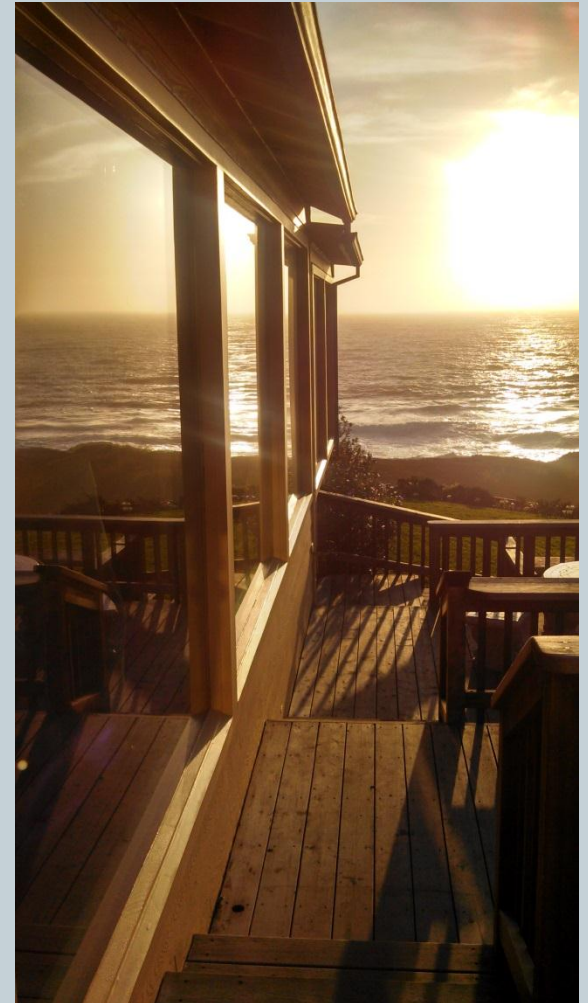# Sustainable SMCCD

THE PAST, PRESENT, AND FUTURE OF SUSTAINABILITY AT
SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT

Overview

- ## A Bit of History and Background
  - Global Picture
  - Here in SMCCCD

- ## What we have going on now…
  - Cañada Sustainability Plan
  - CSM Sustainability Plan
  - Skyline Sustainability Plan
  - Some Ongoing Initiatives

- ## Next Steps
  - Leveraging Points
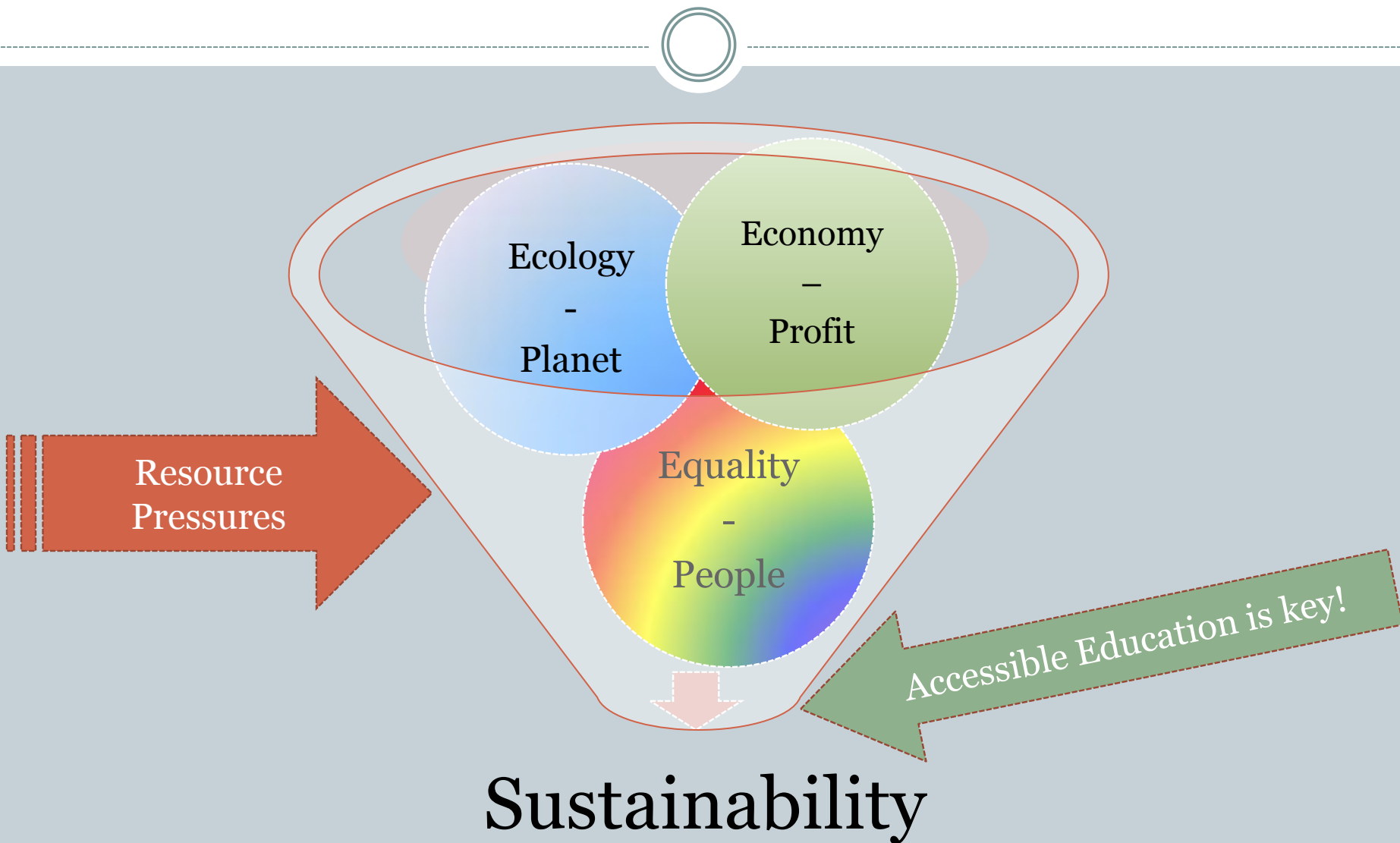 - Q&A

