

The background of the slide is a vibrant green with a pattern of overlapping, semi-transparent hexagons. A dark grey rectangular block is positioned at the top right of the slide.

Green Campus & Sustainability Program

Los Rios Community College
District

April 11, 2018

Green Campus & Sustainability Program

Part of who we are!

Building a Culture of Sustainability:

The Los Rios community is a wise steward for all its resources, protecting, preserving and nurturing its people, its environment, its property, its capital and its educational programs.

- Los Rios Strategy Plan 2016-2021

Agenda

- Program Goal
- What is our Program?
- Summary of Past Programs/Initiatives
- Current Program & Initiatives
 - Facilities Program
 - Prop 39
 - Campus Programs
 - Water Conversation & Sustainability
- Future Efforts

Sustainability Program Goal

Be responsible stewards of our natural resources & environment using fiscally responsible, innovative and participatory practices

By means of:

- Energy Conservation & Efficiencies
- Resources Conservation & Efficiencies
- Energy Generation
- Campus Participation and Awareness

Summary of Past Programs/Initiatives

- Energy Service Company (ESCO) Project
 - District-wide Re-lamping, \$2.5 million
- CCC-IOU Projects
 - CO₂ Sensors, Control System and Hot/Cold Water Improvements, Off-hour Ventilation Control, \$2 million
- SMSR Projects
 - EMS, Boiler Plant, HVAC Equipment Improvements, \$5.3 million
- SmartGrid - \$10 million - \$5M from Federal Grant partnering with SMUD; \$5M District Match
 - Resource Conservation
 - Customer Load Management
 - System Integration
 - Automated Demand Response
 - Building Occupant Participation & Education

Current Program & Initiatives

Facilities Program

- LEED Standards – Silver Equivalency
- Zero Net Energy (ZNE)
 - 50% of existing building inventory by 2025
 - 100% of all new building inventory designed after 2025
- ZNE Master Plan
- Self-Imposed Requirement
- SMUD Solar Shares Program
 - Green California Summit's Leadership Award in the category of Renewable Energy
 - Helps LRCCD meet approximately 40% ZNE

Current Program & Initiatives (cont'd)

Proposition 39

- Clean Energy Jobs Act of 2012
- In Final Year of the Five-year Program
- Los Rios CCD Projects to date
 - 42 projects
 - \$8.3 million
- Year 5 projects submitted and approved by SCO
 - 10 more projects
 - \$2.4 million
- Projects Types
 - Light Controls
 - LED Lighting
 - EMS Controls

Other Ongoing Programs

Electric Vehicle Charging Stations

- 36 Stations District-wide, 4 in design
- Future Stations
 - All new buildings will include EV stations
 - Parking Lots near Existing Infrastructure
 - Expand to Campus and District Operational Vehicles

Maintenance & Operations Practices

- Web-based Maintenance Work Order System
- Remote Equipment Monitoring
- Preventative and Predictive Maintenance
- Ad Astra Space Scheduling

Other Ongoing Programs (cont'd)

- Universal Transit Pass Program
- District Support of Commuter Rail Service
 - Central Valley Corridor
- Campus-based Programs
 - Waste Reduction Programs
 - Re-cycling
 - E-Waste
 - Composting
 - Green & Sustainability Classes
 - Sustainability Committees
 - Earth Week Events
 - Sustainability Handbooks

Sustainability Program

- Recycling: Diversion rates increased, up-cycled recycle bin project, bottle-filling hydration stations
- Bike cage installed
- Aramark and Culinary program now diverting food waste from land fill
- Future Plans: additional recycle bins planned, drought tolerant landscaping, 10 solar - powered trailers
- Sustainability Plan: Goal of Zero Waste by 2025



