Priority Climate Action Plan

Catawba Nation

April 1, 2024

PREPARED FOR:

U.S. Environmental Protection Agency

PREPARED BY:

Scott Hansen, Catawba Nation

Contents

Purpose

The Catawba Nation chose to adapt its Priority Climate Action Plans (PCAPs) plan based on the outline provided by EPA U.S. Environmental Protection Agency's (EPA's) Climate Pollution Reduction Grant (CPRG) Planning Grant Program. This plan was solely funded by EPA (# 02D59623) under an assistance agreement to the Catawba Nation. The contents of this document do not necessarily reflect the views and policies of the EPA, nor does the EPA endorse trade names or recommend the use of commercial products mentioned in this document. This outline provides a clear and concise format to Green House Gas (GHG) inventory and respective reduction strategies.

The PCAP will help the Catawba Nation:

1. Improve their understanding of current and future greenhouse gas (GHG) emissions,
2. Identify priority strategies to reduce these emissions and the potential other benefits of those strategies, and
3. Engage a variety of stakeholders in an emissions reduction planning process.

The PCAP will inform the Comprehensive Climate Action Plan (CCAP), which is due at the close of the grant period. This document pertains to both required and suggested content for the Tribal and Territorial PCAP only.

The Catawba Nation has participated in the South Carolina PCAP and is appreciative of that opportunity and will continue to collaborate and partner where opportunities exist. These opportunities may also include the chance to leverage other federal funds and prioritize durable and replicable GHG reduction measures.[1]

Key Definitions and Acronyms

Priority Climate Action Plan (PCAP): a narrative report that includes a focused list of near-term, high-priority, and implementation-ready measures to reduce GHG pollution and an analysis of GHG emissions reductions.

Comprehensive Climate Action Plan (CCAP): a narrative report that provides an overview of the Tribe or Territory's significant GHG sources/sinks and sectors, establishes near-term and long-term GHG emission reduction goals, and provides strategies and identifies measures that address the highest priority sectors to help the Tribe or Territory meet those goals.

Greenhouse gas (GHG) Inventory: a list of emission sources and sinks, and the associated emissions quantified using standard methods. The PCAP must include a "simplified" inventory (see Section 3). The CCAP must include a comprehensive inventory of emissions and sinks for the following sectors: industry, electricity generation/use, transportation, commercial and residential buildings, agriculture, natural and working lands, and waste and materials management.

Catawba Nation: Environmental Services Division is taking the lead but recognizes all divisions as well as all staff will play a role in GHG reductions.

[1] GHG reduction measures may include measures that reduce GHG emissions and/or measures that enhance carbon sink.

Background Information on Catawba Indian Nation

The Catawba Nation lands consist of approximately 1,300 acres in York County near the city of Rock Hill, South Carolina. The **Old Reservation**, located along the Catawba River about 6 miles east of Rock Hill and the eastern border of York County, is about 700 acres in size and consists of mostly residential development, roads and public water infrastructure, undeveloped natural forested areas, and several community facilities. **Green Earth**, located about 3 miles east of Rock Hill along the Catawba River, is a 300-acre tract purchased and developed by the Tribe in 1998 with public roads, water and sewer infrastructure, and residential housing. The Catawba Nation is starting to develop Tribal Trust lands to meet housing and Tribal Government infrastructure needs, although this is an exciting time it also presents challenges with planning and future sustainability.

The **McConnells Tract** is a 300-acre parcel in southwest York County used by the Tribe for hunting and natural resource management and conservation purposes. The primary land use on the Old Reservation and Green Earth is residential development. There are a few small agricultural land assignments which a few tribal members utilize for grazing horses, goats, and sheep and small gardens for personal use. There are approximately 3,200 enrolled Catawba Indian Nation tribal members nationwide. No economic development or industrial land use currently exists within the Reservation. However, the Catawba Nation does operate a successful gaming enterprise "Two Kings Casino" in North Carolina. For this respective PCAP those lands and respective GHG inventory and reduction strategies were not included in this document, and will likely be a stand alone document and opportunity in the future.

