Request for Information: DE-FOA-0002660

Deployment and Demonstration Opportunities for Carbon Reduction and Removal Technologies

TECHNICAL AREA 1- POINT-SOURCE CARBON CAPTURE TECHNOLOGIES AND INTEGRATED CAPTURE AND STORAGE PROJECTS

TECHNICAL AREA 7- ENVIRONMENTAL JUSTICE, ENGAGEMENT AND WORKFORCE DEVELOPMENT (NON-PROJECT SPECIFIC)

Submitted by:

Cindy A. Crane, CEO
ccrane@enchantenergy.com

ENCHANT ENERGY CORPORATION

TABLE OF CONTENTS

1. ENCHANT ENERGY INTRODUCTION

Enchant Energy ("Enchant"), **A Clean Energy Company providing Environmental Services to Decarbonize Industry and Mitigate Climate Change,** founded in 2019. Enchant is an environmental services company that is focused on providing **Carbon Capture & Storage as a Service**.

Enchant's business strategy is to focus on large-scale decarbonization projects initially in the Midwest and Western United States. This focus is purposeful and driven by a company ethos of achieving significant contributions to Climate mitigation, while maintaining and creating large numbers of high paying jobs and sustaining economies of rural America, with emphasis on Native American and underserved populations. This large-scale focus will create robust geologic storage hubs that will facilitate broader decarbonization in the communities of focus and will establish these large host sites as low emissions, reliable and economic electricity providers. With 95% decarbonization these host sites will be extremely close to **carbon neutral**. Enchant's goals for each host facility include bringing them to carbon neutral or carbon negative.

Enchant secured its initial carbon capture and storage ("CCS") project in late 2019, the San Juan Generating Station ("SJGS") located in Waterflow, New Mexico (just outside of Farmington and within San Juan County). Enchant hired Sargent & Lundy ("S&L") to conduct a pre-feasibility study for retrofitting the SJGS with carbon capture, using Mitsubishi Heavy Industries ("MHI") KM CDR Process™ which was demonstrated at Petra Nova. Based on the pre-feasibility study, consideration of projected economics and IRS Section 45Q tax credits, Enchant entered into a Memorandum of Understanding with Kiewit Power Constructors ("Kiewit"), MHI America ("MHIA") & S&L as the Engineering, Procurement and Construction ("EPC") consortium.

Although Enchant's priority is advancing to commercial operations the SJGS CCS, Enchant has sought additional large-scale decarbonization business opportunities. Currently, Enchant is under contract to perform a pre-feasibility study, both technical and economic, for CCS on another large-scale electric power generation station and has pre-feasibility proposals out with two additional large-scale electric power generation stations.

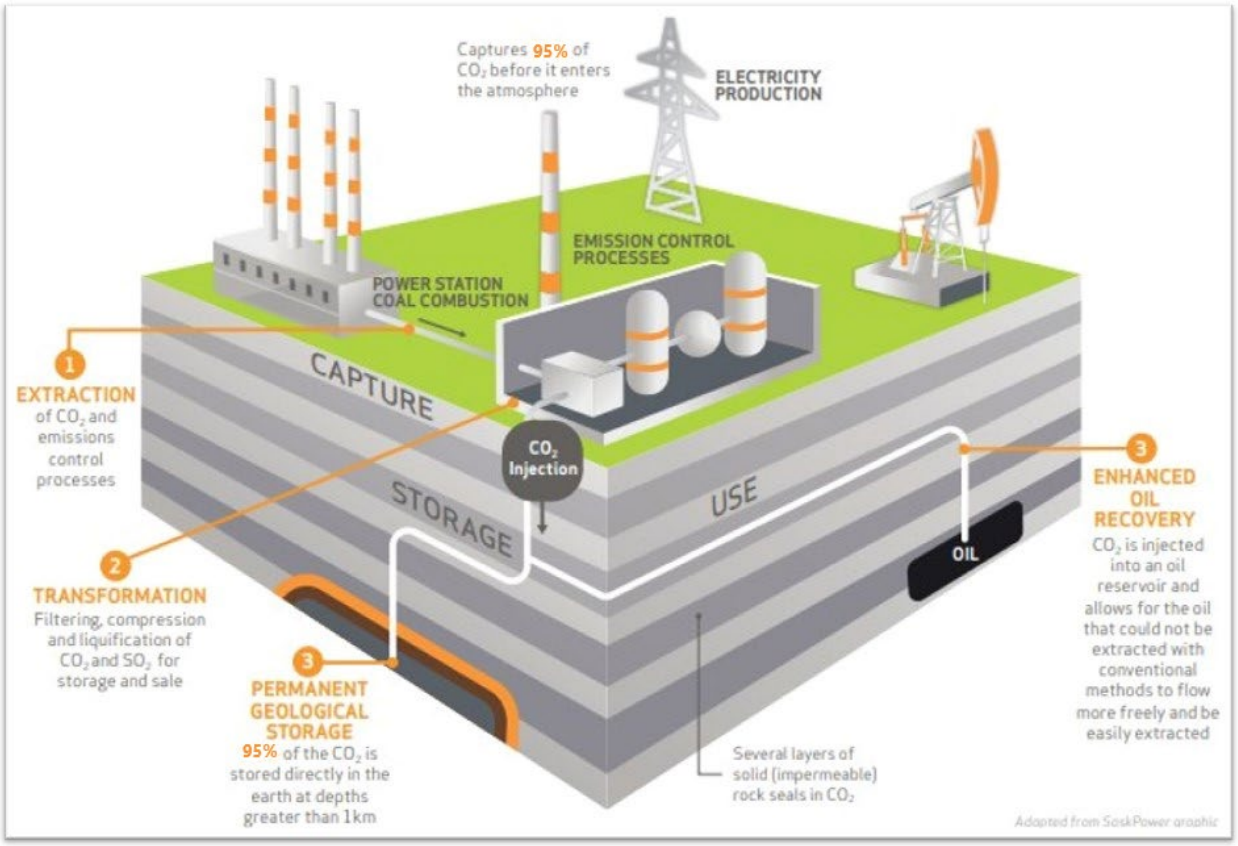
Enchant's **Carbon Capture and Storage as a Service** business model is as a one-stop developer and operator, in close cooperation with the owners of potential host sites, which Enchant would oversee and be responsible for:

1. All aspects of project development, deploying our existing team of partners and experts
2. Construction and Tax Equity Financing
3. Operations
4. Maintenance
5. Decommissioning

Enchant's proposals to large-scale power generation owners include being a customer, paying for electricity, steam, and flue gas in order to achieve decarbonization services and the host's goals for the facility. This model ensures the host site has a significant baseload paying customer which enables the host entities to have low emissions, reliable and economic electricity sources while also adding renewable energy to their portfolios.

