

Cherokee Nation

2025 Annual Energy Report



GWYAG DBP
CHEROKEE NATION®
Natural Resources

Reporting Period: 01/01/2025 – 12/31/2025

EXECUTIVE SUMMARY

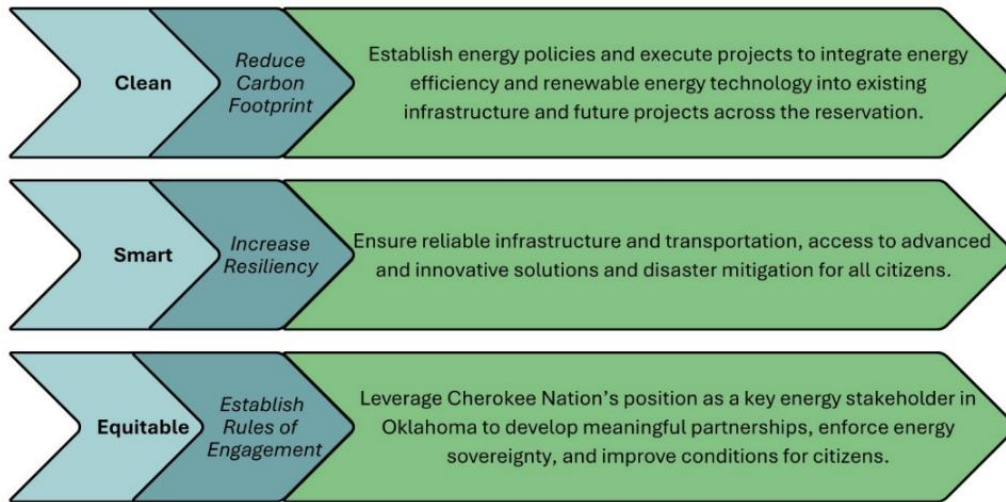


Figure 1. Guiding Principles from Cherokee Nation Strategic Energy Plan

In the reporting period, defined as January 1, 2025, through December 31, 2025, Cherokee Nation made progress on all priorities identified as the Guiding Principles in the Cherokee Nation Strategic Energy Plan. The Strategic Energy Plan was collaboratively developed, starting in 2024, by the Clean Energy Task Force to ensure all energy initiatives within the tribe were completed with a common Energy Vision: *clean, smart and equitable*.

The 2025 Annual Energy Report summarizes progress made in all nine identified areas of focus, three within each Guiding Principle. This document demonstrates a tribe-wide effort to progress energy goals with a diverse set of projects and initiatives from many dedicated departments including a LEED Silver Certified Health and Wellness Clinic constructed with environmentalism in mind in Salina, OK, a broad expansion of the Cherokee Nation Recycling Center, and a housing subdivision in Jay, OK that prioritizes energy efficiency and citizen safety through resiliency. When available, data analysis results show the measurable impact of initiatives including solar projects installed on Cherokee Nation community centers throughout the Reservation that have produced just over 140,000 kilowatt-hours (kWh) of carbon free electricity that lower utility bills. The tribe's inherent commitment to the land, water and life within the Reservation has driven historical environmental action, but with leadership's recent commitment to increasing capacity and expanding programs, progress has grown in 2025 and will continue to do so exponentially.

This report is Cherokee Nation's first annual energy report and covers all available information and data. An in-depth analysis of Cherokee Nation-owned energy infrastructure and utility bills is incorporated to not only analyze progress but also provide insight into future areas of focus.

Cherokee Nation is setting a new standard and acting as an example of a forward-thinking, community-oriented energy and sustainability organization in the state of Oklahoma. The tribe is pursuing a broad range of energy initiatives that deepen internal capacity and exercise energy sovereignty and self-determination that will continue, guided by the goals established herein.

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I. BACKGROUND

In 2024, Principal Chief Chuck Hoskin Jr. issued Executive Order 2024-03-CTH, an *Executive Order on Further Environmental and Climate Change Goals*, to establish the Clean Energy Task Force led by Secretary of Natural Resources, Christina Justice. Over the next year, the Clean Energy Task Force met monthly to collaboratively create the 2025 Cherokee Nation Strategic Energy Plan. The final document brought together priorities from a diverse set of stakeholders to establish the Energy Vision and subsequent Guiding Principles to act as a foundation for all energy projects and initiatives pursued by the tribe. The Cherokee Nation Strategic Energy Plan was released by Principal Chief Hoskin Jr. on Earth Day of 2025.

For its second year of existence, the Clean Energy Task Force (herein: Task Force) shifted to meeting quarterly. These meetings acted as dedicated time for leaders across the tribe to collaborate, share information, and advise upon the implementation of the goals as identified in the Strategic Energy Plan.

This 2025 Annual Energy Report is a summary of the available data from any carbon and energy related initiative pursued by the tribe in the reporting period. Where any standalone year is noted, it represents data from January 1 through December 31 of that year. For example, if 2025 is referenced on its own or in a graphic, it refers to January 1, 2025, through December 31, 2025. This report was informed by the Cherokee Nation Clean Energy Task Force and prepared by Natural Resources staff (herein: NR staff).



Figure 2. Cherokee Nation 2025 Earth Day Celebration and release of the Strategic Energy Plan.

II. PROGRESS ON FIRST STEPS IDENTIFIED IN STRATEGIC ENERGY PLAN

A major component of the 2024-2025 strategic energy planning process was utilizing the expertise of the Task Force members to identify key barriers that stood in the way of meaningful progress on the tribe's energy goals. The two main solutions to these barriers, or "First Steps" in the Strategic Energy Plan, are the establishment of an energy program and a centralized data management system. The Task Force identified these two areas for capacity improvement as necessary to the foundation of energy initiatives at the tribe.

For the first time, two full-time NR staff, funded by the U.S. Department of Energy through the Energy Innovator Fellowship (herein: EIF), are working full-time on energy projects and initiatives to advance the principles of the Cherokee Nation Strategic Energy Plan. While not yet a part of an official program within the Natural Resources Department, these energy-focused staff members have maintained the momentum created in the strategic energy planning process and continue to work to institutionalize the identified First Steps. While still in progress, advancements towards these goals are detailed below.

Energy Program

The development process of a Cherokee Nation Energy Program began in 2025 with the intention of being launched in 2026. This program, to be overseen by Secretary of Natural Resources Christina Justice and guided by the Clean Energy Task Force, will be structured to meet the needs of the existing projects while ensuring that it will drive change to meet the goals of the Strategic Energy Plan.

The Energy Program will act as a centralized location for tracking energy projects across the tribal government and its entities and will manage the existing and future energy projects internal to Natural Resources. The Energy Program will ensure that the tribal government has the necessary capacity to execute impactful initiatives by researching, proposing, and drafting policies and systems that will improve tribe-wide energy operations. The Program's staff will work with other tribal departments to develop and implement policies, processes, or other programming that support energy priorities as laid out in the Strategic Energy Plan. Furthermore, Secretary Justice has conversed with leaders at Cherokee Nation Businesses (CNB) to promote active collaboration between NR staff and CNB.

Data Management

NR staff have been able to better process available utility, solar PV, and electric vehicle charging data. This data was collected from all available internal sources to Cherokee Nation and external web-based vendor managed platforms. NR staff is working to not only collect and analyze available data but implement systems to streamline the process for the future.

Furthermore, NR staff have developed automated program scripts and processes to retrieve data from these source materials and consolidate them onto internal Natural Resources databases. This

enables energy data to be analyzed across several years whereas before they were manually retrieved from special requests. Much of the data and analysis provided in this report are the direct result of building such data capacity. This has enabled NR staff to communicate meaningful statistics like lifetime carbon reduction impact of Cherokee Nation owned energy infrastructure, shown in Figure 3 below.