The following maps and graphics depict the location of the Catawba Nation Tribal lands:

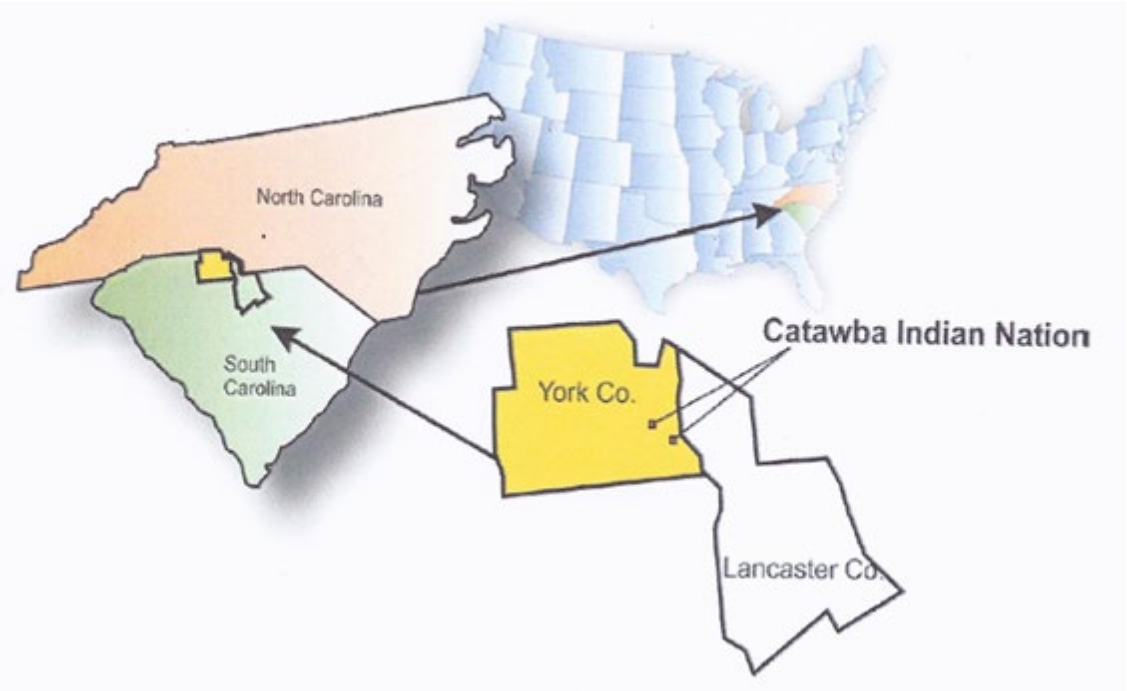

Figure 1 Catawba Nation Tribal Land

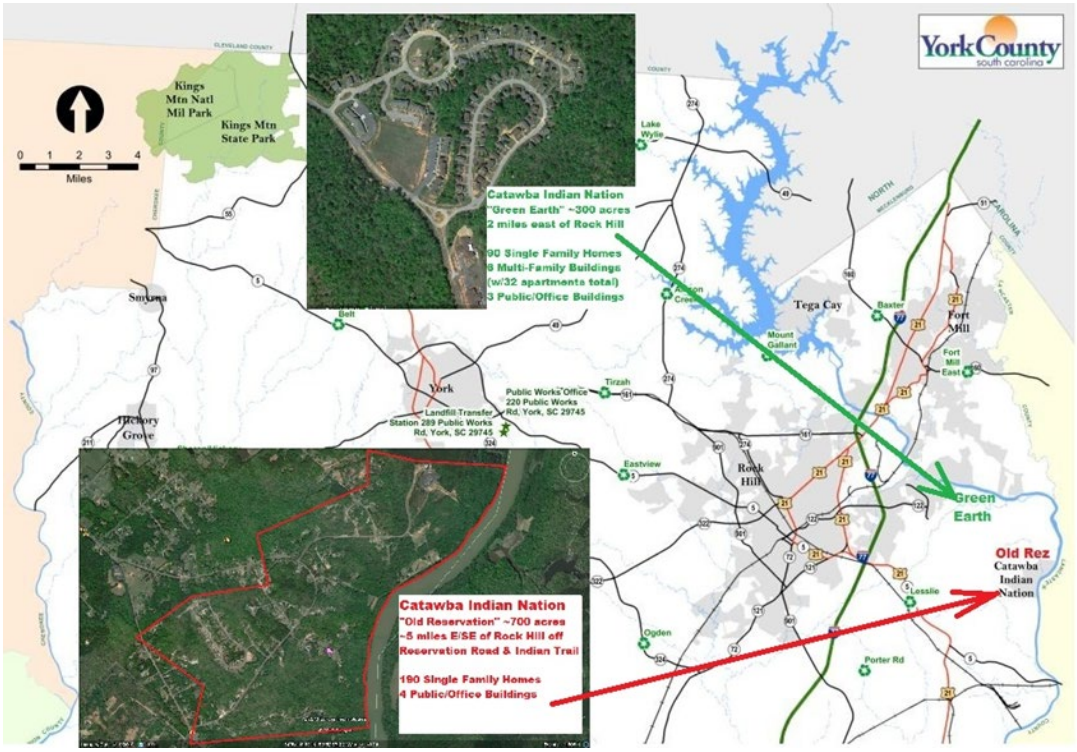

Figure 2 Catawba Nation Green Earth and Old Reservation Lands

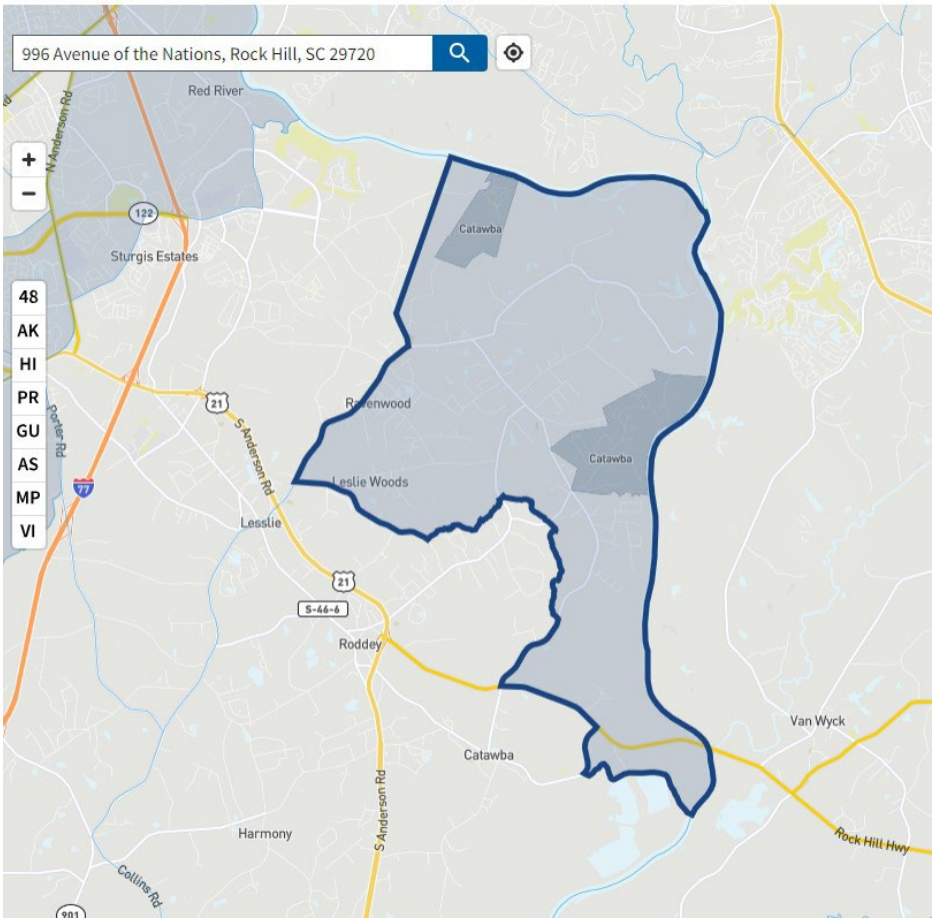

Figure 3 Map of Disadvantaged Communities

CPRG overview

The CPRG is a great opportunity to evaluate and conduct a GHG inventory and identify and implement reduction strategies that will not only benefit the Catawba Nation but initiate a sustainable future and stimulate a closer look at protecting air quality and enhancing multiple benefits for the Nation as reduction strategies are implemented.

Scope of the PCAP

The Environmental Services in collaboration with many other divisions are responsible for the development of the PCAP. The respective process including the drafting of the CCAP will be conducted by an outside consultant. The authority for project implementation will be decided by the Catawba Nation Executive Committee. The GHG emission inventory evaluated those emissions within or originating from within the boundaries of Tribal Trust lands.

Collaborations

The Catawba Nation Environmental Services division was the lead in the development of the PCAP. Staff from the Institute of Environment Professional were instrumental in the calculation of respective GHG emissions. Staff also interacted with and participated in South Carolina PCAP. The initial collaboration was limited in respect to the intent and demands of receiving input from multiple Catawba Nation divisions.

PCAP elements

Greenhouse Gas (GHG) Inventory

Tribal Government Building Emissions from Electrical Use:

The Tribal government has 13 currently operated buildings that utilize electricity as their primary energy source. The table below details average monthly and yearly energy use in Kwh. Currently CN Environmental Services is working with an Energy Consultant to evaluate energy use and cost for the respective 5 buildings (largest users). When the energy audits are complete for the 5 buildings, the remainder 8 buildings will be audited. For the sake of GHG inventory only the 5 buildings are known (2023 data), and the remaining 8 smaller users will be estimated based on 3200 Kwh per month. The emissions from the 5 (known) and 8 (estimated) buildings produced 197 and 89 MT CO2e of greenhouse gas respectively.

