

Opening Day 2008

Sustainability Contacts (Not all Inclusive)

Central Services

Charles Allen x6150
Gina Bailey x6166
Becky Bartindale x6107
Andy Dunn x6201
Frank Nuñez x5437
Steven Schmidt x6168

Foothill College

Mia Casey x7408
Robert Cormia x7456
Karen Smith x7611
Charlotte Thunen x7559
Brenda Visas x7033

De Anza College

Julie Ceballos x5359
Jeanine Hawk x8976
Susan Malmgren x5713
Bonnett Saussol x8306
Kristin Sullivan x8625
Karl Von Ahnen x8282



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Charles Allen

Executive Director of Facilities,
Operations & Construction
Management



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Reducing Energy Consumption A Call to Action

September 18, 2008

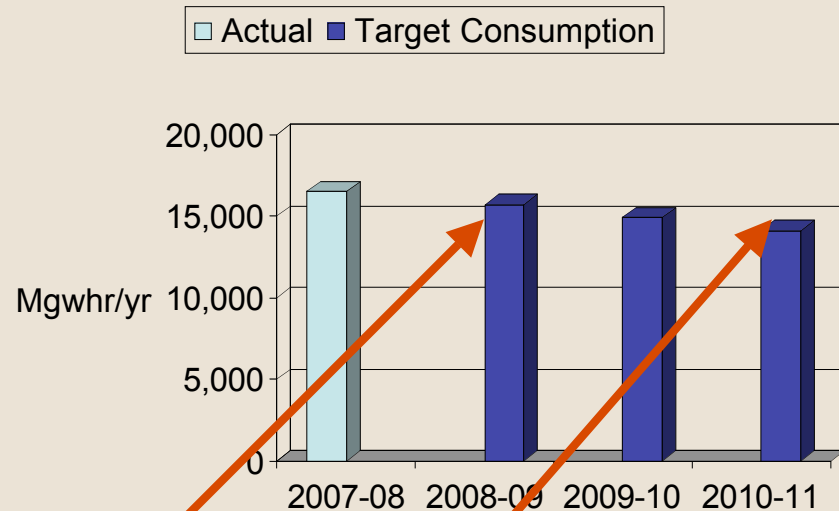
Reducing Energy Consumption What We Have Done

- Photovoltaics
 - Cogeneration
 - Artificial Turf
 - Energy Management System (EMS)
 - Kirsch Center for Environmental Studies
 - Student & Community Services
 - Science Center
 - Other
- 1991-1992 to 2005-2006 use/ASF
- 17% reduction in electricity
 - 8% reduction in natural gas

Reducing Energy Consumption Where We Are Going

Electricity Consumption

- Identify consumption base line
- Set long term targets
- Identify annual goals



***5% Reduction in consumption
in the next year***

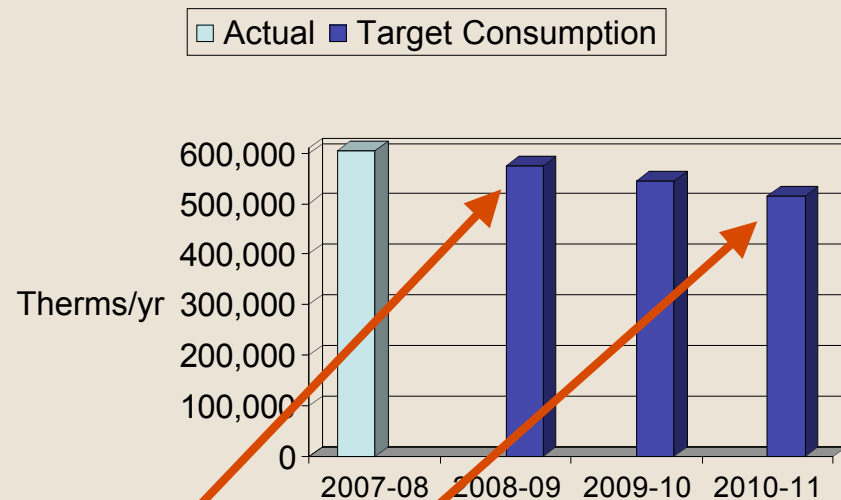
***15% Reduction in
consumption in 3 years***

\$120,000 annual savings

Reducing Energy Consumption Where We Are Going

Natural Gas Consumption

- Identify consumption base line
- Set long term targets
- Identify annual goals



***5% Reduction in consumption
in the next year***

***15% Reduction in
consumption in 3 years***

\$30,000 annual savings

Reducing Energy Consumption

How do we get there?

- More energy efficient buildings
- Better management of energy consumption
- Everyone can help – what's your idea?



