



2011 ACBO Fall Conference  
October 24, 2011

# Citrus Community College District

## Sustainability Template

Carol Horton, Vice President of Finance and Administrative Services  
Citrus Community College District

Matt Sullivan, PE, Principal, Newcomb Anderson McCormick

Carmen Iao, Energy Engineer, Newcomb Anderson McCormick



# Citrus Community College District

## About Citrus College

- **Founded in 1915 and located in Glendora, California in the foothills of the San Gabriel Mountains**
- **Has the distinction of being the oldest Community College in Los Angeles County and 5<sup>th</sup> oldest in the state**
- **Citrus College serves over 11,000 students on a 104 acre campus**



# Citrus Community College District



## Citrus College Mission Statement

*Citrus College delivers high quality instruction that empowers students to compete globally and to contribute to the economic growth of today's society. We are dedicated to fostering a diverse educational community and cultural learning environment that supports student success in pursuit of academic excellence, economic opportunity, and personal achievement.*

# Sustainability

*“Meeting the needs of the present without  
compromising the ability of future generations  
to meet their own needs.”*

United Nations Brundtland Commission Report, 1987

# Why Plan for Sustainability?

- CCCs recognize the need for environmental and economic sustainability and social equity – *the “Three E’s”*
- Legislation and regulations driving changes in how institutions operate
- CCC Board of Governors Energy and Sustainability Policy
- CCCs are the natural incubator for educating students for the Green Economy
- Decentralized structure and disparate resources and expertise at the CCCs make comprehensive planning difficult

***This Sustainability Template has been developed as a resource to all CCC Districts meet these challenges!***

# Project Background and Goals

- **A Partnership between Citrus College, the CCC Chancellor's Office, and the California Energy Commission**
- **Develop a “roadmap” and “toolkit” to help guide the California Community Colleges to a Sustainable future and address Climate Action Planning and AB-32**
- **Create a “Sustainability Template ” that is designed with enough flexibility to be utilized at Community Colleges throughout the state to create campus-specific Sustainability Plans**
- **A collaborative effort led by Newcomb Anderson McCormick with participation from the Citrus Campus Committee and a broad-based Advisory Council to provide input and recommendations**

# Project Team

- **Citrus Campus Committee**
  - Representatives from college staff, faculty, students
  - Provide campus input, buy-in, and guidance
  - Collaborate and participate in development process
  - Meets once every 1-2 months at Citrus College
- **Advisory Council**
  - Representation from CCCCO, other CCC campuses, IOUs, and other stakeholders / resources
  - Provide input and recommendations based on a broader perspective and experiences with sustainability planning
  - Quarterly meetings in Sacramento

# Project Team

## Campus Committee Members

**Carol Horton - Vice President of Finance and Administrative Services**

**Robert Iverson - Director of Purchasing and Warehouse**

**Jeff Eichler - Environmental Health and Safety Program Supervisor**

**Eric Rabitoy - Dean of Physical and Natural Sciences**

**Robert Goodman - Faculty**

**Christine Goedhart - Faculty**

**Fred Diamond - Director of Facilities and Construction**

**Bob Bradshaw – Construction Program Manager**

**Sarah Harman, Branden Han, Luke Vogel, Kyle Marcano – DEEP Student Interns**

**Dee Patel – DEEP Program Manager**

**Lisa Hannaman – Southern California Edison**

# Project Team

## Advisory Council Members

**Dan Estrada – CCC Chancellor's Office**

**Robert Iverson – Citrus College**

**Bob Bradshaw – Citrus College**

**Joe Nugent – Cabrillo College**

**Robert Brunn – Southern California Edison**

**Gary Wolff – Alameda County Waste Management Authority**

# Project Team

## Newcomb Anderson McCormick

- Selected by Citrus CCD to manage the overall process and develop the Template Plan in collaboration with the District and other stakeholders
- Firm has provided energy engineering, sustainability planning, and program management services to utilities, government agencies, and private sector clients since 1983
- Currently the Program Managers for the statewide CCC/IOU Energy Efficiency Partnership

### NAM Project Team

Team Lead:

Matt Sullivan – Principal  
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Ann McCormick – Principal  
Carmen Iao – Staff Engineer  
Jeff Klompus - Senior Engineer

# Project Scope

- **Sustainability Template Development and Approval**
- **Pilot Demonstration at Citrus College**
- **Conference Presentations**
- **Reporting**



California Community Colleges  
**Sustainability Template**  
**DRAFT**



Prepared by:  
Newcomb | Anderson | McCormick

October 15, 2011

# Areas of Focus

- **Management and Organizational Structure**
- **Energy Efficiency, Renewable Energy, and Efficient Design and Operation of Campus Facilities**
- **Transportation and Commuting Alternatives**
- **Water, Wastewater, and Sustainable Landscaping**
- **Waste Reduction, Re-use, Recycling, and Composting**
- **Green Purchasing**
- **Opportunities for Green Curriculum Development**
- **A recommended framework, tools, and approach for Climate Action Plans**

