



**TOWARDS NET ZERO CARBON EMISSIONS:  
The Prospect of Solar Energy at CI as a Means to Fulfill  
State and CSU Directives**

**DIVISION OF BUSINESS & FINANCIAL AFFAIRS**

**April 10, 2017**

# Major California and California State University Directives to Address Greenhouse Gas Emissions and Improve Energy Efficiency, and CI's Climate Commitment

## Greenhouse Gas (GHG) emissions reduction goals

- **California:** Achieve a decrease to 1990 emissions levels by 2020, and 40% below 1990 levels by 2030. (A 2050 target of 80% below 1990 levels also exists under Executive Order.)
- **CSU:** Adheres to state 2020 and 2030 goals, and sets 80% below 1990 levels by 2040.

## Renewable energy/energy efficiency targets

- **California:** Procure 33% of energy from renewable sources by 2020, and 50% by 2030. Also, double energy efficiency in existing buildings by 2030.
- **CSU:** Seeks to exceed 33% before the 2020 goal. Sets goal to increase on-site/renewable self-generation from 44 megawatts (MW) to 80 MWs by 2020.

## CI's climate commitment

- In April 2015, former President Rush signed American College and University President's Climate Commitment, with aim towards carbon neutrality.
- CI's Climate Action Plan is due in 2017.

## **Financial Opportunity: Channel Islands Power Plant and Fiscal Challenges**

### **Cost of solar infrastructure has decreased significantly**

- The state's clear commitment to reducing GHG emissions, and support for renewable technology proliferation has helped costs of solar manufacturing and installation to decrease by 80 percent and 60 percent, respectively.

### **Costs to operate and maintain CI Power Plant are significant, and expected to increase**

- Maintenance overhauls required every 50,000 hours of operation (\$4-6 million).
- Cap-and-Trade Fees: approximately \$1.5 million annually, and will continue to grow.

### **Future Power Purchasing Agreement (PPA) with SoCal Edison is uncertain**

- Current PPA expires in April 2018.
- Negotiations for new agreement unsuccessful to-date.

## Solar Energy at CI: A Vision for the Future

### A vision for a solar-powered CI

- Will closely examine our solar opportunities and potential capacity.
  - ❑ Preliminary capacity estimate is approximately 8-10 MW.
    - CI energy demand is between 1.5 - 3.0 MWs, surplus energy produced would be possible revenue source.
  - ❑ Installation possibilities include solar farm in northwest campus floodplain, parking lot carport solar, and solar roofs.
- Would help us fulfill state and CSU directives to curb GHG emissions in a meaningful and financially-viable way.



## Solar Energy at CI: Next Steps

### What's next?

- Division of Business and Financial Affairs to compile data on campus-based solar opportunities, including capacity potential and financial implications of options or inaction.
- Conduct campus outreach to introduce the project and obtain input from campus community.
- Develop web-based presence to provide project updates and to solicit campus community feedback.





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