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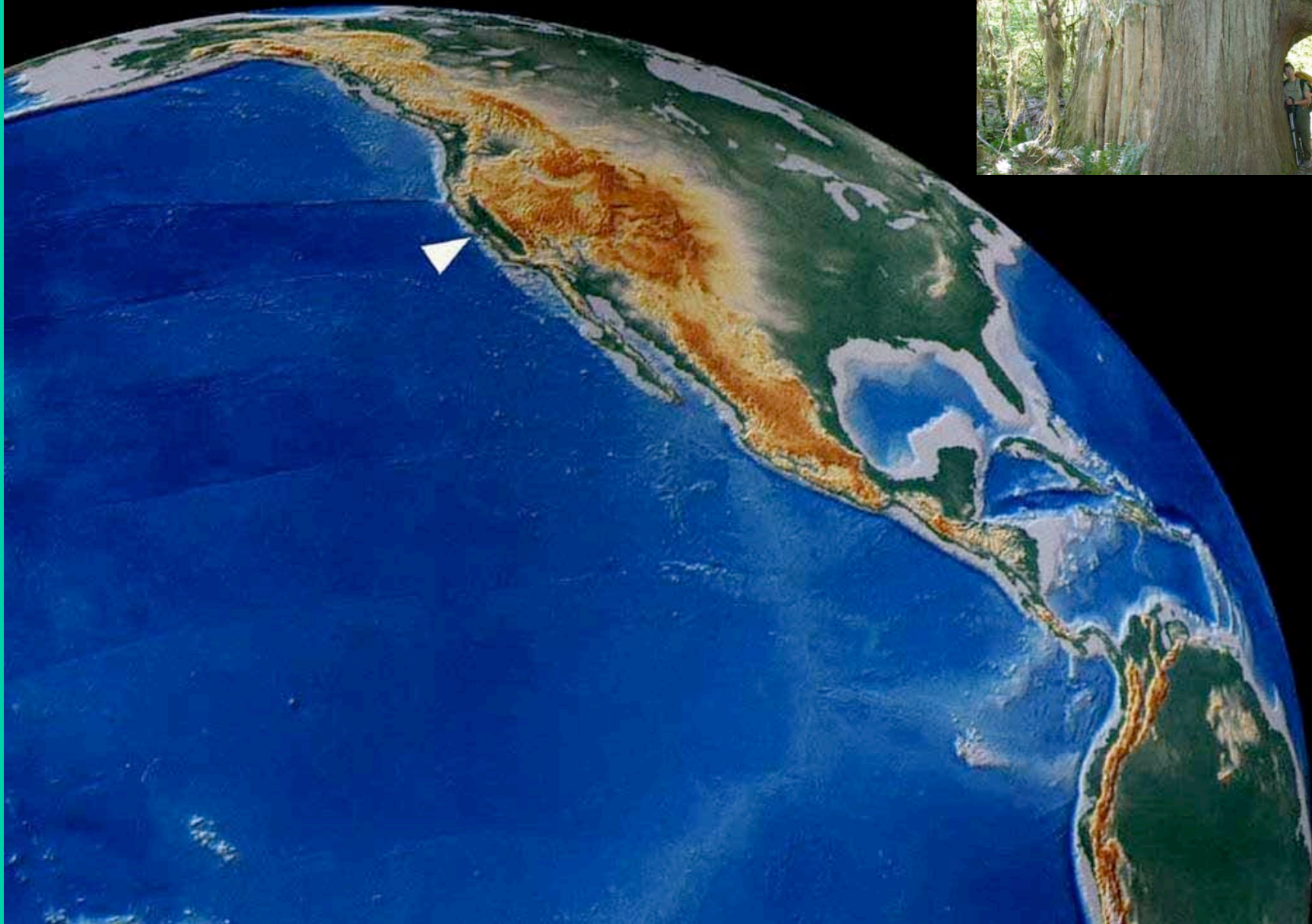


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Kristin Jensen Sullivan

Professor of
Environmental Studies
De Anza College







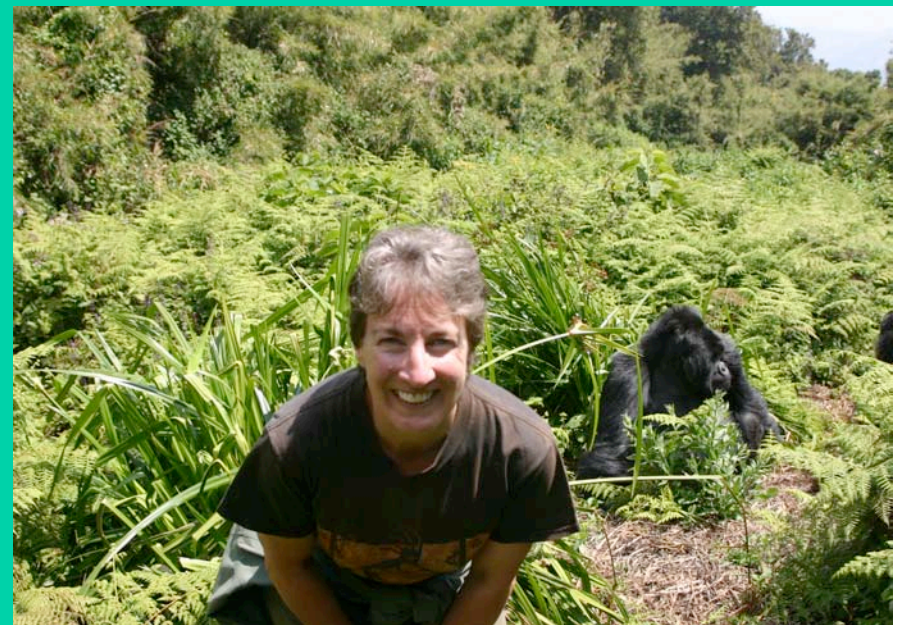
FHDA Opening Day Fall 2008

Sustainability Panel: Learning, Stewardship and the Environment

- Promoting environmental stewardship for a just society and a vibrant quality of life
- What we are and can be doing to curb threats and preserve: the quality of our lives, the education we provide, and the environment
- Outline: 1) Introduction and Importance of this topic, 2) History and Present, 3) Future: It takes all of us!

Introduction and Importance of this topic

- Sustainability learning is critical for our students; We are leaders and role models
- Sustainability= 3P's, 3E's, long-term thinking, mindfulness, 7 generations, multi-generational, integrity, respect, compassion, caring
- Just society: Environmental justice, Van Jones





History-

- **Environmental Studies Program-** 1990
- **CEAG** (College Environmental Advisory Group)- ~1990 and **SMP** (Sustainability Management Plan)
- **FHDA, DAC, FH** - Signed:
American Colleges and Universities,
Presidents Climate Commitment,
Talloires Declaration
- Reasons for **De Anza College's sustainability involvement-** Leaders,
Responsibility to our students to teach
about sustainability ("greener" spaces
increase health, productivity)



Kirsch Center for Environmental Studies (KCES) - 100's involved in process

- \$'s initially by students!
- Houses BHES and Workforce Education Division office, Environmental Studies Department (70 classes now)
- 1st CC LEED platinum in nation!
- Center for the Built Environment, most livable building in U.S., award
- Vibrant: Ten Shades of Green

