# Ramona Band of Cahuilla
# 2023 Priority Climate Action Plan

Ramona Band of Cahuilla
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SCS ENGINEERS

01124043.00 | March 2024

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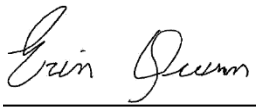
This Priority Climate Action Plan (PCAP) was prepared in accordance with the Priority Climate Action Plan Guidance: An Outline for Tribes and Territories, November 2023. This Priority Climate Action Plan was developed for the Ramona Band of Cahuilla located in Anza, California, dated March 2024, was prepared and reviewed by the following:



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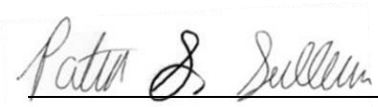

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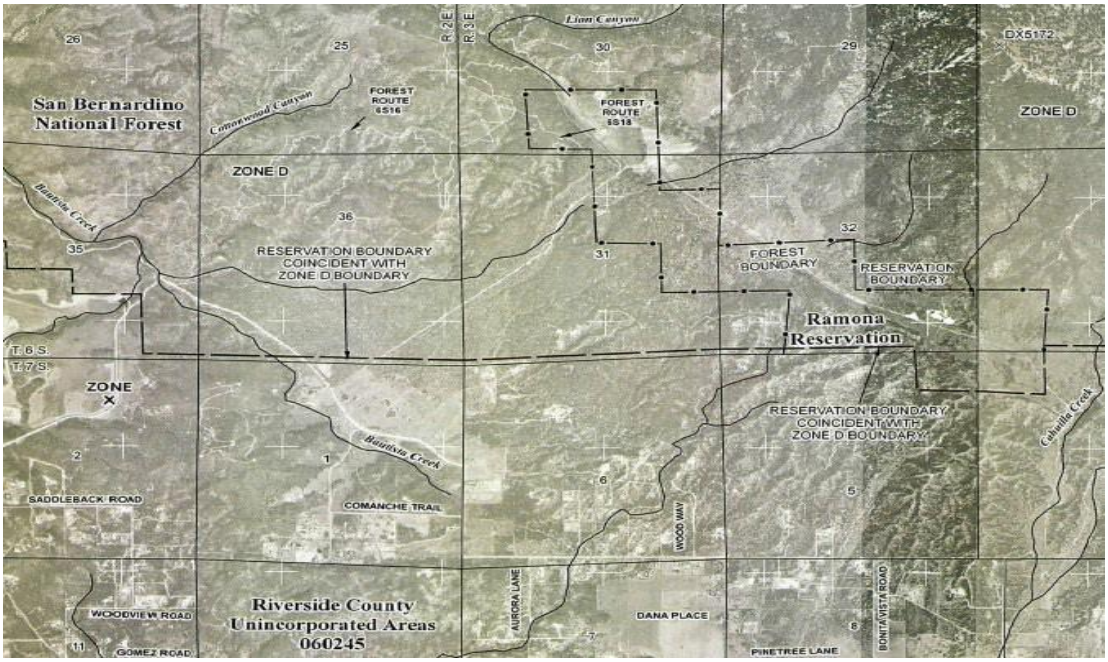
# 1.0 INTRODUCTION

The Ramona Band of Cahuilla (Tribe) is a federally recognized tribe with a reservation located in Riverside County, California. The Ramona Indian Reservation (Reservation) consists of approximately 640 acres of land which includes the original Reservation lands (560 acres) which were set aside in the 1890s, as well as lands which were taken into trust in 2022. Due to its rural location and the obstacles associated with constructing power lines through the adjacent federal lands, the original Reservation lands are not connected to the power grid. On the original Reservation, there are a maintenance yard and two homes, with five additional homes currently being constructed. Additionally, there are five smaller buildings (yurts) which are part of an eco-resort project, the Community Water System (CWS), and other infrastructure.

Each of the homes, buildings, and infrastructure on the original Reservation is powered by standalone hybrid power systems consisting of photovoltaic power generation, battery storage, and localized distribution lines. Each also has a propane or diesel gas generator that acts as a back-up power source. The are a total of five solar arrays on the original Reservation. One at each of the homes, one at the CWS, one at well 3A, and one for the maintenance yard.

Water at each existing home and building is provided by wells installed at each site. The CWS was completed in 2019 and will provide water to the five new homes currently under construction. Wastewater at each home and building is "treated" via a septic system at each site. There is no plan to construct a community wastewater system for the new homes. Figure 1 shows the location of the Reservation.

Figure 1: Ramona Band of Cahuilla Reservation




In July 2022, 80+ acres of trust land were added to the Reservation (2022 Trust Lands). The land included the Tribe's administrative offices consisting of two front buildings and one back building. These offices are serviced by well water and are connected to the power grid. The two front buildings share a septic

system while the back building has its own septic system. Figure 2 and Figure 3 show the location of the 2022 Trust lands which were added to the Reservation.