Enchant's business plan targets six large-scale decarbonization projects over the coming 7 years, which would remove more than 35 million metric tons of CO_2 annually on average.

Enchant has a compelling competitive advantage over other project developers and is uniquely positioned to work with large-scale electric generation host sites to achieve success in decarbonization of existing assets. Enchant, along with our industry leading partners, S&L, MHIA, Kiewit, and CohnReznick Capital ("CohnReznick") have the greatest and most comprehensive real world project development experience in large scale decarbonization. Additional projects will build from Enchant's current SJGS CCS project.



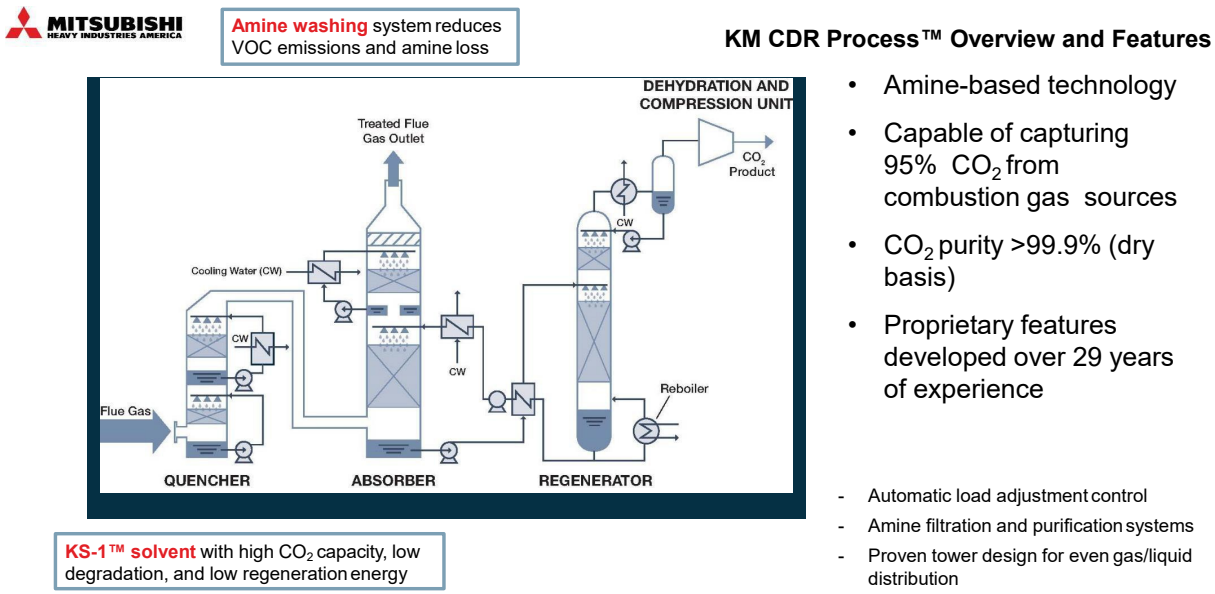
Adapted from diagram by World Coal Association, September 18, 2017,
https://twitter.com/worldcoal/status/909857143246999557

2. TECHNICAL AREA 1 - POINT SOURCE CARBON CAPTURE TECHNOLOGIES AND INTEGRATED CAPTURE AND STORAGE PROJECTS

A. POINT SOURCE CARBON CAPTURE TECHNOLOGY AND APPLICATION

Enchant is partnering with MHIA for application of the KM CDR Process™ to the SJGS CCS project. Enchant chose MHIA and the KM CDR technology based on its successful commercial scale application at the Petra Nova facility. Application of the technology at SJGS CCS will advance this technology to full commercial scale. At 95% capture performance this will reduce SJGS's carbon intensity from 2200 lbs/mwh to well below 200 lbs/mwh, establishing SJGS as a low emission electricity resource, greater than 80% lower than natural gas electricity generators. Enchant believes the primary technology risk at SJGS CCS is the increased scaling size of the carbon capture vessels ("Trains") coupled with the capture performance at this large scale. The SJGS CCS facilities will be adjacent to the host facilities and will receive flue gas via large ducts from the host facilities. Enchant believes that capture performance guarantees are needed until CCS technologies achieve full commercial scale and have been in operation at that level for a minimum of three years. Enchant and MHIA have discussed and will continue to discuss capture performance guarantees.

The KM CDR Process™ is an amine-based CO_2 capture process which uses the KS-1™ solvent. MHI jointly developed this process with Kansai Electric Power Company (KEPCO), and the capture system can recover 95% or more of the CO_2 from the flue gas and compress the treated CO_2 to adequate pipeline conditions.



MHI has been developing the KM CDR Process™ since 1990. Initially, MHI's vision was to replace mono-ethanol-amine (MEA) with a superior solvent. This led to the development of a laboratory scale test program that evaluated more than 200 different solvents. MHI narrowed those solvents down to 20 and tested them at its first pilot plant at KEPCO's Nanko Power Plant in 1991. The pilot plant has a 2 ton per day ("tpd") CO_2 capacity and can evaluate the CO_2 capture performance of various solvents. The pilot plant test program resulted in the development and commercialization of the proprietary KS-1™ solvent.

From the Petra Nova Demo project and the Plant Barry Demo project, MHI reviewed the design of the KM CDR Process™ to identify areas where capital costs can be reduced. Based on actual operating experience, MHI found they could reduce total EPC cost for the CO_2 capture system. For example, MHI evaluated the cost impacts of modularizing the towers to reduce site labor. This contributes significantly to cost reductions. MHI also evaluated the possibility to modularize the remainder of the CO_2 capture plant so that the pipe rack, heat exchangers, and pumps can be fabricated as assemblies in a controlled environment. Prefabricated assemblies improve safety, quality, and productivity performance.

MHI has deployed 13 commercial plants ranging in CO_2 capture capacity from 200 to 4,776 tpd. Most of these commercial plants capture CO_2 from natural gas-fired flue gas to enhance urea production for the chemical and fertilizer industries. MHI's technology was used at the world's largest post-combustion project, the Petra Nova project near Houston, Texas, with a capacity of 4,776 tpd of CO_2. Most recently, the technology was installed for Nippon Ekitan Corporation (began operation in 2017).