History: The Big Picture

The term, sustainable development, was popularized in *Our Common Future*, a report published by the World Commission on Environment and Development in 1987. Also known as the Brundtland report, *Our Common Future* included the "classic" definition of sustainable development: "development which meets the needs of the present without compromising the ability of future generations to meet their own needs." Acceptance of the report by the United Nations General Assembly gave the term political salience; and in 1992 leaders set out the principles of sustainable development at the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil.

It is generally accepted that sustainable development calls for a convergence between the three pillars of economic development, social equity, and environmental protection. Sustainable development is a visionary development paradigm; and over the past 20 years governments, businesses, and civil society have accepted sustainable development as a guiding principle, made progress on sustainable development metrics, and improved business and NGO participation in the sustainable development process. Yet the concept remains elusive and implementation has proven difficult. Unsustainable trends continue and sustainable development has not found the political entry points to make real progress. As a result, climate change has become the de facto proxy for implementation of the sustainable development agenda; but the framework of the climate change negotiations are not always the appropriate forum for broader strategic discussions of sustainable development.

Modern Theory of Sustainability

Ecology - Planet

Economy – Profit

Equality - People

Resource Pressures

Accessible Education is key!

Sustainability

Sustainability Connections

- Sustainability Goals Align with Board Goals:

Goal 1 Maintain fiscal stability

Goal 2 Core mission of providi... ...ation and workforce training to as many students as possible.

Goal 4 Continue efforts to buil... ...t infrastructure and facilities

Goal 6 Increase access to learni... ...es and increase flexibility to achieve student success and instit... ...ectiveness.

Goal 7 ...assure that educational needs of the community are met and to identify skills gaps and emerging job... ...portunities that require postsecondary training programs.

