

HeroX CEI Impact Report
Eighth Generation Consulting

Impact Report

Criterion 1: Community Engagement and Partnerships



Eighth Generation Consulting's engagement with the Osage Nation and supporting partners through the CEI Manufacturing Prize has established a solid foundation of trust, built through collaborative and culturally-respectful outreach efforts and community service. Our project, "Renewable Rebirth" has been defined by a relational approach tailored to a tribal context – one with unique concerns, challenges, and opportunities.

We have developed a robust stakeholder network of local, regional, and national organizations within and beyond the Osage Nation to address the tribe's pressing environmental and economic needs surrounding a cratering manufacturing base. Our work has earned us standing letters of support and ongoing relationships with leaders such as Chief Geoffrey Standing Bear, Education Director Mary Wildcat, and the Secretary of Natural Resources Dr. Jann Hayman. This support has been reinforced by our active involvement with the Chamber of Commerce chapters in the capital of Pawhuska and main manufacturing town Barnsdall, as well as surveys, meetings, and projects with local educators, community members, and media.

Regular visits, open communication, and the alignment of this project to Osage values has been critical. We've ensured this through utilizing prize funding to integrate Ayda Donne (Osage Nation) into our team, an expert in Indigenous Community Engagement at NYU, to heighten our care and responsibility throughout this process. Additionally, we were able to complete our Minority Business Enterprise certification as a 100% Native owned firm through the National Native American Supplier Council.

The deepening of this relationship led members of the Osage Minerals Council to invite our project to present insights toward establishing a Tribal Utility Authority. This meeting not only demonstrates the trust the Osage Nation has placed in our work and expertise, but demonstrates how the Osage Nation's vision of environmental stewardship aligns with our work.

Our relationship led to an invitation to inspect a new solar project at the Osage Nation's "Harvest Land"—a key resource for food sovereignty, cultural preservation, elder support, and education. This inspection revealed mishandled solar assets posing toxic risks to this vital site. The lack of recycling and disposal infrastructure exacerbates improper handling of hazardous materials, reinforcing environmental degradation. Addressing these challenges will be an immediately tangible benefit that our project can bring as it requires a multifaceted approach, including site-specific solutions and sustainable infrastructure to manage waste and restore the land.

We communicated these findings through the development of a comprehensive, shared photovoltaic (PV) system report to maximize the impact across the community. This initiative allowed us to develop resources to be applied to future Osage renewables projects. Our efforts have prevented a highly-damaging contamination of precious Osage territory and saved the fragile relationship between the Osage and the renewables industry – a highly-effective step toward transitioning the tribe away from harmful, legacy energy assets toward safe, renewable ones.

Ongoing discussions with Osage leaders have revealed several critical challenges: a lack of recycling infrastructure, environmental hazards from orphaned oil wells, and a significant "brain drain" as young Osage leave due to limited job opportunities. These issues underscore the urgent need for targeted workforce development and sustainable resource management to achieve Osage energy independence.

The community's infrastructure gaps are compounded by dwindling oil resources, lack of investment, a dwindling manufacturing sector, and few educational and workforce development options, driving 60% of Osage who seek higher education outside the Nation never returning. Additionally, overburdened government employees often juggle multiple roles with inadequate compensation, limiting their capacity to address structural needs. Primary industries, such as agriculture and tourism, don't prepare residents for

careers in dependable roles like manufacturing future proof fields such as clean energy that provide living wages, benefits, and the ability to grow roots within the community.

Our project tackles these complex needs by building local talent through workforce training in renewable energy and recycling, specifically designed for the Osage context. Partnering with the Osage Education Department, we're developing a talent pipeline to foster a self-sustaining workforce for clean energy and manufacturing. Through hands-on learning and technical skills training, we bridge local workforce gaps, aiming to reverse the talent drain, encourage youth to return, and strengthen the community's resilience and environmental stewardship.

We have learned invaluable lessons in humility and patience essential for building trust with an Indigenous community. Despite our Osage-led team, the tribe remains cautious in engaging with Osage outside tribal boundaries. This journey also became a personal reclamation, reconnecting Metzger and Donne with family in the Nation, inspiring Ayda to live on the Osage Nation part-time starting next year, and allow Metzger to be the first person in his family to operate a business in the Nation in more than 100 years.

Additionally, we learned flexibility was necessary when addressing high-cost projects, such as the construction of the recycling center, which remains a long-term goal. In the interim, we have pivoted to immediate, high-impact projects such as workforce development, environmental risk mitigation, and toxic material cleanup from solar and oil operations while not losing sight of broader infrastructure goals. We have not lost sight of this larger goal, We have established strong partnerships with industry leaders such as WeRecycleSolar, Polaris EcoSystems Inc., Green Clean Solar, ENA Electronics, REC Americas, and PV Circonomy, providing critical support for the development of our project. We have confirmed land and building opportunities with tribal leadership, ensuring permitting processes can move forward seamlessly. Comprehensive business planning and market research have been completed to guarantee the project's viability, while contracts to decommission 19,000 solar panels have been secured, along with access to EPA-confirmed mapping for recyclable materials, including valuable aluminum reserves. Additionally, workforce training programs have been developed to ensure the immediate capacity to onboard staff, strengthening the foundation for a successful and sustainable operation.

