Campus-Community Climate Leadership Task Force

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California Higher Education Sustainability Conference  
June 26th-June 30th, 2016
Overview & Timeline

- Sustainability Plan
- American College and University Presidents’ Climate Commitment (ACUPCC)
- Greenhouse Gas (GHG) Emissions Inventory
- Climate Action Plan (CAP)
- Climate Leadership Commitment
- Campus-Community Climate Task Force
- Plan for reducing vulnerability and increasing resilience
Sustainability Plan

CSUN Sustainability Plan, 2013-2023
May 24, 2013
## American College and University Presidents’ Climate Commitment (ACUPCC)

[http://reporting.secondnature.org/](http://reporting.secondnature.org/)

<table>
<thead>
<tr>
<th>Institution Name</th>
<th>Commitment</th>
<th>Implementation Profile</th>
<th>GHG Reports</th>
<th>Climate Action Plans</th>
<th>Progress Reports</th>
<th>Next Report Due</th>
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<tbody>
<tr>
<td>California State University-East Bay</td>
<td>Carbon</td>
<td>Received</td>
<td>2014</td>
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<td>1/15/17 Annual Progress Evaluation</td>
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<td>Climate</td>
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CSUN signed agreement, March 2013
Greenhouse Gas Inventory, Jan. 2015
2013 Greenhouse gas emissions by source. Shown in (equivalent) tonnes of CO$_2$. Total emissions were 88,552 tonnes.
Climate Action Plan Goals

- Reduce commuting carbon footprint to below 1990 levels by 2020
- Reduce total GHG emissions to below 1990 levels by 2020
- Reduce Scope 1 and 2 GHG emission levels to 50% below 1990 levels by 2030
- Reduce Scope 1 and 2 GHG emission levels to 80% below 1990 levels by 2035
- Reduce Scope 3 GHG emission levels to 50% below 1990 levels by 2035
- Reduce total GHG emissions to net zero by 2040

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Climate Leadership Commitments

“ACUPCC represented both a commitment as well as the network. The name was the same for both. By virtue of signing one of the Climate Leadership Commitments (Carbon, Resilience, Climate) the President becomes part of the Climate Leadership Network.”

The Climate Leadership Commitments

Bold commitments by leaders in the higher education sector yield big changes at the institution that those leaders manage, in the sector at large, and beyond. These commitments require strong leadership, tangible outcomes, and the ability to track progress.

Higher Education presidents and chancellors can join the Climate Leadership Network by signing either the Carbon or the Resilience Commitment, or the integrated Climate Commitment. An institution can transition to the Climate Commitment at any time.

Between October 5, 2015 and April 22, 2016, 91 institutions became Charter Signatories of the Climate Commitment. See a full list of the Charter Signatories. To see all signatories, view our Climate Leadership Network map.
Carbon Commitment

Carbon Commitment: Focuses on reducing greenhouse gas emissions and achieving carbon neutrality as soon as possible.
Resilience Commitment: Focuses on climate adaptation planning and community capacity building to deal with a changing climate and resulting extremes.
Climate Commitment: Integrates carbon neutrality with climate resilience and provides a systems approach to mitigating and adapting to a changing climate.
Climate Commitment: An integrated climate commitment including carbon neutrality and resilience

1. Create internal institutional structures to guide the development and implementation of a comprehensive (Climate Action) Plan.

2. Support a joint campus-community task force to ensure alignment of the Plan with community goals and to facilitate joint action.

3. Lead and complete an initial campus-community resilience assessment including initial indicators and current vulnerability

4. Complete the Plan
Campus-Community Climate Leadership Task Force

The task force will:
- identify the various exposures the community has to climate change
- assess community vulnerabilities
- assess community resilience
- define goals for increasing resilience and reducing vulnerability
- identify strategies for reducing vulnerability and increasing resilience
- establish priorities for joint campus-community actions towards meeting the goals
- engage the community in carrying out these actions
Campus-Community Climate Leadership Task Force

- Twenty members of whom half are from the university.
- External task force members include elected officials at the State and Local level, leaders from public agencies active in the region, directors of local non-profits, economic and neighborhood council alliances.
Steps

