Santa Ynez Chumash Climate Action and Energy Management Plan

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**Faculty Sponsor:**
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**Client:**
Santa Ynez Band of Chumash Indians  
Tribal Government

**PROBLEM STATEMENT**

Climate change, renewable energy, energy efficiency, and the green economy are issues that are faced by everyone, including Native American communities. These issues may actually be more important to tribal communities, especially those living within permanent Indian reservations where homes and lands will be passed down by family and community members for generations. Federally-recognized Indian Tribes are sovereign entities responsible for developing their own laws, policies, and programs that address environmental concerns. However, most Tribal communities have been unable to develop strategies and mechanisms that address energy and climate change. This is often due to a lack of resources, understanding, and technical capabilities. Tribal communities need a comprehensive and proven approach to managing energy, climate, and greenhouse gas (GHG) issues that considers issues such as sovereignty, reservations, and culture that are unique to federally-recognized Indian Tribes.

**PROJECT OBJECTIVES**

This project will focus on developing a comprehensive approach to addressing climate change and energy management for the Santa Ynez Band of Chumash Indians. The objectives of this project will be to:

1. Identify baseline energy consumption and GHG emissions for commercial, governmental, and residential sectors,
2. Develop a climate action plan that includes achievable strategies and goals for reducing GHG in each sector, and
3. Initiate the implementation of energy management strategies, laws, and policies.

**PROJECT SIGNIFICANCE**

The Santa Ynez Band of Chumash Indians does not have an energy use or GHG emissions baseline or any strategies, laws, or policies to address these issues. The Santa Ynez Tribe has a permanent reservation that is located almost entirely within a floodplain, therefore they are more susceptible to the dangers of climate change. Environmental leadership is very important to the tribe for cultural, social, and economic reasons. Developing and implementing a climate action plan will further their leadership role in the Santa Barbara community and among Indian tribes.

Working with a tribal government with sovereign authority over permanent lands will be a unique experience for Bren students. With a range of commercial, residential, and governmental activities occurring on the reservation, the Santa Ynez Chumash community serves as a microcosm of larger communities and
municipalities. The size and nature of this tribal community will present a rare opportunity for rapid implementation. As a result, this project has the opportunity to produce a comprehensive approach with verified results and data that can serve as a model for other tribes and municipalities.

BACKGROUND INFORMATION

The Santa Ynez Band of Chumash Indians is a federally-recognized Native American Indian tribe with jurisdiction over a 137 acre Indian reservation located in Santa Ynez, California. The tribal community consists of 149 enrolled members, tribal descendants, and non-tribal reservation residents. The reservation contains approximately 100 homes, government services including a government administration building, health clinic, fire station, and waste water treatment plant, and commercial operations including a casino with 4 restaurants, hotel with spa, and 2 parking structures. The tribe also operates a fleet of vehicles associated with its commercial and governmental operations. Off-reservation activities include a hotel and restaurant, 2 gas stations, an office building, and the Chumash Employee Resource Center. In addition, the tribe continuously considers future development plans for both on and off-reservation sites.

As mentioned above, the Santa Ynez Chumash tribal community does not have any laws, policies, or comprehensive plans to address energy use or GHG emissions. However, the tribe has considered and implemented various energy management strategies. Last August the first two residential solar photovoltaic systems were installed on the reservation and additional systems are scheduled to be installed on the Tribal Hall and Health Clinic in the first half of 2010. The casino and hotel facilities are already employing several energy management strategies including energy efficient lighting, LEED approved insulation, variable speed drives, and whole building energy controls. Various departments are investigating the use of alternative fuels in fleet vehicles and potential sale of these fuels at tribally-owned gas stations. With the support of the Bren School, the tribe also submitted a grant proposal to the Department of Energy for a community-wide program to conduct performance assessments, energy efficiency retrofits, and solar installations on building within the reservation and throughout Santa Barbara County. These tribally-supported initiatives have been driven by the Santa Ynez Chumash Environmental Office, which includes three Bren School graduates.

STAKEHOLDERS

Santa Ynez Chumash Tribal Community (members, descendants, residents, employees)
Santa Barbara County
Nearby property owners (residential and commercial)
Other tribal communities and municipalities nationwide

APPROACH AND AVAILABLE DATA

Students will first have to determine the scope of the project, such as whether to include off-reservation buildings and activities. Then research will need to be conducted and data collected to establish an energy use and GHG emissions baseline for the Tribal community. A climate action plan will then be developed for the Santa Ynez Chumash tribal community. This plan will include a wide range of strategies to reduce energy use and GHG emissions, and must thoroughly consider the economic, environmental, and culture implications of each option. Time permitting, students may also have the opportunity to initiate the implementation of recommended strategies. Policy and code development may be a priority, since the tribe does not currently have either.
The development of a comprehensive, effective climate action plan will be the most rigorous component of this project. Students may choose to develop a model or use existing models to analyze potential strategies. However, it is critical that these options are individualized to the Santa Ynez Chumash community. Tribal communities can be similar to municipalities, but there are differences in the way that tribal governments are structured and how these communities function that may present creative opportunities. Students should consider the potential for job creation, especially for Tribal descendants that have limited to no income. In addition, the plan may include realistic emissions reductions goals that can be achieved by pursuing different combinations of options. This will give the Tribe the flexibility to change their strategy if conditions change in a manner that renders a previously selected course of action infeasible.

Most governmental and commercial electricity, natural gas, and fuel consumption data has been collected historically and will be readily available. Some data is available for residential activities, but additional data will need to be obtained with the permission and cooperation of homeowners. Students may need to limit residential data collection to a representative sample of the Tribal community population. Emissions data will depend upon the energy source. Standard diesel and gasoline emissions per gallon data can be found on the internet. However, students may want to consider the emissions control technology installed on each vehicle and use tools such as the EPA’s Diesel Emissions Quantifier. The tribal community’s electricity and natural gas are provided by PG&E and Southern California Gas respectively, and emissions data for these energy sources can be obtained by contacting these companies.

**DELIVERABLES**

The project deliverables will include:
- Energy and Fuel Consumption Baseline
- GHG Emissions Baseline
- Santa Ynez Chumash Climate Action Plan
- Model to Assess SYC Climate Action Plan Strategies
- Tribal Community Energy and Climate Policies

**FINANCIAL SUPPORT**

This project will not require any financial support from the Bren School. The Santa Ynez Chumash Environmental Office has program funding available to meet financial needs as they arise, including travel expenses, conference fees, necessary software, and supplies. In addition, the Tribe is willing to spend up to $10,000 to support a paid student internship.

**INTERNSHIP OPPORTUNITIES**

This project will present a full-time summer internship opportunity and potentially a part-time internship during the school year. This student will have the opportunity to significantly advance the data collection and research aspects of the project during the summer months.
REFERENCE