Figure 2: 2022 Trust Land

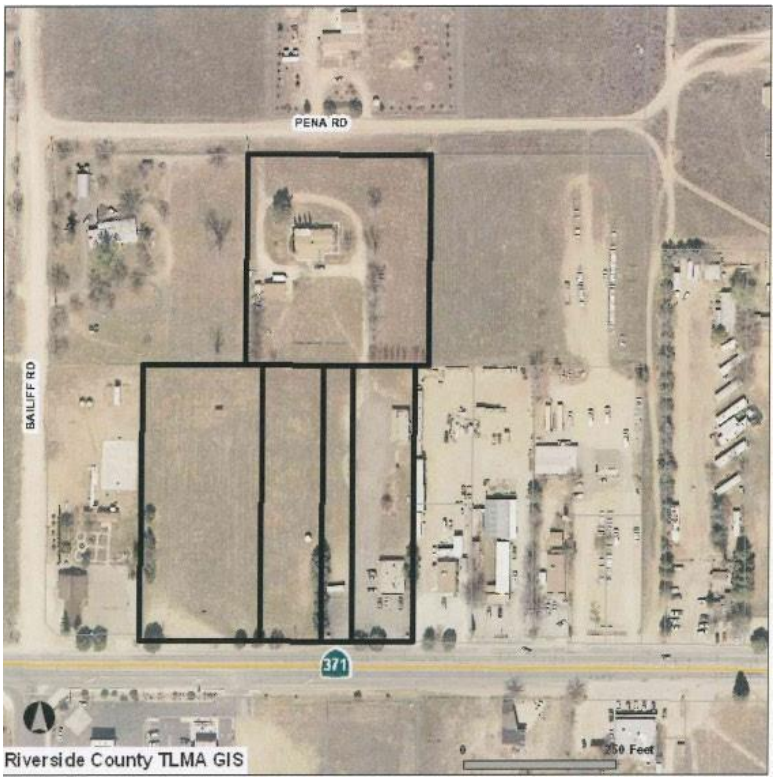
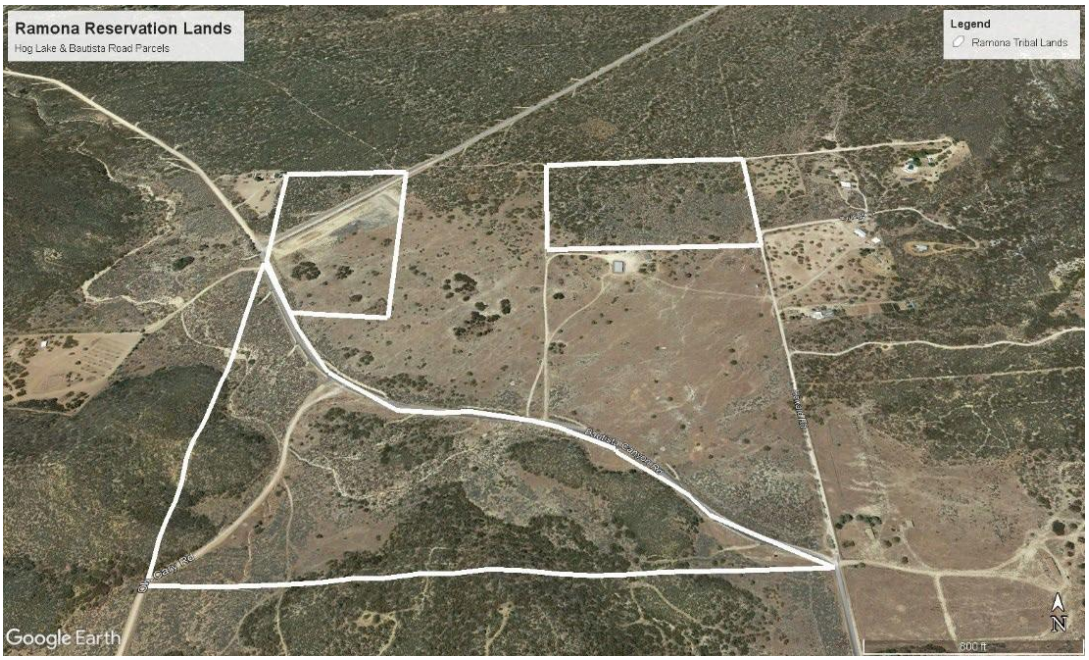



Figure 3: 2022 Trust Land



## 1.1 CPRG OVERVIEW

In 2023, the Tribe received funding from the U.S. Environmental Protection Agency via the Climate Pollution Reduction Grant (CPRG) program to engage in planning for climate resiliency. The Tribe has used the Environmental Protection Agency's (EPA's) Greenhouse Gas (GHG) inventory tool to estimate its GHG emissions for trip to and from its administration center. The Tribe is looking to expand its current GHG emissions inventory, which focused on these trips, to potential climate change impacts that the Tribe has globally and potential impacts that climate change would have on life on the Reservation. The CPRG program has allowed the Tribe to further define its GHG inventory by including diesel and gasoline transports fuels, grid electricity use on the 2022 Trust Lands, stationary sources located on-reservation at its two existing residences and facilities yard, which includes it diesel and gasoline pumping station. As the Tribe is currently using several solar arrays to generate power on the original Reservation, the Tribe will include the GHG emissions reductions that the solar power provides. The GHG emissions inventory is provided in this PCAP in Section 3.0 in accordance with the EPA's Priority Climate Action Plan Guidance: An Outline for Tribes and Territories, November 2023. The Tribe will expand on its GHG emissions inventory and potential GHG emission reduction measures in its Comprehensive Climate Action Plan (CCAP).

## 1.2 PCAP OVERVIEW AND DEFINITIONS

Priority measures for reducing the Tribe's GHG emission may include installation of additional solar arrays, particularly as new residences are constructed on the Reservation. New arrays may be installed at the Tribal administration buildings to off-set reliance on grid electricity on the 2022 Trust Lands. It may also include replacing older Tribal vehicles with newer model, hybrid, or electric vehicles. The Tribe currently uses solar power public lights on the original Reservation and, as funding allows, would be inclined to continue this practice. Waste reduction measures and composting measures are likely to be included by the Tribe moving forward. As the Tribe is a small band, the Tribal Council would provide outreach material to its Tribal citizens, Reservation residents, and employees (via the Environmental Department) to assist in better understanding the Tribal GHG emissions, GHG emissions reduction goals, and how to attain those goals.

