



Giving your Vision Wings: How to Operationalize your Sustainability Goals

Moderated by:

Sarah Zaleski
U.S. DOE

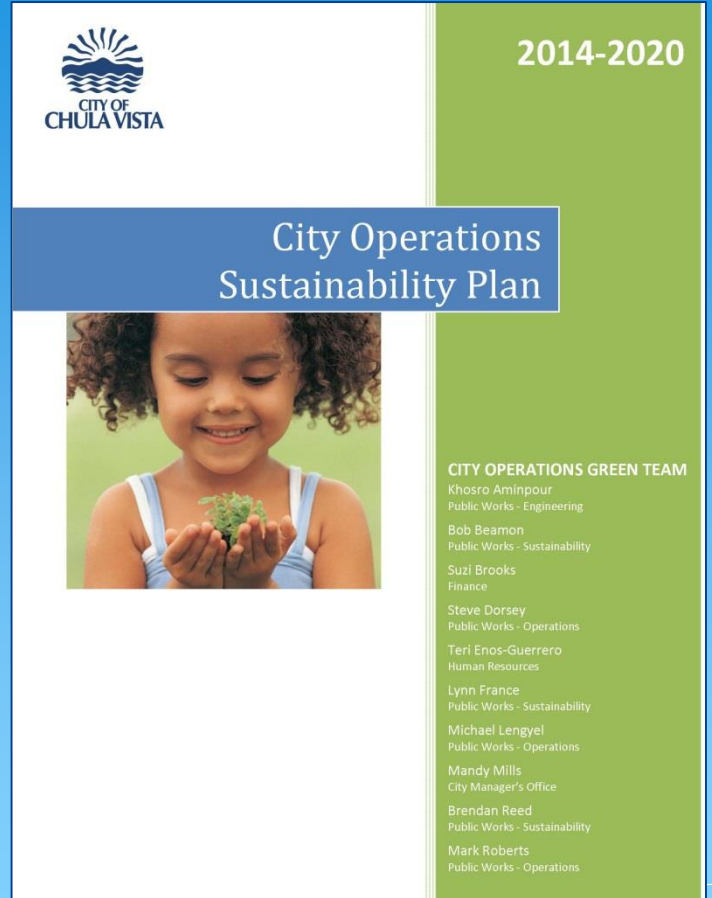


How to Operationalize your Sustainability Goals

Lynn France
City of Chula Vista, CA



CITY OPERATIONS SUSTAINABILITY PLAN



Lynn France
Environmental Services Manager

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

Sustainability Vision & Mission



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

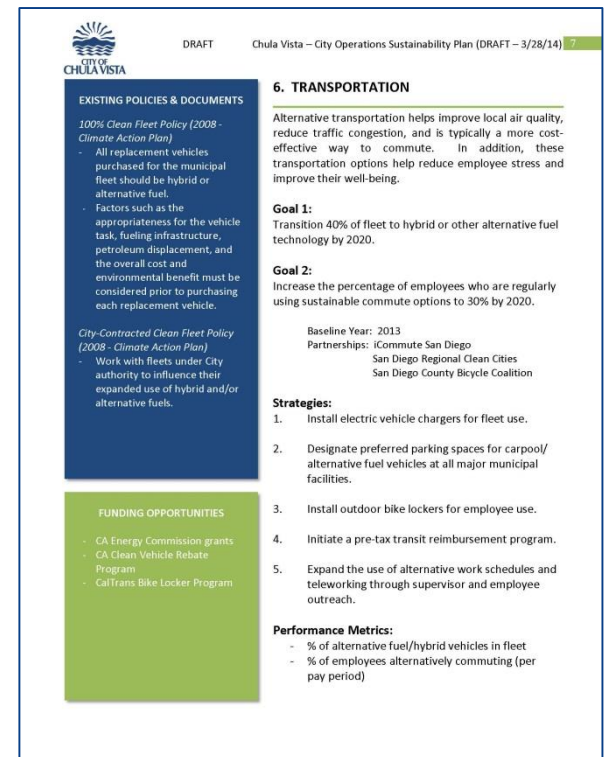
Transportation

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:

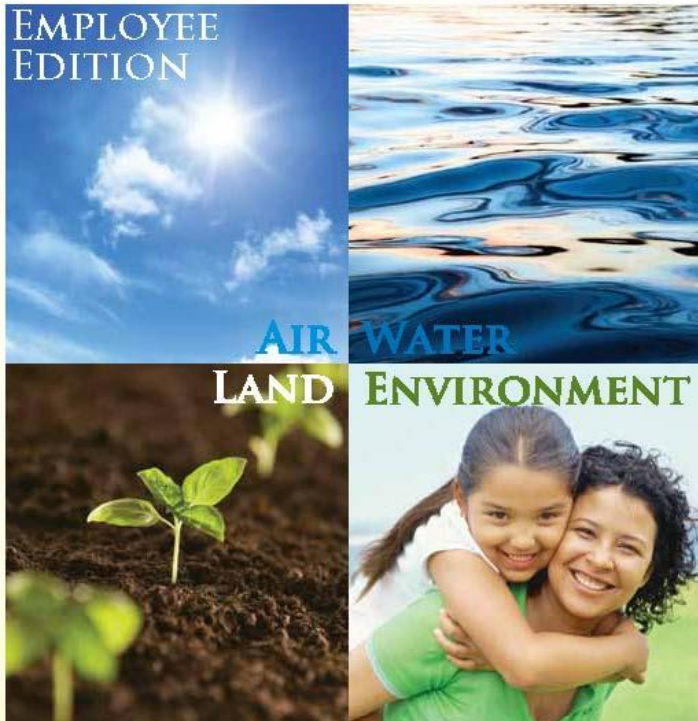
- Employee Lunch & Learns (Quarterly)
- New Hire Orientation (Ongoing)
- Green Teams (Ongoing)
- Employee Surveys (Annual)
- CLEAN Champion Employee Award (Annual)
- Plan Progress Reports (Annual)

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://cvinsider/CVDepartments/HR/HRforms.asp>



Employee Engagement





Questions?

Lynn France
Environmental Services Manager
City of Chula Vista
(619) 585-5790
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


Craig G. Kocian

Effective date June 20, 2010



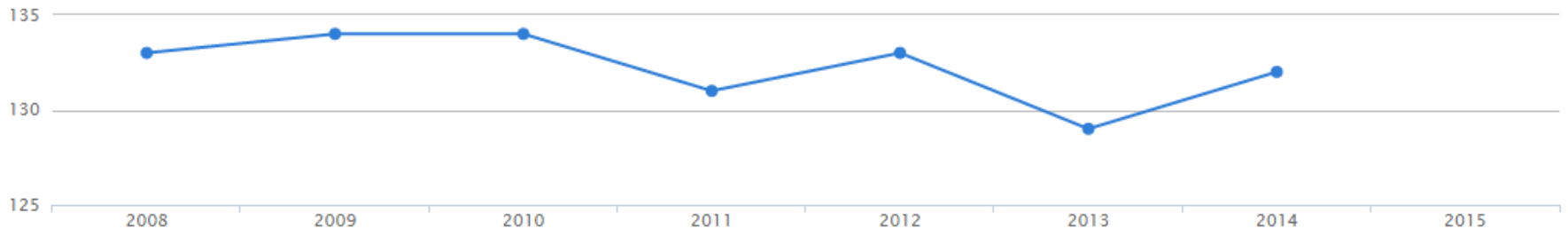
CITY OF ARVADA

- 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)