Table 1 Tribal Government Electrical Use 2023

Avg. Monthly Kwh Use	CN Longhouse	Public Works	Teen Center	Senior Center	FDC	Total Annual Kwh (5 buildings)	Total Annual Kwh (8 buildings)
	23,776	7551	3672	9288	12,030		
Annual Kwh Use (Based on Annual Avg.)	285,312	90,612	44,064	111,456	144,360	675,804	307,200

Table 2 Annual Use

Known and estimated energy use for 2023	Number	Annual kWh/Residence	Total Annual kWh
Government Buildings (Known)	5	NA	675,804
Government Buildings (Estimated)	8	NA	307,200
Residences (Estimated)	310	13,089	4,057,590

Household annual kWh/residence value from Energy Information Administration 2020 Residential Energy Consumption Survey, Table CE2.4 for the South Region, values for South Atlantic division (https://www.eia.gov/consumption/residential/data/2020/c&e/pdf/ce2.4.pdf)

Table 3 GHG Emission Factors

GHG Emission Factors (lb/MWh)

CO2	CH4	N20
639.665	0.052	0.007

Source: EPA Tribal Greenhouse Gas Inventory Tool, electricity emission factors for the SRVC (SERC Virginia/Carolina) eGRID (https://www.epa.gov/statelocalenergy/tribal-greenhouse-gas-inventory-tool)

Table 4 Annual GHG Emissions

Annual GHG Emissions (metric tons CO2e)

	CO2	**CH4**	**N2O**	**Total GHG**
Government Buildings (Known)	**196.08**	**0.45**	**0.57**	**197.10**
Government Buildings (Estimated)	**89.13**	**0.20**	**0.26**	**89.59**
Residences	**1,177.30**	**2.68**	**3.41**	**1,183.39**
Totals	**1,462.51**	**3.33**	**4.24**	**1,470.08**

Source: EPA Tribal Greenhouse Gas Inventory Tool, electricity emission factors for the SRVC (SERC Virginia/Carolina) eGRID (https://www.epa.gov/statelocalenergy/tribal-greenhouse-gas-inventory-tool)

Residential Energy Use:

There are approximately 310 residential units on Tribal Trust land, these units vary in ownership. Some are rental units, apartments and owned by Tribal Citizens. Getting an estimate of annual energy is very difficult, in part due to the privacy of data, energy use habits, energy efficiency of the respective structure. For estimating GHG emissions staff used an annual rate of 13,089 kwh per year.

Vehicle Emissions:

Accounting for the total annual miles driven by the Tribal government staff to work (commuting) and staff at work is very difficult. Certain departments have very good records (i.e. Transit has 10 vehicles, and they drive an estimated 100,000 per year, Personnel Communication) These vehicles take Tribal Citizens to medical appointments and other various functions. For estimating the GHG for Tribal staff, 60 vehicles were used in the estimate. For commuter miles and respective GHG emissions, 154 employees were used, and the diversity of commute distances varied.

Several factors prevent an accurate accounting including:

- Annual mileage is not recorded for each vehicle.
- Vehicles are driven outside the reservation boundaries.
- Not all vehicles are operated or driven consistently across divisions.

To complete the vehicle emissions calculations a statistical analysis was made to estimate the total vehicle miles traveled.

A list of 60 “official use” Tribal vehicles was compiled from various Tribal entities, these vehicles were verified through the Catawba Nation Procurement Department.

The fuel type for each vehicle is estimated using the following methodology.

- All heavy-duty vehicles were assumed to be using diesel, and all passenger cars, light trucks, vans, and SUVs were assumed to be gasoline. The total annual estimated GHG emissions from Tribal Government vehicles was 252 and for commuters the GHG emission 304.82 respectively.

  It is recommended that the Tribal government keeps track of the annual mileage for each vehicle. This will reduce some of the potential errors in the statistical estimation in the future.