## 1.3 APPROACH TO DEVELOPING THE PCAP

The SCS Engineer's (SCS) team developed this PCAP in cooperation with the Tribe and for the Tribe using several approaches. Development of the Tribe's GHG emissions inventory and solar GHG emissions reductions were the primary focus of SCS' work under the CPRG program. SCS determined that only Scope 1 and 2 emissions would be included in the initial PCAP GHG inventory as these would result in estimated 85 percent capture of the Tribes overall GHG emissions. Scope 3 emissions will be defined and included in the CCAP.

## 1.4 SCOPE OF PCAP

The Tribe's reservation is small (640 acres), and is located in Riverside County, California within the San Bernardino National Forest. The unincorporated town of Anza is the nearest population center. Tribal membership consists of less than 15 members and currently includes only two residences and other maintenance and infrastructure facilities on the original Reservation. The scope of the PCAP includes all emitting sources within the original Reservation boundaries and the 2022 Trust Lands.

# 2.0 TRIBAL ORGANIZATION AND CONSIDERATIONS

## 2.1 TRIBAL/TERRITORIAL PCAP TEAM

This PCAP is a joint effort between the Tribe's Environmental Department and SCS Sustainability Division. The Tribal team is headed by the Danae Hamilton Vega, Chairwoman of the Tribal Council. The Tribe's Environmental Department consists of John Gomez, Jr., Environmental Director and John Robert Gomez, Environmental Specialist. The SCS Sustainability Division team consists of Erin Quinn, GHG Inventory and Verification Project Director, Raymond Huff, National GHG Expert, Vice President, Steve Stewart, National Director of Sustainability, Patrick Sullivan, Senior Internal Reviewer, and Hannah Morse, Technical Associate Professional.

## 2.2 SPECIAL CONSIDERATIONS FOR TRIBAL ENTITES

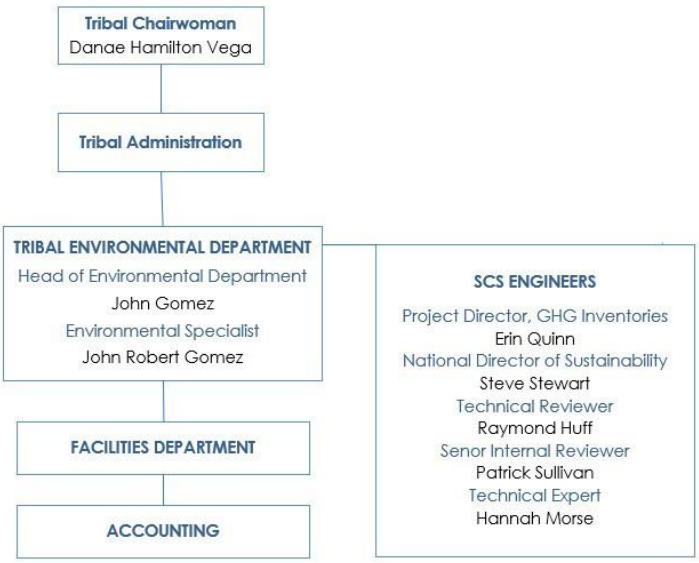
The Tribe is located in the high desert of Riverside County, California. The climate on the Reservation is generally mild; however, summer can be hot and winters cold.

Reservation residents rely on solar power and diesel or propane generators for heating, cooling, cooking, and lighting on the original Reservation lands. As shown the in the stationary source emissions calculations shown in Section 3.0, the Tribes GHG, criteria pollutant, and HAPs are low. The Tribe received some outside funding to aide in completing infrastructure and housing updates.

## 2.3 COLLABORATIONS

Collaboration was a vital part of the Tribe's ability, in cooperation with SCS, to develop this PCAP in a timely manner. SCS and the Tribe collaborated on determining the scope of the GHG inventory and to determine the baseline year for their GHG emissions inventory. SCS and the Tribe's Environmental Department determined what types of emissions would be included in the PCAP, such as Scope 1, 2 or 3. SCS in collaboration with the Tribe determined its 2023 GHG emissions Inventory. Refer to Figure 2 regarding the collaborative personnel between the Tribe and SCS.

Figure 4: Collaboration Team



## 2.4 TRIBAL COUNCIL AND COMMUNITY INVOLVEMENT

The Tribal Council's initial participation occurred with the development of the Tribe's s request to EPA for funding under the CPRG program. This participation included direction to the Environmental Department to prepare the submission and review and approval of the final document submitted to EPA. Additionally, the Tribal Council was informed that the Tribe had received funding from EPA to implement the Workplan approved by EPA.

In January 2024, upon the hiring of additional staff to assist with the commencement of the PCAP and GHG inventory, the Environmental Department met with the Tribal Council to review the CPRG Workplan and present a schedule for completing the PCAC and the GHG inventory as per the Workplan.