Finally, we've learned the importance of integrating our work into community-led priorities, whether in environmental restoration, job creation, or cultural preservation. Our collaboration with Harvest Land has shown the potential of solar integration to enhance the farm's energy independence and sustainability, while offering renewable energy education to Osage youth. To meet the manufacturing needs of the Osage Nation, we've focused on proactive workforce development and the creation of a

resilient local economy influenced by circular economic principles. Solar integration would reduce operational costs for a number of community resources, including the farm, elder housing, and local businesses. This integration would work to achieve the nation's food sovereignty initiative while encouraging the return of young Osage for additional cultural revitalization.

We prioritize community engagement and feedback, recognizing that taking the time to cultivate relationships without rushing encourages authentic growth. This approach upholds an ethical framework for collaborating with Indigenous communities, ensuring Rather than rushing, we focus on meaningful engagement, ensuring that each stage aligns with Osage Nation values. While we haven't yet met these goals in full, this careful approach allows us to integrate community feedback, reinforcing our commitment to culturally relevant, sustainable impact. By evaluating each step and refining our efforts based on successes and challenges, we are creating a foundation that not only advances our immediate objectives but also strengthens the project's long-term alignment and effectiveness.

To achieve these long-term objectives, we've built further partnerships with Wazhazhe Connect, the Osage-owned tribal broadband network; Florence Bigheart, an influential member of a powerful Osage family who ran a recycling program in Mexico City for many years; and again, the Osage Education Department, who has allowed us to further our conversations about a pipeline from local educational institutions to high-paying, sustainable career pathways.

Self-evaluating progress in 'Renewable Rebirth' ensures ongoing success, strengthens relationships, and opens doors for future tribal services. The success of our project thus far reflects our ability to build trust, adapt to community needs, and respond to challenges as they arise. However, we've also learned that sustaining these relationships requires investment of time, resources, and transparent communication. Our future efforts will continue to prioritize these strategies, ensuring that the project's implementation is both sustainable and adaptable to the evolving needs of the Osage Nation through a mindfulness practice encouraging consistent self-evaluation and open feedback from community members.

Criterion 2: Fostering a Clean Energy Manufacturing Ecosystem

PARTNERSHIPS

PARTNER NAME	PARTNER TYPE	IMPACT OF ENGAGEMENT
Chief Geoffrey Standing Bear (Osage)	Chief of the Osage Nation	Provided a strong letter of support, suggested land and infrastructure for the recycling center, and introduced key tribal stakeholders, advancing project goals and strengthening community trust in alignment with Osage priorities.
Florence Bigheart Trantum (Osage)	Save Bigheart	Founded Save Bigheart, a nonprofit rooted in her family legacy of Osage mineral rights and independence. Save Bigheart promotes local ownership and environmental stewardship, reinforcing community ties.
Dr. James Trumbly (Osage)	Wazhazhe Connect	Dr. Trumbly's expertise and success implementing grants to build infrastructure for broadband has been an effective demonstration of our capacity to achieve success on this project. His leadership enhances connectivity and models for our project Osage values, strengthening its foundation and long-term impact.
Dr. Jann Hayman (Osage)	Secretary of Natural Resources	Her environmental management guidance aligns our recycling initiatives with Osage ecological priorities, strengthening strategies to address environmental challenges and reinforcing the project's impact and sustainability.
Dr. Tallee Redcorn (Osage)	Osage Housing Department	His essential insights into resource management and infrastructure have been crucial for planning our focus on sustainable housing and energy solutions, strengthening our efforts to align renewable energy infrastructure with Osage priorities.
David Evans (Osage)	Manufacturing and Sales	With 40 years in consulting and manufacturing sales, his expertise in parts sourcing and community engagement is vital to ensure a reliable supply chain and quality standards, strengthening our technical foundation and economic viability.
Mike McCartney / Reba Bueno (Osage)	Pawhuska Chamber of Commerce	Bringing strong local connections, their roles enhance our alignment with community priorities and expand our business network, strengthening both economic initiatives and community engagement.
EPRI	Energy Innovator	Our partnership with EPRI as a teaming member ensuring tribal participation and creation of educational material and teaching opportunities and internships through the MORE PV BBEST Circularity grant, along with contracts to ensure environmental justice as a future element of energy storage research, is key to ensuring innovative insight into this project
REC Americas	Leading Manufacturer	As a leading manufacturer providing a letter of support, their expertise supports high-quality manufacturing practices and scalable supply chains, ensuring our recycling operations meet industry standards and align with community goals.
ENA Electronics	Distributor and Maintenance Provider	As a distributor and maintenance provider, their letter of support boosts our capacity for product lifecycle management, ensuring recycled materials maintain quality as they re-enter the market.
We Recycle Solar	Manufacturer/Recycling	Their expertise in manufacturing, recycling, and remanufacturing expands our reach in responsible disposal, enabling significant waste diversion from landfills and supporting sustainable material recovery.
Green Clean Solar	Logistics Expert	Their logistics expertise enhances our ability to manage end-of-life materials efficiently, improving operational flow and reducing the environmental impact of our recycling initiatives.
MIT Solve	Innovation Accelerator	Eighth Generation's selection for the MIT Solve Indigenous Communities Fellowship for this work has provided invaluable support, connecting us with a cohort of experts who collaborate and share insights, strengthening our project's impact and innovation.
GRID Alternatives	Renewable Energy Nonprofit	Through the GRID Tribal Energy Innovators Fellowship, their partnership brings targeted training and solar resources to the Osage community, advancing technical skills and expanding workforce development in renewable energy.
General Motors	Innovation Investor	Awarding us the 2024 General Motors Prize, their support underscores our project's industry significance and bolsters our mission, bringing critical resources and visibility to our efforts in clean energy and circular economy initiatives.
PV Circomomy	Solar Recycling Specialist	A key partner in recycling infrastructure, their contributions help establish resilient operations with modular, fire-resistant designs, enhancing the durability and adaptability of our facilities.
Polaris EcoSystems	Solar Solutions	Enhances energy storage and supply chain infrastructure, essential for scalable solar recycling. Supports resilient storage solutions aligned with Osage clean energy goals, strengthening environmental stewardship and sovereignty while building a closed-loop model for Indigenous-led clean energy transitions.