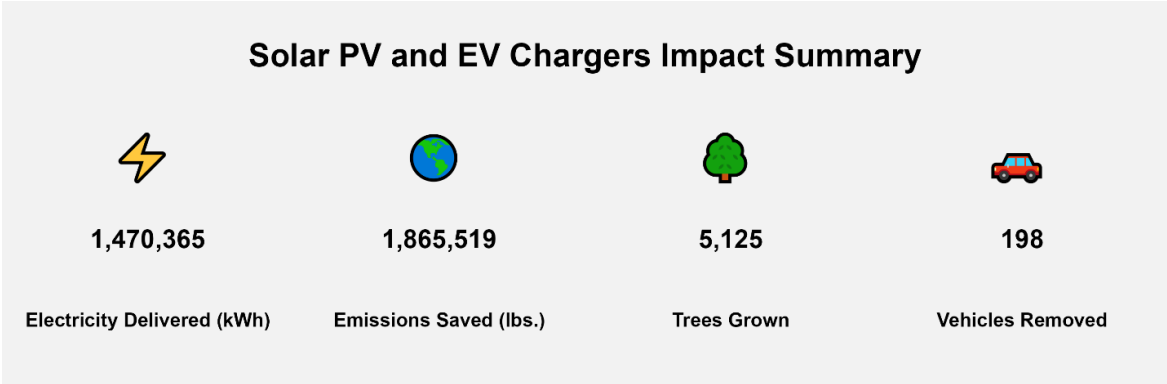


Figure 3. Cherokee Nation Energy Infrastructure Carbon Reduction Lifetime Impact

Additional work is planned to further strengthen data fidelity to provide detailed information about past performance and actionable initiatives. This includes restoring and implementing data tracking capabilities at existing energy infrastructure across the Reservation (see Section IV. Impact Report). Furthermore, an internal goal is to clarify facility names for accurate location identification of utility consumption. Another goal is to gain access to each Program’s fleet data to understand non-utility energy and carbon impacts and gain additional scope. NR staff will continue to create relationships with internal and external programs to gain access to such information and quantify progress in future editions of this report.

III. PROGRESS REPORT

Clean: Reduce Carbon Footprint



Operationalize and Expand upon Waste Management Practices

Recycling.

The Cherokee Nation Recycling Center, operated by Management Resources, processed 131,573 pounds (lbs.) of paper and 25,320 lbs. of cardboard in the reporting period. A total of 156,875 lbs. of recyclable materials were diverted from the landfill, which prevented approximately 182,699 lbs. of carbon dioxide (CO2) emissions. In November 2025, the Recycling Center collaborated with Natural

Resources to leverage available funds for a significant expansion of services. The Recycling Center team added a total of 22 new recycling pickup locations across the Reservation to expand access to recycling for CN facilities. This expansion included 15 CN Health Centers and 7 additional buildings, including Kenwood and Marble City community centers, the 1839 Cherokee Meat Co., and Sequoyah High School, among others. The Recycling Center also expanded to start accepting aluminum and plastics (#1 and #2) beginning in November 2025. In December 2025, the Cherokee Nation Recycling Center processed over 12,000 lbs. of materials more than in December of the previous year, which is an increase of 161%. This showcases the impact of the November expansion and continuing efforts to expand recycling within the tribe.

September 2025 marked the kickoff of the Cherokee Nation Employee Recycling Program. This program allows any Cherokee Nation employee to drop off recycling every Monday during regular business hours. From September 2025 to December 2025, this program has diverted 170 lbs. of paper, 390 lbs. of cardboard, 31 lbs. of aluminum, and 24 lbs. of plastic from the landfill, preventing approximately 650 lbs. of carbon emissions.

Food Waste Management and Composting.

The Food Waste Management Task Force was established in April 2025 to provide recommendations on reducing food waste to promote food security and decrease carbon emissions. As a part of their actions as a task force, a composting program was established in June 2025. The Natural Resources Administration building at the Markoma campus and Environmental Programs building on Allen Road both have active on-site composting pilots that collect waste created at work and accept food waste from Natural Resources employees. A team of Natural Resources employees manage these pilot projects and have expanded the program to collect weekly food waste from Talking Leaves Jobs Corps. In 2025, 1,018 lbs. of food waste was diverted from the landfill to be amended into soil that will be used in the Cherokee Nation Heirloom Garden to cultivate culturally significant plants. This is associated with preventing 617 lbs. of carbon emissions. Natural Resources has received a microgrant from Keep Oklahoma Beautiful to fund compost collection kits that will be distributed at education workshops for employees in 2026. After the completion of the pilot phase, the composting program will be managed by the CN Ethnobiology Program. The 2025 Food Waste Management Task Force will release a report in April 2026 detailing the research conducted and composting pilot projects completed along with a set of recommendations to improve food waste management.

E-Waste and Hazardous Waste.

Cherokee Nation Environmental Programs, a subdepartment within Natural Resources, hosted two waste collection events. The E-Waste event in Tahlequah diverted over 3,500 lbs. from the landfill, including 264 lbs. of batteries, while the Hazardous Waste event in Stilwell collected 64 drums of hazardous waste material. These collection events are free to participants, mitigating risk of hazardous materials being improperly disposed of or illegally dumped due to cost constraints associated with proper disposal.

Institutionalize Energy Expectations of Cherokee Nation Infrastructure and Transportation

Infrastructure.

In August 2025, Cherokee Nation opened the state-of-the-art A-Mo Health and Wellness Center in Salina, OK. This 109,000 square-foot facility provides a wide variety of health services to the Salina community along with a wellness center and newly installed electric vehicle charger, discussed later in this section under *Transportation*. The A-Mo Health and Wellness Center has achieved the Leadership in Energy and Environmental Design (LEED) Silver certification. LEED is the most widely recognized green building rating system in the world and offers a framework for healthy, efficient, and cost-effective green buildings, providing environmental and social benefits. Fewer than 500 buildings in the entire state of Oklahoma have achieved a ranking equivalent to the A-Mo Health and Wellness Center, which highlights the high standard to which the Center is built.

Cherokee Nation Environmental Programs participated in The Sustainability Alliance's Scor3card program and received the Verified Gold Badge for their commitment to sustainable principles at the Environmental Programs building on Allen Road.

The Housing Authority of The Cherokee Nation opened the Ganohili Housing Subdivision in Jay, OK in July 2025. The first 10 homes were built in partnership with the Public Service Company of Oklahoma, and all achieved an Energy Star Silver rating. The total rebate collected by the tribe as a result of these energy investments was \$42,500 due to approximately 49,000 kWh in electricity savings and approximately 42,800 lbs. of carbon emissions avoided.

To more effectively manage existing Cherokee Nation-owned energy infrastructure (see Section IV. Impact Report for technical details), NR staff have established monitoring practices, identified opportunities for maintenance, created systems for data tracking, and partnered with Francis Energy on maintenance contracts that will be deployed in 2026. This dedicated effort will set the precedent for management of this infrastructure and will continue to improve in the years to come.

Transportation.

In June 2025, Cherokee Nation installed ten Level 2 electric vehicle chargers with longstanding partners in EV charging technology, Francis Energy. The chargers were installed at A-Mo Health and Wellness Center in Salina, OK and are a part of the tribe's larger effort to encourage adoption of electric vehicles within the Reservation through robust charger systems.

Cherokee Nation, in partnership with Francis Energy, was announced as a 2024 awardee of the U.S. Department of Transportation Charging and Fueling Infrastructure (CFI) Grant to fund 91 community chargers and 58 corridor chargers throughout the Reservation. This program would significantly increase publicly accessible electric vehicle charging infrastructure within NE Oklahoma and the CN Reservation. Due to changes in the federal priorities, this funding has yet to be issued, though staff continue to follow up on award status.

Contribute to Low Carbon Energy Sources within the Reservation

Energy Production.

Cherokee Nation has installed solar PV systems on 16 Cherokee Nation community centers within the Reservation. Within the reporting year, these systems produced 145,198 kWh, saving the community centers an estimated \$14,000 based upon standardized electricity cost calculations. This avoided approximately 127,000 lbs. of carbon dioxide emissions. At least four community centers are scheduled to install new or add capacity in 2026 at a total projected cost of about \$200,000. (See Section IV. Impact Report for additional information on the impact of CN-owned technologies in 2025.)

