

# PRIORITY CLIMATE ACTION PLAN



Prepared for:

The Mohegan Tribe  
13 Crow Hill Road  
Uncasville, CT 06382  
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## EXECUTIVE SUMMARY

The purpose of this Priority Climate Action Plan (PCAP) is to provide the Mohegan Tribe of Indians of Connecticut (Mohegan Tribe) with a planning document that identifies different sources of greenhouse gas (GHG) emissions originating from the Reservation and a list of near-term implementation measures to reduce those emissions. In addition to the proposed GHG emission reduction measures, this report identifies the Mohegan Tribe’s authority to implement these projects and provides a list of potential funding opportunities available.

The GHG inventory is one of the required elements of the PCAP. The United States Environmental Protection Agency’s Tribal Greenhouse Gas Inventory Tool was used to compile and record emissions from the Reservation. These are presented in Table ES-1.

**Table ES-1 Summary of Mohegan Tribe Greenhouse Gas Emissions (2023)**

Sector	Source	Annual Emissions (MTCO <sub>2</sub> e)	Percent of Total
Stationary	Boilers, pizza ovens, individual heating systems	28,107.54	37.9%
Mobile	Vehicles	4,835.00	6.7%
	Grounds & Lawn Maintenance	162.05	
Solid Waste	Recycling & Combustibles	2,329.53	3.1%
Water & Wastewater	Water	267.40	0.4%
Water & Wastewater	Wastewater	773.80	1.0%
Electricity	Electricity Use	37,771.44	50.9%
<b>Totals</b>		<b>74,246.76</b>	<b>100%</b>

GHG emission reduction measures identified in the PCAP were identified with a focus on continuing existing sustainability and energy efficiency initiatives championed by the Mohegan Tribe while targeting emissions reductions in the mobile (transportation and land management) sector. The Comprehensive Climate Action Plan (CCAP), to be developed in the next stage of this project, will include more detail on measures that will lead to GHG emissions reductions in each sector. The CCAP will also address any remaining items, such as a workforce analysis, required under the Climate Pollution Reduction Grant. The Mohegan Tribe may apply for federal funding to support implementation of emissions reduction measures identified in the PCAP and CCAP.



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Appendix B	Mohegan Public Presentation
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## LIST OF ACRONYMS

CAPs	Criteria Air Pollutants and their Precursors
CCAP	Comprehensive Climate Action Plan
CEJST	Climate and Economic Justice Screening Tool
CMEEC	Connecticut Municipal Electric Energy Cooperative
CPRG	Climate Pollution Reduction Grant
CTDEEP	Connecticut Department of Energy and Environmental Protection
FSC	Forestry Stewardship Council
GHG	Greenhouse Gas
HAPs	Hazardous Air Pollutants
HID	High Intensity Discharge
IRA	Inflation Reduction Act
LIDAC	Low-Income and Disadvantaged Community
MTUA	Mohegan Tribal Utility Authority
NAAQS	National Ambient Air Quality Standards
PCAP	Priority Climate Action Plan
QAPP	Quality Assurance Project Plan
SCCOG	Southeastern Connecticut Council of Governments
USEPA	United States Environmental Protection Agency



# 1. INTRODUCTION

## 1.1 BACKGROUND

The Mohegan Tribe is a steward of our planet and acknowledges a responsibility to operate in a manner that provides a healthy, safe, and enriching environment for present and future generations.

On March 7, 1994, the Mohegan Tribe became a federally recognized Tribe by the United States Government. On May 15, 1994, sixty days after the publication of Mohegan Federal Recognition in the Federal Register, Mohegans legally received the benefits and privileges of Federal status.

As a sovereign nation, the Mohegan Tribe independently determines its own fate and governs its own people and affairs. The Mohegan Tribe also has the responsibility to provide for its people and to work within its own governmental, legal, and cultural systems to preserve its independence.

The Mohegan Tribal Reservation is located within Uncasville, CT bordering the towns of Montville, Norwich, and the Thames River.

### 1.1.1 WHAT IS A CLIMATE ACTION PLAN?

A climate action plan is a detailed, strategic, and community-based framework for measuring and proposing projects aimed at reducing GHG emissions and related climatic impacts. These plans evaluate potential climate change risk, emphasize sustainability, and bolster adaptation. Climate action plans can be developed at the tribal, municipal, regional, or state levels.

### 1.1.2 THE CLIMATE POLLUTION REDUCTION GRANT PROGRAM

In 2023, the Mohegan Tribe applied for and received a Climate Pollution Reduction Grant (CPRG) to perform a planning process to reduce GHGs and associated criteria and toxic air pollution through implementation of new technologies, operational efficiencies, and solutions that will transition tribal lands to a lower carbon footprint.



The CPRG program is authorized under section 60114 of the Inflation Reduction Act (IRA) of 2022 and is administered by the United States Environmental Protection Agency (USEPA). The CPRG has provided states, local governments, tribes, and territories with \$5 billion in grant funding to plan for reducing GHG emissions and other harmful air pollution associated with six different sectors. Approximately \$250 million of this program is non-competitive for planning grants, with the remaining \$4.6 billion allocated for competitive implementation grants. The CPRG program is comprised of two phases:

1. Planning.
2. Implementation.

Phase one of the program requires grantees to submit two deliverables: a Priority Climate Action Plan (PCAP) and a Comprehensive Climate Action Plan (CCAP). The PCAP is a focused report which includes near-term, high priority measures to reduce GHG emissions. The PCAP, and the measures identified, can focus on a single sector, or multiple. The CCAP is a more comprehensive document which provides a more in-depth overview of all emission sources and sinks throughout all sectors. The Mohegan Tribe has the authority to develop and approve a PCAP and CCAP, as well as to implement related projects using Federal grant funding.

According to USEPA, a tribal PCAP should include a GHG inventory, quantified reduction measures, a benefits analysis, and a review of the authority to implement measures. The PCAP must be completed by April 1, 2024. The CCAP will include the same components as the PCAP in addition to GHG emissions projections, reduction targets, plans for leveraging other funding sources, and a workforce planning analysis. The CCAP must be completed by the end of the grant period (in this case, 2026).

Phase two of the CPRG program (the implementation phase) has two competitions for grant funding: a general competition for all grantees, and a second competition reserved for tribes, tribal consortia, and United States territories. The EPA anticipates awarding grants ranging between \$1 million and \$25 million for the tribes and territories competition. The first phase of implementation grant funding is accepting applications by May 1, 2024, based on projects identified in PCAPs.

### 1.1.3 REVIEW OF EPA GUIDANCE

USEPA encourages tribes to develop or revise their existing climate plans consistent with the following programmatic priorities under the IRA of 2022:

- Improve understanding of current and future GHG emissions so that tribal and territorial governments can prioritize actions that reduce such emissions and harmful air pollution (criteria air pollution and toxic air pollutants) where citizens live, work, play, and go to school, particularly in nonattainment areas for the National Ambient Air Quality Standards (NAAQS) for criteria air pollutants.
- Adopt and implement ambitious policies and programs to reduce GHG emissions and accelerate decarbonization across multiple important sectors (e.g., industry, electricity generation, transportation, commercial and residential buildings, agriculture/natural and working lands, and waste and materials management).
- Collaborate closely with other entities (states, municipalities, air districts, other tribes) as appropriate to develop coordinated plans based on best practices.
- Explore opportunities to leverage sources of funding and financing from the laws such as the Inflation Reduction Act of 2022, Bipartisan Infrastructure Law of 2021, American Rescue Plan Act of 2021, and Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022.
- Stimulate innovative technologies and practices to reduce GHG emissions and associated co-pollutants in hard-to-abate sectors.
- Prioritize actions and policies that will be durable, replicable, and provide certainty in pollution reductions.





- Reduce climate pollution while building the clean energy economy in a way that benefits all Americans, provides new workforce training opportunities, and effectively addresses environmental injustices in disadvantaged communities.
- Adopt robust metrics and reporting programs to track emission reductions and important co-benefits throughout Indian Country and territories.

The Mohegan Tribe developed and entered into a Tribal Quality Assurance Project Plan (QAPP) with USEPA dated December 1, 2023, to govern the management for development of the PCAP and CCAP consistent with the above priorities.

## 1.2 GOALS FOR THE MOHEGAN TRIBE

According to the QAPP between the Mohegan Tribe and USEPA, the Tribe intends to identify, evaluate, and utilize existing data sources to develop a tribal inventory of the major sources of GHG emissions within the Mohegan Reservation and use that inventory data to develop a climate action plan. The five primary planning stages of this effort will include:

1. Develop a comprehensive GHG inventory for the largest sources within each sector.
2. Develop measures for reducing emissions within each sector.
3. Develop estimates or ranges of estimates for reductions achievable under each measure.
4. Develop uncertainty analyses for each emissions reduction estimate.
5. Present these analyses and options in technical reports consistent with the deliverables required under the CPRG planning grants.

Measures will be developed to reduce future GHG emissions across various tribal sectors. Interim measures consistent with current tribal planning and aimed at larger scale reductions are presented in this PCAP, with measures based on a more comprehensive assessment anticipated in the CCAP. These measures will enable the Mohegan Tribe to build upon its current efforts and move towards a more sustainable future.

## 1.3 GEOGRAPHIC EXTENT OF THIS PCAP

Figure 1-1 and Figure 1-2 present the boundaries of trust land which is the tribal planning area for this PCAP. Other Tribally owned land outside of the Reservation is not included herein but would be covered by the State of Connecticut PCAP or a future Norwich-New London Metropolitan Statistical Area PCAP.



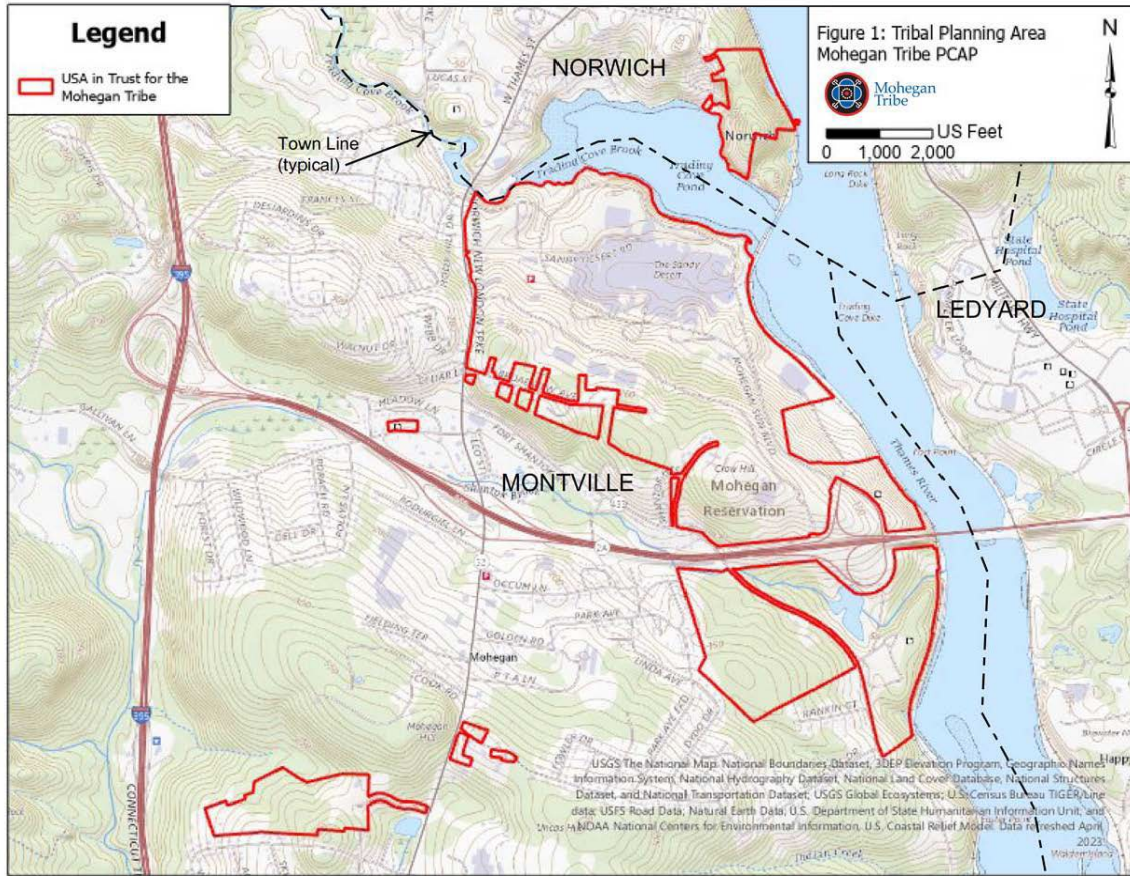


Figure 1-1 Topographic Mohegan Tribal Boundaries





Figure 1-2 Satellite Imagery Mohegan Tribal Boundaries





## 2. PROJECT APPROACH

### 2.1 PCAP DEVELOPMENT

The Mohegan Tribe applied for a CPRG grant to conduct this planning process in June of 2023. Working with the USEPA, the Tribe developed a Tribal QAPP to govern the project dated December 2023. The Mohegan Tribe retained Resilient Land and Water, LLC in January 2024 to assist with PCAP development.

Participation in the CPRG program and developing this PCAP have provided the Tribe with the opportunity to directly influence climate planning on the Reservation and to gather and engage directly with tribal stakeholders. The GHG emission reduction measures proposed in this PCAP were developed, in part, to leverage existing sustainability efforts while identifying new opportunities to reduce emissions within the context of existing Tribal initiatives.

For clarity, this PCAP is organized by various sectors related to GHG emission reduction categories. Measures have been developed for each sector, which represent high level actions, projects, or policies in which the Mohegan Tribe has the authority to implement to achieve GHG emission reductions.

### 2.2 PLANNING PROCESS

Development of this PCAP was performed between January and March 2024. Numerous internal meetings between tribal staff were held along with frequent calls to discuss various data collection needs and ongoing tribal initiatives.