With support from Osage Nation leadership, this project has flourished through strong local expertise and strategic partnerships across the clean energy ecosystem. Our partnerships with manufacturers, distributors, maintenance providers, and recycling and solar specialists cover every phase and goal initially proposed for our project. These committed partners have formalized their roles through letters of support, detailing specific contributions to the project's success. These endorsements underscore our project's credibility and reflect industry confidence in our approach, positioning us as a sustainable solution that's building a scalable and replicable community manufacturing ecosystem. The success of our partnerships lies in aligning with the Osage Nation's goals and fostering ethical, long-term relationships that resist extractivist approaches.

A major challenge we faced originally was a limited pool of local professionals in renewable energy, recycling, and manufacturing, which we are addressing by establishing opportunities within the Osage Nation Education Department and the local school system to establish our proven model of paid internships and career transition pathways. We've engaged with more than 500 individuals for digital and in person training already, and are on track to provide hands-on training for 250 participants in Osage County and 1000 nationwide in the first half of 2025. By enhancing our current internship program, further project funding will enable our students to earn relevant certifications from our training.

This prize has motivated industry and educational leaders to get involved, with EPRI contracting us to develop a tribally informed renewable energy circularity curriculum for K-12 students, San Jose State University partnering with us to lead a youth renewables summer camp, Virginia Tech collaborating with us on numerous projects, NYU-Tulsa Extension Office reaching out to help facilitate a sustainable workforce and educational pipeline supporting the Osage Nation's community energy manufacturing ecosystem.

Our project has encountered unique and complex challenges inherent to the Osage Nation's economic, environmental, and cultural landscape. Structural barriers such as a lack of local recycling infrastructure, contamination from legacy energy practices, and limited job opportunities require a multifaceted approach to bridge these critical gaps. Addressing these issues demanded a resilient and adaptable strategy, one fully embracing cultural alignment and community involvement to create lasting, trusted relationships.

Building trust with external manufacturing and energy partners has also posed challenges, as the Osage Nation remains cautious of external influences that could impact their land and resources. To navigate this, we prioritized hands-on involvement, mediating conversations between the tribe and each partner to ensure collaborations were transparent and aligned with Osage values. These careful efforts have been

vindicated by endorsements from tribal leadership, whose advocacy has significantly bridged initial hesitations. However, we remain conscious of the need to continually nurture these relationships through trustworthy and deliberate steps.

Environmental challenges like tornadoes, fires, and flooding have highlighted the need for resilient infrastructure, as the Osage Nation currently lacks adequate disaster recovery resources. These vulnerabilities initially hindered long-term sustainability projects, as resilience efforts had to account for potential natural disruptions. In response, we adapted our approach, partnering with industry leaders to develop infrastructure solutions capable of withstanding these pressures.

Our team attended six separate industry conferences to discuss and present on this ongoing project, engaging widely with stakeholders beyond the reservation to build a broad coalition of support for our project. In these settings, we connected with a diverse range of allies, speaking to over 1,000 clean energy professionals and tribal leaders. Saxon Metzger's extensive LinkedIn outreach further extended our educational mission, with 103,500 impressions, 1,200 engagements, and connections to 1,742 members occurring over the duration of the project. By using his 9,171 followers and 24,000 message interactions, we were able to deepen community engagement and refine our curriculum. This outreach complements our formal partnerships, allowing us to continually adapt to community needs and incorporate industry standards, creating a sustainable impact that aligns with Osage values. By leveraging online networks, we reinforce our commitment to public engagement while fostering meaningful connections that strengthen our foundational mission and clean energy initiatives.