Goal 8 Continue to develop efficient, ...ancially feasible and collaborative strategies to ensure that faculty and s...ff are kept current with the pedagogy, technology and other activities that are critical to student success and organizational excellence.
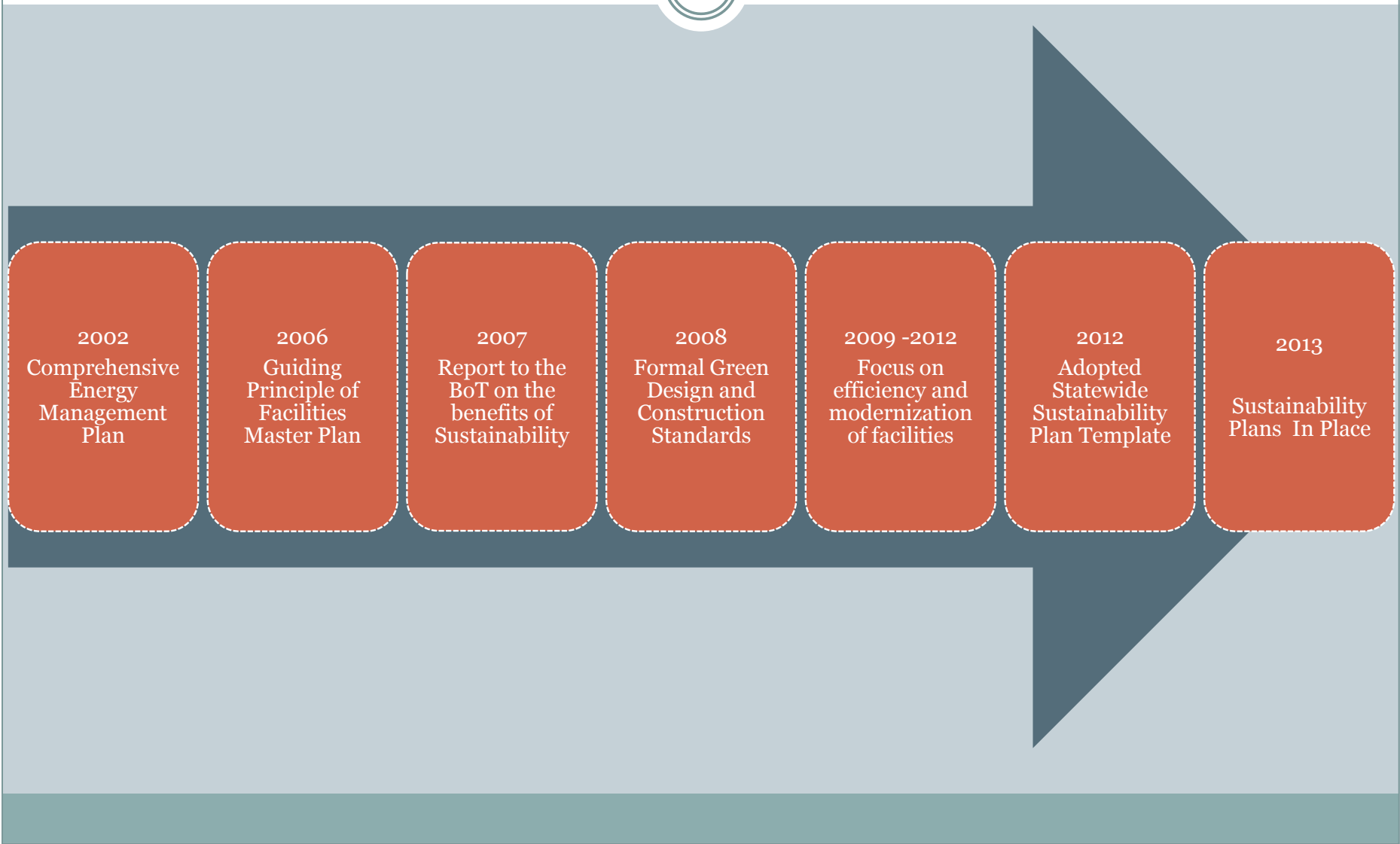
Goal 10 Broaden glob... ...ural and educational diversity by fostering ... ...

Goal 12 Build strong r... ...other school districts.

SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT

History: SMCCD

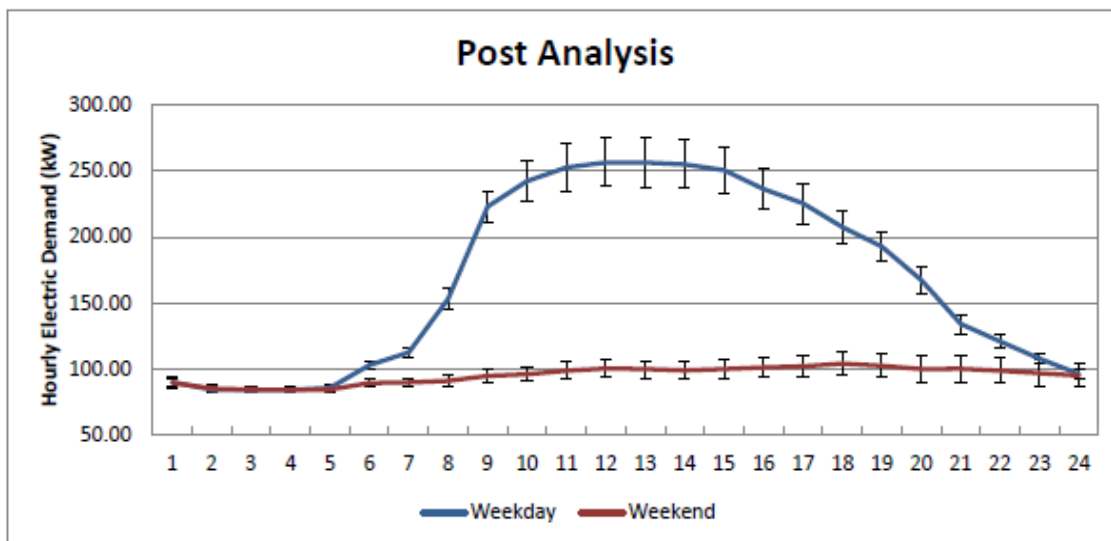| 2002	2006	2007	2008	2009 -2012	2012	2013
Comprehensive Energy Management Plan	Guiding Principle of Facilities Master Plan	Report to the BoT on the benefits of Sustainability	Formal Green Design and Construction Standards	Focus on efficiency and modernization of facilities	Adopted Statewide Sustainability Plan Template	Sustainability Plans In Place

