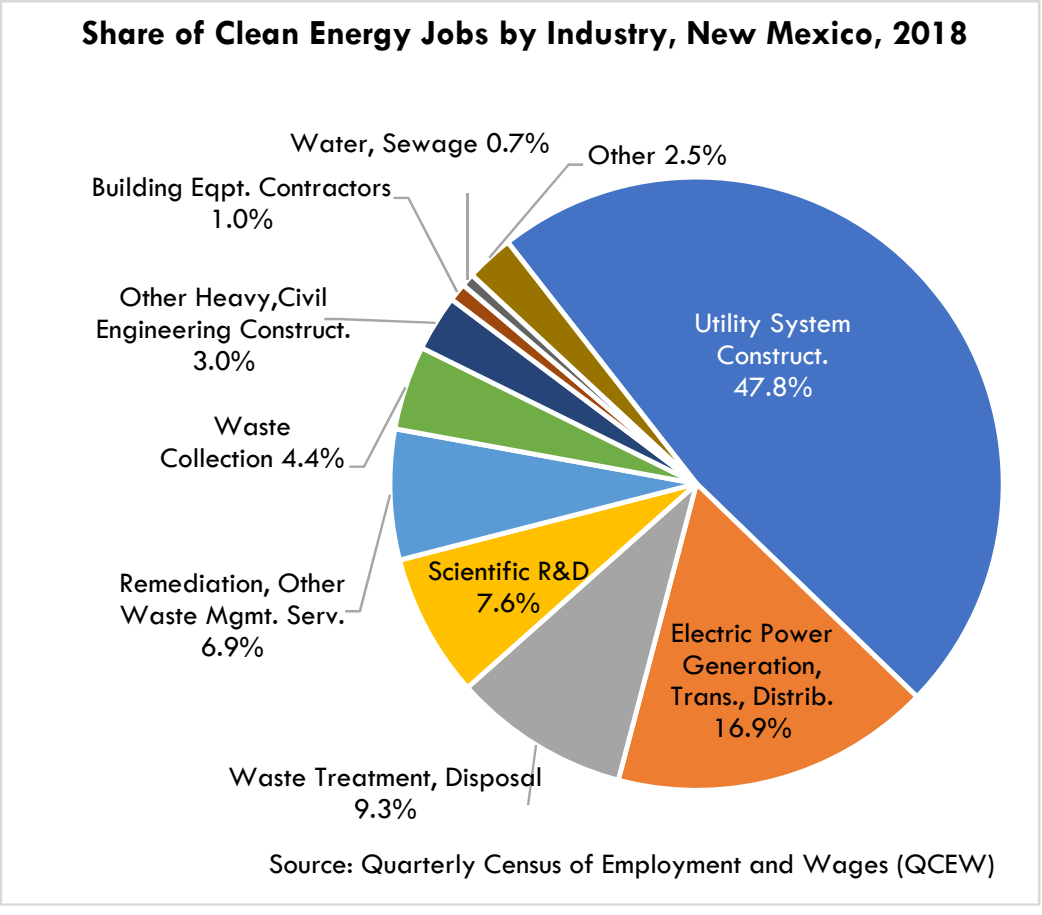
[1]See the following for more information on this example: https://www.noaa.gov/education/stories/high-school-students-bring-renewable-energy-to-their-colorado-community

New Mexico in 2018, or about 1.4 percent of total employment.[2] This does suggest that the demand for new workers may not be high currently. As reflected in Figure 11 below, nearly one-half of all clean energy jobs worked in the utility system construction industry. About 16.9 percent of all clean energy occupations are in the electric power generation, transmission, and distribution industry.

Figure 12 below shows the seven occupations with the most clean energy jobs. Nearly one in five of these jobs consisted of construction laborers. Operating engineers and other equipment operators made up 9.1 percent of all clean energy jobs, or about 1,050 jobs. Supervisors of construction trades and extraction work made up 7.5 percent of all clean energy jobs, the third highest share of any occupation. The high concentration of jobs in the construction sector motivated several interviews with New Mexicans who work in the larger construction sector but not yet in clean energy.

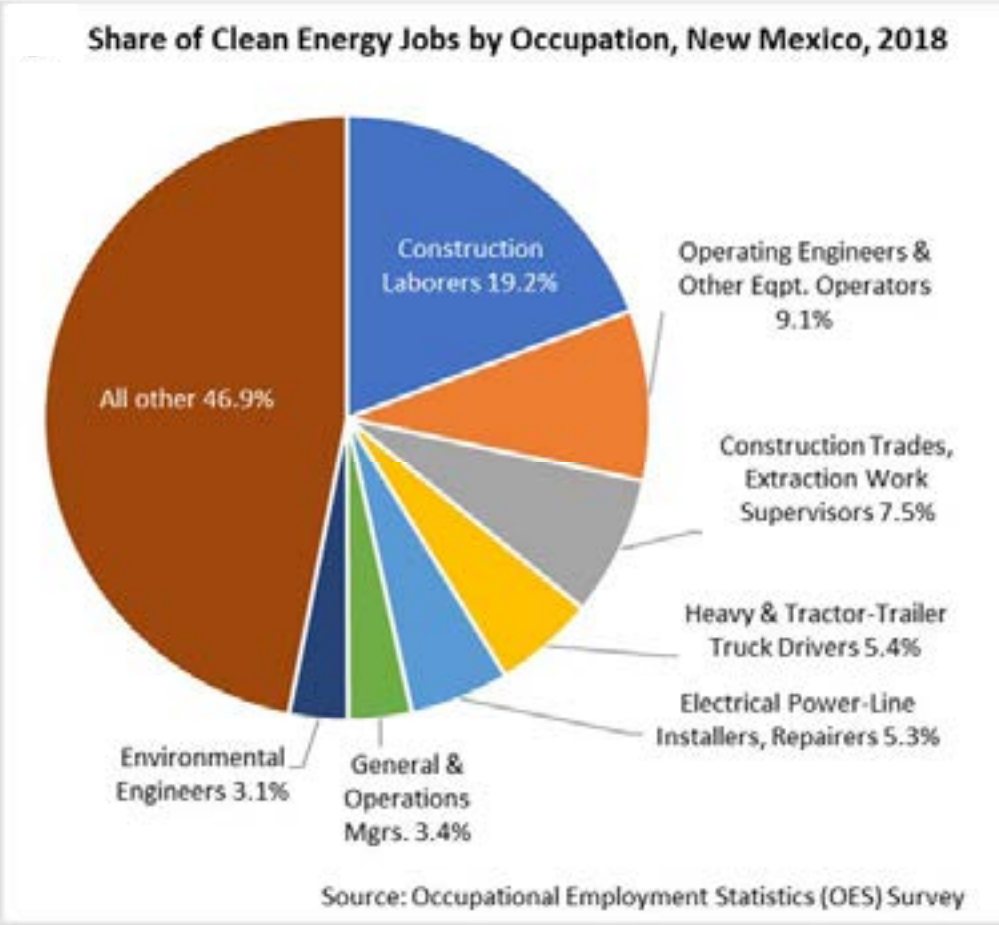
The Department of Workforce Solutions analysis shows employees work in clean energy occupations and industries receive a higher average annual wage than the average annual wage for all workers. The average

Figure 11.



[2] A description of the methodology can be found in Appendix A of our full report.

Figure 12.



annual wage for all clean energy occupations and industries in 2018 was $66,840[3], which is 47.2 percent higher than the average annual wage for all occupations in all industries in New Mexico ($45,400). The median annual wage for all clean energy occupations working in clean energy industries in 2018 was $59,870[4], while the median annual wage for all occupations working in all industries in New Mexico was $34,120.

Of the data that can be released, industrial production managers who worked in the industry of electric power generation, transmission, and distribution earned the most. Their average annual wage was $150,310. This was followed by general and operations managers who worked in electric power generation, transmission, and distribution ($135,620) and nuclear engineers

[3]This figure omits the average annual wage of industrial engineers who work in the electrical equipment manufacturing industry because that data is not available. All other data, include those that are suppressed, are included in the calculation of the average annual wage for all clean energy occupations

[4]This figure omits the average annual wage of general and operations managers who work in other heavy and civil engineering construction and industrial engineers who work in electrical equipment manufacturing. All other data, including those that are suppressed, are included in the calculation of the median annual wage for all clean energy occupations.

who worked in the scientific research and development services ($135,580). Workers with the lowest annual average were refuse and recyclable material collectors working in the waste collection industry ($25,160) and hand laborers and freight, stock, and material movers working in the waste treatment and disposal industry ($28,230).

There is also promising news in regard to growth industries in this sector that the state is equipped to address in existing training infrastructure. Among clean energy occupations working in clean energy industries, and for which the data can be released, the fastest growth is expected to be for solar photovoltaic installers who work in the specialty trade contractors industry (Exhibit 11). They are expected to increase the number of jobs by 139.2 percent. Training and development specialists working in the professional, scientific, and technical services industry and the administrative and support services are expected to increase 26.7 and 21.3 percent, respectively.

Of the data that can be released, the occupation of plumbers, pipefitters, and steamfitters who work in the specialty trade contractors industry is expected to have the most growth, increasing by 220 jobs, or 14.5 percent, during the projection period. This is closely followed by constructions laborers who also work in the specialty trade contractors industry. Their employment is expected to increase from 2,840 jobs in 2016 to 3,050 jobs in 2026.

Based on the data on the existing clean energy workforce, the picture appears to be much more positive than what we have heard from the wider community. Many of our interviews identified this gap between the existing jobs in the industry and the perception among potential employees. This need to align the higher education and training capacity and goals with the current and emerging needs of employers is one of our main recommendations. While it is clear that this is happening across the state already, it appears to be occurring in silos and not in a comprehensive way. The quote below reflects the overall suggestions leaders in this area conveyed to our team.

> **"We need to better define the job opportunities that exist now and are on the horizon and what skills and relevant education are needed to acquire those jobs. There are some good examples of regional efforts to connect companies looking for clean energy workforce to our higher education institutions, but this could be coordinated much better statewide and Workforce Solutions should be part of that effort."** *-Clean Energy Training Program Director*

Finally, we also heard from members of the existing clean energy workforce that they were slow to transition to this industry due to concerns they heard about the stability and pay in the industry. However, there was a clear consensus that the pay they are receiving from the clean energy industry jobs they have is much higher than what they were making prior to changing careers. This was particularly clear among the solar installation workforce. Below are quotes that reflect this more general theme in our focus groups sessions.

"Business is growing tremendously in NM and the wider region. We have approximately 15 members of our staff who are based here in NM, we are looking to hire another 10 to 15 in the next month due to increased demand." *-Solar Power Company Owner*

"We pay really well, largely to compete with some other industries that have similar skilled workforces. Electricians with us make 70K and up and journeyman tradesmen with a license make $30-$35 per hour, which is really competitive and will provide job growth over time." *-Solar Company Installation Team Manager*

"I was worried about leaving my job building houses to come to solar installation. I had heard that this was a fad and if Trump won the election solar would die. I have been at this for long enough to see that this is a really stable career and I have opportunities to move up that were not there in home construction. I am getting paid tons of overtime because we are so busy, making almost twice as much as I thought I would." *-Solar Power Installation Worker*

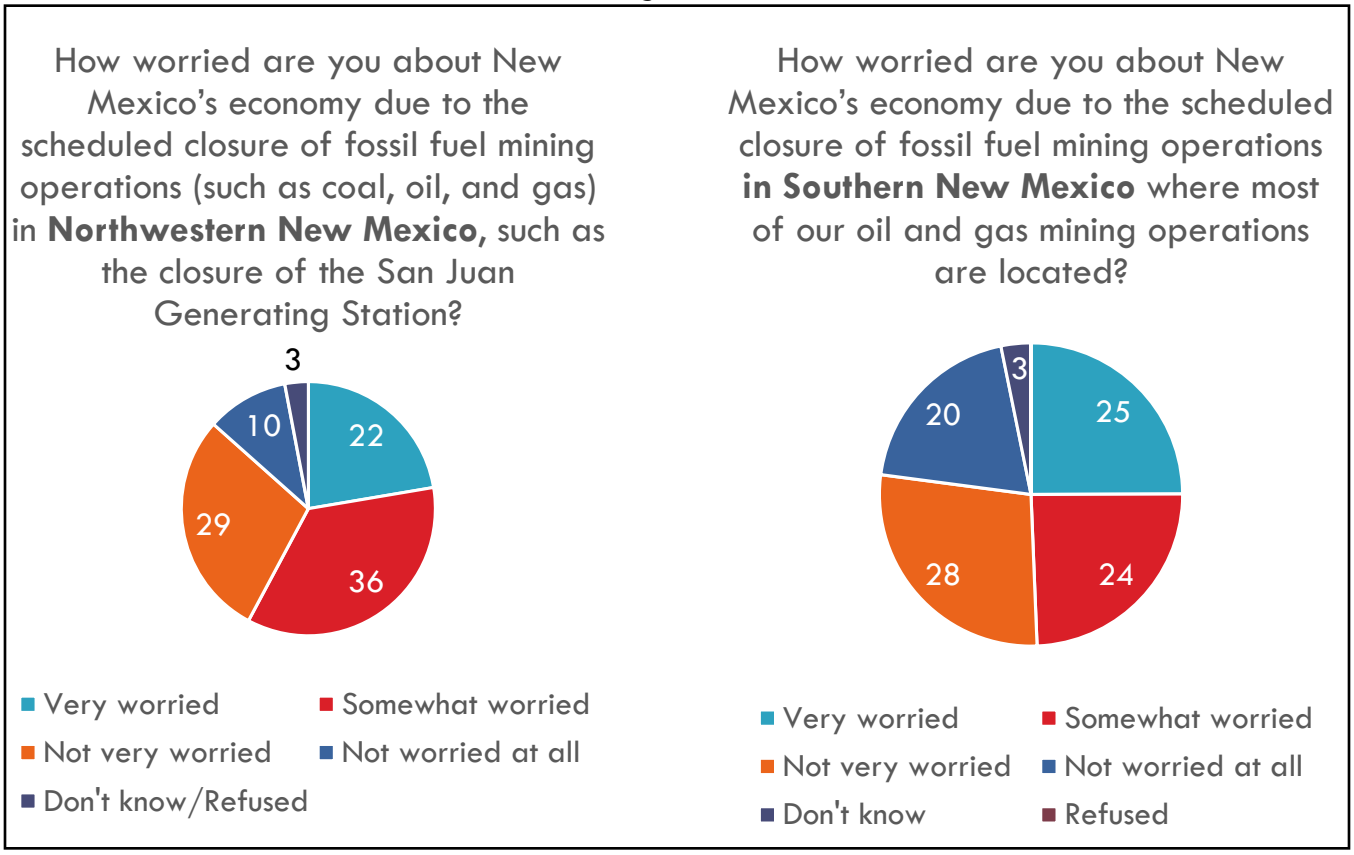
Addressing Workers Displaced by Movement Away From Fossil Fuels

Our landscape analysis identified that transitioning displaced workers to other sectors of the labor market is crucial when fossil fuel operations are closed down. The extant literature suggests the consequences of displacing workers can last several years after the immediate closure of a mine or generating station (Haney and Shkaratan 2003). As reflected in the statewide survey results, New Mexicans are concerned about these closures and the consequences for the local economies in these areas.

For example, 58% of respondents are worried about the economy due to the scheduled closure of mining operations in the Northwestern area of the state, including the San Juan Generating Station (SJGS) (see Figure 13). There is also high concern regarding the prospect of scaling back operations in the Southern region where most of the oil and gas infrastructure is located, with roughly half of respondents indicating they are worried about the impact on the state's economy.

In New Mexico, Dr. Kelly O'Donnell estimates about 450 jobs will be directly eliminated with the closing of the SJGS and the associated coal mine. She also notes that solar power energy generation is less labor intensive than coal-produced energy. This means transitioning to this industry will not generate as many overall jobs for the region as the SJGS has, even with investment in retraining.

Figure 13.



The Four Corners Economic Development analysis describes characteristics of the SJGS workforce that can help identify the types of jobs needed to replace those lost through closures of fossil fuel operations. Below are some key points from their report:

- The $86,000 average annual salary of the SJGS workforce is significant, as this is notably higher than the mean salary range of residents of San Juan and adjacent counties.
- An estimated 96% of the positions at SJGS have employer-sponsored health insurance, identifying the need for clean energy jobs to have similar benefits.
- About 97% of SJGS employees live in San Juan County, as well as 92% of San Juan Mine employees.

There is some good news from research in other states. For example, a 2016 analysis found that with investment in retraining, the vast majority of U.S. coal workers could switch to solar-related positions (Louie and Pearce 2016). This study identified a correlation in the skill sets required and salaries of various positions in the coal and solar industries.

Furthermore, multiple interviewees noted that many San Juan Mine workers are close to retirement, and the data supports this perception, with an average age of 47 indicating an older workforce (Central Consolidated School District 2020). This could reduce the need for re-training if it holds across other fossil fuel operations, particularly if resources are invested in early retirement options for workers close to, but not yet at,

retirement age. The quote below is reflective of what we heard from other interviews we conducted.

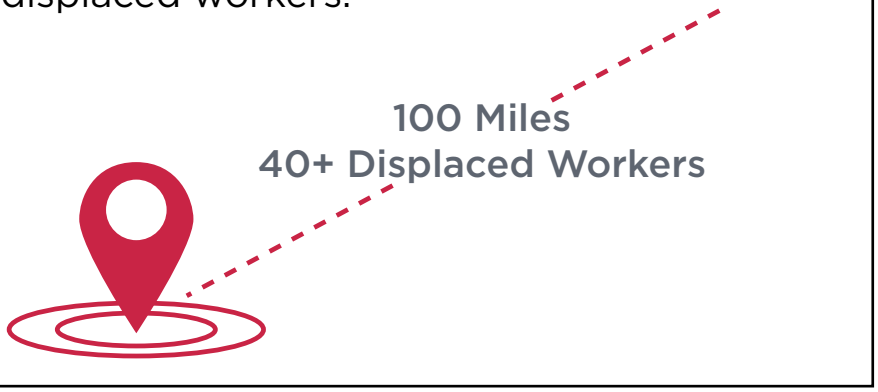
> **"The current workforce is an older population who are mostly men, and might be at the tail end of their careers who are looking more toward retirement than to think about re-training."**

Fortunately, the Energy Transition Act includes funding to re-train plant and mine workers. For example, apprenticeships prioritizing residents in disadvantaged or affected communities can be funded through the act, and apprenticeships will be required during the construction of new energy facilities. *Affected communities* are defined in the legislation as residents within "a New Mexico county located within one hundred miles of a New Mexico facility producing electricity that closes, resulting in at least forty displaced workers." Our report touches on the goals and attitudes of New Mexicans who live in these affected areas through our survey and some focused interviews.

Overall, we find substantial evidence that mine and plant workers and the non-profit leaders who work in the clean energy industry increasingly perceive that oil, gas, and other extractive industries can co-exist to create a sustainable economic future in New Mexico. According to several workers in the southern and southeastern regions of the state, the ETA can offer alternative job solutions that keep families intact and working in jobs that are less vulnerable to the booms and busts associated with oil and gas economies. The following quotes are illustrations of this viewpoint:

> **"I grew up in the Four Corners area in the coal mining area. I moved to the Silver City area, which is a heavily copper mining area. In both areas, the community is attached to the mining industry to help them with their daily lives, you know, to support their families. I think it is really good to see and hear that people want to change to a greener side of the road because in both areas a lot of health issues come up within families. I also teach high school in the mining district and a lot of our career fairs are focused on the military and the mines. Basically they want to put a shovel and a gun in the kids' hands. I think that a lot of what we are talking about here can be brought into the schools so that the younger kids can rewire their minds**

Affected Community:
A New Mexico county located within one hundred miles of a New Mexico facility producing electricity that closes, resulting in at least forty displaced workers.



so that they see other avenues out there." *-Community member, Grant County*

New Mexico can look to successes in other states as it shapes its retraining programs. For example, Illinois requires that clean energy projects include job training opportunities and must coordinate with other job training programs in the sector. Illinois' program is conducted by local entities, favors lower-income candidates, and is "designed to ensure that entities that offer training are located in, and trainees are recruited from, the same communities that the program aims to serve and that the program provides trainees with the opportunity to obtain real-world experience" (IPA 2018).

New Mexico's **community college** infrastructure is outstanding for **renewable energy.**

Mesalands Community College is among the nation's top training programs for **wind turbine technicians,** and **Santa Fe Community College** is one of the only two-year institutions in the nation with **microgrid and smart grid technology.**

Implications for Tribal Communities in New Mexico

Our research includes a specific focus on the effects of the clean energy transition on New Mexico's Native American communities. Given their physical proximity to fossil fuel facilities that will be closing, Native Americans are among the key affected communities who must be engaged in the transition to clean energy. As our prior research has shown, Native Americans in New Mexico are also more likely to face health challenges due to living in close proximity to fossil fuel extraction (NABPI and CSP 2019). The job losses will also be felt heavily in Tribal communities. For example, it is estimated that roughly half the workforce at SJGS and the nearby mine that serve it are members of the Navajo Nation (Storrow 2019). Storrow (2019) also indicates that at Four Corners, where a tribal mining company supplies coal, Native Americans comprise 80% of the workforce.

Clean energy industries have the potential to not only replace lost jobs for Tribes, but to provide new funding streams for Native American communities. Although the potential for clean energy production varies across Tribes, clean energy appears viable for all communities. For example, Acoma Pueblo is estimated to have wind potential of 2,215 MW and has a large acreage of high potential wind capacity based on the National Renewable Energy Laboratory's wind power class system (OIEED 2010). The Mescalero Apache Nation is also identified as an area with potential for 2,340 MW of wind power.

Furthermore, almost all Tribes in New Mexico have the potential to generate geothermal energy on their lands (EMNRD 2018). New Mexico Tribes also have biomass resources, as the state is in the top 10 nationally for the largest concentration of tribal forests.

Solar energy has seen early investment from Tribes, and will provide a strong foundation for Tribes looking to transition their economies from fossil fuel-based energy production to renewable energy. For example, the Picuris Pueblo of New Mexico has completed a 1-megawatt solar array to supply energy to the Tribal buildings and residences on the Picuris trust land, and they are currently developing a second 1-megawatt generating system (OIEPP 2018; USDE 2018). Santo Domingo Pueblo installed a 115-kilowatt solar system to fuel the water pump and water treatment facility (USDE 2015). The Jicarilla Apache Nation entered into an agreement with PNM and others to supply a large portion of the City of Albuquerque's power needs through a large-scale solar power hub on the Jicarilla Nation. The City of Albuquerque's commitment to buy 25MWs from the new solar plant for a minimum of 15 years provides the Jicarilla Nation with a solid demand stream. This public, private, Tribal Nation partnership will make the City of Albuquerque a national leader in renewable energy use and the Jicarilla Nation one of the largest producers of solar power among Tribal nations. This model could be considered for replication, though more research is needed to look specifically at the impact of this initiative in both the short and long term.

We also heard from multiple interview participants that Tribes could connect existing economic infrastructure to the emerging revenue streams associated with clean energy. For example, there were suggestions about how to connect the growth in demand for charging stations for electric vehicles with existing Tribal hotel and gaming operations. Taking a creative and entrepreneurial approach to economic development through the transition can help Tribes identify new funding streams like this without heavy investment in infrastructure.

> **"EV charging stations are huge right now with electric car expansion. How do we become a player for commercial charging along the Route 66 corridor? There could be partnerships with Tribes to put charging stations near casinos and hotels to serve as a draw to these existing resources. These relatively easy-to-implement steps could prove to be huge in the long-term."**

Existing Infrastructure for Job Training, Degrees and Certificate Programs

Given the importance of job training, our research focused heavily on reviewing the existing higher education infrastructure in the state. Our analysis included investigation of access to training for all segments of our community, particularly as it relates to rural residents of the state.

As the DWS labor market report in Appendix A shows, clean energy jobs are concentrated in industries focused on energy production and distribution, energy efficiency, transportation, construction, manufacturing, and recycling and waste reduction. Jobs in these industries include technicians, electricians and plumbers,

mechanics, plant operators, construction workers, engineers, hazardous waste technicians, systems operators and more. Clean energy jobs range from entry level to those requiring advanced degrees, but most are "middle-skilled," requiring more than a high school degree but less than a four-year college education (Grobe et al, 2011). Our scan of higher education training programs, then, focused on the two-year community college and branch campuses that are the foundation for workforce development in the state.

Some clean energy jobs are in newer occupations specific to emerging clean energy industries. New Mexico is home to a variety of opportunities for training and certification in these – some of which are state-of-the-art facilities equipped to train students for in-demand jobs (see Figures 14 and 15). Mesalands Community College in Tucumcari is among the nation's best training programs for wind turbine technicians, and Santa Fe Community College is one of the only two-year institutions in the country with microgrid and Smart grid technology, in addition to innovative programs in biofuels and solar energy. San Juan College, which has long prepared workers for the extractive industries, is in the process of standing up a Center of Excellence focused on water security and sustainability, hydrogen power, training electric vehicle technicians, and recycling of lithium-ion batteries. However, the availability of such opportunities varies significantly by region, with limited opportunities for workers to tap into degrees and training programs in other parts of the state without physically relocating there for coursework and training experiences.

To some degree, this is unavoidable. Training for clean energy jobs often requires physical practice on specific, expensive equipment such as wind turbines and solar arrays. Because it is not efficient for every community in the state to invest in every kind of clean energy training equipment (or to easily share or trade it due to procurement issues), colleges and universities have developed areas of specialty and excellence. While this has the efficiency of concentrating equipment and expertise, it also means that a worker seeking training in wind turbine maintenance, for example, must spend at least some time physically in Tucumcari to climb and practice on the training turbine at Mesalands Community College. At present, two colleges in the state offer wind technology training, both in more rural eastern communities. Six offer solar technology-specific certification and degree programs, located primarily in the urban center and southern parts of the state.

More widely available across the two-year colleges in the state, however, is foundational training in the skills and competencies required for workers in clean energy industries. This includes generalist training in energy technologies, with ten programs in the state incorporating focus on renewable energy sectors (see Figures 14 and 15), and two focused on the oil and gas industries. These programs report that existing curriculum can readily be customized to a particular clean energy application as job demand shifts.

Figure 14.

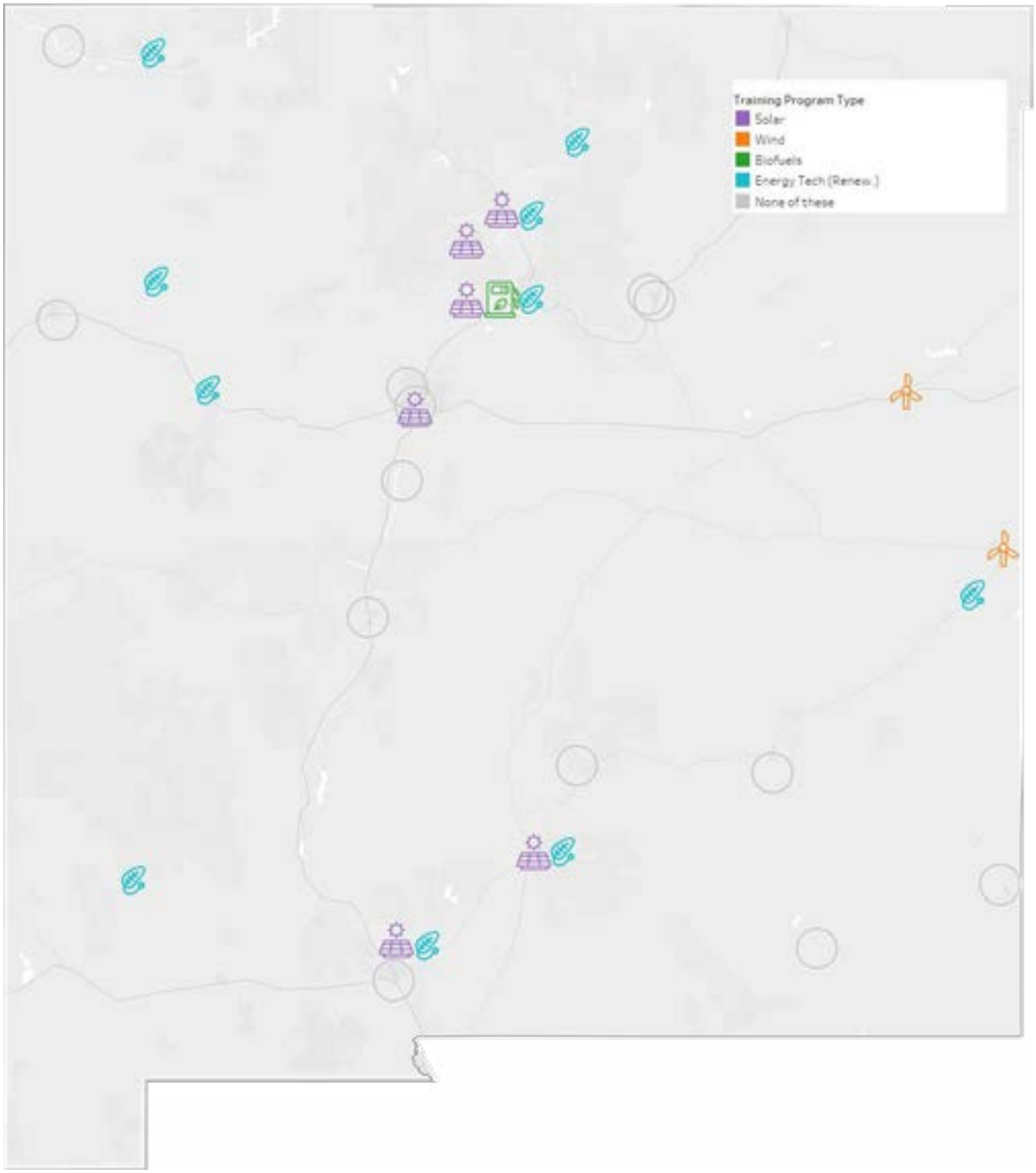

Training Program Type
Solar
Wind
Biofuels
Energy Tech (Renew.)
None of these

Figure 15.