The Environmental Director informed the Tribal Council that the GHG inventory would focus on emissions associated with (1) Mobile Combustion from use of tribal vehicles, equipment, and machines; (2) Stationary combustion from the use of generators and heating/cooling systems, and (3) Electricity consumption at the 2022 Trust Lands. While additional categories may be identified during the surveys or discussions with contractor hired to assist with the GHG inventory, these 3 categories were most relevant as, other than the tribal offices on the 2022 Trust Lands, all the homes, buildings, and infrastructure on the Reservation are off-grid and powered by hybrid systems comprised of solar arrays and battery storage systems. Generators provide power to the homes, buildings, or infrastructure on an as necessary basis. Moreover, the Tribe relies on its vehicles, equipment, and machinery to conduct the work necessary for the upkeep of its buildings and lands.

The Environmental Department also met with the Facilities Manager on January 26, 2024, to conduct the field surveys of the Reservation and 2022 Trust Lands to identify GHG emitters.

As part of the initial survey, the Environmental Director and the Facilities Manager visited each of the homes, tribal buildings, and infrastructure sites on the Reservation and the 2022 Trust Lands. It was during this initial survey that the Environmental Director personally met with the residents of the homes to discuss the work being done.

The in-person meetings with the residents focused on the information the Tribal staff was gathering, the purpose of the information, and actions the Tribe may take based on the information. A specific part of the discussions with residents focused on what GHG's are, how they affect the environment, how household activities may add to GHG emissions, and what may be done, at the home, to reduce GHG emissions.

The main suggestion made by residents at each home was to expand the existing hybrid systems at the homes. All requested more "solar panels" and battery storage to prevent power losses and the need to rely on generators ("generators can be too loud sometimes"). The generators at each of the homes act as back-up power sources in the event there is a drawdown on the batteries or failure in the system. Also, the increasing cost of propane was another reason for expanding the hybrid systems.

The Environmental Director committed to including the suggestions in the list of possible actions for review and consideration by the Tribal Council. Residents were also told that the Environmental Department would come back once the GHG inventory and PCAP had been completed and approved by the Tribal Council to discuss the information and findings in the document.

### NAEPC and the Anza Electric Cooperative, Inc.

The Environmental Department specifically identified two non-governmental entities the Tribe has consulted with previously to assist with the design and implementation of several of the reduction measures identified in the PCAP.

The Native American Environmental Protection Coalition ("NAEPC") is *"a tribally driven organization, … dedicated to providing technical assistance, environmental education, professional training, information networking and inter-tribal coordination."* As an organization, NAEPC formed in the 1990's, and the Tribe has been a member for nearly 20 years.

Over the last several years, NAEPC has been working with an outside agency and the State of California to provide Tribes and tribal members an opportunity to purchase electric vehicles via a rebate system. This program has evolved to include the California E-bike Incentive Project. NAEPC provided information regarding these projects to the Tribe as recently as March 2024. The Tribe had previously shown interest in the program but had not yet committed to purchasing electric vehicles.

The Environmental Director will follow-up with the NAEPC staff to discuss the programs and develop a plan to move forward with further consultation with representatives from the appropriate State of California agencies to explore ways in which the program(s) may help the Tribe address the identified reduction measures. The Environmental Director will continue to consult with NAEPC staff regarding the programs and identified reduction measure in hopes of identifying other avenues to implement and complete.

The Tribe and the Anza Electric Cooperative ("Co-op") have a unique relationship. The General Manager of the Co-op, prior to his employment with the Co-op, installed the original hybrid systems at the existing homes on the Reservation in 2004.

Under his leadership, the Co-op has worked with the Tribe to identify possible solutions to extend the power grid to the Reservation. For various reasons, none of the solutions has been successful. There have also been discussions to design and construct a solar power system on the 2022 Trust Lands to provide electrical power to the tribal offices and infrastructure on the lands in Anza and "sell back" excess electricity to the grid.

The reduction measure aimed at expanding the Tribe's reliance on renewable energy, especially in Anza where the project could connect to the grid, is a perfect project for the Tribe and the Co-op to coordinate efforts as it is something that can be mutually beneficial to both parties.

The Tribal Council has directed the Environmental Director to provide the Co-op, via the General Manager, with a copy of the GHG inventory and PCAP once the document has been completed and approved. The Tribal Council would then like to schedule a meeting with the Co-op to discuss the identified reduction measures and seek input from the Co-op.

# 3.0 GREENHOUSE GAS INVENTORY

The scope of the GHG inventory includes the propane combusted at the front and back offices and other smaller sources located within the boundaries of the original Reservation. Generally propane is used for heating, however the back-up generator at the Community Water System is propane powered. Diesel is combusted in heavy equipment, trucks, and stationary generators at the residences. Diesel is combusted in mobile generators as well. Gasoline is combusted in fleet trucks.

## 3.1 STATIONARY FOSSIL FUEL COMBUSTION

Table 1 shows the propane combusted on the Reservation and 2022 Trust Lands. The propane is reported by delivered quantity (gallons) per month. Propane was not delivered during summer months or during months when office workers were working from home.