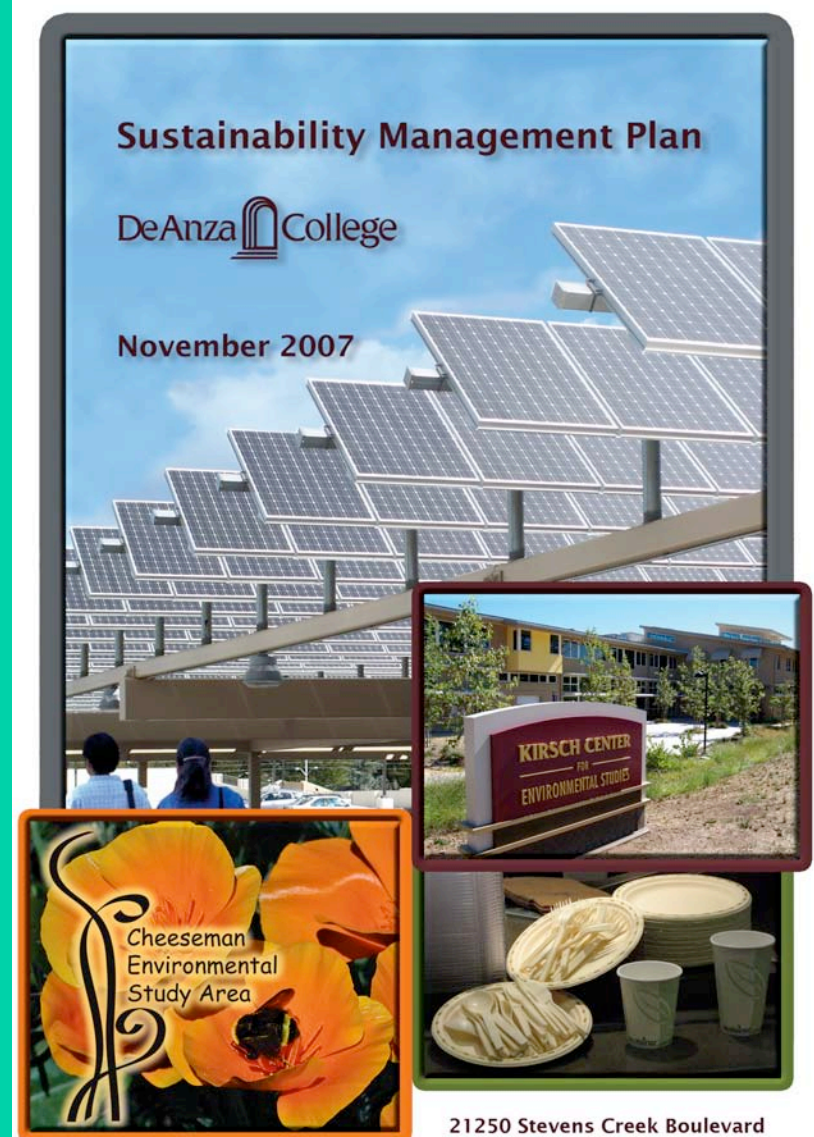


TEN
of shades
GREEN

College Environmental Advisory Group

(~1990: Formed)

- 1994: **Board adopts** Environmentally Sound practices
- Other work: policy, **Kirsch Center for Environmental Studies**, SMP
- **SMP 2007: 7 areas**- Green Building, Community and Civic Engagement, Hazardous/Solid Waste, Energy, Water, Green Purchasing, Ecological Landscaping



21250 Stevens Creek Boulevard
Cupertino, California 95014
www.deanza.edu/ceag

Other Sustainability Efforts/ Accomplishments:

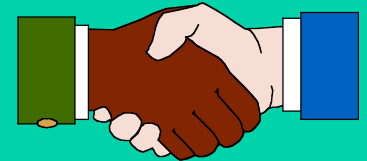
- **Buildings - LEED™** - soon six, green materials in building renovations, photovoltaics
- **Energy** - Statewide Energy Management Program, influencing energy policy in CCC's
- **Focusing efforts as faculty, staff, administrators, students** - Faculty A.S. involvement, helping to integrate sustainability across the **curriculum**, Administrators and Staff with SMP, etc., Student involvement in KCES, organic food, SMP
- **Other - ICCE** involvement: Focus The Nation; **Al Gore** visited...then Nobel Peace Prize



Future: What can we all do-

Lots to do, help!

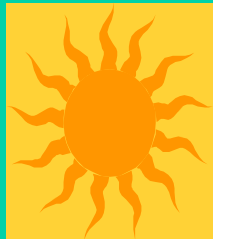
- Create sustainability culture: permeate through campuses
- Engage yourself- living democracy: everyday work, home, community (policy, voting with your dollars)
- Environmental education- take classes, sustainability in syllabi, interdisciplinary teaching, G.E. requirement
- Sustainability in employee trainings, evaluations, hiring processes, competencies
- Sept. 27th <http://greenjobsnow.com/about>



WANGARI MAATHAI QUOTE:

- *“I don’t really know why I care so much. I just have something inside me that tells me that there is a problem and I have to do something about it. And I am sure that it is the same voice that is speaking to everyone on this planet, at least everybody who seems to be concerned about the fate of the world, the fate of this planet”.*

- Nobel Peace Prize 2004
- Kenya’s Greenbelt Movement



People and all living things planet-wide thank you!

Thank you for your interest. We
live in a hopeful time.









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Donna Jones-Dulin

Director of College Services
De Anza College





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De Anza College's Commitment to Sustainability

1992: College Environmental Advisory Group (CEAG) was founded by Julie Phillips, Morgan Family Chair in Environmental Studies - www.deanza.edu/ceag

1994: FHDA adopted board policy on environmentally sound practices

Fall 2000: Green Building Design: With leadership from Julie Phillips, John Schulze (Director of Facilities and Operations), and Mike Brandy (VP Finance and College Services) De Anza embarked on a statewide leadership role by modeling all three of the College's new buildings (Science Center, Kirsch Center for Environmental Studies, and Student Community Services) to meet high standards of sustainable buildings (**LEED**)

November 2000: Preliminary board approval of both Colleges' Facilities Master Plans

January 2001: Sustainable Buildings: A District Steering Committee was formed to develop design standards for building construction, waste management, water usage, etc. These standards were applied to all the renovation and new construction on campus. The De Anza representatives on this committee were Julie Phillips and Mike Brandy

May 2001: Sustainable Buildings: District-wide standards for a "Sustainable Campus" which included specific building design standards on energy efficiency and material usage

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De Anza College's Commitment to Sustainability - cont.