GREEN ENERGY-FOCUSED PROGRAMS				
	Solar	Wind	Biofuels	Energy Technology
Northwest	†			Navajo Tech Univ San Juan College*
North Central	Northern NM* UNM-Los Alamos			Northern NM UNM-Taos
Central	Santa Fe CC* CNM*		Santa Fe CC*	Santa Fe CC
Central West				NMSU-Grants
East		Mesalands Clovis CC*		ENMU-Portales
South	Dona Ana CC NMSU-Alamogordo			Dona Ana CC NMSU-Alamogordo Western NM*

*Programs eligible for WIOA funding for green job training
†San Juan College has solar curriculum, but is not currently offering courses.

A majority of jobs involved in the transition to a clean economy draw from traditional occupations, with existing career pathway trainings also able to be retooled to include newer clean energy applications (such as green construction building trades). Programs in most of these technical and trade fields are widely available, offered in multiple regions of the state through New Mexico's extensive network of two-year colleges. These programs include: OSHA & Environmental Management; Manufacturing/ Automation Technologies; Industrial Engineering; Electro-Mechanical Technology; Industrial Maintenance/ Instrumentation & Controls; Building Construction; Electrical Trades; Electrical Lineworker; HVAC & Plumbing; Welding; Automotive Technology; and Commercial Driver's License (CDL).

For detailed listings of higher education training opportunities by program type and by location, see Appendix D.

In addition to certificate and degree programs, shorter-term training programs have also been deployed in New Mexico. For example, Santa Fe Community College has offered a periodic green jobs-focused workforce retraining program focused on unemployed, underemployed, or low-income workers. Eligible students can receive a travel stipend, and graduates receive assistance with placement into environmental jobs in the state. The five-week program includes 164 hours of instruction in hazardous and solid waste management, and is completely free, through funding from an EPA Brownfield Environmental Job Training Grant.

Challenges and Opportunities in Higher Education

The advent of the COVID-19 pandemic has caused particular disruptions to the hands-on training required for skilled trades, which does not lend itself easily to online instruction. However, even as the pandemic has been problematic for training, it has also pushed innovation and caused programs to examine which parts of their curriculum can be delivered online or through simulation technology, and which parts truly must be done on physical

equipment. These innovations may help spur progress in creating more online or partially online trainings, which may be more flexible for non-traditional students with circumstances that make it difficult to attend physical courses or travel to another part of the state. Some such partnerships already exist, such as a longstanding partnership between Mesalands and Clovis community colleges, which allows students at Clovis Community College to take most of their wind coursework at Clovis, but complete an applied portion on the Mesalands turbine. Such partnerships have generally been accomplished through individual connections and relationships between programs, not through a statewide policy that provides structures and incentives for collaboration.

In some parts of New Mexico, clean energy training suffers from insufficient or inconsistent job demand. Higher education institutions, particularly two-year programs, are responsive to local workforce needs and can be fairly nimble in standing up programs to train workers for local jobs — as many are doing now to meet employer demands in IT, health care, and education. However, they are reluctant to develop those pathways before the jobs arrive, and students are reluctant to enroll in programs to prepare them for jobs that have not yet materialized in their communities. Moreover, colleges cannot stand programs up if they don't know what skills and competencies will be needed. State leadership and industry development will have to occur hand-in-hand with training opportunities. One administrator said the following:

> **"Our enrollment in [our renewable energy program] is very low. One of the reasons it's low is because our students have a very difficult time finding a job, which I find unsettling because everyone's talking about clean energy and how we're going to go solar, et cetera."**

Like education and training opportunities, availability of clean energy jobs varies considerably by region of the state. Larger urban centers like Albuquerque and Santa Fe have burgeoning industries in residential solar panel installation, and related training programs that feed students into those industries. But those same opportunities are not currently available in many rural areas. Wind energy jobs are more plentiful in rural communities, and wind turbine technician is one of the nation's fastest-growing jobs. It should be noted, though, that many of the higher-paying entry-level jobs are with traveling crews that maintain wind farms around the country. For those who don't wish to travel, opportunities to stay in New Mexico and service a local wind farm are growing as more wind farms are built, especially in eastern New Mexico where wind farms near Grady, House, Santa Rosa and other rural communities offer jobs to workers with wind turbine credentials.

For students who graduate with four-year degrees in engineering or hard sciences, jobs may be available but most are not in clean energy. One faculty member noted, **"None of my students got employed in direct clean energy industry. They got employed in other industries, but not direct clean energy industry."** Those with bachelor's degrees may sometimes occupy an in-between space in the green economy, where jobs for technicians are largely filled by those with two-year degrees, and research and development jobs give preference to candidates with a master's

or PhD. This issue is exacerbated by a lack of alignment between the competences that universities provide, and the ones employers need. One interviewee put it this way: **"Part of it is the disconnect between what faculty have traditionally done and what industries need. I think we're training students for jobs that sometimes aren't there and then not training them in the things that industry needs, so they spend their first months on the job catching up."**

Where clean energy jobs do exist, they often pay less than the extractive industry jobs that transitioning workers may be leaving. Depending on the worker's circumstances or career stage, they may decide to leave their community or leave New Mexico in search of opportunities to make a wage similar to what they earned before. However, for some workers leaving the oil and gas industry, the prospect of steady, predictable employment at a lower hourly rate may be more attractive than a highly paid position with high market volatility. One administrator noted, **"If you can run a drilling rig, there's just mechanical knowledge that transfers right over to wind. These guys make really good money in the oil field. I believe [one student] told me he started at $35 an hour. He's going to start at $22 an hour in the wind, but he said, 'Steady money's good money. I'm just so tired of the ups and downs.' The layoffs in the oil field come without any notice whatsoever."**

In the absence of clear clean energy opportunities in many communities, the best strategy for some workers may be training in broad-based technology skills that can be applied to a variety of jobs, including those in clean energy. Because an increasing number of skilled trades rely on some knowledge of computers and technology, credentials in industrial, electrical and energy technology can position workers for the skilled trade jobs that are available in their community, and can lay the foundation for clean energy jobs that may come in the future. One administrator noted, **"Just about any employment arena of any size has techie systems now."**

Several structural barriers prevent the higher education system from reaching its full potential to provide clean energy training. One barrier is faculty recruitment, which is an acute difficulty for colleges seeking instructors across the skilled trades. When people are highly skilled in the kinds of jobs colleges hope to prepare their students for (high pay and high demand), those people are almost by definition able to command much higher salaries in their field than they can earn teaching at a college or university. Difficulty recruiting excellent instructors keeps some programs from expanding to meet demand, and finding faculty requires a special kind of fit – usually someone who wants to retire from the physical demands of a trade, or whose personal circumstances make it attractive to work an academic calendar.

Another challenge relates to workers' financial ability to take advantage of training and retraining opportunities. For those with families to support or other immediate financial needs, taking a semester or year off of work and paying tuition for a new credential may not be feasible. This reality was identified through our focus group discussions. Though financial aid is available and out-of-pocket costs vary, tuition at New Mexico community colleges averages about $2,000 per year, in addition to lost income from forgoing work (Community College Review 2020). Many students drop out to pursue immediate employment, even though a new degree or credential would yield long-term financial benefits. A systematic, statewide policy to support these workers through stipends or paid internships and apprenticeships that provide sustainable wages for the duration of training would make it more feasible for many,

especially non-traditional students looking to switch careers. While some apprenticeships and internships exist, they are largely specific to local areas and result from individual relationships between employers and certain colleges and universities.

Another barrier to clean jobs training is a lack of awareness and information. Those seeking employment may not have heard of clean energy jobs, or know how to begin obtaining one if they have. This can be changed by addressing how programs are advertised. In high schools, college advisors can expose students to green job pathways, highlighting that many jobs pay good salaries and do not require four-year degrees (Grobe et al., 2011). For adults seeking retraining or improved employment, the state could advertise green jobs through public service announcements or a social media campaign, and explain clearly how to enroll in green job programs.

One analysis of a comprehensive green jobs curriculum deployed across several states found the biggest barriers for students were in math skills and passing exams. Some colleges require admission exams, and many applicants scored very low on math sections and had to first take other math courses before beginning the program (Wagner, 2012). Limited English skills can also be a barrier for the many New Mexicans who speak other languages. Virtually all of our focus group participants cited this as a major barrier to accessing training. Adult bridge programs could be developed and expanded for adults who face significant barriers to post-secondary education and employment. For workers without a high school diploma, the state could consider strategies that connect workers with GED programs and then keep in touch with them, to help connect them with a green job training programs upon completion of their GEDs.

The characteristics of students attending clean energy training programs vary widely by program and region. Several programs reported that they serve a wide range of ages, from dual credit students in high school to older adults seeking retraining. Several programs also noted that clean energy trades, like more traditional trades' pathways, skew heavily toward male students, with a much smaller number of women represented in their programs. New Mexico could mirror some policies from the national Carl D. Perkins Act, which funds career and technical education and requires states to use some Perkins funds to address gender imbalances in fields where one gender comprises less than 25 percent of the workforce.

Up to this point, advances in clean energy workforce training have largely occurred in a piecemeal fashion in response to local industry needs and specialties, and have not followed a unified state vision for clean energy workforce development. To make significant progress, New Mexico will need a clear plan that aligns the state's many institutions of higher education with industry needs, and considers the unique circumstances of rural communities and communities that have lost jobs through closures and contractions of extractive industries. To be most successful, workforce pathways should focus on alignment between the K-12 education system, higher education, workforce development and economic development-created employment opportunities. Some administrators and faculty interviewed for this report described efforts to teach students as young as elementary school about the importance of clean energy and opportunities to work in the sector, and to engage K-12 teachers with fellowships and other exposure to the science behind renewable energy.

Models of such strategic alignment between education, workforce development and employers to expand pathways into jobs have succeeded in health and IT industry fields in New Mexico in recent years. In particular, SUN PATH (Skill Up Network Pathways Acceleration in Technology and Healthcare), a well-funded four-year U.S. Department of Labor TAACCCT (Trade Adjustment Assistance Community College Career Training) program to accelerate credentialing into allied health and health IT jobs, brought together twelve community colleges and branch campuses, the state's departments of Higher Education and Workforce Solutions, and more than 200 employer partners to improve healthcare education preparation. Led by Santa Fe Community College, this collaborative created industry-aligned curriculum, stacked and latticed credentials, regional simulation equipment labs, and statewide online course sharing. Students needing remedial or English as a second language supports were enrolled in credentialing tracks that used a program model (Integrated Basic Education and Skills Training, I-BEST) pairing basic skills and career-technical instructors in the classroom, so that students can learn basic and occupational skills simultaneously, accelerating the transition to jobs. Students also benefitted from job development career coaches – employed by DWS and embedded full-time on college campuses – who helped provide workforce-aligned supports, including access to WIOA- and other funded apprenticeships, paid internships, and employment opportunities. Expertise and infrastructure gained from this effort – and a concurrently-funded TAACCCT project at New Mexico Junior College focused on meeting increased demand for skilled workers in the oil and gas energy fields — can be leveraged to accelerate the building of coordinated and accelerated training pathways to clean energy jobs as well.

Below are some higher education recommendations based on our research:

- Support partnerships between colleges that allow students around the state to take advantage of specialized training programs, through a combination of online and in-person coursework.
- Create incentives to bring jobs and clean energy industries to communities in alignment with training programs, to ensure training leads to clear employment opportunities.
- Invest in paid apprenticeships, internships, and stipends for students during retraining to ensure they can afford to invest time in retraining rather than seek immediate employment.
- Systematically examine data on the demographics of students in clean energy training programs, and provide incentives for programs to recruit students whose race, socioeconomic status or gender is significantly underrepresented in their programs.
- Develop an aligned, comprehensive plan for clean energy workforce development that connects K-12 education, post-secondary education, and regional workforce needs.

Research and Development

In addition to training the future workforce, New Mexico's higher education institutions are instrumental in clean energy research and development, and have formed several related partnerships. A key coalition is the New Mexico Established Program to Stimulate Competitive Research (NM EPSCoR), which aims to develop the STEM-focused workforce of the future. NM EPSCor is a multi-year project funded by the National Science Foundation that includes New Mexico's research universities, national laboratories, PNM, and other organizations. Situated under EPSCoR is the New Mexico MICROGrid Center, an interdisciplinary project that is pursuing research and workforce training for next-generation electric power production and delivery. A third initiative is the Center for Emerging Energy Technologies (CEET), which is centered at UNM and is part of a statewide effort to modernize the electrical power grid to integrate the renewable energy sources of the future. Finally, the New Mexico Consortium (NMC) is a non-profit formed by New Mexico's three research universities to support and facilitate research among the universities, industry and Los Alamos National Laboratory (LANL). The consortium has a focus on clean energy, and specifically on the use of algae for the production of biofuels.

The New Mexico Energy Manufacturing Consortium along with the New Mexico Energy Institute are non-profits focused on expanding the state's economy by championing the production of manufactured energy products and the clean energy sector for a sustainable economic future. Plans are underway to house the New Mexico Energy Institute within the University of New Mexico's Center for High Technology Materials.

There are also relevant research and development efforts at specific universities. These include New Mexico Institute of Mining and Technology's Institute for Complex Additive Systems Analysis (ICASA), which focuses on complex systems including the power grid and the security of other critical infrastructure systems. Other departments such as Chemistry, Chemical Engineering, and Materials Engineering have research initiatives underway in areas such as solar energy and sustainability, biofuels, and photonics.

New Mexico State University (NMSU) plays a major role in biofuels research, collaborating with agricultural producers. Research centers on the use of agricultural byproducts generated from the cultivation of corn, wheat, rice, and other crops. These are cheap, plentiful and highly useful sources of cellulose fibers for bioprocessing into fuels. Other work at NMSU is conducted in the College of Engineering in broad areas such as solar, wind, and fuel cells.

Expansion of Training Opportunities: Recommendations from New Mexican Stakeholders

We draw on the survey and qualitative interviews to identify some suggestions for how to expand training opportunities in ways that will support the goals and preferences of the state's residents. The most basic suggestion is to provide more information across the state regarding training opportunities. Although the survey did not provide a direct measure of knowledge about the state's infrastructure, Figure 16 below illustrates the public's limited knowledge of the state's higher education system.

A widespread outreach effort with information about training opportunities for clean energy jobs would be received well by public, based on the results of our survey. As reflected in Figure 17 below, 42% of respondents would be interested in learning more about job training opportunities related to clean energy.

Figure 16.

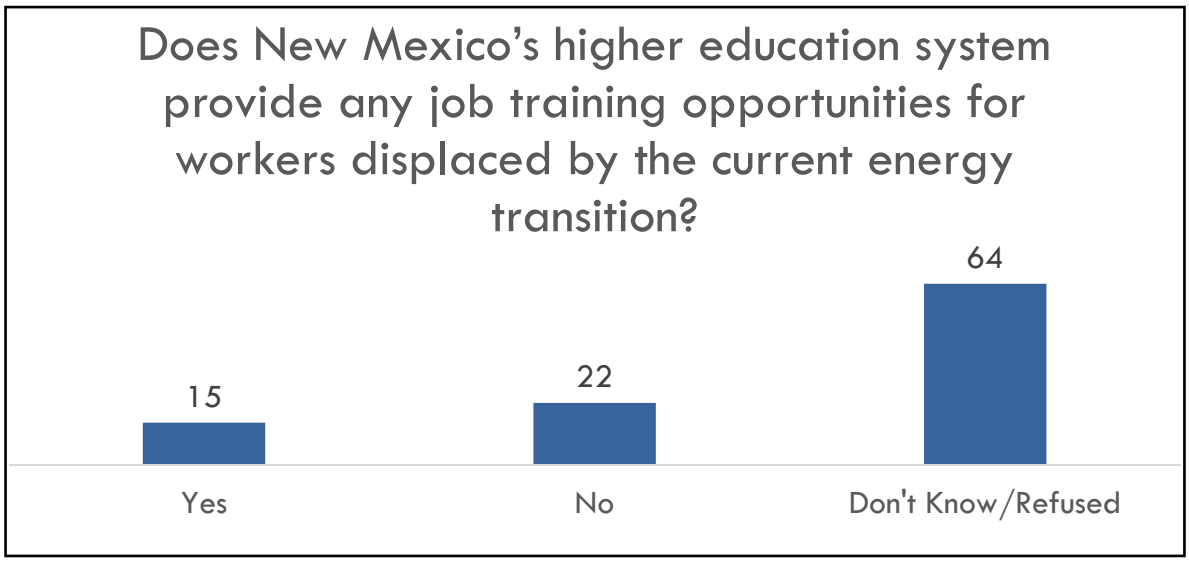
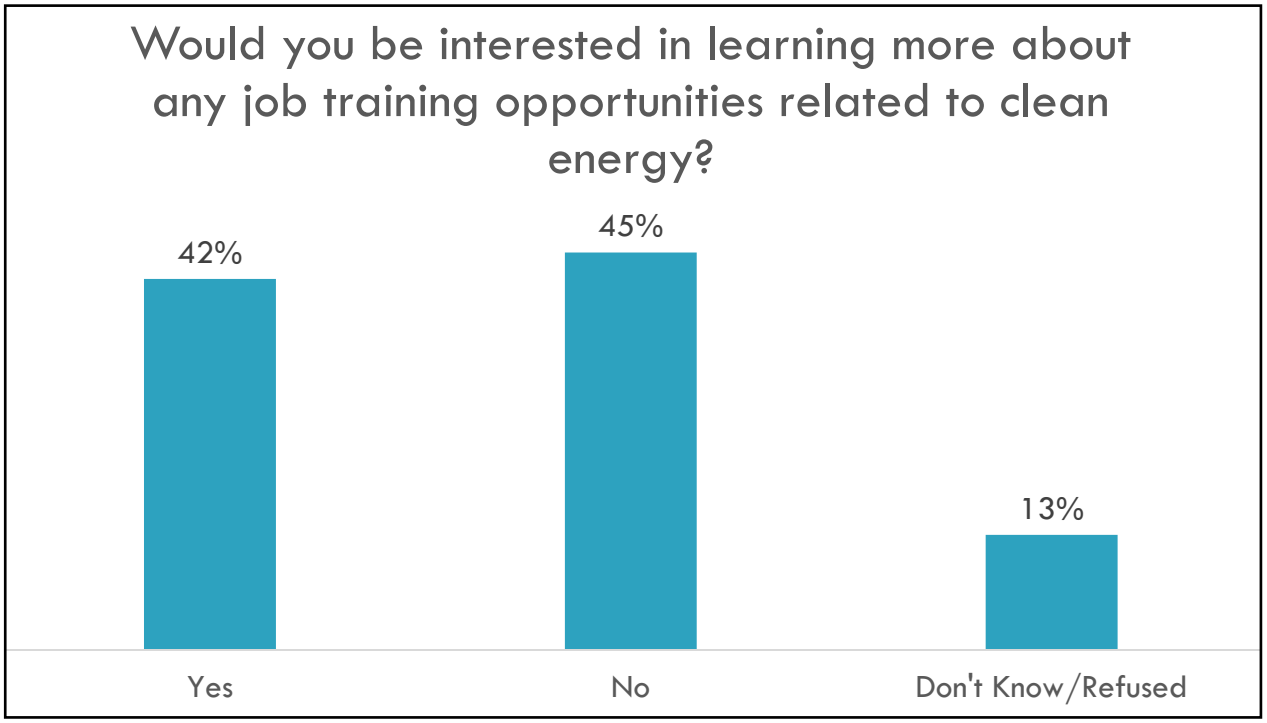


Figure 17.



The survey followed up with a question of those interested in learning more about job training opportunities, asking if there were any obstacles that might limit their ability to participate in those training opportunities. As reflected in Figure 18 below, there are a wide range of potential strategies to ensure that the state's existing training infrastructure is made more accessible to those interested in taking advantage of those opportunities.

This includes ensuring training is available in languages other than English, and providing transportation to in-person training (a concern for 32% of respondents), or making training opportunities accessible closer to where residents in rural areas of the state live (43%). Given that many New Mexicans will be looking to transition from existing jobs to those in clean energy, it is not surprising that the greatest challenge identified by respondents is that training will take place during the day while they are working. Access to child care is also a significant concern (26%) for New Mexicans, with a smaller percentage (17%) concerned about having to pass a background check or drug test.

The survey shows strong support for using procurement policy to create jobs, with 42% of respondents stating that "changing the way state and local government awards and contracts to advantage businesses that hire locals for clean energy jobs" is very important. Providing training for local New Mexicans in rural areas also was noted as very important by the same percentage, with only a slightly smaller percentage believing state-funded workforce development projects should promote jobs that do not require advanced education. Finally, 37% of respondents believe training should be provided in languages other than English.

In depth focus groups with over 68 New Mexicans uncovered several training recommendations and strategies to consider. We have provided those recommendations below and paired them with relevant quotes from focus groups and interviews.

Figure 18.

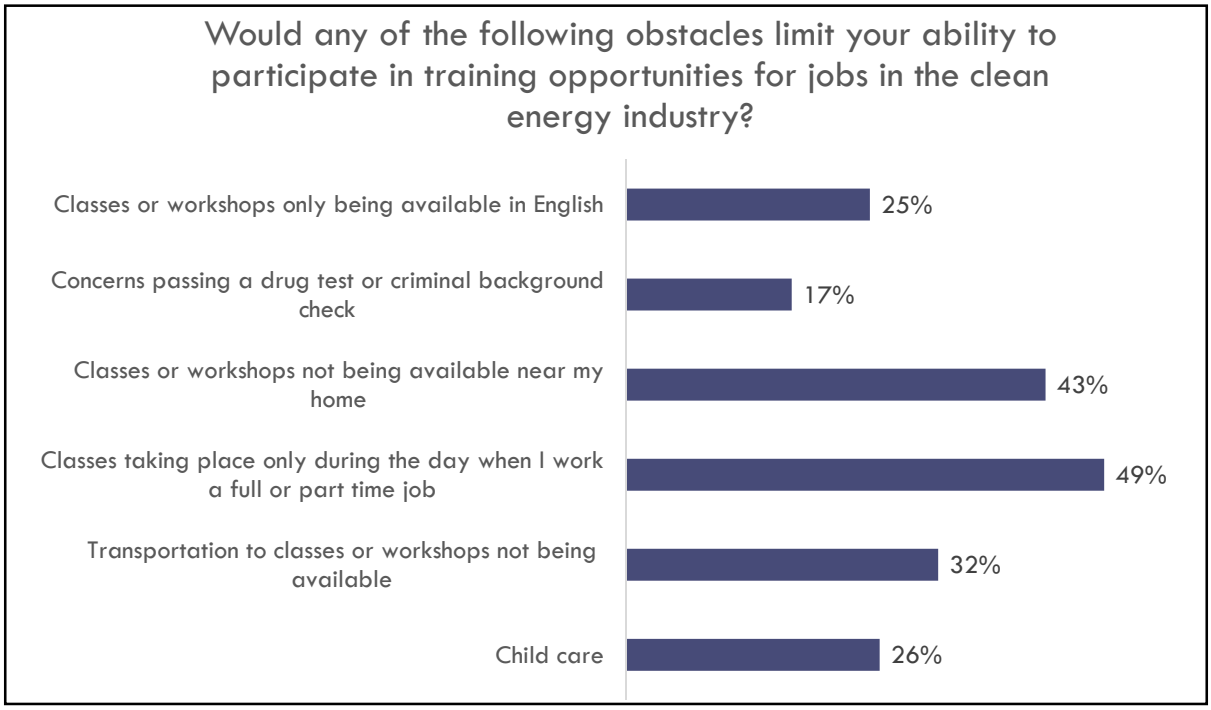
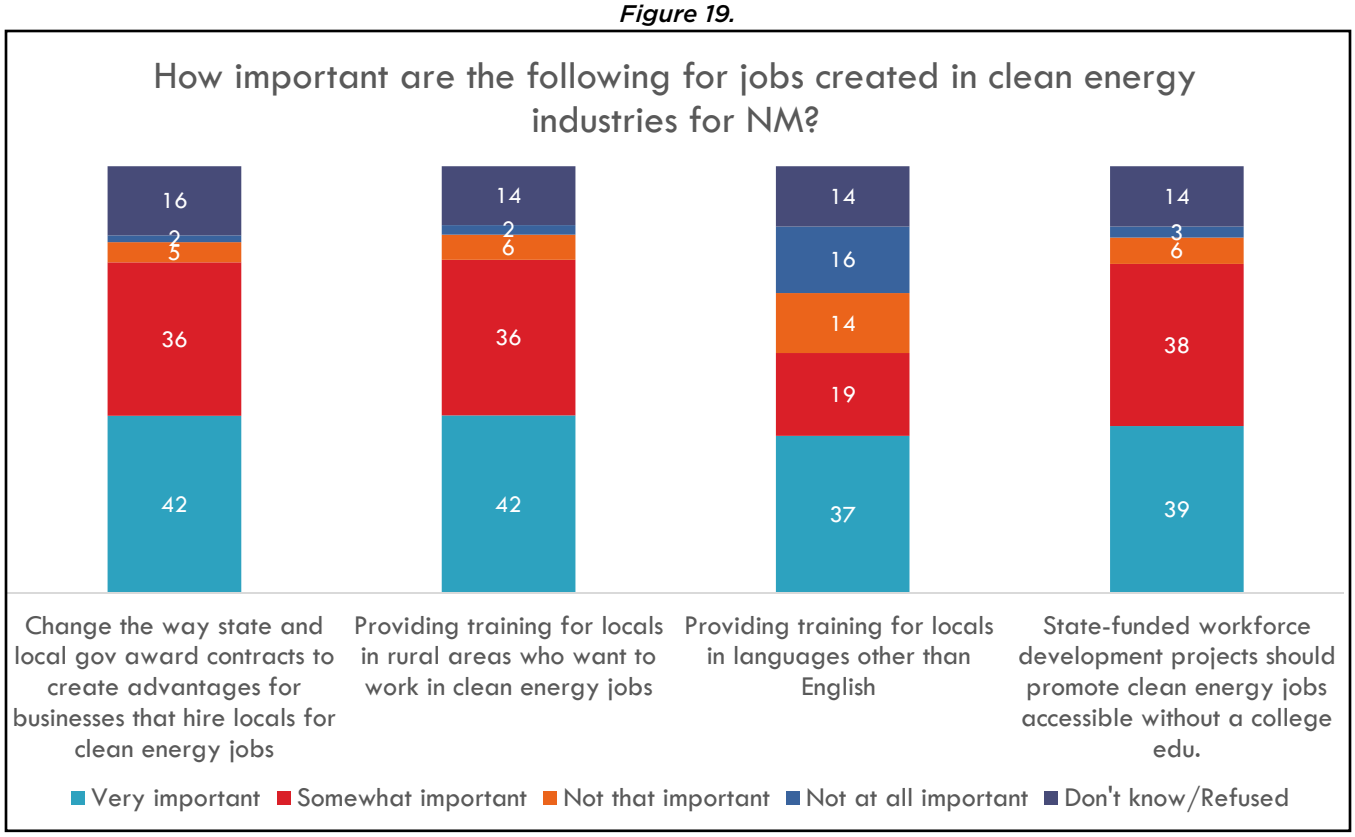


Figure 19.