1. engage the community
2. identify the various exposures the community has to climate change
3. assess community vulnerabilities and resilience
4. identify strategies for reducing vulnerability and increasing resilience
5. Develop a plan
Researchers combined 19 indicators specifically related to climate impacts to develop a social vulnerability index. These indicators include:

1. Households with air conditioning
2. Population over 25 without a diploma
3. Born outside the U.S.
4. Impervious areas
5. Residents living in institutions
6. Households with limited English
7. Households with no vehicle
8. People of color
9. Households in poverty
10. Pre-term births
11. Renter-occupied households
12. Over 65 and living alone
13. Tree canopy cover
14. Under age 18
15. Unemployment
16. Have jobs working outdoors
17. Pregnancy
18. Food access
19. Youth fitness

A 2012 report prepared by the Pacific Institute documents these in “Social Vulnerability to Climate Change in California”.
Social Vulnerability

Data from:
http://www2.pacinst.org/reports/climate_vulnerability_ca/maps/
Vulnerability to Climate Change

Some of the factors are more relevant to climate change vulnerability in this area than others. For example, “Households with no vehicle” may be unable to evacuate if an emergency occurs but this criteria may be more important in coastal communities threatened by storms than in ours.

Factors most important to impact of excessive heat:
• Tree canopy
• Impervious surfaces
• Air conditioning
• Outdoor workers
• Alone and over 65

We combined these factors to map vulnerability to excessive heat.
Vulnerability: Excessive heat

Data from: http://www2.pacinst.org/reports/climate_vulnerability_ca/maps/
CalEnviroScreen — Vulnerability to Pollution

CalEnviroScreen scores are calculated by combining scores for 19 individual indicators relating to pollution exposures, environmental conditions, and population characteristics.

<table>
<thead>
<tr>
<th>Age</th>
<th>Ozone</th>
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<tbody>
<tr>
<td>Asthma</td>
<td>PM2.5</td>
</tr>
<tr>
<td>Low Birth Weight</td>
<td>Diesel</td>
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<tr>
<td>Low Education</td>
<td>Drinking Water</td>
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<tr>
<td>Linguistic Isolation</td>
<td>Pesticides</td>
</tr>
<tr>
<td>Poverty</td>
<td>Toxic Releases</td>
</tr>
<tr>
<td>Unemployment</td>
<td>Traffic Density</td>
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</table>

Data from: http://oehha.maps.arcgis.com/apps/Viewer/index.html?appid=112d915348834263ab8ecd5c6da67f68
Land surface temperature (day)

20 August 2014

15 March 2015

Greg Halverson, CSUN Geography
Land surface temperature (day)

20 August 2014

Greg Halverson, CSUN Geography
Mitigation and Adaptation Strategies

- More energy-efficient buildings
- Solar (and wind) energy
- Cool roofs, green roofs
- Green spaces and trees to reduce the heat island effect.
- Cool pavements or permeable surfaces to diminish the impacts of UHIs.
- Drought-tolerant landscaping
- Water and energy savings technologies
Cool Roof
### Effect of Roofing Material

19-20 August, 2014

<table>
<thead>
<tr>
<th></th>
<th>Day</th>
<th>Night</th>
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<tbody>
<tr>
<td>Traditional</td>
<td>35.57° C</td>
<td>20.29° C</td>
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<tr>
<td>Cool Roof</td>
<td>34.40° C</td>
<td>19.89° C</td>
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14-15 March, 2015

<table>
<thead>
<tr>
<th></th>
<th>Day</th>
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<tbody>
<tr>
<td>Traditional</td>
<td>29.70° C</td>
<td>11.85° C</td>
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<tr>
<td>Cool Roof</td>
<td>28.27° C</td>
<td>11.40° C</td>
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Effect of Asphalt

<table>
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<tr>
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<th>Day</th>
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<tbody>
<tr>
<td>Parking</td>
<td>36.45° C</td>
<td>21.61° C</td>
</tr>
<tr>
<td>Building</td>
<td>35.27° C</td>
<td>20.19° C</td>
</tr>
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</table>

Greg Halverson, CSUN Geography
Next

1. Continue research on climate adaptation strategies (heat and pollution mitigation)
2. Engage the community (Neighborhood Councils) in discussion of community needs
3. Organizational mapping of resources
4. How can campus help serve community needs?
5. Prioritize strategies
6. Develop a plan
Thank You!

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