In addition, Cherokee Nation-owned electric vehicle chargers delivered over 200,000 kWh of energy across 34 monitored chargers within the Reservation within the reporting year. Travel driven using electric vehicles charged from these stations prevented approximately 465,000 lbs. of carbon from entering the atmosphere. Furthermore, there are two solar PV canopies which produce electricity and shade while charging vehicles. Electricity produced from these two canopies prevented approximately 140,000 lbs. of carbon from entering the atmosphere. (See Section IV. Impact Report for additional information on the impact of CN-owned technologies in 2025.)

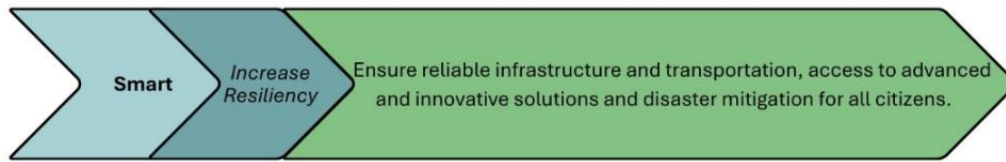
The Housing Authority of the Cherokee Nation installed a total of 19 new solar street light fixtures in Tahlequah and Sallisaw, improving public safety while utilizing renewable energy resources. An additional 110 solar street light fixtures have been acquired and are scheduled to be installed in 2026.

Support Services.

The Rural Energy for America Program (REAP) is a USDA program that provides loan guarantees, grants, and combined funding for renewable energy systems and energy efficiency improvements. This program aims to increase the private sector supply of renewable energy and decrease the demand for energy through energy efficiency improvements. Natural Resources provides technical assistance through webinars and outreach events to tribal agriculture producers and small rural business owners within the Reservation to help lower energy costs, generate new income, and strengthen the resiliency of their operations.

Natural Resources hosted the inaugural Cherokee Nation Agricultural Summit in April 2025 as a means of outreach for REAP and to provide sustainability education to Native agricultural producers. There were 60 Native agricultural producers in attendance.

Smart: Increase Resiliency



Contribute Innovative Solutions to Improve Overall Grid Resiliency in Oklahoma

Microgrid Feasibility Study.

The Natural Resources Department has been awarded a grant by the Office of Trust Services within the Bureau of Indian Affairs to fund microgrid feasibility studies at twelve potential community hub locations across the reservation. A microgrid is an electrical system that can provide electricity to end loads in coordination with or isolated from the utility grid. Microgrid deployment would enhance community resilience and ensure continuous operation of facilities such as health clinics and community buildings during emergencies by providing electricity to the buildings even during power outages. This project will assess identified sites to determine the need for and viability of a microgrid system to provide community resiliency hubs to citizens during times of emergency or disaster.

NR staff have met virtually and in-person with several Cherokee Nation employees overseeing operations at these buildings and utility providers to understand how reliable the electricity service has been and potential value to the community in case of widespread electricity service disruption. A vendor has been selected through bid who will work with NR staff and perform detailed on-site visits and provide insight into a microgrid's feasibility at each of the locations. This work is expected to be completed within 2026.

In preliminary work supporting this microgrid feasibility grant, NR staff have begun retrieving information about electrical outage frequencies across areas of the Reservation. In conjunction with completing this microgrid feasibility grant, NR staff will continue to acquire outage information to identify the most energy-vulnerable areas that may potentially benefit from future microgrid deployments.

Mitigate Impacts of Climate Disasters and High Energy Burden on Cherokee Nation Citizens

Citizen Services.

In FY2025, Cherokee Nation Environmental Programs finalized 13 weatherization audits and performed 29 indoor air quality assessments, all for the homes of Cherokee citizens.

Weatherization audits help to save citizens money on utility bills and prepare their homes for dangerous weather conditions. Indoor air quality assessments help to inform citizens of potential health risks within the home due to energy usage.

Cherokee Nation also provides disaster assistance to citizens throughout the Reservation.

Cherokee Nation Emergency Management responds, as requested by citizens, to natural disaster

events. They responded to 14 such events within the reporting year whose causes included hurricanes, wildfire, severe weather, and tornadoes and provided support and supplies of water, tents and tarps. For citizens experiencing power outages, mobile generators are distributed by request. Emergency Management reported that 80% of all response labor hours in 2025 was spent on climate related incidents, totaling over 1,600 labor hours of support. To build community resilience, this program administered disaster preparedness and first-aid classes to citizens, and also supports other partner emergency management organizations when called upon throughout the Cherokee Nation Reservation. However, in conversations with Cherokee Nation Emergency Management, it was discovered that they do not currently track outage data within the Reservation, and it is unclear whether they are including labor hours from other departments such as Natural Resources in calculations related to emergency response. Instead, they keep a database which tracks direct requests from citizens for support.

Cherokee Nation Human Services Department is an administrator of the Low-Income Home Energy Assistance Program, a U.S. Department of Health and Human Services initiative. In FY2025, this program provided financial assistance to 2,184 low-income Native households with energy related costs. This program helps to decrease energy burden and can prevent shut offs of residential utility service, which is essential and potentially lifesaving. Human Services also provides financial assistance for citizens who have experienced losses due to power outages.

Institutionalize Resiliency Expectations of Cherokee Nation Infrastructure and Transportation

Infrastructure.

The Housing Authority of the Cherokee Nation included resiliency measures in the Ganohili Housing Subdivision in Jay, OK. Each home includes a safer room¹ located in the master bedroom closet. There is a communal storm shelter for the subdivision and generator connectivity². Inclusion of infrastructure resiliency measures like these, and the creation of partnerships with utilities to ensure grid reliability related to load growth and transmission needs, are now standard practice for new construction projects across the Reservation.

Transportation.

Funded through National Fish and Wildlife Foundation's America's Ecosystem Restoration Initiative (AERI) grant program, the Cherokee Nation Illinois River Watershed Conservation and Restoration Partnership project will develop a strategic plan for capacity building and best management practices related to key areas of concern across the Illinois River watershed, including unpaved roads. This plan will outline unpaved roads practices that result in reduced sediment and erosion

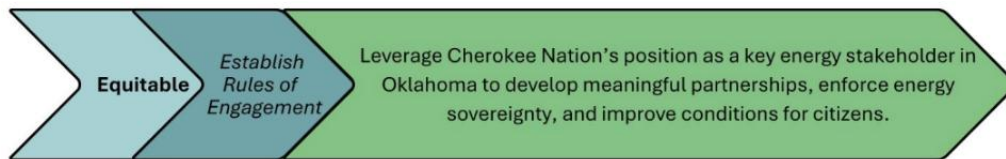
¹ A safer room is not a FEMA rated safe room that meets all federally specified requirements but is a structurally reinforced space that provides a safer location in the case of a disaster.

² "Cherokee Nation Celebrates Grand Opening of New Ganohili Housing Subdivision in Jay," *Anadigoi*, 07/25/2025: <https://anadisgoi.com/index.php/government-stories/chokeee-nation-celebrates-grand-opening-of-new-ganohili-housing-subdivision-in-jay>

as well as healthier water resources. Overall, these results support resilient transportation and infrastructure by ensuring safe and reliable roads, community connectivity, and cost efficiency.

Resiliency is already a cornerstone of the work completed by the CN Department of Transportation and Infrastructure. Their efforts result in paved roads that are less prone to washing out and robust bridges that will withstand high waters. Resiliency is inherent to improved transportation infrastructure within the Reservation.

Equitable: Establish Rules of Engagement



Advance Energy Sovereignty within the Cherokee Nation Reservation

Research.

Data and knowledge are powerful tools to strengthen energy sovereignty by empowering self-determination through informed decision making. In 2025, energy-dedicated NR staff (see Section II. Progress on First Steps Identified in the Strategic Energy Plan) supported the Natural Resources Department with technical and policy research for active and prospective grants, vendor vetting, and general information on the current energy landscape, both at state and federal levels. NR staff produced research reports to inform tribal leaders on data centers within Oklahoma and the feasibility of net zero projects. NR staff also procured a Tribal Utility Authority Pre-Feasibility Study through partnership with the D.O.E. Office of Indian Energy Policy and Programs and Schaff Martin Consulting, LLC.

