

**Title:** Assessing Community Choice Aggregation for the City of Hermosa Beach and South Bay Cities

**Client:** City of Hermosa Beach

**UCLA Faculty Sponsor:** Juan Matute

## **Proposed Project:**

### **A. Problem Statement**

Hermosa Beach has a goal to reduce the community's greenhouse gas footprint with an eye toward carbon neutrality. A prior practicum project identified Community Choice Aggregation as a powerful option for Hermosa Beach and other cities to control the emissions coming from electricity used in the city. This project would assess the potential for Community Choice Aggregation and zero-emissions renewable energy generation to meet the changing electricity needs of Hermosa Beach and the South Bay area of Los Angeles County.

### **B. Project Objectives**

In this project, the practicum team will

- Assess the potential for Hermosa Beach to sponsor renewable energy generation outside of city boundaries, through a Community Choice Aggregation program.
- Understand and recommend policy approaches to implementing a coordinated Community Choice Aggregation within multiple South Bay Cities.
- Assess options other than Community Choice Aggregation to reduce the greenhouse gas intensity of electricity used in the South Bay Cities.
- Document and explain the system to generate and distribute electricity, and how Community Choice Aggregation alters that system.
- Conduct new research on the renewable energy generation potential of structures and open space within the South Bay Cities region.
- Document and develop policy recommendations on various market and non-market mechanisms to produce on-site renewable energy within the South Bay region, including feed-in tariffs, net-metering, and power purchase agreements.

### **C. Project Significance**

This project explores a potentially powerful policy option for a cluster of local governments to work together on a renewable energy program to reduce emissions associated with energy use. With multiple electric generating stations and petroleum refineries, energy is a big part of the South Bay Cities. Few residents go about their daily lives without encountering some type of major energy infrastructure.

Earlier work (Los Angeles Solar Atlas) indicates that the region also has vast untapped renewable energy potential - in the form of rooftop solar potential. Much of this is on the roofs of large industrial and commercial buildings in the area surrounding the Port of Los Angeles.

While potentially powerful, Community Choice Aggregation is not without controversy. Community Choice Aggregation poses some risk to an Investor-Owned Utility's business model.

As such, prior programs have been controversial, and some areas of the state have been hesitant to study the policy option. Conducting rigorous analysis within the scope of a practicum course in an academic setting offers an opportunity to produce high-quality, locally-specific information.

In advancing carbon neutrality, state goals and environmental stewardship, it is important to the City of Hermosa Beach to pursue and share knowledge about a range of options that may have near or long-term potential. The city is equally enthusiastic about providing students with research proposals that are meaningful for all parties.

#### **D. Background Information**

During the 2012-2013 Academic Year, the City of Hermosa Beach and the South Bay Cities Council of Governments' Environmental Service Center (SBESC) worked with a practicum team to develop a Carbon Neutral Scoping Plan for the City of Hermosa Beach, the results of which will be shared with other cities in the region. The project team presented its findings to the Hermosa Beach City Council on June 11 and the city is now evaluating approaches and programs suggested in the study for action.

In the final report, which assesses several scenarios to achieve carbon neutrality, the project team recommends Hermosa Beach implement Community Choice Aggregation in order to reduce greenhouse gas emissions from electricity generation and use. Community Choice Aggregation allows a local government to independently purchase electricity while using their existing utility's infrastructure for distribution and billing administration. With the flexibility of Community Choice Aggregation, Hermosa Beach and South Bay Cities could implement other policies and programs to increase local renewable energy generation.

#### **E. Stakeholders, other than client**

As a member city of the South Bay Cities Council of Governments (SBCCOG), Hermosa Beach works closely and collaborates with the SBCCOG and its SBESC on a number of initiatives that advance our collective missions and goals. There is not one way to solve the most significant challenges of our time and Hermosa Beach will continue to work with the other 14 cities in the region and the County of Los Angeles to distribute and act on the project's findings.

#### **F. Possible approaches and available data**

The research team will review existing literature and conduct quantitative analysis in order to assess the potential for community choice aggregation. The work will be divided into two main tasks: policy and energy planning.

Within the policy task, the team will read and synthesize academic and non-academic literature pertaining to prior local attempts to implement Community Choice Aggregation. This will include options for single-city programs, and multiple-city programs. The team will research past experiences with Community Choice Aggregation, primarily from examples in Northern California.

Within the energy planning task, the team will match potential energy generation with future consumption. First, using Geographic Information Systems, the team will create an estimate for annual building-integrated wind and solar production within each of the 15 cities. Then, the team will match this data with current electricity consumption, projected gains in efficiency, and projected changes in consumption due to the electrification of the transportation system. Finally, the team will produce estimates for the proportion of electricity that can be generated from local renewable sources for various saturations of building-integrated wind and solar generation. These estimates will be matched with a key finding from the policy task - estimates of incentives and policies needed to achieve various saturation levels.

Prior data is available publicly or through UCLA (UCLA's Los Angeles Solar Atlas and NREL's Wind Potential Assessment) that the team can use to assess the potential for renewable energy generation within the 15-city South Bay region. We anticipate that data on community electricity consumption will also be available to the South Bay Cities Council of Governments.

### **G. Deliverables**

The practicum team would develop two final deliverables to describe the research project's findings: one for community members and another for policymakers. An executive summary and PowerPoint summary are desirable. If feasible, the students would be requested to present to a policy board.

### **H. Project impact**

The project would help the public, local staff, and policymakers make informed decisions about whether or not to pursue Community Choice Aggregation as a sustainability implementation strategy.

### **I. References**

UCLA Luskin Center. Los Angeles Solar Atlas (available at <http://164.67.121.27/files/Downloads/luskincenter/SolarAtlas/LosAngelesSolarAtlas-LACounty.pdf>)

National Renewable Energy Laboratory. Wind Resource Assessment. [http://www.nrel.gov/wind/resource\\_assessment.html](http://www.nrel.gov/wind/resource_assessment.html)

### **J. Contact information**

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### **K. Commitments**

The City commits to provide data and other information required for a successful project with no stipulation for a non-disclosure agreement or restriction to publication of the report. We commit to providing a guest speaker to introduce the topic during the 2013 Fall Quarter. We will provide data within city's control within 30 days after notification that the project has been accepted.

### **L. Anticipated Financial Needs**

The proposal does not request financial assistance.