Table 5 Tribal Government Vehicle GHG Emissions

Annual Government Vehicle Total GHG Emissions (metric tons CO2e)

Total GHG EF (metric tons CO2e/vehicle)	**Total GHG Emissions (metric tons CO2e)**
4.2	**252.00**

Source of Total GHG EF: EPA Greenhouse Gas Equivalencies Calculator-Calculations and References (https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references

Table 6 Annual Employee Commute Emissions

Annual Employee Commute CO2 Emissions (metric tons CO2e)

Mode	Fraction of Employees who use mode*	Number of Employees who use mode	Miles /Gal*	People/ Mode*	CO2 EF (kg/gal)*	**CO2 Emissions (metric tons CO2e)**
Single Occupancy Vehicle	0.764	118	21.6	1	8.78	289.25
Carpool	0.097	15	21.6	2.41603141	8.78	15.20

Motorcycle	0.002	0	43.4	1	8.78	0.38
Transit	0.05	8				not estimated
Bike	0.006	1				0
Walk	0.028	4				0
Work at home	0.043	7				0
Other	0.01	2				not estimated
Total Employee Commute						**304.82**

***Source: Default values from EPA Tribal Greenhouse Gas Inventory Tool (https://www.epa.gov/statelocalenergy/tribal-greenhouse-gas-inventory-tool)**

Wastewater Emissions:

The Catawba Nation is unique in regard to wastewater treatment systems. Tribal Citizens that reside on the "Old Reservation" are served by on-site septic systems. The calculations to estimate CO2e is based on 180 on-septic systems serving a total of 2.8 individuals per home. The wastewater for residents at Green Earth residents at Green Earth is served by the City of Rock Hill and all the wastewater is moved to their respective treatment facility through a four-inch force main.

Due to these unique differences, CO2e was only estimated for residents on the "Old Reservation". The calculations listed below.

Table 7 Emissions from homes with on-site septic systems

Homes on septic	180	
People per home	2.791073739	estimated for York County, SC
Population on septic	502	

BOD5 Load	0.09	kg BOD5/day
Maximum CH4 Production Capacity	0.6	kg CH4/kg BOD5
Septic CH4 Correction Factor	0.5	

Table 8 Annual on-site septic emissions

Annual Septic Systems Methane Emissions (metric tons CO2e)

	CH4 Emissions (metric tons CO2e)

Septic Systems	**138.73**	

Source: Default values from EPA Tribal Greenhouse Gas Inventory Tool (https://www.epa.gov/statelocalenergy/tribal-greenhouse-gas-inventory-tool)

The annual septic system methane emissions is 138.73 metric tons CO2e.

Public Water Use:

Table 9 Annual Public Water Use

Water Imported	**1400000 X 12 month**	**gallons**
Energy Intensity of Water	5,604	kWh/MG

Source: EPA Tribal Greenhouse Gas Inventory Tool (https://www.epa.gov/statelocalenergy/tribal-greenhouse-gas-inventory-tool)

Table 10

GHG Emission Factors (lb/MWh)

CO2	CH4	N20
639.665	0.052	0.007

Source: EPA Tribal Greenhouse Gas Inventory Tool, electricity emission factors for the SRVC (SERC Virginia/Carolina) eGRID (https://www.epa.gov/statelocalenergy/tribal-greenhouse-gas-inventory-tool)

Table 11

Annual GHG Emissions from Imported Water (metric tons CO2e)

CO2	CH4	N2O	Total GHG
23.416	**0.053**	**0.068**	**23.537**

Solid Waste Emissions:

The solid waste for the Catawba Nation is estimated using 2023 numbers, this estimate while accurate for residential solid waste emissions does not account for variability in solid waste from Tribal government buildings. The solid waste is transported outside of the Tribal Trust boundaries for final disposal. Listed below are estimates for residential solid waste.

Table 12 Annual Solid Waste Collected

Garbage Collection Customers	220	
Garbage Bin Size	18	cu ft
Fraction of Customers That	0.5	

Recycle		
Garbage Pickups per Year	52	
Average Garbage Density	95	lb./cu yd
Estimated Annual Waste Generated	362.27	tons

Source: EPA Volume-to-Weight Conversion Factors for Solid Waste, volume for Mixed MSW-Multifamily uncompacted (https://www.epa.gov/sites/default/files/2016-04/documents/volume_to_weight_conversion_factors_memorandum_04192016_508fnl.pdf)

Table 13 Annual Solid Waste Emissions

Annual Emissions from Waste Landfilled (metric tons CO2e)

Material	GHG EF for Landfilled Waste (metric tons CO2e/ton)[b]	**Total GHG Emissions for Landfilled Waste (metric tons CO2e)**
Mixed MSW	0.58	**156.96**

Source of Percentage Makeup of Mixed MSW: EPA Waste Reduction Model (https://www.epa.gov/warm/versions-waste-reduction-model)

Table 14 Annual Emissions from recycling

Annual Emissions from Waste Recycled (metric tons CO2e)