To build broad internal capacity, a member of the Natural Resources Grants and Compliance program participated in the National Laboratory of the Rockies' Energy to Community (E2C) peer-learning cohort, "Navigating Electricity Load Growth and Associated Utility Grid Impacts". This peer-based learning opportunity educated the Natural Resources grant writers on load growth due to data centers, institutional expansion, and electrification.

NR staff have also attended major local and national conferences to apply contemporary concepts for improving energy knowledge and management at Cherokee Nation. Local conferences include the Tulsa Renewable Energy Summit, Oklahoma Renewable Energy (OREC)'s 2025 Distributed Wind Energy Workshop, OREC's 2025 EnVision the Future: Roger Farrer Conference, Tribal Environmental Coalition of Oklahoma, Inter-Tribal Council of the Five Civilized Tribes, and The National Coalition of State Legislature's 2025 Energy Security Working Group Fall Meeting. National conferences include Association of Energy Engineers (AEE) World Conference, and the Tribal Energy Evolution Summit and the Tribal Clean Energy Finance and Tax Forum, both hosted by the Alliance for Tribal Clean Energy. Virtual meetings include 2025 Distributed Wind Energy Summit, monthly collaborative

discussions among EIF Fellows, and EIF webinars organized by Lawrence Berkeley National Laboratory.

Staff also actively monitor newsletters from the Department of Energy's Office of Indian Energy, AEE, S&P, Pew Research Center, and Sandia National Laboratory. Internal research and knowledge enable informed and independent decisions to be made by the NR staff to enhance the tribe's energy outlook.

Internal Collaboration.

In 2025, Cherokee Nation strengthened the internal collaboration network needed to accomplish energy initiatives. Led by the energy-focused staff within Natural Resources, all departments within the tribal government were engaged in information gathering, discussion, and research activities, including Financial Resources. The Housing Authority of the Cherokee Nation, Cherokee Nation Businesses, and Cherokee Federal staff were also engaged to inform not only the various research topics noted above, but also this report. Feedback from all departments, both facilitated through the Clean Energy Task Force members and direct outreach, was solicited by NR staff to gain a better understanding of the completed, ongoing, and planned advancements in energy and carbon reduction efforts across the tribe. Moving forward, NR staff are working on ways to formalize and improve information gathering and data collection systems to better inform strategic decisions across the tribe. The establishment of the Energy Program as discussed above will significantly contribute to such efforts.

Pursue Partnerships that Enhance Cherokee Nation's Capacity and Further Energy Goals

Continuation of Existing Partnerships.

Cherokee Nation Natural Resources has a long-standing partnership with Francis Energy. The latest iteration of this partnership included the installation of electric vehicle chargers at a Cherokee Nation Health Clinic, planning for upcoming solar implementation, and expanding monitoring and maintenance efforts.

Cherokee Nation partners with communities and local utilities across the reservation to provide services for citizens. Strong partnerships have been sustained with the Public Service Company of Oklahoma, as seen in the implementation of the Ganohili Housing Subdivision in Jay, OK, and Oklahoma Gas & Electric. Cherokee Nation is continuing its participation in the Indian Country Energy and Infrastructure Working Group sponsored by the U.S. Department of Energy. Secretary Justice is serving as Cherokee Nation's designated representative. Cherokee Nation continues to work closely with various agencies of the U.S. Federal Government to further energy sovereignty goals.

New Opportunities.

Cherokee Nation Natural Resources engaged with many new organizations during the reporting period to increase the capabilities of the tribe. The U.S. Department of Energy's Office of Indian Energy provided free technical assistance on multiple projects and funded two fellowship positions

through the Energy Innovator Fellowship program. The Secretary of Natural Resources acted as a member of the City of Tulsa Sustainability Task Force and hosted a tribal engagement meeting for members of the Task Force to better collaborate with tribes at the Hard Rock Casino in Tulsa. Energy and sustainability conversations were also brought to Natural Resource Committee at the Inter-Tribal Council of the Five Civilized Tribes where the Natural Resources Department held a collaborative discussion with partner tribes on common challenges in this field. By engaging in opportunities to speak to new and innovative vendors and organizations, Cherokee Nation continues to expand and evaluate current and future partnerships to improve energy outcomes across the Reservation.

Institutionalize Improved Energy Guidelines to be Utilized within the Reservation

Setting the Standard for Northeastern Oklahoma.

The progress made in each of the Guiding Principles as established by the Clean Energy Task Force in the tribe's Strategic Energy Plan demonstrate Cherokee Nation's commitment to setting the standard for environmentalism, stewardship and energy sovereignty in Oklahoma. Cherokee Nation will continue to leverage its position as a key energy stakeholder to improve energy and resiliency offerings for citizens, minimize the tribe's carbon impact, and protect the Cherokee natural resources for the next seven generations.

IV. IMPACT REPORT

As previously discussed, NR staff have access to a subset of data from all consumption and production sources. The data presented in this section is the accumulation of data NR staff have been able to gather through the reporting period, January 1, 2025, through December 31, 2025. Data collected from previous years is used within the report as comparison. Work is underway to increase access to additional data sources which will enable more comprehensive analysis and a more accurate understanding of the performance of energy and carbon emissions across Cherokee Nation.

Solar PV at Community Centers

As mentioned previously, sixteen community buildings across the Cherokee Nation Reservation have installed solar photovoltaic (PV) panels on their rooftops to offset utility costs. The projects were installed incrementally, the first being completed in 2020 and the most recent in 2023. All projects together provide a combined capacity of approximately 190 kilowatts (kW). As seen in Figure 4 below, 2025 saw the second highest annual electricity production by these panels. However, production in 2025 was lower than in 2024 for a majority of locations. As of the time of this report, five locations experienced network connectivity issues. Thus, production data for these locations since the time they experienced network issues is not available. This helps explain part of the decrease in production from 2024 to 2025. Furthermore, at the remaining 11 community center buildings, all saw a decrease in production from 2024 to 2025. The minimum decrease was 3.3% and average was 9.6%. Data from five Mesonet weather stations sampled across Cherokee Nation

territory indicates all of these weather stations experienced between 2-8% less solar radiation in 2025 than in 2024. This reduction in available sunlight may explain the decrease in electricity production from 2024 to 2025. NR staff is exploring other potential causes of decreased production.

NR staff is currently working to address all identified problems with the installed solar PV technology (see *Institutionalize Energy Expectations of Cherokee Nation Infrastructure and Transportation* within Section III. Progress Report) while continuing to improve capabilities to monitor, diagnose, and maintain units at these buildings. Furthermore, at least four community centers are scheduled to install new systems or add capacity in 2026 at a total projected cost of about \$200,000. These would be the first new solar PV additions since the most recent installation in 2023.