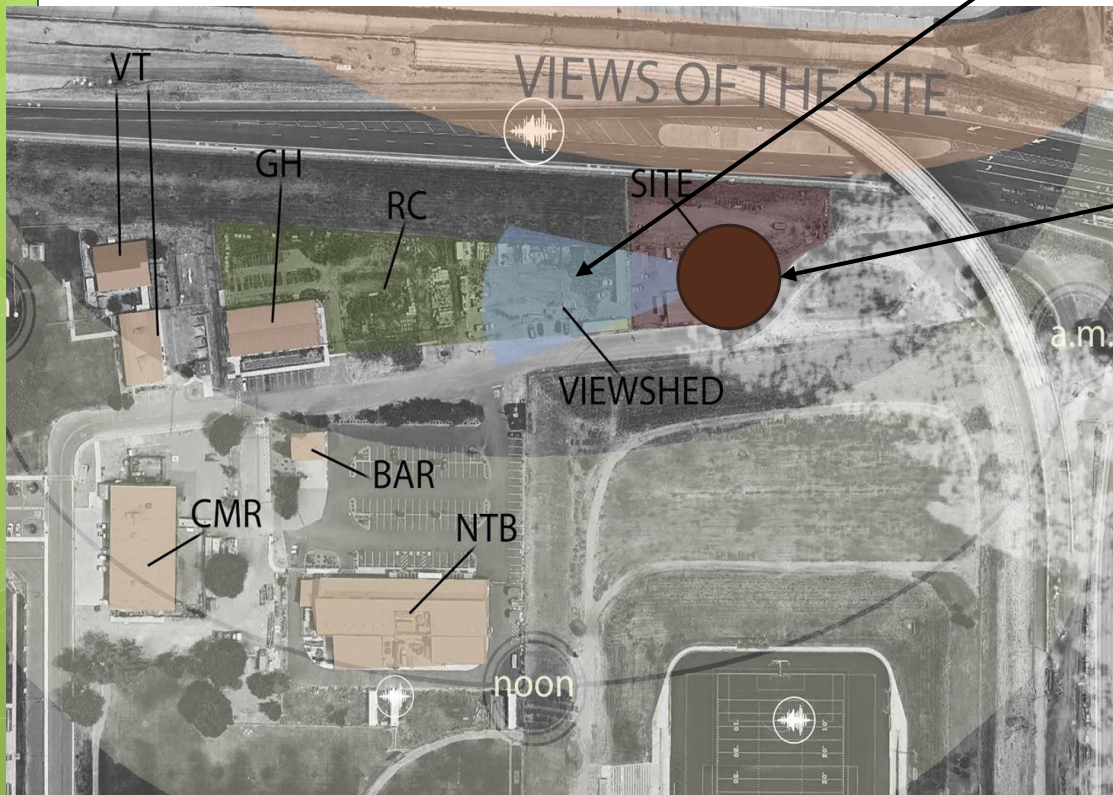
Sustainability Program

Sustainable Living Lab

Multi-Department Collaboration
Horticulture/Nutrition/Agriculture
Architecture/ADT/Construction

Project Elements:

- Sustainable 'Farm to Fork' Garden
 - Low water irrigation
 - Organic vegetables, fruit trees
 - Native plants
- Net Zero 'House'
 - Demonstration housing prototype
 - Can function as a small classroom





Sustainability Program

- Green Cleaning Technology
 - Purchase of low-water use auto scrubbers and carpet extractors
 - Microfiber mopping – a yearly savings of approx. 20,000 gallons of water
 - Continued success using self-generating cleaning solutions created from tap water
 - Chris Raines, Custodial, Receiving, and Maintenance Supervisor at FLC appointed to the national steering committee for the Green Clean School's Healthy Schools Campaign
- Completed Sustainability Projects
 - Solar soccer scoreboard installed
 - New water bottle filling stations
- On-going Efforts
 - Recycling programs for paper, wood, cardboard, food waste, light bulbs, batteries, and ink cartridges
- Future Sustainability Endeavors
 - EV stations to be installed 2018- 2019
 - Replacing fluorescent light bulbs with LED





Sustainability Program

Mechanical Electrical Technology (MET)

Commercial Building Energy

Auditing & Commissioning Specialist Certificate

- Managing energy & the commissioning of new and existing facilities
- Commissioning required to achieve LEED certification
- Emphasis on safety, environmental impact issues, indoor air quality and equipment maintenance and operation

Upon completion of certificate, job opportunities may be found as a commercial energy auditor, energy management and efficiency technician, solar/photovoltaic/wind energy technician, etc.



Campus Sustainability Handbook

- Handbook tailored for each college
- Provide specific information on all aspects of sustainability efforts for that college
- Operational procedures that reinforce sustainability
- Serves as a checklist to ensure all areas identified in the CCC Guidebooks are being addressed

Water Conservation & Sustainability

Where does our water come from?

- Municipalities
- Water District
- Campus Wells

Where does our water go?

- >65% goes to irrigation
- <35% sinks, toilets, drinking fountains, showers, pools, fountains and cooling/heating systems

Water Conservation & Sustainability (cont'd)

Conservation Efforts

- Installation of Weather-Based Irrigation Timers
- Planting of Native and Drought Tolerant species
- Domestic Fixture Replacement Program
 - Regional Water Authority Grants
 - Started in March 2015
 - Completed March 2018
 - District-wide (except at newer, already compliant facilities)

Water Conservation & Sustainability (cont'd)

Domestic Fixture Replacement Program

- Program Totals:

	Faucet	Urinals	Toilets	TOTAL
Fixture Count	640	339	763	1,742
Water Reduction/Year				76,940,700 gal
				70%

Water Conservation & Sustainability (cont'd)

Future Conservation Efforts

- Periodic Irrigation Audits
- Installation of Water Sub-metering
- Continued Improvements to Hydronic Heating and Cooling Systems
- Design for future drought conditions
 - Irrigations systems
 - Plant types
 - Watering system improvements
 - Water Recapture/Recycling

Into the Future...

- Green/Sustainable Building Design & Construction
 - ZNE 2025 and 2030 Goals
 - LEED and LEED Equivalency
 - Electric Vehicles
- Continued Conservation Efforts
 - Maintenance & Operations
 - Space Scheduling – Ad Astra
 - Water Metering
- Emerging Technologies
 - Partnerships with SMUD, PG&E, RWA and others

“There is delight in the hardy life of the open. There are no words that can tell the hidden spirit of the wilderness that can reveal its mystery, its melancholy and its charm. The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased and not impaired in value. Conservation means development as much as it does protection”

-Theodore Roosevelt

Questions?