Giving your Vision Wings: How to Operationalize your Sustainability Goals

Moderated by:

Sarah Zaleski
U.S. DOE
How to Operationalize your Sustainability Goals

Lynn France
City of Chula Vista, CA
Chula Vista means – “Beautiful View”

• Located at the center of one of the cultural, economic, and environmentally diverse zones in US

• Over 250,000 population – 2nd largest city in San Diego County

• 50 square miles of coastal landscape, canyons, rolling hills, and mountains

• Employs over 930 people
Through a continuous improvement framework, the City of Chula Vista strives to “lead by example” in integrating innovative sustainable practices throughout its operations helping to ensure clean air, water, and land in the community.
The Business Case

* Lower utility costs
* Lower fuel costs
* Lower maintenance costs
* Healthier, more comfortable workspaces
* Happier, more productive employees
* Lower GHG emissions
* And...

CLEAN AIR, CLEAN WATER, & CLEAN LAND!
City Operations Sustainability Plan

* Creates goals & strategies in 7 focus areas...
  - Energy Use
  - Water Use
  - Green Purchasing
  - Waste Management
  - Pollution Prevention
  - Transportation
  - Green Buildings & Infrastructure

* Summarizes existing policies & programs
* Outlines potential funding sources
* Lists performance metrics
Employee Engagement & Monitoring

EMPLOYEE ENGAGEMENT
City leaders and employees are frequently engaged through:

- Employee Lunch & Learns (Quarterly)
- New Hire Orientation (Ongoing)
- Green Teams (Ongoing)
- Employee Surveys (Annual)
- CLEAN Champion Employee Award (Annual)
- Plan Progress Reports (Annual)
Employee Engagement

Your Guide to CLEAN

Employee Edition

Help ensure clean air, clean water, and clean land for the community!

www.chulavistaca.gov/clean

Flex Work Schedules

Flexible schedules allow you to commute less, but work the same amount of time! The following flexible work schedules are available:

- 4/10 – Four 10-hour days per week
- 9/8/80 – Eight 9-hour days with one 8-hour day in a pay period
- Telecommuting – Working from home on select days in a pay period

Download a flexible work schedule request form at: http://cvinside/cvDepartments/hr/hrforms.asp
Questions?

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Environmental Services Manager
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lfrance@chulavistaca.gov
How to Operationalize your Sustainability Goals

Kim Vagher
City of Arvada, CO
Sustain Arvada is a way of honoring Arvada's rich heritage and preserving our resources to foster economic prosperity, environmental stewardship and community vitality today and into the future.

Kim Vagher
Facilities Manager, City of Arvada
May 2015
Why develop a sustainability plan?

• Tie together all sustainability initiatives and programs under an overarching plan
• Implement performance measures to show progress
• Raise community awareness
• Set common goals across the organization and community
• City Council Priority
Arvada Sustainable Action Plan
Municipal Operations

A guide to creating a more sustainable organization today and into the future.

Authorized by City Manager  Effective date: June 20, 2010

• Over 40 employees participated
• Representatives from all levels and departments
• Work group began in 2007, signed in June of 2010
• Annual report
• 2014 integration with Performance based budgeting (FOCUS)
By 2019, water usage by the community is reduced, on a per capita basis, from 134 gpcd to 128 gpcd (5 year running average).

As of Wed December 31, 2014

Performance Narrative: Water usage per capita has decreased slightly in 2013 and 2014 when compared to 2008-2010. Data gathered in 2015 will help to determine if this is a trend. This measure is greatly impacted by weather conditions and precipitation amounts received during each year.

<table>
<thead>
<tr>
<th>Year</th>
<th>EOY</th>
<th>YTD</th>
<th>EOY</th>
<th>Target</th>
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<tbody>
<tr>
<td>2008</td>
<td>133</td>
<td>133</td>
<td>133</td>
<td>128</td>
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<tr>
<td>2009</td>
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<td>2013</td>
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<td>128</td>
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<tr>
<td>2014</td>
<td>132</td>
<td>132</td>
<td>132</td>
<td>128</td>
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</tbody>
</table>
By 2019, 45% of the City fleet will be capable of using alternative fuel sources.

Performance Narrative: Biodiesel and E85 fuels are considered renewable energy sources. The use of these fuels reduces the consumption of nonrenewable sources from oil.

