# Behind the Scenes with UCAR Sustainability Action Steps You Can Use

Kimberly Kosmenko, M.S., LEED AP Sustainability Program Manager

Matt McMullen, AIA, NCARB, LEED AP Director

Facilities Management & Sustainability
University Corporation for Atmospheric Research (UCAR)

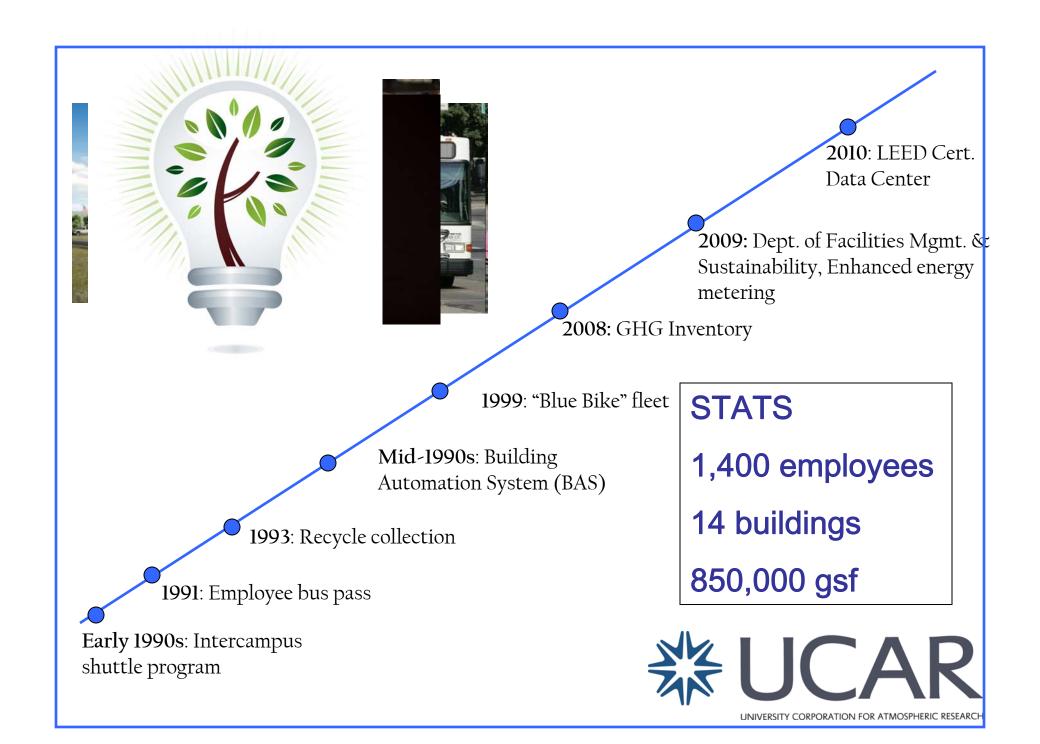


# **Building Toward Sustainability**

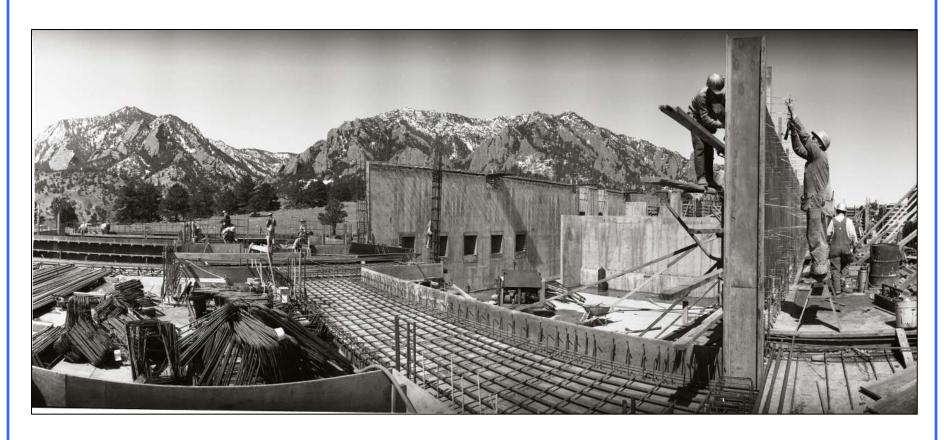
- Foundation
- Architecture
- Metrics
- Finance







#### Foundation





### High Level Buy-In

 Do your key policy & decision makers buy-in and support sustainability?

Yes?

GO!

No?



#### Culture at the Grassroots

 Have you addressed the paths of less resistance?

Recycling & Composting

**Transportation Options** 

New Hire Orientation

**Educational Opportunities** 

No?



## "Top of Mind Awareness"

 Can you express sustainability as an integral part of your organization?

Yes?

GO!

No?



# Planning

 Have you developed a sustainability action statement and business plan?

Yes?

GO!

No?