Training Recommendation 1: Prioritize training among diverse populations

Many participants contend that training implementation offers a window of opportunity to ensure training reaches diverse groups throughout the state. Rather than implementing outdated efforts that target the average university student, proponents suggest that supporting diversity in training is key to a building a successful and stronger economy. According to a rural community leader:

> **"Really, we need to think about how to promote job training in rural areas not just in New Mexico, but also across the country so we can stimulate and keep those economies alive. We would also like to see an absolute preference for people who are underrepresented in these industries: women, people with records who are having trouble finding jobs, and immigrants."** *-Community Leader, Santa Fe*

Immigrant participants almost unanimously pointed to the importance of increasing education for immigrants moving forward. Participants supported a variety of training and education mechanisms including implementing curricula in high schools, in vocational schools and colleges and through apprenticeship programs. In sum, immigrants universally support their inclusion in ETA training programs.

> **"These programs should be accessible for undocumented students. I almost got**

> **my associate degree, but there was no money to help me and absolutely no way for me to finish. If the vo-tech programs are accessible, women and men would take advantage of them, even with their undocumented status. Lack of funding keeps these students out of school."** *-Community Member, Southeastern NM*

Participants also noted that the ETA should target training and outreach efforts to include women. One immigrant participant said, **"If we can put in long hours in the fields we can certainly do this work."** Others said the ETA offered a chance to pivot away from gendered labor stereotypes, offering training that is more inclusive of mothers and young Latinas. According to a community member from Lea County:

> **"I would like opportunities for women. I am doubly in favor of that. Women want to have work in renewable energy and I hope that it is approved. Maybe it will not be in time for me, but this could help my granddaughters, so I would like to be involved in this renewable energy planning effort."** *-Community member, Lea County*

Training Recommendation 2: Center training opportunities in rural communities with culturally appropriate practices

Rural stakeholders feel adamant that training efforts be anchored in rural areas to ensure that underemployed groups such as Hispanic/Latinos can successfully enter the clean energy workforce. According to one rural organizational leader:

> **"You know, we certainly would love to see training programs that are outside of the I-25 corridor. Localized programs in places like Deming, Lordsburg, Silver City, our people have easy access to training programs that are short term, six months, nine months, two years, not necessarily requiring bachelor degree level education."** *-Community Leader, Deming*

Hispanic participants said that English speaking and white students and trainees have disproportionate access to education in the current and historical context. Rural residents in particular, claim that training content typically lacks basic cultural competencies. As a result, many rural residents avoid formal or other technical training. According to a northern resident:

> **"I feel like there is a lack of cultural competency in how we train. I think it is also rooted in systems of white supremacy and western dominance... A lot of our educational systems are set up like, you have to apply one way and you have to participate one way. ...I feel like a change that needs to be made on what is seen as the proper protocol for applying to these programs, the way people apply, the way people show up, that I feel like is forcing communities to conform to a standard that takes their cultural identity out of the picture. I feel like that is a challenge with training programs that have been set up in very traditional ways."** *-Community Leader, Rio Arriba*

Similarly, many indigenous participants described the need to recognize their stewardship of the land as integral to implementing training and economic development within the ETA. According to one Dine participant:

> **"I think what many people seem to forget is that indigenous people supply a lot of the energy materials here in the southwest. Navajo and Apache lands**

> **have supplied coal and now natural gas. When we are talking about renewable energy, specifically photovoltaics, those materials come from Bolivia, a nation that was majority indigenous people. There needs to be a conversation about indigenous peoples and original caretakers of the land."** *-Community member, Dine*

For these reasons, community stakeholders suggest that training programs should complement labor practices that require hiring locally, to incentivize employers to stay and plant roots in rural areas. Respondents commonly said training should include cultural competencies that equip communities with the technical skills that they need to get employment, but also to **"meet the needs of the community where they are." -***Community member, Grant County*

Training Recommendation 3: Include local community members in decision-making processes and leadership roles in ETA training development and implementation

Community members suggested that developing a new training infrastructure requires that they are included in local decision-making efforts to implement the ETA. This includes involving youth, local educators, grassroots communities, miners, oil and gas workers and other stakeholders in implementation efforts. Participation could range from participating in local workforce development boards, to curriculum development, and other outreach efforts. According to one prominent immigrant community member, a lack of representation in the oil and gas economy has historically increased inequalities among Latinos. Incorporating local stakeholders in the development process and decision-making for training programs will increase the accessibility and ultimate success of ETA training efforts, according to participants.

> **"I think failing to bring in original caretakers into the decision-making was one of the controversial aspects of the Energy Transition Act. I was not super involved, but I was hearing of a couple of organizations that were against it and a bunch that were for it. One of the arguments against it was that it didn't address taking into account the indigenous population in terms of decision making. We need to include this going forward."** *-Community Stakeholder, Dine*

At the programmatic level, Hispanic stakeholders suggest that training programs will be more successful if they employ local trainers and educators from rural areas. For these participants, minority representation would increase language accessibility and offer a positive youth development framework for long-term job retention and professional success.

> **"A couple of years ago at our school we had career day and what I found that was kind of insulting in many ways was that they brought in lawyers and small business owners and engineers, but the people themselves didn't reflect our students. This is not to say that a barber is less than a lawyer, but the only Latino that they brought in was someone that cut hair. Why not bring in a doctor who is African American or Mexican or Latino? This is what the future of NM looks like. The students need to see individuals**

from their backgrounds... Education is that space where we introduce the world to our students. We really need to train and educate them with people that look like them: people that are bilingual trilingual, all of those things. ...This can move them forward and inspire them to support themselves and their families." *-Community member, Doña Ana*

Training Recommendation 4: Offer Flexible Training Options

Community members revealed that they currently have little access to vocational or skill-based trainings in their counties. When training is available, it is expensive and inaccessible to many working communities. In order for communities to participate in ETA training, respondents recommend that the state offer a flexible menu of training options. Rural participants noted that given a lack of broadband internet across major portions of the state, offering exclusively online training potentially excludes those who may benefit most from ETA training.

Participants commonly reinforced that **"there are multiple roads that lead to different job opportunities, not just one road that looks like the same old, sit in a classroom for 80 hours and you get your certification."** Community members recommend building a training infrastructure that strategically layers options such as paid apprenticeships, ongoing vocational training and traditional college education within local regions. According to a community member from southeastern New Mexico, the key to successful implementation involves weaving multiple training options together while removing barriers that traditionally exclude rural portions of the labor force:

"I think that we need to make the apprenticeship programs or possible vo-tec kind of education that could be very easily implemented through schools like NM University. However, we want to make sure that the [admission] requirements vary so we are keeping the diversity and availability for all. Taking things out like ACT scores or SAT scores, things that would exclude certain groups need to be removed from the requirements for these certification programs." *-Community member, southeastern NM*

With respect to braiding training options, participants described multiple scenarios such as schools like, **"Western having certification programs and NMSU carrying the larger engineering component programs of this, so that we are splitting the education through both institutions."** Participants also suggested early training for high school students and making clean energy one of the available career choices for students earning dual credits, **"so that by the time they are graduation [with] high school they are also graduating the vo-tech certification for the renewable resource jobs"** *-Community member Dona Ana County.*

Training Recommendation 5: Offer training and education to clean energy workers across ages

Focus group participants recommend that training should be designed for New Mexicans throughout their life span, beginning with youth and ending with seasoned workers and tradesman.

Training Recommendation 6: Incentivize training with scholarships, stipends and childcare supports

Even low-cost programs are not attainable for many communities that face financial barriers. In addition to paid, on-the-job training and

apprenticeships, community participants recommend compensation be provided for those training in ETA skill development. Women advocated for stipends to cover the cost of childcare, mid-career workers suggested implementing paid apprenticeship models, and community members across the board would like to see an expansion of scholarships to pay for trade school training and for scholarships that target monolingual Spanish speakers. Statement like this were common among Hispanic participants:

> **"I think that more technical training for young men and women would really help improve our working conditions. One thing is to offer more scholarships so young people study those majors here, because there are not opportunities and they don't have the finances for it. If the scholarships are offered up, they will stay here because they can take better jobs."** *-Community member, Lea County*

Training Recommendation 7: Implement flexible language delivery strategies

Participants suggested that decisions about whether to offer training bilingually or in English or Spanish should be flexibly implemented to support local language needs and conditions. For example, residents in Lea County argue that since the majority of workers currently working in oil and gas speak Spanish, it is sometimes more pragmatic to offer training and continuing education in Spanish. According to participants:

> **"A lot of the people in the oil field, basically speak little or no English, so people will have to be trained for these new jobs. Since people will have to learn new skills, the classes should be in Spanish. If you try to teach in English there are going to be problems. I can speak a little English and read a little, but where I work there are a lot of people that can't speak a lick of English and when they are sent out they can't express themselves because they can't speak English. The classes should be delivered in Spanish as much as possible to train the youth and older adults."** *-Community member, Lea County*

> **"I've worked for an oil and gas company for 3 years…at three different sites. 85-90% of the people are Hispanics, and for that reason, I have not been able to learn much English. We hire them, we provide training for them, and do all of the paperwork. So, I have been able to work there because you hardly ever need to speak English. I would love to learn English. We should make an effort to learn English, but we need training in Spanish to keep our jobs."** *-Community member, Lea County*

In contrast, younger participants from southeastern New Mexico said opportunities to learn English should be incorporated as early as possible so younger Latinos can successfully compete in college and other technical training programs. According to one participant in her mid-twenties, **"I went to NMSU and had to drop out. I wasn't ready after one year of classes to learn to write English."** In sum, focus group responses underscore the need for training programs to assess the local landscape before implementing linguistic teaching strategies. By grounding training development in local communities, programs are more likely to have more successful uptake and implementation outcomes compared to a top-down model.

Training Recommendation 8: Prioritize funding for training programs that rebuild the workforce in counties dependent on oil, gas and other extractive industries

Participants whose jobs depend on oil and gas agreed on the necessity to prioritize ETA training efforts in areas impacted most by decreasing oil prices and the changing economy. According to workers in the oil and gas industry, the current context of COVID -19 and tumbling oil prices has forced families to consider new employment options:

> **"I work directly in the oil industry and it has really hurt me because in my job many people have been let go. And for those of us that are still working, they lowered my pay, hours and benefits. I would be very interested in energy reform and new training here because I work for an oil and gas construction company. As a woman, I don't want to be moving from one state to another because as a woman it is hard to be doing that. It would be great to find, in this county, training and an employment source that helps me stay here."** *-Community Member, Lea County*

> **"We have been living in Hobbs for 10 years. We have [a] family business, a truck company, so we have been through the ups and downs. But this time, it wasn't just the price that went down for a little while. My whole family is in the same town and we don't just depend on petroleum, we do highway repair. When oil prices drop, the whole economy is affected so our family has had to break up. Some of us are living in Texas and now we are planning to leave as well. We are hoping that something good will happen and we are excited to be hearing about clear air training because that would help us."**

As evidenced by these statements, families living in counties heavily reliant on oil and gas are particularly vulnerable. They perceive that the ETA offers a path to retrain the workforce so workers have options when oil, gas, and other extractive industries suffer. Importantly, participants stated that ETA training and job development should complement other traditional energy labor markets.

Training Recommendation 9: Pair training opportunities with ongoing community capacity-building efforts that support clean energy jobs

Stakeholder groups unanimously agreed that implementing clean energy training could yield positive benefits for many New Mexicans. They also agreed that training efforts will only be successful if state and local leaders invest in strategies that address underlying inequities, and support homegrown business development, more equitable distribution of workforce development resources, increased community power in ETA policy implementation, and increased educational attainment outcomes for rural residents and people of color.

- Related to **job development**, employers would like to see the state offer incentives for local employers to develop clean energy jobs in coordination with training programs. Additionally, they suggest that local businesses and contractors are given bid preference in contract awards. The logic is that if local employers

obtain work, they are more likely to hire locally.

- Participants recognize that state and local leaders, educators, employers and community members must actively work together to **create a culture shift** away from mining and oil production as "a way of life" toward messages and conversations about how clean energy and traditional extraction can co-exist in rural New Mexico
- Participants who live in communities dominated by oil and gas suggest it is imperative to promote more **political and economic transparency** in local decision-making and service provision to ensure **greater accountability** among elected officials and local elites and **greater political representation** for marginalized groups.

Conclusion

This report has aimed to broadly analyze the state of the clean energy workforce in New Mexico. Researchers have gathered attitudes, concerns, and goals from the community about the transition to clean energy, and have identified potential steps to ensure that infrastructure will be in place to ensure New Mexicans can take advantage of new job opportunities as the ETA is implemented. Our research identified that New Mexico's potential for clean or green energy production is among the nation's best, due largely to our natural solar and wind resources. We also found that the transition to clean energy will create jobs in construction, installation, wind turbine maintenance and other professions. These jobs pay comparatively high wages and are projected to be accessible to a wide spectrum of New Mexico residents, including those without advanced educations and who live in the state's rural areas. Our research suggests many reasons to be optimistic about the future.

But as green job opportunities emerge in New Mexico, it is far from given that new jobs will fully replace those lost in the transition away from fossil fuels, or be filled equitably by New Mexicans from diverse communities and backgrounds. Our analysis found that the clean energy industry lacks diversity in regard to both gender and race/ethnicity, and is unlikely to replace all of the jobs and revenue associated with fossil fuel production, which has been the foundation of New Mexico's economy for multiple generations.

The state's existing infrastructure for clean energy workforce training and credentialing is well-developed. In fact, the two-year institutions across the state are truly outstanding, with excellent programs in wind turbine maintenance, solar installation, biofuels, and other emerging areas. This is a major resource already in place and ready to be expanded to meet increased demand from employers, which is projected to occur with the implementation of the ETA. However, there is need for a unified state strategy to support aligned training that meets the needs of potential employers. This should include a more focused outreach effort to inform potential workers of these new industries, including information about what new jobs

are projected to grow and what skills will be required to access those jobs.

We found evidence that prospective workers face a number of barriers, including physical distance from training opportunities and difficulty participating in training while working a full-time job. Paid apprenticeships, flexible schedules, online coursework and clear advisement are some of the strategies that can help them overcome these challenges. Working in partnership with industry, New Mexico can find paths to fund and implement these interventions.

Finally, while not a major focus of our research, we did hear a smaller theme that warrants attention, which is the need to identify other industries that could be grown and supported to help fill gaps left from the transition away from oil and gas. This could include enhancing adventure tourism and agricultural operations in areas that have been negatively impacted by fossil fuel extraction. As fossil fuel extraction is phased out and land is revitalized, these areas will be more attractive for investment in tourism and agriculture.

We close our report with the quotes below, which reflect the community voices we have tried to elevate through this work:

> **"We should not anticipate clean energy filling all of the gaps created by fossil fuel-based energy, and [must] think creatively about how to bring in other industries that could partner with clean energy. This could include agricultural production in areas like Grants that could benefit from the positive impact of removing fossil fuel-based energy in the region, which makes food production more attractive, while simultaneously addressing food desert issues in the area."**

> **"There is a lot of interest right now in adventure tourism across the state, using our natural beauty here in New Mexico as a bigger draw for industries like rafting, hunting, hiking etc. A lot of our state is not really useful for this because there are mining operations that are terrible for the land. But when this goes away we could fill any job gaps from those closures with increased investment in these other industries. To me, it goes hand in hand with clean energy."**

Our Research Team

Lia Abeita Sanchez is a Marketing Assistant with the UNM Center for Social Policy and UNM Native American Budget & Policy Institute. Lia led the development of the graphic design for this project. She is from Isleta Pueblo, New Mexico.

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Hailey Heinz is a policy researcher at the Cradle to Career Policy Institute, and PhD student in the Department of Political Science. She works on bringing data to life through qualitative interviews, ensuring community voices are heard through research, and making policy and data meaningful for readers from all backgrounds.

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James Povijua is the Policy Director for the Center for Civic Policy and has 12 years of experience in policy work and community and labor union organizing.

Gabriel R. Sanchez (PhD) is the Executive Director of the UNM Center for Social Policy, a Professor of Political Science, and founding member of the Native American Budget and Policy Institute at the University of New Mexico. Professor Sanchez is also a Principal at Latino Decisions.

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Oriana Sandoval is the Executive Director of the Center for Civic Policy and has over a decade of experience working on economic security, environmental justice, and civil rights policy and civic engagement campaigns.

Appendix A

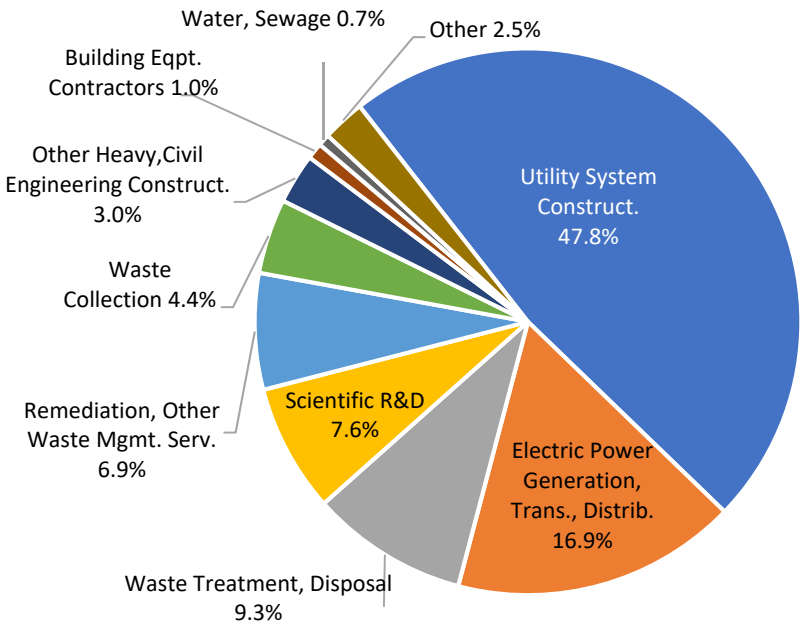
Clean Energy Jobs in New Mexico

Provided by the Department of Workforce Solutions

Clean Energy Jobs in New Mexico Industries and Occupations[1]

There were an estimated 11,490 jobs in the clean energy industry in New Mexico in 2018, or about 1.4 percent of total employment.[2] These jobs were found in 20 industries across 88 occupations (Appendix 1). Nearly one-half of all clean energy jobs worked in the utility system construction industry (Exhibit 1). About 16.9 percent of all clean energy occupations worked in the electric power generation, transmission, and distribution industry.

1 Share of Clean Energy Jobs by Industry, New Mexico, 2018



Source: Quarterly Census of Employment and Wages (QCEW)

The industry with the highest share of clean energy jobs was waste treatment and disposal, where 86.3 percent of all jobs in that industry worked in clean energy (Exhibit 2). The shares of clean energy jobs in the utility system construction industry and other heavy and civil engineering construction industry were 84.1 percent and 82.9 percent, respectively. The electric power generation, transmission, and distribution industry had about 1,940 clean energy jobs in 2018, which made up 68.1 percent of all jobs in that industry.

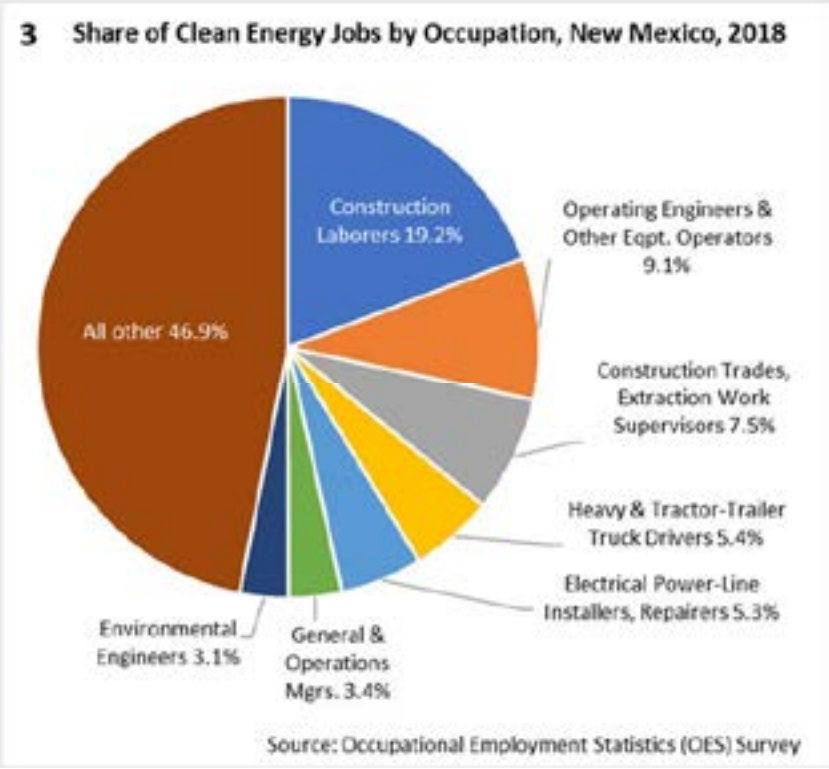
[1] Throughout this report the term *green* and *clean energy* are used interchangeably. Employment figures are rounded. Some data are suppressed and cannot be released. Data are suppressed to protect the identity, or identifiable information, of employers.

[2] A description of the methodology can be found on page 11.

2. Clean Energy Jobs by Industry, 2018					
NAICS	Industry Type	Estimated Number of Clean Energy Jobs	Share of All Clean Energy Jobs	Total Employment in that Industry	Share of Clean Energy Jobs in that Industry
	TOTAL, All Industries	11,490	-	811,680	1.4%
2371	Utility System Construction	5,490	47.8%	6,530	84.1%
2211	Electric Power Generation, Transmission, Distrib.	1,940	16.9%	2,850	68.1%
5622	Waste Treatment & Disposal	1,070	9.3%	1,240	86.3%
5417	Scientific R & D	870	7.6%	24,560	3.5%
5629	Remediation & Other Waste Mgmt. Serv.	790	6.9%	*	*
5621	Waste Collection	510	4.4%	*	*
2379	Other Heavy & Civil Engineering Construction	340	3.0%	410	82.9%
2382	Building Eqpt. Contractors	110	1.0%	12,070	0.9%
3353	Electrical Equipment Manufacturing	*	*	150	*
2213	Water, Sewage & Other Systems	80	0.7%	650	12.3%
5413	Architectural, Engineering & Related Services	*	*	8,470	*
5416	Management, Scientific, Tech. Consulting Serv.	*	*	3,950	*
	All other	80	0.7%	20,950	0.4%

*Data are suppressed. For a list of all industries, please see Appendix 1. Source: Quarterly Census of Employment and Wages (QCEW)

Exhibit 3 shows the seven occupations with the most clean energy jobs. Nearly one in five of these jobs consisted of construction laborers. Operating engineers and other equipment operators made up 9.1 percent of all clean energy jobs, or about 1,050 jobs. Supervisors of construction trades and extraction work made up 7.5 percent of all clean energy jobs, the third highest share of any occupation.



About 95.0 percent of all power plant operators worked in the clean energy industry (Exhibit 4). Electrical power-line installers and repairers and environmental engineers each had over 85 percent of those occupations working in clean energy industries. About 78.9 percent of all power distributors and dispatchers and 40.0 percent of all refuse and recyclable material collectors worked in the clean energy industry. No other detailed occupation listed in Exhibit 4 had over one-quarter of the occupation working in clean energy.

4. Clean Energy Jobs by Occupation

SOC	Occupation Title	Estimated Number of Clean Energy Jobs	Share of All Clean Energy Jobs	Total Employment in that Occupation	Share of Clean Energy Jobs in that Occupation
SOC	TOTAL, All Occupations	11,490	-	811,680	1.4%
47-2061	Construction Laborers	2,210	19.2%	9,370	23.6%
47-2073	Operating Engineers & Other Construction Eqpt. Operators	1,050	9.1%	4,210	24.9%
47-1011	Construction Trades & Extraction Work Supervisors	860	7.5%	6,600	13.0%
17-2161	Nuclear Engineers	*	*	760	*
53-3032	Heavy and Tractor-Trailer Truck Drivers	620	5.4%	10,970	5.7%
49-9051	Electrical Power-Line Installers and Repairers	610	5.3%	710	85.9%
47-4041	Hazardous Materials Removal Workers	*	*	620	*
11-1021	General and Operations Managers	390	3.4%	13,880	2.8%
17-2081	Environmental Engineers	360	3.1%	420	85.7%
51-4121	Welders, Cutters, Solderers, and Brazers	*	*	1,800	*
11-9021	Construction Managers	330	2.9%	1,540	21.4%
49-1011	Mechanics, Installers & Repairers Supervisors	220	1.9%	2,790	7.9%
53-7081	Refuse and Recyclable Material Collectors	200	1.7%	500	40.0%
51-8013	Power Plant Operators	190	1.7%	200	95.0%
47-2111	Electricians	160	1.4%	4,280	3.7%
51-8012	Power Distributors and Dispatchers	150	1.3%	190	78.9%
	All other	2,620	22.8%	117,685	2.2%

* Data are suppressed. For a list of all occupations, please see Appendix 1. Source: Occupational Employment Statistics (OES).

About 81.9 percent of all clean energy construction laborers worked in the utility system construction industry (Exhibit 5) yet made up about one-third of all clean energy jobs in this industry (Exhibit 6). About one in six clean energy jobs in the utility system construction industry were made up of operating engineers and other construction equipment operators. Another one in five clean energy jobs in this industry were made up of supervisors and managers that oversee the work of others.

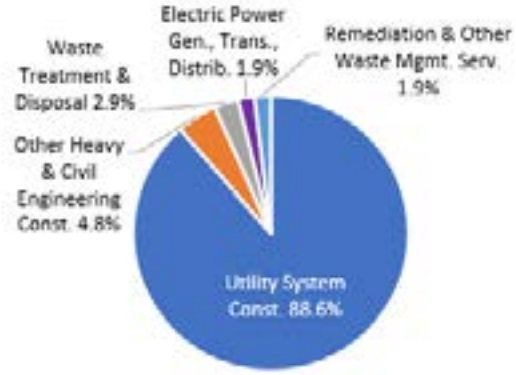
Approximately 77.0 percent of all clean energy electrical power-line installers and repairers worked in the electric power generation, transmission, and distribution industry, yet made up 23.7 percent of clean energy jobs in this industry. The occupation with the second-highest number working in this industry was power plant operators, (190 jobs, or 9.8 percent), followed by power distributors and dispatchers (150 jobs, or 7.7 percent).

All of the clean energy occupations working in the building equipment contractors industry were made up of solar photovoltaic installers. Solar photovoltaic installers also worked in two closely related industries–electric power generation, transmission, and distribution; and employment services–but that information is suppressed. For a full list of clean energy employment by occupation and industry, please see Appendix 1.