Material	GHG EF for Recycled Waste (metric tons CO2e/ton)[b]	**Total GHG Emissions for Recycled Waste (metric tons CO2e)**
Plastic	0.22	4.02
Metal	0.23	0.96
Glass	0.05	0.40
Magazines/Third Class Mail	0.02	0.10
Newsprint	0.02	0.16
Corrugated Cardboard	0.11	2.83
Office Paper	0.02	0.09
Other Paper	0.065	1.18
Total Recycled Waste Emissions		**9.74**

Source of Emission Factors: EPA 2024 GHG Emission Factors Hub, Table 9 (https://www.epa.gov/system/files/documents/2024-02/ghg-emission-factors-hub-2024.pdf)

Note that the emission factor for recycling of the Other Paper material was estimated as the average of the Corrugate Cardboard and Office Paper emission factors

Table 15 Estimated composition of waste landfilled and recycled.

Material	Percent[a]	Estimated Waste Generated (tons)	Estimated Waste Landfilled (tons)	Estimated Waste Recycled (tons)
Grass	5.2%	18.84	18.84	NA
Leaves	6.8%	24.63	24.63	NA
Branches	5.0%	18.11	18.11	NA
Wood	5.1%	18.48	18.48	NA
Food Waste	18.1%	65.57	65.57	NA
Plastic	10.1%	36.59	18.29	18.29
Metal	2.3%	8.33	4.17	4.17
Glass	4.4%	15.94	7.97	7.97
Magazines/Third-class mail	2.7%	9.78	4.89	4.89
Newsprint	4.5%	16.30	8.15	8.15
Corrugated Cardboard	14.2%	51.44	25.72	25.72
Office Paper	2.4%	8.69	4.35	4.35
Other Paper	10.0%	36.23	18.11	18.11
Other	9.2%	33.33	33.33	NA
Totals		**362.27**	**270.61**	**91.65**

Table 16 Summary Annual GHG Emissions Metric Tons

Sector	CO2	CH4	N2O	Total GHG
Tribal Government buildings (known electric use)	196.08	.45	.57	197.10
Tribal Government buildings (estimated electric use)	89.13	.20	.26	89.59
Residence (Estimated electric Use)	1,177.30	2.68	3.41	1,183.39
Tribal Government Vehicles				252.00
Annual Employee Commuter Vehicle				304.82
On-site Septic Systems		138.73		138.73
Public Water Distribution	23.41	.053	.068	
Solid Waste				156.96
Total Recyclable				9.74
Total	1462.51	142.06	4.24	2355.85.32

Catawba Nation Carbon Sequestration

The Catawba Nation land base is approximately 1300 acres, estimating canopy cover of 80 % equates to carbon sequestration of – 3440 MT CO2. This number is negative because the trees actually function as a GHG sink and sequester the carbon. Even though carbon sequestration was not included as a GHG reduction strategy it certainly is an important strategy and will continue to play a significant role in Catawba Nations Forest management as well as an important factor in evaluating and justifying certain land acquisitions.

GHG Reduction Measures and Benefits Analysis

The preceding inventory (Table 16) shows the distribution of GHG emissions for the Catawba Nation. The following Priority Actions are targeted to address these same GHG emission sources. Although the five priority reduction strategies are designated 1 through 5 there is flexibility in the rank, in part due to the availability of funding and direction from the Catawba Nation Executive Committee and other factors.

Priority Action 1: Community-Scale Renewable Energy with Micro-Grid

Distribution Description: Currently the Catawba Nation is supplied with electricity provided by the SRVC Subregion which is 4.7 % solar. Community scale photovoltaic (PV) arrays offer a lot of flexibility for installation and cumulatively minimize their GHG impact. Affordability and reliability are also features that should be noted. The Catawba Nation has conducted some planning in regard to placing emergency generators at all Tribal Government buildings. Coupling PV with an electrical micro-grid will also offer uninterruptable power at various scales. A microgrid is a local energy network that can operate independently or in parallel with the main power grid. The system will consist of a group of interconnected distributed energy resources (DERs), including solar panels, battery storage, and backup generators, that can generate, store, and distribute electricity within a defined geographic area. This microgrid and renewable energy generation resources will offer some measure of energy independence, increasing resiliency, and reducing periods of uninterrupted power. This is a direct public health benefit. .

These include:

- Environmental permitting to assess the existing conditions and suitability of a given site to house energy facilities.
- Archaeological and historic preservation studies and approvals will be undertaken to ensure cultural sites are avoided and respected.
- Electric utility interconnection studies to ensure the new energy generation does not have a negative impact on existing grid services.