#### Architecture





#### Areas of Influence

- Energy
- Greenhouse Gas Emissions
- Water
- Waste / Recycling
- Renewable energy
- Operations & Maintenance
- Reporting
- Employee Engagement



#### Facilities Management & Sustainability Staffing Matt McMullen Director Donna Melle Suzanne Michaud Administrative Administrative Assistant Assistant David Maddy Peter Vanderheiden Kimberly Kosmenko Dave Patterson Brad Pattison Steven Haynes Maintenance & Sustainability acilities Mechanical Space Planning and Facilities Electrical Facilities Project Construction Requirements Manager Program Manager Engineer Projects Manager Engineer Specialist Kay Gazaway Andre King Sustainability Facilities Technician Outreach Coordinator Shannon Miller Brian McMillan Bruce Kovalski Gordon Kinn Maintenance Maintenance Help Desi Administrative Assistant Lead Mechanic Lead Electrician Lead Carpenter Workers Chuck Gregory Leonard Cooper John Adamson Custodial Services Randy Catton Administrative Outside Contract Electrician Worker Assistant Tom Petruzzi Derick Okada Seriio Bobillo Rich Johnson Larry Harders Waste Maintenance Electrician Mechanic Outside Contract Groundsworker Butch Thompson Louis DiMarco Greg Peek Clark Langemeier Recycling Electrician Mechanic Patrick Ryan Maintenance Painter **Outside Contract** Stores Clerk Worker Tom Winterhalder Dave Heckel Keith White Mechanic Painter Mechanic Bob Yale Carpenter

# Staff Training

- Formal Opportunities:
  - LEED Accredited Professional (LEED AP)
  - Trade associations
- Informal and Free Resources:
  - Webinars from FEMP and trade orgs.
  - External collaborations: University of Colorado, City of Boulder, Boulder County, Boulder Community Hospital, NREL, Natural Capitalism Solutions, TMA Wind, Research Applications Lab



#### **Metrics**





#### Executive Orders 13514/13423

- **GHG Emissions**: Set reduction target approved by OMB
- Energy Use: Reduce 30% by FY2015
- Renewables: 7.5% energy from renewables by FY2013
- Water Efficiency: 25% reduction by FY2020
- Waste reduction: Divert 50% non-construction waste by FY2020
- Website for more information: www1.eere.energy.gov/femp/regulations/eo13514.html



## Greenhouse Gas Inventory

- EPA Climate Leaders
  - We anticipate EPA could be future enforcement arm for GHG emissions management
  - Extensive technical resources and tools
  - Free consulting help
  - Free positive PR





# Federal Energy Management Program (FEMP)

- Tools & calculators
  - i.e. Building Life Cycle Cost Analysis
- Webinars (First Thursdays)
- Policy & financing information
- Don't miss this resource!

Website: http://www1.eere.energy.gov/femp



# **Building Energy Use**

- DOE/EPA EnergyStar
  - Annual operations tracking
  - Computer systems tracking
  - Save time on potential LEED buildings –
     Energy Star is a prerequisite.



### **Energy Metering**

- Began in 2003 prepare for potential regulation and better understand loads
- Tracking actual energy usage vs. making assumptions
- Save big \$\$ on computer equipment
- Building Information Modeling (BIM)
- Building Automation Systems (BAS)



#### Finance





# Spend \$ on Better Facilities, Not on Energy Waste

- ROI calculation
  - Remember to include the cost of business-as-usual and the ROI if a measure is taken
- Utility company tools
- 3<sup>rd</sup> party financing
- Choose the right order for projects
- Pitching to management
  - Save vs. Waste



# **Utility Company Tools**

- Ask your account representative what your utility offers
- Look for rebates on energy conservation measures
- Look for energy planning assistance opportunities
- Does your state have a Renewable Portfolio Standard (RPS)?



## 3<sup>rd</sup> Party Financing

- Energy Service Companies (ESCO)
- Energy Savings Performance Contract (ESPC)
- Utility Energy Service Contracts (UESC)
- Power Purchase Agreement (PPA)



# Wrapping it Up





# Sustainability Benefits to Your Organization

- Reduce the cost of doing business day-to-day
- Improve the quality of your indoor spaces
- Improve employee morale
- Attract the best employees

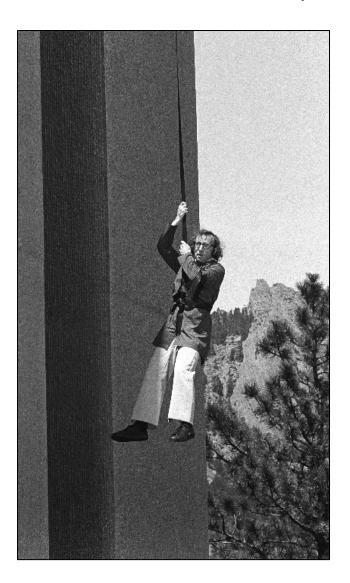


#### **Final Points**

- Sustainability is a process, not a destination
- Joint venture
- Numerous <u>low to no cost</u> resources with the government and utility companies
- Measurement is key
- Sustainability needs to be fully integrated, not a stand alone effort/individual



#### Questions?



#### **Kimberly Kosmenko**

Sustainability Program Manager 303.497.8532 kimberly@ucar.edu

#### Matt McMullen

Director, Facilities Management & Sustainability 303.497.2060 mattm@ucar.edu



#### Resources

- **FEMP**: www1.eere.energy.gov/femp
- Executive Order 13514: www1.eere.energy.gov/femp/regulations/eo13514.html
- Climate Leaders: <a href="http://www.epa.gov/stateply/">http://www.epa.gov/stateply/</a>
- U.S. Green Building Council: www.usgbc.org
- Green Building Certification Institute (LEED AP): www.gbci.org
- Energy Star: <u>www.energystar.gov</u>
- Renewable Portfolio Standards: http://www.epa.gov/chp/state-policy/renewable\_fs.html