July 2002: Board approval for the Kirsch Center for Environmental Studies

Fall 2004: Science Center opened

Summer 2005: Student & Community Services opened

Fall 2005: Kirsch Center for Environmental Studies opened

Fall 2007: Dining Services re-opened using biodegradable products

Spring 2008: Custodians introduce "Green Cleaning"

Summer 2008: Phase I of the Landscaping plan completed

Fall 2008: Revitalization of the recycling program

Winter 2009: Visual & Performing Arts Center is scheduled to open

2010: Construction begins on Mediated Learning Center

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Construction Projects

De Anza's LEED-Certified Construction Projects have:

- * Lower operating costs and increased asset value
- * Reduced waste sent to landfills
- * Reduced energy and water consumption
- * Healthier and safer environment for occupants
- * Reduced harmful greenhouse gas emissions
- * Commitment to environmental stewardship and social responsibility



Kirsch Center



Science Center



Student Community Services

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What is LEED?

Leadership in Energy and Environmental Design

LEED is a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

De Anza College was the first community college to have three LEED buildings (Kirsch, Science Center, & SCS). The college is moving forward with its fourth (VPAC) and fifth (Mediated Learning) LEED buildings.

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LEED Construction Projects

Science Center (LEED Certified)

Kirsch Center Environmental Studies (LEED Platinum)

Features include:

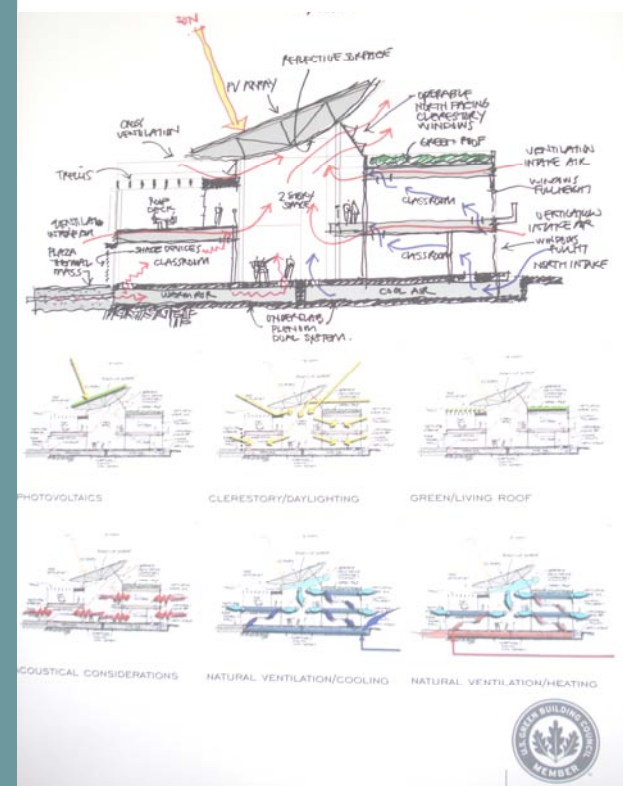
- * Reduced energy load
- * On-Site renewable energy
- * Solar electric (photovoltaics)
- * Natural daylight & ventilation
- * Estimated to use 50% less energy than a comparable building
- * Auto faucet sinks
- * Solar hot water
- * Reduced emissions
- * Waterless urinals

Student & Community Services Building (LEED Certified)

Visual & Performing Arts Center (LEED Silver)

Mediated Learning Center (LEED Platinum)

Schematic Drawing - Mediated Learning



Visual & Performing Arts Center



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Operations

(Reduce/Recycle/Reuse)

Landscaping is predominately drought tolerant, native, or adaptable plant species. Artificial turf on soccer field. Weather station regulates irrigation system

Dining Services cutlery & containers are 100% biodegradable. Local organic farmers & “fair trade” coffee

Recycling/Composting: Renewed push for campus-wide recycling. Compost used for herbs. Herbs harvested and used by Dining Services

Green Cleaning: Campus uses Green Seal certified cleaning products

Furniture/Procurement: Recycled content and/or sustainable materials are used as far as possible e.g. sunflower seed husk counter tops

Transportation: Promotion of carpooling. Designated parking for carpool & alternative fuel vehicles. VTA bus stop. Bike racks

Photovoltaics produce 340,000 kWh/year - reducing energy costs

Co-generation microturbines produce 90,000 therms/year - used to heat pool



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Robert D. Cormia

Professor of
Informatics & Technology
Foothill College



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Major Points (Climate)

- We are at the edge of influencing future climate scenarios
 - 20 years past 1987/8 – 350 ppm CO₂
 - Headed towards 3W of total forcing (2015)
- Climate feedbacks are appearing, at both an alarming and accelerating rate
 - Open ice in the arctic ~ 2012 (5 yrs)
 - Degradation (collapse) of ice sheets
 - Methane leakage from the cryosphere

Ice Core Measurements



Rapid Glacier Melting



A recent photo of Greenland's shrinking glaciers, courtesy of Creative Commons

Foothill Sustainability Team

Six people working towards creating an action plan with activities and metrics

- Mia Casey
- Robert Cormia
- Brenda Davis
- Frank Nuñez
- Karen Smith
- Charlotte Thunen

Foothill Action Plan

Five areas of activities and metrics

1. Energy / emissions
2. Water
3. Waste
4. VMT (rideshare)
5. Environmental toxins

Sustainability Plan Goals

	Goal	Activity	Data collection	Analysis	Reporting
Energy	Understand energy use	Measure and report energy use	PG&E bills	KwHrs Therms CO ₂	KwHrs Therms CO ₂
Water	Understand water use	Measure and report water use	Meter Waste Runoff	Gallons Monthly trends	Gallons Monthly trends
Waste	Reduce waste Increase recycling	Measure waste and recycling	Mass and type of waste	What can be recycled?	Employees and students
VMT	Reduce VMT	Survey students employees	VMT Mileage	Trips Miles GHGs	Trips Miles GHGs
Toxins	Reduce	Catalog	Catalog	Type amount	Type amount