Table 1. 2023 Volume of Propane Combusted[1]

| Month | Front Office | Back Office | Reservation | Total |
|---|---|---|---|---|
| | Gallons | | | |
| January | 0 | 0 | 0 | 0 |
| February | 55.9 | 276.6 | 100.2 | 432.7 |
| March | 473.58 | 125.7 | 0 | 599.28 |
| April | 139.7 | 0 | 0 | 139.7 |
| May | 84 | 183.5 | 0 | 267.5 |
| June | 0 | 0 | 0 | 0 |
| July | 0 | 0 | 122.5 | 122.5 |
| August | 0 | 0 | 0 | 0 |
| September | 27.7 | 66.8 | 167.8 | 262.3 |
| October | 0 | 0 | 0 | 0 |
| November | 0 | 0 | 0 | 0 |
| December | 0 | 0 | 92.6 | 92.6 |
| **Total** | | | | **1,916.58** |

[1] Propane volumes from Tribal Accounting

Table 2. 2023 GHG Emissions from Propane

| GHG | Volume (Gallons) | Emission Factor[1] | Conversion Factor | GHG Emissions (MT) | GHG Emissions (MT of CO2e) |
|---|---|---|---|---|---|
| $CO_2$ | 1,916.58 | 5.72 | 0.001 | 10.963 | 52.46 |
| $CH_4$ | | 0.27 | | 0.517 | |
| $N_2O$ | | 0.05 | | 0.096 | |

[1] Emission Factors source, EPA EF for GHG, 4/1/2022 (EPA EF).

## 3.2 TRANSPORTATION FUELS

Table 3 shows the volume of Gasoline used by the Tribe and Table 4 shows the GHG emissions from the combustion of gasoline in Tribal vehicles. Diesel and gasoline is reported by delivered quantity (gallons) per month. The Tribe initiated and completed a road project in September/October 2023.

Table 3. 2023 Volume of Diesel Combusted

| Month | Volume (Gallons)[1] |
|---|---|
| January | 901 |
| February | 860.2 |
| March | 0 |
| April | 600 |
| May | 525.1 |
| June | 0 |
| July | 0 |
| August | 0 |
| September | 478.7 |
| October | 600 |
| November | 0 |
| December | 0 |
| **Total** | **3,965.0** |

[1] Diesel volumes from Tribal Accounting

Table 4. 2023 GHG Emissions from Diesel

| GHG | Volume (Gallons) | Emission Factor (kg $CO_2$) or (g $CH_4$, and $N_2O$/gallon)[1] | Conversion Factor (MT/kg) | GHG Emissions (MT) | GHG Emissions (MT of $CO_2e$) |
|---|---|---|---|---|---|
| $CO_2$ | 3,965.0 | 10.21 | 0.001 | 40.483 | 41.11 |
| $CH_4$ | | 0.114 | 0.000001 | 0.000452 | |
| $N_2O$ | | 0.5172 | 0.000001 | 0.002051 | |

[1] Based on EPA EF of 0.0095 g/mile of $CH_4$ and 0.0431 g/mile $N_2O$ and 12 miles/gallon of diesel

Table 5 Shows the volume of Gasoline used by the Tribe and Table 6, shows the GHG emissions from the combustion of gasoline in Tribal vehicles.

Table 5. 2023 Volume of Gasoline Combusted

| Month | Volume (Gallons)[1] |
|---|---|
| January | 106.6 |
| February | 100 |
| March | 0 |

| Month | Volume (Gallons)[1] |
|---|---|
| April | 190.7 |
| May | 220 |
| June | 0 |
| July | 0 |
| August | 0 |
| September | 243.1 |
| October | 235.2 |
| November | 0 |
| December | 0 |
| **Total** | **1,095.6** |

[1] Diesel volumes from Tribal Accounting

Table 6. 2023 GHG Emissions from Gasoline

| Volume (Gallons or Miles) | Emission Factor (kg $CO_2$) or (g $CH_4$, and $N_2O$/gallon)[1] | Conversion Factor (MT/kg) | GHG | GHG Emissions (MT) | GHG Emissions (MT of $CO_2e$) |
|---|---|---|---|---|---|
| 1,095.6 | 8.78 | 0.001 | $CO_2$ | 9.619 | 9.74 |
| 15,254.0 | 0.0391 | 0.000001 | $CH_4$ | 0.000596 | |
| 15,254.0 | 0.0237 | 0.000001 | $N_2O$ | 0.000362 | |

[1] Based on EPA average of fleet EF for gasoline.

## 3.3 SOLID WASTE

The Tribe receives waste pickup once a week at each of the homes, the maintenance yard, and a bin at the administration offices. The waste is taken to the Anza Transfer Station, where it is ttransported to the nearest landfill located approximately 47 miles from the Transfer Station. The transfer station is approximately five miles from the Reservation. Using a diesel emission factor of 10.21 kg/gallon (EPA EF) and an estimated 6.5 miles/gallon of diesel fuel use in diesel waste trucks, the solid waste transport GHG emissions would be 0.08 MT of $CO_2e$.

## 3.4 WATER USE

Currently water is transported by diesel or electric pumps, these pumps are either supplied electricity by diesel supplied by the diesel fueling station at the facility yard or by solar or propane electricity generators. Therefore, GHG, criteria pollutant, and toxic air contaminates (HAPs) emissions are accounted for in Sections 3.1, 3.2, 3.3, and 3.8.

## 3.5 2022 TRUST LANDS ELECTRICITY USE

The Tribe owns and operates three administration buildings on the 2022 Trust Lands. These buildings are supplied electricity from the grid. Table 7 shows the electricity used and Table 8 shows the GHG emissions calculated.