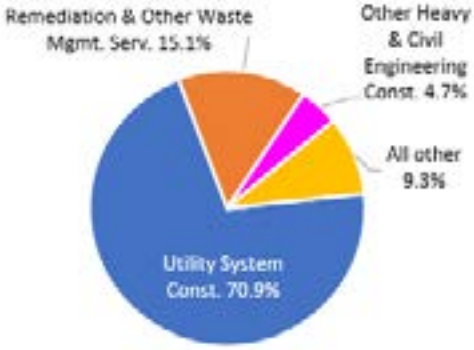
5. Employment Share for Select Occupations, by Industry, New Mexico 2018

Construction Laborers

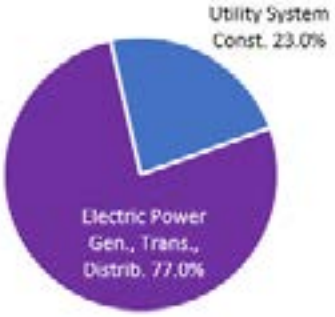
Operating Engineers & Other Const. Eqpt. Operators



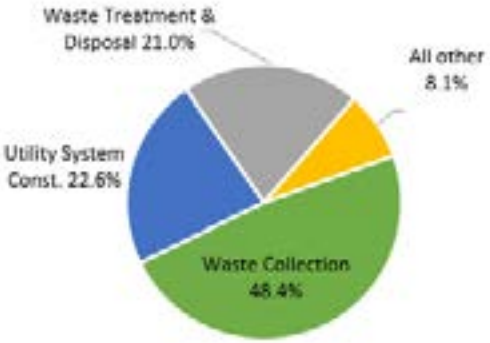
Construction Trades & Extraction Work Supervisors



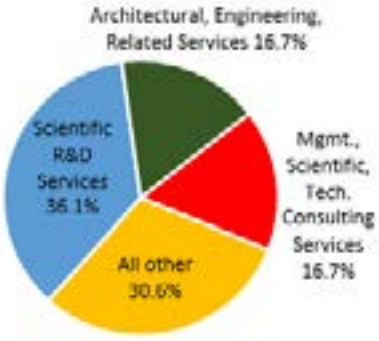
Electrical Power-Line Installers & Repairers



Heavy & Tractor-Trailer Truck Drivers



Environmental Engineers

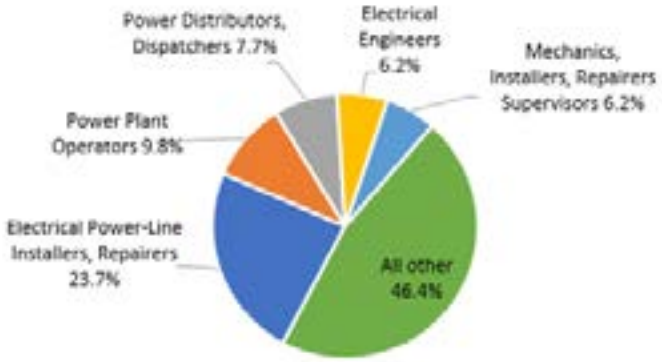


Source: Occupational Employment Statistics (OES)

6. Employment Share for Select Industries, by Occupation, New Mexico 2018

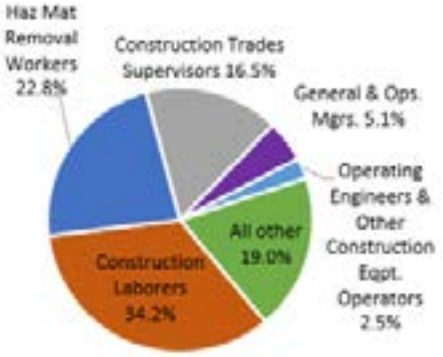
Utility System Construction

Electric Power Generation, Transmission, Distribution

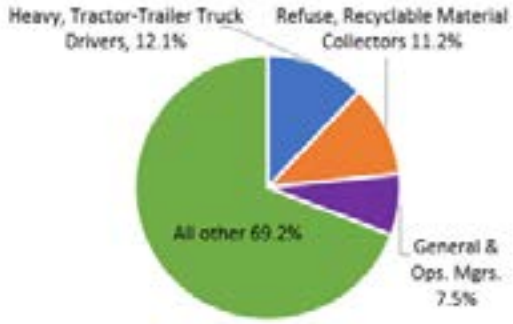


Waste Collection

Remediation & Other Waste Mgmt Services



Waste Treatment and Disposal



Building Equipment Contractors

Source: Occupational Employment Statistics (OES)

Measuring the Clean Energy Impact

The U.S. Department of Labor's Occupational Information Network (O*NET) categorizes green occupations into three groups: [3]

1) **Changing skill occupations**. The skill requirements, tasks, and specialty areas are changing in response to green trends.
2) **Higher demand occupations**: Job duties are not changing but the occupation itself is expected to grow because of the increased demand for green goods and services.
3) **New green occupations**: These occupations are brand new and emerging due to green trends (US DLET 2020).

Of the estimated 11,490 clean energy jobs in New Mexico, about 50.9 percent are in occupations whose skill requirements, tasks, and specialty areas are expected to change in response to green trends (Exhibit 7). About one in three jobs will experience higher demand, and slightly over one in ten jobs are in completely new and emerging occupations. There are about 600 jobs in 11 occupational titles that were expected to have more than one type of clean energy impact. For a list of all occupations by type of impact, please see Appendix 2.

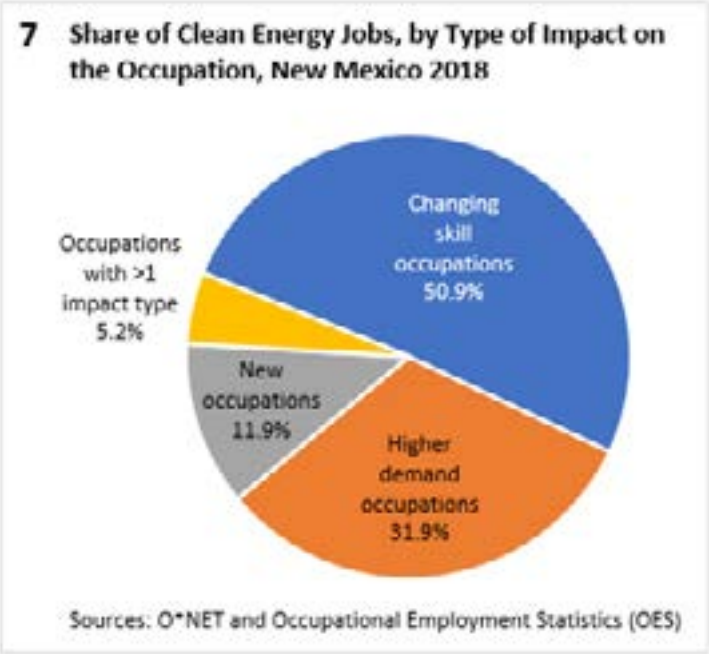


Exhibit 8 shows the employment for select clean energy occupations by type of impact of clean energy/green trends. Construction laborers, the occupation with the greatest number of jobs working in clean energy, are expected to have tasks and job duties that will change in response to clean energy trends. Operating engineers and other construction equipment operators, the occupation with the second greatest number of jobs working in clean energy, are expected to have increased demand.

8. Clean Energy Employment by Occupation and Type of Clean Energy Impact						
SOC	Occupation Title	Changing Skill	Higher Demand	New	More Than One Impact Type	Total Clean Energy Employment
47-2061	Construction Laborers	2,210	-	-	-	2,210
47-2073	Operating Engineers & Other Construction Eqpt. Operators	-	1,050	-	-	1,050
47-1011	Construction Trades & Extraction Work Supervisors	-	-	860	-	860
53-3032	Heavy and Tractor-Trailer Truck Drivers	620	-	-	-	620
49-9051	Electrical Power-Line Installers and Repairers	-	610	-	-	610
11-1021	General and Operations Managers	390	-	-	-	390
17-2081	Environmental Engineers	-	-	-	360	360
11-9021	Construction Managers	330	-	-	-	330
49-1011	Mechanics, Installers & Repairers Supervisors	-	220	-	-	220
53-7081	Refuse and Recyclable Material Collectors	200	-	-	-	200
51-8013	Power Plant Operators	190	-	-	-	190
47-2111	Electricians	-	160	-	-	160
51-8012	Power Distributors and Dispatchers	-	150	-	-	150
All other		1,910	1,480	510	240	4,140
Total		5,850	3,670	1,370	600	11,490

Sources: O*NET and Occupational Employment Statistics (OES)

Construction trades and extraction work supervisors, the occupation with the third highest number of jobs working in clean energy, are considered new and emerging because they work in new industries that focus on clean energy. Environmental engineers are considered a changing skill occupation and a new occupation.

Solar photovoltaic installers and wind turbine service technicians are two occupations considered new and emerging; they were not defined by the Standard Occupational Classification system until 2010. For a list of all clean energy occupations by type of clean energy impact group, please see Appendix 2.

Exhibit 9 shows the employment for industries by type of clean energy impact. Utility system construction, the industry with the highest number of clean energy jobs, is expected to have occupational skill requirements and tasks change for 47.4 percent of the clean energy jobs that exit in that industry. This industry will also see higher demand for 2,050 of those jobs, and 760 of them are considered new occupations.

Nearly 440 jobs, or 86.3 percent of all clean energy jobs in the waste collection industry, are expected to have their requirements and tasks change due to clean energy/green trends. About 64.4 percent of all clean energy jobs in the electric power generation, transmission, and distribution industry will be impacted by higher demand of green goods and clean energy. All clean energy occupations in the building equipment contractors industry are solar photovoltaic installers, a new green/clean energy occupation.

9. Clean Energy Employment by Industry and Type of Clean Energy Impact						
NAICS	Industry Name	Changing Skill	Higher Demand	New	More Than One Impact Type	Total Clean Energy Employment
2371	Utility System Construction	2,600	2,050	760	80	5,490
2211	Electric Power Generation, Transmission, Distrib.	440	1,250	130	120	1,940
5622	Waste Treatment & Disposal	760	100	120	90	1,070
5417	Scientific R & D	740	-	-	130	870
5629	Remediation & Other Waste Mgmt. Serv.	560	40	150	40	790
5621	Waste Collection	440	60	*	*	510
2379	Other Heavy & Civil Engineering Construction	230	70	40	-	340
2382	Building Eqpt. Contractors	-	-	110	-	110
2213	Water, Sewage & Other Systems	40	20	10	10	80
1133	Logging	-	*	-	-	*
3251, 3252, 3253, 3259	Chemical Manufacturing	-	-	-	*	*
3261	Plastics Product Manufacturing	-	-	*	-	*
3270	Nonmetallic Mineral Product Manufacturing	-	-	-	*	*
3328	Coating, Engraving, Heat Treating, and Allied Activities	-	-	-	*	*
3336	Engine, Turbine & Power Transmission Eqpt. Manuf.	*	10	10	*	*
3353	Electrical Equipment Manufacturing	*	40	10	*	*
5413	Architectural, Engineering, and Related Services	10	-	-	*	*
5416	Management, Scientific & Technical Consulting Services	10	-	-	*	*
5511	Management of Companies and Enterprises	-	-	-	*	*
5613	Employment Services	-	-	*	*	*
Total		5,850	3,670	1,370	600	11,490

* Data are suppressed and not available. Sources: O*NET and Occupational Employment Statistics (OES)

Wages

Employees that work in clean energy occupations and industries receive a higher average annual wage than the average annual wage for all workers. The average annual wage for all clean energy occupations working in clean energy industries in 2018 was $66,840[4], which is 47.2 percent higher than the average annual wage for all occupations in all industries in New Mexico ($45,400). The median annual wage for all clean energy occupations working in clean energy industries in 2018 was $59,870[5], while the median annual wage for all occupations working in all industries in New Mexico was $34,120.

Of the data that can be released, industrial production managers who worked in the industry of electric power generation, transmission, and distribution earned the most. Their average annual wage was $150,310 (Exhibit 10). This was followed by general and operations managers who worked in electric power generation, transmission, and distribution ($135,620) and nuclear engineers who worked in the scientific research and development services ($135,580). Workers with the lowest annual average were refuse and recyclable material collectors working in the waste collection industry ($25,160) and hand

[4] This figure omits the average annual wage of industrial engineers who work in the electrical equipment manufacturing industry because that data is not available. All other data, include those that are suppressed, are included in the calculation of the average annual wage for all clean energy occupations

[5] This figure omits the average annual wage of general and operations managers who work in other heavy and civil engineering construction and industrial engineers who work in electrical equipment manufacturing. All other data, including those that are suppressed, are included in the calculation of the median annual wage for all clean energy occupations.

laborers and freight, stock, and material movers working in the waste treatment and disposal industry ($28,230).

10. Clean Energy Occupations with the Highest and Lowest Average Annual Wages, by Industry, New Mexico 2018		
Highest		
Occupation	**Industry**	**Average Annual Wage**
Industrial Production Managers	Electric Power Generation, Transmission & Distribution	$150,310
General and Operations Managers	Electric Power Generation, Transmission & Distribution	$135,620
Nuclear Engineers	Scientific Research & Development Services	$135,580
Architectural and Engineering Managers	Electric Power Generation, Transmission & Distribution	$130,040
Managers, All Other	Electric Power Generation, Transmission & Distribution	$124,870
Environmental Engineers	Scientific Research & Development Services	$119,610
Production and Operating Workers Supervisors	Electric Power Generation, Transmission & Distribution	$113,840
General and Operations Managers	Waste Treatment & Disposal	$107,650
Electrical Engineers	Electric Power Generation, Transmission & Distribution	$102,370
General and Operations Managers	Utility System Construction	$99,520
Lowest		
Occupation	**Industry**	**Average Annual Wage**
Refuse and Recyclable Material Collectors	Waste Treatment & Disposal	$33,420
Construction Laborers	Remediation & Other Waste Management Services	$33,040
Sales Representatives, Services, All Other	Waste Treatment & Disposal	$32,870
Laborers & Freight, Stock & Material Movers, Hand	Utility System Construction	$32,130
Construction Laborers	Other Heavy & Civil Engineering Construction	$32,110
Construction Laborers	Utility System Construction	$32,000
Helpers--Installation, Maintenance, and Repair Workers	Utility System Construction	$31,860
Sales Representatives, Services, All Other	Remediation & Other Waste Management Services	$30,980
Laborers & Freight, Stock & Material Movers, Hand	Waste Treatment & Disposal	$28,230
Refuse and Recyclable Material Collectors	Waste Collection	$25,160

Occupations with suppressed data are excluded from this table. Source: Occupational Employment Statistics (OES)

Projections

The New Mexico Department of Workforce Solutions, Economic Research and Analysis (ER&A) Bureau produces long-term industry and occupational employment projections every two years. Data are produced in conjunction with the U.S. Department of Labor (USDOL) and project employment across the ten-year period of 2016 to 2026. Data are available for over 90 industry subsectors and close to 800 detailed occupations at the state and substate levels. Industry projections are completed at the three-digit NAICS code, while occupational projections are completed at the detailed SOC level.

Two clean energy occupations are expected to have the fastest growth among all occupations in all industries in New Mexico. Solar photovoltaic installers working in all industries are expected to increase from 100 to 220 jobs, an increase of 112.6 percent, the fastest in the state. Wind turbine service technicians working in all industries are expected to grow by 57.5 percent, from 70 in 2016 to 120 in 2026. The average projected growth rate for all occupations in all industries in New Mexico is 6.7 percent.

Among clean energy occupations working in clean energy industries, and for which the data can be released, the fastest growth is expected to be for solar photovoltaic installers who work in the specialty

trade contractors industry (Exhibit 11). They are expected to increase the number of jobs by 139.2 percent. Training and development specialists working in the professional, scientific, and technical services industry and the administrative and support services are expected to increase 26.7 and 21.3 percent, respectively.

Of the data that can be released, the occupation of plumbers, pipefitters, and steamfitters who work in the specialty trade contractors industry is expected to have the most growth, increasing by 220 jobs, or 14.5 percent, during the projection period. This is closely followed by constructions laborers who also work in the specialty trade contractors industry. Their employment is expected to increase from 2,840 jobs in 2016 to 3,050 jobs in 2026.

11. Clean Energy Occupations With the Most and Fastest Projected Employment Growth, by Industry, New Mexico

Fastest Growth

Occupation	Industry	Projected Growth 2016–2026
Solar Photovoltaic Installers	Specialty Trade Contractors	139.2%
Training and Development Specialists	Professional, Scientific & Tech. Services	26.7%
Laborers and Freight, Stock, and Material Movers, Hand	Waste Mgmt. and Remediation Service	23.8%
Industrial Engineers	Professional, Scientific & Tech. Services	23.2%
Training and Development Specialists	Administrative and Support Services	21.3%
Refuse and Recyclable Material Collectors	Waste Mgmt. and Remediation Service	21.3%
Occupational Health and Safety Specialists	Professional, Scientific & Tech. Services	19.2%
Electrical Engineers	Professional, Scientific & Tech. Services	19.2%
Logisticians	Professional, Scientific & Tech. Services	18.9%
Environmental Engineering Technicians	Waste Mgmt. and Remediation Service	18.8%
Transportation, Storage, and Distribution Managers	Professional, Scientific & Tech. Services	18.4%
Environmental Scientists & Specialists, Including Health	Professional, Scientific & Tech. Services	17.6%
Mechanical Engineers	Professional, Scientific & Tech. Services	17.4%
Compliance Officers	Professional, Scientific & Tech. Services	17.2%
Business Operations Specialists, All Other	Professional, Scientific & Tech. Services	17.1%

Most Growth

Occupation	Industry	Projected Growth 2016–2026
Plumbers, Pipefitters, and Steamfitters	Specialty Trade Contractors	220
Construction Laborers	Specialty Trade Contractors	210
Software Developers, Systems Software	Professional, Scientific & Tech. Services	200
Engineering Technicians, Except Drafters, All Other	Professional, Scientific & Tech. Services	200
Electrical Engineers	Professional, Scientific & Tech. Services	180
Business Operations Specialists, All Other	Professional, Scientific & Tech. Services	170
Mechanical Engineers	Professional, Scientific & Tech. Services	160
Electricians	Specialty Trade Contractors	160
Architectural and Engineering Managers	Professional, Scientific & Tech. Services	140
Engineers, All Other	Professional, Scientific & Tech. Services	120
Nuclear Engineers	Professional, Scientific & Tech. Services	110
Solar Photovoltaic Installers	Specialty Trade Contractors	110
Heating, Air Conditioning, Refrigeration Mechanics, Installers	Specialty Trade Contractors	110
Environmental Scientists & Specialists, Including Health	Professional, Scientific & Tech. Services	110
Laborers and Freight, Stock, and Material Movers, Hand	Administrative and Support Services	110

Excludes occupations that are suppressed. Source: Employment Projections program.

Methodology to determine the number of clean energy jobs

According to the U.S. Department of Labor's Occupational Information Network (O*NET), a green career can be any occupation that is affected by activities such as conserving energy, developing alternative energy, reducing pollution, or recycling. The list of O*NET occupations working in green energy can be found at https://www.careeronestop.org/GreenCareers/ExploreGreenCareers/explore-green-careers.aspx.

The occupation's O*NET code was then cross-referenced to its Standard Occupational Classification (SOC) code. The list included 141 occupational titles, but not all jobs within an entire SOC-defined occupation worked in the clean energy industry.

To identify clean energy industries, the New Mexico Department of Workforce Solutions, Economic Research and Analysis Bureau, used a 2010 document provided by the U.S. Bureau of Labor Statistics (BLS) which listed the industries that conducted research and developed, produced, stored, and distributed energy (electricity, heat, and fuel) from renewable sources, including hydropower, wind, biomass (including biofuels and biogas), geothermal, solar energy, tidal energy, hydrogen fuel cells, and other renewable sources. (The document, which can be found at https://www.bls.gov/green/industry_by_naics.pdf, also listed industries that typically conduct other types of green activities but those were considered out of scope for this study.) The industries identified in this document were available at the six-digit North American Industry Classification System (NAICS) level.

These industries were then rolled up to their four-digit NAICS industry group. The number of industries involved in renewable energy activities equaled 20, but some of these industries included activities in non-renewable resources. This analysis considers jobs to be clean energy if they met the following two criteria: 1. they were one of the 20 industries involved in renewable energy activities as defined by BLS and 2. the occupational title was one of the 141 listed as working in green energy, as defined by O*NET.

This further refinement pushed the estimated number of clean energy jobs in New Mexico in 2018 down to 11,490. These jobs were found in 20 industries and across 88 occupations. This estimate was then compared to the figures found in the New Mexico Green Jobs Report 2011. For this publication, an employer survey was distributed to New Mexico establishments asking them for the number and types of green jobs they employ. Based on survey results, it was estimated that there were approximately 35,800 private sector green jobs in New Mexico in 2009, of which 12,790 were primary green jobs.

APPENDIX 1. Employment of Clean Energy Occupations & Industries, New Mexico, 2018

* Data are suppressed

Source: Occupational Employment Statistics (OES).

SOC & TITLE OF CLEAN ENERGY OCCUPATIONS		NAICS & TITLE OF CLEAN ENERGY INDUSTRIES									
		1133	2211	2213	2371	2379	2382	3251, 3252, 3253, 3259	3261	3270	3328
		Logging	Electric Power Generation, Trans., Distrib.	Water, Sewage & Other Systems	Utility System Construction	Other Heavy & Civil Engineering Construction	Building Eqpt. Contractors	Chemical Manufacturing	Plastics Product Manufacturing	Nonmetallic Mineral Product Manufacturing	Coating, Engraving, Heat Treating & Allied Activities
11-1011	Chief Executives	-	-	-	-	-	-	-	-	-	-
11-1021	General and Operations Managers	-	60	20	170	*	-	-	-	-	-
11-2021	Marketing Managers	-	*	-	*	-	-	-	-	-	-
11-3051	Industrial Production Managers	-	10	-	-	-	-	-	-	-	-
11-3071	Transportation, Storage, and Distribution Managers	-	*	-	-	-	-	-	-	-	-
11-9021	Construction Managers	-	*	-	280	*	-	-	-	-	-
11-9041	Architectural and Engineering Managers	-	40	-	*	-	-	-	-	-	-
11-9199	Managers, All Other	-	30	-	*	-	-	-	-	-	-
13-1020	Buyers and Purchasing Agents	-	20	-	*	-	-	-	-	-	-
13-1041	Compliance Officers, Except Agr., Const., Health, Safety, Transp.	-	*	-	-	-	-	-	-	-	-
13-1081	Logisticians	-	*	-	-	-	-	-	-	-	-
13-1151	Training and Development Specialists	-	*	-	*	-	-	-	-	-	-
13-1199	Business Operations Specialists, All Other	-	*	*	10	-	-	-	-	-	-
13-2051	Financial Analysts	-	-	-	-	-	-	-	-	-	-
15-1133	Software Developers, Systems Software	-	*	-	-	-	-	-	-	-	-
15-1199	Computer Occupations, All Other	-	*	-	-	-	-	-	-	-	-
17-1011	Architects, Except Landscape and Naval	-	*	-	-	-	-	-	-	-	-
17-1012	Landscape Architects	-	-	-	-	*	-	-	-	-	-
17-2051	Civil Engineers	-	*	-	20	-	-	-	-	-	-
17-2071	Electrical Engineers	-	120	-	-	-	-	-	-	-	-
17-2072	Electronics Engineers, Except Computer	-	*	-	-	-	-	-	-	-	-
17-2081	Environmental Engineers	-	*	-	-	-	-	*	-	*	*
17-2111	Health & Safety Engineers, Except Mining Safety	-	-	-	*	-	-	-	-	-	-
17-2112	Industrial Engineers	-	*	-	-	-	-	-	-	-	-
17-2141	Mechanical Engineers	-	*	-	-	-	-	-	-	-	-
17-2161	Nuclear Engineers	-	-	-	-	-	-	-	-	-	-
17-2199	Engineers, All Other	-	*	-	-	-	-	-	*	-	-
17-3011	Architectural and Civil Drafters	-	*	-	-	-	-	-	-	-	-
17-3023	Electrical and Electronics Engineering Technicians	-	20	-	-	-	-	-	-	-	-
17-3025	Environmental Engineering Technicians	-	-	-	-	-	-	-	-	-	-
17-3027	Mechanical Engineering Technicians	-	*	-	-	-	-	-	-	-	-
17-3029	Engineering Technicians, Except Drafters, All Other	-	*	-	-	-	-	-	-	-	-
19-2031	Chemists	-	-	-	-	-	-	-	-	-	-
19-2041	Environmental Scientists & Specialists, Including Health	-	*	*	-	-	-	-	-	-	-
19-4051	Nuclear Technicians	-	-	-	-	-	-	-	-	-	-
19-4091	Environmental Science & Protection Techs., Including Health	-	-	-	-	-	-	-	-	-	-
19-4093	Forest and Conservation Technicians	-	*	-	-	-	-	-	-	-	-
19-4099	Life, Physical, and Social Science Technicians, All Other	-	*	-	-	-	-	-	-	-	-
27-3031	Public Relations Specialists	-	*	-	-	-	-	-	-	-	-
29-9011	Occupational Health and Safety Specialists	-	10	-	20	-	-	-	-	-	-
29-9012	Occupational Health and Safety Technicians	-	*	-	40	*	-	-	-	-	-

APPENDIX 1. Employment of Clean Energy Occupations & Industries, New Mexico, 2018 (Continued)

* Data are suppressed Source: Occupational Employment Statistics (OES).		NAICS & TITLE OF CLEAN ENERGY INDUSTRIES									
		1133	2211	2213	2371	2379	2382	3251, 3252, 3253, 3259	3261	3270	3328
SOC & TITLE OF CLEAN ENERGY OCCUPATIONS		Logging	Electric Power Generation, Trans., Distrib.	Water, Sewage & Other Systems	Utility System Construction	Other Heavy & Civil Engineering Construction	Building Eqpt. Contractors	Chemical Manufacturing	Plastics Product Manufacturing	Nonmetallic Mineral Product Manufacturing	Coating, Engraving, Heat Treating & Allied Activities
41-3099	Sales Representatives, Services, All Other	-	*	-	*	*	-	-	-	-	-
41-4011	Sales Reps., Wholesale & Manuf., Tech. & Scientific Products	-	*	-	-	-	-	-	-	-	-
43-4051	Customer Service Representatives	-	70	*	*	-	-	-	-	-	-
43-5032	Dispatchers, Except Police, Fire, and Ambulance	-	10	-	*	-	-	-	-	-	-
43-5061	Production, Planning, and Expediting Clerks	-	*	-	*	-	-	-	-	-	-
43-5071	Shipping, Receiving, and Traffic Clerks	-	-	-	-	-	-	-	-	-	-
47-1011	Supervisors of Construction Trades & Extraction Work	-	20	-	610	40	-	-	-	-	-
47-2011	Boilermakers	-	-	-	*	-	-	-	-	-	-
47-2031	Carpenters	-	-	-	130	*	-	-	-	-	-
47-2051	Cement Masons and Concrete Finishers	-	-	-	40	*	-	-	-	-	-
47-2061	Construction Laborers	-	-	-	1,810	130	-	-	-	-	-
47-2073	Operating Engineers & Other Construction Equipt. Operators	-	20		930	50	-	-	-	-	-
47-2111	Electricians	-	80	*	60	-	-	-	-	-	-
47-2152	Plumbers, Pipefitters, and Steamfitters	-	-	-	120	*	-	-	-	-	-
47-2211	Sheet Metal Workers	-	-	-	*	-	-	-	-	-	-
47-2221	Structural Iron and Steel Workers	-	-	-	*	-	-	-	-	-	-
47-2231	Solar Photovoltaic Installers	-	*	-	-	-	110	-	-	-	-
47-3012	Helpers--Carpenters	-	-	-	*	-	-	-	-	-	-
47-4011	Construction and Building Inspectors	-	*	-	-	*	-	-	-	-	-
47-4041	Hazardous Materials Removal Workers	-	-	-	-	-	-	-	-	-	-
47-4090	Miscellaneous Construction and Related Workers	-	*	-	*	-	-	-	-	-	-
47-5013	Service Unit Operators, Oil, Gas, and Mining	-	-	-	*	-	-	-	-	-	-
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	-	120	-	90	*	-	-	-	-	-
49-2094	Electrical & Electronics Repairers, Commercial & Industrial Eqpt.	-	-	-	*	-	-	-	-	-	-
49-3023	Automotive Service Technicians and Mechanics	-	*	-	*	-	-	-	-	-	-
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	-	20	-	20	-	-	-	-	-	-
49-9021	Heating, Air Conditioning, Refrigeration Mechanics & Installers	-	-	-	*	-	-	-	-	-	-
49-9041	Industrial Machinery Mechanics	-	*	-	*	-	-	-	-	-	-
49-9044	Millwrights	-	*	-	*	*	-	-	-	-	-
49-9051	Electrical Power-Line Installers and Repairers	-	460	-	140	-	-	-	-	-	-
49-9071	Maintenance and Repair Workers, General	-	20	*	10	-	-	-	-	-	-
49-9081	Wind Turbine Service Technicians	-	*	-	*	-	-	-	-	-	-
49-9098	Helpers--Installation, Maintenance, and Repair Workers	-	40	-	40	-	-	-	-	-	-
49-9099	Installation, Maintenance, and Repair Workers, All Other	-	*	-	*	-	-	-	-	-	-
51-1011	First-Line Supervisors of Production and Operating Workers	-	50	10	*	-	-	-	-	-	-
51-2021	Coil Winders, Tapers, and Finishers	-	-	-	-	-	-	-	-	-	-
51-2031	Engine and Other Machine Assemblers	-	-	-	-	-	-	-	-	-	-
51-4032	Drilling & Boring Machine Tool Setters, Operators & Tenders	-	-	-	-	*	-	-	-	-	-
51-4041	Machinists	-	-	-	-	-	-	-	-	-	-
51-4121	Welders, Cutters, Solderers, and Brazers	-	*	-	300	*	-	-	-	-	-
51-8012	Power Distributors and Dispatchers	-	150	-	-	-	-	-	-	-	-
51-8013	Power Plant Operators	-	190	-	-	-	-	-	-	-	-
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	-	*	-	*		-	-	-	-	-
53-3032	Heavy and Tractor-Trailer Truck Drivers	-	-	-	140	*	-	-	-	-	-
53-7051	Industrial Truck and Tractor Operators	-	*	-	-	-	-	-	-	-	-
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	*	10	-	20	-	-	-	-	-	-
53-7081	Refuse and Recyclable Material Collectors	-	-	-	-	-	-	-	-	-	-
TOTAL		*	1,940	80	5,490	340	110	*	*	*	*