In addition to this extensive outreach, Saxon has applied for and received notable achievements in Indigenous community activism for this project, including the MIT Solver Indigenous Communities Fellowship and the Grid Alternatives Tribal Energy Innovators Fellowship. These recognitions highlight our team's growing reputation in Indigenous-led clean energy manufacturing initiatives and amplify our work with the Osage Nation, connecting us to a network of Indigenous sustainability leaders and elevating our influence in relevant spaces.

Through this work, Saxon was invited to develop Economics 350 (Urban Economics and Sustainability), a senior level economics course for Wilmington University, underscoring our team's commitment to public engagement and education on sustainable development. Beyond this, Saxon created and presented 15 separate presentations with teaming partner EUCL, with accreditation from IACET and NASBA for the curriculum. This solidifies our role in creating pathways for young professionals in clean energy sectors, and this mix of educational and in the field experience led Saxon to be invited for an appointment to the State of Illinois' Renewable Energy Component

Recycling Task Force, where he will serve as an advising member. This recognition highlights the broader impact of our efforts and positions our team as a trusted resource in renewable energy and sustainability education.

As our network of stakeholders grows, we continue to learn from the community and adapt to emerging needs. We see each new partnership as an opportunity to solidify not just the technical aspects of “Renewable Rebirth” but to contribute to a resilient manufacturing framework supporting the Osage Nation’s journey toward self-sufficiency, ecological health, and a circular economy.

Criterion 3: Program Implementation and Results

SMART GOALS PROGRESS

SMART GOAL

PROGRESS

Goal 1: Develop Educational Material Based on Indigenous Circular Economy

Develop a circular economy model for recycling and repurposing renewable energy assets within the community, aiming for measurable impact through recycling rates and waste reduction, with full implementation by Q1 2025.

Summary: Our team exceeded this goal ahead of schedule, and through further funding will be able to create more interactive and further accredited curriculum that will increase the effectiveness and impact of the training.

100% COMPLETE

- Partnered with EUCl to craft 15 accredited presentations on solar energy, Indigenous activism, circular economy, and entrepreneurship.
- Created an Urban Sustainability and Economics course with Wilmington University to broaden curriculum reach.
- Conducted surveys with Native educational institutions and key U.S. government bodies to gauge interest and refine our in-house curriculum.
- Engaged with EPRI to contribute to the goals of adding environmental justice and indigenous perspectives to research on energy storage, as well as create end-of-life solar curriculum and summer camp material for elementary school, middle school, and high school students with specific focus on inclusion for indigenous perspectives.

Goal 2: Train 100 Indigenous Individuals in Recycling

Conduct training for 100 Indigenous community members in solar and storage recycling, with completion rates tracked, using local resources to provide sustainable job skills by the end of Q2 2025.

Summary: Our team has successfully exceeded this goal, delivering over a lectures and presentations to hundreds of individuals at in person and online events. Further funding allows us to create more meaningful engagement through targeted internship programs for workforce development.

100% COMPLETE

- Delivered presentations at nearly a dozen events, including several with EUCl, the American Solar Energy Society and MIT Solve
- Crafted and delivered lectures at Wilmington University through classes
- Saxon utilized his expansive LinkedIn presence to foster more ongoing education, with his educational work receiving 103,500 impressions, 1,200 engagements, and direct connections with 1,742 members on this platform alone using his 9,000 followers and 24,000 message interactions.
- Began collaborations with leaders from NY's Office of Indigenous Education NYU-Tulsa's Extension Office, WY's Department of Education.
- Our estimates indicate that more than 2500 individuals received our training, specifically with 250 identifying as indigenous.

Goal 3: Launch Five Indigenous-Led Recycling Startups

Support the launch of at least five Indigenous-led clean energy recycling startups by providing incubation, mentorship, and business development training, with a goal to achieve this by the end of Q3 2025.

Summary: Our efforts have been successful to diversify the Osage clean energy ecosystem and manufacturing sector as well as empower entrepreneurship. Funding would ensure that we're able to support the initial development of the final two startups prior to our initial timeline goals.

80% COMPLETE

- Polaris Ecosystems has launched as an independent operation, achieving sustainable cash flow through decommissioning contracts.
- Lumigris is on track to become a standalone business with a clearly identified business plan and market positioning.
- Save Bigheart has been established and is working actively to help provide a basis in workforce development and manufacturing jobs in order to help expand the impact of our project throughout Osage County.
- In discussions to launch two additional ventures: a publishing house for curriculum development and research publication and dissemination, and a branding/design firm. Both have completed market research and business plans.