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Sustainability Template

**SECTION 7.****IMPLEMENTATION OF PROGRAMS AND PROJECTS**

This section of the Sustainability Template outlines the different programs and projects that can be implemented to achieve the District's sustainability goals. This list is intended to be a starting point for planning, and individual Districts are encouraged to select those elements that make the most sense for their particular circumstances. This list is not all-inclusive, and Districts are encouraged to think innovatively to identify projects that may not have been addressed here but suit the District's unique circumstances and needs. The programs and projects listed in this section are grouped into the subsections indicated below:

- 7.1 Management and Organizational Structure
- 7.2 Energy Efficiency
- 7.3 Facilities Operation
- 7.4 Sustainable Building Practices
- 7.5 On-Site Generation and Renewable Energy
- 7.6 Transportation, Commuting, and Campus Fleet & Travel
- 7.7 Water, Wastewater, and Sustainable Landscaping
- 7.8 Solid Waste Reduction and Management
- 7.9 Green Purchasing
- 7.10 Student and Curriculum Development
- 7.11 Campus and Community Outreach & Awareness
- 7.12 Create a Climate Action Plan
- 7.13 Other Programs and Projects

For each selected Program and Project, the District will need to prepare a Sustainability Action Plan that identifies specific steps, timing, responsibilities, and outcomes for their implementation. A Planning Checklist Tool has been created to assist campuses with this effort and is described in Section 8.

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# Template Elements

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Sustainability Template

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- **Purpose and Executive Summary**
- **“How to Use this Template” Tutorial**
- **Policy and Regulatory Drivers**
- **District Goals, Objectives, and Outcomes**
- **The Economics of Sustainability**
- **Implementation Programs and Projects**
- **Create an Action Plan**
- **Measure and Report Performance**
- **Best Practices Case Studies**
- **Tools and Resources (technical and funding)**

# Sustainability Template

## Sustainability Planning Process



# Tools and Resources

Sustainability Template Plan  
Implementation Programs and Plans Checklist

District: enter information on Summary tab  
Campus: enter information on Summary tab  
Date: enter information on Summary tab

Priority Implementation Plans Indicated Below

**Section 7.6 MANAGEMENT AND ORGANIZATIONAL STRUCTURE**

Policy Selected	Section	Selected Program or Project	Action Item	Priority (selected)	Status (selected)	Linked to	Cost (\$)	Primary Objectives	Target Completion Date	Assigned To	Email address
TRUE	7.6.1.1	Adopt a District Sustainability Policy									
TRUE	7.6.1.2	Appoint a Sustainability Coordinator, Establish an Office of Sustainability									
TRUE	7.6.1.3	Establish a Sustainability Committee									
TRUE	7.6.1.4	Funding and Resources to Support Sustainability Activities									
TRUE	7.6.1.5	Engage Sustainability Professionals, as required									
TRUE	7.6.1.6	Consider Sustainability in Endowment Investments									

**Section 7.8 ENERGY EFFICIENCY**

Policy Selected	Section	Selected Program or Project	Action Item	Priority (selected)	Status (selected)	Linked to	Cost (\$)	Primary Objectives	Target Completion Date	Assigned To	Email address
TRUE	7.2.1.1	Set Energy Efficiency Goals									
TRUE	7.2.1.2	Evaluate Mechanisms for the Implementation of Energy Efficiency Projects									
TRUE	7.2.1.3	Conduct Facility Prioritization Survey									
TRUE	7.2.1.4	Conduct Comprehensive Facility Energy Audits									
TRUE	7.2.1.5	Implement Energy Management Systems and Monitoring									
TRUE	7.2.2.6	Implement Ongoing Energy Monitoring									
TRUE	7.2.2.7	Participate in Demand Response Programs									
TRUE	7.2.2.8	Establish a Program to Take Advantage of Grant and Incentive Programs									
TRUE	7.2.2.9	Establish a Program to Take Advantage of Grant and Incentive Programs									
TRUE	7.2.2.9.1	Efficient Lighting and Lighting Controls									
TRUE	7.2.2.9.3	Install Energy Efficient HVAC Systems									