APPENDIX 1. Employment of Clean Energy Occupations & Industries, New Mexico, 2018 (Continued)

* Data are suppressed Source: Occupational Employment Statistics (OES).		NAICS & TITLE OF CLEAN ENERGY INDUSTRIES										
		3336	3353	5413	5416	5417	5511	5613	5621	5622	5629	
SOC & TITLE OF CLEAN ENERGY OCCUPATIONS		Engine, Turbine, and Power Transmission Equipment Manufacturing	Electrical Equipment Manufacturing	Architectural, Engineering, and Related Services	Management, Scientific, and Technical Consulting Services	Scientific R & D	Management of Companies and Enterprises	Employment Services	Waste Collection	Waste Treatment & Disposal	Remediation & Other Waste Mgmt. Serv.	TOTAL
11-1011	Chief Executives	-	-	-	-	-	-	-	-	*	-	*
11-1021	General and Operations Managers	-	*	-	-	-	-	-	*	80	40	390
11-2021	Marketing Managers	-	-	-	-	-	-	-	-	-	-	*
11-3051	Industrial Production Managers	-	*	-	-	-	-	-	-	-	-	*
11-3071	Transportation, Storage, and Distribution Managers	-	-	-	-	-	-	-	*	*	-	*
11-9021	Construction Managers	-	-	-	-	-	-	-	-	-	*	330
11-9041	Architectural and Engineering Managers	-	*	-	-	-	-	-	-	-	-	*
11-9199	Managers, All Other	-	-	-	-	-	-	-	-	-	-	*
13-1020	Buyers and Purchasing Agents	-	*	-	-	-	-	-	-	*	-	*
13-1041	Compliance Officers, Except Agr., Const., Health, Safety, Transp.	-	-	-	-	-	-	-	-	*	-	*
13-1081	Logisticians	-	-	-	-	-	-	-	-	-	-	*
13-1151	Training and Development Specialists	-	-	-	-	-	-	-	-	*	*	*
13-1199	Business Operations Specialists, All Other	*	-	-	-	-	-	-	-	*	-	*
13-2051	Financial Analysts	-	-	-	-	-	-	-	-	*	-	*
15-1133	Software Developers, Systems Software	-	-	-	-	-	-	-	-	-	-	*
15-1199	Computer Occupations, All Other	-	-	-	-	-	-	-	*	-	-	*
17-1011	Architects, Except Landscape and Naval	-	-	-	-	-	-	-	-	-	-	*
17-1012	Landscape Architects	-	-	-	-	-	-	-	-	-	-	*
17-2051	Civil Engineers	-	-	-	-	-	-	-	-	*	-	*
17-2071	Electrical Engineers	-	*	-	-	-	-	-	-	*	-	*
17-2072	Electronics Engineers, Except Computer	-	-	-	-	-	-	-	-	-	-	*
17-2081	Environmental Engineers	-	-	60	60	130	*	*	-	*	*	360
17-2111	Health & Safety Engineers, Except Mining Safety	-	-	-	-	-	-	-	-	*	-	*
17-2112	Industrial Engineers	-	*	-	-	-	-	-	-	*	-	*
17-2141	Mechanical Engineers	*	*	-	-	-	-	-	-	*	-	*
17-2161	Nuclear Engineers	-	-	*	*	740	-	-	-	-	-	*
17-2199	Engineers, All Other	*	-	-	-	-	-	-	-	-	-	*
17-3011	Architectural and Civil Drafters	-	-	-	-	-	-	-	-	-	-	*
17-3023	Electrical and Electronics Engineering Technicians	-	*	-	-	-	-	-	-	-	-	*
17-3025	Environmental Engineering Technicians	-	-	-	-	-	-	-	-	*	*	*
17-3027	Mechanical Engineering Technicians	*	*	-	-	-	-	-	-	-	-	*
17-3029	Engineering Technicians, Except Drafters, All Other	*	-	-	-	-	-	-	-	-	-	*
19-2031	Chemists	-	-	-	-	-	-	-	-	-	*	*
19-2041	Environmental Scientists & Specialists, Including Health	-	-	-	-	-	-	-	*	*	*	*
19-4051	Nuclear Technicians	-	-	-	-	-	-	-		*		*
19-4091	Environmental Science & Protection Techs., Including Health	-	-	-	-	-	-	-	*	*	-	*
19-4093	Forest and Conservation Technicians	-	-	-	-	-	-	-	-	-	-	*
19-4099	Life, Physical, and Social Science Technicians, All Other	-	-	-	-	-	-	-	-	-	-	*
27-3031	Public Relations Specialists	-	-	-	-	-	-	-	-	-	*	*
29-9011	Occupational Health and Safety Specialists	-	-	-	-	-	-	-	-	-	*	40
29-9012	Occupational Health and Safety Technicians	-	-	-	-	-	-	-	-	-	*	50

APPENDIX 1. Employment of Clean Energy Occupations & Industries, New Mexico, 2018 (Continued)

* Data are suppressed Source: Occupational Employment Statistics (OES).		NAICS & TITLE OF CLEAN ENERGY INDUSTRIES										
		3336	3353	5413	5416	5417	5511	5613	5621	5622	5629	
		Engine, Turbine, and Power Transmission Equipment Manufacturing	Electrical Equipment Manufacturing	Architectural, Engineering, and Related Services	Management, Scientific, and Technical Consulting Services	Scientific R & D	Management of Companies and Enterprises	Employment Services	Waste Collection	Waste Treatment & Disposal	Remediation & Other Waste Mgmt. Serv.	TOTAL
SOC & TITLE OF CLEAN ENERGY OCCUPATIONS												
41-3099	Sales Representatives, Services, All Other	-	-	-	-	-	-	-	*	40	*	*
41-4011	Sales Reps., Wholesale & Manuf., Tech. & Scientific Products	-	-	-	-	-	-	-	-	-	-	*
43-4051	Customer Service Representatives	-	-	-	-	-	-	-	*	*		*
43-5032	Dispatchers, Except Police, Fire, and Ambulance	-	-	-	-	-	-	-	-	*	*	*
43-5061	Production, Planning, and Expediting Clerks	*	-	-	-	-	-	-	-	-	-	*
43-5071	Shipping, Receiving, and Traffic Clerks	*	*	-	-	-	-	-	-	-	-	*
47-1011	Supervisors of Construction Trades & Extraction Work	-	-	-	-	-	-	-	-	*	130	860
47-2011	Boilermakers	-	-	-	-	-	-	-	-	-	-	*
47-2031	Carpenters	-	-	-	-	-	-	-	-	-	-	*
47-2051	Cement Masons and Concrete Finishers	-	-	-	-	-	-	-	-	-	-	*
47-2061	Construction Laborers	-	-	-	-	-	-	-	-	-	270	2,210
47-2073	Operating Engineers & Other Construction Equipt. Operators	-	-	-	-	-	-	-	-	40	20	1,050
47-2111	Electricians	-	*	-	-	-	-	-	-	*	-	160
47-2152	Plumbers, Pipefitters, and Steamfitters	-	-	-	-	-	-	-	-	-	-	*
47-2211	Sheet Metal Workers	-	-	-	-	-	-	-	-	-	-	*
47-2221	Structural Iron and Steel Workers	-	-	-	-	-	-	-	-	-	-	*
47-2231	Solar Photovoltaic Installers	-	-	-	-	-	-	*	-	-	-	*
47-3012	Helpers--Carpenters	-	-	-	-	-	-	-	-	-	-	*
47-4011	Construction and Building Inspectors	-	-	-	-	-	-	-	-	-	-	*
47-4041	Hazardous Materials Removal Workers	-	-	-	-	-	-	-	-	*	180	*
47-4090	Miscellaneous Construction and Related Workers	-	-	-	-	-	-	-	-	-	-	*
47-5013	Service Unit Operators, Oil, Gas, and Mining	-	-	-	-	-	-	-	-	-	-	*
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	*	-	-	-	-	-	-	-	-	*	220
49-2094	Electrical & Electronics Repairers, Commercial & Industrial Eqpt.	-	-	-	-	-	-	-	-	-	-	*
49-3023	Automotive Service Technicians and Mechanics	-	-	-	-	-	-	-	-	-	-	*
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	-	-	-	-	-	-	-	40	*	*	100
49-9021	Heating, Air Conditioning, Refrigeration Mechanics & Installers	-	-	-	-	-	-	-	-	-	-	*
49-9041	Industrial Machinery Mechanics	*	*	-	-	-	-	-	-	-	*	*
49-9044	Millwrights	-	-	-	-	-	-	-	-	-	-	*
49-9051	Electrical Power-Line Installers and Repairers	-	-	-	-	-	-	-	-	-	-	610
49-9071	Maintenance and Repair Workers, General	*	*	-	-	-	-	-	-	*	-	80
49-9081	Wind Turbine Service Technicians	-	-	-	-	-	-	-	-	-	-	*
49-9098	Helpers--Installation, Maintenance, and Repair Workers	-	-	-	-	-	-	-	*	-	*	80
49-9099	Installation, Maintenance, and Repair Workers, All Other	-	-	-	-	-	-	-	-	-	-	*
51-1011	First-Line Supervisors of Production and Operating Workers	*	*	-	-	-	-	-	-	-	*	80
51-2021	Coil Winders, Tapers, and Finishers	-	*	-	-	-	-	-	-	-	-	*
51-2031	Engine and Other Machine Assemblers	*	-	-	-	-	-	-	-	-	-	*
51-4032	Drilling & Boring Machine Tool Setters, Operators & Tenders	-	-	-	-	-	-	-	-	-	-	*
51-4041	Machinists	*	*	-	-	-	-	-	-	-	-	*
51-4121	Welders, Cutters, Solderers, and Brazers	-	-	-	-	-	-	-	-	*	*	*
51-8012	Power Distributors and Dispatchers	-	-	-	-	-	-	-	-	-	-	150
51-8013	Power Plant Operators	-	-	-	-	-	-	-	-	-	-	190
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	*	*	-	-	-	-	-	-	-	-	*
53-3032	Heavy and Tractor-Trailer Truck Drivers	-	-	-	-	-	-	-	300	130	20	620
53-7051	Industrial Truck and Tractor Operators	-	-	-	-	-	-	-	*	-	-	*
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	-	-	-	-	-	-	-	30	*	*	100
53-7081	Refuse and Recyclable Material Collectors	-	-	-	-	-	-	-	80	120	-	200
TOTAL		*	*	*	*	870	*	*	510	1,070	790	11,490

Appendix 2. Clean Energy Occupations by Type of Impact

Changing Skill Occupations	
11-2021	Marketing Managers
11-9021	Construction Managers
11-1021	General and Operations Managers
13-1151	Training and Development Specialists
13-2051	Financial Analysts
17-1011	Architects, Except Landscape and Naval
17-1012	Landscape Architects
17-2071	Electrical Engineers
17-2072	Electronics Engineers, Except Computer
17-2161	Nuclear Engineers
17-3025	Environmental Engineering Technicians
19-4051	Nuclear Technicians
19-4091	Environmental Science & Protection Technicians, Including Health
27-3031	Public Relations Specialists
29-9012	Occupational Health and Safety Technicians
43-5071	Shipping, Receiving, and Traffic Clerks
47-2061	Construction Laborers
47-2152	Plumbers, Pipefitters, and Steamfitters
47-2211	Sheet Metal Workers
47-4011	Construction and Building Inspectors
47-4041	Hazardous Materials Removal Workers
47-5013	Service Unit Operators, Oil, Gas, and Mining
49-3023	Automotive Service Technicians and Mechanics
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists
49-9071	Maintenance and Repair Workers, General
51-4041	Machinists
51-8013	Power Plant Operators
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers
53-3032	Heavy and Tractor-Trailer Truck Drivers
53-7081	Refuse and Recyclable Material Collectors
Changing Skill & Higher Demand Occupations	
13-1020	Buyers and Purchasing Agents
17-3023	Electrical and Electronics Engineering Technicians
49-9021	Heating, Air Conditioning, Refrigeration Mechanics & Installers
Changing Skill & New Occupations	
11-3071	Transportation, Storage, and Distribution Managers
11-9041	Architectural and Engineering Managers
17-2051	Civil Engineers
17-2081	Environmental Engineers
17-2141	Mechanical Engineers
41-4011	Sales Reps., Wholesale & Manufacturing, Tech. & Scientific Products
Higher Demand New Occupations	
11-3051	Industrial Production Managers
19-2041	Environmental Scientists and Specialists, Including Health

Source: O*NET (https://www.careeronestop.org/GreenCareers/ExploreGreenCareers/explore-green-careers.aspx)

Higher Demand Occupations	
15-1133	Software Developers, Systems Software
17-2111	Health & Safety Engineers, Except Mining Safety Engineers & Inspectors
17-2112	Industrial Engineers
17-3011	Architectural and Civil Drafters
19-2031	Chemists
19-4093	Forest and Conservation Technicians
29-9011	Occupational Health and Safety Specialists
43-4051	Customer Service Representatives
43-5032	Dispatchers, Except Police, Fire, and Ambulance
43-5061	Production, Planning, and Expediting Clerks
47-2011	Boilermakers
47-2031	Carpenters
47-2051	Cement Masons and Concrete Finishers
47-2073	Operating Engineers and Other Construction Equipment Operators
47-2111	Electricians
47-2221	Structural Iron and Steel Workers
47-3012	Helpers--Carpenters
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers
49-2094	Electrical & Electronics Repairers, Commercial & Industrial Eqpt.
49-9041	Industrial Machinery Mechanics
49-9044	Millwrights
49-9051	Electrical Power-Line Installers and Repairers
49-9098	Helpers--Installation, Maintenance, and Repair Workers
51-1011	First-Line Supervisors of Production and Operating Workers
51-2021	Coil Winders, Tapers, and Finishers
51-2031	Engine and Other Machine Assemblers
51-4032	Drilling, Boring Machine Tool Setters, Operators, Tenders, Metal & Plastic
51-4121	Welders, Cutters, Solderers, and Brazers
51-8012	Power Distributors and Dispatchers
53-7051	Industrial Truck and Tractor Operators
53-7062	Laborers and Freight, Stock, and Material Movers, Hand
New Occupations	
11-1011	Chief Executives
11-9199	Managers, All Other
13-1041	Compliance Officers, Except Agr., Construction, Health & Safety & Transp.
13-1081	Logisticians
13-1199	Business Operations Specialists, All Other
15-1199	Computer Occupations, All Other
17-2199	Engineers, All Other
17-3027	Mechanical Engineering Technicians
17-3029	Engineering Technicians, Except Drafters, All Other
19-4099	Life, Physical, and Social Science Technicians, All Other
41-3099	Sales Representatives, Services, All Other
47-1011	First-Line Supervisors of Construction Trades and Extraction Work
47-2231	Solar Photovoltaic Installers
47-4090	Miscellaneous Construction and Related Workers
49-9081	Wind Turbine Service Technicians
49-9099	Installation, Maintenance, and Repair Workers, All Other

Appendix B

Full Survey Results

Q1. How worried are you about New Mexico's economy given the impact that COVID-19 has had on the ability for businesses to maintain operations?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very worried	19%	17%	38%	42%	40%	34%	17%	13%	28%	15%	56%	28%	40%	18%	10%
Somewhat worried	48%	48%	50%	46%	50%	42%	35%	43%	55%	48%	43%	49%	43%	50%	48%
Not very worried	22%	23%	11%	9%	8%	25%	32%	39%	4%	24%	1%	4%	9%	5%	42%
Not worried at all	2%	2%	*%	3%	1%	-	3%	2%	1%	2%	*%	1%	9%	*%	1%
Don't know	9%	10%	-	1%	*%	-	13%	3%	13%	10%	-	18%	*%	27%	*%

Q1. How worried are you about New Mexico's economy given the impact that COVID-19 has had on the ability for businesses to maintain operations?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very worried	19%	13%	17%	27%	30%	41%	22%	14%	15%	37%	22%	18%	17%	22%
Somewhat worried	48%	66%	46%	61%	66%	48%	59%	55%	25%	44%	74%	58%	50%	45%
Not very worried	22%	18%	21%	3%	4%	10%	4%	25%	49%	12%	3%	1%	21%	23%
Not worried at all	2%	-	4%	1%	*%	1%	2%	1%	*%	7%	1%	*%	2%	2%
Don't know	9%	3%	13%	7%	-	*%	13%	5%	10%	*%	*%	22%	10%	8%

Q2. How worried are you about New Mexico's economy given the impact that COVID-19 has had on the oil and gas industry here in the state?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very worried	24%	23%	38%	33%	38%	26%	7%	32%	16%	23%	35%	11%	31%	16%	31%
Somewhat worried	46%	46%	44%	36%	46%	34%	69%	38%	56%	46%	43%	62%	44%	45%	40%
Not very worried	19%	20%	16%	20%	12%	32%	12%	27%	12%	19%	21%	16%	15%	10%	27%
Not worried at all	7%	8%	2%	8%	3%	6%	*%	1%	14%	8%	1%	2%	1%	28%	2%
Don't know	3%	4%	1%	2%	1%	2%	12%	2%	2%	4%	-	9%	8%	1%	1%

Q2. How worried are you about New Mexico's economy given the impact that COVID-19 has had on the oil and gas industry here in the state?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very worried	24%	19%	36%	18%	22%	45%	16%	41%	14%	29%	64%	10%	12%	41%
Somewhat worried	46%	49%	41%	71%	59%	37%	55%	52%	60%	45%	27%	56%	48%	42%
Not very worried	19%	27%	7%	7%	16%	16%	12%	4%	7%	21%	7%	10%	27%	10%
Not worried at all	7%	1%	14%	2%	3%	2%	15%	1%	2%	4%	2%	24%	12%	1%
Don't know	3%	4%	2%	3%	*%	*%	2%	1%	18%	1%	*%	*%	1%	6%

Q3. How worried are you about New Mexico's economy due to the scheduled closure of fossil fuel mining operations (such as coal, oil, and gas) in Northwestern New Mexico, such as the closure of the San Juan Generation Station?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very worried	22%	21%	37%	23%	35%	24%	7%	30%	15%	21%	35%	8%	31%	15%	29%
Somewhat worried	36%	34%	48%	33%	43%	23%	25%	35%	37%	36%	29%	45%	39%	42%	28%
Not very worried	29%	31%	12%	22%	13%	35%	57%	28%	31%	28%	33%	34%	20%	9%	39%
Not worried at all	10%	11%	2%	19%	6%	14%	5%	6%	16%	11%	2%	2%	10%	32%	4%
Don't know	3%	3%	2%	4%	3%	4%	6%	1%	1%	3%	1%	10%	1%	2%	*%

Q3. How worried are you about New Mexico's economy due to the scheduled closure of fossil fuel mining operations (such as coal, oil, and gas) in Northwestern New Mexico, such as the closure of the San Juan Generation Station?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very worried	22%	14%	35%	17%	16%	48%	11%	41%	12%	27%	63%	6%	8%	41%
Somewhat worried	36%	58%	21%	31%	44%	41%	32%	16%	20%	39%	16%	22%	46%	22%
Not very worried	29%	9%	26%	48%	28%	7%	34%	40%	53%	13%	18%	45%	30%	28%
Not worried at all	10%	10%	17%	4%	11%	3%	22%	3%	4%	20%	3%	26%	15%	4%
Don't know	3%	10%	1%	1%	1%	1%	1%	1%	11%	2%	1%	1%	1%	5%

Q4. How worried are you about New Mexico's economy due to the scheduled closure of fossil fuel mining operations in Southern New Mexico where most of our oil and gas mining operations are located?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very worried	25%	23%	38%	25%	35%	25%	10%	33%	17%	24%	34%	17%	36%	16%	28%
Somewhat worried	24%	22%	45%	38%	43%	34%	26%	16%	34%	23%	38%	37%	41%	43%	5%
Not very worried	28%	29%	13%	21%	15%	24%	54%	26%	31%	28%	25%	35%	13%	9%	39%
Not worried at all	20%	22%	3%	13%	5%	9%	4%	25%	15%	22%	2%	2%	6%	30%	27%
Don't know	3%	3%	2%	3%	3%	7%	6%	1%	3%	3%	1%	9%	4%	2%	1%

Q4. How worried are you about New Mexico's economy due to the scheduled closure of fossil fuel mining operations in Southern New Mexico where most of our oil and gas mining operations are located?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very worried	25%	28%	39%	18%	15%	49%	13%	41%	13%	32%	62%	8%	11%	43%
Somewhat worried	24%	42%	18%	28%	53%	42%	34%	19%	17%	41%	19%	23%	28%	20%
Not very worried	28%	26%	24%	51%	21%	7%	33%	37%	52%	16%	14%	44%	28%	28%
Not worried at all	20%	4%	16%	3%	6%	1%	17%	2%	7%	5%	3%	25%	32%	4%
Don't know	3%	-	2%	*%	5%	1%	3%	*%	11%	6%	1%	*%	2%	5%

Q5. Given the current public health crisis and the fact that air pollution can cause heart disease and make lung disease worse, should the State of New Mexico adopt regulations to cut air pollution from the oil and gas industry?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	67%	65%	87%	76%	78%	78%	75%	66%	71%	66%	70%	67%	62%	59%	72%
No	24%	26%	9%	15%	13%	8%	4%	27%	21%	25%	18%	12%	19%	33%	26%
Don't know	9%	10%	4%	9%	9%	13%	21%	7%	9%	9%	12%	21%	18%	8%	2%

Q5. Given the current public health crisis and the fact that air pollution can cause heart disease and make lung disease worse, should the State of New Mexico adopt regulations to cut air pollution from the oil and gas industry?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	67%	51%	46%	87%	82%	63%	76%	56%	70%	78%	42%	66%	73%	59%
No	24%	29%	45%	5%	14%	24%	16%	42%	7%	15%	52%	25%	19%	31%
Don't know	9%	20%	9%	8%	3%	13%	8%	2%	23%	8%	6%	9%	8%	11%

Q6. Please let us know how much do you agree with: As oil prices fall to all-time lows as a result of the COVID-19 health pandemic, New Mexico state government should take all the steps necessary to diversify our economy given how unstable oil and gas revenue has proven to be.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Strongly Agree	46%	47%	39%	53%	48%	53%	44%	25%	70%	42%	81%	52%	41%	80%	30%
Somewhat agree	20%	19%	29%	26%	28%	35%	45%	26%	14%	22%	7%	20%	33%	11%	20%
Neither agree or disagree	26%	27%	19%	9%	14%	5%	1%	44%	8%	28%	10%	7%	16%	4%	48%
Somewhat Disagree	3%	3%	9%	5%	7%	5%	*%	2%	5%	4%	1%	10%	3%	3%	1%
Strongly Disagree	1%	1%	4%	3%	2%	2%	1%	1%	1%	1%	*%	1%	2%	1%	1%
TOTAL AGREE	**67%**	**66%**	**68%**	**79%**	**75%**	**88%**	**89%**	**52%**	**85%**	**64%**	**88%**	**72%**	**74%**	**91%**	**50%**
TOTAL DISAGREE	**4%**	**3%**	**13%**	**9%**	**9%**	**7%**	**1%**	**3%**	**6%**	**5%**	**2%**	**12%**	**5%**	**4%**	**1%**
Don't know	3%	3%	*%	3%	2%	-	9%	2%	1%	3%	1%	9%	5%	1%	1%

Q6. Please let us know how much do you agree with: As oil prices fall to all-time lows as a result of the COVID-19 health pandemic, New Mexico state government should take all the steps necessary to diversify our economy given how unstable oil and gas revenue has proven to be.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Strongly Agree	46%	31%	31%	74%	85%	30%	76%	28%	28%	44%	26%	85%	62%	26%
Somewhat agree	20%	25%	32%	18%	8%	43%	15%	30%	57%	24%	17%	13%	11%	32%
Neither agree or disagree	26%	17%	28%	5%	6%	9%	4%	39%	3%	12%	52%	1%	23%	31%
Somewhat Disagree	3%	22%	5%	2%	1%	11%	2%	1%	1%	7%	3%	1%	3%	3%
Strongly Disagree	1%	3%	1%	1%	*%	7%	1%	1%	*%	5%	1%	*%	1%	1%
TOTAL AGREE	**67%**	**56%**	**63%**	**91%**	**92%**	**72%**	**92%**	**58%**	**85%**	**68%**	**43%**	**98%**	**73%**	**58%**
TOTAL DISAGREE	**4%**	**25%**	**7%**	**3%**	**1%**	**18%**	**2%**	**2%**	**1%**	**12%**	**4%**	**1%**	**4%**	**5%**
Don't know	3%	2%	3%	1%	*%	1%	2%	1%	11%	8%	*%	*%	*%	6%

Q7. Please let us know how much do you agree with: New Mexico state government should provide resources to help the oil and gas industry in New Mexico recover as quickly as possible.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Strongly Agree	10%	8%	33%	15%	29%	18%	7%	8%	12%	8%	32%	8%	29%	12%	3%
Somewhat agree	28%	28%	32%	24%	32%	29%	30%	38%	19%	28%	29%	48%	30%	11%	28%
Neither agree or disagree	15%	15%	18%	19%	18%	17%	15%	8%	25%	15%	22%	28%	11%	36%	2%
Somewhat Disagree	11%	11%	8%	15%	10%	7%	30%	17%	4%	12%	3%	4%	5%	3%	19%
Strongly Disagree	22%	24%	8%	23%	8%	18%	12%	8%	39%	23%	15%	2%	25%	36%	23%
TOTAL AGREE	**38%**	**36%**	**64%**	**39%**	**61%**	**47%**	**37%**	**46%**	**31%**	**36%**	**60%**	**56%**	**58%**	**23%**	**31%**
TOTAL DISAGREE	**33%**	**35%**	**16%**	**38%**	**18%**	**24%**	**41%**	**25%**	**43%**	**35%**	**18%**	**6%**	**30%**	**39%**	**42%**
Don't know	13%	15%	1%	4%	3%	12%	7%	21%	2%	15%	*%	9%	1%	2%	25%