Goal 4: Operationalize a Pilot Indigenous Recycling Facility Program

Develop a pilot program for local recycling efforts, securing a facility partner and operational relationship to support skill application and local employment, targeted for Q1 2026.

Summary: By performing a community, business, and market assesment, identifying property and facilities, ensuring availability of equipment and partnerships for support, and creating workforce training, the project only requires funding to meet initial timelines for operationalizing a pilot facility.

70% COMPLETE

- Established firm partnerships with industry leaders WeRecycleSolar, Polaris EcoSystems Inc., Green Clean Solar, ENA Electronics, REC Americas, and PV Circonomy with support for the project's development
- Confirmed land and building opportunities with local realtors, the Chamber of Commerce, and Chief Geoffrey Standing Bear to ensure permitting would be able to move forward on the project.
- Completed business planning and market research to ensure viability
- Secured contracts to decommission 19,000 panels and determined market access for EPA confirmed mapping for potential recyclable material in the area, including aluminum reserves for a strong material supply.
- Created workforce training to ensure immediate capacity to onboard staff

Goal 5: Develop Partnerships with Local Manufacturers

Establish at least three partnerships with local manufacturing companies to support the recycling initiative, building resilient supply chains and material sourcing by Q1 2026.

Summary: Fully developed local, regional, and national partnerships to create a solid foundation for future development in the area ahead of schedule. Funding would allow us further strengthen the manufacturing ecosystem aligned with Osage values of sovereignty and sustainability.

100% COMPLETE

- In active discussions with Chase Corporation's Barnsdall plant and Osage Landfill, as well as Osage Broadband, the Osage Nation, and Harvest Land.
- Demand and regulatory hurdles remain, but Osage Landfill specifically has expressed interest in collaboration specifically around onboarding recycling services.
- Local chambers of commerce and Osage leaders, including Chief Standing Bear, provide strong community support from employers in the area.
- Industry insights from the MIT Solver, including specific engagement with General Motors, Seimens, REC Americas, ENA Electronics, and WeRecycle Solar ensure a strong local and national set of partnerships to carry this project forward.

Our project has leveraged CONCEPT and PROGRESS phase awards to advance a clean energy manufacturing ecosystem rooted in Osage Nation values. The prizes have had a transformative impact, not only for the Osage Nation community but for our business and the individuals who have joined our growing team. Funding allowed us to hire two additional full-time employees and fund two full internships deeply invested in the project's mission. We are also interviewing for project development and construction staff to bolster our technical and outreach capacities, underscoring the award's tangible, positive impact on individual career paths and workforce development in Indigenous sustainability. Not just jobs, these are living wage, future proof careers that are developing specialized skills that solidify manufacturing and circularity opportunities in Justice40 communities.

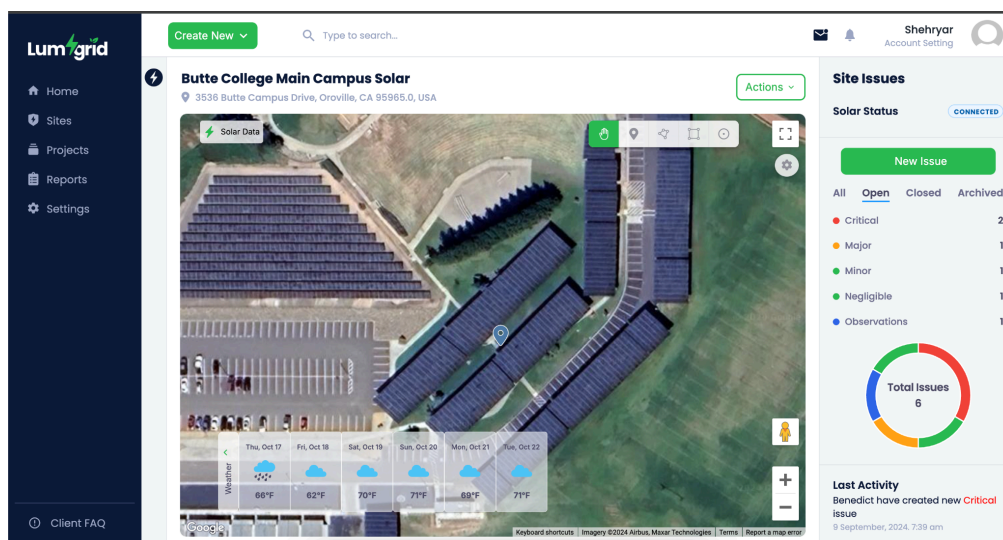
The CONCEPT phase funds enabled us to clarify and engage with our vision for an Indigenous-centered recycling ecosystem, working closely with Osage leadership to align education and entrepreneurship programs with community manufacturing needs. Partnerships with EUCI, Train GRC, Grid Alternatives, MIT Solve, Wilmington University, REC Americas, and StraightUp Solar empowered us to design training initiatives in renewable energy recycling and Indigenous entrepreneurship. The Osage Nation faces challenges due to its distance from recycling infrastructure and manufacturing partners, so we established partnerships with leading recycling and waste management partners such as Osage Landfill to confirm support for investment and partnerships to support necessary infrastructure. CONCEPT funds also supported a project review trip across Southern California and Arizona, where we analyzed sites and strengthened relationships with industry leaders and potential clients, as well as allowing us to engage in teaming conversations and contractual negotiations with clean energy manufacturing and circularity leaders like Ontility in Tennessee, PowerHouse Recycling in North Carolina, Fabtech and WeRecycle Solar in Arizona, and Solarcycle in Texas and Georgia.