Table 7. 2023 Electricity Use from 2022 Trust Land

| Months | KW[1] | MW |
|---|---|---|
| January | 679 | 0.679 |
| January/February | 990 | 0.99 |
| February/March | 1,497 | 1.497 |
| March/April | 1,177 | 1.177 |
| April/May | 1,288 | 1.288 |
| May/June | 1,474 | 1.474 |
| June/July | 2,071 | 2.071 |
| July/August | 3,139 | 3.139 |
| August/September | 2,668 | 2.668 |
| September/October | 1,456 | 1.456 |
| October/November | 1,234 | 1.234 |
| November/December | 1,363 | 1.363 |
| December | 1,210 | 1.21 |
| **Total** | | **20.246** |

[1] Electricity volumes from Tribal Accounting

Table 8. 2023 GHG Emissions from 2022 Trust Lands Electricity

| GHG | MWh | EF (MT/MWh)[1] | MT of GHG | MT of $CO_2e$ |
|---|---|---|---|---|
| CO2 | 20.246 | 0.2329 | 4.7152934 | 4.73 |
| CH4 | | 0.00002145 | 0.000434277 | |
| N2O | | 0.000001814 | 3.67262E-05 | |

[1] EPA EF, CAMX Grid Non-Baseload EF

## 3.6 2023 PROJECT-RELATED GHG EMISSIONS REDUCTIONS

The Tribe used solar electricity for heating, cooling and water transportation on the Reservation in 2023. The rating of the solar arrays are shown in Table 9 and Table 10. The use of solar energy reduces the Tribe's overall GHG emissions. The GHG emission reductions are shown in Table 11.

Table 9. 2023 Solar Array Rating

| Solar Array Locations | Size (KW)[1] |
|---|---|
| Home #1 | 15 |
| Home #2 | 16 |
| Community Water System | 10 |
| Well 3A | 8.88 |
| Maintenance/Facility Yard | 5.25 |
| **Total** | **55.13** |

[1] Solar Array size from Tribal Environmental Department

Table 10. Total MWh from Solar Electricity

| Solar (KW) | Hours[1] | KWh | MWh |
|---|---|---|---|
| 55.13 | 1,440 | 79,387.20 | 79.3872 |

[1] Based on 8 hours per day for 180 days per year.

Table 11. 2023 GHG Emissions from Solar Electricity

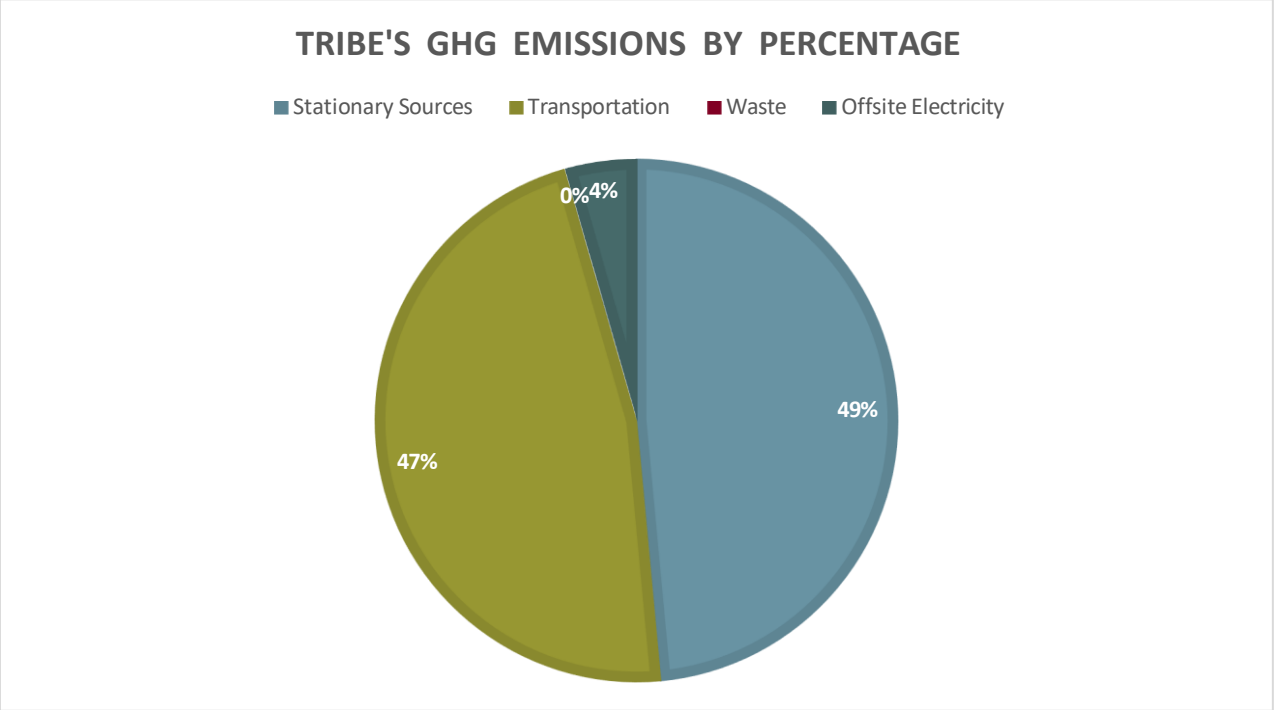
| MWh | EF (MT of $CO_2e$/MWh)[1] | MT of $CO_2e$ |
|---|---|---|
| 79.3872 | 0.428 | 33.98 |

[1] CARB default EF for unspecified electricity

## 3.7 GHG EMISSIONS INVENTORY

The scope for the GHG inventory includes facilities, residences, transportation, and waste hauling owned and operated or used by the Tribe. The Tribal GHG emissions are broken down in Figure 3 by stationary sources, transportation, and waste hauling. It should be noted that the Tribal reduction in 2023 from the use of solar arrays was 31.4 percentage of the Tribe's total 103.39 GHG emissions.