Q7. Please let us know how much do you agree with: New Mexico state government should provide resources to help the oil and gas industry in New Mexico recover as quickly as possible.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Strongly Agree	10%	11%	9%	16%	12%	34%	7%	9%	14%	22%	10%	5%	8%	13%
Somewhat agree	28%	28%	46%	25%	8%	42%	15%	51%	10%	26%	72%	21%	17%	44%
Neither agree or disagree	15%	18%	6%	12%	51%	13%	24%	10%	7%	14%	7%	10%	18%	12%
Somewhat Disagree	11%	15%	19%	4%	8%	3%	6%	24%	45%	13%	4%	3%	3%	21%
Strongly Disagree	22%	17%	18%	42%	21%	4%	46%	5%	13%	22%	7%	60%	34%	6%
TOTAL AGREE	**38%**	**39%**	**55%**	**41%**	**19%**	**76%**	**22%**	**60%**	**24%**	**48%**	**82%**	**26%**	**24%**	**57%**
TOTAL DISAGREE	**33%**	**32%**	**37%**	**46%**	**29%**	**7%**	**52%**	**29%**	**58%**	**35%**	**10%**	**63%**	**38%**	**26%**
Don't know	13%	11%	1%	1%	1%	3%	1%	1%	11%	3%	1%	1%	20%	5%

Q8. Please let us know how much do you agree with: The economic challenges New Mexico is facing due to COVID-19 has provided an opportunity to fundamentally reform the state's economy, and our state's leaders should take advantage of that opportunity.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Strongly Agree	41%	42%	36%	51%	42%	66%	43%	23%	62%	37%	80%	58%	41%	51%	30%
Somewhat agree	25%	24%	31%	22%	30%	24%	42%	25%	26%	27%	7%	22%	27%	37%	19%
Neither agree or disagree	16%	16%	19%	11%	13%	5%	4%	25%	8%	17%	11%	7%	21%	4%	24%
Somewhat Disagree	3%	2%	10%	7%	9%	4%	1%	3%	3%	3%	2%	3%	3%	5%	1%
Strongly Disagree	12%	13%	2%	6%	2%	-	*%	22%	1%	13%	*%	1%	2%	1%	25%
TOTAL AGREE	**66%**	**66%**	**67%**	**73%**	**72%**	**90%**	**85%**	**49%**	**87%**	**64%**	**87%**	**80%**	**69%**	**88%**	**49%**
TOTAL DISAGREE	**14%**	**15%**	**13%**	**13%**	**11%**	**4%**	**1%**	**24%**	**4%**	**16%**	**2%**	**4%**	**5%**	**6%**	**26%**
Don't know	3%	3%	2%	2%	4%	*%	9%	2%	1%	3%	*%	9%	5%	2%	1%

Q8. Please let us know how much do you agree with: The economic challenges New Mexico is facing due to COVID-19 has provided an opportunity to fundamentally reform the state's economy, and our state's leaders should take advantage of that opportunity.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Strongly Agree	41%	17%	39%	64%	49%	29%	67%	21%	28%	42%	25%	90%	56%	21%
Somewhat agree	25%	26%	23%	27%	42%	35%	24%	35%	51%	21%	18%	7%	18%	33%
Neither agree or disagree	16%	22%	7%	4%	5%	13%	5%	6%	5%	21%	4%	1%	23%	8%
Somewhat Disagree	3%	21%	3%	2%	3%	12%	2%	3%	2%	10%	4%	1%	1%	4%
Strongly Disagree	12%	-	25%	2%	*%	8%	1%	34%	*%	4%	49%	*%	1%	26%
TOTAL AGREE	**66%**	**43%**	**62%**	**92%**	**91%**	**63%**	**92%**	**57%**	**78%**	**63%**	**44%**	**97%**	**75%**	**54%**
TOTAL DISAGREE	**14%**	**21%**	**29%**	**4%**	**3%**	**19%**	**3%**	**37%**	**2%**	**14%**	**52%**	**2%**	**2%**	**31%**
Don't know	3%	15%	2%	1%	1%	4%	1%	1%	14%	2%	*%	*%	*%	7%

Q9. Do you favor or oppose increasing the use of clean energy to generate energy in New Mexico?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Strongly favor	47%	48%	36%	65%	47%	59%	42%	23%	75%	45%	67%	54%	40%	80%	31%
Somewhat favor	20%	16%	51%	22%	39%	20%	36%	24%	15%	21%	11%	23%	31%	11%	18%
Neither favor nor oppose	19%	19%	11%	7%	10%	15%	13%	29%	8%	18%	21%	12%	23%	5%	26%
Somewhat oppose	12%	13%	1%	4%	3%	2%	*%	22%	1%	13%	*%	1%	1%	2%	25%
Strongly oppose	*%	*%	*%	1%	*%	-	*%	*%	*%	*%	*%	*%	*%	-	*%
TOTAL FAVOR	**67%**	**65%**	**87%**	**86%**	**86%**	**79%**	**78%**	**48%**	**90%**	**66%**	**78%**	**78%**	**71%**	**92%**	**49%**
TOTAL OPPOSE	**12%**	**13%**	**1%**	**5%**	**3%**	**2%**	***%**	**22%**	**1%**	**13%**	**1%**	**1%**	**1%**	**2%**	**25%**
Don't know	3%	3%	1%	1%	1%	4%	9%	2%	*%	3%	1%	9%	5%	2%	*%

Q9. Do you favor or oppose increasing the use of clean energy to generate energy in New Mexico?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Strongly favor	47%	32%	33%	77%	80%	30%	79%	27%	29%	45%	28%	85%	62%	28%
Somewhat favor	20%	37%	32%	16%	7%	50%	12%	30%	48%	40%	17%	5%	8%	35%
Neither favor nor oppose	19%	24%	8%	5%	12%	14%	8%	8%	9%	11%	7%	8%	29%	5%
Somewhat oppose	12%	6%	25%	1%	1%	4%	1%	35%	*%	4%	48%	1%	1%	27%
Strongly oppose	*%	*%	*%	*%	*%	1%	*%	*%	*%	1%	*%	*%	*%	*%
TOTAL FAVOR	**67%**	**69%**	**65%**	**93%**	**86%**	**80%**	**91%**	**57%**	**77%**	**84%**	**45%**	**91%**	**70%**	**63%**
TOTAL OPPOSE	**12%**	**7%**	**25%**	**2%**	**1%**	**5%**	**1%**	**35%**	***%**	**4%**	**48%**	**1%**	**1%**	**27%**
Don't know	3%	-	2%	*%	1%	*%	1%	*%	14%	*%	*%	1%	1%	6%

Q10. Have you ever heard of the Energy Transition Act or ETA which was passed in March of 2019 by the state legislature and signed into law by Governor Michelle Lujan Grisham?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	45%	41%	77%	55%	58%	35%	25%	42%	49%	45%	47%	38%	67%	21%	51%
No	49%	52%	18%	36%	33%	55%	61%	53%	47%	49%	50%	41%	30%	74%	47%
Don't know	6%	6%	5%	9%	9%	10%	14%	5%	4%	6%	3%	21%	2%	5%	2%

Q10. Have you ever heard of the Energy Transition Act or ETA which was passed in March of 2019 by the state legislature and signed into law by Governor Michelle Lujan Grisham?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	45%	44%	25%	74%	27%	59%	47%	21%	18%	57%	34%	53%	53%	34%
No	49%	33%	67%	24%	71%	35%	46%	76%	70%	35%	64%	38%	42%	59%
Don't know	6%	23%	8%	2%	2%	7%	7%	2%	12%	8%	2%	9%	5%	7%

Q11. Based on this summary of the law and what you may have heard about it, how much do you think it will benefit you and your family?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Benefit a great deal	27%	27%	28%	36%	31%	38%	15%	10%	48%	26%	42%	19%	20%	44%	26%
Somewhat benefit	25%	23%	47%	30%	40%	41%	54%	30%	20%	24%	33%	37%	39%	13%	21%
Benefit a little	6%	5%	20%	16%	15%	5%	7%	5%	7%	6%	4%	5%	17%	7%	2%
Not benefit at all	20%	22%	2%	14%	7%	4%	11%	29%	10%	20%	19%	18%	23%	5%	27%
Don't know	21%	24%	2%	4%	6%	12%	13%	26%	14%	24%	3%	20%	1%	32%	25%

Q11. Based on this summary of the law and what you may have heard about it, how much do you think it will benefit you and your family?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Benefit a great deal	27%	27%	23%	51%	27%	28%	53%	4%	15%	27%	14%	71%	37%	15%
Somewhat benefit	25%	38%	34%	27%	15%	36%	16%	46%	58%	44%	24%	15%	14%	39%
Benefit a little	6%	18%	6%	9%	6%	16%	9%	3%	6%	20%	7%	3%	4%	8%
Not benefit at all	20%	4%	35%	5%	16%	17%	7%	41%	8%	7%	53%	9%	14%	28%
Don't know	21%	14%	2%	8%	36%	3%	15%	6%	12%	3%	1%	1%	30%	10%

Q12. Thinking about New Mexico's Energy Transition Act (ETA), how much do you think it will benefit the wider community here in New Mexico?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Benefit a great deal	27%	27%	27%	46%	37%	42%	37%	16%	41%	23%	67%	40%	36%	49%	8%
Somewhat benefit	27%	25%	43%	28%	33%	37%	34%	25%	31%	29%	8%	14%	29%	11%	40%
Benefit a little	8%	6%	26%	13%	19%	7%	12%	10%	6%	7%	14%	18%	16%	6%	1%
Not benefit at all	17%	19%	2%	11%	4%	2%	7%	26%	6%	18%	8%	18%	10%	3%	26%
Don't know	21%	23%	2%	2%	6%	13%	10%	24%	16%	23%	3%	10%	9%	31%	25%

Q12. Thinking about New Mexico's Energy Transition Act (ETA), how much do you think it will benefit the wider community here in New Mexico?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Benefit a great deal	27%	29%	30%	29%	38%	27%	41%	19%	25%	36%	25%	48%	32%	20%
Somewhat benefit	27%	24%	27%	53%	11%	30%	35%	31%	50%	40%	16%	39%	23%	33%
Benefit a little	8%	28%	5%	14%	9%	20%	5%	13%	9%	14%	9%	3%	4%	12%
Not benefit at all	17%	12%	34%	3%	7%	16%	5%	38%	*%	7%	49%	8%	10%	27%
Don't know	21%	7%	4%	1%	35%	6%	15%	1%	16%	2%	1%	1%	31%	8%

Q13. How important do you think each of the following steps that could be taken to make this happen are for New Mexico: Changing the way state and local governments award contracts to create advantages for local businesses and businesses that hire New Mexicans for clean energy jobs.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	42%	42%	41%	57%	50%	59%	38%	20%	67%	37%	79%	44%	54%	55%	30%
Somewhat important	36%	36%	31%	28%	28%	30%	37%	45%	27%	38%	17%	19%	29%	39%	44%
Not that important	5%	4%	15%	10%	11%	2%	8%	7%	3%	5%	1%	15%	7%	2%	1%
Not at all important	2%	1%	9%	3%	7%	1%	1%	1%	2%	2%	1%	2%	3%	2%	1%
Don't know	16%	18%	3%	2%	5%	8%	17%	27%	2%	18%	2%	20%	6%	3%	25%

Q13. How important do you think each of the following steps that could be taken to make this happen are for New Mexico: Changing the way state and local governments award contracts to create advantages for local businesses and businesses that hire New Mexicans for clean energy jobs.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Very important	42%	20%	36%	73%	47%	37%	68%	24%	28%	53%	31%	83%	55%	24%
Somewhat important	36%	36%	52%	11%	51%	46%	22%	65%	54%	24%	61%	8%	21%	56%
Not that important	5%	8%	7%	5%	1%	9%	7%	3%	1%	10%	5%	8%	5%	5%
Not at all important	2%	7%	2%	2%	*%	6%	1%	2%	1%	8%	2%	*%	1%	3%
Don't know	16%	28%	3%	8%	1%	2%	2%	6%	16%	4%	1%	*%	19%	12%

Q14. How important do you think each of the following steps that could be taken to make this happen are for New Mexico: Providing training for New Mexicans who live in rural areas of our state and want to work in clean energy industries to ensure that they have the certifications needed and experience required to obtain jobs.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	42%	42%	41%	61%	56%	77%	34%	21%	65%	38%	74%	45%	42%	59%	32%
Somewhat important	36%	37%	27%	22%	23%	17%	46%	47%	27%	39%	14%	28%	32%	34%	42%
Not that important	6%	4%	20%	10%	12%	5%	8%	7%	5%	5%	10%	15%	12%	4%	1%
Not at all important	2%	2%	7%	5%	5%	-	3%	3%	2%	2%	1%	2%	7%	2%	*%
Don't know	14%	15%	4%	2%	3%	1%	10%	23%	1%	15%	1%	10%	6%	1%	24%

Q14. How important do you think each of the following steps that could be taken to make this happen are for New Mexico: Providing training for New Mexicans who live in rural areas of our state and want to work in clean energy industries to ensure that they have the certifications needed and experience required to obtain jobs.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very important	42%	37%	35%	72%	49%	45%	69%	20%	27%	49%	33%	87%	54%	25%
Somewhat important	36%	34%	51%	20%	45%	32%	21%	72%	56%	20%	60%	4%	20%	58%
Not that important	6%	10%	8%	4%	6%	15%	7%	6%	1%	15%	5%	8%	6%	6%
Not at all important	2%	14%	3%	2%	*%	7%	3%	2%	1%	13%	2%	*%	1%	4%
Don't know	14%	5%	3%	1%	*%	1%	1%	1%	14%	3%	1%	*%	19%	6%

Q15. How important do you think each of the following steps that could be taken to make this happen are for New Mexico: Providing training for New Mexicans in languages other than English who want to work in clean energy industries to ensure that they have the certifications needed and experience required to obtain jobs.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	37%	36%	41%	48%	46%	72%	40%	19%	58%	33%	70%	44%	48%	79%	10%
Somewhat important	19%	18%	34%	27%	31%	17%	41%	28%	11%	20%	18%	21%	27%	10%	20%
Not that important	14%	14%	17%	12%	12%	3%	4%	5%	25%	15%	2%	14%	11%	4%	20%
Not at all important	16%	16%	7%	10%	7%	4%	8%	26%	4%	16%	9%	12%	8%	4%	25%
Don't know	14%	15%	2%	3%	4%	4%	7%	22%	2%	16%	1%	10%	5%	3%	24%

Q15. How important do you think each of the following steps that could be taken to make this happen are for New Mexico: Providing training for New Mexicans in languages other than English who want to work in clean energy industries to ensure that they have the certifications needed and experience required to obtain jobs.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very important	37%	18%	33%	36%	77%	43%	58%	20%	30%	46%	30%	51%	46%	25%
Somewhat important	19%	30%	24%	21%	14%	28%	11%	37%	56%	21%	13%	7%	9%	34%
Not that important	14%	23%	9%	39%	3%	11%	25%	4%	2%	19%	5%	34%	19%	8%
Not at all important	16%	25%	30%	3%	6%	12%	6%	38%	1%	11%	50%	7%	6%	29%
Don't know	14%	5%	4%	1%	*%	6%	1%	1%	10%	4%	1%	1%	21%	5%

Q16. How important do you think each of the following steps that could be taken to make this happen are for New Mexico: Making sure that state-funded projects associated with clean energy have jobs available to New Mexicans with less than a college education and not just those with advanced education.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	39%	39%	38%	60%	53%	63%	34%	20%	61%	35%	73%	52%	41%	84%	12%
Somewhat important	38%	38%	34%	22%	28%	29%	39%	45%	32%	40%	23%	12%	38%	9%	62%
Not that important	6%	5%	14%	10%	10%	1%	14%	9%	3%	7%	1%	24%	6%	3%	1%
Not at all important	3%	2%	10%	5%	5%	4%	4%	3%	2%	3%	1%	3%	8%	2%	1%
Don't know	14%	15%	3%	3%	5%	4%	9%	23%	1%	16%	1%	9%	6%	2%	25%

Q16. How important do you think each of the following steps that could be taken to make this happen are for New Mexico: Making sure that state-funded projects associated with clean energy have jobs available to New Mexicans with less than a college education and not just those with advanced education.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Very important	39%	32%	38%	34%	80%	50%	59%	21%	21%	48%	36%	52%	49%	25%
Somewhat important	38%	23%	48%	53%	18%	30%	30%	68%	62%	23%	57%	40%	26%	54%
Not that important	6%	14%	7%	11%	1%	8%	7%	8%	1%	10%	4%	8%	5%	8%
Not at all important	3%	16%	4%	2%	1%	8%	2%	2%	5%	9%	2%	*%	1%	5%
Don't know	14%	15%	3%	1%	*%	4%	3%	1%	11%	10%	1%	*%	19%	7%

Q17. Policy makers are proposing to put in place a new rule requiring New Mexico's oil and gas industry to use technologies to limit the amount of methane gas and other pollution leaked, vented, or flared from oil and gas facilities. Do you support or oppose that proposal?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Strongly support	38%	38%	37%	59%	45%	54%	45%	22%	57%	34%	69%	52%	40%	80%	11%
Somewhat support	44%	43%	51%	26%	41%	40%	41%	70%	17%	47%	21%	24%	42%	13%	68%
Somewhat oppose	13%	13%	11%	9%	5%	2%	8%	5%	21%	14%	*%	13%	8%	3%	19%
Strongly oppose	2%	2%	*%	4%	3%	1%	*%	2%	2%	1%	8%	*%	6%	1%	1%
TOTAL SUPPORT	**82%**	**81%**	**88%**	**85%**	**86%**	**94%**	**86%**	**92%**	**74%**	**81%**	**90%**	**77%**	**82%**	**93%**	**79%**
TOTAL OPPOSE	**15%**	**15%**	**11%**	**13%**	**9%**	**2%**	**8%**	**7%**	**23%**	**15%**	**8%**	**14%**	**14%**	**4%**	**21%**
Don't know	3%	3%	1%	2%	5%	4%	6%	1%	3%	3%	1%	10%	4%	3%	*%

Q17. Policy makers are proposing to put in place a new rule requiring New Mexico's oil and gas industry to use technologies to limit the amount of methane gas and other pollution leaked, vented, or flared from oil and gas facilities. Do you support or oppose that proposal?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Strongly support	38%	25%	32%	42%	78%	34%	59%	27%	27%	45%	29%	52%	45%	28%
Somewhat support	44%	66%	58%	19%	14%	43%	16%	67%	61%	41%	66%	6%	31%	62%
Somewhat oppose	13%	7%	9%	37%	1%	11%	25%	2%	1%	9%	3%	40%	20%	4%
Strongly oppose	2%	1%	1%	1%	6%	10%	*%	3%	*%	4%	1%	1%	2%	2%
TOTAL SUPPORT	**82%**	**90%**	**89%**	**60%**	**92%**	**77%**	**74%**	**94%**	**87%**	**86%**	**95%**	**58%**	**76%**	**90%**
TOTAL OPPOSE	**15%**	**8%**	**10%**	**38%**	**8%**	**20%**	**25%**	**6%**	**1%**	**14%**	**4%**	**41%**	**22%**	**5%**
Don't know	3%	1%	1%	1%	*%	3%	1%	1%	11%	*%	1%	1%	2%	5%

Q18. How important are the following steps to ensure that New Mexico develops and sustains a diverse clean energy workforce: Advance diversity in regard to gender, with access to clean energy jobs for women in New Mexico who would like to pursue a career in clean energy.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	47%	47%	41%	53%	54%	57%	39%	21%	77%	43%	80%	43%	51%	83%	29%
Somewhat important	20%	19%	31%	27%	25%	34%	36%	23%	17%	20%	16%	19%	33%	9%	20%
Not that important	4%	3%	17%	11%	11%	8%	4%	5%	3%	4%	2%	6%	11%	4%	1%
Not at all important	14%	15%	8%	6%	6%	*%	7%	26%	2%	16%	1%	12%	3%	3%	24%
Don't know	15%	16%	2%	3%	4%	1%	14%	25%	1%	17%	1%	19%	1%	1%	25%

Q18. How important are the following steps to ensure that New Mexico develops and sustains a diverse clean energy workforce: Advance diversity in regard to gender, with access to clean energy jobs for women in New Mexico who would like to pursue a career in clean energy.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very important	47%	24%	34%	70%	84%	45%	79%	22%	29%	49%	33%	83%	64%	24%
Somewhat important	20%	24%	29%	14%	12%	28%	12%	32%	53%	26%	12%	7%	12%	31%
Not that important	4%	27%	5%	4%	3%	14%	3%	4%	8%	13%	4%	2%	1%	8%
Not at all important	14%	12%	30%	2%	1%	7%	5%	36%	1%	9%	50%	7%	4%	28%
Don't know	15%	13%	1%	9%	*%	6%	1%	6%	10%	3%	1%	1%	20%	9%

Q19. How important are the following steps to ensure that New Mexico develops and sustains a diverse clean energy workforce: Advance diversity in regard to race and ethnicity, with access to clean energy jobs for all of the communities who live in New Mexico who would like to pursue a career in clean energy.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	39%	39%	40%	52%	54%	60%	42%	21%	59%	34%	80%	45%	53%	83%	11%
Somewhat important	19%	17%	34%	29%	28%	31%	2%	8%	31%	19%	17%	11%	26%	10%	23%
Not that important	4%	2%	15%	11%	9%	*%	4%	4%	3%	4%	2%	5%	12%	2%	1%
Not at all important	17%	17%	9%	6%	6%	5%	11%	27%	5%	18%	1%	19%	8%	4%	24%
Don't know	22%	24%	2%	3%	3%	4%	42%	39%	1%	25%	*%	19%	1%	1%	41%

Q19. How important are the following steps to ensure that New Mexico develops and sustains a diverse clean energy workforce: Advance diversity in regard to race and ethnicity, with access to clean energy jobs for all of the communities who live in New Mexico who would like to pursue a career in clean energy.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very important	39%	24%	34%	37%	84%	46%	59%	25%	33%	48%	32%	52%	50%	25%
Somewhat important	19%	35%	8%	48%	13%	28%	30%	8%	8%	22%	13%	39%	23%	13%
Not that important	4%	13%	5%	4%	2%	9%	4%	4%	1%	19%	4%	1%	1%	7%
Not at all important	17%	11%	35%	2%	1%	15%	5%	35%	5%	9%	50%	7%	7%	30%
Don't know	22%	17%	17%	9%	*%	2%	1%	29%	53%	2%	1%	1%	19%	26%

Q20. How important are the following steps to ensure that New Mexico develops and sustains a diverse clean energy workforce: Advance diversity in regard to age, with access to clean energy jobs for New Mexicans of all age groups who are interested in a career in clean energy.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	32%	31%	40%	50%	51%	62%	38%	20%	44%	26%	82%	45%	46%	56%	10%
Somewhat important	28%	28%	32%	31%	28%	29%	38%	24%	34%	30%	15%	11%	38%	11%	40%
Not that important	5%	4%	18%	11%	11%	1%	8%	7%	3%	5%	1%	16%	7%	3%	1%
Not at all important	20%	22%	8%	5%	6%	8%	3%	24%	18%	22%	1%	10%	8%	29%	25%
Don't know	15%	16%	3%	3%	4%	*%	13%	25%	1%	17%	-	19%	1%	1%	25%

Q20. How important are the following steps to ensure that New Mexico develops and sustains a diverse clean energy workforce: Advance diversity in regard to age, with access to clean energy jobs for New Mexicans of all age groups who are interested in a career in clean energy.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very important	32%	32%	21%	34%	81%	37%	44%	25%	28%	50%	30%	27%	38%	24%
Somewhat important	28%	26%	27%	50%	16%	43%	32%	30%	58%	21%	14%	41%	25%	32%
Not that important	5%	6%	8%	5%	2%	13%	7%	4%	1%	12%	6%	9%	5%	6%
Not at all important	20%	23%	44%	1%	1%	6%	17%	35%	2%	14%	49%	22%	13%	30%
Don't know	15%	12%	1%	9%	*%	2%	1%	6%	10%	3%	1%	1%	19%	9%

Q21. How important are the following steps to ensure that New Mexico develops and sustains a diverse clean energy workforce: Advance diversity in regard to immigration status, with access to clean energy jobs for long-term residents of New Mexico who are interested in a career in clean energy regardless of their personal immigration status?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	35%	34%	39%	44%	46%	56%	39%	18%	55%	30%	81%	44%	41%	78%	8%
Somewhat important	25%	25%	30%	27%	26%	37%	32%	23%	30%	28%	6%	11%	24%	8%	40%
Not that important	6%	4%	21%	13%	15%	3%	8%	7%	5%	6%	2%	16%	7%	6%	2%
Not at all important	18%	19%	9%	11%	8%	*%	7%	26%	9%	19%	10%	10%	25%	5%	25%
Don't know	16%	17%	2%	5%	5%	4%	14%	26%	2%	17%	1%	20%	2%	3%	25%

Q21. How important are the following steps to ensure that New Mexico develops and sustains a diverse clean energy workforce: Advance diversity in regard to immigration status, with access to clean energy jobs for long-term residents of New Mexico who are interested in a career in clean energy regardless of their personal immigration status?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very important	35%	37%	29%	32%	78%	25%	55%	23%	30%	44%	25%	49%	45%	21%
Somewhat important	25%	19%	24%	48%	12%	30%	31%	28%	50%	22%	14%	40%	22%	30%
Not that important	6%	30%	9%	4%	3%	19%	8%	4%	3%	14%	6%	9%	5%	7%
Not at all important	18%	6%	35%	5%	6%	19%	5%	38%	5%	17%	53%	1%	8%	32%
Don't know	16%	8%	2%	10%	1%	7%	1%	7%	12%	3%	2%	1%	20%	10%

Q22. Based on what you might know about clean energy, how important are the following potential benefits to you and your family: Cost savings for energy prices with clean energy

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	36%	36%	40%	48%	51%	71%	51%	25%	49%	31%	80%	62%	55%	55%	10%
Somewhat important	25%	24%	37%	30%	29%	19%	31%	23%	29%	27%	6%	11%	22%	10%	39%
Not that important	15%	15%	16%	14%	11%	1%	3%	25%	4%	16%	2%	6%	11%	3%	25%
Not at all important	15%	16%	5%	7%	5%	7%	7%	26%	3%	16%	8%	12%	8%	3%	25%
Don't know	9%	10%	2%	2%	5%	1%	7%	1%	15%	10%	3%	10%	4%	29%	1%

Q22. Based on what you might know about clean energy, how important are the following potential benefits to you and your family: Cost savings for energy prices with clean energy

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Very important	36%	29%	40%	42%	45%	48%	46%	29%	35%	53%	29%	51%	40%	31%
Somewhat important	25%	38%	24%	48%	10%	30%	29%	29%	49%	24%	14%	39%	22%	29%
Not that important	15%	6%	5%	5%	6%	10%	4%	4%	6%	11%	6%	2%	21%	7%
Not at all important	15%	19%	30%	2%	6%	8%	6%	37%	1%	9%	48%	8%	5%	28%
Don't know	9%	8%	2%	3%	34%	4%	15%	1%	10%	3%	3%	1%	12%	5%

Q23. Based on what you might know about clean energy, how important are the following potential benefits to you and your family: Economic development associated with the clean energy industry

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	48%	48%	40%	53%	52%	64%	47%	25%	74%	44%	81%	53%	44%	83%	30%
Somewhat important	19%	18%	35%	28%	28%	31%	33%	23%	16%	21%	5%	20%	28%	10%	20%
Not that important	4%	3%	16%	11%	10%	4%	4%	4%	4%	4%	2%	6%	11%	4%	1%
Not at all important	15%	16%	6%	6%	4%	-	10%	27%	3%	16%	9%	11%	12%	2%	25%
Don't know	14%	15%	3%	1%	6%	*%	6%	22%	3%	15%	3%	10%	5%	2%	25%

Q23. Based on what you might know about clean energy, how important are the following potential benefits to you and your family: Economic development associated with the clean energy industry

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Very important	48%	31%	34%	78%	77%	37%	77%	30%	36%	40%	28%	84%	62%	28%
Somewhat important	19%	32%	27%	13%	15%	40%	11%	29%	48%	28%	15%	8%	11%	30%
Not that important	4%	13%	6%	4%	3%	17%	3%	3%	6%	13%	6%	*%	2%	7%
Not at all important	15%	14%	31%	2%	5%	2%	7%	38%	*%	14%	48%	7%	5%	29%
Don't know	14%	10%	2%	3%	*%	3%	2%	1%	10%	4%	3%	*%	20%	6%