Table 2-1 Summary of PCAP Planning Process

Date	Attendees*	Purpose of Call / Meeting
6/12/2023	Planning Group	CPRG Monthly Meeting- Application Discussion, potential GHG targets
7/10/2023	Planning Group	CPRG Monthly Meeting – General discussion re planning grant. Deliverables.
8/17/2023	Planning Group	CPRG Monthly Meeting – potential targets, award. QAPP Development.
9/25/2023	Planning Group	CPRG Monthly Meeting – meeting update, financial update, target ideas.
10/30/2023	Planning Group	CPRG Monthly Meeting – Solar update, QAPP discussion re data privacy issues/concerns, financial update.
11/15/2023	Planning Group	CPRG Planning Grant Monthly Meeting* Discussed submission of QAPP to EPA, Task Leader Training, potential funding, Implementation Grant
12/18/2023	Planning Group	CPRG Planning Grant Monthly Meeting – update, next steps.
1/18/2024	MPM, RLW	Initial discussion call & data collection.
1/24/2024	Planning Group	CPRG Planning Grant Monthly Meeting- First PCAP published in State, PCAP Consultant hired
1/24/2024	MPM, MS, RLW	Kickoff meeting & data collection, discussion of existing sustainability efforts.
1/29/2024	MPM, RLW	Call to discuss electricity sources and wastewater.
1/30/2024	MPM, RLW	Call to discuss public engagement, solar viability, forestry practices, fuel usage, and aerosol can waste.
2/1/2024	MPM, RLW	Call to set public meeting date.
2/5/2024	MPM, MS, RLW	Data collection meeting with Tribal Environmental Protection staff.



Date	Attendees*	Purpose of Call / Meeting
2/14/2024	MPM, RLW	Call to discuss draft public meeting materials, fuel usage, building inventory, and tribal population.
2/15/2024	MPM, RLW	Call to discuss preliminary emissions numbers, geothermal systems, electrical power, energy audits, and forestry practices.
2/16/2024	MPM, RLW	Call to discuss vehicle mileage, geothermal and heat pumps, and stationary and mobile emission sources.
2/21/2024	MPM, RLW	Call to discuss tribal vehicles and mileage, cooling water, and public meeting materials.
2/26/2024	MPM, RLW	Call to discuss public meeting materials and implementation grants.
2/28/2024	MPM, RLW	Call to discuss implementation grants, preliminary measures, and cooling water.
3/1/2024	MPM, MS, RLW, Public	Public meeting to present project background, planning process, draft inventory findings, and preliminary recommendations for public comment.
3/6/2024	MPM, RLW	Call to discuss mobile source emissions and potential measures.
3/8/2024	MS	Written public meeting comments due
3/11/2024	MPM, MS	Review of public meeting comments
3/14/2024	MPM, MS, TC	Work session to review PCAP and gain support from leadership
3/20/2024	MPM, MS, TC	Presentation and formal approval of PCAP by leadership
3/22/2024	Planning Group	CPRG Planning Grant Monthly Meeting- Update on approved PCAP
4/1/2024	MS	Anticipated PCAP submission

\*MPM = Mohegan Tribe Project Manager; MS = Mohegan Tribe Staff; RLW = Resilient Land & Water; TC = Tribal Council; Planning Group includes representatives from: Mohegan Tribal Utility Authority, Mohegan Sun Engineering, Office of Self-Governance / Grants, Finance Department and Regulations & Compliance – \*In very few instances an email update was sent in lieu of meeting.

A public meeting notice (attached as Appendix A) was published in The Day newspaper on February 8, 2024, and February 11, 2024 (print and online versions); the Hartford Courant on February 8, 2024, and February 12, 2024; CT Public Notices webpage on February 8, 2024, and February 11, 2024; and My Public Notices.com on February 8, 2024. The public meeting notice was also shared with Tribal Citizens, key stakeholders, and the general public via the Tribe’s social media platforms, Tribal citizens website, Tribal public website, & Tribal newsletters; emailed to local Tribal holding companies, consultants, Grant Task Leaders and others working on the grant; a notice was shared in the Mohegan Tribe’s Human Resources newsletter as well as emailed to Department Heads.

The public meeting was held on March 1, 2024, at 4:00pm at the Mohegan Tribe’s Government and Community Center.

The following individuals attended:

- Tribal Members: 2
- Member of the Public: 1
- Representative from the Mohegan Tribal Utility Authority: 2
- Representative from Self-Governance/Grants: 1

The Tribe’s Consultant presented an overview of the PCAP with slides covering the background, the planning process, the draft inventory findings, and the preliminary recommendations.

Appendix B presents the public meeting presentation, and Appendix C presents the minutes of the public meeting.



## 2.3 LOW INCOME AND/OR DISADVANTAGED COMMUNITIES (LIDAC)

An analysis of benefits for LIDAC is a requirement of the CPRG PCAP process. According to the Climate and Economic Justice Screening Tool (CEJST), the Mohegan Tribal Reservation (Figure 1-1 and Figure 1-2) overlaps with two United States census tracts:

- Tract number 09011870501 (New London County, Connecticut, population 4,395) lies within northeastern Montville, Connecticut. According to CEJST, this tract is identified as partially disadvantaged because “the lands of Federally Recognized Tribes that cover 16% of this tract are considered disadvantaged.”
- Tract number 09011696700 (New London County, Connecticut, population 5,955) lies within southern Norwich, Connecticut. According to CEJST, this tract is identified as partially disadvantaged because “the lands of Federally Recognized Tribes that cover 1% of this tract are considered disadvantaged.”

According to CEJST, the decision was made by the Federal Government to designate all land within the boundaries of federally recognized tribes as disadvantaged following consultation with Tribal Nations. As such, all measures enacted by the Mohegan Tribe to reduce GHG emissions will be of benefit to disadvantaged populations.

## 2.4 TRIBAL COMMITMENT TO SUSTAINABILITY

The Mohegan Tribe has invested over \$7 million in numerous emissions reduction projects across the Reservation and other owned lands. Projects have been implemented to address energy conservation and efficiency, water conservation, waste reduction, reforestation, and to improve overall corporate and civic responsibility.

- In general, the Mohegan Tribe purchases sustainable products which meet EPA, Eco-logo, and Forestry Stewardship Council (FSC) standards. Products include Kimberly Clark paper products for post-consumer waste content.
- The Mohegan Tribe also takes their corporate and civic social responsibility very seriously with a Tribal Sustainability Statement (2015), the Mohegan Environmental Protection Department Mission Statement (2018), and the formation of the Environmental and Social Governance (ESG) Global Steering Committee (2021).

All projects executed and implemented on Tribal lands, which are described below, have been reported to the Connecticut Department of Energy and Environmental Protection (CTDEEP) as Supplemental Energy Conservation projects in accordance with the Trading Agreement and Order 8143 as modified in 1999, 2000, and 2003.

### 2.4.1 PAST AND ONGOING EMISSIONS REDUCTION PROJECTS

Numerous vehicles are owned and operated by the Mohegan Tribe to serve various purposes. Vehicles include passenger vehicles, limousines, light trucks, cargo vans, and public safety vehicles. Most of these



vehicles are 2019 or newer models, and therefore relatively cleaner burning vehicles in comparison to older counterparts. However, only limited hybrid or electric vehicles are in use.

To understand the environmental impact of these vehicles, the Mohegan Tribe maintains an inventory of all vehicle makes, models, and years, in addition to fuel consumption and miles traveled. This inventory, particularly miles traveled and fuel consumption, is maintained by multiple tribal departments. As such, minor inconsistencies may be present in the vehicle inventory.

The Mohegan Tribe has made efforts to reduce vehicle emissions. The Health Department has invested in a Ford Escape hybrid vehicle, and the Engineering and Transportation Departments utilize an electric vehicle. Protective Services personnel utilize mountain bikes for travel within the Reservation during summer months, both reducing the use of vehicles and increasing public safety in areas less accessible by vehicle. The Mohegan Tribe has also installed a total of 15 electric vehicle chargers for patron and employee use in various parking areas, with plans to install up to 100 more in the near future. Selective Catalytic Reduction (SCR) units were placed on multiple business critical generators to reduce nitrogen oxide emissions.

In 2003, the Mohegan Tribe and Reforest the Tropics entered into an agreement to plant 105 acres (42 hectares) of new carbon-capturing forest on two farms in Costa Rica. These forests were planted with a variety of species, with others having grown through natural regeneration. The forests are managed by local farmers using practices best suited for the Costa Rican native forests. It has been determined that, as of August 2023, the forests have sequestered 16,988 metric tons of carbon dioxide (MTCO<sub>2</sub>), an average of 20.22 MTCO<sub>2</sub>/hectare/year. It is estimated that within the 25-year contract, the forests will sequester over 21,000 MTCO<sub>2</sub>.

### 2.4.2 ENERGY EFFICIENCY PROJECTS

Since 2005, the Mohegan Tribe has monitored electricity consumption across its various facilities and buildings throughout the Reservation. Through the implementation of numerous projects over the past 19 years (described below), electricity consumption has generally declined. For the year 2023, electricity use was 19.4% less than the peak annual consumption in 2010.

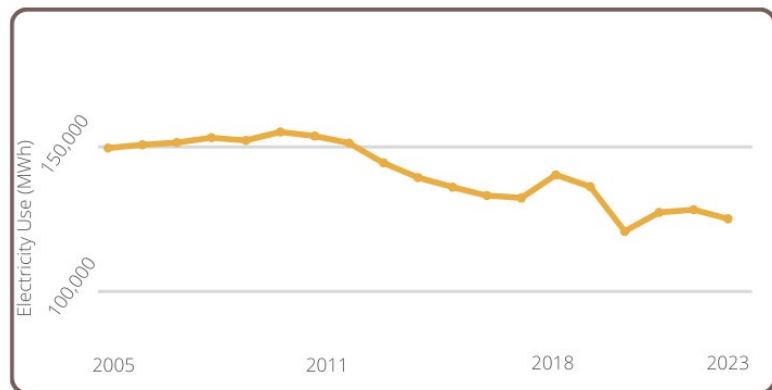


Figure 2-1 Mohegan Tribe Electricity Use Trends Since 2005

Between 2005 and 2009, six parking garages were converted from high intensity discharge (HID) bulb lighting to General Electric T8 long life fluorescent lighting. This technology provides longer bulb life and a 60% decrease in energy consumption compared to the HID bulbs. Building management systems were also installed to better control the lighting upgrades in the parking garages. This resulted in an estimated electrical savings of 565,940



kWh/year. Pole and canopy lighting at valet areas were also replaced with LED lighting, in addition to all renovated guest rooms at the hotel.

Motion sensors were added into the thermostat of all hotel guest rooms in 2002 to better manage lighting and HVAC operations. The sensor is triggered when a guest is present in the room; therefore, only minimal lighting and heating/cooling occurs when no one is present. Similar sensors were added to 360 office spaces, 18 restrooms, and 12 storage rooms in 2010 for lighting and ventilation. These upgrades have resulted in an estimated energy savings of 617,820 kWh/year.

Seven variable frequency drive (VFD) projects were undertaken to reduce utility-related energy consumption:

- Six VFDs were installed on two air handlers in the casino allowing fans the ability to ramp up or down based on CO<sub>2</sub> levels which indicate patron occupancy. Controls were installed in two of the casinos to better manage air quality systems. Humidity sensors and a network engine have been installed to better control air handler units for Earth and Sky Casinos and the Hotel; this provides improved dehumidification operations and can better respond to fluctuating ambient levels.
- Air handling equipment and water pumps are now operating using 35 VFDs.
- Four new water pumps were also installed at the hotel with VFD systems to allow pump speeds to ramp up or down based on demand.
- Two VFDs were installed on the primary chilled water pump unit, therefore the pump does not have to run at a constant speed but can fluctuate based on demand.
- In the arena, CO<sub>2</sub> controls are automated to provide ventilation during shows and events.
- A VFD system with 36 CO detectors were installed to sense CO levels on two floors of the heated parking garage. This system replaced a constant speed system and can operate in response to the number of vehicles in the garage.
- Finally, VFDs were installed on one chiller and four boilers at the central utility plant. It is estimated that these VFD upgrades have resulted in an estimated electrical savings of 447,000 kWh/year at the central utility plant.

Vending machine misers were installed in multiple vending machines to sense when the area is unoccupied, therefore powering down, and ultimately re-powering when the area is re-occupied. These sensors can also monitor ambient air temperature and electrical current used by the machine.

Additional plates were added to the existing heat exchanger for the chilled water system. This increased the free cooling capacity by 24%, which is an increase of 4.29 million BTU per hour. During the colder months, operating the plate and frame cools the buildings chilled water loop without the need to run a chiller. By using the cold condenser water from the cooling towers to flow through the plate and frame there is a reduction in operating hours on the chillers which saves energy in electrical consumption.

The Mohegan Tribe has upgraded two mechanical rooms to include air handling units, additional pumps, piping, and controls to incorporate a glycol heat recovery system. The air handlers use 100% fresh air intake and displace the heated exhausted air which passes over a coil containing a glycol and water solution. The heat from the exhausted air is absorbed by the glycol solution as it passes over the coil. The heated glycol solution is then pumped to a coil on the fresh air intake side, pre-heating the cold outside





air before it is introduced into the Casino. The heat transfer between the air and fluid is 40-50% efficient according to the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). The temperature outputs from the coil system will vary depending on the outside air temperature and the return air temperature.

A fully automated program sheds electrical load as part of the integrated Building Management System when ISO New England determines a need. Cli-Metrics equipment tracking, which is a computer-based software, has been installed to monitor and target deficiencies in the building management system. This system allows operators to look at numerous data points, pinpoint trouble locations, and resolve issues faster.

### 2.4.3 WATER CONSERVATION

Water features (e.g., decorative fountains) within the casino utilize 100% recycled water which is run through filtration systems until the water no longer meets specifications. The features are drained and refilled appropriately two times per year.

A two-phase flow control project was executed for a certain number of hotel guest rooms. Phase 1 included the installation of flow valves on vertical fan cooling units to reduce chilled and hot water flows for heating and cooling. This was implemented after it was determined that actual flows were outside the design flows. Phase 2 included installation of flow valves in more hotel guest rooms to further reduce water consumption and energy use.