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Charlotte Thunen

Instructional Librarian
Foothill College



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Sustainability Team and Network Initiatives

Promote the theme of sustainability

- curriculum -- SLOs
- classroom -- assignments & projects
- campus -- “Emerald Campus”

Reduce, Recycle, Educate



- Reduce carbon footprint--promote ridesharing
<http://511.org>
- Single stream recycling
 - no more sorting!
 - plastics, glass, aluminum, paper and cardboard in one container
- Collection of paper waste from Division Offices by TTW students

Campus



- Artificial turf made of recycled materials
 - Water savings of 25%
- Solar and cogeneration plants
 - 780 kilowatts (302 kwh near PE)
 - Heat recovery for pools
- Eco-friendly buildings
 - Reclaim/recycle carpeting, furniture
 - New PSME building -- Silver LEED certified
- Sustainable and biodegradable food-ware and containers
- Composting program



Sustainable Ecosystem Project



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Composting

Farmers' Market



Community Garden

Cafeteria



SUSTAINABILITY AT FOOTHILL

Sustainability Committee Main Page

Current Initiatives Meeting Notes

Check out the latest news from the Association for the Advancement of Sustainability in Higher Education (AASHE):

Campus Sustainability Perspectives

News & Views from AASHE's Staff

Recent Posts

As Energy Costs rise, how have U.S. Universities & Colleges responded?

New Climate Program Manager Now on Board!

More than 1,000 pre-registered for AASHE 2008!

Call for Submissions: Presidents Climate Commitment Video Competition

Welcome to the Foothill Sustainability page! Check back frequently to learn what programs are underway at the College and District level regarding sustainability and the development of the Foothill Sustainability Plan.

As we transform the college into The Emerald Campus, your cooperation and assistance will be vital to Foothill's success. We welcome any suggestions or feedback, or if you would like to volunteer to work or assist in a particular initiative—please send emails for the Sustainability Committee to caseymia@foothill.edu.

GREEN TIP #1: *Get Rid of Indoor Air Pollution the Natural Way!*

Did you know that keeping a plant or two on your desk or in your office can help to reduce indoor air pollution? Research from NASA has shown that plants absorb harmful gases (like benzene, formaldehyde & trichloroethylene) that are commonly found in office buildings. Although you may not be able to see them, some of the materials used in offices, like particle board, carpet glue and other synthetic materials, have chemicals that are released into the air around us. So if you want to keep fresh and clean air around you at work, put a few of these top-rated air cleaners near you:

Bamboo Palm (*Chamaedorea Seifritzii*)
Chinese Evergreen (*Aglaonema Modestum*)
English Ivy (*Hederi Helix*)
Gerbera Daisy (*Gerbera Jamesonii*)
Janet Craig (*Dracaena "Janet Craig"*)
Marginata (*Dracaena Marginata*)
Mass cane/Com Plant (*Dracaena Massangeana*)
Mother-in-Law's Tongue (*Sansevieria Laurentii*)
Pot Mum (*Chrysanthemum morifolium*)
Peace Lily/Spath Flower (*Spathiphyllum "Mauna Loa"*)
Wameckii (*Dracaena "Wameckii"*)

If you would like to read more about the NASA research conducted, [please click here](#).
For tips on caring for your green cleaning friends, visit [Healthy Houseplants](#) online.





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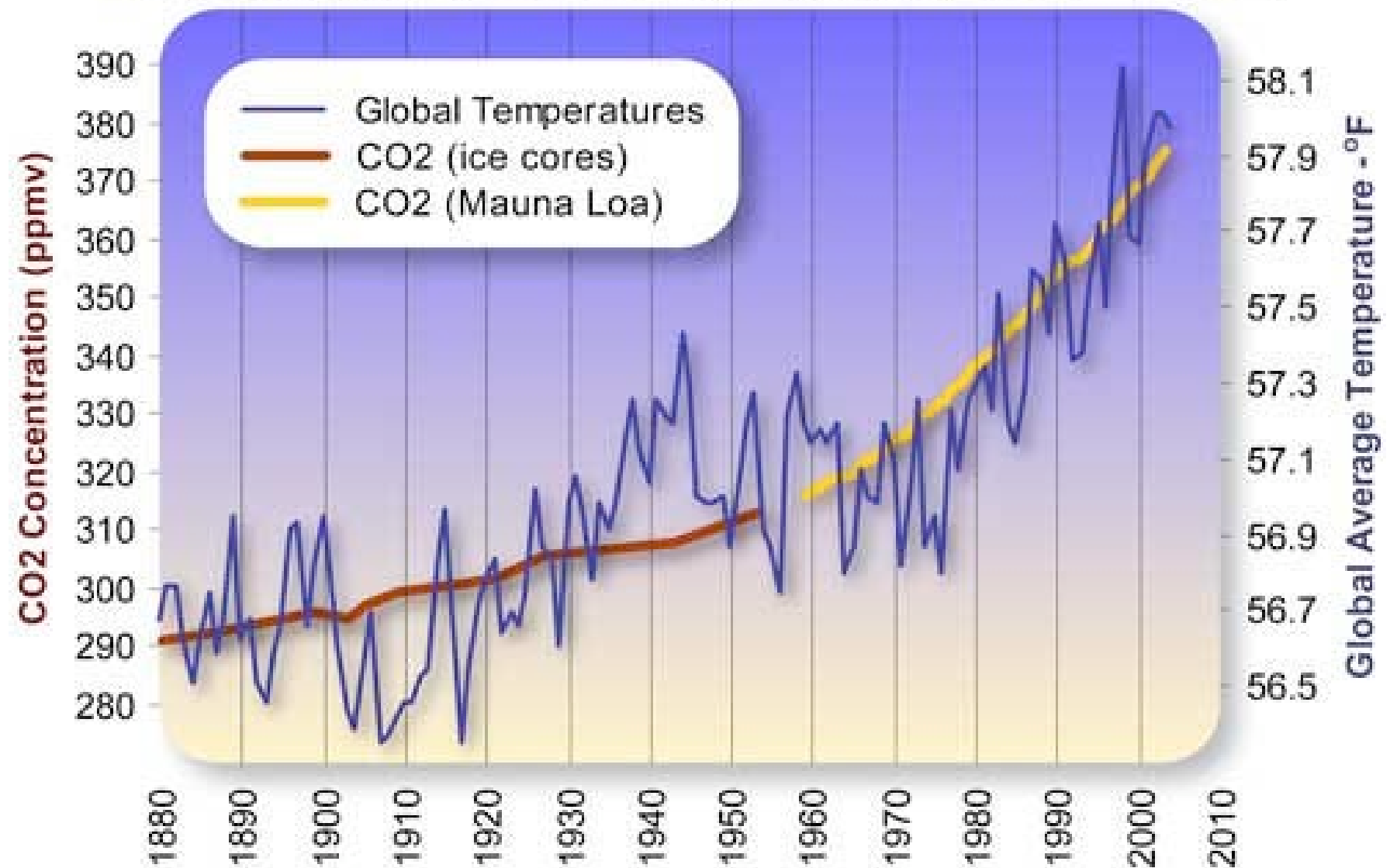