Q24. Based on what you might know about clean energy, how important are the following potential benefits to you and your family: The environmental benefits of using clean energy

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	50%	50%	43%	63%	56%	75%	43%	25%	79%	47%	73%	55%	47%	85%	32%
Somewhat important	18%	17%	30%	20%	23%	15%	43%	25%	12%	20%	5%	27%	24%	6%	19%
Not that important	16%	16%	17%	11%	12%	1%	8%	27%	3%	16%	11%	7%	16%	4%	24%
Not at all important	2%	2%	8%	6%	5%	2%	*%	2%	3%	2%	8%	2%	8%	2%	1%
Don't know	14%	15%	2%	1%	4%	7%	7%	21%	3%	15%	3%	9%	5%	3%	24%

Q24. Based on what you might know about clean energy, how important are the following potential benefits to you and your family: The environmental benefits of using clean energy

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very important	50%	33%	36%	78%	82%	46%	81%	26%	27%	51%	32%	88%	64%	31%
Somewhat important	18%	24%	31%	13%	4%	28%	12%	30%	51%	23%	11%	10%	11%	29%
Not that important	16%	23%	30%	3%	8%	13%	3%	39%	11%	14%	52%	1%	3%	32%
Not at all important	2%	10%	2%	3%	5%	7%	1%	5%	*%	8%	2%	*%	2%	3%
Don't know	14%	10%	2%	3%	*%	6%	2%	1%	10%	4%	3%	*%	20%	6%

Q25. Based on what you might know about clean energy, how important are the following potential benefits to you and your family: Jobs in the clean energy industry

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very important	31%	30%	41%	47%	52%	61%	37%	21%	43%	27%	72%	53%	37%	52%	11%
Somewhat important	29%	29%	32%	29%	27%	35%	42%	25%	36%	31%	16%	20%	38%	11%	39%
Not that important	5%	4%	17%	14%	12%	2%	7%	7%	4%	6%	3%	6%	16%	4%	1%
Not at all important	15%	16%	8%	7%	6%	1%	7%	26%	4%	16%	9%	11%	7%	3%	25%
Don't know	19%	21%	2%	2%	4%	1%	7%	21%	14%	21%	*%	10%	1%	28%	24%

Q25. Based on what you might know about clean energy, how important are the following potential benefits to you and your family: Jobs in the clean energy industry

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very important	31%	20%	32%	44%	38%	38%	44%	24%	24%	45%	26%	50%	35%	27%
Somewhat important	29%	41%	30%	49%	17%	40%	32%	34%	59%	26%	17%	40%	28%	31%
Not that important	5%	16%	7%	5%	5%	12%	6%	4%	6%	20%	6%	2%	3%	9%
Not at all important	15%	10%	30%	2%	7%	7%	5%	38%	1%	7%	49%	8%	5%	28%
Don't know	19%	13%	1%	1%	33%	2%	14%	1%	10%	3%	1%	1%	29%	5%

Q26. How concerned are you about: That all of the jobs that come from clean energy will go to people who live in Albuquerque and Santa Fe without equal access to New Mexicans who live in rural areas.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very concerned	33%	33%	35%	30%	42%	64%	37%	42%	23%	30%	61%	40%	44%	20%	32%
Somewhat concerned	39%	39%	31%	41%	33%	21%	36%	47%	31%	42%	8%	16%	27%	13%	64%
Not that concerned	14%	13%	22%	14%	15%	10%	4%	5%	24%	14%	11%	14%	20%	33%	2%
Not concerned at all	4%	3%	8%	10%	5%	4%	7%	6%	2%	4%	1%	11%	3%	4%	1%
Don't know	11%	12%	3%	5%	4%	*%	16%	1%	19%	10%	20%	20%	5%	29%	1%

Q26. How concerned are you about: That all of the jobs that come from clean energy will go to people who live in Albuquerque and Santa Fe without equal access to New Mexicans who live in rural areas.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very concerned	33%	27%	45%	33%	28%	36%	23%	58%	23%	46%	73%	17%	19%	52%
Somewhat concerned	39%	35%	27%	53%	15%	41%	33%	30%	55%	30%	17%	42%	43%	33%
Not that concerned	14%	20%	21%	8%	9%	16%	19%	7%	6%	18%	6%	25%	19%	7%
Not concerned at all	4%	10%	6%	2%	4%	4%	6%	3%	1%	5%	3%	9%	4%	3%
Don't know	11%	8%	2%	4%	44%	3%	19%	3%	15%	2%	1%	8%	15%	5%

Q27. How concerned are you about: That all of the jobs that come from clean energy will go to people with advanced education without many jobs for New Mexicans who only have a high school education.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very concerned	30%	29%	38%	31%	42%	49%	26%	37%	22%	27%	57%	32%	41%	20%	30%
Somewhat concerned	46%	47%	32%	40%	33%	36%	39%	46%	48%	50%	11%	13%	33%	41%	66%
Not that concerned	10%	9%	18%	15%	14%	8%	15%	11%	9%	10%	10%	34%	12%	4%	2%
Not concerned at all	11%	11%	8%	9%	5%	7%	11%	3%	19%	9%	20%	11%	8%	33%	1%
Don't know	4%	4%	4%	4%	6%	-	9%	3%	2%	4%	1%	10%	6%	3%	1%

Q27. How concerned are you about: That all of the jobs that come from clean energy will go to people with advanced education without many jobs for New Mexicans who only have a high school education.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very concerned	30%	15%	43%	28%	22%	36%	21%	52%	23%	37%	74%	15%	18%	46%
Somewhat concerned	46%	34%	26%	55%	54%	41%	48%	32%	58%	33%	17%	43%	57%	31%
Not that concerned	10%	22%	11%	13%	9%	10%	9%	12%	2%	14%	6%	11%	10%	10%
Not concerned at all	11%	11%	17%	2%	14%	10%	21%	2%	2%	13%	3%	31%	14%	5%
Don't know	4%	18%	4%	2%	1%	3%	1%	1%	16%	3%	1%	1%	1%	7%

Q28. How concerned are you about: That all of the training opportunities to be competitive for jobs in clean energy will only be available in the urban areas of the state, making it challenging for those who live in the rural areas to acquire training.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very concerned	37%	38%	35%	28%	42%	51%	22%	34%	42%	35%	58%	20%	44%	18%	50%
Somewhat concerned	37%	37%	36%	45%	35%	32%	57%	57%	17%	40%	12%	44%	30%	15%	47%
Not that concerned	13%	12%	19%	14%	14%	9%	5%	6%	21%	13%	10%	14%	17%	34%	1%
Not concerned at all	2%	1%	8%	7%	5%	1%	*%	1%	2%	2%	*%	2%	3%	2%	1%
Don't know	11%	12%	2%	6%	4%	7%	17%	3%	18%	11%	19%	20%	6%	31%	1%

Q28. How concerned are you about: That all of the training opportunities to be competitive for jobs in clean energy will only be available in the urban areas of the state, making it challenging for those who live in the rural areas to acquire training.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very concerned	37%	10%	40%	62%	26%	51%	39%	47%	21%	40%	67%	49%	30%	47%
Somewhat concerned	37%	36%	32%	30%	21%	30%	21%	44%	59%	31%	23%	18%	39%	35%
Not that concerned	13%	15%	22%	5%	8%	10%	20%	6%	4%	20%	6%	25%	16%	8%
Not concerned at all	2%	15%	1%	2%	1%	6%	2%	1%	1%	4%	3%	1%	1%	3%
Don't know	11%	25%	4%	1%	44%	3%	19%	1%	16%	4%	1%	8%	14%	8%

Q29. How concerned are you about: That small businesses that rely on the mining of fossil fuels will suffer when that industry is phased out.

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Very concerned	30%	29%	35%	31%	36%	24%	22%	35%	24%	27%	52%	37%	37%	16%	30%
Somewhat concerned	30%	30%	32%	39%	36%	34%	13%	35%	26%	32%	14%	21%	23%	42%	31%
Not that concerned	25%	25%	22%	16%	16%	29%	44%	21%	31%	26%	21%	28%	13%	8%	37%
Not concerned at all	10%	10%	8%	11%	7%	11%	7%	4%	16%	10%	11%	3%	13%	31%	1%
Don't know	5%	5%	2%	4%	6%	2%	15%	4%	3%	6%	1%	10%	14%	4%	1%

Q29. How concerned are you about: That small businesses that rely on the mining of fossil fuels will suffer when that industry is phased out.

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Very concerned	30%	10%	45%	26%	20%	57%	13%	53%	14%	34%	73%	14%	18%	46%
Somewhat concerned	30%	34%	10%	22%	54%	22%	31%	12%	9%	28%	16%	11%	39%	18%
Not that concerned	25%	16%	25%	43%	18%	8%	34%	28%	47%	18%	7%	51%	26%	24%
Not concerned at all	10%	23%	16%	5%	8%	6%	18%	5%	11%	11%	3%	23%	15%	3%
Don't know	5%	18%	5%	4%	1%	6%	3%	3%	20%	10%	1%	1%	2%	9%

Q30. To the best of your knowledge, does New Mexico's higher education system support or provide any job training opportunities that are specifically targeted to workers displaced by the current energy transition?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	15%	8%	77%	33%	51%	8%	9%	14%	16%	14%	17%	21%	44%	13%	2%
No	22%	23%	9%	17%	18%	37%	59%	26%	17%	18%	51%	44%	15%	12%	20%
Don't know	64%	69%	14%	50%	31%	56%	32%	60%	66%	67%	32%	35%	41%	75%	78%

Q30. To the best of your knowledge, does New Mexico's higher education system support or provide any job training opportunities that are specifically targeted to workers displaced by the current energy transition?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	15%	33%	16%	20%	10%	53%	16%	11%	6%	45%	24%	8%	8%	23%
No	22%	35%	27%	22%	22%	25%	12%	41%	54%	26%	7%	18%	13%	34%
Don't know	64%	32%	57%	58%	68%	22%	72%	48%	40%	29%	69%	74%	79%	43%

Q31. Would you be interested in learning more about any job training opportunities related to clean energy?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	42%	37%	89%	48%	69%	60%	74%	41%	46%	39%	75%	65%	63%	53%	21%
No	45%	49%	9%	42%	22%	28%	12%	54%	36%	48%	21%	15%	32%	13%	77%
Don't know	12%	14%	2%	9%	9%	12%	14%	5%	18%	13%	4%	21%	5%	34%	2%

Q31. Would you be interested in learning more about any job training opportunities related to clean energy?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	42%	57%	55%	48%	31%	65%	43%	54%	68%	66%	39%	46%	32%	56%
No	45%	27%	37%	51%	31%	26%	36%	45%	16%	28%	60%	45%	51%	38%
Don't know	12%	16%	8%	1%	38%	10%	21%	1%	15%	7%	1%	9%	17%	7%

Q32. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Child care

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	26%	19%	53%	35%	42%	25%	22%	31%	21%	25%	29%	33%	52%	11%	6%
No	53%	56%	41%	58%	51%	58%	39%	31%	76%	50%	67%	63%	43%	86%	13%
Don't know	21%	25%	5%	7%	7%	17%	39%	38%	3%	24%	4%	4%	5%	3%	80%

Q32. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Child care

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	26%	32%	25%	30%	20%	51%	20%	18%	19%	38%	53%	8%	22%	29%
No	53%	42%	44%	67%	73%	45%	74%	38%	17%	55%	41%	90%	75%	37%
Don't know	21%	26%	31%	3%	6%	4%	5%	43%	63%	6%	5%	2%	4%	34%

Q33. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Transportation to classes or workshops not being available

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	32%	26%	55%	38%	45%	43%	30%	32%	32%	27%	54%	49%	52%	19%	5%
No	30%	28%	38%	53%	48%	24%	25%	29%	31%	27%	44%	48%	33%	22%	15%
Don't know	38%	46%	6%	10%	7%	34%	45%	39%	37%	45%	3%	3%	15%	59%	80%

Q33. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Transportation to classes or workshops not being available

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	32%	53%	24%	33%	63%	38%	33%	21%	20%	55%	50%	21%	38%	28%
No	30%	27%	17%	60%	27%	56%	25%	32%	11%	40%	35%	28%	21%	37%
Don't know	38%	20%	58%	8%	10%	6%	41%	47%	69%	6%	15%	51%	42%	35%

Q34. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Classes taking place only during the day when I work a full or part time job

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	49%	46%	60%	49%	56%	66%	55%	45%	52%	42%	82%	83%	67%	29%	9%
No	14%	10%	30%	41%	33%	9%	3%	15%	14%	15%	10%	13%	23%	11%	10%
Don't know	37%	44%	10%	10%	11%	25%	42%	40%	34%	43%	8%	3%	10%	60%	81%

Q34. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Classes taking place only during the day when I work a full or part time job

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Yes	49%	60%	32%	70%	78%	63%	45%	44%	23%	62%	69%	42%	50%	48%
No	14%	34%	12%	19%	13%	29%	17%	9%	8%	28%	23%	8%	11%	17%
Don't know	37%	5%	56%	11%	9%	8%	38%	46%	69%	10%	7%	50%	39%	36%

Q35. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Classes or workshops not being available near my home

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	43%	40%	57%	55%	55%	58%	47%	38%	48%	34%	85%	66%	61%	29%	13%
No	23%	19%	38%	37%	37%	28%	14%	24%	22%	25%	12%	31%	35%	16%	7%
Don't know	34%	41%	6%	8%	8%	14%	39%	38%	30%	41%	3%	3%	4%	55%	80%

Q35. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Classes or workshops not being available near my home

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Yes	43%	68%	31%	60%	62%	51%	41%	38%	29%	55%	65%	40%	48%	39%
No	23%	24%	15%	37%	31%	45%	23%	19%	8%	39%	30%	10%	17%	28%
Don't know	34%	8%	54%	3%	7%	4%	36%	43%	63%	6%	5%	50%	35%	33%

Q36. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Concerns passing a drug test or criminal background check

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	17%	9%	49%	32%	40%	16%	7%	17%	17%	16%	23%	16%	38%	14%	1%
No	62%	66%	47%	61%	54%	59%	54%	44%	79%	59%	74%	81%	58%	81%	19%
Don't know	21%	25%	4%	8%	7%	24%	39%	39%	3%	25%	2%	3%	4%	5%	80%

Q36. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Concerns passing a drug test or criminal background check

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	17%	44%	11%	31%	12%	34%	17%	10%	10%	38%	28%	5%	12%	22%
No	62%	37%	57%	66%	81%	61%	78%	46%	25%	54%	68%	94%	85%	44%
Don't know	21%	18%	32%	3%	7%	5%	5%	44%	64%	8%	5%	2%	4%	34%

Q37. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Classes or workshops only being available in English

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	25%	18%	53%	28%	43%	46%	20%	30%	19%	23%	31%	30%	44%	19%	5%
No	54%	58%	41%	66%	49%	36%	41%	31%	77%	52%	67%	68%	52%	75%	15%
Don't know	21%	25%	6%	6%	9%	18%	39%	38%	4%	25%	3%	2%	4%	6%	80%

Q37. Would any of the following obstacles limit your ability to participate in training opportunities for jobs in the clean energy industry: Classes or workshops only being available in English

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	25%	25%	24%	30%	16%	33%	20%	20%	19%	39%	50%	5%	22%	27%
No	54%	56%	44%	67%	76%	63%	75%	36%	17%	56%	44%	93%	74%	39%
Don't know	21%	20%	32%	3%	7%	4%	5%	44%	64%	5%	7%	2%	4%	34%

Q38. Do you think tax rates on the following groups of New Mexicans should be raised: Households who have an income of $250,000 or more

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Raised a lot	21%	21%	22%	38%	22%	37%	11%	11%	32%	21%	20%	8%	30%	15%	26%
Raised a little	36%	36%	34%	30%	36%	18%	55%	27%	47%	33%	57%	44%	29%	65%	21%
Kept about the same	24%	24%	23%	17%	24%	23%	20%	34%	13%	25%	9%	35%	17%	11%	27%
Lowered a little	3%	2%	13%	6%	8%	10%	4%	4%	3%	3%	3%	3%	11%	3%	1%
Lowered a lot	2%	2%	5%	5%	3%	1%	*%	2%	2%	1%	9%	1%	7%	3%	*%
TOTAL RAISED	**57%**	**57%**	**56%**	**68%**	**58%**	**55%**	**66%**	**38%**	**79%**	**54%**	**77%**	**51%**	**59%**	**80%**	**47%**
TOTAL LOWERED	**5%**	**4%**	**18%**	**11%**	**12%**	**11%**	**5%**	**5%**	**6%**	**5%**	**12%**	**4%**	**17%**	**6%**	**1%**
Don't know	15%	16%	4%	3%	6%	11%	9%	23%	2%	16%	2%	10%	6%	3%	25%

Q38. Do you think tax rates on the following groups of New Mexicans should be raised: Households who have an income of $250,000 or more

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Raised a lot	21%	13%	9%	50%	28%	15%	39%	7%	20%	28%	11%	41%	30%	9%
Raised a little	36%	15%	43%	25%	59%	23%	44%	41%	53%	29%	25%	44%	36%	35%
Kept about the same	24%	32%	39%	18%	6%	39%	11%	45%	8%	19%	58%	13%	10%	41%
Lowered a little	3%	13%	5%	4%	1%	12%	2%	2%	7%	8%	5%	1%	1%	6%
Lowered a lot	2%	9%	1%	2%	6%	6%	1%	3%	*%	6%	1%	*%	2%	1%
TOTAL RAISED	**57%**	**28%**	**52%**	**75%**	**87%**	**38%**	**83%**	**48%**	**73%**	**57%**	**36%**	**85%**	**66%**	**44%**
TOTAL LOWERED	**5%**	**22%**	**5%**	**6%**	**7%**	**18%**	**3%**	**6%**	**7%**	**14%**	**6%**	**1%**	**4%**	**7%**
Don't know	15%	19%	4%	1%	*%	4%	3%	1%	13%	10%	*%	1%	20%	8%

Q39. Do you think tax rates on the following groups of New Mexicans should be raised: Large businesses and corporations

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Raised a lot	41%	42%	32%	43%	35%	41%	54%	26%	59%	39%	61%	32%	41%	47%	42%
Raised a little	19%	18%	26%	29%	27%	8%	22%	17%	21%	19%	18%	30%	24%	34%	5%
Kept about the same	19%	19%	23%	15%	20%	29%	6%	27%	12%	20%	8%	15%	17%	9%	27%
Lowered a little	3%	3%	9%	6%	9%	13%	3%	4%	3%	4%	2%	3%	9%	4%	1%
Lowered a lot	4%	3%	7%	4%	4%	1%	8%	4%	3%	3%	8%	10%	7%	2%	1%
TOTAL RAISED	**60%**	**60%**	**58%**	**72%**	**62%**	**49%**	**76%**	**43%**	**80%**	**58%**	**79%**	**62%**	**65%**	**81%**	**47%**
TOTAL LOWERED	**7%**	**6%**	**16%**	**10%**	**13%**	**14%**	**11%**	**8%**	**6%**	**7%**	**10%**	**14%**	**17%**	**7%**	**2%**
Don't know	14%	15%	3%	3%	6%	7%	7%	22%	2%	15%	3%	10%	1%	4%	25%

Q39. Do you think tax rates on the following groups of New Mexicans should be raised: Large businesses and corporations

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Raised a lot	41%	27%	42%	65%	36%	21%	61%	34%	63%	42%	15%	80%	44%	37%
Raised a little	19%	18%	11%	21%	52%	21%	23%	22%	15%	19%	19%	7%	22%	14%
Kept about the same	19%	25%	36%	8%	4%	31%	8%	37%	4%	19%	60%	3%	7%	35%
Lowered a little	3%	14%	5%	2%	2%	15%	2%	2%	6%	10%	4%	2%	2%	6%
Lowered a lot	4%	9%	5%	2%	6%	7%	5%	4%	1%	5%	2%	7%	5%	2%
TOTAL RAISED	**60%**	**45%**	**52%**	**86%**	**87%**	**42%**	**84%**	**56%**	**78%**	**61%**	**34%**	**87%**	**66%**	**51%**
TOTAL LOWERED	**7%**	**23%**	**10%**	**5%**	**8%**	**22%**	**7%**	**6%**	**7%**	**16%**	**5%**	**9%**	**7%**	**8%**
Don't know	14%	8%	2%	2%	*%	5%	1%	1%	12%	5%	1%	1%	20%	6%

Q40. Do you think tax rates on the following groups of New Mexicans should be raised: Households who have an income of less than $250,000

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Raised a lot	3%	2%	15%	8%	10%	11%	1%	3%	3%	3%	5%	3%	6%	5%	1%
Raised a little	9%	7%	22%	23%	18%	16%	11%	6%	12%	7%	27%	16%	16%	8%	4%
Kept about the same	52%	55%	24%	33%	34%	28%	65%	53%	51%	53%	38%	48%	47%	69%	46%
Lowered a little	10%	8%	25%	20%	20%	26%	15%	12%	7%	9%	16%	18%	20%	8%	3%
Lowered a lot	5%	4%	10%	12%	12%	13%	1%	4%	6%	4%	12%	4%	9%	7%	2%
TOTAL RAISED	**12%**	**9%**	**37%**	**31%**	**28%**	**26%**	**12%**	**9%**	**15%**	**10%**	**32%**	**20%**	**22%**	**12%**	**5%**
TOTAL LOWERED	**14%**	**12%**	**35%**	**32%**	**32%**	**39%**	**16%**	**16%**	**13%**	**13%**	**28%**	**22%**	**30%**	**16%**	**5%**
Don't know	22%	24%	4%	4%	7%	7%	6%	22%	21%	24%	2%	10%	2%	3%	44%

Q40. Do you think tax rates on the following groups of New Mexicans should be raised: Households who have an income of less than $250,000

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
Raised a lot	3%	3%	3%	4%	3%	11%	4%	2%	3%	12%	3%	1%	2%	5%
Raised a little	9%	9%	6%	17%	12%	16%	10%	9%	4%	14%	12%	13%	7%	11%
Kept about the same	52%	32%	74%	29%	62%	41%	47%	75%	64%	32%	73%	39%	43%	62%
Lowered a little	10%	24%	12%	7%	13%	17%	14%	8%	11%	27%	7%	12%	9%	10%
Lowered a lot	5%	26%	3%	5%	9%	11%	5%	5%	5%	12%	4%	1%	4%	5%
TOTAL RAISED	**12%**	**12%**	**9%**	**21%**	**15%**	**27%**	**14%**	**11%**	**7%**	**25%**	**15%**	**15%**	**8%**	**16%**
TOTAL LOWERED	**14%**	**50%**	**15%**	**12%**	**23%**	**29%**	**18%**	**13%**	**16%**	**39%**	**11%**	**13%**	**13%**	**16%**
Don't know	22%	6%	2%	37%	1%	4%	21%	1%	12%	4%	1%	34%	35%	6%

Q41. Do you believe that income from investments such as the stock market and real estate should be taxed at the same rate as income from working wages, or should people who make income from investments be taxed at a higher rate?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Taxed at the same rate	45%	46%	45%	44%	46%	41%	30%	40%	53%	43%	67%	52%	38%	72%	33%
Taxed at a higher rate	46%	46%	49%	42%	42%	44%	56%	54%	39%	48%	27%	25%	52%	19%	65%
Don't know	9%	9%	6%	14%	13%	14%	14%	6%	8%	9%	6%	23%	10%	9%	2%

Q41. Do you believe that income from investments such as the stock market and real estate should be taxed at the same rate as income from working wages, or should people who make income from investments be taxed at a higher rate?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Taxed at the same rate	45%	30%	56%	33%	71%	53%	46%	58%	14%	44%	71%	50%	44%	48%
Taxed at a higher rate	46%	48%	40%	53%	25%	34%	48%	34%	69%	53%	23%	46%	51%	40%
Don't know	9%	22%	4%	14%	4%	13%	5%	7%	17%	3%	6%	4%	6%	13%

Q42. We would like to ask you a few questions about your household energy.Do you currently own or rent your home?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Own	63%	64%	61%	68%	66%	71%	43%	59%	72%	67%	32%	26%	48%	86%	73%
Rent	17%	15%	35%	29%	31%	20%	31%	10%	24%	11%	67%	36%	41%	12%	3%
Don't know	20%	21%	4%	3%	3%	9%	26%	31%	4%	22%	1%	39%	10%	1%	24%

Q42. We would like to ask you a few questions about your household energy.Do you currently own or rent your home?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Own	63%	36%	76%	65%	75%	75%	76%	76%	56%	56%	87%	75%	60%	68%
Rent	17%	49%	13%	26%	25%	22%	18%	19%	28%	36%	12%	17%	15%	19%
Don't know	20%	16%	11%	8%	*%	3%	7%	6%	15%	8%	1%	7%	25%	13%

Q43. Have you invested in: Installed higher quality insulation

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	27%	25%	52%	36%	43%	32%	11%	15%	39%	27%	29%	32%	37%	14%	32%
No	68%	71%	40%	58%	52%	67%	71%	78%	58%	68%	69%	25%	59%	84%	68%
Don't know	5%	4%	7%	6%	5%	1%	18%	7%	3%	5%	3%	42%	4%	3%	*%

Q43. Have you invested in: Installed higher quality insulation

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	27%	25%	11%	72%	16%	51%	40%	7%	5%	38%	17%	54%	35%	18%
No	68%	59%	82%	25%	83%	43%	58%	85%	95%	55%	73%	44%	58%	80%
Don't know	5%	16%	7%	3%	1%	6%	2%	8%	*%	7%	10%	2%	7%	2%

Q44. Have you invested in: Changed our thermostat to a programmable model

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	44%	43%	50%	47%	50%	49%	28%	24%	63%	44%	54%	65%	56%	52%	34%
No	54%	55%	44%	48%	45%	38%	71%	74%	35%	54%	44%	31%	40%	45%	65%
Don't know	2%	2%	6%	6%	5%	13%	1%	2%	3%	2%	1%	4%	4%	3%	1%

Q44. Have you invested in: Changed our thermostat to a programmable model

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	44%	19%	17%	76%	76%	57%	60%	19%	7%	41%	27%	61%	66%	18%
No	54%	53%	81%	22%	22%	35%	37%	81%	92%	52%	71%	37%	32%	79%
Don't know	2%	28%	2%	3%	2%	8%	3%	*%	1%	6%	2%	2%	2%	3%

Q45. Have you invested in: Installed LED lighting

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	76%	78%	59%	75%	67%	59%	29%	67%	85%	76%	82%	75%	62%	89%	73%
No	22%	21%	33%	22%	29%	28%	69%	32%	12%	22%	18%	21%	34%	9%	26%
Don't know	2%	1%	8%	3%	4%	13%	1%	1%	3%	2%	-	3%	4%	2%	1%

Q45. Have you invested in: Installed LED lighting

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	76%	42%	70%	87%	87%	74%	88%	63%	13%	60%	90%	96%	90%	61%
No	22%	14%	29%	11%	13%	20%	10%	36%	86%	33%	9%	4%	10%	36%
Don't know	2%	43%	2%	2%	*%	6%	2%	1%	1%	7%	1%	*%	1%	3%

Q46. Have you invested in: Replaced or sealed windows

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	44%	43%	54%	59%	52%	61%	30%	28%	60%	44%	40%	68%	39%	52%	37%
No	54%	56%	39%	37%	43%	38%	69%	71%	39%	54%	59%	28%	57%	46%	62%
Don't know	1%	1%	7%	4%	5%	1%	1%	1%	2%	2%	1%	4%	4%	2%	*%

Q46. Have you invested in: Replaced or sealed windows

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	44%	46%	18%	78%	73%	53%	65%	16%	11%	49%	29%	61%	63%	22%
No	54%	41%	81%	20%	26%	43%	33%	84%	88%	43%	70%	39%	36%	76%
Don't know	1%	13%	1%	2%	1%	4%	2%	*%	1%	8%	1%	*%	1%	2%

Q47. Have you invested in: Replaced appliances with more energy efficient models

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	60%	60%	60%	73%	66%	83%	30%	32%	86%	59%	76%	71%	59%	91%	41%
No	39%	39%	34%	24%	30%	17%	69%	68%	12%	40%	24%	25%	37%	8%	59%
Don't know	1%	1%	6%	3%	4%	1%	1%	1%	1%	1%	-	3%	4%	1%	*%