Post-combustion amine systems provide additional co-benefits to the host sites because amine solvents are sensitive to SO_2 and particulate matter in the flue gas. In the flue gas pre-treatment, caustic soda is introduced to reduce the SO_2 to less than 1 ppm in the flue gas. Additionally, since the flue gas pre-treatment is a direct contact cooler, 70-99% of particulates in the flue gas are captured in the flue gas condensate produced from the pre-treatment.

B. DESIGN AND ENGINEERING EFFORTS

Following completion of Enchant's SJGS pre-feasibility study, Enchant successfully applied for and was awarded a $7.5 million U.S. Department of Energy ("DOE") Cooperative Funding Agreement (DE-FE0031843) to advance the SJGS CCS Front-End Engineering & Design (FEED) study and contracted the SJGS CCS FEED with EPC consortium partners, S&L, MHIA & Kiewit. The SJGS CCS FEED study total cost is projected to be $9.4 million.

To support the successful development of the SJGS CCS project and advance the readiness of the project for immediate deployment at the conclusion of the FEED, Enchant selected a team of companies to complete the FEED that would ultimately become the EPC consortium. This included a technology vendor, engineer of record, and a constructor. Typically, there is a gap between the goals and output of a FEED study and the completion of an EPC contract ready for a final investment decision. This can include items such as establishing the EPC team, development of technical and commercial contract terms, solicitation of firm price proposals for equipment and components, securing financing, and more. By establishing the timeline of the overall project and the goal to use the FEED to support the EPC development at the beginning of the FEED, Enchant is able to schedule parallel activities to the FEED to support the overall EPC development.

The team selected by Enchant has significant experience with CCS projects and have successfully worked together in the past. The experience of these team members is described below.

> MHI has provided 13 commercial CO_2 capture systems around the world including the world's largest post-combustion CO_2 capture system in 2016 for the Petra Nova Project for which MHI conducted the FEED study and formed a consortium with The Industrial Company ("TIC") to provide EPC delivery. MHI has performed multiple studies in the past including three other DOE-funded pre-FEED or FEED studies in recent years.
>
> Kiewit had 2020 revenues of $12+ billion and employs 27,000 staff and craft employees. Kiewit has been a partner on a variety of emissions reduction and carbon capture projects, offering engineering and construction expertise from feasibility studies through detailed design and project execution. Kiewit's wholly owned subsidiary, TIC was the EPC contractor in partnership with MHIA on North America's largest post-combustion carbon capture project, the Petra Nova CCS Project. More recently, Kiewit has been actively supporting early-stage developments for amine, solid sorbent, cryogenic, and direct air capture (DAC) projects.
>
> S&L has extensive experience conducting technical evaluations for CO_2 capture projects over the last decade, as well as performing FEED studies for clients. The most notable FEED study conducted by S&L was for the Petra Nova Project. S&L is or has provided similar services, specifically balance of plant engineering, engineering studies, and cost estimating on five DOE-funded pre-FEED/FEED studies in recent years, with several more recently awarded. Since 2007, S&L has completed over 50 project development and design projects and is actively working on more than 30 feasibility, FEED, and design projects across various industries.

During the SJGS CCS FEED, the SJGS CCS site-specific design has moved from a four-train design, modelled off Petra Nova size trains, to a larger two train design. This design represents and incorporates MHI & MHIA's enhancements and continued process engineering work since Petro Nova and is additionally informed from other FEED studies.

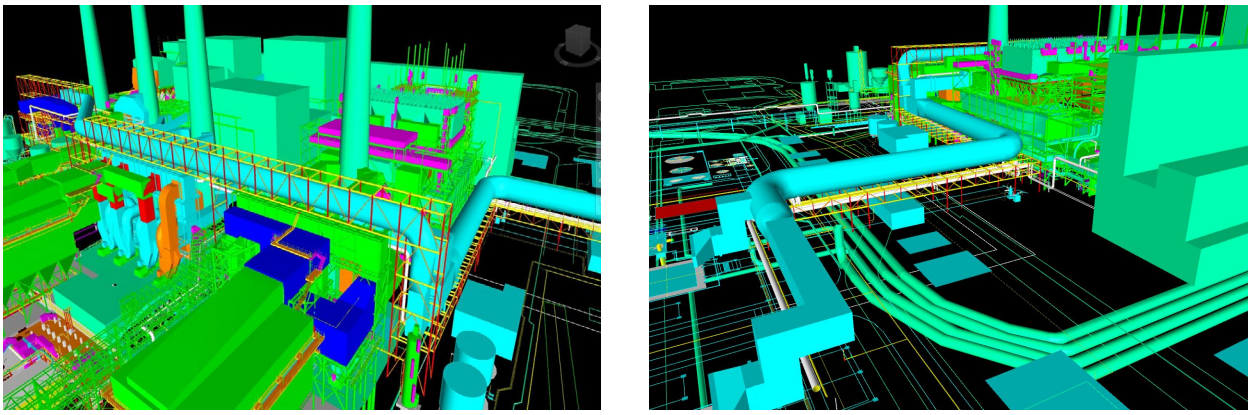
The SJGS CCS FEED study has completed design and most of the balance of plant engineering and is ready to begin the costing stage followed by EPC contract negotiations. The design basis documents have been completed, including flow diagrams, heat and material balances, equipment and instrument lists, and the preliminary plot plan. Stack testing was performed to optimize the CO_2 with modest design changes to increase the CO_2 capture percentage from 90% warranted to the target of 95%. A hazard and operability study ("HAZOP") has been completed. Minimal balance of plant planning, design and engineering remains in support of incorporating the CO_2 capture technology into the existing host facility.

The SJGS CCS design and engineering has significantly benefited by inclusion of Enchant's partner and DOE SJGS FEED co-recipient, City of Farmington ("Farmington") and Utility Director, Hank Adair. Not only is Farmington a current and future owner of the SJGS, but Mr. Adair had also previously worked at SJGS in an engineering capacity.