Cumulative Energy Savings and Incentives

History: SMCCD

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  - Cañac

Baseline Analysis

Post Analysis
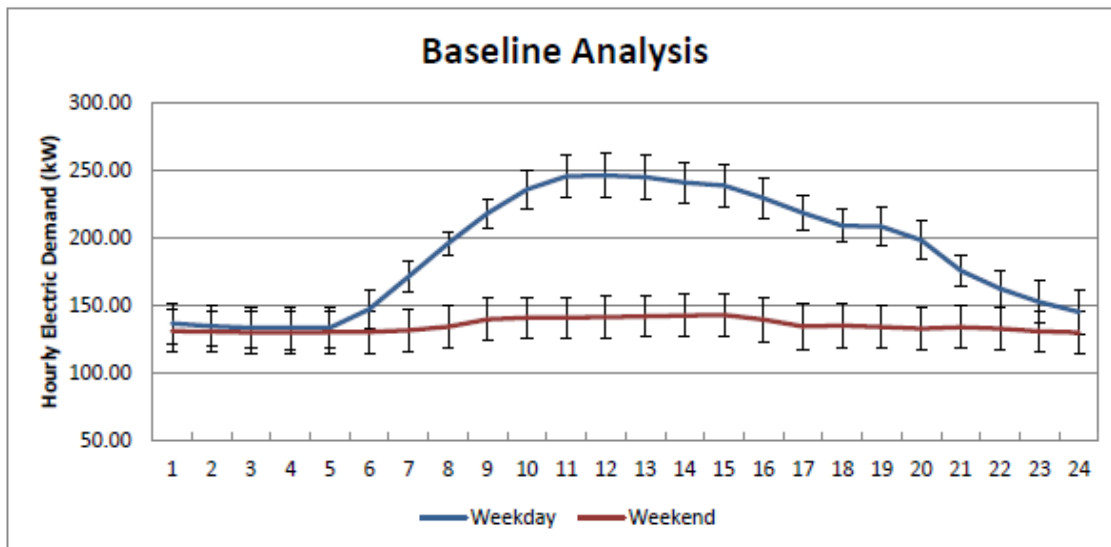
Background: Sustainability Planning

1. Adoption of Sustainability Template
2. Creation of Campus level sustainability teams
3. Define Sustainability Goals
4. Refine and Adjust template for Campus fit
5. Create Criteria, Metrics, and action items
6. Establish Baselines and Timelines
7. Engage the campus community

Skyline Students Step Up for Sustainability

be the light of change

$5000, 3 Grants
To Support Skyline Student Projects

Campus Plans

Campus Plan Overlap

CSM			Cañada			Skyline		
Goal Number	Area of Sustainability	Established Goal	Goal Number	Area of Sustainability	Established Goal	Goal Number	Area of Sustainability	Established Goal
1	Campus and Community Awareness	Facilitate participation in campus sustainability efforts and awareness of sustainability issues through effective educational and engagement methods. Positively influence the behaviors of all campus community members so they may embrace and champion sustainability at CSM, in the community, and in their personal lives. Establish CSM as a cultural center for sustainability and social justice in our community.	1	Campus and Community Awareness & Involvement	Encourage awareness of and participation in sustainability efforts and positively influence the campus community to champion sustainability at Cañada College, in the community, and in their personal lives.	2	Campus and Community Education and Awareness	Encourage participation in and awareness of sustainability issues through effective education and engagement. Publicize sustainability events and programs in campus media outlets including Skyline Shines, the Skyline View and the campus sustainability website. Positively influence the campus community to embrace and champion sustainable behaviors at Skyline, in the community, and in their personal lives. Establish Skyline College as a cultural center for sustainability and environmental justice in the north County of San Mateo. Institutionalize the Sustainable Ambassador Network as a shared governance Task Force by Fall Semester 2013.
2	Curriculum Development	CSM will positively support the integration of sustainability into current and future curriculum.	2	Curriculum Development	Creatively integrate environmental awareness, social responsibility and sustainability into existing courses. Develop new curricula and training programs with a focus on environmental sustainability.	3	Curriculum Development	When appropriate to a program of study, creatively integrate environmental awareness, social responsibility and sustainability into existing course student learning outcomes (SLOs). Connect institutional student learning outcomes (ISLOs) with sustainability, and explore the creation of sustainability theme pathway in General Education core requirements. Develop new curricula and training programs focused on sustainability and the environment. Create certificate and degree programs in Environmental Science and Energy Systems Technology and Management by spring 2014; continue to create service learning opportunities with sustainability focus.