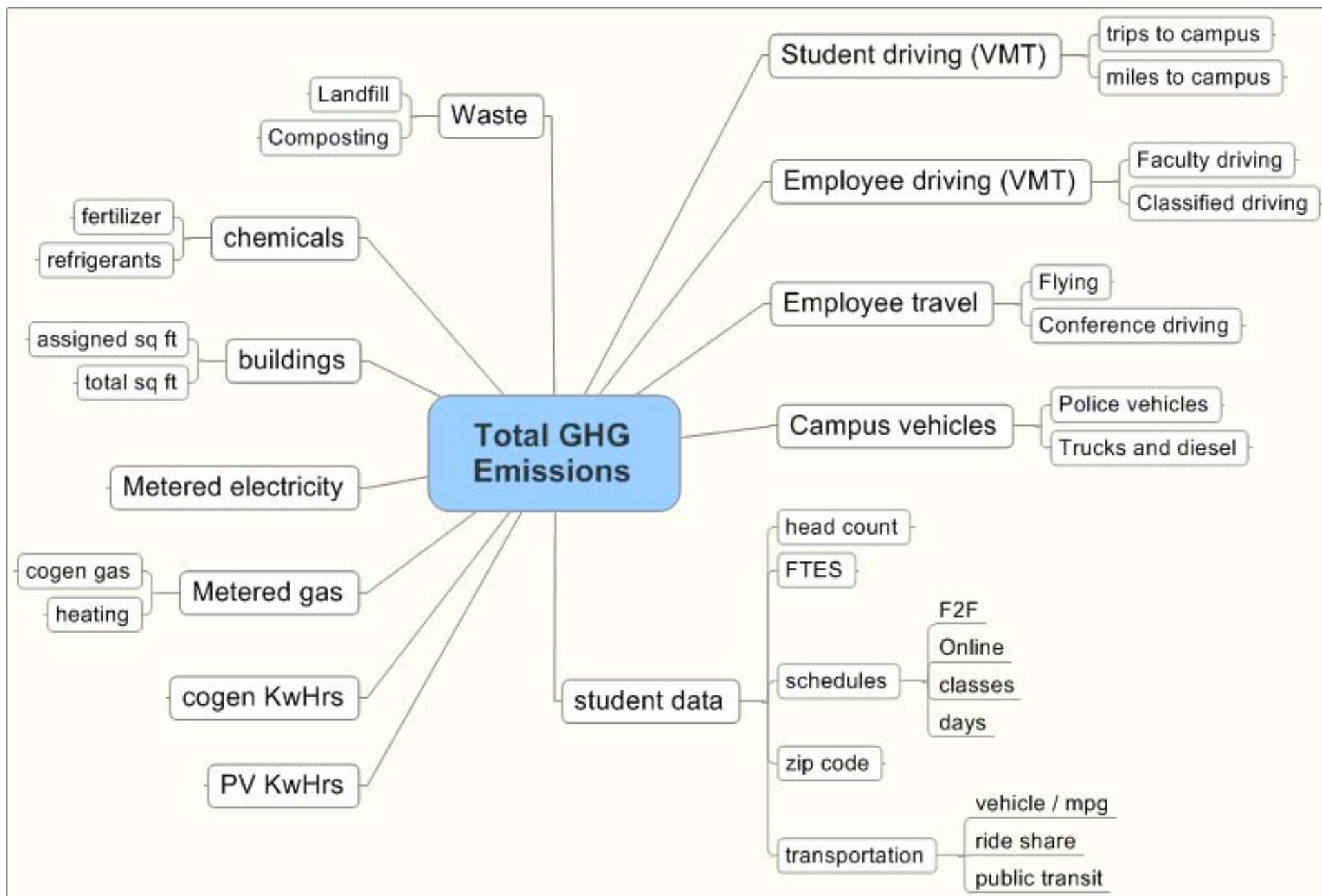
De Anza College

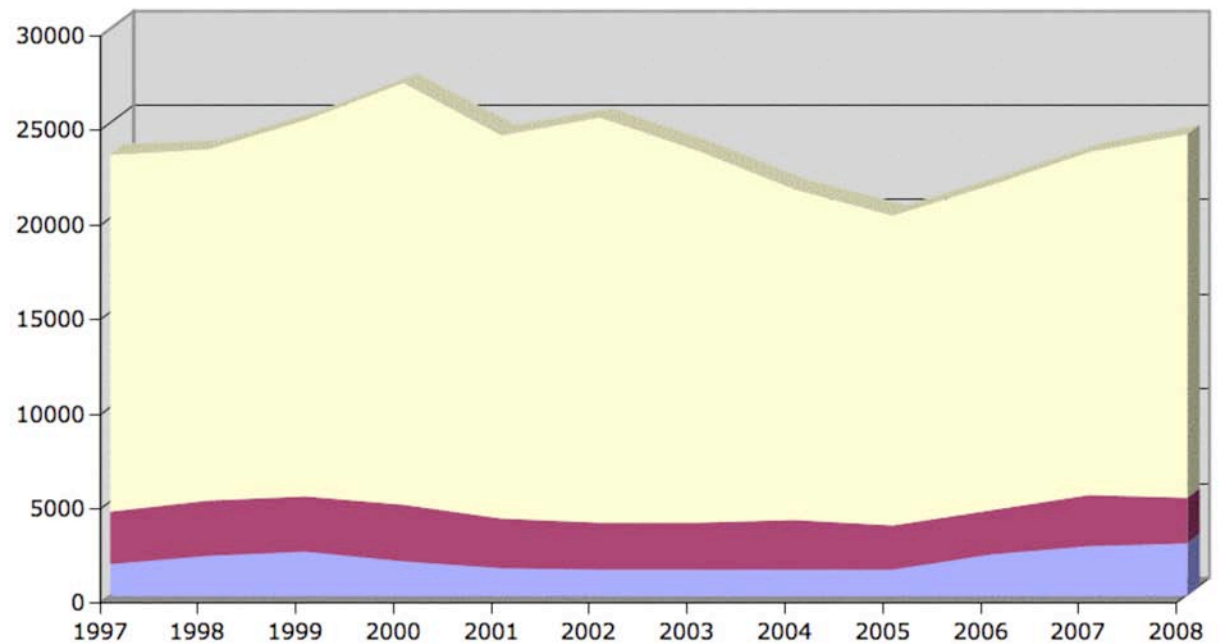
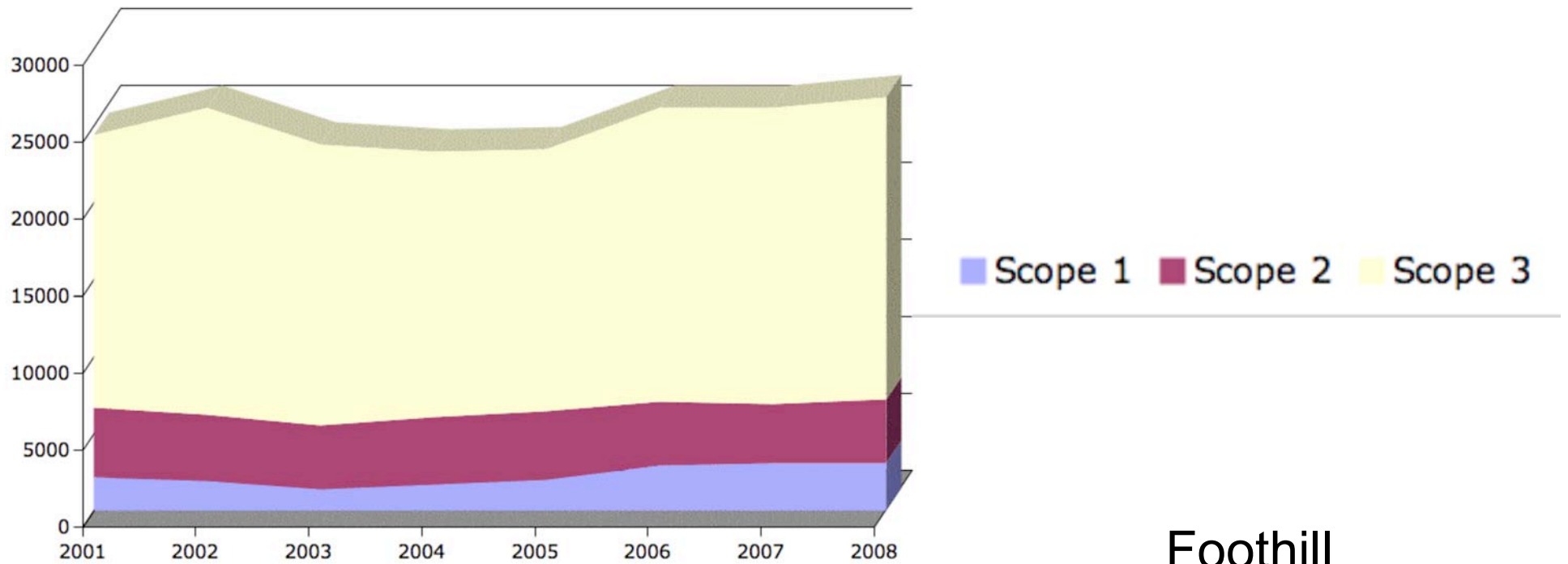
Sarah Snow