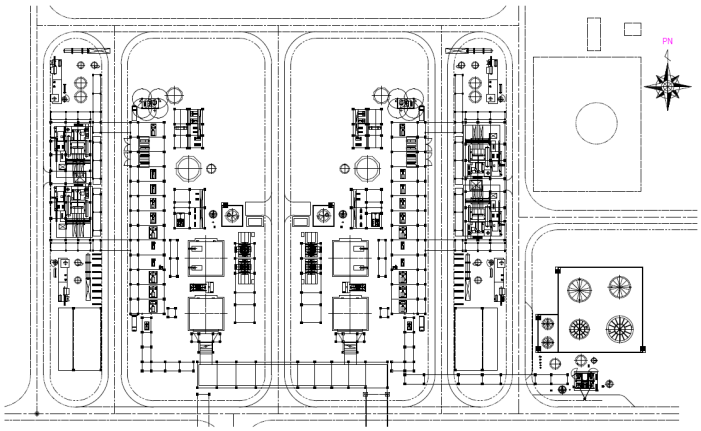
The SJGS CCS FEED has limited risks remaining on the design and engineering, although Enchant is monitoring and working closely with the EPC consortium partners on long-lead items, schedule and cost risks stemming from the pandemic and economy inflationary pressures. As part of the SJGS CCS FEED, budgetary quotes and/or firm price proposals will be solicited for all the equipment and major components as input to the project cost estimate and final EPC price. Award of the equipment and major component contracts will occur after the final investment decision to move forward into implementation, with long-lead items being prioritized. Equipment design and fabrication durations for these items (with input from the bidders/vendors) are included in the detailed project execution schedule, which helps to identify long-lead items and potential schedule risk.

Technology Advantages

- The FEED study for the CO_2 capture systems at the SJGS host site will provide the DOE with a more detailed understanding of carbon capture costs in a large-scale commercial application, thereby enabling DOE to better design its research and development (R&D) program to reduce those costs for similar carbon capture technologies being developed in its R&D portfolio.
- This SJGS CCS FEED study could lead to the largest CO_2 capture project in the world, and with its 95% CO_2 capture rate, it could be the lowest-emitting CO_2-per-MWh large-scale, fossil-fueled power plant.



SJGS CCS Flue Gas Duct Layout



1. Carbon Capture Island (CCI) locate North of the existing host facility
2. Flue Gas Duct to be connected from South of the CCI
3. Train-1,2 located in mirror image
4. CO_2 Compression Unit located on East and West of each train
5. Common Solvent Storage & Unloading facility located on East side of CCI facility.

SJGS CCS Layout

C. PROJECT HOST SITE

Enchant's initial host site, SJGS, is in the Four Corner's region of New Mexico. This area of New Mexico is extremely rural and home to several Native American tribes, including the HOPI, the Navajo Nation, the Ute Mountain Ute, the Southern Ute and the Jicarilla Apache.

The SJGS is a currently operating two-unit 914 MW (gross) coal-fired electric generating facility. The two units have had all significant environmental emissions mitigated through the investment of emissions control technologies, except carbon dioxide. Enchant's SJGS CCS project will serve as the SJGS's carbon mitigation environmental technology. The SJGS is located just a few miles to the East of the Navajo Nation and immediately adjacent to its San Juan Mine fuel source. A significant portion of the workforce at both the SJGS and San Juan Mine have been and continue to be Navajo who rely on these high paying jobs for their standard of living.

Enchant entered into an agreement with Farmington, an existing owner, to acquire the 95% ownership of the SJGS from the owners that plan to exit the facility. Farmington will remain a 5% owner in SJGS. Enchant will be the developer, owner & operator of the SJGS CCS. Enchant plans to partner with an experienced storage operator to ensure secure storage of the estimated >6 million metric tons of CO_2 annually.

Enchant's primary strategy for the CO_2 captured at SJGS CCS will be to permanently store the CO_2 in a subsurface reservoir ("the Permanent Storage Facility") approximately 25 miles from the power plant. Additionally, for management of risks (operational and financial), Enchant will have the ability to transport the CO_2 through the existing Cortez CO_2 Pipeline from a location 21 miles from the plant to existing Enhanced Oil Recovery fields located in the Permian Basin in West Texas and Southeast New Mexico.

The investigation of the Permanent Storage Facility is currently underway and is being managed by the New Mexico Institute of Mining and Technology ("New Mexico Tech"). The project is supported with funding from the DOE CarbonSafe Phase III program. Enchant is a sub-recipient with New Mexico Tech serving as the Principal Investigator under the Cooperative Funding Agreement (DE- FE0031890).

The CarbonSafe Phase III appropriation provides 80% of the project cost to prove the geologic formation, drill the characterization well, draft and file the Environmental Protection Agency ("EPA") Class VI injection well permit applications. The total CarbonSafe Phase III scope of work is projected to cost $21m. The totality of these funds flow to New Mexico Tech for the scope and not specifically to Enchant. Enchant is providing cost share and business strategy contributions to the project.

The location for the characterization well and the target zone was identified in 2020 by the study technical team and drilling of the characterization well is anticipated during the first quarter of 2022.

The main target zone for the characterization well is the Entrada which, at this location, is anticipated to be located at a depth of 1939.66 ft (below MSL) or 7971.66 ft (below surface), have an average thickness of 111.74 ft, 10%-24% of porosity, 60md – 714 md of permeability etc. The primary seal is Brushy Basin, a member of the Morrison. As the San Juan Basin is a mature hydrocarbon basin with over 40,000 penetrations, there is excellent well control and access to subsurface data. The target zone is 842.00 ft below Dakota Sandstones which is the principal zone productive for hydrocarbons, principally - natural gas. Potable water in the region is sourced from the Ojo Alamo formation at a depth of 6272 ft or 6.3 thousand feet from the target storage. The CO_2 storage project will not utilize water and will not contaminate any water sources in the basin.

A general plan for the Permanent Storage Facility has been outlined and could require between 7 and 10 EPA Class VI injection wells. The cost of drilling, completion, and facilities for this field are estimated to be in the range of $150 to $200 million.

The surface rights to the land around the characterization well are currently owned by Native American tribes, the US government, the State of New Mexico, and private owners. The characterization well and storage field will be in a low population density area in the high desert that has numerous existing oil and gas facilities.

The San Juan CarbonSafe project includes Enchant Energy, the University of Utah, the New Mexico Bureau of Geology and Mineral Resources, the Petroleum Recovery Research Center, as well as collaborations with the University of New Mexico, the University of Wyoming, the Los Alamos National Laboratory, the Sandia National Laboratories, Hilcorp Energy, Schlumberger, Inc., Robert L. Bayless, Producer, and Advanced Resources International, Inc.

