

Sustainability Management Plan (SMP)

A photograph of a modern, multi-story university building with a person walking on a path in the foreground. The building is constructed from light-colored, textured concrete or stone, featuring large windows and a prominent vertical tower. In the foreground, a person with a backpack is walking away from the camera on a paved path. The background shows a clear blue sky and a mountain range.

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Sustainability Program Manager

Facilities Management & Sustainability

Sustainability Planning

AGENDA:

- Sustainability Management Plan (SMP) purpose
- Planning phases:
 - Baseline assessment
 - Community engagement
 - Goals and plan development
- Methodology and Data
- Outcomes

Why develop a sustainability plan?

Leads the way to:

- **cost savings**
- **enhanced staff comfort and wellness**
- **leadership in the community**
- **improved environmental impact**

What's a Sustainability Management Plan (SMP)?

- Roadmap for sustainability
 - Metrics
 - Goals
 - Action steps
- Framework for decision making
 - Evaluate costs and benefits (quantifiable and non-quantifiable)
- Systematically address:
 - Utility cost-avoidance
 - Risk-management, cost and regulatory
 - Employee productivity, morale and wellbeing
 - Community support and public relations
 - Improve environmental and social footprint

Scope of a Sustainability Management Plan

- GHG emissions
- Energy
- Water
- Waste Reduction & Recycling
- Land Use
- Construction
- Transportation
- Procurement
- Indoor Environmental Quality (Staff Comfort and Wellness)



Example of Success: Anthes Building



- **Budget set based on typical construction costs**
- **NO cost premium for building green**
- Geothermal system to reduce energy consumption up to 36%
- 100 kW solar PV system capable of producing 37% of building electricity, covering 11% total energy demand for building
- Water efficient strategies and plumbing fixtures will use 40% less water
- Daylighting, low VOC finishes, target 75%+ construction waste recycling

Advisory & Implementation Committee

- **Aaron Anderson** (CISL)
- **Lawrence Buja** (RAL)
- **Clara Deser** (CGD)
- **Matt Hirschland** (Comms)
- **Hanne Mauriello** (UCP)
- **Jim Moore** (EOL)
- **Doug Nychka** (IMAGE)
- **Raj Pandya** (E&O)
- **Katy Schmoll** (F&A)



Project Phases



UCAR Community Engagement

- Intended Outcomes
 - Education and orientation
 - Goal setting
 - Stakeholder feedback
 - Identify champions
- SMP Discussions
 - All Staff Workshops
 - Monday, August 29, 9:30 am at ML-Damon
 - Tuesday, August 30, 1:30 pm at CG1-Center Auditorium
- Focus Groups



SMP Development

1. Gather existing data
2. Identify data / metering gaps
3. Establish baseline and metrics for comparison
4. Set performance goals (quantitative, operational)
5. Create action steps (short and long term)
6. Develop decision making methodology
7. Implementation

Water

Metrics:

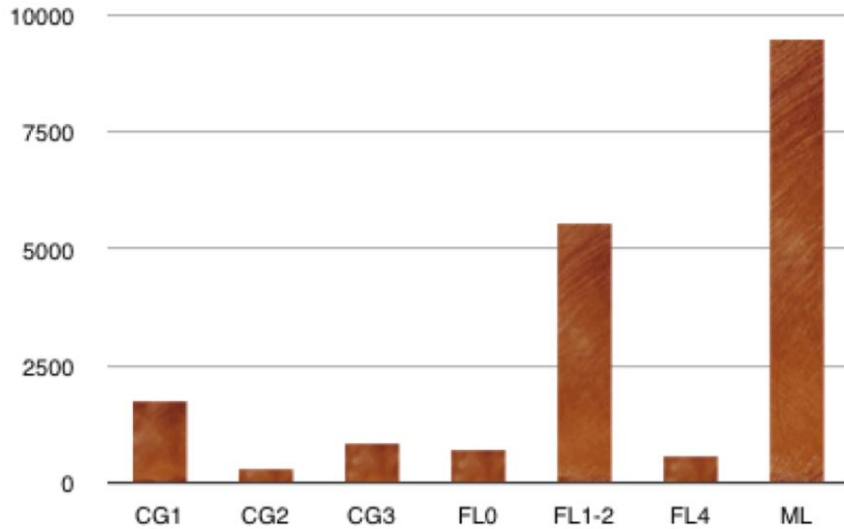
METRIC	UNIT	HAVE DATA
Annual Water Use	gal	YES
Annual Water Use per Occupant	gal/occ.	PENDING
Annual Water Use per Total Building Area	gal/SF	PENDING
% Bldgs. meeting LEED EBOM Prereq.	%	YES
Annual Water Use Irrigation	gal	YES
Irrigation per Area of Total Vegetated Land	gal/SF	PENDING
Annual Water Use for Irrigation per Area of Total Irrigated Land	gal/SF	PENDING
Annual Water Use HVAC (Cooling Towers)	gal	PENDING
Annual Water Kitchen Process	gal	PENDING
Annual Supercomputer/Data Center Cooling	gal	PENDING