Q47. Have you invested in: Replaced appliances with more energy efficient models

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	60%	57%	39%	86%	87%	64%	90%	21%	13%	56%	38%	95%	90%	25%
No	39%	17%	60%	13%	13%	33%	9%	79%	87%	38%	61%	4%	10%	73%
Don't know	1%	26%	1%	1%	*%	3%	1%	1%	*%	6%	1%	*%	1%	2%

Q48. Do you currently have solar power at your home or have a contract in place to install solar power?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	44%	41%	70%	39%	47%	20%	79%	38%	49%	45%	16%	39%	53%	69%	28%
No	55%	58%	28%	59%	52%	73%	21%	61%	50%	54%	83%	59%	47%	30%	71%
Don't know	1%	1%	2%	2%	1%	7%	1%	*%	1%	1%	1%	2%	1%	1%	1%

Q48. Do you currently have solar power at your home or have a contract in place to install solar power?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	44%	16%	49%	25%	57%	45%	49%	39%	78%	46%	19%	40%	44%	44%
No	55%	82%	50%	75%	43%	50%	50%	61%	21%	52%	80%	60%	56%	55%
Don't know	1%	2%	1%	-	-	5%	1%	*%	*%	2%	*%	*%	*%	2%

Q49. What is the main reason among the options below that best explains why you have not installed solar power on your home?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
It is too expensive	31%	29%	62%	54%	72%	45%	92%	30%	32%	27%	82%	89%	71%	62%	11%
I have heard it is not reliable	3%	2%	23%	6%	9%	7%	2%	2%	3%	2%	7%	7%	6%	6%	1%
I am not interested in solar power/prefer what I have	35%	37%	13%	18%	11%	21%	6%	63%	4%	38%	6%	3%	3%	14%	49%
Don't know	31%	32%	1%	22%	8%	28%	-	5%	61%	33%	4%	1%	19%	19%	39%

Q49. What is the main reason among the options below that best explains why you have not installed solar power on your home?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
It is too expensive	31%	31%	27%	15%	69%	72%	28%	23%	81%	69%	22%	15%	40%	19%
I have heard it is not reliable	3%	48%	3%	1%	2%	5%	3%	2%	6%	16%	1%	1%	1%	4%
I am not interested in solar power/prefer what I have	35%	-	68%	5%	6%	19%	5%	75%	7%	7%	71%	3%	5%	72%
Don't know	31%	21%	2%	79%	22%	4%	64%	1%	6%	8%	6%	81%	53%	4%

Q50. Did you know that the state of New Mexico is currently offering a personal income tax credit to help off-set the costs of installing solar panels at your home or business?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
Yes	37%	33%	74%	64%	65%	45%	22%	20%	55%	36%	44%	30%	59%	76%	12%
No	31%	32%	20%	28%	28%	49%	33%	39%	24%	29%	51%	49%	34%	19%	28%
Don't know	32%	35%	6%	8%	7%	6%	45%	41%	21%	36%	5%	21%	7%	5%	59%

Q50. Did you know that the state of New Mexico is currently offering a personal income tax credit to help off-set the costs of installing solar panels at your home or business?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
Yes	37%	31%	33%	34%	78%	69%	59%	18%	16%	57%	32%	47%	45%	26%
No	31%	52%	43%	29%	20%	28%	15%	58%	23%	40%	67%	12%	17%	49%
Don't know	32%	17%	24%	37%	2%	3%	26%	24%	61%	3%	1%	41%	38%	25%

Q51. How much thought do you give to saving energy in your home?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
A lot	15%	14%	22%	25%	28%	53%	5%	8%	24%	16%	11%	8%	14%	41%	6%
A fair amount	39%	37%	61%	58%	53%	30%	38%	25%	58%	38%	54%	47%	50%	49%	28%
Not very much	21%	21%	13%	15%	14%	17%	12%	27%	14%	20%	23%	25%	18%	7%	26%
None at all	10%	11%	1%	1%	2%	-	31%	15%	2%	11%	1%	1%	13%	1%	16%
Don't know	15%	17%	4%	1%	3%	*%	13%	25%	2%	16%	11%	19%	5%	2%	24%

Q51. How much thought do you give to saving energy in your home?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K-$60K	$60K-$100K	>$100K	Urban	Rural
A lot	15%	8%	20%	12%	17%	21%	28%	4%	11%	25%	9%	30%	19%	10%
A fair amount	39%	51%	22%	72%	69%	65%	57%	28%	27%	44%	36%	53%	47%	29%
Not very much	21%	33%	33%	13%	9%	12%	8%	43%	4%	28%	52%	10%	8%	37%
None at all	10%	1%	20%	3%	*%	*%	2%	23%	48%	1%	3%	*%	2%	19%
Don't know	15%	7%	5%	*%	4%	1%	5%	2%	10%	2%	-	7%	23%	5%

Q52. How concerned are you about the potential rise in energy costs?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
A lot	22%	21%	32%	25%	36%	46%	20%	14%	31%	20%	43%	26%	32%	43%	6%
A fair amount	46%	46%	47%	41%	42%	39%	34%	37%	59%	46%	48%	46%	43%	45%	48%
Not very much	9%	7%	19%	28%	19%	15%	9%	11%	6%	9%	7%	17%	8%	11%	4%
None at all	9%	10%	1%	6%	2%	*%	29%	15%	1%	10%	*%	1%	5%	1%	17%
Don't know	14%	16%	1%	1%	2%	-	9%	22%	3%	16%	1%	9%	12%	1%	24%

Q52. How concerned are you about the potential rise in energy costs?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
A lot	22%	18%	33%	15%	19%	34%	27%	17%	22%	29%	22%	28%	27%	15%
A fair amount	46%	47%	38%	73%	65%	45%	58%	54%	18%	51%	66%	56%	41%	53%
Not very much	9%	33%	9%	8%	14%	18%	12%	6%	3%	18%	8%	15%	9%	8%
None at all	9%	*%	19%	2%	1%	2%	1%	23%	43%	2%	2%	1%	2%	18%
Don't know	14%	2%	2%	3%	*%	1%	2%	*%	14%	1%	3%	*%	21%	6%

Q53. How concerned are you about climate change?

	Total	Eng Intv	Span Intv	White	Hisp	Native Amer	Other	Male	Female	US Born	Forn Born	18-29	30-49	50-64	65+
A lot	45%	46%	35%	56%	43%	72%	37%	22%	71%	44%	52%	42%	43%	78%	31%
A fair amount	21%	19%	45%	23%	38%	17%	42%	24%	19%	21%	25%	32%	31%	12%	18%
Not very much	16%	16%	16%	12%	15%	11%	4%	26%	7%	18%	4%	6%	15%	7%	26%
None at all	14%	15%	1%	8%	3%	-	4%	24%	3%	13%	17%	1%	11%	3%	25%
Don't know	4%	4%	2%	1%	2%	-	13%	4%	*%	4%	1%	19%	*%	1%	*%

Q53. How concerned are you about climate change?

	Total	<HS	HS Grad	Some Coll	Coll Grad	GOP	Dem	Ind/ Oth	<$30K	$30K- $60K	$60K- $100K	>$100K	Urban	Rural
A lot	45%	29%	33%	76%	68%	30%	75%	27%	28%	44%	28%	76%	58%	27%
A fair amount	21%	39%	30%	17%	18%	34%	17%	29%	49%	36%	17%	13%	12%	33%
Not very much	16%	32%	7%	5%	2%	22%	3%	4%	9%	14%	6%	3%	22%	9%
None at all	14%	*%	25%	2%	12%	13%	*%	40%	6%	5%	48%	1%	4%	27%
Don't know	4%	-	5%	*%	*%	*%	4%	-	9%	1%	*%	7%	3%	4%

Appendix C

Interview Guides for Qualitative Data Collection

FOCUS GROUP GUIDE FOR COMMUNITY PARTICIPANTS

Opening

I am speaking to you today to learn about your knowledge, perceptions and opinions about the "Energy Transition Act" signed by New Mexico Governor, Michelle Lujan Grisham last year. The University of New Mexico has been contracted by Workforce Solutions New Mexico to understand how stakeholders and community members like yourself think and feel about the transition away from fossil fuels like oil and gas for our energy needs to clean energy like solar and wind.

Before we begin, I will describe some key aspects of this bill to you.

Brief Description to the Interviewee/Focus Group

In early March of this year, New Mexico Gov. Michelle Lujan Grisham signed a new bill called "The Energy Transition Act." The purpose of this bill is to use New Mexico's abundant wind and solar resources to power the state's homes and businesses. It is a long-term plan with the transition to clean energy happening over the next 20 years- this will not happen overnight.

The goals of this new law are to:

- boost renewable energy production like wind and solar power,
- create new jobs,
- reduce the harms to our health from carbon pollution, and
- Help create new jobs for communities who are seeing coal plant closures.

The law will:

- mandate more solar panels and wind turbines,
- it provides training for New Mexico workers so that more of our people will be able to benefit from the growth of renewable energy
- The new law also includes strong apprenticeship opportunities to assure New Mexicans are well trained for our future energy industry.

(If the info on the law at the bottom of the script is helpful we can use it to provide a brief summary of the law).

Ok. Let us move onto some questions.

Knowledge

1. I just described this new law with you. Prior to this interview, had you ever heard of this law or did you know much about it?
    a. If yes, PROBES: (How so? In your own words, how would you describe the bill?)
2. When you hear the term renewable or clean air energy what comes to your mind? How would you describe it in your own words?
3. Tell me what you know about solar power. What about wind power? Do you think these clean energy options will give us as much energy for powering our housed and buildings as oil, gas and other fossil fuels produce ?

(Assure the interviewee that there are no right or wrong answers, we are just trying to get a sense of what community members know about this).

Salience/Importance

4. As a community, we have a lot on our mind these days. COVID-19 has really hurt our economy and we know that all of us are struggling and nervous. Based on what you have heard, how has oil and gas industries here in New Mexico been doing?
   - Probe if needed to make sure the group understands that these industries have been hit hard due to less consumption and demand for oil.
5. With oil and gas dropping to record lows over this period we are seeing a lot less money for our state and local governments to use to provide our community with the services we need now more than ever. Do you think the drop in oil and gas revenue means the state should invest more money to help out the oil and gas companies or shuold we use that money to help rebuild our economy around clean energy?

   -The goal here is to have them discuss whether the COVID-19 recession is an opportunity to compeltely re-think our economy, or invest in the industries that have been used in the past?

6. As we discussed a little bit, there are many parts in this new law. I would like to understand how important each aspect is to you.

   a. First, a major goal of this effort is to reduce pollution that can make the land unusable for other purposes like farming and polute the water we need to drink and instread create renewable energy for New Mexico. How important is this effort to you?
   b. Governor Grisham and other supporters of the law state the new bill will have positive impacts for the health of communties by improving air quality which impacts health outcomes like asthma, for example. Describe how important this is to you. What about your neighborhood or larger community? PROBES (If yes, can you give me an example?)
   c. Another goal is to increase training for New Mexico workers and to develop new jobs in these industries. How important is this in your own line of work? What about for members of your family and community?
   d. How likely is it that this law and transition to clean energy to impact your CURRENT work? PROBES (if yes, Tell me more.)

Support and Percieved Benefits

7. Now that we have spoken a little bit about the Energy Transition Act, I would like to hear more about your support for the bill. In general, do you support this effort?
   a. Do you think it will be good for New Mexico to move away from fossil fuels like oil and gas?

   b. PROBE: Tell me more. Why or Why not? What aspects do you support? What aspects to you oppose?

8. Proponents of the law argue that this new bill will create new jobs in your community. What type of jobs do you think will be needed if we move to clean energy like solar and wind power?

-Probe if needed and help folks see the spill over jobs beyond construction.

9. Are these jobs that you and people you know would be interested in?
    a. If so, what is most interesting to you about these jobs?
    b. If not, why do you not think these jobs would be interesting to you or people you know?

10. Do you think that there will be enough jobs created by clean energy to fill the gap in jobs that will go away with the closure of more oil and gas mining and pumping here in New Mexico?

-For communities adjacent to mines that are closing down probe deeper into this issue by asking them what jobs they know are already in jeapordy and how they feel about those jobs going away?

-For those communities we will want to also know their thoughts on what other types of jobs are needed in their community and what types of economies they think could do well in their community if there were more funds invested?

11. A key aspect of the bill is to provide training in fields like solar, wind power and other types of work.. Some training may occur on the job or through apprentiship programs, and some will be in classes that might be offered on the internet or through colleges, universities, and trade schools.

    a. Do you think that these training opportunities will be available for people where you live?
    b. What challenges or obstacles do you think there might be for people from your community who want to get trained for clean energy jobs?
    c. What resoruces do you think would be needed to make sure that people from your community could participate?
    d. Employer's sometimes offer on the job training or apprenticeship programs to build new skills. What are your opinions on this kind of training?

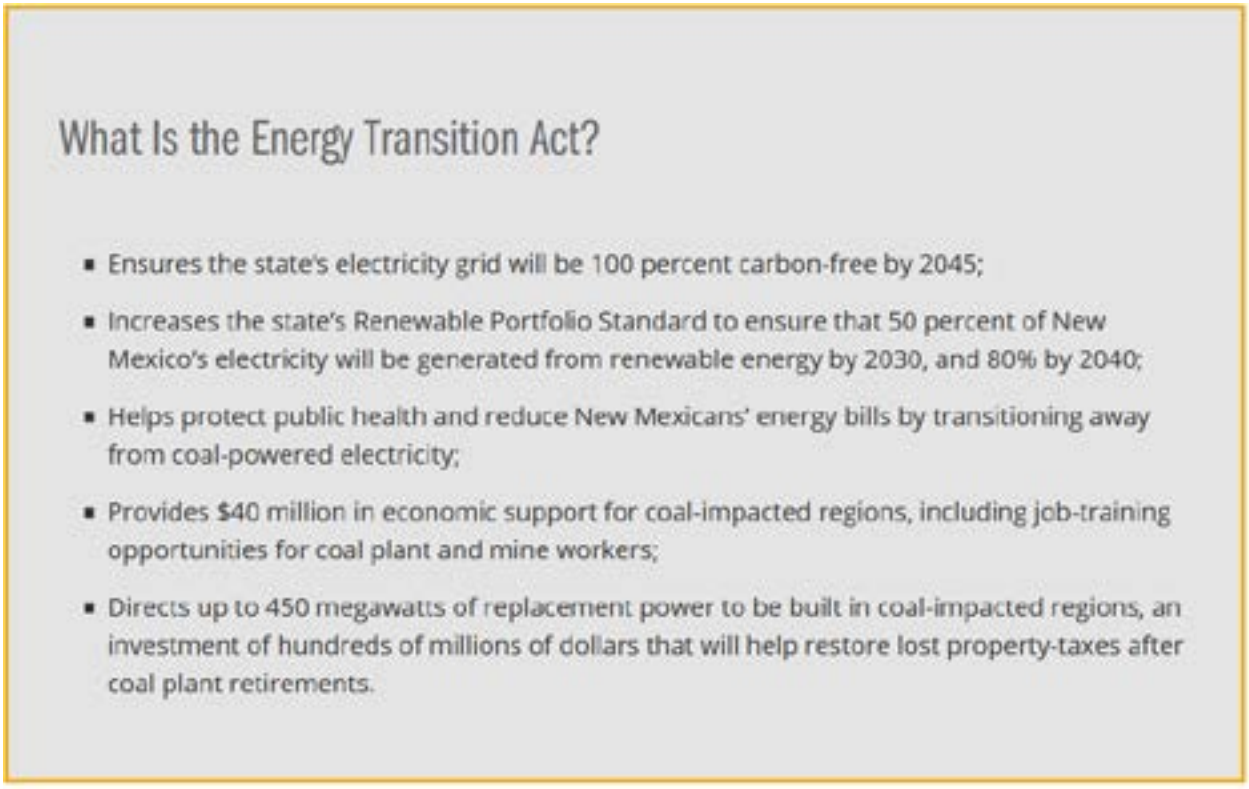
Note that this is the key section where you will want to tweak the content slightly based on the community you are working with:

-For rural communities you can dig deeper into the challenge that physical distance from Abq and Santa Fe could be a challenge, including lack of reliable internet.

-For immigrant and Spanish speaking communities you can probe into whether they feel like these courses will only be avaiable in English.

CENTER FOR SOCIAL POLICY

12. We are very interested in getting your input on how public officials, trainers and employers should know as they think about implementing this new law. From your perspective, what supports are necessary to make this work for New Mexican workers? For rural communities? For Hispanics/Latinos? For immigrant communities?
13. In regards to the training compnent of the Energy Transition Act, what resources would help you and your communicty access and successfully complete such training?



UNM Cradle to Career Policy Institute/Center for Social Policy
Department of Workforce Solutions-Clean Energy Transition Project

Higher Education Semi-Structured Interview Protocol
Duration: 1 hour

Introductions and Overview: *Project PI/Lead will provide overview of the project and purpose of interview. Project PI/Lead will review written consent with subject.*

Purpose: The UNM Center for Social Policy has been funded by the State of New Mexico's Department of Workforce Solutions to conduct a research project focused on identifying the current capacity of the state's workforce to address a growing need for clean energy jobs as a result of the recent passage of the Energy Transition Act (NM SB 489). You have been invited to this session because you have been identified as an individual/individuals with knowledge of the clean energy sector.

The outcomes from this session will be a report summarizing the findings to the client and data collected for this report will not be used for academic publications. Any information and quotes collected from here will not be identified in the report.

Questions for Higher Education Personnel/Staff

- What current programs do you offer that prepare students for energy sector jobs?
  Probes:
  - Are these certificates, credentials and/or degrees?
  - Do you perceive that employers require these credentials/degrees, and have employers be consulted prior to the development of these programs?
  - How did these programs get established?
  - Do you plan/contemplate different offerings in the future?
  - Have you offered other relevant coursework that has been discontinued in recent years?
  - Do you find it challenging to find qualified instructors to develop and teach these courses?
  - What faculty recruitment or retention challenges do your programs face?
  - What would help with these challenges?

- Who are your students?
  Probes:
  - Do you feel you are meeting the demand for these courses, or is there more interest among

- Do students in different divisions/programs vary by demographic characteristics, or feeder high schools?
- What are demographic characteristics of degree and certificate completers?

• What is the pipeline through these programs to careers in clean energy?

Probes:

- What kind of career or employment supports do you offer students?
- Do you have a sense of how many of your students go on to begin careers here in New Mexico in the clean energy industry?
- What barriers to employment do your students face?

• What partnerships do you have with energy industry employers or representatives, and why?

Probes:

- How effective are these in ensuring alignment with existing/emerging employment opportunities?
- Do partners offer apprenticeships, other on-the-job training, or pathways to employment for your students?

• As efforts to transition to clean energy move forward, how will changes affect opportunities for your students?

Probes:

- Where do you see new opportunities or new possibilities for industry jobs for your students? (Entry level as well as retrained professionals)

Appendix D

Higher Education Training Programs

The research team conducted 20 semi-structured interviews with administrators and faculty representing 13 higher education institutions including Tribal, two-year, and four-year colleges and universities. Interviews were completed with individuals from the following institutions:

Tribal Colleges:
- Navajo Technical University, Crownpoint
- Southwestern Indian Polytechnic Institute, Albuquerque

Independent Two-Year Community Colleges:
- Central New Mexico Community College, Albuquerque
- Mesalands Community College, Tucumcari
- New Mexico Junior College, Hobbs
- Santa Fe Community College, Santa Fe
- San Juan College, Farmington

Two-Year Branch Community Colleges
- NMSU-Alamogordo
- NMSU-Grants

Four-Year Public Colleges & Universities
- Eastern New Mexico University, Portales
- New Mexico Institute of Mining and Technology, Socorro
- New Mexico State University, Las Cruces
- University of New Mexico, Albuquerque

Higher Education Training Programs by Type

Our team conducted a website review of clean energy program offerings across New Mexico's 29 higher education institutions. These include 8 independent community colleges and 10 branch campuses offering certificates and two-year associate degrees, 4 Tribal colleges and 7 four-year institutions offering bachelor, masters and doctoral degree programs. Researchers also cross-referenced with the Department of Workforce Solutions' LASER website listing of career pathway education and training programs. Program offerings were updated where interviews with program administrators and faculty indicated changes from those posted on websites. This scan offers a point-in-time overview of clean energy credentialing and degree earning opportunities, with ongoing changes expected.

Studies show that clean energy jobs range from entry level to those requiring advanced degrees, but most are "middle-skilled," requiring more than a high school degree but less than a four-year college education. Our scan below of post-secondary clean energy training opportunities focuses in particular on these "middle skill" credential and degree programs and pathways, offered largely by the two-year institutions that are the foundation for workforce development in the state. The listing below groups programs that offer newer credentials and degrees that are specific to clean energy, and those that offer traditional skills with clean energy applications. Clean energy employers are also likely to hire employees trained in traditional trades and technical fields, without always requiring specialized knowledge of clean energy applications. Accordingly, a third grouping below notes by type these largely traditional training programs, which are much more broadly available across regions of the state. Programs eligible for WIOA funding for green job training are marked with an asterisk (*).

New Mexico Higher Education Infrastructure for Clean Energy Jobs Training

Clean Energy-Focused Credentials and Degrees:

Solar Technology:

Certificates & Associate Degrees:

*CNM *Electrical Trades: Photovoltaic Systems* (certificate, AAS)
*SFCC *Solar Technology* (certificate, AAS)
UNM-Los Alamos *Applied Technology*, *Solar Technology Concentration* (AAS)
NMSU-DACC *Solar Energy Technology* (certificate)
NMSU-Alamogordo *Photovoltaic Grid Tie* (certificate)

Bachelor's Degrees:

*Northern NMU *Electromechanical Engineering: Concentration in Solar Energy*

Wind Energy:

Certificates & Associate Degrees:

*Clovis CC *Industrial Tech: Wind Concentration* (certificate, AAS)
Mesalands CC *Wind Energy Tech* (certificate, AAS)

Biofuels:

Certificates & Associate Degrees:

*SFCC *Sustainable Technologies: Biofuels* (certificate, AAS)

Energy Technology (includes solar, wind, energy efficiency):

Certificates & Associate Degrees:

SFCC Sustainable Technologies (certificate, AAS)
NMSU-Alamogordo *Renewable Energy* (certificate, AAS)
NMSU-Grants *Energy Technology* (certificate)
NMSU-DACC *Environmental and Energy Technologies* (AAS)
UNM-Taos *Construction Technology: Green Technology* (certificate)
Northern NMU *Renewable Energy* (AAS)
San Juan College *Tribal Energy Management* (AAS)
Navajo Technical Univ. *Energy Systems* (AAS)
*Western NMU *Electrical Technology -Environmental Electrician* (certificate, AAS)

Bachelor's Degrees:

ENMU *Electronics Engineering Technology, Renewable Energy Concentration* (BS; BAAS online)

Note: NM Junior College and San Juan College offer Energy Technology programs that currently focus solely on extractive resources, but which could be adapted for clean energy technology applications in response to shifts in local demand.

Energy Conservation/Evaluation/Auditing:

Certificates:

*SFCC *Building Operator*: *Energy Efficiency* (certificate)
*SFCC *Building Performance Analyst/Home Energy Rater* (certificate)
NMSU-DACC *Energy Auditing & Energy Conservation* (certificates)

Hydrogen Power:

Certificates & Associate Degrees:

San Juan College Center of Excellence for Renewable Energy & Sustainability *Hydrogen Power* (in development)

Lithium-Ion Batteries:

Certificates & Associate Degrees**:**

San Juan College, Center of Excellence for Renewable Energy & Sustainability *Replacing and Recycling Lithium-Ion Batteries* (in development)

Smart Grid & Micro Grid:

Certificates:

NMSU-Grants *Smart Grid* (certificate)
SFCC *Electrical, Smart Grid, and Micro Grid Technologies* (certificate)

Electric Vehicle Technician:

Certificates & Associate Degrees:

San Juan College Center of Excellence for Renewable Energy & Sustainability *Electric Vehicle Technician* (in development)

Water Conservation and Treatment:

Certificates and Associate Degrees:

NMSU-DACC *Water Technology (certificate, EPA Associate*)
SFCC **Water Treatment Operations* (certificate, AAS)
SFCC *Water Conservation Technology* (AAS)
San Juan College Center of Excellence for Renewable Energy and Sustainability
Water Security and Sustainability (in development)

Broad-based Technical Credentials and Degrees

These training programs may not be labelled as "green," but required or optional coursework includes strong emphasis on green energy applications.

Building Construction (with Green Emphasis):

Certificates and Associate Degrees:

*SFCC *Green Building Construction & Green Building Systems* (certificate, AAS)
CNM *Sustainable Building Technology* (certificate)
*NMSU Carlsbad *Building Construction Technology* (green curricular revision); certificate, AAS)
*UNM Gallup *Construction Technology* (green curricular revision) (certificate, AAS)
UNM Taos *Construction Technology: Green Technology concentration* (certificate)

Broad-based Skills (can include clean energy industry applications)
Programs in the following provide training in applied trades and skills required by clean energy industry employers, but may not require clean energy-specific applications. Most programs are widely available, to students enrolled at two-year colleges in multiple regions of the state.

- OSHA & Environmental Management
- Manufacturing/Automation Technologies
- Industrial Engineering
- Electro-Mechanical Technology
- Industrial Maintenance/ Instrumentation & Controls
- Building Construction
- Electrical Trades
- Electrical Line worker
- HVAC & Plumbing
- Welding
- Automotive Technology
- Commercial Driver's License (CDL

Clean Energy-Focused Certificate & Degree Offerings, by Location

C= Certificate A=Associate Degree B=Bachelor Degree	Type	Solar	Wind	Biofuels	Energy Technology	Energy Evaluation	Hydrogen	Lithium Ion Battery	Smart Grid/ Micro Grid	Electric Vehicle Tech	Water Technology	Green Building Construction
Northwest												
UNM-Gallup	Branch CC											C, A
San Juan College	Independent				A		*under development*	*under development*		*under development*	*under development*	
Diné College	Tribal											
Navajo Technical University	Tribal				A							
North												
New Mexico Highlands University	Comprehensive											
Northern New Mexico College	Comprehensive	B			A							
UNM-Los Alamos	Branch CC	A										
UNM-Taos	Branch CC				C							C
Luna Community College	Independent											
Santa Fe Community College	Independent	C, A		C, A	C, A	C			C		C, A	C, A
Central												
New Mexico Institute of Mining & Tech	Research											
University of New Mexico	Research											
NMSU-Grants	Branch CC				C				C			
UNM-Valencia	Branch CC											
CNM	Independent	C, A										C
Southwestern Indian Polytechnic Institute	Tribal											
East												
Eastern New Mexico University	Comprehensive				B							
ENMU-Roswell	Branch CC											
ENMU-Ruidoso	Branch CC											
Clovis Community College	Independent		C, A								C	
Mesalands Community College	Independent		C, A									
New Mexico Junior College	Independent				C, A							
South												
New Mexico State University	Research											
Western New Mexico University	Comprehensive				C, A							
NMSU-Alamogordo	Branch CC	C			C, A							
NMSU-Carlsbad	Branch CC											C, A
NMSU-Doña Ana	Branch CC	C			A	C					C, A	

Appendix E

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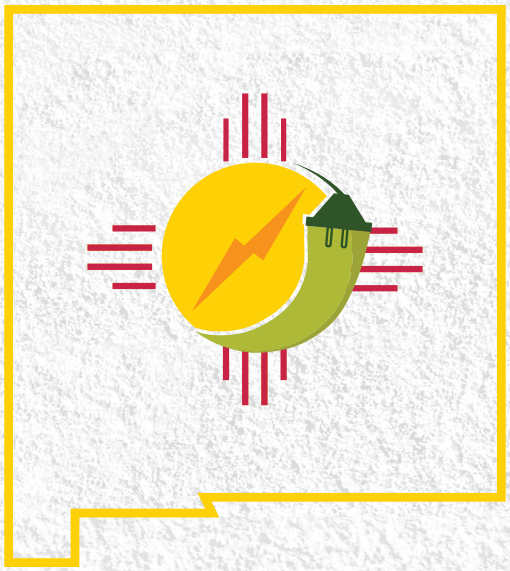

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