Although the SJGS CCS project is intended to be the principal source of CO_2 for the Permanent Storage Facility, there are several other CO_2 sources located near the Permanent Storage Facility including the Four Corners Generating Station located 25 miles further west from SJGS and the planned Coyote Energy Center located in Southern Colorado less than 20 miles north of the Permanent Storage Facility location.

Four Corners Generating Station ("FCGS") is a coal-fired power station that completed an environmental upgrade to SCR and decreased its rated capacity from 2,200 MW to 1,540 MW in 2018. FCGS is located on the Navajo Nation, in the Four Corners Region of New Mexico. The coal supply for FCGS is sourced from the Navajo Mine which is co-located with the generating station. The Navajo Mine and the FCGS combined are responsible for over 2,334 direct and indirect jobs of which a majority are held by members of Native American tribes. If carbon capture, using the same process as the SJGS CCS, were applied to the entire 1,540 MW FCGS approximately 10 million tons per year of CO_2 would be captured and transported approximately 50 miles west to the Permanent Storage Facility.

The **Coyote Energy Center** ("CEC") is a 280 MW new build gas-fired power plant, using innovative NetPower zero-emissions technology being developed by 8 Rivers Capital in conjunction with the Southern Ute Indian Tribe Growth Fund. According to its web site, https://coyote.energy, the CEC is being designed to capture 860,000 tons of CO_2 per year.

Finally, early scoping work is being undertaken to evaluate the San Juan Basin as a location for a Hydrogen Hub that would utilize natural gas sourced in the San Juan Basin which would be cracked into H2 and CO_2 using SMR or ATR technology. The CO_2 would be captured and stored in the Permanent Storage Facility, leaving Blue Hydrogen which could be utilized for zero-emissions power generation or exported to other states for various uses.

If all four projects, SJGS, FCGS, CEC, and the New Mexico Blue Hydrogen Hub were developed, then the total CO_2 captured that would need to be permanently stored could exceed 18 million tons per year.

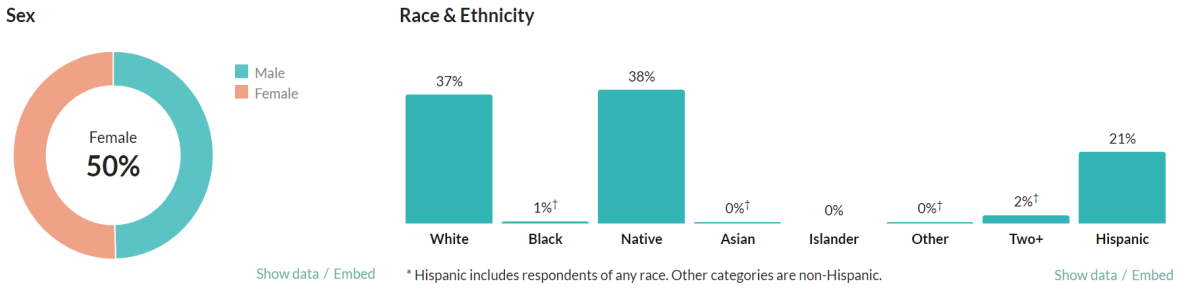
Four Corners Region CO2 Emitters	Location	Potential CO2 Captured and Permanently Stored MtCO2/y
San Juan Generating Station	Waterflow, New Mexico	6.0
Four Corners Generating Station	Navajo Nation, New Mexico	10.0
Coyote Energy Center	Southern Ute Reservation, Colorado	0.9
San Juan Basin Hydrogen Hub	Farmington, New Mexico	1.3
Total		**18.2**

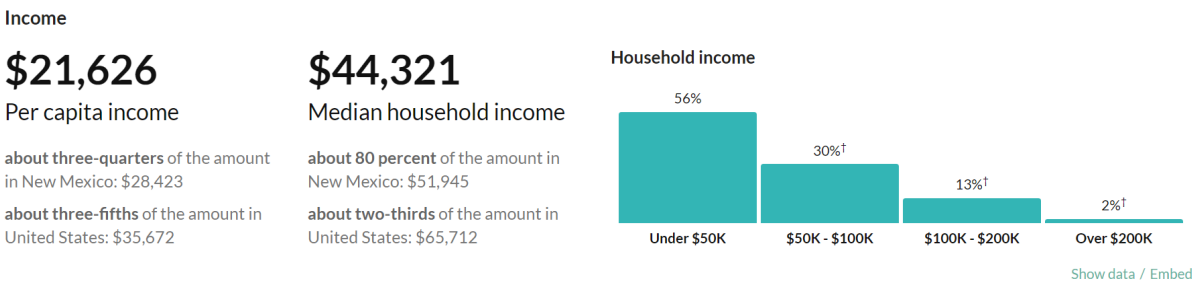
D. COMMUNITY ENGAGEMENT, BENEFITS, AND IMPACTS

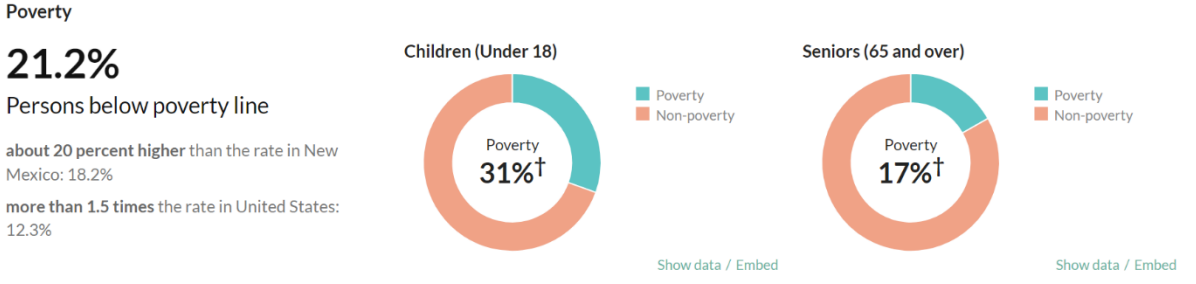
It is Enchant's belief that these decarbonization efforts must include engagement from local & state officials, community organizations, academic institutions (research and job/skills training), labor representatives, Native American representatives, economic development organizations, local chamber of commerce members, other in-state industry representatives, Federal agencies (DOE, FPISC, EPC) and congressional members. We are trying to mitigate against a Global climate crisis and this imperative requires engagement by all stakeholders, local municipalities, the State, the Federal Government, Enchant's management, workers, partners, investors and the communities it affects working together towards a common goal of climate mitigation while preserving our economy and our standard of living.