PROGRESS phase funds provided additional support for implementation. Our partnerships with clean energy and manufacturing leaders expanded, including operational commitments for our pilot recycling center from Green Clean Solar, ENA Electronics, REC Americas, and PV Circonomy, as well as support from Osage Nation leadership and local Chambers of Commerce allowed us to identify land, facilities, and identify permitting processes. These funds further supported our efforts of operationalizing a pilot facility by allowing us to finalize business planning and market research, as well as secure contracts to decommission and recycle 19,000 solar panels, identify recyclable equipment, begin training our initial workforce, and map potential recycling material and value utilizing EPA resources.

Through nearly a dozen presentations of our previously noted curriculum, including seminars with EUCI, the American Solar Energy Society, and MIT Solve, we trained over 2,500 individuals, including 250 Indigenous participants. These workforce training programs are ready to onboard further staff and trainees, ensuring operational capacity. This training program integrates cultural guidelines from the Osage Nation and insights from a cultural sensitivity study conducted by our Osage team members. These culturally-relevant perspectives equip youth with skills in decommissioning, recycling, environmental standards and advanced materials management.

Another key innovation enabled by PROGRESS funds is Lumigrd, a transformative software platform designed to revolutionize materials management within solar projects while driving workforce development, safety, and environmental sustainability. By integrating AI, GIS, and satellite data, Lumigrd automates the tracking, recovery, and repurposing of solar materials with near 99% accuracy, replacing outdated manual processes with advanced predictive algorithms. Its circular economy approach prioritizes reuse, repair, and recovery of materials before recycling, maximizing both environmental and economic benefits. Additionally, Lumigrd identifies optimal locations for recycling centers and calculates precise logistics costs, all detailed in a comprehensive business plan that underscores its value to sustainable development.

Lumigrd's impact extends beyond material tracking, dynamically identifying nearby processing facilities to minimize transportation costs and logistical challenges, making recovery more efficient and cost-effective. This system directly addresses the Osage Nation's challenges, such as contamination from past energy practices, limited recycling infrastructure, and local job scarcity in clean energy. By supporting the establishment of a tribally owned recycling center and integrating workforce training and resource management, Lumigrd aligns with the Osage community's goals of environmental resilience, economic independence, and sustainable growth. Its comprehensive capabilities position Lumigrd as a cornerstone for sustainable materials management on Osage land and a replicable solution for communities nationwide.



Through the Harvest Land project, we were able to determine not only the solar project feasibility and issues but also guide future site selections. Expanding from planning to action, Lumigrid's capabilities drive targeted training and community involvement, advancing from concept to hands-on implementation.

Ongoing discussions with Chase Corporation's Barnsdall plant, Osage Landfill, Osage Broadband, and Harvest Land are advancing collaboration on recycling services. Despite regulatory hurdles, Osage Landfill has expressed strong interest in onboarding these services, demonstrating the growing regional demand for our initiatives. Operationally, Polaris Ecosystems launched as an independent venture with sustainable cash flow from decommissioning contracts, while Lumigrid advanced as a standalone business with a defined market strategy. Save Bigheart, established to promote workforce development and manufacturing jobs in Osage County, has become a cornerstone of regional economic growth. We are now exploring two additional ventures—a publishing house for curriculum development and a branding and design firm—with completed business plans and market research.

Additionally, we secured a significant contract with a construction company to support their decommissioning portfolio, managing over 19,000 solar panels slated for responsible deconstruction and material recovery, with an additional pipeline of projects that promises further growth. Alongside this, we have begun developing proposals for new solar builds in Arizona and Virginia, diversifying our project portfolio and increasing our potential for future funding. These initiatives underscore our commitment to securing reliable funding sources, ensuring our team's continued capacity to deliver impactful, community-centered renewable energy solutions.

Our engagement with Tribal Colleges and Universities (TCUs) has been instrumental in building a strong foundation for Indigenous workforce development in clean energy. By working directly with TCUs, we are laying the groundwork for programs that provide Indigenous students with hands-on experience in renewable energy technologies, fostering the next generation of clean energy professionals. Both Wilmington University and Palomar College have recognized our contributions, with Wilmington featuring this work in its annual magazine and Palomar highlighting it in its annual report.