### 2.4.4 WASTE REDUCTION

The Mohegan Tribe has made a commitment to diverting food waste from traditional receptors (e.g., incineration or landfilling) by entering an agreement with a local piggery in Waterford, Connecticut. In 2021, USEPA Region 1 honored the Mohegan Tribal Government with Partner of the Year Award for outstanding waste reduction achievements as a Wastewise partner. In 2017 and 2018, USEPA Region 1 honored the Mohegan Tribe for demonstrated success in improving sustainable food management practices which diverted 741 and 708 tons of food, respectively.

Used fry oil from restaurants is collected in two 2500-gallon tanks and is pumped out by tanker truck and recycled into bio-fuel. Twenty-three tons of oily waste residuals were shipped in drums since 2017 from Earth and Sky pump rooms.

Used soaps, shampoos and body lotions were collected from guest rooms after guest check out and shipped in one-ton boxes by UPS to a processing facility in Florida in 2018 and 2019. Repackaged and repurposed products in the form of hand and body washing with soaps and shampoos were sent to countries challenged with hygiene barriers so that disease from common pathogens was greatly reduced. It was estimated that the quantities generated by Earth Tower at 90% capacity could save 8,600 lbs. on landfill or incinerator diversion and would generate 28,923 bars of new soap for distribution to families in crisis in the United States. Both towers generated 8.5 tons of shampoos and soaps in the 2 years they participated in the program and 3.2 tons of plastic bottles were recycled as a result.



Recyclables are segregated from regular trash in separate collection dumpsters or by single stream recycling at Earth and Sky loading docks, at Towers, Expo and Convention Center, and at the Government and Community Center. In addition, Reservation wide, Mohegan recycles universal waste such as spent bulbs, spent batteries, mercury devices and electronic waste at facilities specialized to accept them. Construction debris from all projects are also recycled from start to finish.

## 2.5 REVIEW OF OTHER PCAPS

The Mohegan Tribe has long been committed to good relations with its neighbors near and far, and the Tribe continues to uphold this today as an integral part of its values and identity. Each year, the Mohegan Tribe’s business entities participate in hundreds of community support initiatives in each of the communities in which they operate. To that end, an understanding of how other adjacent regions are conducting climate action planning is important for the Mohegan Tribe. The measures implemented at the state or regional level may influence resource costs and/or how the business is conducted. Furthermore, there may be opportunities with state or regional partners to implement GHG emission reduction measures that are beneficial to the Mohegan Tribe and its community members.

### 2.5.1 LANDS SURROUNDING THE MOHEGAN TRIBE

The State of Connecticut concurrently prepared a PCAP under the CPRG program. As of December 2023, the State promulgated 14 proposed climate actions for inclusion in the PCAP in the Transportation, Residential and Commercial Buildings, Electric Power, Waste and Materials Management, and Natural and Working Lands sectors. These are presented in Table 2-2.

Table 2-2 State of Connecticut Proposed Climate Measures

Sector	Measure	Potential Direct Effect on Mohegan Tribe	Potential for Mohegan Tribe to Partner on Implementation
Transportation	School Bus Electrification	No	No
Transportation	Transit Bus Electrification	No	Yes
Transportation	Establish Electric Vehicle Incentives	Maybe	No
Transportation	Deploy Electric Vehicle Chargers Statewide	No	Yes
Transportation	Reduce Idling from Connecticut Department of Transportation Crash Unit Trucks	No	No
Transportation	Expand Shared Ride Program (rural areas)	No	No
Residential & Commercial Buildings	Support Adoption of Residential and Commercial Heat Pumps	Yes	No
Residential & Commercial Buildings	Expand Funding for Residential Energy Preparation Services (weatherization of buildings)	Maybe	No
Residential & Commercial Buildings	Networked Geothermal Systems	No	No
Electric Power	Expand Energy Efficiency Programs	No	No



Sector	Measure	Potential Direct Effect on Mohegan Tribe	Potential for Mohegan Tribe to Partner on Implementation
Electric Power	Energy Storage and Demand Response	Maybe	Yes
Electric Power	Hydrogen for Port Operations and Storage	No	No
Waste & Materials Management	Food Scrap Diversion	Maybe	No
Agriculture / Natural & Working Lands	Plant Trees in Urban Areas	No	No

The Mohegan Tribe may decide to collaborate with other entities in efforts to further reduce GHG emissions, provided it is found to be in the best interest of the Mohegan Tribe to do so. Furthermore, the Mohegan Tribe will monitor implementation of these programs to ensure that its current efforts regarding sustainability are not blocked by increased competition from new users, as noted below:

- The Mohegan Tribe could potentially install electric vehicle charging stations for buses at bus stations at Mohegan Sun.
- The Mohegan Tribe could potentially install additional electric vehicle chargers for passenger vehicles in parking stalls at Mohegan Sun parking areas.
- The Mohegan Tribe could potentially test electric energy battery storage technology.
- The Mohegan Tribe may monitor potential food scrap diversion funding programs implemented by other entities, as it may drive up the cost to access their current programs.

The Town of Montville and the City of Norwich are both located in the Southeastern Connecticut regional planning area overseen by the SCCOG and are within the Norwich-New London Metropolitan Statistical Area for CPRG planning purposes. Preparation of a PCAP under the CPRG program is not presently occurring in this area, which means that these areas are covered by the State of Connecticut’s PCAP.

The Capital Region Council of Governments and Lower Connecticut River Valley Council of Governments published their draft PCAP in January 2024, as did the South Central Regional Council of Governments. While drawing some actions for the State’s 14 priorities, the two PCAPs identify the following priority measures that could be of interest to the Mohegan Tribe:

- Electric Power: Installing solar panels on residences and adding battery storage and microgrids on buildings and properties.
- Transportation: Converting light duty fleets to electric vehicles or hybrid, installing electric charging infrastructure, and switching gas-powered equipment to electric
- Waste & Materials Management: Examine ways to increase utilization of anaerobic digestion.
- Residential & Commercial Buildings: Undertake energy efficiency upgrades.



## 2.5.2 UTILITIES SERVING THE MOHEGAN TRIBE

The Mohegan Tribe has agreements with off-Reservation utilities to provide electric power, potable water, and wastewater treatment.

- The Connecticut Municipal Electric Energy Cooperative (CMEEC) provides wholesale power and related requirements to the Mohegan Tribal Utility Authority (MTUA). The member utilities of CMEEC include the City of Groton, the City of Norwich, the Borough of Jewett City, the Bozrah Light & Power Company, and the Second (South Norwalk) and Third (East Norwalk) Taxing Districts of Norwalk, Connecticut. GHG emission reduction measures that affect CMEEC will therefore likely have a cascading effect on the rates paid for electricity by the MTUA.
- The MTUA purchases potable water from the City of Norwich and the City of Groton. Water must be pumped to the Mohegan Tribe from the source water treatment plants and through a series of pumping stations in Groton and Montville. The electrical usage related to this pumping is borne by the other utilities and reflected in the water rates paid by MTUA.
- Some potable water is directed to the cooling tower at the central utility plant that provides heating and cooling to the major tribal buildings. Preliminary estimates from vendors retained by the Tribe suggest that up to approximately 200,000 gallons of potable water per day could be saved by switching the heating and cooling water to a non-potable source.
- Potable water not consumed by the central utility plant, used for irrigation, or consumed on the Reservation by residents, staff, and visitors is directed to the sanitary sewer. The MTUA owns and operates the sewer system on the Reservation. Pumping stations are used to direct flows from MTUA through Montville to the Montville wastewater treatment facility for treatment. The Montville facility treats an average of approximately 1.8 million gallons of wastewater per day.<sup>1</sup>

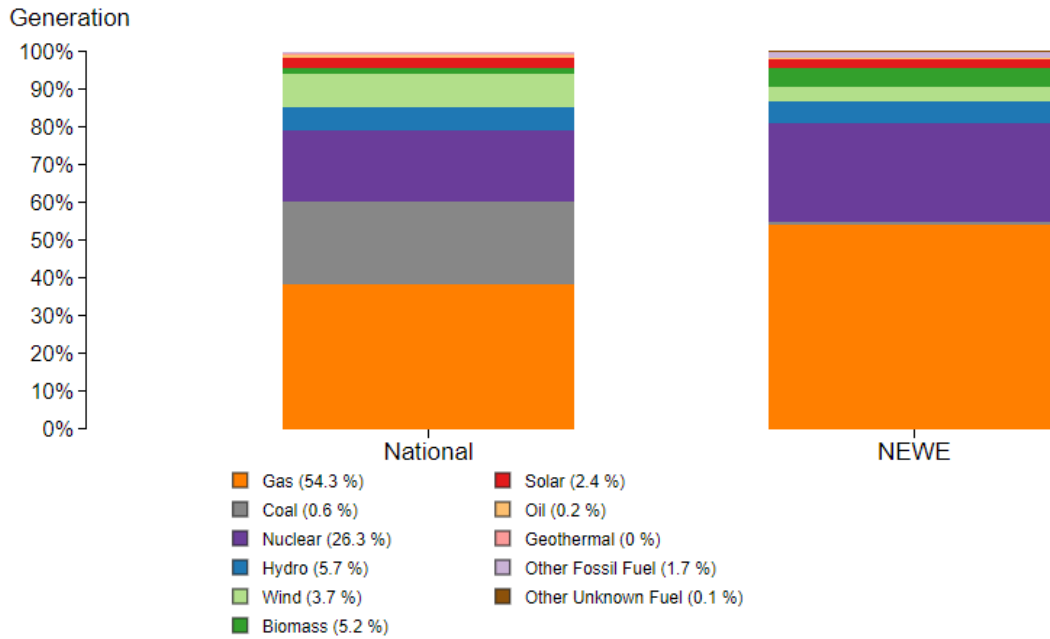
As noted above, these outside water and wastewater utilities lie in areas presently covered by the State of Connecticut PCAP, as do many of the electrical utilities. In many cases, electricity is generated outside of Connecticut and sold to CMEEC such that the emissions impact may be generated far from the Reservation, and different combinations of electrical sources (fossil fuels, nuclear, hydropower) may be generating the power used at the Reservation each day or even each hour.

According to the USEPA eGRID Power Profiler<sup>2</sup>, Mohegan Tribe lies within the NEWE region of the United States which includes the six New England states. Emission rates in the NEWE region for carbon dioxide (CO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and nitrogen oxides (NO<sub>x</sub>), are estimated at 539.4 pounds of CO<sub>2</sub> per megawatt-hour (lbs. of CO<sub>2</sub> per MWh), 0.094 lbs. of SO<sub>2</sub> per MWh, and 0.327 lbs. of NO<sub>x</sub> per megawatt hour. These are lower than the national emissions rates of 852.3, 0.531, and 0.525 lbs. per MWh, respectively. The fuel sources used to generate electricity in the New England Region therefore generate less emissions than those nationally.

<sup>1</sup> [https://seccog.org/wp-content/uploads/2020/08/SCCOG\\_RWMP\\_final\\_adopted\\_071719.pdf](https://seccog.org/wp-content/uploads/2020/08/SCCOG_RWMP_final_adopted_071719.pdf)

<sup>2</sup> <https://www.epa.gov/egrid/power-profiler#/NEWE>





Fuel (NEWE Generation %)

Figure 2-2 Electrical Generation by Fuel Source in New England



### 3. EMISSIONS INVENTORY

#### 3.1 TRIBAL UTILITY DATA AND INVENTORY OVERVIEW

The Mohegan Environmental Protection Division (MEPD) maintains data relative to GHG emissions. Information from this division was used in the USEPA Tribal Greenhouse gas Inventory Template (TGIT) to facilitate the development of tribal GHG emission estimates using default values and methods consistent with the Global Protocol for Community-Scale GHG Emissions<sup>3</sup>. A discussion of each sector in the TGIT and the estimated and/or measured emissions is presented in the following subsections.

The USEPA has identified six key sectors as part of the climate action plan planning process; however, because not all directly relate to the Mohegan Tribe, these have been recategorized to better depict the emissions related activities occurring on tribal lands. The USEPA sectors and recategorizations for the Mohegan Tribe can be found in Table 3-1.

Table 3-1 USEPA and Mohegan Tribe Climate Pollution Categories

USEPA KEY SECTORS	MOHEGAN TRIBE SECTORS	INVENTORY DESIGNATION
Electricity Generation	Electric Power Generation	Electricity
Industry	<i>Not applicable to Tribe</i>	-
Transportation	Transportation and Transit	Mobile
	Grounds Maintenance	Mobile
Buildings	Building and Facility Energy Use	Stationary
Waste	Food Waste and Trash Management	Solid Waste
	Wastewater	Water & Wastewater
Agricultural/Natural and Working Lands	<i>Not applicable to Tribe</i>	-
-	Water	Water & Wastewater

<sup>3</sup> [https://ghgprotocol.org/sites/default/files/standards/GPC\\_Full\\_MASTER\\_RW\\_v7.pdf](https://ghgprotocol.org/sites/default/files/standards/GPC_Full_MASTER_RW_v7.pdf)



### 3.1.1 STATIONARY EMISSIONS SOURCES

At least 22 stationary sources of emissions are located across Tribal properties, including boilers, heaters, kitchen grills, air handling units, government and tribal facilities, and pizza oven operations. Fuel use varies amongst these locations, with natural gas being the predominant source. In 2023, natural gas combustion at all 22 locations accounted for 98.5% of fuel use, with coal accounting for 0.93%, fuel oil accounting for 0.47%, and wood at only 0.08%. In total, 2023 stationary source emissions resulted in 28,076.13 MTCO<sub>2</sub>, with net emissions (including CO<sub>2</sub>, methane (CH<sub>4</sub>), and NO<sub>x</sub>) totaling 28,107.54 MTCO<sub>2</sub> equivalent (MTCO<sub>2</sub>e).