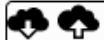
Water Reduction Dashboard

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



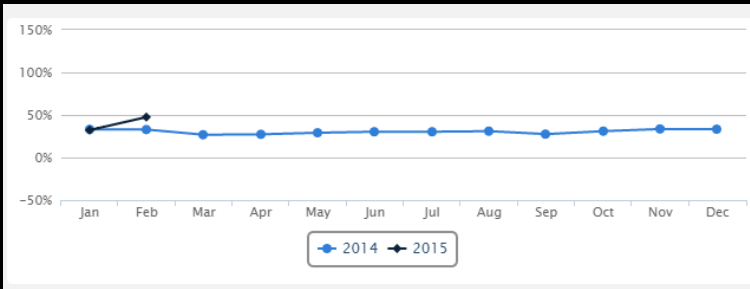
Performance Narrative Water usage per capita has decreased slightly in 2013 and 2014 when compared to 2008-2010. Data gathered in 2015 will help to determine if this is a trend. This measure is greatly impacted by weather conditions and precipitation amounts received during each year.



| Year | EOY | YTD | EOY | Target |
|------|-----|-----|-----|--------|
| 2008 | 133 | 133 | 133 | 128 |
| 2009 | 134 | 134 | 134 | 128 |
| 2010 | 134 | 134 | 134 | 128 |
| 2011 | 131 | 131 | 131 | 128 |
| 2012 | 133 | 133 | 133 | 128 |
| 2013 | 129 | 129 | 129 | 128 |
| 2014 | 132 | 132 | 132 | 128 |

Energy Reduction Dashboard

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 YTD: 36.6% EOY: 31.9%

| Low Alarm | Low Warn | Target | High Warn | High Alarm |
|-----------|----------|--------|-----------|------------|
| 5% | 15% | 20% | | |

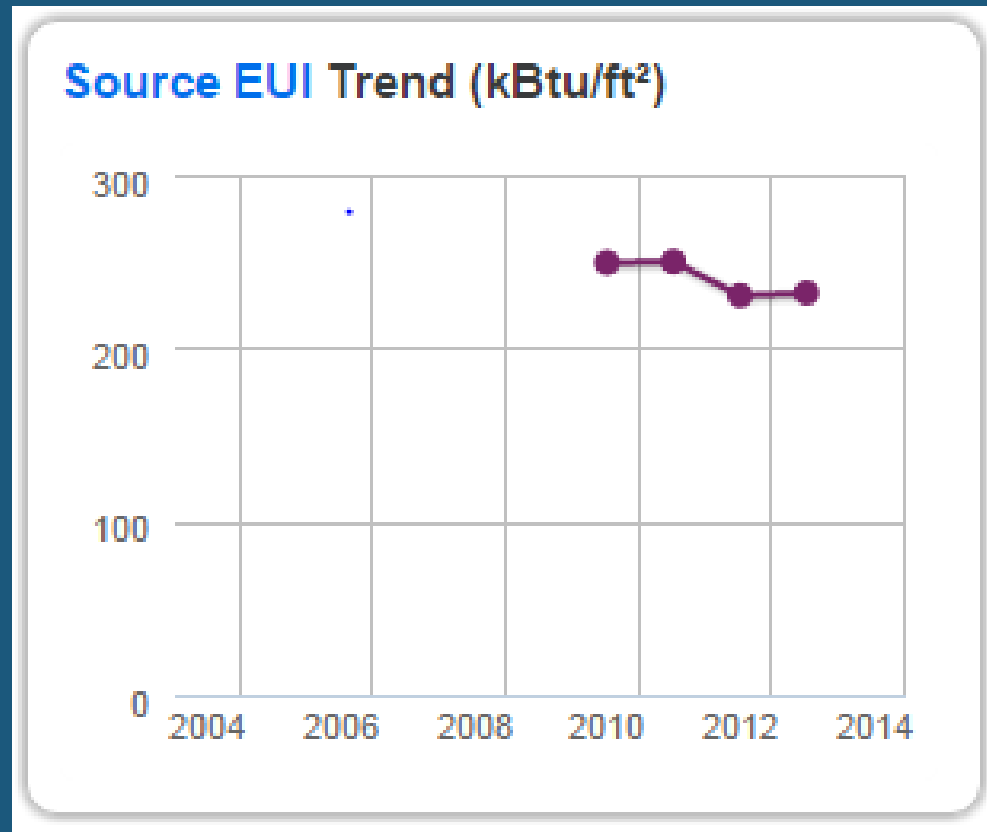
| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YTD | EOY* |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2014 | 33.1% | 32.8% | 26.7% | 27.3% | 29.1% | 30.3% | 30.3% | 30.9% | 27.5% | 30.9% | 33.5% | 33.2% | 30.5% | 30.5% |
| 2015 | 32.3% | 47.6% | 27.8% | 26.6% | | | | | | | | | 34.4% | 32.3% |