UCAR Organization Water Use

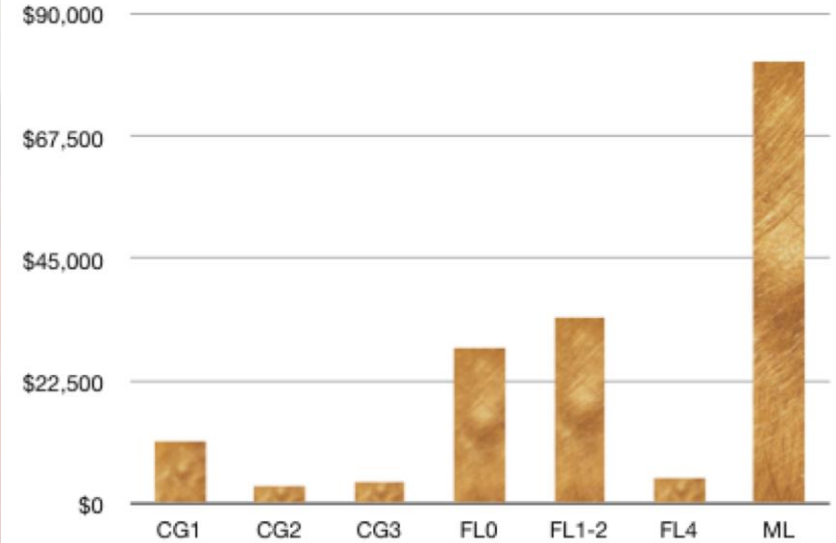
Total Water Use	
2009	2010
17,129,000 gallons	19,367,000 gallons
\$154,152	\$169,053
Domestic Water Use	
14,093,000 gallons	15,301,000 gallons
Irrigation Water Use	
2,487,000 gallons	3,491,000 gallons

UCAR Organization Water Use

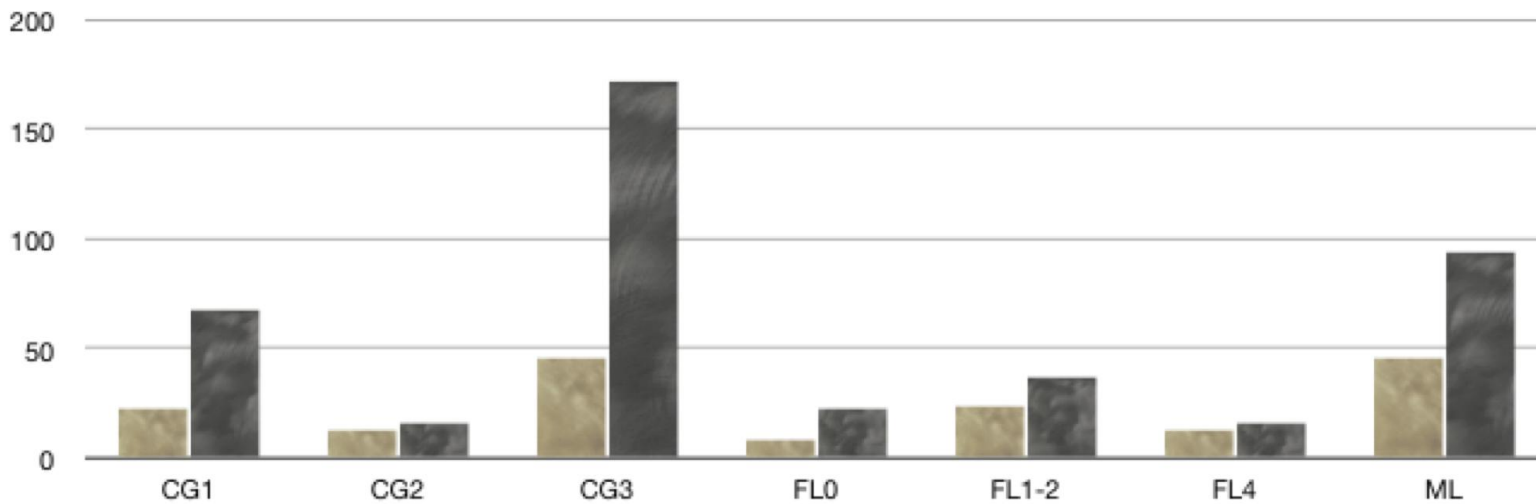
2010 Total Water Use 2010 (thousand gallons)



2010 Water Cost 2010 (\$)



Water Use Intensity



Indoor Environmental Quality

Metrics:

METRIC	UNIT	HAVE DATA
Occupant Satisfaction	%	PENDING
Total Buildings Confirmed to Meet ASHRAE 62.1-2007 Standard	%	PENDING
Percent of Buildings Conducting an Annual IAQ Inspection	%	PENDING
Percent of Sustainable Purchases of Green Cleaning Chemicals	%	PENDING
Percent of Buildings Covered by an Integrated Pest Management Program	%	PENDING
Percent of Buildings Covered by a Green Cleaning Program	%	PENDING

Outcomes in Year 1

- Web-based sustainability plan and dashboard
- Understanding of current performance
- Quantitative and qualitative metrics, ongoing tracking and evaluation
- Initial action steps
- Active internal and external SMP communication and feedback



Questions?



Discussion Groups

Discussion Groups

STEP 1: Select Your Discussion Group

1. Energy, Water
2. Procurement, Waste Reduction and Recycling
3. Transportation, Indoor Environmental Quality



Discussion Groups

STEP 2: Write down your ideas

- Take 2 minutes to write down a few thoughts



Discussion Groups

STEP 3: Select note taker and presenter

- Write key ideas and feedback on flip charts



Discussion Groups

STEP 4: Discuss Questions

- **What are opportunities, barriers, and actions that would support implementation of this SMP?** (behavioral and technical)
- What needs to be measured to make effective improvements in your impact areas?



Report Out



Thank You!