2007-08 Foothill Student Trustee
and Stanford Transfer Student

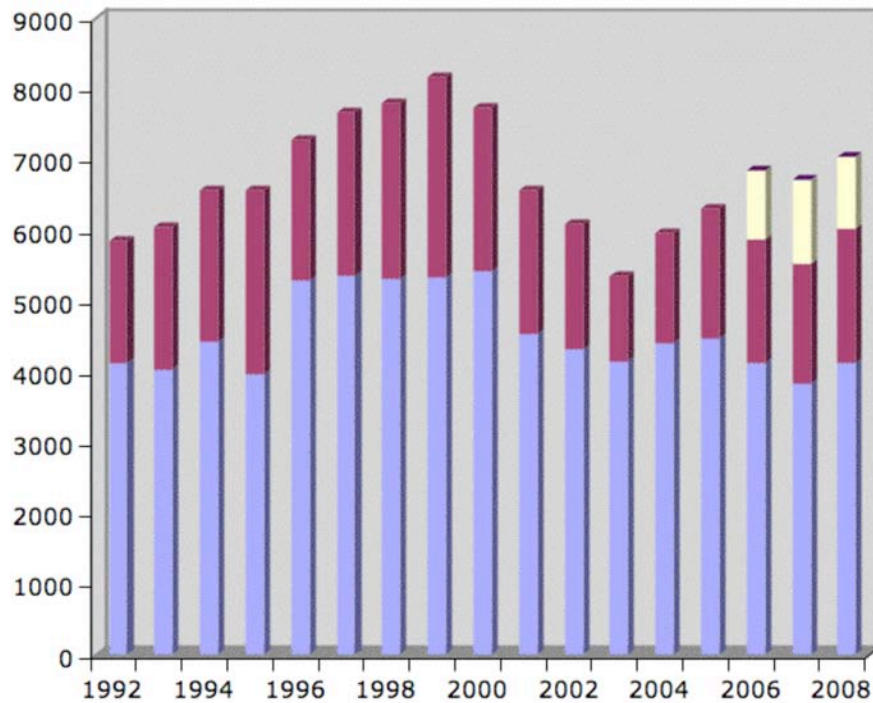
Global Average Temperature and Carbon Dioxide Concentrations, 1880 - 2004