Campus Plan Overlap

Goal Number	Area of Sustainability	Established Goal	Goal Number	Area of Sustainability	Established Goal	Goal Number	Area of Sustainability	Established Goal
3	The "Human Component"	Behaviors of the entire college community are crucial to the success of sustainability initiatives; for example, levels of awareness, participation, and engagement, and the commitment of individuals to collaboration are critical to the success of this necessarily collective effort.				1	Student Engagement	Integrate sustainability into all facets of student life, including student government, clubs, and organizations. Align student programs with Education Master Plan (EMP) Service Learning initiative by: inspiring participation in and the advancement of student-led sustainability initiatives, encouraging innovation and entrepreneurship, and supporting Environmental Service Learning ENVS 680. Issue a grant for $5,000 for three student-led sustainability projects by spring 2014 as a part of Skyline Students Step Up. Create and adopt an ASSC student body sustainability statement by 2014.
4	The Built Environment	Collaborate with SMCCCD Facilities to develop the next generation of Master Planning Sustainability Goals for the Built Environment. Existing goals include: • Reduce Operating Costs through Renewable and Energy Efficient Capital Projects • All new projects to be LEED Silver and modernization projects designed to be LEED Certified • Every new project to exceed Title 24 requirements by 15% • Mandatory PG&E Energy Efficiency/Savings by Design Application • Mandatory Life Cycle Cost Analysis on Major Equipment	3	The Built Environment	Collaborate with SMCCCD Facilities to develop the next generation of Master Planning Sustainability Goals for the Built Environment that exceed existing goals. Strengthen existing stakeholder process to ensure that new and renovated structures accomplish campus goals.	4	The Built Environment	Collaborate with SMCCCD Facilities to develop the next generation of Master Planning Sustainability Goals for the Built Environment. Existing goals include: • Reduce Operating Costs through Renewable and Energy Efficient Capital Projects • All new projects to be LEED Silver and modernization projects designed to be LEED Certified • Every new project to exceed Title 24 requirements by 15% • Mandatory PG&E Energy Efficiency/Savings by Design Application • Mandatory Life Cycle Cost Analysis on Major Equipment

Campus Plan Overlap

Goal Number	Area of Sustainability	Established Goal	Goal Number	Area of Sustainability	Established Goal	Goal Number	Area of Sustainability	Established Goal
5	Energy Efficiency	Perform a campus Facilities Measurement, Verification, and Benchmarking Study using Association of Physical Plant Administrators (APPA) FPI, Energy Star Portfolio Manager or other appropriate benchmarking tools by end of 2013. Based on the results, establish annual energy use reduction goals (minimum 15% below average) and plan appropriate energy efficiency measures to meet reduction goals by mid-2015. Evaluate goals every five years.	4	Energy Conservation and Efficiency	Establish energy use baseline by the end of 2013. Establish annual energy use reduction goals that are at least 15% below the energy use by similar entities. Develop and implement strategies in order to achieve these goals by May 2016. Evaluate goals every three years.	5	Energy Efficiency	Perform a campus Facilities Measurement, Verification, and Benchmarking Study using the Association of Physical Plant Administrators' (APPA) FPI, Energy Star Portfolio Manager or other appropriate benchmarking tools by end of 2013. Based on the results, establish annual energy use reduction goals (minimum 15% below average) and plan appropriate energy efficiency measures to meet reduction goals by mid-2015. Evaluate goals every year. Explore the integration of workforce training and student learning into energy efficiency projects.
6	Water Conservation	Perform a campus Facilities Measurement, Verification, and Benchmarking Study using APPA FPI, Energy Star Portfolio Manager or other appropriate benchmarking tools by end of 2013. Based on the results, establish annual water use reduction goals and implement appropriate water efficiency measures to meet reduction goals. Evaluate goals every five years.	5	Water Conservation and Efficiency	Establish water use baseline for the campus by the end of 2013. Establish ambitious annual water use reduction goals by May 2014, and implement appropriate water efficiency measures to meet the goals. Evaluate goals every three years.	6	Water Conservation	Perform a campus Facilities Measurement, Verification, and Benchmarking Study using APPA FPI, Energy Star Portfolio Manager or other appropriate benchmarking tools by end of 2013. Based on the results, establish annual water use reduction goals and implement appropriate water efficiency measures to meet reduction goals. Evaluate goals every five years.
7	Solid Waste Management	Continue to implement the landfill diversion program, expand it to include all sectors of recycling and waste reduction to landfills, including electronic waste, green waste and food waste composting, comply with recycling program requirements of AB-341, and strive to meet the statewide landfill recycling goal of 75% by 2020.	6	Solid Waste Management	Expand waste reduction and recycling programs to include organic waste diversion, exceed statewide landfill diversion goal of 75% by 2020 and strive to achieve zero waste. Increase campus participation in waste reduction, reuse, and recycling.	7	Solid Waste Management	Continue to implement the landfill diversion program, expand it to include all sectors of recycling and waste reduction to landfills, including electronic waste, green waste and food waste composting, comply with recycling program requirements of AB-341, and strive to meet the statewide landfill recycling goal of 75% by 2020.
8	Transportation	Review and/or update existing transportation studies to establish a Vehicle Miles Traveled (VMT) baseline for the campus by Spring 2014. Create systems and infrastructure to reduce the reliance of students, faculty and staff on single occupancy gasoline vehicle commutes by 10% within the next 5 years. Encourage use of electric vehicle charging stations, carpooling, bicycling, and public transportation. Work with SMCCCD and Public Transit Agencies to improve College of San Mateo access to efficient and affordable public bus and rail transportation.	7	Transportation	Establish a Vehicle Miles Travelled (VMT) baseline for the campus by May 2014. Reduce the reliance of students, faculty and staff on single occupancy vehicle commutes by 10% within the next 5 years.	8	Transportation	Review and/or update existing transportation studies to establish a VMT baseline for the campus by Spring 2014. Create systems and infrastructure to reduce reliance of students, faculty and staff on single-occupancy gasoline vehicle commutes by 10% within the next 5 years. Encourage use of carpooling, bicycling and public transportation. Encourage use of electric vehicles by installing electric vehicle charging stations by Spring 2013. Work with SMCCCD and Public Transit Agencies to improve Skyline College access to efficient and affordable public bus and rail transportation.