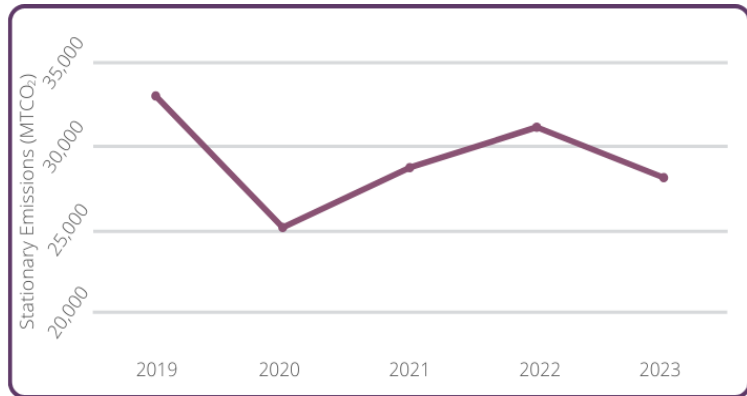


Figure 3-1 Stationary Emissions Trends Since 2019

Table 3-2 Net Emissions from Stationary Sources in 2023 (MTCO<sub>2</sub>e)

CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	TOTAL
28,076.13	~14.0	~17.88	<b>28,107.54</b>

### 3.1.2 MOBILE EMISSIONS SOURCES

According to the 2023 inventory of fuel usage, tribal vehicles account for approximately 7.2% of overall Tribal emissions, or 4,811.13 MTCO<sub>2</sub>. Net vehicle emissions equal 4,835 MTCO<sub>2</sub>e, as seen in Table 3-3.

Table 3-3 Net Emissions from Mobile Sources in 2023 (MTCO<sub>2</sub>e)

	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	TOTAL
<b>Vehicles</b>	4,811.13	2.33	21.84	<b>4,835</b>
<b>Grounds and Lawn</b>	112.92	9.69	39.44	<b>162.05</b>
<b>Total</b>	4,924.05	12.02	61.28	<b>4,997.35</b>

In addition to vehicles, the Tribe has worked to inventory all grounds maintenance equipment that move and operate between facilities and properties. A total of 62 units includes lawn maintenance equipment, snow blowers, power washers, and larger machines such as a tractor, skid steer, and backhoe. Use of this



equipment produces an estimated 112.92 MTCO<sub>2</sub>, with a net emission of 162.05 MTCO<sub>2</sub>e. Grounds and lawn maintenance equipment account for approximately 3.2% of all mobile emissions.

### 3.1.3 SOLID WASTE EMISSIONS

The Mohegan Tribe produced 6,289.95 tons of various types of waste in 2023; this includes mixed waste, recycled materials, and food waste. When considering the emissions associated strictly with the transportation and sorting of all waste produced, approximately 78.6% of emissions are attributed to combustion, 15.9% to recycling, 4.7% composted or animal feed reuse, and 0.8% with landfills. In total, the emissions associated with sorting and transportation of waste are 2,329.53 MTCO<sub>2</sub>e<sup>4</sup>.

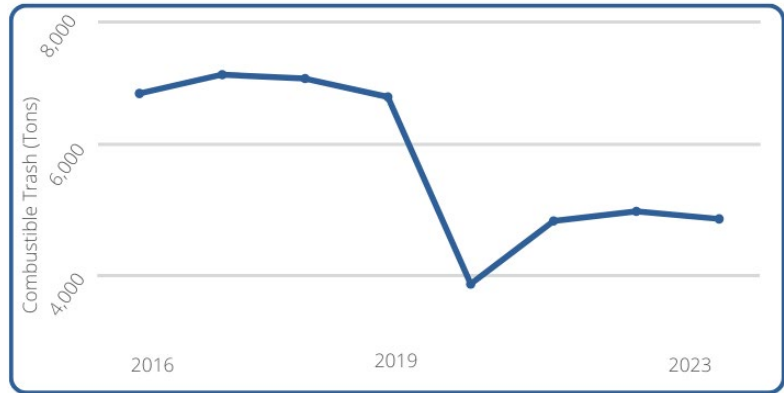


Figure 3-2 Combustible Trash Emissions Trends Since 2019

However, because of increased efforts by the Mohegan Tribe to dispose of materials responsibly, there is a considerable amount of avoided emissions due to recycling efforts. When taking emissions avoided into consideration, total net emissions is -3,740.23 MTCO<sub>2</sub>e<sup>5</sup>.

Table 3-4 Net Emissions from Solid Waste Sources in 2023 (MTCO<sub>2</sub>e)

	MTCO <sub>2</sub> E
<b>Transport and Sorting Only</b>	2,329.53
<b>Transport and Sorting with Emissions Avoided</b>	-3,740.2

<sup>4</sup> Calculated using emissions factors identified in the EPA Center for Corporate Climate Leadership Emissions for Greenhouse Gas Inventories (Last Modified: 12 September 2023).

<sup>5</sup> Calculated using the EPA Waste Reduction Model (WARM) V16





### 3.1.4 WATER & WASTEWATER EMISSIONS

Water use across buildings and facilities has been tracked by the Tribe since 2005. The Mohegan Tribe used 193,441,746 gallons of water across all operations in 2023, with 100% of the water sourced from Norwich Public Utilities and from Groton Utilities via the Town of Montville. The average annual water use over the past 19 years was 236,626,627 gallons. The total use in 2023 was approximately 31% less than the average, and about 18% less than peak use volumes in 2008.

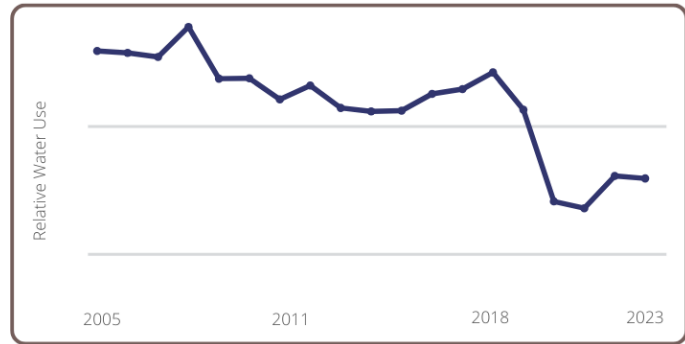


Figure 3-3 Water Use Emissions Trends Since 2005

While water consumption is not tracked specifically by building, facility, or use type, recent analysis has estimated that approximately 42.2 million gallons are used annually for cooling use at the Tribal central utility plant. This volume is based on estimated seasonal needs, which fluctuate in response to weather conditions. This total use accounts for approximately 17.8% of all potable water consumed by all operations.

The estimated emissions for water use, which is based on the “upstream” activities and energy needs of the water utilities producing and providing the commodity, are 265.23 MTCO<sub>2</sub>, with net emissions at 267.40 MTCO<sub>2</sub>e (Table 3-5).

Table 3-5 Net Emissions from Water Use in 2023 (MTCO<sub>2</sub>e)

CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	TOTAL
265.23	0.99	1.17	<b>267.40</b>

The Mohegan Tribe has been monitoring wastewater production volumes since 2016. All wastewater is sent off Reservation to be processed at the Montville Wastewater Treatment Plant. With various water conservation measures implemented, wastewater volumes have overall decreased in the past eight years. In 2023, the Mohegan Tribe produced roughly 171 million gallons of wastewater which is 29% less than the average of 190.25 million gallons, and 10% less than peak volumes in 2016. In 2023, the downstream processing of wastewater produced 773.80 MTCO<sub>2</sub>e.

Table 3-6 Net Emissions from Wastewater (MTCO<sub>2</sub>e)

	MTCO <sub>2</sub> E
Wastewater	<b>773.80</b>



### 3.1.5 ELECTRICITY EMISSIONS

Electricity use is considered the largest category of emissions for the Tribe, with 45.7% of all emissions attributed to upstream electric generation that occurs off-Reservation. In total, electric use in 2023 resulted in estimated emissions of 30,522.39 MTCO<sub>2</sub>. Net emissions from 2023, as shown in Table 3-7, are estimated to be 37,771.44 MTCO<sub>2</sub>e. As shown above in Figure 2-1, and described in Section 2.4, the Mohegan Tribe has consistently implemented programs and measures to reduce electricity demands.

Table 3-7 Net Emissions from Electricity Use in 2023 (in MTCO<sub>2</sub>e)

CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	TOTAL
30,522.39	114.08	134.97	<b>37,771.44</b>

### 3.1.6 AGRICULTURE & LAND MANAGEMENT EMISSIONS

Emissions associated with niche agricultural activities and landscaping (aside from groundskeeping addressed earlier) is not believed applicable. Fertilizer use and application is negligible. This sector will be further evaluated in the CCAP if needed.

### 3.1.7 URBAN FORESTRY EMISSION SEQUESTRATION

Trees and forests play an integral role in carbon sequestration, ultimately removing CO<sub>2</sub> from the atmosphere. USEPA has found that an urban forest is capable of sequestering and storing 25.1 tC/ha (83.5 MTCO<sub>2</sub>), or approximately 62 tC/acre (206 MTCO<sub>2</sub>)<sup>6</sup>, with other sources estimating sequestration rates between 4 (13.3 MTCO<sub>2</sub>) and 40 tC/ha (133 MTCO<sub>2</sub>) annually. The TGIT uses a factor of 2.23 MTCO<sub>2</sub>/ha, which equates to 5.51 MTCO<sub>2</sub>/acre, therefore the following sequestration estimates have been determined using this factor.

The Mohegan Tribal lands evaluated for this PCAP can be categorized as either Reservation lands or acquired lands. In total, there are approximately 570 acres of Reservation land, and approximately 330 acres of other Tribe-owned land. Using high resolution land cover data for the State of Connecticut, forest land cover for all tribal lands has been

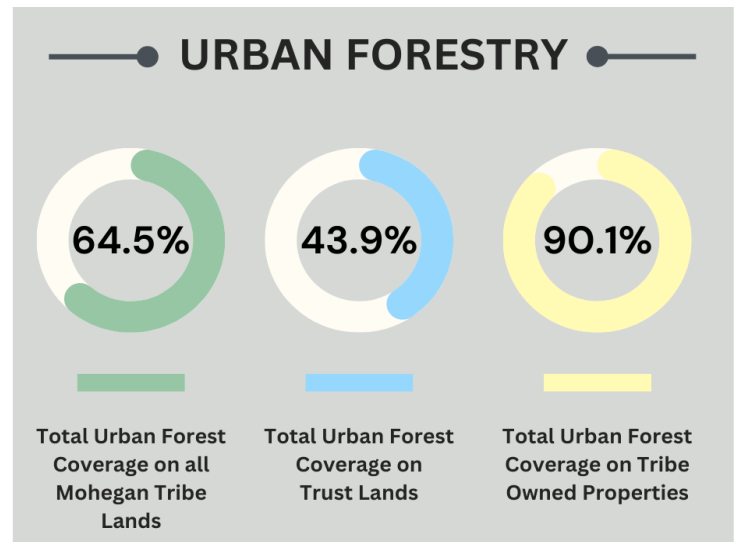


Figure 3-4 Urban Forestry Sequestration on Tribal Lands

<sup>6</sup> [https://doi.org/10.1016/S0269-7491\(01\)00214-7](https://doi.org/10.1016/S0269-7491(01)00214-7)



calculated to determine the existing carbon sequestration capacity of the Reservation and other Tribe-owned lands.

As shown in Figure 3-4, approximately 64.5% of Mohegan Tribal lands are considered mixed forest, with 43.9% of Reservation lands being forested, and 90.1% of other Tribe-owned lands being forested. In total, the forested area across all lands sequesters approximately 1,886.77 MTCO<sub>2</sub>e. This is in addition to the 16,988 MTCO<sub>2</sub> sequestered by the Mohegan Tribe in Costa Rica (Section 2.4.1)

**Table 3-8 Net Annual Sequestration of Trust and Tribal Owned Lands**

	<b>ANNUAL SEQUESTRATION (MTCO<sub>2</sub>)</b>
Tribal Trust and Owned Lands	1,886.77
Costa Rican Forest	16,988.00

### 3.2 SUMMARY OF EMISSIONS ESTIMATES BASED ON EPA METRICS

As shown in Table 3-9, electricity use accounts for just over half of all associated emissions in 2023, with stationary sources accounting for 37.9%. While these two sectors are the predominant sources of emissions, the 2023 inventory already reflects the many energy and emission reductions measures implemented by the Mohegan Tribe over the years.

**Table 3-9 Summary of Mohegan Tribe Greenhouse Gas Emissions (2023)**

<b>Sector</b>	<b>Source</b>	<b>Annual Emissions (MTCO<sub>2</sub>e)</b>	<b>Percent of Total</b>
Stationary	Boilers, pizza ovens, individual heating systems	28,107.54	37.9%
Mobile	Vehicles	4,835.00	6.7%
	Grounds & Lawn Maintenance	162.05	
Solid Waste	Recycling & Combustibles	2,329.53	3.1%
Water & Wastewater	Water	267.40	0.4%
Water & Wastewater	Wastewater	773.80	1.0%
Electricity	Electricity Use	37,771.44	50.9%
<b>Totals</b>		<b>74,246.76</b>	<b>100%</b>

In addition to emissions produced, the urban forest across trust and Tribal owned lands sequesters 1,886.77 MTCO<sub>2</sub>e, or approximately 2.5% of all emissions.