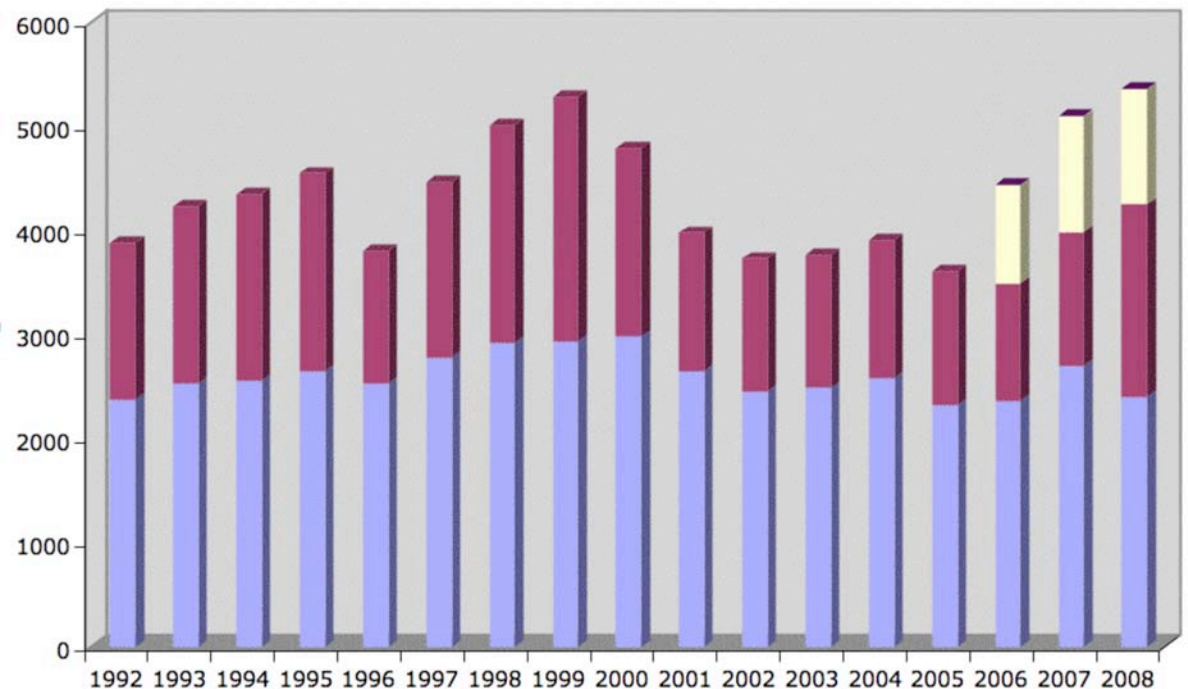


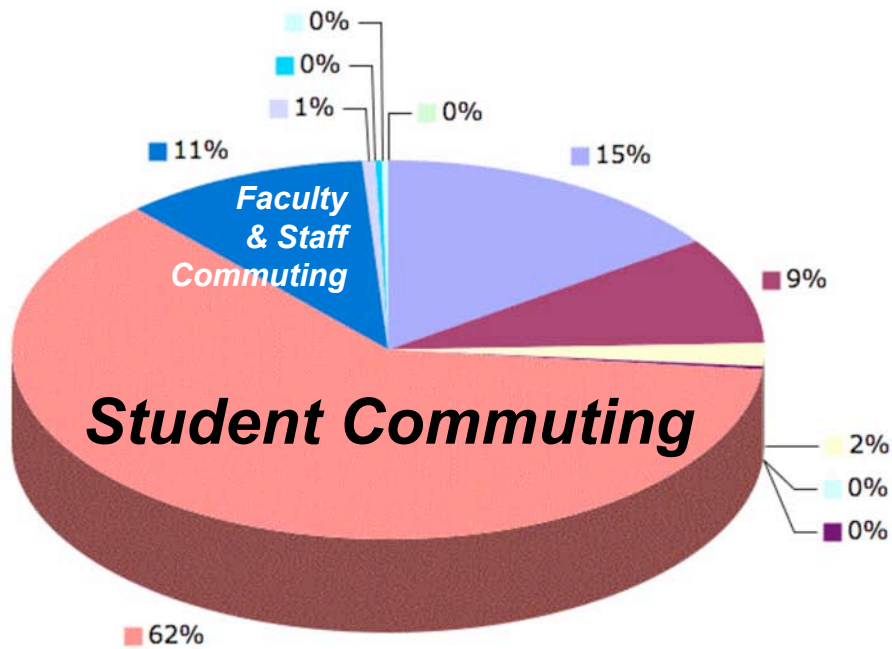
CO₂ Emissions Trends from Energy Sources



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- Solar Power
- Cogeneration to heat Pool
- Cogen Electricity
- Natural Gas
- Purchased Electricity





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Emissions By Sector

- Purchased Electricity
- Natural Gas
- Cogeneration Electricity
- Cogeneration Steam
- Campus Fleet Transportation
- Student Commuting
- Faculty & Staff Commuting
- Air Travel
- Agriculture
- Solid Waste
- Refrigerants

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