Ayda Donne, Director of Grants and Research, brings his expertise as an NYU educator specializing in Indigenous Community Engagement and Environmentalism. Ayda has played a key role in creating culturally-responsive curricula, securing grant funding, and fostering collaboration with the Osage Nation. His work ensures financial support, educational infrastructure, and sustained relationships vital to this project's success.

Wesley Ladd (MBA), leveraging his strategic planning, cybersecurity, and software architecture skills, has led the development of Lumigrid's platform. This system has been critical in identifying and categorizing solar components, setting new efficiency benchmarks in renewable energy while supporting local economies and environmental resilience. As founder of Train GRC, CEO of Polaris Ecosystems, and an educator at LSU, Wesley also designs risk management training programs and integrates real-world insights with governance principles, bridging innovation with community-focused solutions, while supporting the manufacturing, decommissioning, estimation, and logistics required to broaden the project's goals and achievements. By passing the NASCLA General Contractors Examination, he has the primary qualification necessary to submit for unlimited contractors license in over 17 states and a handful of territories, ensuring our project is able to have an expanding national presence and scope.

Saxon Metzger (MBA), President at Eighth Generation Consulting, has been pivotal to our project through his expertise in renewable energy, sustainable business, and community development. As an Osage Nation member, Saxon leads our community engagement, building meaningful connections and trust. His role includes representing the project to the Osage community, meeting with tribal leaders and aligning initiatives with community priorities. Through site reviews like his proactive inspection at Harvest Land to address contamination risks, Saxon has protected vital agricultural land for Osage elders, reinforcing our project as a trusted, community-aligned partner.



Beyond direct engagement, Saxon's thought leadership has broadened the project's reach. His publications in Energy News Network and presentations at key industry events, including the American Solar Energy Society, GRID Tribal Energy Innovators Summit, and RE+, highlight Indigenous-led sustainability and elevate the project's profile, attracting support and partnerships. As a NABCEP-certified PV System Inspector and PV Technical Sales Professional with ISO 14001 and NFPA70E certifications, Saxon ensures high standards in environmental and safety compliance, promoting responsible solar practices that resonate with community stakeholders.

As an educator, Saxon extends the project's impact, sharing insights on sustainability with broader audiences. At Wilmington University, where he is a Graduate of Sustainable Business and course designer, he fosters sustainable practices that align with our goals. His commitment to community-centered solutions and circularity has earned him the 2024 General Motors Prize, the GRID Tribal Energy Innovators Fellowship, and the MIT Solve Indigenous Communities Fellowship. These honors underscore his expertise and ongoing contributions, driving project success by integrating innovative energy solutions with the Osage Nation's values and needs.

Our team's qualifications and technical expertise have been significantly enhanced by the addition of many of these advanced certifications due to Community Energy Innovation CONCEPT and PROGRESS funds, ensuring we meet the highest industry standards in renewable energy and manufacturing/construction. These certifications enable us to directly oversee projects, maintaining control over critical decisions and ensuring alignment with community-focused goals which is critical to ensure that project implementation remains centered on the needs and values of the Osage Nation. Building internal expertise has allowed us to reduce reliance on external contractors, demonstrating our capacity to strengthen these credentials and capacity in the community to address the limited availability of skilled professionals and inadequate infrastructure. These efforts directly contribute to local capacity-building and economic empowerment.

To prioritize safety as a core value, we have ensured that all team members, including remote staff, are OSHA 10 and 30 certified as well as pursue NFPA70e requirements. This commitment reinforces our dedication to maintaining the highest safety standards across all phases of our projects. By embedding technical and cultural expertise within our team, we have strengthened community trust and positioned ourselves as a reliable resource for the Osage Nation's clean energy transition. This foundation equips us to lead projects that are culturally resonant, technically sound, and aligned with long-term goals for self-sufficiency and sustainable development.

Through peer learning, we refined our approach and addressed blind spots with EFN and through valuable connections with fellow prize winners like the Metals Innovation Initiative. These sessions, along with Ayda's Indigenous Theories working group at NYU, reinforced key principles: incremental progress, strong community relationships, and alignment with contemporary Indigenous engagement practices.

EFN's Cassie Coravos provided invaluable guidance, helping us integrate past HeroX feedback to show continuity and improvement. Her advice to create a narrative-driven impact report allowed us to transparently highlight both successes and challenges. Cassie also suggested strategies for public dissemination, including a resource hub on our website, ensuring broader accessibility and enhancing long-term impact. EFN's structured insights have enabled us to meet or surpass our SMART goals, underscoring our dedication to environmental stewardship, economic empowerment, and Indigenous sovereignty.

Criterion 4: Projected Impacts and Sustainability Plan

Our ambitious, yet achievable plans envision the Osage community as a leader in the clean energy manufacturing transition, equipped with the necessary infrastructure, workforce, and resources to meet its unique environmental and economic needs while serving to further inclusion of disadvantaged communities within the industry. Support from Community Energy Innovation Impact Phase Grand Prize would allow us to sustainably scale our initiatives to solidify a self-sustaining clean energy manufacturing ecosystem within the Osage Nation.