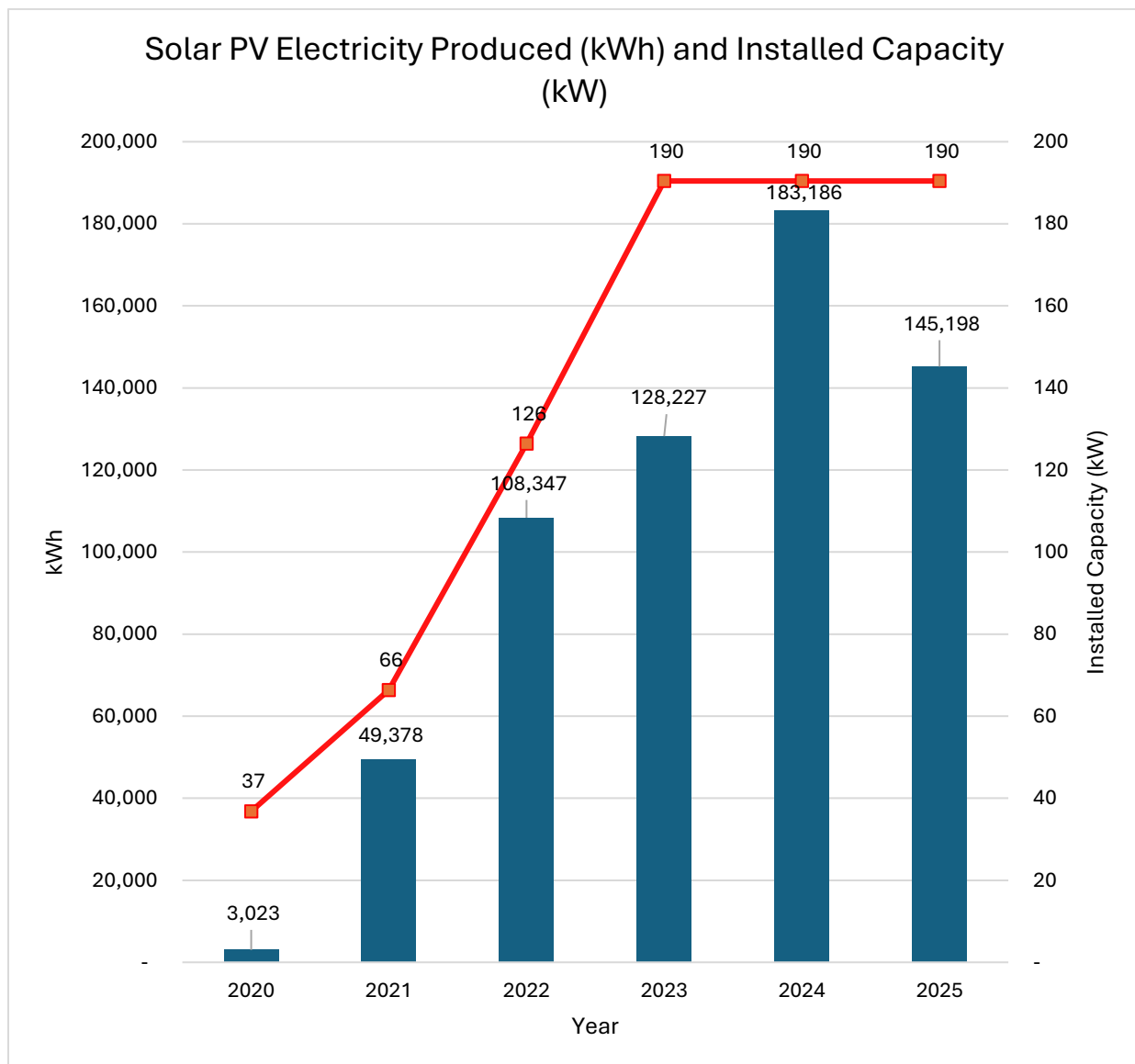


Figure 4. Annual electricity production in kWh (blue bars) and cumulative installed capacity in kW (red line) from solar PV at community centers.

Figure 5 below shows each community building’s ratio of average daily energy produced against its installed capacity. This provides a perspective of how effective systems at each location are producing electricity relative to their size. Sites with higher ratios have produced more electricity relative to their system size. As mentioned earlier, some locations are not reporting up-to-date data or have maintenance needs and hence are not reported in this graphic. NR staff continue to work towards acquiring this data and coordinating maintenance for long-term data and production reliability.

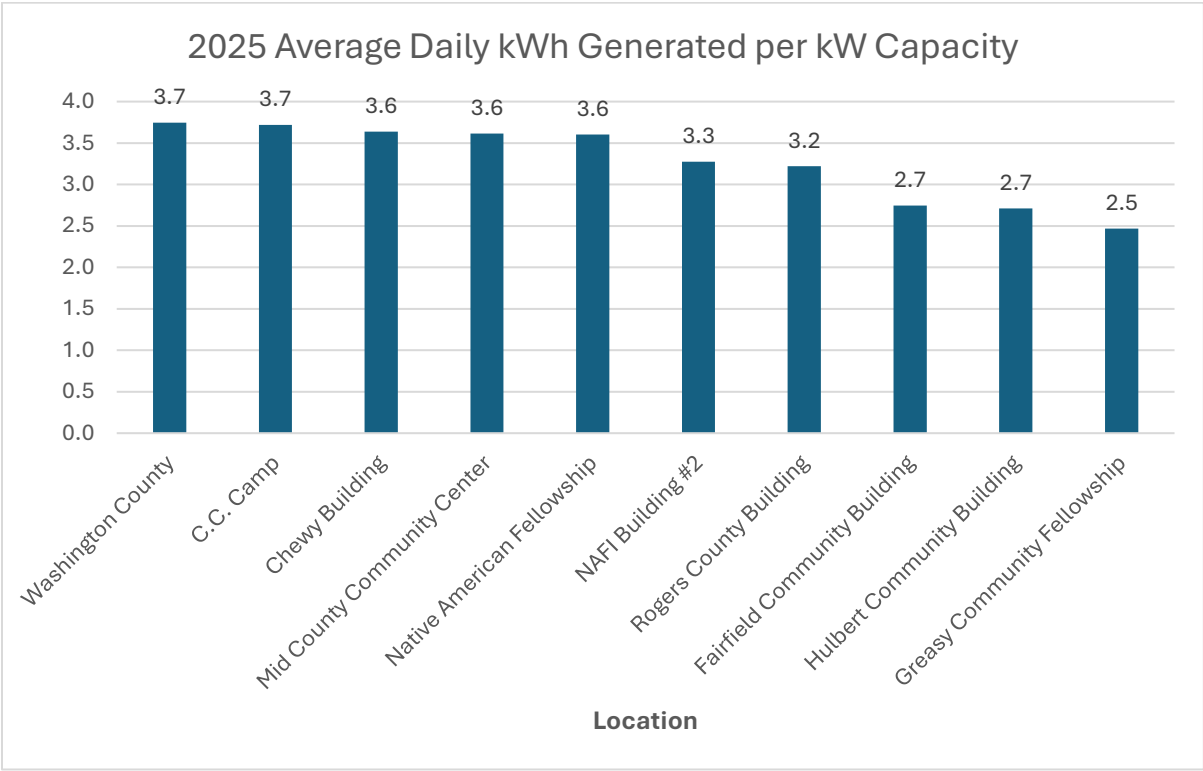


Figure 5. Ratio of energy generated by solar PV system per unit installed capacity in 2025.

Electric Vehicle Chargers

Cherokee Nation owns 54 electric vehicle chargers across eight locations³ within the Reservation (**Error! Reference source not found.**). The locations denoted with an asterisk (*) are unmonitored and consumption data from these locations is currently limited. As discussed previously, (see beginning of Section IV. Impact Report), NR staff are working to acquire monitoring for these systems, so consumption data is available for future reports.

Charging Power Count				
Location	7.7 kW	60.0 kW	180.0 kW	Total Count
A-Mo Health Center	10	-	-	10
Anna Mitchell Cultural & Welcome Center	2	2	-	4

³ The Hard Rock Casino in Catoosa has two distinct charging areas.

Hard Rock Casino: Heavy Duty	2	-	2	4
Hard Rock Casino: Light Duty	4	2	-	6
Office of Financial Resources	4	-	-	4
Will Rogers Downs Casino	-	-	6	6
Natural Resources: Markoma*	2	-	-	2
W.W. Keeler Complex*	16	-	-	16
Sequoyah High School*	-	-	2	2
Grand Total	40	4	10	54

Table 1. Count of electric vehicle charging types at each location.

EV drivers across the Nation continued to demand more electricity at charging stations. Nearly 202,000 kWh of electricity was delivered by the chargers during this reporting period, an increase of about 15.6% from the previous 12 months (Figure 6). During this reporting period, about 76% of all electricity delivered by EV chargers was at the Hard Rock Casino in Catoosa. This charging site is the most used site in the state of Oklahoma that is associated with Francis Energy, Cherokee Nation’s partner in EV charging infrastructure and the state’s EV infrastructure leader. Here, an overwhelming majority of electricity was delivered by the 7.7-kW standard level 2 EV chargers.