Campus Plan Overlap

Goal Number	Area of Sustainability	Established Goal	Goal Number	Area of Sustainability	Established Goal	Goal Number	Area of Sustainability	Established Goal
9	Sustainable Procurement	Partner with Auxiliary Services to increase college efforts to source campus food, materials, supplies, information technology equipment, and resources from organizations that are committed to social responsibility and environmental sustainability. Procurement standards will be established by Fall 2013, reviewed bi-annually, and updated as necessary.	8	Sustainable Procurement	Increase college efforts to source all goods and services from organizations that are committed to social responsibility and environmental sustainability. Establish procurement guidelines by Fall 2013, reviewed bi-annually.	9	Sustainable Procurement	Partner with Auxiliary Services to increase efforts to source campus food, materials, supplies, information technology equipment and resources from organizations committed to social responsibility and environmental sustainability. Procurement standards will be established by Fall 2013, reviewed bi-annually, and updated as necessary.
			9	Renewable Energy and Onsite Generation	Continue to study feasibility of procuring and/or generating renewable energy. Share findings with the campus community periodically.			
			10	Climate Action Plan	Continue to reduce greenhouse gas emissions through the implementation of the Cañada College Sustainability Plan. Begin the development of the Climate Action Plan.			
			11	Sustainability Plan Management	Institutionalize the Sustainability Committee by Fall Semester 2013. Evaluate the progress of Sustainability Plan implementation and disseminate findings to the campus community. Update the Sustainability Plan at least every three years.			

Back to Ongoing Initiatives

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  - Q&A

Storm Water Management Program

Phase I
- 1990 – EPA Established NPDES
- Medium and Large MS4s (>100,000 in pop.) must develop SWMP's

Phase II
- 1999 – Small MS4 Permits Required
- 2003 – SWRCB established "traditional" and "non-traditional" MS4's
- 2013 – SWRCB looks to designate CCC's as non-traditional MS4's

SMCCD
- 2013 – Recognizes the environmental and societal benefits of preparing a Storm Water Management Program
- SMCCD SWMP identifies strategies to adopt and administer for environmental management and education related to storm water in order to reduce the discharge of pollutants to the "maximum extent practicable" and protect water quality.

Storm Water Management Program

- CCC's are responsible for their own facilities – including Storm Water:
  - Broad Awareness of vital Water Resources throughout CA
    - Water Quality
    - Water Quantity
  - Leadership by the CCCCO
    - Formed the SWG
    - Successful CCC Lobbying for exemption from MS4 Designation
  - Modeling best management practices
    - SMCCD has been Proactive in establishing, adopting and applying BMP's

Storm Water Management Program

- No need to panic – SMCCD has a plan to manage potential pollutants:

  MCM 1: Education and Outreach on Storm Water Issues

  MCM 2: Campus Community Involvement and Participation

  MCM 3: Illicit Discharge Detection and Elimination

  MCM 4: Construction Site Storm Water Runoff Control

  MCM 5: Post Construction Storm Water Management in New Development and Redevelopment

  MCM 6: Pollution Prevention and Good Housekeeping for Facilities Maintenance and Operation

SWMP Next Steps

- Leading an effort to create a template for all California Community College Districts
  - Presenting the Foundation of the Template at ACBO Facilities Task Force– Sept. 12
  - Presenting the Full Template to CCFC – Nov. 17
- Implementing our own program
  - Continuously improving policies and procedures for Minimum Control Measures
  - Leverage the program to provide experiential learning opportunities for our Campus Communities
- Meeting and Exceeding SWM Program Goals

Examples of SWMP Measures

- Examples: Store it - Sink it - Spread it
  - Hillsdale Parking lot
  - Net Zero Run Off Policy
  - Storm Water Retention work
  - Inlet Signage
  - Outreach Events and Marketing Materials