Impact / Metrics: *Directly quantifiable reduction in high GHG grid supplied electricity by replacement with established renewable energy technology.*

Time Frame: *Planning requirements are high due to intricacies of power storage and grid configuration.*

Potential funding: *CPRG Implementation Grant, DOE or possibly USDA.*

Benefits Analysis: *Quantifiable GHG reduction strategy*

- Reduce public health risks from power outages.
- Provide resilient and affordable electricity.
- Create construction and workforce training opportunities for Tribal Citizens
- Reduce utility bills (energy burden.

Priority Action 2: Create New Energy Efficient Housing and Community Building Prototypes

Description: Many of the homes built for Catawba Tribal Citizens were prior to new energy efficient building codes and strategies. Due to this reality many Citizens experience high utility bills and in some cases poor air quality thus this is both an energy use issue and a critical public health issue. Based on the current Greenhouse Gas (GHG) inventory a substantial portion of the Catawba Nations GHG emissions are from residential and Tribal Government energy use. Reducing building energy use is a high priority. Building homes that are highly insulated, high-performance, affordable homes for community members is possible and desired. Examples of standards include EPA "Indoor airPLUS". The home designs would be healthy, reduce energy burden and have proven records for performance. In addition to single family homes, the Catawba Nation is also interested in high performance and sustainable Government buildings.

- Unique tribal needs would be considered to create housing types that may allow for multi-generational families.
- Construction methods for combining the advantages of high-performance homes and retrofitting through weatherization programs would be desirable. Creating long-term, skilled, jobs is a priority.

Impact / Metrics: *Benchmark data for residential energy use is difficult to quantify for many reasons, including individual privacy rights. During the design phase the team will use advanced building science calculations to estimate (1) both the energy use of the proposed design, and (2) that of a typical existing home, quantifying the annual electrical an/or fossil fuel savings of the proposed design, and its GHG reduction.*

Time Frame: *Immediate, design as soon as is possible following award of federal funding, ideally the CPRG Implementation grant, also HUD and USDA.*

Priority Action 2 Benefits Analysis: Direct GHG benefits*:*

- Reduce inefficient electrical usage, use high efficiency electrical HVAC systems and appliances.
- Increase community health through improved resiliency, and less dependence on existing grid power
- Increase community health through improved indoor air quality.
- Create construction jobs.
- Workforce training
- Provide non-traditional, multi-generational housing opportunities.
- Provide new, desirable housing within the community.
- Lower utility bills and energy burden for Tribal Citizens

Priority Action 3: Weatherization of Existing Homes:

Adequate, safe, warm homes are a major public health issue. The Catawba Nation owns and administers housing units, and there are also privately owned residences. Focus of the weatherization will include improving the buildings insulation, air sealing, and water proofing systems.

Impact / Metrics: *The metric used by the Tribe to measure the success of this action will be the total*

number of residential units that have been inspected and improved.

Time Frame: *Immediate. Begin home inspections as soon as is possible following award of federal funding, ideally the CPRG Implementation grant. Other sources of funding may include HUD and USDA.*

Priority Action 3 Benefits Analysis:

Direct GHG benefits: · Reduce inefficient electrical usage, incorporate high efficiency electrical HVAC systems and appliances.

- Increase community health through improved indoor air quality.
- Create construction jobs and workforce training opportunities.
- Workforce training in emerging technologies
- Reduce utility bills and energy burden.

Priority Action 4: Deployment of Large-Scale Renewable Energy Projects

Description: Currently the Catawba Nation depends on electricity provided by the SRVC Subregion which is 4.7 % solar. The Catawba Nation has done some preliminary planning in the past however availability of funding was a challenge. While the planning was conducted several years ago, a new study would be required, but the opportunities may be favorable strategy to reduce GHG emissions.

To complete a project of this size, there are several planning steps involved, these include:

- Environmental permitting to assess the existing conditions and suitability of a given site in addition to any power purchase agreements and evaluation of grid size and capacity.
- Archaeological and historic preservation studies and approvals to ensure cultural sites are avoided and respected.
- Electric utility interconnection studies to ensure the new energy generation will be compatible with grid.

Impact / Metrics*: Directly quantifiable reduction in high GHG grid supplied electricity by replacement with established renewable energy technology both on and off the Tribal lands.*

Time Frame: *Intermediate. This project would require a lot of planning and collaboration. Potential funding sources may include: CPRG Implementation Grant, DOE or USDA.*

Priority Action 4 Benefits Analysis:

Direct GHG benefits:

- Create renewable energy.
- Reduce GHG impacts of electricity use Co-benefits:
- Reduce public health risks from power outages.
- Provide resilient, local, affordable power systems.
- Create construction jobs and workforce training.
- Create revenue stream that may be applied to other GHG-reducing initiatives.
- Environmental justice for community that has been adversely impacted by fossil fuel economy.