To achieve and sustain this vision, we have implemented a comprehensive funding strategy that combines grants, consulting vouchers, industry partnerships, and revenue-generating activities. Consulting vouchers, secured through the U.S. Department of Energy's Energywerx Program, has enabled us to collaborate with other tribal organizations, broadening our impact and providing sustainable funding for new projects. Additionally, partnerships with industry leaders such as WeRecycleSolar, PV Circonomy, and REC Americas bring essential resources, co-investment opportunities, and technical expertise that underpin our growth. Most of all, the Chief of the Osage Nation has introduced us to the Grants Department of the Osage Nation, an incredibly successful source of funding for the community as a whole. A partnership with this department, which we are actively pursuing, would allow us to pursue opportunities restricted to tribal governments for funding for community projects. Through these strategic initiatives, our project remains financially sustainable, culturally aligned, and well-equipped to support a lasting, equitable clean energy ecosystem. These funding sources make our project sustainable and replicable.

However, dedicated funding from Community Energy Innovation Impact Phase Grand Prize would enable us to immediately amplify the impact of our work across all goals, ensuring the full realization of our vision taking advantage of our current momentum. Funding would support the enhancement of our educational materials with interactive modules, expanded accreditation, and culturally relevant storytelling to reach broader audiences. It would also allow us to deepen workforce development efforts by establishing more broad internship and apprenticeship programs. For our entrepreneurial goals, additional resources would accelerate the launch of the final two Indigenous-led startups, providing crucial mentorship, business planning, and market access to ensure their viability.

To expand Lumigrid's capabilities and increase its impact, additional funding would enable us to develop two essential features that will further support community and municipal engagement in renewable energy projects. We aim to provide automated

decommissioning reporting at no cost to municipalities and tribal entities, empowering local governments to manage solar infrastructure proactively. This system reduces administrative burdens, enhances transparency, and protects community interests while lowering developers' soft costs, fostering collaboration between Indigenous and municipal entities. Additionally, expanding Lumigrad with infrastructure mapping tailored to community needs will provide real-time insights to support clean energy projects, creating a replicable framework for underserved regions. These advancements position our initiative as a model for self-sufficiency, environmental stewardship, and sustainable development across tribal nations and disadvantaged communities nationwide.

Furthermore, funding would secure the operationalization of a pilot recycling facility by covering the costs of equipment, facility improvements, and workforce training, enabling us to meet our initial timelines. Finally, it would strengthen our manufacturing partnerships, solidifying supply chains and material sourcing while aligning with Osage values of sovereignty and sustainability, ensuring the scalability and resilience of our initiatives.

The value of this work is undeniable. For instance, maximizing clean energy integration utilizing remanufactured material locally would enhance energy independence. Expanding workforce training will allow us to reach more Osage community members and neighboring Indigenous regions, providing certifications and hands-on experience in clean energy technologies and manufacturing that would create real careers that give our youth a reason to stay on their lands and bring in revenue and economic value from outside the tribe. Specifically, continuous support will enable the full operationalization of a tribally-owned recycling facility, establishing a self-sustaining, closed-loop system that reduces toxic waste, creates jobs, and strengthens economic resilience.

Our vision for a community-led clean energy transition within the Osage Nation is grounded in tangible progress and a strategic plan for long-term sustainability. To date, we have established key milestones, including the development of culturally grounded workforce training programs and the foundational steps toward a tribally owned recycling facility. With significant partnerships already in place, our project aligns with the community's economic and environmental goals, ensuring the Osage Nation can participate actively in the broader energy landscape while building resilience and independence. Growing recognition of our work has led to collaborations with initiatives such as the Chicago Wilderness Alliance's Climate Action Plan for People and Nature (CAPN), an equitable climate action strategy for the region, with leadership from the Field Museum's Keller Science Action Center. These partnerships amplify our impact, demonstrating the viability of our integrated approach in environmental and community-centered initiatives and reinforcing our commitment to respectful engagement with Indigenous and local communities.

The expected results from our post-prize efforts are viable and transformative, establishing a scalable, community-led clean energy manufacturing ecosystem allowing for manufacturing and remanufacturing as a national leader in the renewable end-of-life industry. Within the Osage Nation, our recycling and manufacturing facility and integrated workforce programs are projected to generate jobs, reduce energy costs, and mitigate environmental impacts while building resilience and sovereignty for our people. We have demonstrated that this model is replicable and taken steps to support the growth of other manufacturing circularity ecosystems through our educational services. We aim to catalyze a nationwide movement where Indigenous-led projects redefine the clean energy transition, championing a future rooted in tribal sovereignty, cultural preservation, and the sustainable return of our domestic manufacturing base.