Figure 3: Tribe's GHG Emissions By Percentage



## 3.8 TRIBE'S CRITERIA POLLUTANTS AND HAPS

In accordance with the requirement of the PCAP, SCS in cooperation with the Tribe has calculated the Tribes stationary source criteria pollutants and related HAPs, which are shown in Table 12.

Table 12. 2023 Stationary Source Criteria Pollutants and HAPs

| Fuel | VOC | NOx | CO | SOx | PM10 | PM2.5 | HAPS[1] |
|---|---|---|---|---|---|---|---|
| | Tons/Year | | | | | | |
| Diesel | 0.04803 | 3.214 | 0.6928 | 0.2125 | 0.2281 | 0.000013480 | 0.002751 |
| Gasoline | 0.0001507 | 0.001075 | 0.01231 | 0.00004551 | 0.00001585 | 0.000014573 | -- |
| Propane | 0.01029 | 0.07386 | 0.04857 | 0.00005127 | 0.000006723 | 0.000000000 | 0.006296 |
| **Total** | **0.05847** | **3.289** | **0.7537** | **0.2126** | **0.2281** | **0.000028052** | **0.009046** |

[1] Gasoline is not used for stationary sources.

# 4.0 GHG REDUCTIONS MEASURES AND TARGETS

The Reservation can benefit significantly from additional infrastructure and practices to increase resilience as well as reduce GHGs. As described above, the original Reservation is located "off grid" and relies on solar and combustion engine backup generators to power existing homes, buildings, and infrastructure.

Below are GHG reduction measures based upon priority resulting from Reservation representative engagement:

1. Renewable Energy:
    - Expand solar (or wind) projects to generate clean energy.
    - Expand microgrid and energy storage systems to reduce reliance on combustion engine generators.

| **Implementing agency** | **Ramona Band of Cahuilla** |
|---|---|
| **Implementation milestones** | Tribal Council plan approval, construction start, construction end |
| **Geographic location** | Ramona Band of Cahuilla Reservation |
| **Funding sources** | U.S. DOE Grant, CPRG Grant, or other grants |
| **Metrics tracking** | Tribal overview, 1 status updates, and final report tracking of construction progress |
| **Estimated cost** | $75,000 to $200,000 |
| **Annual estimated GHG, Criteria Pollutants, and HAPs Reductions** | 60 MT of $CO_2e$ and VOC 0.003, NOx 1, CO 0.002, SOx >0.001, $PM_{2.5}$ >0.001, $PM_{10}$ 0.02, HAPs >0.001Tons/Year |
| **Implementation authority milestones** | Tribal Council |

2. Transportation:
    - Replace existing fossil fuel maintenance motor vehicles with electric vehicles (EVs) or hybrids and charging infrastructure connected to expanded solar array.

| **Implementing agency** | **Ramona Band of Cahuilla** |
|---|---|
| **Implementation milestones** | Tribal Council plan approval, purchase of vehicles |
| **Geographic location** | Ramona Band of Cahuilla Reservation |
| **Funding sources** | U.S. DOE Grant, CPRG Grant, or other grants |
| **Metrics tracking** | Tribal overview and final report tracking of emission reductions |
| **Estimated cost** | $75,000 |
| **Annual estimated GHG, Criteria Pollutants, and HAPs Reductions** | 2 MT of $CO_2e$ and VOC, NOx, CO, SOx, $PM_{2.5}$, $PM_{10}$, HAPs >0.00004 Tons/Year |
| **Implementation authority milestones** | Tribal Council |

3. Energy Efficiency Measures:

- Retrofit existing infrastructure with energy-efficient technologies (e.g., LED lighting, insulation).
- Upgrade heating, ventilation, and air conditioning (HVAC) systems to more energy efficient systems.
- Educate and promote energy-saving practices in Tribal facilities.

| **Implementing agency** | **Ramona Band of Cahuilla** |
|---|---|
| **Implementation milestones** | Tribal Council plan approval, purchase of efficient systems and retrofitting of existing infrastructure |
| **Geographic location** | Ramona Band of Cahuilla Reservation |
| **Funding sources** | U.S. DOE Grant, CPRG Grant, or other grants |
| **Metrics tracking** | Tribal overview and final report tracking of emission reductions |
| **Cost** | $75,000 to $200,000 |
| **Annual estimated GHG, Criteria Pollutants, and HAPs Reductions** | 15 MT of $CO_2e$ and VOC, NOx, CO, SOx, $PM_{2.5}$, $PM_{10}$, HAPs >0.0004 Tons/Year |
| **Implementation authority milestones** | Tribal Council |

4. Waste Reduction and Recycling:

- Develop organics composting operations to reduce transportation and landfill emissions.
- Encourage recycling when possible considering remote proximity to recycling infrastructure.
- Explore circular economy practices.

| **Implementing agency** | **Ramona Band of Cahuilla** |
|---|---|
| **Implementation milestones** | Tribal Council plan approval and development of recycling and composting systems |
| **Geographic location** | Ramona Band of Cahuilla Reservation |
| **Funding sources** | U.S. DOE Grant, CPRG Grant, or other grants |
| **Metrics tracking** | Tribal overview and final report tracking of emission reductions |
| **Estimated cost** | $7,500 to $15,000 |
| **Annual estimated GHG, Criteria Pollutants, and HAPs Reductions** | 7 MT of $CO_2e$ and VOC, NOx, CO, SOx, $PM_{2.5}$, $PM_{10}$, HAPs >0.0002 Tons/Year |
| **Implementation authority milestones** | Tribal Council |

## 4.1 GHG REDUCTION TARGETS

As the Tribe looks forward to expanding its fleet, upgrade its infrastructure, and Tribal residences, it would ideally target reducing its current carbon footprint over business as usual by the reduction targets presented in Table 13.