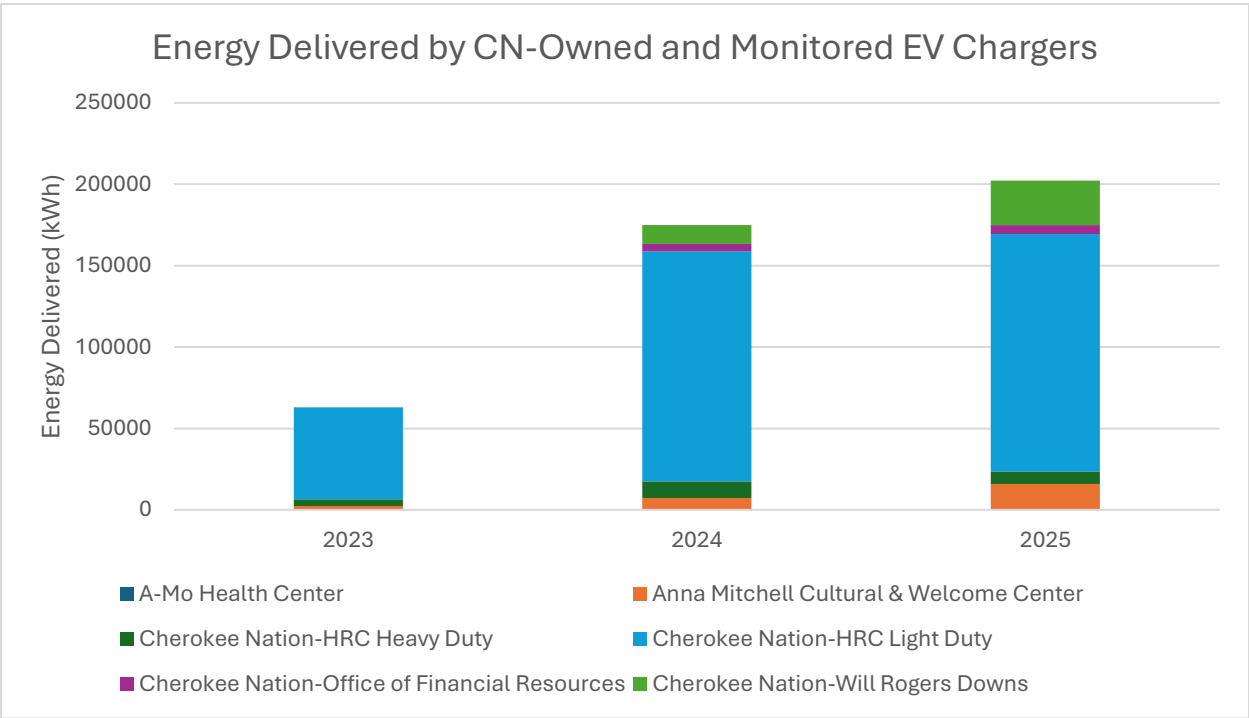


Figure 6. Annual electricity delivered by CN-owned and monitored EV chargers.

In addition, two solar canopies produced approximately 160,000 kWh of electricity during this reporting period. This prevented approximately 140,000 lbs. of carbon emissions from entering the atmosphere.

We continue to work with our partner vendor Francis Energy to maintain these chargers and identify potential new locations for the public (Figure 7).



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Cherokee Nation Charging Stations and Solar Energy

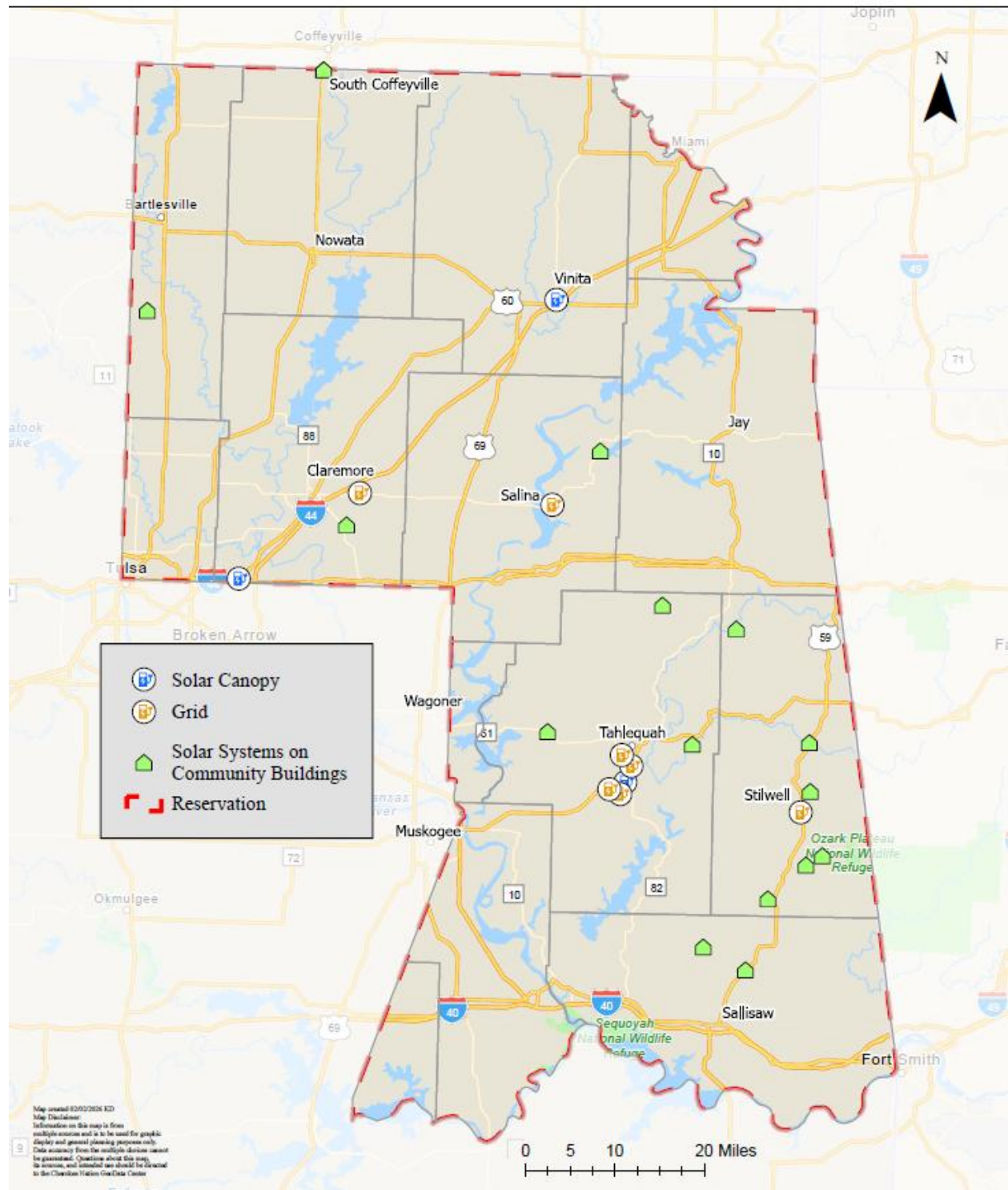


Figure 7. Map of Cherokee Nation-owned energy infrastructure. Courtesy of Cherokee Nation GeoData Center.

Utility Data Management

NR staff has access to a large, but not complete, set of consumption data through the facility lease pool financial management system, provided by Financial Resources. This system tracks the recorded invoice date of many bills for which Cherokee Nation pays. Approximately 500 addresses are included in each set of monthly bills. For the purposes of this report, it is assumed that the invoice date corresponds to the final date of the consumption period and all the bill’s consumption is considered as having taken place on that date.

The consumption of electricity is displayed using bill information from January 2023 through December 2025 (Figure 8). Generally, the highest electricity consumption over the year occurs in the third quarter (July through September), wherein bills correspond the summer months when temperatures and thus cooling needs are the highest. During the reporting period, Cherokee Nation consumed about 58.38 million kWh of electricity at facilities within the lease pool financial system. This is about a 1.6% decrease in electricity consumption as compared to the previous 12 months.