For the SJGS CCS, having Farmington as a partner has been invaluable. They have served as leaders in the community on the project and its tremendous benefits to the Four Corner's Region of New Mexico, especially with respect to the preservation of the jobs and tax revenues which provide significant funding for the schools in the region, including the Central Consolidated School District which primarily serves the Navajo Nation.

The SJGS CCS project is in San Juan County, New Mexico. Censusreporter.org shows a population of 123,958 in 2019. Of that population, 38% are Native American and 21% Hispanic. The Median household income in 2019 for San Juan County was $44,321 and 21% of the population have incomes below the poverty line.







The Navajo Nation sprawls across New Mexico and other Four Corners states. The Navajo Nation is the largest Native American Reservation by way of land and is the largest Native American Tribe by population[1]. The Navajo has an astounding 35.8% of households under the federal poverty level (FPL) in 2020, an unemployment rate of 16.8% from 2015-2019, and 35% of households without access to running water[2]. The Jicarilla Apache Nation also lies within the San Juan Basin just to the east and south of Farmington. The Jicarilla have 17.6% of families living below the FPL and an unemployment rate of 23.5% from 2015-2019[3]

The Four Corners is one of five priority areas across the USA identified by the Revitalizing Energy Communities Report[4] for "focusing initial federal investments…and delivery of investment to Energy Communities."

In September 2020, Management Information Services, Inc., under contract to the U.S. DOE published a report[5] detailing the impact of the SJGS CCS project on local employment in San Juan County and state employment in New Mexico.

This study found that the SJGS CCS project would create 4,200 annual direct and indirect jobs during the construction phase and 3,200 permanent direct and indirect jobs after full commissioning. Because the permanent jobs represent 6% of the total labor force of San Juan County, the closure of the plant and mine would have the effect of doubling the unemployment rate in San Juan County New Mexico. A 100% increase in unemployment in a region that is already struggling with Transition from fossil-fuels would have a devastating impact to the local economy.

Basic Demographic and Labor Force Estimates for San Juan County and New Mexico as of January 2020

	Population	Labor Force	Employed	Unemployed	Unemployment Rate
San Juan County	123,958	52,455	48,262	3,193	6.2%
New Mexico	2,097,000	958,293	910,393	47,900	5.0%

Source: New Mexico Department of Workforce Solutions.

The 2018 economic impact study produced by Four Corners Economic Development, a Public-Private Partnership that promotes regional economic development, found that 40% of the 478 employees at SJGS and San Juan Mine ("SJM"), are Native Americans. This study found closure of the plant and mine would reduce funding to local schools by $3.5 million per year annually. As shown below, between 53% and 100% of the students at schools supported by tax revenues from SJGS and SJM come from economically disadvantaged groups. In particular, the Central Consolidated School District serves 91% of students who are Navajo.

Potential Decrease in Student Funding[2]

		Student Profile		
District	Dollars	Native	Hispanic	Economically Disadvantaged
Central Consolidated School District	$1,576,650	91%	1%	72%
Farmington Municipal Schools	$1,713,600	32%	31%	53%
Aztec School District	$165,816	16%	29%	53%
Bloomfield Schools	$77,026	44%	35%	100%
Total Possible Loss	**$3,533,092**			

[2]Based upon Employee Dependents in Each School District

[1] https://www.census.gov/history/pdf/c2010br-10.pdf
[2] https://www.census.gov/tribal/
[3] Ibid.
[4] Initial Report to the President on Empowering Workers Through Revitalizing Energy Communities (2021). Retrieved from: https://netl.doe.gov/sites/default/files/2021-04/Initial%20Report%20on%20Energy%20Communities_Apr2021.pdf
[5] https://www.energy.gov/sites/prod/files/2020/10/f79/SJ%20metric%20report%209-24-20.pdf

Specifically, the DOE SJGS Study determined that the SJGS CCS would provide $1.33b in local tax revenues over an approximate 30-year period and provide over 3,200 jobs annually. The jobs at the SJGS and San Juan Mine are the most sought-after jobs in the region and their wage income is greater than 75% higher than the medium household income on the Navajo reservation and more than twice the average of the San Juan County family income.

A high percentage of jobs at SJGS have been held by Native Americans. Enchant is committed to continuing to provide both high paying and skilled jobs to Native Americans and all underserved populations and to work with San Juan Community College and local labor unions to ensure there is a pipeline of skills training programs for many generations, including internships and apprenticeships. The average wage & benefits for these jobs, as highlighted in the DOE SJGS Study, is approximately $120,000 annually.

SJGS CCS provides an environmental and standard of living balance to San Juan County residents. Environmentally it will remove more than 6 million metric tons of CO_2 from the atmosphere as well as further reductions in SO_2 and particulate matter through the amine processing technology being implemented. Complimenting this environmental benefit, SJGS CCS preserves and creates high paying jobs, which are essential for maintaining the resident's standard of living. Working at SJGS and San Juan Mine has been generational for many families in the region and adding CCS to SJGS will ensure that future generations will have an opportunity for the same standard of living.

Enchant engaged with organized labor, locally, at the state level and nationally from the onset in 2019 for the SJGS CCS. Enchant engaged with the labor leaders from the International Brotherhood of Electrical Workers, the Operating Engineers, the International Brotherhood of Boilermakers and the AFL-CIO. Enchant in conjunction with the EPC consortium has negotiated a draft project labor agreement for the SJGS CCS project, covering an estimated 2 million worker hours for construction, and has publicly announced its commitment and support to represented labor for all jobs at SJGS.

Enchant is deeply committed to working with a diverse range of stakeholders and critical representatives of the communities it serves. In that regard, Enchant engaged very early with the San Juan Community College on job skills training programs for the carbon capture and storage skilled jobs that will be needed and continues to work with leadership of the College on development of future programs that will prepare students for the evolving jobs in the industry.

Enchant regularly works closely with legislative leadership in New Mexico to ensure that policy clarification for the geologic storage is established and advanced into law through legislative processes. This includes providing routine briefings to legislative committees. Additionally, Enchant meets weekly with City of Farmington officials and regularly briefs the Farmington City Council on the SJGS CCS project.