Priority Action 5: Supplement Tribal Owned Fleet Vehicles with more efficient fuel, Hybrid and Electric Vehicles

Description: Based on the current GHG inventory 10.8% of the Tribe's total emissions are due to car and truck usage. Each Tribal government division has their own vehicle needs. Phasing in more fuel efficient, hybrid or electric vehicles can certainly be advantageous to reducing GHG emissions in addition to other

benefits. The Catawba Nation will have to also consider adding electrical charging infrastructure at public buildings, supporting further private adoption of electrical vehicles.

***Time Frame: Ongoing** as fleet vehicles require replacement.*

Priority Action 5 Benefits Analysis:

Direct benefits: · Reduce GHG emissions due to gasoline use.

Co-benefits:

- Provide more diverse skillset / training for fleet vehicle mechanics and maintenance staff.
- Provide public infrastructure for alternative fuel vehicles.

Review of Authority to Implement:

The Catawba Nation, as a sovereign, federally recognized Indian nation has the authority, to enact GHG reduction measures on the Catawba Nation Tribal lands for the benefit of the Tribal Government and Citizens. The Catawba Nation Executive Committee is empowered under the Tribe's constitution to protect and preserve the property, wildlife, natural resources and human health. The Executive Committee has the authority to approve and direct projects that reduce GHG emissions and ultimately impact climate and air quality.

Priority Action 1: Community-Scale Renewable Energy with Micro-Grid Distribution

Community-Scale Renewable Energy has been discussed over the past 15 years. Regardless of the size of the project the Catawba Nation Executive has the authority to implement these types of GHG reducing projects. Additionally, the Catawba Nation has only one building that currently has back up power for emergency needs. The Catawba Nation Executive Committee has the authority to implement Micro-Grid distribution that could provide backup power for multiple Government buildings as well as homes. The planning and implementation of micro-grid distribution may solve the respective dilemma of retrofitting individual buildings.

Priority Action 2: Create New Energy Efficient Housing and Community Buildings

The Catawba Nation Executive Committee has the authority to direct the construction of new energy efficient housing and Community buildings. In fact, the Catawba Nation is planning on the construction of current housing to satisfy the great need for Tribal Citizen homes. Incorporating many good guidelines lines such as EPA's indoor air plus guide will assist in achieving this goal.

Priority Action 3: Weatherization of Existing and New Homes

The Catawba Nation Executive Committee has the authority to construct residential buildings on Tribal Trust lands for Tribal Citizens. To enact and construct this specific measure, the Tribe would adhere to the authorities and guidance provided by multiple divisions and depending on the funding source under guidance from the Federal Agency (i.e. U.S. Department of Housing and Urban Development).

Currently, the Catawba Nation has a program to focus on ensuring existing homes are "safe, dry and warm". In the future homes that have participated in this program will be encouraged to participate in weatherization programs that promote good indoor air quality and reduce the energy burden for Tribal Citizens.

Priority Action 4: Evaluate and Replace Tribal Owned Fleet Vehicles

In an effort to reduce GHG emissions, replacing existing vehicles with more efficient vehicles and including

replacement with Hybrid and Electric Vehicles. The Catawba Nation Executive Committee and respective divisions has the authority to review and then implement mobile source vehicle improvements to lower GHG emissions and to provide its employees with mobile vehicles to carry out the responsibilities of employment. Each division has specific vehicle needs which would be evaluated in addition to ensuring GHG reductions.

Priority Action 5: Deployment of Large-Scale Renewable Energy Projects

As a federally recognized Indian tribe with broad, sovereign authorities, the Catawba Nation is positioned to review and implement all GHG reduction measures including those that would require the construction of a renewable energy projects. The Catawba Nation, through collaboration with other divisions has broad authority to oversee the construction and operation of a renewable energy project on Tribal Trust lands and the capacity to conduct environmental review where appropriate.

Identification of Other Funding Mechanisms

The Environmental Services Division will identify funding sources for the implementation of projects, there is a real need to identify these sources immediately.

Workforce Planning Analysis

The Environmental Services Division will work with the Economic Development Division to identify any potential job development, job creation or identification of Tribal Citizen owned businesses to implement GHG reduction projects in the future.

Next Steps

After completion of the PCAP a series of meetings will be conducted with various divisions to discuss next steps and the respective timeline for the development of the CCAP. The development of the PCAP has really increased the awareness for a GHG inventory and tracking matrix so that GHG reduction strategies can be monitored and tracked to communicate and evaluate the multi-benefits from respective projects.