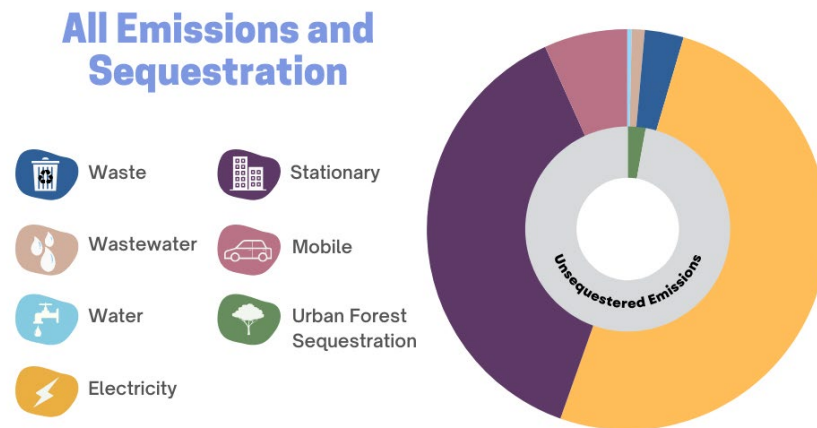


Figure 3-5 Summary of Mohegan Tribe Emissions and Sequestration

### 3.3 DATA FROM STATE OF CONNECTICUT FOR LANDS SURROUNDING THE MOHEGAN TRIBE

As of 2019, the Mohegan Tribe reportedly generated less MTCO<sub>2</sub>e than the nearby Navy Submarine Base in Groton, NRG Energy power plant in Montville, Rand-Whitney Containerboard factory in Montville, and the Covanta trash to energy plant in Preston. It is believed that most comparable establishments are generating more GHG emissions than the Tribe<sup>7</sup>.

The State of Connecticut has determined that across the state, transportation sources are the top source contributing to 40% of Connecticut’s GHG emissions. Mobile sources are then followed by residential building energy, electric power/consumption, and commercial building energy.<sup>8</sup> Employee commuters and visitors of Mohegan Tribe are included in the transportation sector of the Connecticut GHG inventory. Overall, the State’s inventory demonstrates that trucks and driving of personal vehicles are major contributors to GHG emissions.

<sup>7</sup> Balster, L. 2019, <https://www.fondriest.com/news/connecticuts-mohegan-tribe-preserves-its-past-while-using-modern-recycling-and-monitoring-methods.htm#:~:text=Tribal%20members%20have%20also%20restored,%2C%20and%20wood%2Dburning%20ovens>.

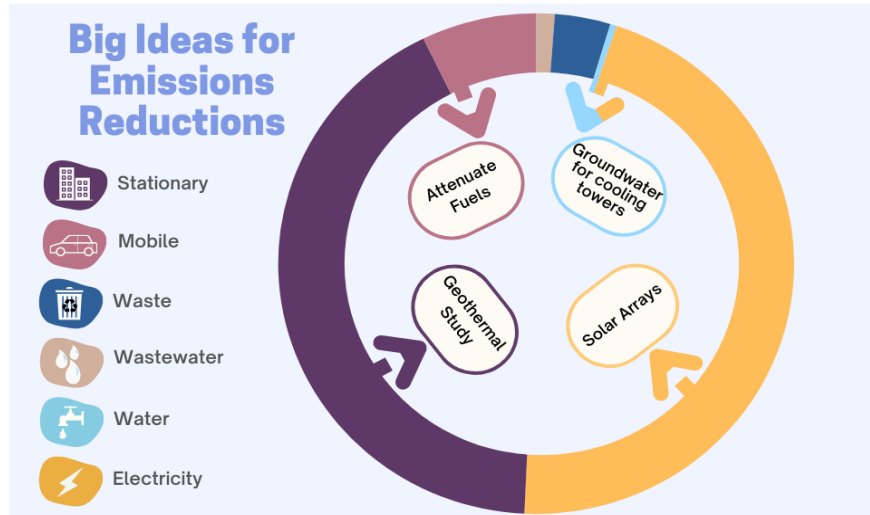
<sup>8</sup> [https://portal.ct.gov/-/media/DEEP/climatechange/CPRG/CPRG\\_State\\_Overview-and-GHG-Reduction-Measures-Dec18\\_120823-Final.pdf](https://portal.ct.gov/-/media/DEEP/climatechange/CPRG/CPRG_State_Overview-and-GHG-Reduction-Measures-Dec18_120823-Final.pdf)



## 4. PRIORITY MEASURES

The Mohegan Tribe believes that effective climate action is needed to mitigate the impacts of climate change. Taking measures now, specifically robust strategies to mitigate GHG emissions, is essential to safeguard the Tribe and help to build a more sustainable future.

This PCAP seeks to identify near-term, implementation-ready, priority GHG emissions reduction measures. To that end, the priority measures identified herein largely build upon existing sustainability efforts (Section 2.4), including recent research by the Mohegan Tribe into both new and continued methods to improve energy efficiency and reduce water use.



### 4.1 OPPORTUNITIES FOR GREENHOUSE GAS REDUCTION

Based on the Emissions Inventory, ongoing initiatives and related research, and tribal goals, Table 4-1 presents the 17 priority, implementation-ready, GHG emission reduction measures for the Mohegan Tribe.

Table 4-1 Priority Greenhouse Gas Emission Reduction Measures for the Mohegan Tribe

Sectors	ID#	Measure	Explanation or Comment
Electricity	EI1	Pursue solar array installations to reduce electricity needs from the surrounding grid	A preliminary analysis has been conducted suggesting an impactful amount of power could be generated on facility rooftops, but the rate of return on the investment without grants is not fiscally plausible.
	EI2	Continue energy efficiency programs for lighting	Past programs have been successful in reducing energy needs. Implementation would be beneficial in further reducing energy needs



Table 4-1 Priority Greenhouse Gas Emission Reduction Measures for the Mohegan Tribe

Sectors	ID#	Measure	Explanation or Comment
Electricity, Stationary Sources	ES1	Conduct energy audits of buildings to ensure that heating and cooling is efficient	A comprehensive energy audit program will help prioritize replacements of heating and cooling systems for individual buildings not connected to the central utility plant.
Forestry and Related	Fo1	Identify opportunities to develop community gardens that do not need significant chemicals and fertilizers for operation; ensure they are located in developed areas and replace landscaped or paved areas rather than forest	Replacing paved areas helps to reduce possible urban heat islands, while replacing landscaping with gardens removes the carbon equivalent related to maintenance (mobile sources).
	Fo2	Identify opportunities for forest management that diversify the forest composition and include forward-looking, pest and climate-resilient species	Carbon sequestration has a significant mitigating impact on the Tribe’s carbon footprint and is encouraged.
Mobile Sources	Mo1	Evaluate the use of vehicles with alternate fossil fuel sources to reduce gasoline and diesel needs	Based on research and conversations with nearby utilities, clean diesel (biofuel) vehicles could be used for fleet replacements over time.
	Mo2	Evaluate the use of hybrid vehicles to reduce gasoline and diesel needs	Based on research and conversations with nearby utilities, hybrid vehicles are acceptable fleet replacements in certain cases.
	Mo3	Evaluate the use of electric vehicles to reduce gasoline and diesel needs	Based on research and conversations with nearby utilities, electric vehicles are acceptable fleet replacements in certain cases.
	Mo4	Replace grounds equipment that relies on fossil fuels with electric equipment at the end of service life	Rechargeable battery-powered lawn equipment, including tractors, are becoming more commercially available.
	Mo5	Identify opportunities to reduce groundskeeping needs through replacement of landscaping (e.g. turf grass) that needs frequent attention	Reduction in maintenance hours will have a direct correlation on fuel and/or electrical use for this activity.



**Table 4-1 Priority Greenhouse Gas Emission Reduction Measures for the Mohegan Tribe**

Sectors	ID#	Measure	Explanation or Comment
Other	Ot1	Identify sources of low-carbon concrete for construction and infrastructure projects	Using more sustainably sourced concrete will reduce the overall carbon footprint of various construction projects.
Stationary Sources	St1	Evaluate the use of geothermal systems to replace individual heating systems in buildings that are not connected to the central utility plant	Preliminary research by the Mohegan Tribe’s consultants indicates that geothermal systems may be feasible only in limited cases; additional evaluation is needed.
Waste	Was1	Identify alternate synthetic material (plastic, cardboard) recycling destinations to ensure that unplanned shutdowns or closures of recycling facilities can be managed rapidly to avoid increasing the trash stream	This is a logical extension of supply chain resiliency efforts by the Mohegan Tribe that will reduce the need for relying on traditional waste receptors in emergencies.
	Was2	Identify alternate food scrap composting and recycling destinations to ensure that unplanned shutdowns or closures of facilities can be managed rapidly to avoid increasing the trash stream	This is a logical extension of supply chain resiliency efforts by the Mohegan Tribe that will reduce the need for relying on traditional waste receptors in emergencies.
	Was3	Evaluate hazardous waste disposal methods to determine if alternative approaches can reduce the associated climate pollution	There is a general desire to improve methods of waste disposal to be more sustainable.
Wastewater	WW1	Continue practices that manage and stabilize sanitary wastewater quality and composition, to help reduce treatment energy needs in Montville	This is a logical extension of the Mohegan Tribe’s current efforts to sustainably manage its wastewater.



Table 4-1 Priority Greenhouse Gas Emission Reduction Measures for the Mohegan Tribe

Sectors	ID#	Measure	Explanation or Comment
Water, Electricity	WE1	Evaluate the use of groundwater to augment or replace the potable water needs in the cooling towers	Preliminary analysis suggests a significant savings in potable water is possible, which would reduce electrical demands required to treat and then pump this water to the Reservation. Colder water from the local aquifer will also reduce the electricity needs of the pumps and air circulation systems in the cooling towers.

Of the above 17 priority measures, the Mohegan Tribe intends to initially focus on solar power, replacing groundskeeping equipment, replacing vehicles that use traditional fossil fuels, and using groundwater for cooling towers.

## 4.2 POTENTIAL EMISSIONS REDUCTIONS

### 4.2.1 ACTION EL1 – SOLAR ARRAYS

The Mohegan Tribe has reasonably determined that electricity use in 2020, during the COVID-19 pandemic, is as close to baseline operational needs as feasible. Mohegan Sun shut down from March 13, 2020, to June 15, 2020, during this 3 month period offices were not populated, and energy was used primarily to keep systems operating.

The installation of solar arrays across multiple properties and facilities will work to reduce the amount of electricity being drawn from the grid, ultimately pushing electricity use closer toward that baseline. The Mohegan Tribe has previously conducted a feasibility study to determine locations that would be most suitable for installation. Preliminary estimates show that solar installations at feasible locations will reduce electricity by approximately 4.5%. The selected locations and their approximate available area for applications can be found in Table 4-2.

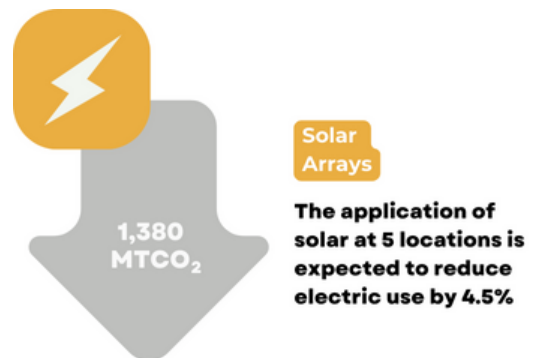




Table 4-2 Summary of Potential Solar Related Emission Reductions

LOCATION	APPROX. SURFACE AREA (SQ. FT.)	ESTIMATED KWH PRODUCED	ESTIMATED EMISSIONS SAVED (MTCO <sub>2</sub> )
Warehouse 1	50,000	917,430	224.5
Warehouse 2	50,000	988,198	241.8
Warehouse 3	50,000	926,161	226.6
Expo Center Building Southern Roof	62,000	1,344,341	328.9
Southern Slope of Government Building Recreational Field	60,000	1,464,024	358.2
<b>TOTALS</b>	<b>442,000</b>	<b>5,640,154</b>	<b>1,380</b>

#### 4.2.2 ACTION MO4 – REPLACE GROUNDS AND LAWN MAINTENANCE EQUIPMENT

The phased inclusion of electric grounds and lawn maintenance equipment into operations will over time replace gas and diesel powered equipment. The replacement of 55 units is estimated to reduce emissions by 96.7%, with overall emissions from those units dropping from 69.68 MTCO<sub>2</sub>, to 2.3 MTCO<sub>2</sub> which is attributed to charging needs. The reduction estimates have been grouped by size and charging efficiency. Group one being mowers, which require more charging power, and smaller grounds equipment (i.e., weed wacker, hedge trimmer, or leaf blower), which take less power to charge and can typically last longer per charge. Estimated reductions calculations can be found in the table below:

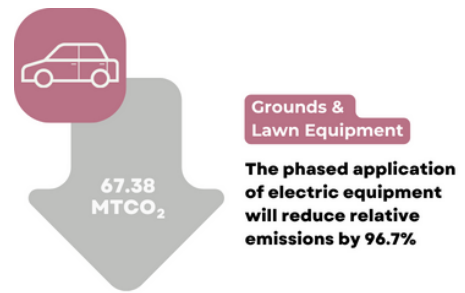


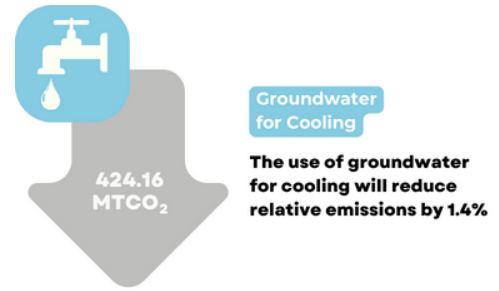
Table 4-3 Summary of Potential Grounds and Lawn Maintenance Equipment Emission Reductions

UNIT TYPE	# OF UNITS	TOTAL ESTIMATED USE HOURS	KWH NEEDED PER HOUR OF USE	TOTAL KWH	EMISSIONS (MTCO <sub>2</sub> )
Push/Zero Turn Mower	8	5,184	1.75	9,072	2.2
Small Grounds equipment	47	6,426	0.0375	240.98	0.1



### 4.2.3 ACTION WE1 – GROUNDWATER FOR COOLING

The main facilities operations require a large amount of water for cooling purposes. The water currently used is sourced from the nearby local water utilities and is potable. The Mohegan Tribe is exploring the option of utilizing groundwater to both reduce the amount of potable water, and to also source water that is naturally at a cooler temperature therefore reducing energy needs required to reduce the temperature of the water to effectively cool. This action will drastically reduce the amount of water sourced from the local utilities, therefore reducing upstream emissions, while also reducing electricity needs seeing as less energy will be needed to regulate temperature.