Since its inception, Enchant has been committed to supporting the Navajo Nation and its right to high paying, secure jobs, access to energy, improved standard of living and control of its resources. The Navajo Nation is the largest Native American nation, both in terms of population and land area in the United States. Yet, the Federal government has acknowledged that the Navajo Nation in economic terms, is one of the two poorest areas in the United States. In the Southwestern region, the closure of coal plants and the move of jobs to other regions has hit the Navajo Nation especially hard. Recognizing that Enchant's efforts to transition SJGS and other energy sources to CCS is essential for the region and for the economic future of the Navajo Nation and the Nation's leadership. Navajo Transitional Energy Corporation ("NTEC"), a Navajo Nation entity, has invested in Enchant and a senior NTEC executive has joined the Enchant Board. NTEC already owns 7% of the FCGS.

Unfortunately, community outreach has been hindered due to Covid19 but Enchant is committed to open communication and consultations and looks forward to invigorating these efforts as soon as the health situation permits outreach to be done on a more regular basis.

As the SJGS CCS FEED progresses toward completion, Enchant intends to host a round of "town hall" type meetings across the New Mexico Four Corners region.

On a Federal level, Enchant has worked closely with both Democratic and Republication leaders to ensure policies are advanced that ensure the United States achieves its climate goals through all measures, including CCS deployment. Partnering with US congressional leaders, Enchant has worked to advance pore space clarity on Federal lands which is so critical in and across the Western states.

Environment, Social & Governance (ESG)

Enchant Energy has articulated and pursued E S & G goals in a meaningful way from its inception, as demonstrated by its actions:

- By targeting the decarbonization of industrial facilities located in rural communities in the US, many of which are located on or near Tribal Sovereign lands, improving the economic, social, and environmental lives of rural and low-income communities.
- By improving air quality and standards of living through decarbonization of industrial facilities at large-scale, resulting in up to 95% carbon emission reductions as well as other emission reductions achieved in the carbon capture process, i.e. SO_2.
- By preserving thousands and adding additional high paying, primarily union, jobs in rural America that otherwise could be lost, key to maintaining and growing the middle class across rural America, especially Tribal communities.
- By leading the way with a highly successful woman CEO, one of the few in the industry, and ensuring diversity across its Board.
- By convening a Board with clear principles of governance, committee structures and responsibility for realizing the Company's ESG mission.
- By implementing employment policies to ensure diversity in Enchant's workforce, partners, and contractors.
- By being a good community partner, partnering with community educational programs to create and facilitate job training programs for students and retraining for older workers.
- By partnering with tribal communities to achieve their goals, including access to energy sources like electrification for their members.
- By working with local, tribal, and federal representatives to facilitate access to clean water, clean air, and climate mitigation.

E. BUSINESS CASE

The SJGS CCS project is in the final stages of the FEED study. The final stage of the FEED is costing and EPC contract negotiations. Enchant expects to complete this stage of the FEED by June 30, 2022 or sooner. Once this phase of the FEED is completed, Enchant will have an updated project cost and schedule for the SJGS CCS project and have an EPC contract as well as associated technology license and solvent supply agreements.

Until completed, there exists a risk to Enchant's business case that the costs could be higher than projected and that the schedule could be impacted further than planned due to permitting and/or long-lead equipment supply challenges.

In January 2021, Enchant engaged CohnReznick Capital, the leading investment banking firm focused on the tax-equity market, to update the economic modeling of SJGS CCS and to specifically focus on financing structures, including tax equity that would provide the financing for the SJGS CCS project. Enchant and CohnReznick will continue to update the economic models as new information becomes known. The project is heavily reliant on the IRS Section 45Q tax credits.

The SJGS CCS facility construction is expected to cost more than $1.2 billion with CO_2 transportation and storage infrastructure to be in the range of $150-200 million. Financing is expected to be provided by

a combination of Tax-equity from the monetization of 45Q tax credits, Private Equity, Construction Debt, Project Debt, and Federal Funding (Infrastructure bill matching funds, DOE Loan Program and Rural Utilities Service Loans).

Enchant is not relying on state level incentives but will be seeking federal funding sources through the DOE's Infrastructure Bill sourced funds for Demonstration Project Funding Opportunities for the CCS and CO_2 Transportation and Storage Funding Opportunities for the storage of the SJGS CO_2. These funds are critical to advance this technology to full commercial scale and will enable broad deployment of the technology.

To date, Enchant has been funded by private investors including its founders as well as strategic investors: Derivee Power and Energy and the Navajo Transitional Energy Company, a Navajo Nation energy company. Enchant has engaged with Bank of America and others regarding prospective construction financing as well as tax equity financing. Enchant is in discussions with several private equity firms who are investing in clean energy and specifically CCS.

The SJGS CCS project's stakeholders are the City of Farmington, the residents of the communities, the schools, the economic development organizations, the business owners, the suppliers and the labor unions in San Juan County, New Mexico. Other stakeholders include the DOE and Enchant's partners, S&L, MHIA, Kiewit and CohnReznick.

Enchant is negotiating several contracts for the SJGS electricity offtake from the facility as well as a fuel supply agreement. Although Enchant has had extensive negotiations with parties for CO_2 offtake, Enchant is also advancing the CO_2 transportation and storage work directly and discussing a partnership structure on the storage rather than offtake agreements.

3. TECHNICAL AREA 7 - ENVIRONMENTAL JUSTICE, ENGAGEMENT & WORKFORCE DEVELOPMENT

Enchant Energy was founded on principles of environmental justice. We believe we currently comply with the highest standards of environmental justice. The EPA defines environmental justice as "the **fair treatment** and **meaningful involvement** of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies." (See Executive Order 12898). Enchant has pursued a strategy which embodies these two goals, involving both the City of Farmington, NM, which is in a rural area, and the Navajo Nation, whose members are our workers and the beneficiaries of our local property taxes, in both decision making and ownership. Enchant's strategy is rooted in the belief that climate mitigation is essential to protect the environment for all communities, local as well as global, and Enchant can lead the way by demonstrating the success of its CCUS business, as explained in Technical Area 1 of this RFI Response. The execution of our plan will achieve environmental justice for our workforce and the residents of the relevant communities. Our founders were also motivated to embark on this journey by the desire to rescue and protect sustainable, well-paying jobs for the people in the surrounding rural area and especially members of the tribal nations.