**Section 7.9 FACILITY OPERATION**

Policy Selected	Section	Selected Program or Project	Action Item	Priority (selected)	Status (selected)	Linked to	Cost (\$)	Primary Objectives	Target Completion Date	Assigned To	Email address
TRUE	7.3.2.1	Install Energy Management Systems									
TRUE	7.3.2.2	Optimize Building Occupancy and Schedule Operating Times									
TRUE	7.3.2.3	Optimize Building Occupancy Scheduling									
TRUE	7.3.2.4	Optimize HVAC Equipment Scheduling									
TRUE	7.3.2.5	Monitor Energy Use, Variables for Appliances and Computers									
TRUE	7.3.2.6	Participate in Energy Audit/Commissioning (R-104)									

**Section 7.10 SUSTAINABLE BUILDING PRACTICES**

Policy Selected	Section	Selected Program or Project	Action Item	Priority (selected)	Status (selected)	Linked to	Cost (\$)	Primary Objectives	Target Completion Date	Assigned To	Email address
TRUE	7.4.2.1	Establish a Green Building Standard									
TRUE	7.4.2.2	Implement Sustainable Design Practices									
TRUE	7.4.2.3	Use an Integrated Systems Approach									
TRUE	7.4.2.4	Work with Sustainable Design Professionals									
TRUE	7.4.2.5	Commission New Buildings									

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**Sustainability Template Plan**  
**Implementation Programs and Plans Checklist**

District: enter information on Summary tab  
Campus: enter information on Summary tab  
Date: enter information on Summary tab

Priority Implementation Plans Indicated Below

**Selected Programs and Plans for Implementation are Summarized Below**

Section 7.6 TRANSPORTATION, COMMUTING, AND CAMPUS FLEET & TRAVEL	Score
<input checked="" type="checkbox"/> 7.6.1.1 Understand Commute and Travel Patterns	1
<input checked="" type="checkbox"/> 7.6.2.1 Utilize the local MTA Programs	1
<input checked="" type="checkbox"/> 7.6.2.2 Increase Awareness	1
<input checked="" type="checkbox"/> 7.6.2.3 Facilitate Public Transit Use	1
<input checked="" type="checkbox"/> 7.6.2.4 Incentivize Public Transportation and Carpooling	1
<input checked="" type="checkbox"/> 7.6.2.5 Facilitate Ridesharing	1
<input checked="" type="checkbox"/> 7.6.2.6 Facilitate Car Sharing	1
<input checked="" type="checkbox"/> 7.6.3.1 Provide Priority or Discount Parking for Fuel Efficient Vehicles	1
<input checked="" type="checkbox"/> 7.6.3.2 Provide Electric Vehicle Charging Stations	1
<input checked="" type="checkbox"/> 7.6.4.1 Install Bike Racks and Showers	1
<input checked="" type="checkbox"/> 7.6.4.2 Increase Campus Bike Friendliness	1
<input checked="" type="checkbox"/> 7.6.4.3 Facilitate Bike Sharing	1
<input checked="" type="checkbox"/> 7.6.5.1 Reduce or Improve Petroleum Powered Vehicles and Equipment	1
<input checked="" type="checkbox"/> 7.6.5.2 Purchase or Lease Alternative Fuel Vehicles	1
<input checked="" type="checkbox"/> 7.6.5.3 Facilitate Telecommuting & Virtual Meetings	1
<input checked="" type="checkbox"/> 7.6.5.4 Enhance Student Distance Learning	1
<b>Total Points this Section</b>	<b>16</b>

See Sustainability Template Plan Section 7.6 for Details of Implementation Plans.

 Back to Summary tab

Section 7 Checklist 091511\_v1.xlsx  
Section 7.6

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## Planning Checklist Tool

**Macro-enabled MS Excel  
Spreadsheet to create and  
track Action Plans**

# Tools and Resources

## Sustainability Plan Document Template

*MS Word file containing Plan elements, organization, formatting, and instructions to assist in creating campus-specific plans*



[College Name] Community College  
Sustainability Plan

[Reference to Further Information]

Produced by [Name of Campus Sustainability Committee]

[DATE]

# Tools and Resources

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**ORANGE COAST COLLEGE**

REDUCING WASTE AND GENERATING REVENUE THROUGH RECYCLING

Since 1970 the Orange Coast College's Recycling Center has been the recipient of campus community recyclables, generating revenue to support OCC. The Recycling Center serves as the primary facility in the surrounding community, processing nearly 3,000 pounds of plastic and 4 tons of paper a day, in addition to 29,000 pounds of aluminum cans per week. In addition to processing basic recyclables, the center accepts e-waste, scrap metal and green waste on a weekly basis. Revenue generated from the center goes directly to the Associated Students of Orange Coast College fund, with a projected total of \$331,000 for the 2011 fiscal year.

The following highlights how the OCC Recycling Center utilizes sustainable operations to effectively maximize the efficiency and productivity of the center with solar power and specialized equipment.