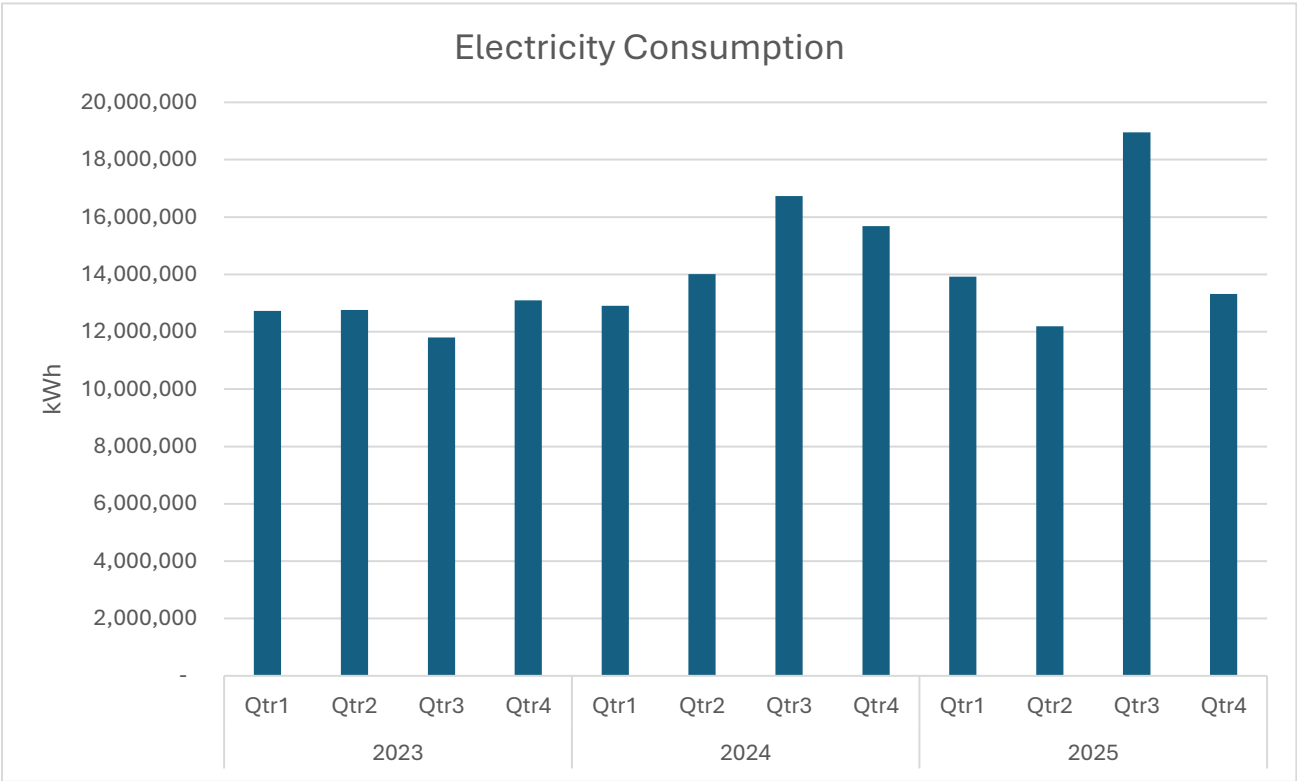


Figure 8. Quarterly electricity consumption from CN-lease pool bills.

The consumption of natural gas is displayed using bill information from January 2023 through December 2025 (Figure 9 below). As expected, the highest natural gas consumption over the year occurs in the first quarter (January – March), wherein bills correspond to the winter months during which temperatures are the lowest and thus heating needs are the highest. During the reporting period, Cherokee Nation consumed about 2.26 million therms of natural gas. This is about a 13.5%

increase in natural gas consumption as compared to the previous 12 months, which is greater than the approximate 2% growth in natural gas meters across the same period.

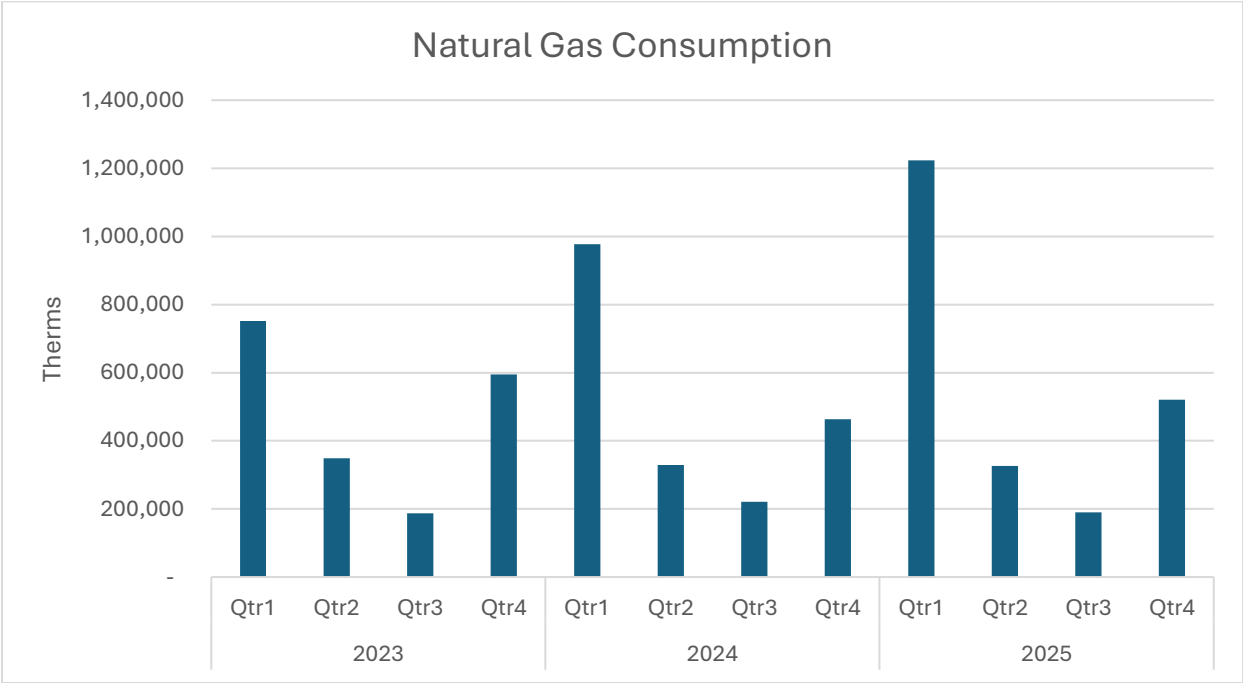


Figure 9. Quarterly natural gas consumption from CN-lease pool bills.

The electricity and natural gas consumption can be used to estimate the amount of carbon emissions Cherokee Nation is responsible for from its utility consumption. The entire Cherokee Nation Reservation resides inside the territory of the Southwest Power Pool (SPP), a regional transmission organization and nonprofit corporation mandated by the Federal Energy Regulatory Commission to ensure reliable supplies of power, adequate transmission infrastructure, and competitive wholesale electricity prices on behalf of its members. The U.S. Environmental Protection Agency (EPA) maintains a projection of how many pounds of CO2 is emitted per each unit of electricity generated in the southern region of SPP’s territory. This value is 875.567 lbs. per megawatt hour (MWh). For the purposes of calculations within this report, it is assumed that each unit of electricity consumed by Cherokee Nation emits an equal amount of carbon emissions because all electricity utility providers reside inside of the SPP territory.

The U.S. EPA also maintains estimates of how many pounds of CO2 is emitted per unit volume of fuel combusted. This number is 120.85 lbs. of CO2 per thousand cubic feet (MCF) of natural gas combusted.

These coefficients of how many pounds of carbon dioxide are emitted can be combined with the consumption data to yield estimates of how much carbon dioxide is emitted by lease pool facilities from utility consumption across Cherokee Nation (Figure 10). During the reporting period, Cherokee Nation emitted about 77 million lbs. of carbon dioxide from electricity and natural gas. Approximately two-thirds of this is due to electricity consumption. The emissions generated during the reporting period reflect an increase of about 3.1% compared to the previous 12 months.