Table 13. GHG Reduction Targets

| Measure | Description | GHG Reduction Targets (%) |
|---|---|---|
| Renewable Energy | Expand PV arrays and battery storage to provide electricity for residential homes expansion reducing reliance on backup generators | 10 |
| Transportation | Replace combustion engine vehicles with Electric Vehicles including PV charging infrastructure | 5 |
| Energy Efficiency Measures | Upgrade/retrofit lighting, insulation, HVACs in residential structures | 10 |
| Waste Reduction and Recycling | Organics Composting/Recycling | 5 |

## 4.2 GHG EMISSION PROJECTIONS

The Tribe's GHG emissions are likely to increase in the coming years as the Tribe constructs additional housing and infrastructure for its members on the original Reservation. Emissions from these projects will be offset by the use of additional solar power, as well as electrification of the Tribe's fleet. The Tribe is committed to reducing its carbon footprint by implementing the measures outlined in Section 4.0 by the percentage outlined in Table 13 when funding becomes available.

# 5.0 BENEFITS ANALYSIS

The reduction of GHG, criteria pollutants, and toxic air contaminates produced by implementation of the reduction measures provided in Section 4.0 the Tribe would have a wide range of positive benefits both with regards to GHG, criteria pollutants, and HAPs reductions and the Tribe's financial stability. By reducing the quantity of gasoline combusted by the Tribe with the implementation of electrification of the Tribe's fleet and construction of additional solar arrays, the Tribe will have a positive effect on global climate change as well as the air quality in the region, including reduced heath impact due to the reduced criteria pollutants and HAPs and the surrounding natural resources.

A reduction in gasoline consumption will have a benefit for the entire Tribe and surrounding community by reducing GHG, criteria pollutants and toxic air contaminates, as well as providing a more sustainable approach to resource consumption and preservation of vital Tribal natural resources.

GHG, criteria pollutants and toxic air contaminates emissions reduction from the use of electricity produced by propane and solar electricity generation will result in cleaner air, reduction in global climate change, and loss of natural resources due to anthropogenic pollutants. These reduction measures outlined above are directly in line with the goals of the Tribe, which holds that maintaining the integrity of the environment for future of mankind is primary.

## 5.1 LOW INCOME DISADVANTAGED COMMUNITIES BENEFITS ANALYSIS

The benefits of completing a GHG inventory and identifying GHG reduction measures are expected to offer the Tribe a financial reduction in day-to-day operating conditions. The Tribe is a historically underserved community that has the potential to be disproportionately affected by climate change. The anticipated effects of warmer temperatures, increased wild fire events, flooding, droughts, biological destruction, and other climate related disasters have negatively affected the region, the Reservation, and the Tribe itself. Although the Tribe has been aware of climate impacts for years, this PCAP will allow the Tribe to develop the funding greatly needed to combat climate changes and ultimately be a part of the global climate solution.

With this in mind, the benefits to the Tribe and surrounding communities resulting from the completion of this GHG emissions inventory and GHG emission reduction measures will greatly help reduce financial impacts from climate change. Reduction in electricity energy through development of new solar arrays and purchases of electricity vehicles will continue to reduce the Tribal financial burden, while reducing the Tribe's climate footprint and enhance the Tribe's ability to develop new projects, such as additional homes for Tribal members.

# 6.0 REVIEW OF AUTHORITY TO IMPLEMENT

As a federally recognized Tribe, the Ramona Band of Cahuilla has full authority to implement and enforce any laws, regulations, and codes passed by the Tribe on all lands held in trust for the use and benefit of the Tribe. This includes any GHG reduction measures or recommendations that may result from this PCAP. However, some projects or programs may be developed in connection with other local, state, or federal agencies which could trigger additional compliance or authority.

## 6.1 INTERSECTION WITH OTHER FUNDING AVAILABILITY

Additional funding mechanisms will be employed by the Tribe, which seeks funding for climate adaptation and response projects from federal, state, and local sources including the Bureau of Indian Affairs (BIA) and California Air Resource Board (CARB). Funding under the BIA's Tribal Climate Resilience grant could represent a significant funding opportunity for future climate adaptation and mitigation projects for the Tribe.

## 6.2 WORKFORCE PLANNING ANALYSIS

An analysis of workforce development activities needed to implement priority measures shown in Section 4.0 will focus on three areas: (1) reduction of transportation fuel combustion; (2) future solar projects; and (3) development of additional climate mitigation. The first area of focus will be obtaining new funding to electrify the Tribe's fleet. The second will be to seek funding to develop a stronger solar presence on the original Reservation and 2022 Trust Lands via future residential and infrastructure projects. The Tribe, through submission of this PCAP and development of a CCAP, will obtain funding to continue the needed climate research, mitigation, adaptation and planning. This would include continued seeking of funding opportunities to address potential climate hazards resulting from the effects of climate change and funding for the implementation of additional planning and GHG emissions reduction measures.

# 7.0 NEXT STEP

With the finalization of this PCAP, the Tribe is on its way to completing the next step in development of a CCAP, which is anticipated to be initiated and finalized in accordance with the 2023 CPRG funds received from EPA. Tribe will implement prioritized measures to continue to reduce its GHG emissions as well as continuing to increase its solar energy production. Over the long term, the Tribe will identify additional GHG emission reduction measures, as the Tribe implements additional projects as funding becomes available.