Electric Vehicle Charging Stations

EV Charging Stations

U.S. Imports by Country of Origin

Source: U.S. Energy Information Administration
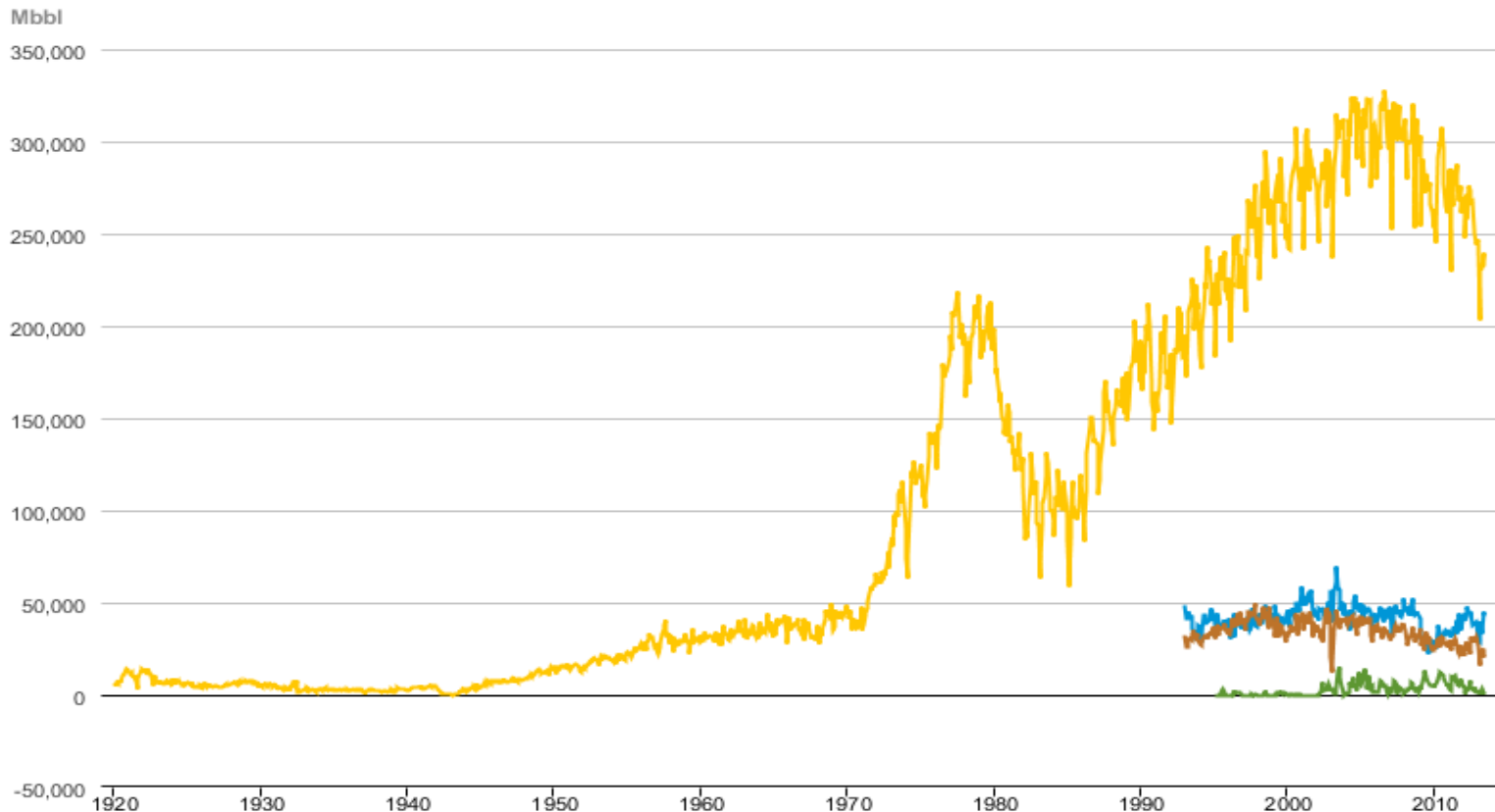
EV And Charging Technology

- https://na.chargepoint.com/home

Figure 43. Thomas Edison poses alongside the Bailey roadster that survived a 1,000-mile run. (U.S. Department of the Interior, National Park Service, Edison National Historic Site, 14.625/12, neg. 214)

EV Charging Stations: Process Thus Far

- SMCCD Was the recipient of a California Energy Commission Grant administered by Schneider Electric

- SMCCD paid for the infrastructure

- The Grant pays for the units

- All 11 Units are all installed and able to charge!

Thanks to Mike Williamson and Raj Lathigara, Karen Pinkham, John Doctor, John Hashizume, Paula Reyes, Schneider Electric, Inter Mountain Electric and many others!