**OCC RECYCLING CENTER: A MODEL FOR SUSTAINABLE SUCCESS**

**OCC Recycling Center really cleans up.**

In one year, the OCC Recycling Center takes in huge quantities of aluminum, paper and plastic, along with other common recyclables. In addition, the center is one of the few recycling centers in Orange County that will accept electronic waste free of charge.

22,100 The number of trees saved in one year

2,000,000 lbs of paper  
500,000 lbs of plastic  
3,000,000 lbs of aluminum cans  
200,000 lbs of electronic waste

Recycled in one year

**CONTACT:**  
Mike Carey  
Sustainability Coordinator  
(714) 432-5131

While many colleges and campus communities across the US have been slow to initiate recycling efforts, OCC has been on the forefront of the "reduce, re-use and recycle" endeavor since opening the Recycling Center 41 years ago. Always on the forefront of eco-friendly practices, the center has since adapted various sustainable practices that keep operations running efficiently, allowing for increased processing and cutting expenditures.

New equipment purchases increase productivity by crushing large recyclable quantities into smaller sizes and accepting containers with liquid. Such specialized equipment reduces labor by 12 hours a day and allows for fewer truckloads of plastics and aluminum given the more compact size of crushed items. In addition to upgrading machinery for standard recyclables, the center increased its compost capacity with a tub grinder that turns scrap wood and foliage into mulch. Renting the tub grinder has saved the center \$13,000 a year.

In June of 2010 the center took another step towards sustainability with a photovoltaic solar installation. With support from the OCC Sierra Club, forty 210w solar panels

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## Best Practice Case Studies

*Examples from other Community Colleges and Higher Education Institutions in California to serve as models and inspiration*

# Tools and Resources

## Resources for Implementation

*Technical, programmatic, and funding resources available to California Community Colleges*

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***California Cap-and-Trade Program***

California Air Resources Board  
<http://arb.ca.gov/cc/capandtrade/capandtrade.htm>

***California Community Colleges/Investor Owned Utilities (CCC/IOU) Energy Efficiency Partnership***

PG&E, SCG, SDG&E, and SCE  
<http://cccutilitypartnership.com/>

***California State Grants***

An Online Database of California State Grants Available  
<http://www.ca.gov/Grants.html>

***CalRecycle***

California Department of Resources Recycling and Recovery  
<http://www.calrecycle.ca.gov/>

***Climate Reserve Tonnes***

Certified Carbon Reduction Credits  
Climate Action Reserve  
<http://www.climateactionreserve.org/>

***ECONPACK***

Economic Analysis Tool  
U.S. Army Corps of Engineers  
[http://www1.eere.energy.gov/femp/information/download\\_bfcc.html](http://www1.eere.energy.gov/femp/information/download_bfcc.html)

***Federal Grants***

An Online Database of Federal Grants Available  
<http://grants.gov/>

***Energy Efficiency Financing***

California State Loans for Energy Efficiency and Renewable Energy Projects  
California Energy Commission  
<http://www.energy.ca.gov/efficiency/financing/index.html>

***Energy Smart***

Financing for Energy Efficiency and Renewable Energy Projects  
California Department of General Services  
<http://www.dgs.ca.gov/pd/Programs/StateFinancialMarketplace/Energy.aspx>

***Foundation for the California Community Colleges***

<http://www.foundationccc.org/>

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# Pilot Demonstration at Citrus College

- “Test” the Template under actual conditions
- Campus Committee to create and execute an “Action Plan” that identifies specific programs, projects, tools, roles, responsibilities, and timelines for the campus community
- Monitor and Track Implementation
- Optional: Develop and Implement a Climate Action Plan

# Conference Presentations

- Presentations that demonstrates the goals, benefits, and elements of the Template Plan
- Presentation target audience will be CCC leaders and decision-makers
- Citrus and NAM will present at the following conferences:
  - ACBO October 2011
  - CCFC November 2011
  - CCLC November 2011
  - CA Higher Education Sustainability Conference July 2012



# Reporting

- **Monthly Project Reports**
- **Draft and Final Summary Reports to address:**
  - **Description of Template Plan and its goals and objectives**
  - **Discussion of Project Effectiveness**
  - **Description of Plan Elements Employed**
  - **Identification of barriers to full deployment at other CCCs**
  - **Recommendations for ongoing maintenance and improvement**
  - **Discussion of potential funding sources to ensure persistence of program**

# Project Status and Schedule

## Major Milestones

- **Project Kick-off – April 2011**
- **Held four Campus Committee and two Advisory Council meetings to date**
- **Template Plan**
  - **Draft Plan – SUBMITTED October 14, 2011**
  - **Final Plan – November 15, 2011**
- **Pilot Demonstration at Citrus College**
  - **Submit Roll-out Plan – December 2011**
  - **Pilot Demonstration – January and February 2012**

# *Questions?*

Thank You!!!