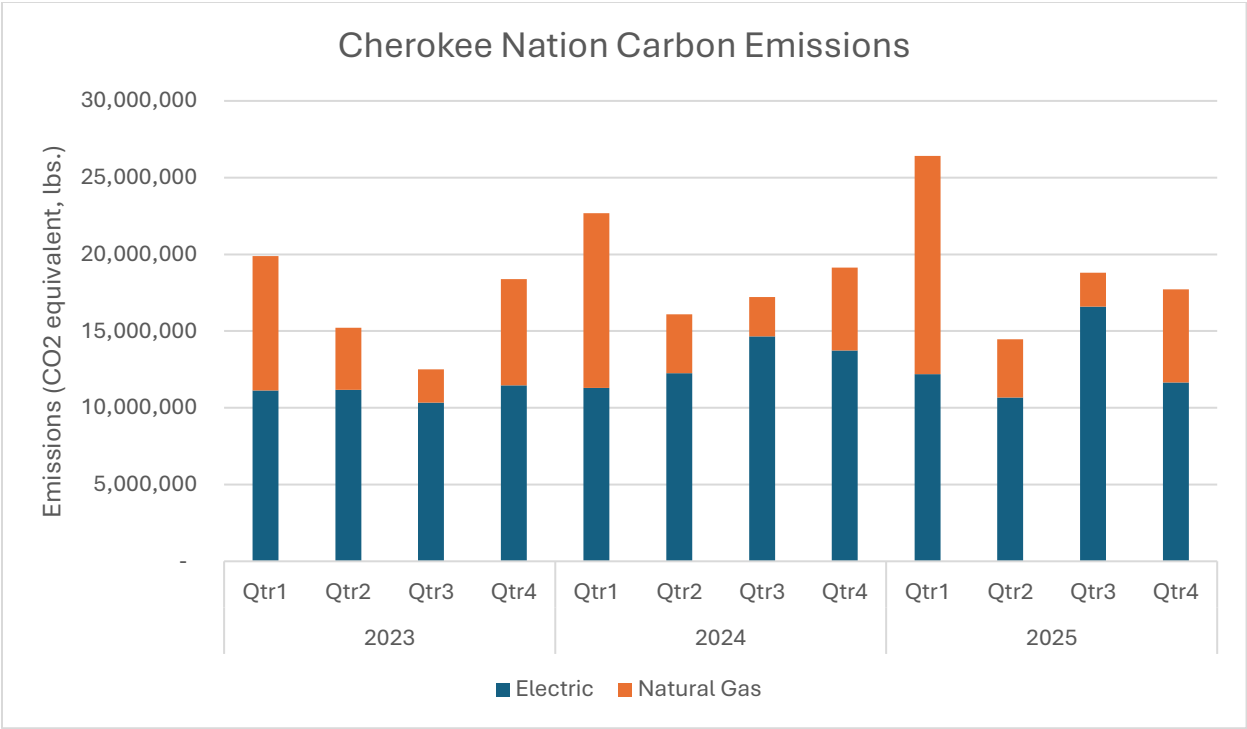


Figure 10. Quarterly greenhouse gas emissions from electricity and natural gas consumption of lease pool buildings.

Across sources discussed previously throughout Section III. Progress Report, Cherokee Nation diverted approximately 958,766 lbs. of carbon dioxide in 2025 (Table). This offsets about 1% of the emissions from utility consumption.

Source	2025 Carbon Emissions Reduction (lbs.)
Recycling Center	182,699
Employee Recycling Program	650
Food Waste Diversion	617
Ganohili Housing Subdivision Energy Efficiency	42,800
Community Center Solar PV	127,000
EV Charging Instead of Gasoline Consumption	465,000
EV Canopies	140,000
Grand Total	958,766

Table 2. Sources of carbon emissions reduction in 2025.

As previously discussed, the bills provided in the facility lease pool are not comprehensive of all the consumption that occurs at Cherokee Nation-owned buildings. In addition, facility addresses and locations are not named according to a standard nomenclature. This lack of information prevents detailed analysis of individual buildings and comparisons among similar size and locations. Furthermore, utility consumption does not fully encompass all of the carbon emissions that Cherokee Nation emits through its operations. However, it is also true that the sources of offset summarized above likely do not fully capture the potential offset of all Cherokee Nation activities and resources.

NR staff plan to consult with internal and external resources to more accurately communicate utility consumption and carbon emissions impact, including exploring consulting arrangements for detailed carbon footprint studies. The long-term goal will be to develop a preliminary estimate to Cherokee Nation's carbon emissions impact that will be further refined through ongoing research. Another goal will be to perform analysis between buildings to provide initial assessments to buildings which may be candidates for energy efficiency improvements.

V. 2026 GOALS

Though much work has been done over the 2025 reporting period, research has identified several areas of opportunity to explore in order to support overarching goals associated with the Guiding Principles outlined in the Strategic Energy Plan. The following list summarizes activities that will be investigated and/or pursued during the 2026 reporting period (01/2026 – 12/2026):

1. Establish the Cherokee Nation Energy Program
2. Explore Development of an Internal Utility and Fleet Data Management Tool
3. Increase Participation in State and Regional Energy Policy through Capacity Development and Collaboration
4. Optimize Management and Data Analysis of Existing Solar PV and EV Chargers
5. Implement Renewable Energy Production Infrastructure to Increase Cherokee Nation's Carbon Offset
6. Collect Baseline Data for Energy Resilience Throughout the Reservation Including Outage Data, Condition of Power System Infrastructure, and Areas and Infrastructure with Highest Risk and Vulnerability
7. Collect Data and Compile Recommendations for Cherokee Nation Building Codes Related to Sustainability

These activities will: support better understanding of Cherokee Nation's baseline carbon emission and offset data, improve the tribe's energy sovereignty and community resiliency for citizens, and build the tribe's capacity to better manage and enhance ongoing carbon reduction efforts.

VI. APPENDIX

Appendix 1: Grants

This appendix provides details of energy-related grants awarded to Natural Resources and active during the reporting period. Natural Resources continues to apply for such opportunities as they arise to support goals of the Clean Energy Task Force and the Strategic Energy Plan.

Funding Agency	Opportunity Title	Project Description
Bureau of Indian Affairs, Branch of Tribal Climate Resilience	Tribal Climate Resilience (TCR) Projects	Contract services to inventory emissions across tribal facilities to assist the tribe with prioritizing resilience actions for future implementation efforts through the creation of a Climate Action Resilience Plan
Department of Energy, Grid Deployment Office	Bipartisan Infrastructure Law (BIL) – Preventing Outages and Enhancing the Electric Grid Formula Grants to States and Indian Tribes	Address outdated energy infrastructure and/or failing energy infrastructure items (i.e., power lines, power poles, transformers, etc.) serving tribal communities; Reduce energy burden experienced by tribal communities that experience frequent disruptions to electricity service by assuring a more reliable electricity service; Invest in modernization of the grid infrastructure, providing safer living conditions for tribal citizens
Environmental Protection Agency	Solid Waste Infrastructure for Recycling (SWIFR) Grants for Tribes and Intertribal Consortia	Develop and implement plan to permanently divert organic wastes, such as brush, miscellaneous vegetation, and wood wastes, from the working face/fill area of the Cherokee Nation Sanitary Landfill
Bureau of Indian Affairs, Office of Trust Services	Energy and Mineral Development Program (EMDP)	Contract services for the completion of feasibility studies to determine the viability of microgrid developments and assess at three facility types that serve as community resilience hubs to Cherokee citizens within the reservation; Assess the feasibility of development of various energy sources, such as solar, wind, battery storage, and/or geothermal, based upon site locations, available resources, and the needs of respective facilities

Department of Agriculture, Rural Business-Cooperative Service	Rural Energy for America Program Technical Assistance Grant (REAP-TAG) Program for Fiscal Year 2024	Provide comprehensive technical assistance to Cherokee citizens and tribal agricultural producers, enabling eligible REAP applicants to successfully secure funding for clean and renewable energy projects, fostering sustainable development, and energy sovereignty within the reservation
Environmental Protection Agency, Office of Brownfields and Land Preservation	Community- Wide Assessment Grant for States and Tribes	Develop Brownfields Sites in partnership with communities that align with both Cherokee and community-wide planning priorities