The very purpose of Enchant Energy is to build a state-of-the-art facility which will remove an estimated 6 million metric tonnes of carbon per year from the exhaust of a power plant, the output of which is still necessary to maintain a stable electricity supply in the region. Removal of carbon dioxide from the atmosphere is a matter of environmental justice for all. The refinement and proliferation of our carbon capture and sequestration technology will also serve as a demonstration project to be replicated in other regions, creating a more environmentally just world for everyone.

We have identified at least three major groups on which our project touches which are vulnerable to environmental injustice.

1. The people of the City of Farmington are potentially vulnerable to environmental injustice. Farmington is in a remote, rural area. The average income within the City of Farmington itself is approximately 80% of the national average and the population of the city has been declining for some time. If a larger circle is drawn around Farmington, to include populations of Navajo and other Nations, annual income shrinks even further. The City of Farmington is our partner in the project, and, in fact, the City of Farmington first introduced Enchant to the project. People of Farmington are not only meaningfully involved in the project, but they are also central to the project. Farmington is also an owner of the project, which we believe will always ensure fair treatment. This conforms to the principle that low income and rural communities should have an opportunity to participate in decisions about activities that may affect their environment and/or health. Farmington is also a large electricity customer of the project. The local Farmington-owned electrical utility also exerts a degree of regulatory authority over the project.

2. The Navajo Nation has endured acutely detrimental consequences because of a lack of environmental justice. In fact, the Navajo and other Tribal Nations are singled out in all statements of environmental justice as being particularly at risk of environmental injustice and therefore worthy of focus. Environmental Justice states that *Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.*

   The Navajo Nation is the largest Native American Reservation by way of land and is the largest Native American Tribe by population. The Navajo has an astounding 35.8% of households under the federal poverty level (FPL) in 2020, an unemployment rate of 16.8% from 2015-2019, and 35% of households without access to running water and could be said to have borne a disproportionate share of negative environmental consequences caused by the violent disruption of the energy industry. In a study completed by the Berkely Research Group in 2019 analyzing the effects of the closure of the Kayenta Mine and Navajo Generating Station, they describe the devastating effects to the Navajo's overall economy through the loss of high paying jobs which support the entire tax base and economy. As coal mines close and jobs move to the renewable sector, there is severe economic and social disruption. By investing in carbon capture operations, NTEC has taken direct action to recapture excellent jobs and funding for an entire community. Employing and facilitating employment of members of the Navajo Nation aligns with the EJ principal of providing continuous benefit by keeping workers employed. For San Juan County, CO_2 capture provides a carbon footprint that is on par with renewables and will also create taxes, royalties, and jobs. For the Navajo, the renewable tract is not going to ever replace the jobs lost by shutting down coal. The Navajo therefore conclude that there is a lot more "justice" with carbon capture than there is with renewables. Indeed, NTEC's total economic contribution to the Navajo Nation in 2020 exceeded $91 Million, while it is believed that the equivalent for investment in alternative renewable space would have been approximately $2 million. (source NTEC 2020 Operational Report). Currently, many of the employees of SJGS and the San Juan Mine are Navajo, holding good union jobs which support many Navajo families both on and off the Reservation and which would be lost if SJGS's carbon capture retrofit fails to be completed. Further, property taxes levied on SJGS fund the entire budget of the regional school district, over 90% of the students of which are Navajo. This revenue would be lost if SJGS is not completed. We have meaningfully involved the Navajo Nation in this project every step of the way, and, in fact, NTEC, which is wholly owned by the Navajo Nation, is a significant owner of the project and is represented on Enchant's Board of Directors. Our project meets these two demands of environmental justice in that the Navajo Nation is fully involved in all our major decisions and is ensured fair treatment, access to all financial and operational information, and a strong voice in

decision making by virtue of its significant ownership stake. NTEC has invested in Enchant because it invests in "unique assets that create balanced profits and reclaim natural resources to ensure their value for generations to come." NTEC views Enchant as a company that "will continue to provide – multi-generational solutions through the responsible mining of our assets and forward-thinking investments in the energy sources of tomorrow." Finally, the success of investments such as NTEC's and Enchant's can also result in the reclamation of lands previously harmed by mining and now returned to their natural and harmonious state.

3. Organized labor is also potentially vulnerable to injustice, even though it is not a "people" which can be defined by race, income, national origin, or any other common definition of affiliation. By establishing itself as organized by union labor from the beginning, Enchant is ensuring that organized labor will play a role in shaping the siting, design and construction of future, state-of-the-art carbon capture and sequestration facilities. The preservation of each union job related to Enchant and our projects has an oversized impact on the rural economy where Enchant functions. These well-paid jobs support the tax base, enable health care, schools, related economic activity, government services and preservation of a community. The way carbon dioxide in the atmosphere is mitigated will be a major determining factor in creating a just environment. We have had deep involvement with the organized labor movement since our inception and kept the unions informed of all our activities. We have met often with national and local union officials. And, most importantly, we have negotiated a Project Labor Agreement, based on a national pattern, which will ensure fair treatment of all union employees.

Lastly, we believe the creation of good, high paying jobs removing carbon dioxide from the atmosphere, including many union jobs, is a feature of environmental justice. A recent study of the SJGS project by the DOE projects the SJGS CCS project will generate over 3,000 jobs in the region. As articulated in the blueprint for Environmental Justice, it is important that decision makers seek out and facilitate the involvement of those potentially affected by their decisions. Enchant has committed to pursuing our commercial and ESG goals by engaging with all our stakeholders and the members of the communities we serve. We believe our strategy demonstrates not only the value of our CCS and renewable processes but the credibility of pursuing a strategy founded on environmental justice.

Enchant strongly endorses partnerships with local community colleges, Universities, Research Centers and Trade Groups to develop job training programs, internships, apprenticeships, and retooling programs. Enchant works with local labor unions to ensure there is a pipeline of skills training programs for many generations, including internships and apprenticeships. Enchant engaged very early with the San Juan Community College on job skills training programs for the carbon capture and storage skilled jobs that will be needed and continues to work with leadership of the College on development of future programs that will prepare students for the evolving jobs in the industry. Enchant supports scholarships and training in the carbon capture and renewable energy sectors at New Mexico Institute of Mining and Technology ("New Mexico Tech"), and the University of New Mexico. Ongoing support of new students, workers retooling their skills and other stakeholders in the community who will provide critical resources such as healthcare, education and other skills to the broader community is a key component to maintaining a dedicated workforce and a sustainable and satisfied community.