Based on seasonal high and low volumes used in 2023 for cooling, annual cooling volumes have been estimated to determine potential emissions reductions attributed to groundwater use versus potable water. As of 2023, it is estimated the Mohegan Tribe annually purchases approximately 42.2 million gallons of water for cooling, which equates to approximately 57.86 MTCO<sub>2</sub> of emissions. With the installation of groundwater wells, emissions attributed to upstream production are estimated to be reduced by 21.8%, with total water emissions reduced to 207.37 MTCO<sub>2</sub>.

Electricity requirements will also be reduced. Currently, it is estimated that energy needed to regulate incoming potable water temperatures before being used for cooling is 1,758,838 kWh, or 430.3 MTCO<sub>2</sub>. Two groundwater well pumps, running at maximum 24 hours per day, 7 days a week, will require an estimated 130,700.8 kWh, or 32 MTCO<sub>2</sub>. With the elimination of the electricity required to regulate potable water, but with the installation of the two production wells, net emissions reductions equal 366.3 MTCO<sub>2</sub>.

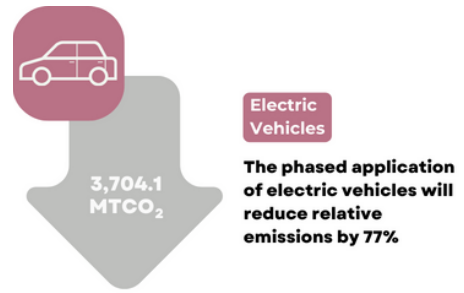
Table 4-4 Summary of Potential Groundwater for Cooling Emission Reductions

	CURRENT EMISSIONS (MTCO <sub>2</sub> )	PROJECTED EMISSIONS (MTCO <sub>2</sub> )	ESTIMATED EMISSIONS SAVED (MTCO <sub>2</sub> )
Water Use	265.23	207.37	57.86
Electricity Use	30,522.40	30,156.1	366.3
<b>TOTALS</b>	<b>30,787.63</b>	<b>30,363.47</b>	<b>424.16</b>



#### 4.2.4 ACTION MO3 – EXPLORING ELECTRIC VEHICLE USE

Mobile sources are currently the third largest emissions contributor for the Mohegan Tribe. Vehicles, which include passenger vehicles and light or heavy-duty trucks, produce an estimated 4,812 MTCO<sub>2</sub> annually. While the Tribe would need to take a phased approach to converting an entire fleet from gasoline or diesel to entirely electric, doing so would reduce emissions by 77% to an estimated 1,100 MTCO<sub>2</sub>. This reduction is based on the vehicle miles traveled (VMT) in 2023 and under the assumption that one vehicle requires roughly 34.6 kWh per 100 miles driven.<sup>9</sup>



The Tribe may consider implementing a pilot program which will include transitioning select fleet vehicles that travel primarily only on reservation lands, and where charging needs will not disrupt existing operations.

Table 4-5 Summary of Potential Electric Vehicle Emission Reductions

	CURRENT 2023 EMISSIONS (MTCO <sub>2</sub> )	PROJECTED EV RELATED EMISSIONS (MTCO <sub>2</sub> )	ESTIMATED EMISSIONS SAVED (MTCO <sub>2</sub> )
Passenger Vehicle (gasoline)	4457.3	1,036.0	3,421.4
Light Truck (gasoline)	311.0	55.5	255.5
Light Truck (diesel)	29.6	5.43	24.2
Heavy-Duty Truck (diesel)	14.7	2.72	12.0
<b>TOTALS</b>	<b>4,812.6</b>	<b>1,099.7</b>	<b>3,704.1</b>

#### 4.2.5 OTHER MEASURES

The remaining strategies that have not been quantified will be explored in greater depth in the CCAP. These actions are those that are achievable, however, their implementation requires further research.

### 4.3 BENEFITS ANALYSIS

#### 4.3.1 BASELINE INVENTORY

The EPA National Emissions Inventory (NEI) has compiled a comprehensive inventory for New London County which includes County criteria air pollutants and their precursors (CAPs) and hazardous air

<sup>9</sup><https://www.gencellenergy.com/resources/blog/ev-charging-power-car-electricity-usage/#:~:text=Electricity%20usage%20Per%20Year%20of,V.>



pollutants (HAPs). There are 187 pollutants included in the HAPs inventory, with CAP-related emissions including ammonia, carbon monoxide, lead, nitrogen oxides, particulate matter (PM10 and PM2.5), sulfur dioxides, and volatile organic compounds.

A summary of the 2020 NEI inventory sectors that are likely to experience emissions reductions by the priority actions outlined in this PCAP is provided in Table 4-6.

**Table 4-6 Summary of NEI 2020 Sectors and Emissions Potentially Impacted by Priority Actions**

<b>SECTOR</b>	<b>CAP EMISSIONS (TONS)</b>	<b>HAP EMISSIONS (TONS)</b>	<b>ACTIONS ASSOCIATED WITH SECTOR</b>
Biogenics - Vegetation and Soil	9,782.24	520.12	Fo1, Fo2
Fuel Comb - Comm/Institutional - Natural Gas	307.44	0.13	St1, ES1
Fuel Comb - Comm/Institutional - Oil	64.72	0.16	St1, ES1
Miscellaneous Non-Industrial Not Elsewhere Classified	247.48	9.63	WW1
Mobile - Non-Road Equipment - Diesel	688.91	18.40	Mo4, Mo5
Mobile - Non-Road Equipment - Gasoline	9,404.16	287.96	Mo4, Mo5
Mobile - On-Road Diesel Light Duty Vehicles	189.99	2.26	Mo1, Mo2, Mo3
Mobile - On-Road non-Diesel Light Duty Vehicles	10,801.91	170.41	Mo1, Mo2, Mo3
Waste Disposal	120.69	18.86	Was1, Was2, Was3
<b>TOTAL</b>	<b>31,607.55</b>	<b>1,027.93</b>	



## 5. POTENTIAL FUNDING SOURCES

In addition to the EPA CPRG program, there are some federal and state funding sources the Mohegan Tribe can possibly leverage to implement emission reduction projects. Potential sources of funding for GHG emission reduction projects are presented in Table 5-1. Some of these funding sources, and others, will be considered by the Mohegan Tribe to help implement the measures identified in this PCAP if feasible. The Tribe acknowledges that the capacity to administer and manage multiple grants for a single project can be burdensome, oftentimes competitive grants are not upholding the Trust responsibilities. In addition, while the following funding opportunities have some degree of intersection with the Tribe’s reduction goals, they may not all be suitable for leveraging for priority action implementation.

**Table 5-1 Potential Funding Sources**

Grant Program	Source	Agency	Description
Alternative Fuel Infrastructure Tax Credit	<a href="https://afdc.energy.gov/laws/10513">https://afdc.energy.gov/laws/10513</a>	U.S. Department of Energy	The Alternative Fuel Vehicle Refueling Property Credit is available for qualified AFV fueling property installed in qualified locations on or after January 1, 2023, and through December 31, 2032. Eligible property includes certain fueling equipment for natural gas, propane, hydrogen, electricity, E85, or biodiesel blends of at least 20% (B20+).
Charging and Fueling Infrastructure Discretionary Grant Program	<a href="https://www.fhwa.dot.gov/environment/cfi/?trk=public_post_comment-text">https://www.fhwa.dot.gov/environment/cfi/?trk=public_post_comment-text</a>	Federal Highway Administration	The Charging and Fueling Infrastructure Discretionary Grant Program (CFI Program) is a competitive grant program created by President Biden's Bipartisan Infrastructure Law to strategically deploy publicly accessible electric vehicle charging and alternative fueling infrastructure in the places people live and work – urban and rural areas alike – in addition to along designated Alternative Fuel Corridors (AFCs).
Climate Pollution Reduction Grants	<a href="https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants">https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants</a>	USEPA	The Climate Pollution Reduction Grants (CPRG) program provides \$5 billion in grants to states, local governments, tribes, and territories to develop and implement ambitious plans for reducing greenhouse gas emissions and other harmful air pollution. Authorized under Section 60114 of the Inflation Reduction Act, this two-phase program provides \$250 million for noncompetitive planning grants, and approximately \$4.6 billion for competitive implementation grants.
Clean Energy to Communities Program	<a href="https://www.energy.gov/ere/clean-energy-communities-program">https://www.energy.gov/ere/clean-energy-communities-program</a>	DOE/NREL	C2C connects local governments, tribes, electric utilities, and community-based organizations with national laboratory experts and customized, cutting-edge analysis to achieve clean energy systems that are reflective of local and regional priorities.
Community Change Grants	<a href="https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-community-change-grants-program">https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-community-change-grants-program</a>	USEPA	EPA’s new Environmental and Climate Justice Community Change Grants program (Community Change Grants) has approximately \$2 billion dollars in Inflation Reduction Act (IRA) funds in environmental and climate justice activities to benefit disadvantaged communities through projects that reduce pollution, increase community climate resilience, and build community capacity to address environmental and climate justice challenges. Tribal governments must partner with a community-based organization (CBO) to be eligible for funding.



Grant Program	Source	Agency	Description
Diesel Emissions Reduction Act Funding	<a href="https://www.epa.gov/dera">https://www.epa.gov/dera</a>	USEPA	The Diesel Emissions Reduction Act (DERA) Program funds grants and rebates that protect human health and improve air quality by reducing harmful emissions from diesel engines.
Energy Efficiency and Conservation Block Grant (EECBG) Program	<a href="https://www.energy.gov/sc/ep/energy-efficiency-and-conservation-block-grant-program">https://www.energy.gov/sc/ep/energy-efficiency-and-conservation-block-grant-program</a>	U.S. Department of Energy	The Energy Efficiency and Conservation Block Grant (EECBG) Program is designed to assist states, local governments, and Tribes in implementing strategies to reduce energy use, to reduce fossil fuel emissions, and to improve energy efficiency.
Grants for Buses and Bus Facilities	<a href="https://www.transit.dot.gov/bus-program">https://www.transit.dot.gov/bus-program</a>	Federal Transit Administration	On February 8, 2024, FTA announced the availability of \$1.5 billion in Fiscal Year 2024 funding to support state and local efforts to buy or modernize buses, improve bus facilities, and support workforce development. Of this, \$390 million in funding is authorized under the Grants for Buses and Bus Facilities Program. The funding opportunity will advance FTA’s priorities of strengthening U.S. bus manufacturing, containing vehicle costs, and accelerating the delivery of new vehicles. This funding opportunity also introduces streamlined application requirements for tribes requesting less than \$1 million, making it easier for tribes with relatively small requests to apply. See this resource for more information.
Green and Resilient Retrofit Program (CRRP)	<a href="https://www.hud.gov/grrp">https://www.hud.gov/grrp</a>	U.S. Department of Housing and Urban Development	GRRP provides funding for direct loans and grants to fund projects that improve energy or water efficiency, enhance indoor air quality or sustainability, implement the use of zero-emission electricity generation, low-emission building materials or processes, energy storage, or building electrification strategies, or address climate resilience, of eligible HUD-assisted multifamily properties. GRRP also provides funding to support benchmarking at assisted properties.
Indian Community Development Block Grant (ICDBG) Program	<a href="https://www.hud.gov/program_offices/public_indian_housing/ih/grants/icdbg">https://www.hud.gov/program_offices/public_indian_housing/ih/grants/icdbg</a>	U.S. Department of Housing and Urban Development	The ICDBG Program provides eligible grantees with direct grants for use in developing viable Indian and Alaska Native Communities, including decent housing, a suitable living environment, and economic opportunities, primarily for low and moderate income persons. Projects funding by the ICDBG program must principally benefit low-and-moderate-income persons (24 CFR 1003.208).
Indian Housing Block Grant (IHBG) Program	<a href="https://www.hud.gov/program_offices/public_indian_housing/ih/grants/ihbg">https://www.hud.gov/program_offices/public_indian_housing/ih/grants/ihbg</a>	U.S. Department of Housing and Urban Development	The Indian Housing Block Grant (IHBG) program is the primary means by which the Federal Government fulfills its trust responsibilities to provide adequate housing to Native Americans and is the single largest source of Indian housing assistance. It is a formula grant that is distributed annually and funds affordable housing activities including new housing construction, rehabilitation, and housing services, and much more.
Low or No Emission Grant Program – 5539(c)	<a href="https://www.transit.dot.gov/lowno">https://www.transit.dot.gov/lowno</a>	Federal Transit Administration	The Low or No Emission competitive program provides funding to state and local governmental authorities for the purchase or lease of zero-emission and low-emission transit buses as well as acquisition, construction, and leasing of required supporting facilities.