Cañada Charging Stations

Cañada Lot 1

Cañada Lot 2

College of San Mateo EV Charging Stations

CSM Marie Curie Lot

District Office

CSM DaVinci Lot

Skyline Charging Stations

Skyline Lot K

Skyline Lot M

Skyline Lot G

Skyline Building 11
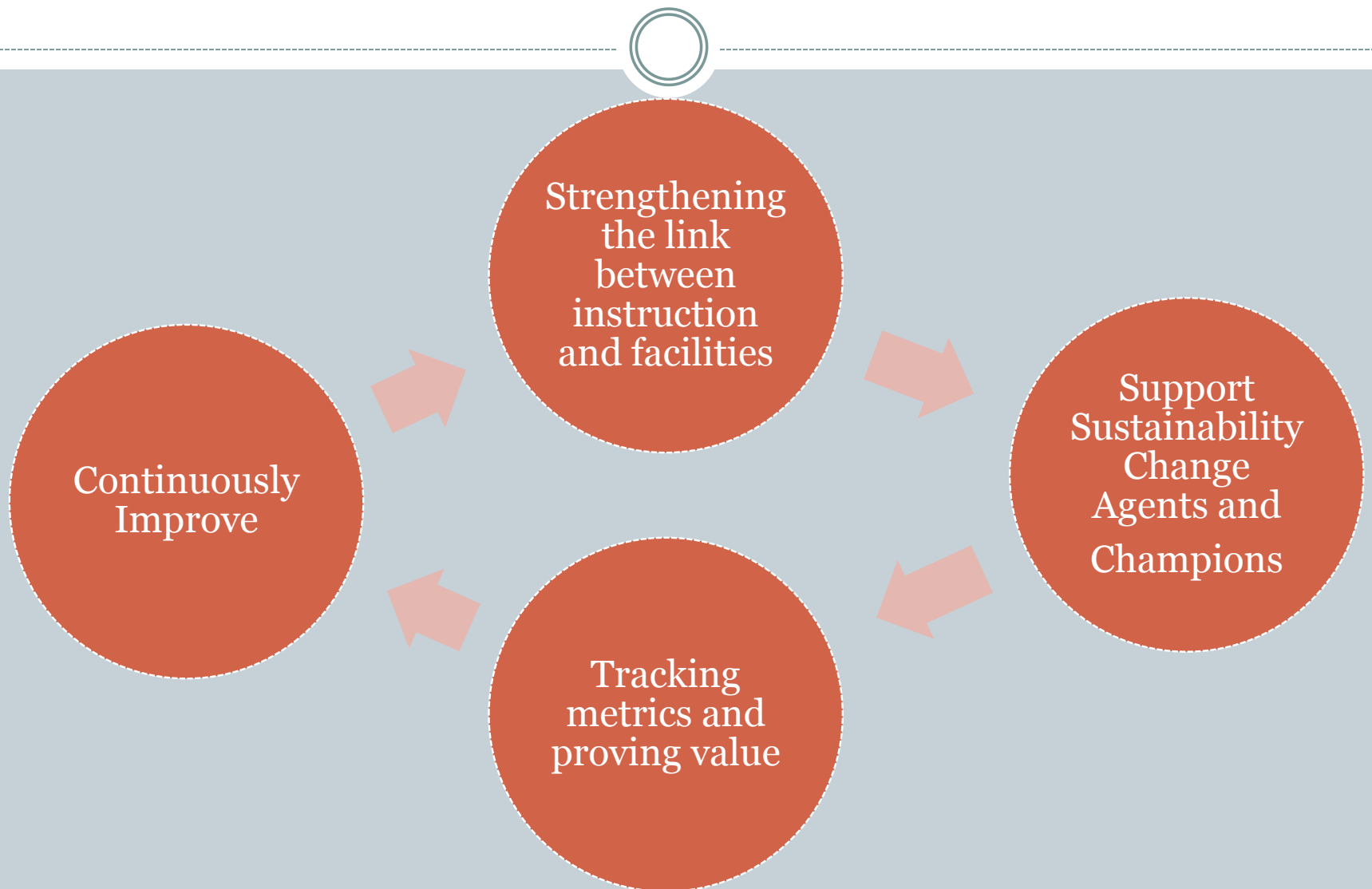
Other Ongoing Initiatives

- Fellowship in Sustainable Community College Initiative
- ATE/NSF Grant Funding Potential at Cañada
- Work Study Opportunity for CSM Student
- Climate Corps Intern at Skyline
- Continued search for alternative funding mechanisms and viable programs

Leverage Point: Proposition 39

- Cañada College Solar Photovoltaic ~1MW
- Cañada College LED Roadway & Parking Lot Lights
- College of San Mateo LED Roadway & Parking Lot Lights
- District Wide Sub-metering (M&V)
- District Wide Energy Information System
- College of San Mateo Co gen Replacement
- Skyline College Cogen Replacement

Next Steps: Implementation

Strengthening the link between instruction and facilities

Support Sustainability Change Agents and Champions

Tracking metrics and proving value

Continuously Improve

Thank you and Remember…

Have fun at work and celebrate the victories… even the small ones

THANK YOU!

Contact Information

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  - Sabrina Lawrence-Gomez: (650) 358-6848, GomezS@smccd.edu

Resources and Events

- Facilities
  - Storm Water (dates)
  - Sustainability Plans
- Partnership
- NAM – Template
- CCCCO
- Sustainability Template Presentation
  - PCAPPA – 9/17
  - CCFC - 11/6
  - CCLC – 11/23