Result • Percent • Monthly

<table>
<thead>
<tr>
<th>Year</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>YTD</th>
<th>EOY*</th>
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</thead>
<tbody>
<tr>
<td>2014</td>
<td>33.1%</td>
<td>32.8%</td>
<td>26.7%</td>
<td>27.3%</td>
<td>29.1%</td>
<td>30.3%</td>
<td>30.3%</td>
<td>30.9%</td>
<td>27.5%</td>
<td>30.9%</td>
<td>33.5%</td>
<td>33.2%</td>
<td>30.5%</td>
<td>30.5%</td>
</tr>
<tr>
<td>2015</td>
<td>32.3%</td>
<td>47.6%</td>
<td>27.8%</td>
<td>26.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>34.4%</td>
<td>32.3%</td>
</tr>
</tbody>
</table>
Municipal Operations within the City

- 56 kW system on City Hall, 9.9 kW system on City Hall Annex, 7.6 kW at Nature Center
- Xeriscape conserving plants in parks
- 45% of City Fleet runs on alternative fuel
- Recycling and Compost in facilities
Entire City Portfolio

*Will be replaced when 2014 data is complete.
- 8% reduction 2009-2013.
City Council established LEED Silver for any new city buildings August 2012
Two police substations achieved LEED Gold in 2015
By 2019, energy consumed at occupied City facilities will be reduced or offset by 8% from 2013 usage, based on a combination of conservation and renewable energy.
Community Agriculture

- Code Amendments
- Star Acre Farms, Rose Roots Community Garden
Water Conservation

RelImagine your Landscape
Beautify your yard and save water with three plant-by-number gardening kits.

SLOW the FLOW
CENTER FOR ReSource CONSERVATION
Designed as a result for requests from residents and businesses to have a program that was a one-stop-shop for energy efficiency that led them through the retrofit process.

Since the program began in January 2013, 332 residential units have been retrofitted, saving 42,802 kilowatt hours of energy and $38,000/year

Many of the residential units are located within low-income multi-family projects
Moving Forward...

- Solar Garden
- Lights- Off Program
- LED retro-fits in parking lots and art galleries
- Performance Contract
www.arvada.org/sustainability

Kim Vagher, Manager of City Facilities
kvagher@arvada.org  720-898-7681
• We are looking for more commercial buildings to participate within Arvada by setting a goal of being energy-efficient and reducing energy consumption by 2020.
How to Operationalize your Sustainability Goals

Matt Gray
City of Cleveland, OH
Sustainable Cleveland Municipal Action Plan
Better Buildings Summit
May 27, 2015
Sustainable Cleveland 2019

• Together, we’re Building a Thriving Green City on a Blue Lake

• Integrate sustainability into the City of Cleveland’s municipal operations, our residents’ lives and the priorities of our corporate and institutional partners
City Utility Costs

2014 Total Cost = $66.8 million
BBC Implementation Model

GOAL
20% reduction in GHG emissions by 2020 (45% by 2030)

BARRIER
Lack of coordination and institutionalization across City departments

SOLUTION

OUTCOMES TO DATE
• 6% EUI reduction since 2010 (from 4.5 million sq. ft in BBC)
• 13 of the 25 SC-MAP actions have begun implementation
• More than $12 million in savings by 2030
Barrier: Consistent Engagement

City Green Team

- Building and Housing
- City Planning
- CitiStat
- Community Development
- Economic Development
- Finance
- Office of Sustainability
- Office of Capital Projects
- Port Control
- Public Safety
- Public Utilities
- Public Works

Other participating departments/offices:
Law, Communications, Personnel and Human Resources, etc.
7th Annual Sustainability Summit
September 16-17, 2015
When we reduce vehicle emissions,
We are Sustainable, Cleveland.

By eliminating manual meter reads, our Clear Reads Project will reduce the number of vehicles on the road – thus reducing vehicle emissions and our operating costs.

Together, we're building a thriving green city on a blue lake.
LEARN MORE, DO MORE AT SUSTAINABLECLEVELAND.ORG
When we utilize the latest technology to eliminate energy waste,
We are Sustainable, Cleveland.

Our new single point electric hot water tank saves 40% in heating energy.

Together, we're building a thriving green city on a blue lake.
LEARN MORE, DO MORE AT SUSTAINABLECLEVELAND.ORG
Barrier: Institutionalizing Sustainability

Sustainable Municipal Building Policy

“The City of Cleveland shall incorporate green building practices into the **siting, design, construction, remodeling, repair, maintenance, operation, and deconstruction** of all City facilities.”

- **New Construction and Major Renovations:** LEED Silver Certification minimum + energy requirements.
- **Tenant and Leased Spaces:** Preference for certification under ENERGY STAR, LEED, and/or an equivalent standard.
- **“Fix it First” Projects:** Capital repairs to City facilities will use Energy Star and Water Sense products...
Barrier: Overcoming State Policy

Renewable Energy Site Screening

- 16,000+ parcels in the City of Cleveland
- 300 sites identified through macro-siting process
  - ownership, land use, acreage, existing infrastructure
- 76 potential sites identified after further evaluation
  - engineering constraints, environmental conditions, etc.
- 20 Individual Site Assessments
University Circle District
Phase 1
Phase 2