Grant Program	Source	Agency	Description
Rebuilding America with Sustainability and Equity (RAISE) Discretionary Grant Program	<a href="https://www.transportation.gov/RAISEgrants/raise-application-faqs">https://www.transportation.gov/RAISEgrants/raise-application-faqs</a>	U.S. Department of Transportation	RAISE is a discretionary grant program for investments in surface transportation infrastructure that will have a significant local or regional impact. RAISE Grant Funds were authorized under the Local and Regional Assistance Program in the Infrastructure Investment and Jobs Act, known as the Bipartisan Infrastructure Law (BIL).
Reconnecting Communities and Neighborhoods Grant Program	<a href="https://www.transportation.gov/grants/rcnprogram/about-rcp">https://www.transportation.gov/grants/rcnprogram/about-rcp</a>	U.S. Department of Transportation	The Bipartisan Infrastructure Law (BIL) established the new Reconnecting Communities Pilot (RCP) discretionary grant program, funded with \$1 billion over the next 5 years. It is the first-ever Federal program dedicated to reconnecting communities that were previously cut off from economic opportunities by transportation infrastructure. Funding supports planning grants and capital construction grants, as well as technical assistance, to restore community connectivity through the removal, retrofit, mitigation, or replacement of eligible transportation infrastructure facilities.
Tribal Clean Energy Funding	<a href="https://www.energy.gov/articles/doe-announces-funding-tribal-clean-energy-projects">https://www.energy.gov/articles/doe-announces-funding-tribal-clean-energy-projects</a>	U.S. Department of Energy	This investment will strengthen Tribal energy sovereignty through local clean energy generation, while increasing energy access, reliability, and security. This funding supports the Biden-Harris Administration's commitment to protecting and supporting Tribal sovereignty and self-determination, honoring the federal government's trust and treaty obligations, and ensuring Tribal nations have access to affordable clean energy technology.
Tribal Energy Development Capacity (TEDC) Grant	<a href="https://www.bia.gov/service/grants/tedc">https://www.bia.gov/service/grants/tedc</a>	U.S. Department of the Interior – Indian Affairs	Developing or enhancing tribal policies, codes, regulations, or ordinances related to energy resource, including land-lease regulations in accordance with the Helping Expedite and Advance Responsible Tribal Homeownership (HEARTH) Act for energy development purposes or for business purposes connected to an energy project.
Carbon Reduction Program (CRP)	<a href="https://portal.ct.gov/DOT/Sustainability-and-Resiliency/Carbon-Reduction-Program">https://portal.ct.gov/DOT/Sustainability-and-Resiliency/Carbon-Reduction-Program</a>	Connecticut Department of Transportation	In November 2021, President Biden signed the Bipartisan Infrastructure Law (BIL), also referred to as the Infrastructure Investment and Jobs Act (IIJA). This bill will apportion an estimated \$79.1 million to Connecticut over the course of 5 years (FY2022-FY2026) to reduce transportation emissions, defined as carbon dioxide (CO2) emissions from on-road highway sources. Each State is to coordinate with municipal planning organizations (MPOs) to develop a carbon reduction strategy (CRS) to identify and fund projects designed to reduce transportation emissions. The CRS must be updated at least once every 4 years.
Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR) Program	<a href="https://portal.ct.gov/DEEP/Air/Mobile-Sources/CHEAPR/CHEAPR-Home">https://portal.ct.gov/DEEP/Air/Mobile-Sources/CHEAPR/CHEAPR-Home</a>	Connecticut Department of Energy & Environmental Protection	The Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR) offers incentives to Connecticut residents who purchase or lease an eligible vehicle from a licensed Connecticut automobile dealership. Incentive amounts currently range from \$4,250 for an eligible new battery electric (BEV), \$2,250 for a plug-in hybrid electric (PHEV), and up to \$9,500 for a fuel cell electric vehicle (FCEV) when a Standard Rebate is combined with Rebate+ New for Rebate+ qualified individuals <sup>1</sup> .



Grant Program	Source	Agency	Description
Climate and Equity Grant Program	<a href="https://circa.uconn.edu/environmental-justice/climate-and-equity-grant-program/">https://circa.uconn.edu/environmental-justice/climate-and-equity-grant-program/</a>	Connecticut Institute for Resilience & Climate Adaptation	In collaboration with CT Department of Energy and Environmental Protection (DEEP), the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) requested grant proposals for projects that increase the capacity of vulnerable communities to mitigate, plan for, and respond to climate change impacts. This funding supports the recommendations of the Governor’s Council on Climate Change (GC3). This grant program was open to community-based organizations, tribal governments, and tribal organizations. Funds can be used for planning, capacity-building, or education projects that advance community-scale climate adaptation and/or climate mitigation efforts.
National Electric Vehicle Infrastructure Program (NEVI)	<a href="https://portal.ct.gov/DOT/Sustainability-and-Resiliency/NEVI-Home-Page">https://portal.ct.gov/DOT/Sustainability-and-Resiliency/NEVI-Home-Page</a>	Connecticut Department of Transportation	The National Electric Vehicle Infrastructure Formula Program (NEVI) is part of the Bipartisan Infrastructure Law enacted in 2021. This program will provide \$5 billion over five years for states to deploy direct current (DC) fast electric vehicle (EV) chargers along highway corridors. The NEVI Program provides formula funding to states to award grants to private, public, and nonprofit entities to build, own, maintain and operate chargers.





## 6. ADDITIONAL SCOPE OF WORK FOR CCAP

### 6.1 NEXT STEPS

The immediate next step following this PCAP is for the Mohegan Tribe to decide on which measures to include in its EPA CPRG Implementation application due May 1, 2024. The CCAP will expand on the measures introduced herein and will include developing a comprehensive list of GHG emission reduction measures, quantifying the benefits of each similar to how it was performed in this PCAP. Furthermore, the Mohegan Tribe will identify GHG emission projections, GHG emission reduction targets, and conduct a workforce planning analysis in the CCAP.



# APPENDIX A

## PUBLIC MEETING NOTICE





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## MOHEGAN TRIBE PUBLIC MEETING NOTICE

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Friday, March 1, 2024 @ 4:00PM  
Mohegan Tribe Community & Government Center  
Mohegan Tribal Meeting Room (Mowawikamuq) (Main Entrance)  
13 Crow Hill Road, Uncasville, CT 06382

### **Environmental Protection Agency (EPA)'s Climate Pollution Reduction Program Grant: PRIORITY CLIMATE ACTION PLAN**

The Tribe received the Climate Pollution Reduction Program grant from the EPA for the purpose of finding ways to reduce its greenhouse gas emissions.

The Tribe is developing the Mohegan Tribe Greenhouse Gas Planning Project (Project) in which the Tribe is discovering ways to assess its current greenhouse gas (GHG) emissions and explore near-term, high-priority, implementation ready measures that will reduce GHG pollution. The goals of this Project are to:

- 1) Gain a better understanding of the Tribe's production of GHG emissions and its impact on the environment.
- 2) Identify ways on how the Tribe can reduce its GHG footprint.
- 3) Collaborate with key stakeholders to formulate initiatives to reduce or offset GHG emissions.
- 4) Determine if the Tribe should adopt or amend any of its laws, policies, and/or procedures as well as business practices to ensure reduction of GHG emission, and
- 5) Protect the environment as our ancestors have done and improve and protect the people, land, and resources of the Tribe to enhance the health, safety, and welfare of the 13 generations to come.

The purpose of this public meeting is to gain feedback from Tribal citizens, key stakeholders, and the general public on the Tribe's Priority Climate Action Plan (PACP). The PCAP is a narrative report that includes a focused list of near-term, high-priority, implementation-ready measures to reduce greenhouse gas pollution and an analysis of greenhouse gas emissions that would be achieved through implementation. This public meeting is an in-person only meeting, written comments can be sent to [grants@moheganmail.com](mailto:grants@moheganmail.com) *no later than 4:30pm on March 8, 2024.*

*Any questions, please contact [grants@moheganmail.com](mailto:grants@moheganmail.com)*

## APPENDIX B

# PUBLIC MEETING PRESENTATION



# Mohegan Tribe Climate Action Plan

Public Meeting

March 1, 2024



Mohegan  
Tribe

Climate  
Action  
Plan

# Agenda



Overview of CPRG Program



Planning Grant



Implementation Grants



Overview of Sectors & Inventory



GHG Reduction Measure Ideas



Next Steps



Mohegan  
Tribe

Climate  
Action  
Plan

# Climate Pollution Reduction Grant (CPRG)

- Created under the Inflation Reduction Act; administered by EPA.
- CPRGs support planning efforts to reduce greenhouse gas emissions.
  1. Encourage intergovernmental collaboration to create pathways to reduce pollution
  2. Provide flexible planning/funding resources
  3. Drive transformative & scalable decarbonization efforts





# CPRG Phases

The first phase is **planning**.

- Three deliverables:
  1. Priority Climate Action Plan (PCAP);
  2. Comprehensive Climate Action Plan (CCAP);
  3. Status Reporting

The second phase is **implementation**.

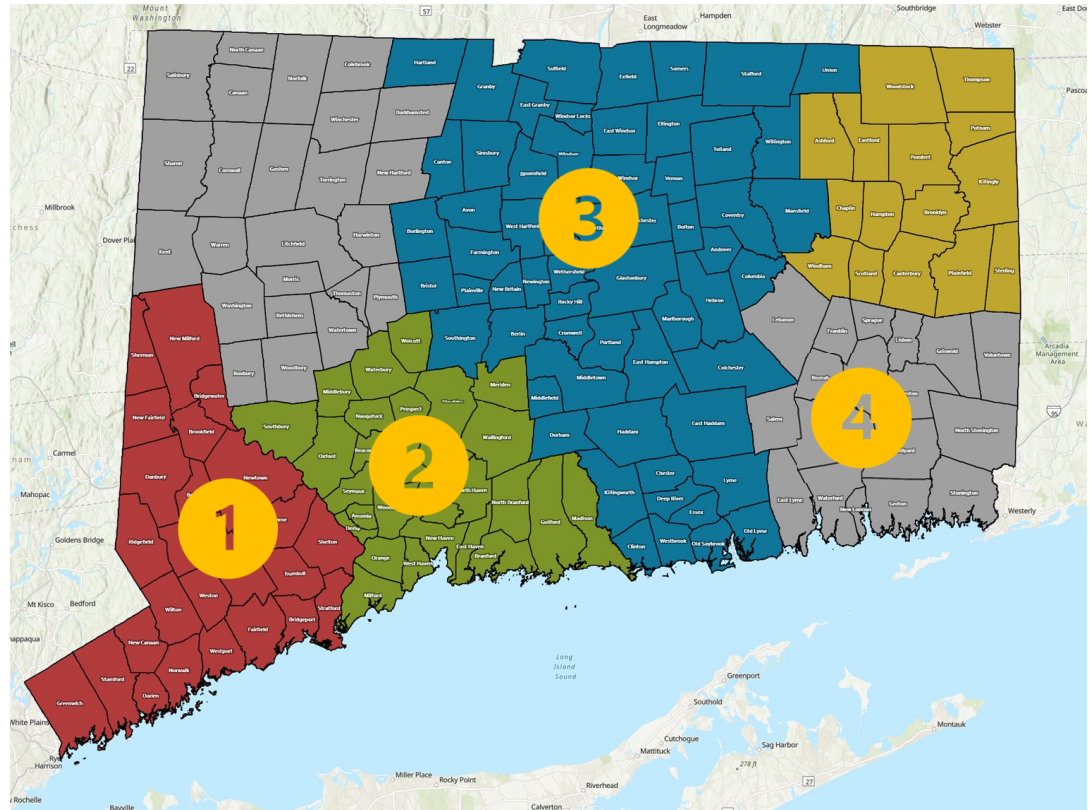
- Funding is available to tribal governments to implement projects identified in the PCAPs.



# CRPG Geographies

CPRG grants were awarded for lands nearby

- Three CT Metropolitan Statistical Areas (MSA) – *map areas 1, 2, and 3*
- State of CT – *map area 4*
- The State of Rhode Island and the Providence MSA received grants that cover lands to the east



Mohegan  
Tribe

Climate  
Action  
Plan

# Climate Action Plan Timeframe

	2023	2024	2025	2026	2027
Phase 1: Planning	Start	Priority plan due 4 /1/24	Comprehensive plan may be delivered early	Comprehensive plan due	Status report due
Phase 2: Implementation	--	Project grant applications due 5/1/24	Execute projects	Continue projects	Status report due



# Climate Action Plan Overview and Goals

## *Priority Climate Action Plan Ideas*



- What strategies will most **reduce carbon emissions**?
- Which strategies **will not cause problems**? We do not want “disbenefits.”

## *Comprehensive Climate Action Plan Ideas*



- What strategies will reduce emissions, but we **need more time to describe** them?
- **What else can we “set aside,”** since we have time?








## *Grant Application Ideas*



- What strategies will reduce carbon emissions while being **competitive** due to timeframe or effectiveness?
- What can the Tribe implement?



# Overview of Sectors

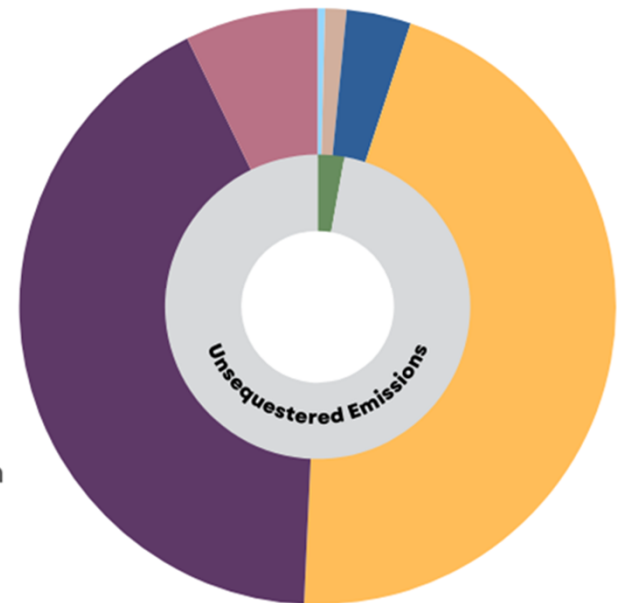
-  **Transportation:** includes mobile sources such as vehicles
-  **Electric Power:** electricity used to operate buildings and enterprises
-  **Building & Facilities Energy Use:** energy to heat and cool
-  **Food Waste & Trash Management:** trash, recycling, etc.
-  **Wastewater:** wastewater generated and treated elsewhere
-  **Water Use:** water used for drinking, landscaping, and cooling systems
-  **Forestry, Green Space, and Green Infrastructure:** carbon sequestration from trees, wetlands, and other areas



# Emissions Inventory

- Electricity use, mobile sources such as vehicles, and stationary sources such as boilers are the top three largest contributors to emissions.
- Forests are a negative category, as they “sequester” carbon.