CLEVELAND 2030 DISTRICT
SC-MAP – Next Steps

1. PLANNING: Re-engage the bosses of Green Team members

2. POLICIES: Sustainable Purchasing and Materials Management Policy

3. INTERNAL OUTREACH: Increase use of LEED training; 50 Simple Acts

4. FINANCING: Continue to explore alternative financing options; LED streetlights.
SC-MAP – Next Steps

5. DATA MANAGEMENT: Study leaks in water distribution system and utilize Automated Meter Readings; EnergyCAP → Portfolio Manager

6. MEASURING SUCCESS: Complete updated GHG inventory; Cleveland 2030 District

7. OUTCOMES: Create SC-MAP progress update
<table>
<thead>
<tr>
<th>ACTION</th>
<th>PROGRESS/KEY ACCOMPLISHMENTS</th>
<th>KEY NEXT STEPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Energy Efficiency in Existing Buildings</td>
<td>Lighting and HVAC upgrades at various City facilities; About 3% reduction in Energy Use Intensity from 2010 to 2013 (pending validation); received rebates for energy efficiency projects; Completed energy assessments for 14 facilities</td>
</tr>
<tr>
<td>02</td>
<td>Energy Conservation in Existing Buildings</td>
<td>Met with Public Works and DPU to begin incorporating energy conservation into CitiStat metrics</td>
</tr>
<tr>
<td>03</td>
<td>Building Automation System</td>
<td>Becoming more standard in larger new construction</td>
</tr>
<tr>
<td>04</td>
<td>Re-Commissioning Tune-Up</td>
<td>–</td>
</tr>
<tr>
<td>05</td>
<td>Cleveland Division of Water (CWD) System Pumping and Treatment Optimization</td>
<td>Saved money and energy by reducing pump station temperatures and lowering tank water levels</td>
</tr>
<tr>
<td>06</td>
<td>Streetlight Upgrades</td>
<td>LED Streetlight Pilot (700 replacements); LED area lighting at Airport</td>
</tr>
<tr>
<td>07</td>
<td>Renewable Energy</td>
<td>Completed CWD wind assessment; installed solar hot water tank at Collinwood rec center; issued RFP for solar farm at Kohlhoff Landfill</td>
</tr>
<tr>
<td>08</td>
<td>Cleveland Public Power’s Advanced Energy Portfolio Standard</td>
<td>On track to meet renewable energy targets (hydropower purchases, Collinwood BioEnergy, LEEDCo., etc.)</td>
</tr>
<tr>
<td>09</td>
<td>Smart Savings</td>
<td>DPU Demand Response; cost savings from EnergyCAP analyses</td>
</tr>
</tbody>
</table>
Thank You!

Matt Gray, Director
City of Cleveland, Mayor’s Office of Sustainability
mgray@city.cleveland.oh.us

Join us at:
www.SustainableCleveland.org
How to Operationalize your Sustainability Goals

Lloyd Kass
New York Power Authority
BuildSmart NY in Action: Leading By Example in State Facilities

Presented by Lloyd Kass - Director, Energy Services Marketing - NY Power Authority

U.S. Department of Energy - Better Buildings Summit
May 27, 2015 - Washington, DC
## Background

### About NY Power Authority

<table>
<thead>
<tr>
<th>Generation</th>
<th>Transmission</th>
<th>Customer solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 16 power plants</td>
<td>- 1,400 circuit miles</td>
<td>- $200M+ annually in clean energy projects</td>
</tr>
</tbody>
</table>

### About NY State government facilities

<table>
<thead>
<tr>
<th>Portfolio size</th>
<th>Utility costs</th>
<th>Main drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 212 million square feet</td>
<td>- $500+ million per year</td>
<td>- Higher education, prisons, mental health, 2 large office campuses</td>
</tr>
</tbody>
</table>
What is BuildSmart NY?

**Governor Cuomo’s Action:**
Executive Order 88 – Issued in December 2012

**The Mandate:**
20% efficiency increase in NYS buildings by April 2020

**Baseline Year:**
State Fiscal Year 2011
(April 2010 – March 2011)

**The Metric:**
Source Energy Use Intensity

$\text{Source Energy Use} \over \text{Facility Square Feet}$
Memorandum

Governance

All agency heads must officially designate both a member of their executive staff and a day-to-day manager for BSNY. The executive staffer must be a direct report to you and shall be accountable for the achievement of BSNY goals. The day-to-day manager shall serve as the contact for BSNY in your organization and the central point of coordination.
## Guidelines