## All Emissions and Sequestration

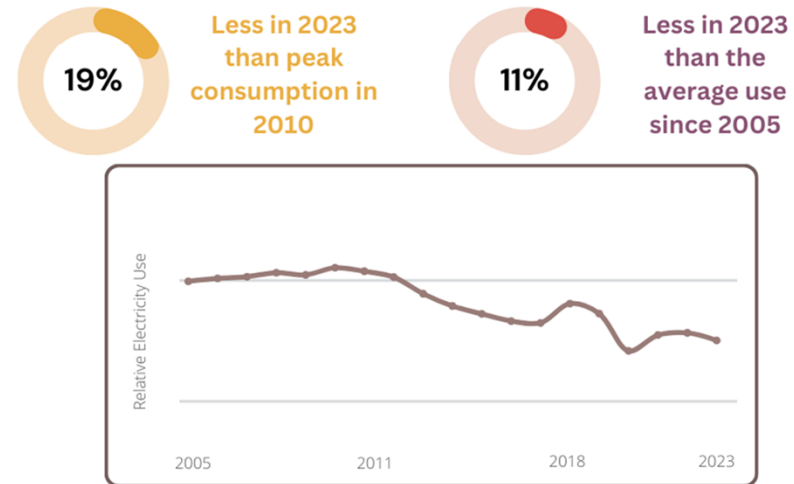




# Electricity Use

The Mohegan Tribe has tracked electricity use and consumption since 2005. In 2023, use was 19% less than peak 2010 levels and was 11% less than the 19-year average.

## ELECTRICITY USE





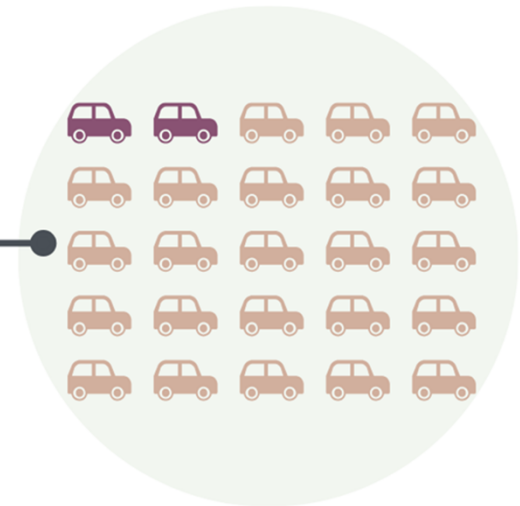
# Mobile Sources Such as Vehicles



The Tribe owns and maintains a fleet of vehicles including trucks, vans, and passenger vehicles. These mobile sources account for 7.2% of total emissions.

## Mobile Sources

Mobile activity only accounts for 7.2% of emissions, however it is the third largest source for the Tribe.



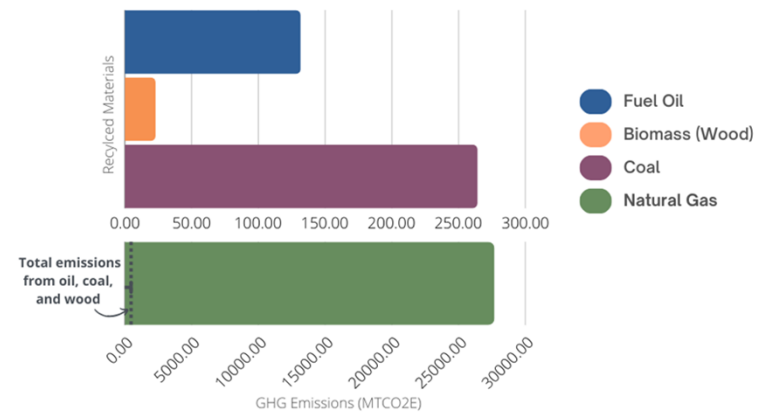


# Stationary Sources of Emissions

Facilities and buildings require energy to operate; this energy on Tribal Lands is primarily sourced from natural gas combustion. Boilers, kitchens, and multiple buildings rely on natural gas for heat. Other boilers utilize fuel oil.

## Stationary Sources

Includes all fuel combustion sources on Tribal lands



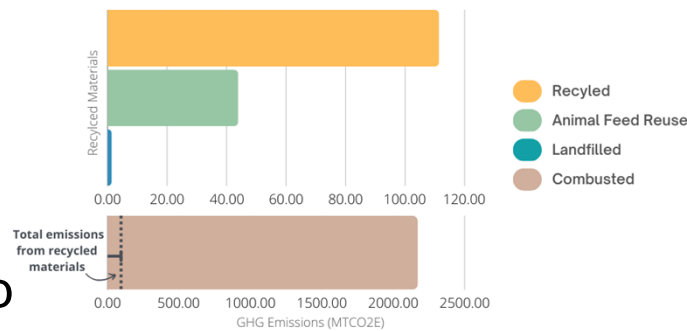


# Food Waste & Trash Management

A majority of the waste generated and disposed of is recycled, with a portion of the food scraps reused for animal feed offsite, and all other waste is shipped for combustion to a trash to energy plant in Lisbon. Below is a chart representing the emissions strictly from waste transportation and sorting.

## Waste Generation

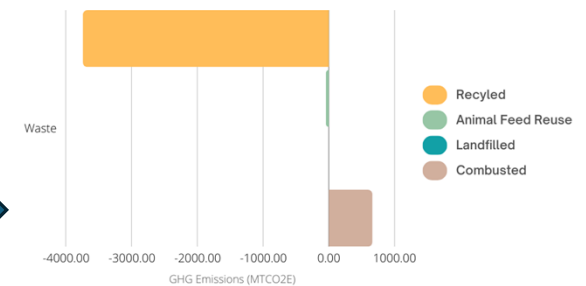
Based on emissions associated with transport and sorting operations



**When practices are inventoried with considerations for avoided emissions from the reuse of materials, the emissions avoided outweigh those inevitably produced by combustion.**

## Waste Generation

Based on emissions from transportation and sorting, with consideration of future avoided emissions



Mohegan  
Tribe

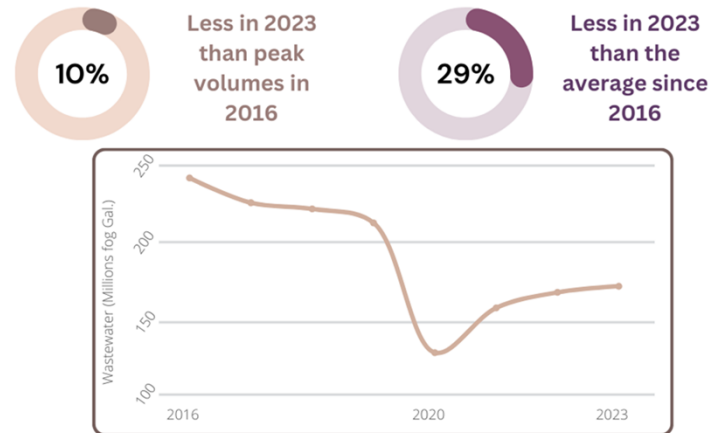
Climate  
Action  
Plan



# Wastewater

The Mohegan Tribe has tracked wastewater volumes since 2016. Although the Tribe does not treat wastewater, efforts have been implemented to reduce outgoing volumes. In 2023, volumes were 10% less than peak 2016 and 29% less than the 19-year average.

## WASTEWATER

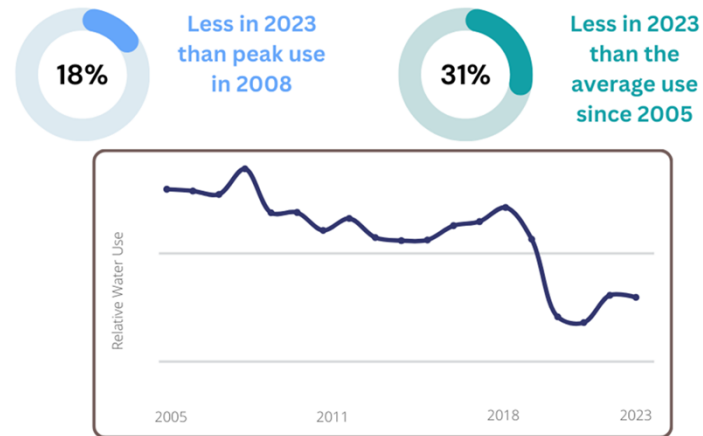




# Water for Drinking, Landscaping, Cooling

The Mohegan Tribe has tracked water use and consumption since 2005. In 2023, use was 18% lower than peak 2008 use and was 31% lower than the 19-year average.

## WATER USE



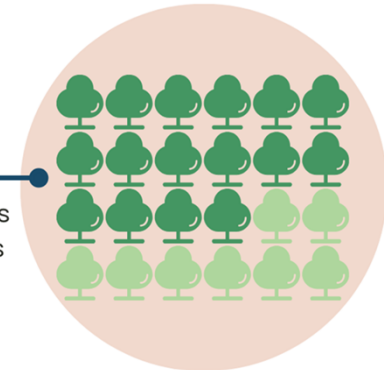
# Forestry and Green Space

Over half of the trust lands and Tribal owned lands are covered by tree canopy, which aids in the removal and sequestration of atmospheric carbon.



## Urban Forestry

64.5% of Reservation lands are forested. This equates to 1,886.8 MTCO<sub>2</sub>E of carbon sequestration



# GHG Emissions Reduction Ideas

“Big Ideas” should be aligned with the largest emissions sources:

- Electricity
- Stationary Sources
- Mobile Sources

*Don't forget about forests and other methods of sequestration; we need ideas for those, too*

Other ideas should be aligned with all categories of emissions sources:

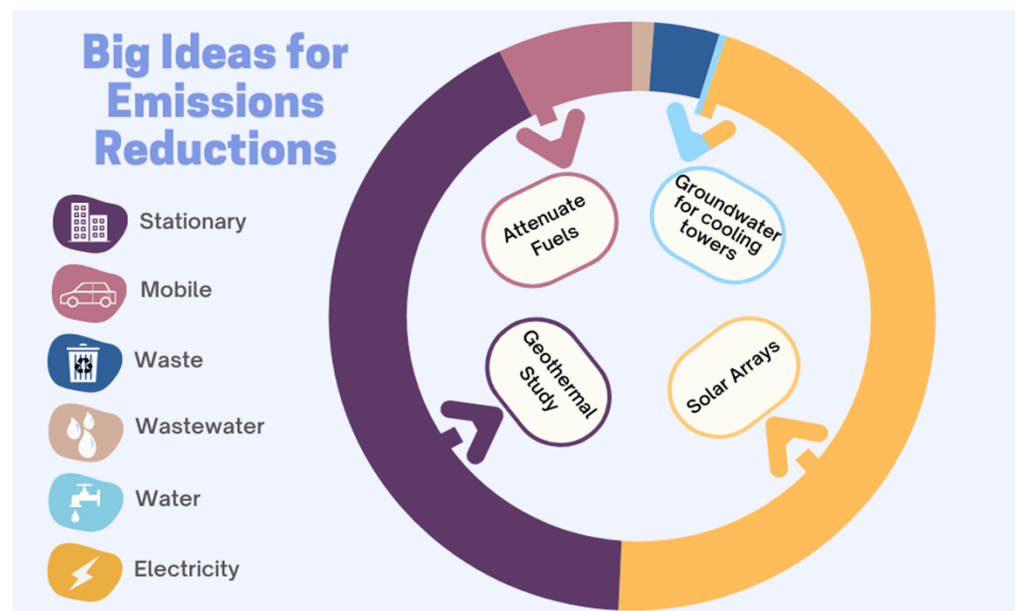
- Electricity
- Stationary Sources
- Mobile Sources
- Waste
- Wastewater
- Water





# GHG Emissions Reduction “Big Ideas”

- Solar arrays to reduce electricity needs
- Evaluate use of groundwater for cooling at the central utility plant
- Explore use of alternative fuel vehicles
- Evaluate geothermal to replace individual heating systems



# Other GHG Emissions Reduction Ideas

- What else can be considered?
  - Continue or expand energy efficient programs for lighting and appliances
  - Conduct energy audits for building heating and cooling systems
  - Obtain hybrid and electric vehicles when feasible
  - Replace aged groundskeeping equipment with electric
  - Establish redundancies for recycling and food scrap destinations
  - Look for forest management opportunities locally



# Next Steps

- Gather your input tonight
- Develop PCAP document
- Apply for specific grants
- Begin Comprehensive Climate Action Plan which includes more detail on issues that warrant more discussion



## APPENDIX C

# PUBLIC MEETING MINUTES



## Meeting Notes

### Public Meeting for CPRG

March 1, 2024 4pm

Chris Clark (Mohegan Tribe Project Manager) introduced the Climate Pollution Reduction Grant (CPRG) project and turned the presentation over to David Murphy (Resilient Land & Water) to present the slides. The slides covered the background, the planning process, the draft inventory findings, and the preliminary recommendations. During the discussion, David encouraged attendees to think about potential “disbenefits” associated with potential projects. Following the presentation, an open discussion occurred.

1. An attendee asked if battery-supplied power for numerous uses was feasible and cost effective, relating his own experience with shifting toward electric-powered systems. Chris noted that this discussion was ongoing among tribal departments.
2. An attendee urged the use of solar arrays as long as forested property was not used (and adversely impacted) for the installations. Chris noted that the solar study considered primarily developed properties (i.e., building rooftops). A follow-up question was posed about using the parking garages. Chris explained that this approach was too expensive and therefore not considered prudent.
3. An attendee asked about the ability for the PCAP to address public transportation, noting that the logistics related to the Southeast Area Transit bus stop for the reservation were challenging to the point that using transit to reach the Reservation was not viable. David explained that the relationship to public transit outside the Reservation was initially considered but deemed outside the scope of what the PCAP could include. David encouraged the attendee to provide input to the State of Connecticut CCAP about buses and transit, as it covers the land served by Southeast Area Transit.
4. An attendee asked about wind power, explaining that it was sometimes used in his home state of Texas. Chris responded that it was not feasible on tribal lands because sustained winds were needed, but offshore wind was gaining traction.
5. An attendee asked about using tides for power generation. Chris explained that the tidal forces available adjacent to the Reservation were not sufficient, and that other considerations made tidal energy development challenging in the northeast.
6. An attendee asked about floating photovoltaic arrays, including those deployed on wastewater lagoons. Chris noted that these are not feasible for the tribe to consider, given the water resources available and the fact that the wastewater treatment plant is in Montville.
7. An attendee asked if any other technologies were available for heating buildings. Most attendees noted that few realistic options existed. Chris explained that geothermal would likely not be viable for most buildings, and David explained that building efficiency upgrades was probably the more appropriate approach (and one being considered by the State of Connecticut in its climate action efforts).