### Appendix C: Table of Executive Order 88 Deadlines

<table>
<thead>
<tr>
<th>Date</th>
<th>Deliverable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2015</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>January 10, 2015</td>
<td>Quarterly Report</td>
<td>Recurring Quarterly reports of EO 88 progress</td>
</tr>
<tr>
<td>April 10, 2015</td>
<td>Quarterly Report</td>
<td>Quarterly Status of all EO 88 activities</td>
</tr>
<tr>
<td>June 30, 2015</td>
<td>Retro-Commissioning Deadline</td>
<td>Complete RCx studies and measure implementation for one-quarter of portfolio</td>
</tr>
<tr>
<td>July 10, 2015</td>
<td>Quarterly Report</td>
<td>Quarterly Status of all EO 88 activities</td>
</tr>
<tr>
<td>December 31, 2015</td>
<td>Implement CMMS for Operations and Maintenance Activities</td>
<td>All Agencies deploy a new or updated CMMS with energy related preventative maintenance protocols in place</td>
</tr>
<tr>
<td><strong>2016</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>January 10, 2016</td>
<td>Quarterly Report</td>
<td>Recurring Quarterly reports of EO 88 progress</td>
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<tr>
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<tr>
<td>July 10, 2016</td>
<td>Quarterly Report</td>
<td>Quarterly Status of all EO 88 activities</td>
</tr>
<tr>
<td>December 31, 2016</td>
<td>EO 88 Submetering requirement complete</td>
<td>Covered buildings larger than 100,000 gross sq.ft. shall be submetered for all fuels.</td>
</tr>
</tbody>
</table>
AUDITING & METERING

**Audit Progress**

- 2013: 40% Audited, 11% Undergoing Audit, 51% Not Audited
- 2014: 50% Audited, 29% Undergoing Audit, 21% Not Audited

**Metering Progress**

- All Fuels: 56% Metered, 44% Remaining
- Electric: 75% Metered, 25% Remaining
Progress and projections…

![Graph showing the progress and projections of various energy-related projects over the years.]
Data, data, data…. NY EnergyManager

- NY state’s first energy management network operations center, launched in Oct 2014

- 3,300 state buildings already feeding monthly data to the software platform

- 600 sending data on 15-min intervals

- Utilizes “Big Data” analytics to monitor and troubleshoot energy waste out of public buildings
Reporting and transparency

New York State's Implementation of Executive Order 88 2014

ANNUAL PROGRESS REPORT

State University of New York

SUNY is the largest comprehensive university system in the country, educating nearly 403,000 students in more than 7,000 degree and certificate programs, and serving 2 million New York State citizens in professional development and personal enrichment programs, on 64 campuses.

Notable Performers
Source Energy Use Intensity (EUI) Reduction
- 8.8% Uptown Medical
- 11.5% Cerrado
- 38.8% Cenla
- 5.2% Beagles
- 11.9% Poughkeepsie
- 22.9% Stony Brook

Required Activity Compliance
Compliance to Date
- Data and Reporting: Full Complaint
- Energy Audits: Full Complaint
- Retrocommissioning: Full Complaint
- Operations and Maintenance: Full Complaint
- Submitting: Full Complaint

SUNY is currently with EO 88 reporting, having provided complete utility data through 2014 on over 2,700 buildings. NYPA will work with SUNY to facilitate automated reporting in NY EnergyManager in future years.

SUNY has completed five energy audits as part of its first phase of energy master planning process. A more formal RCO strategy for SUNY campuses will be developed in 2015, with assistance from NYPA, to more effectively utilize these activities.

SUNY is pursuing an Agencywide O&M Strategic Plan to help address structural barriers to effective O&M programs at the campus level. SUNY also implemented a quick win strategy of hiring an energy manager.

As part of SUNY’s energy master planning process, it is performing retrocommissioning surveys during energy audits when applicable. Nearly three-quarters of its facilities are already modeled for all T1B and 2+ buildings have been brought online to the NY EnergyManager system.
Many retrofit projects, large and small…
BuildSmart NY 2014 Awards go to....

“Governor Andrew M. Cuomo announced that seven public entities and two individuals in health, transportation and higher education from across New York State were honored ... The Awards recognize leadership and excellence....”
More recognition....

Accelerating Energy Efficiency In State Owned Buildings

BuildSmart NY is Governor Cuomo's Statewide initiative to accelerate energy efficiency in State buildings, while incorporating broader State policy goals to foster cost-effective investment, stimulate the clean energy marketplace, advance energy security and resiliency and protect the environment and public health. At the centerpiece of BuildSmart NY is Executive Order 88, which requires a 20% improvement in energy efficiency at State owned and managed buildings by the year 2020.

Latest News

BUILDSMART NY FACILITY STARS: Rick Brown and Jim Yeager

NYPa is proud to recognize Rick Brown and Jim Yeager of the Javits Center facilities staff for their role in developing and implementing a HVAC controls upgrade project.

The BuildSmart NY Facility Star campaign recognizes innovative energy management solutions and the operational staff responsible for their (...)
Thanks

LLOYD KASS
Director, Energy Services Marketing

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Questions & Discussion