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

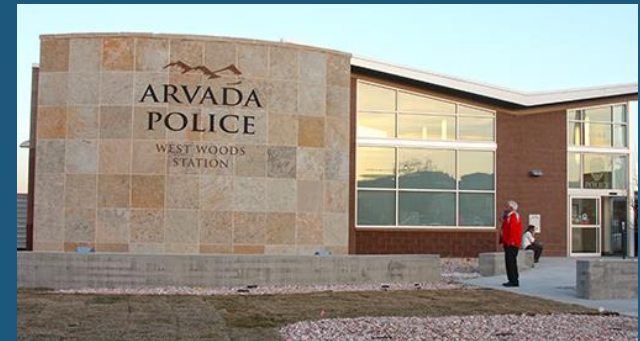


***Will be replaced when 2014 data is complete.**
- 8% reduction 2009-2013.

LEED Standard for City Buildings Council Goals



- ▣ 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



Relmage your Landscape

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



CENTER FOR
ReSource
CONSERVATION

SLOW  **FLOW**
C O L O R A D O

Resource Smart Arva



- 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



Sign Up Now to:

- ✓ Save \$\$\$ on energy costs
- ✓ Reduce your energy use
- ✓ Increase your comfort and safety
- ✓ Increase your property value



**Contact us today
to take advantage of available incentives!**

www.ResourceSmart.org
email Info@ResourceSmart.org
Call **1.866.590.4377**



A City of Arvada program designed to bring simple, all-inclusive energy efficiency improvement solutions to your home or business.
Managed by iCAST.



iCAST
community powered results.

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.



**Better
Buildings®**
U.S. DEPARTMENT OF ENERGY

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

TOGETHER, WE'RE BUILDING A THRIVING
GREEN CITY ON A BLUE LAKE



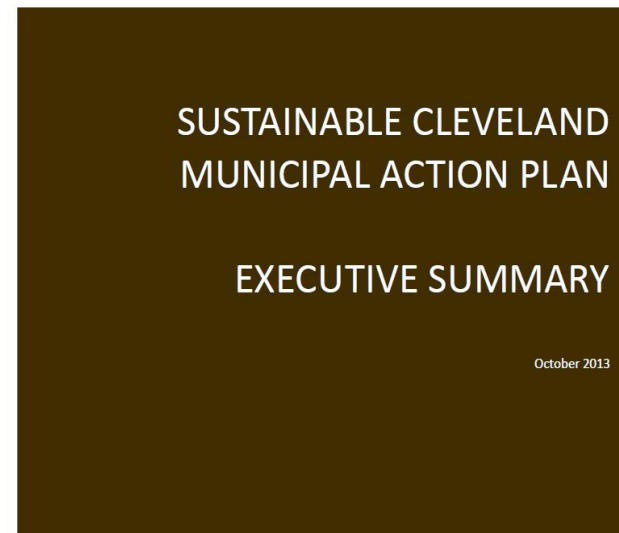
CITY OF CLEVELAND

Mayor Frank G. Jackson

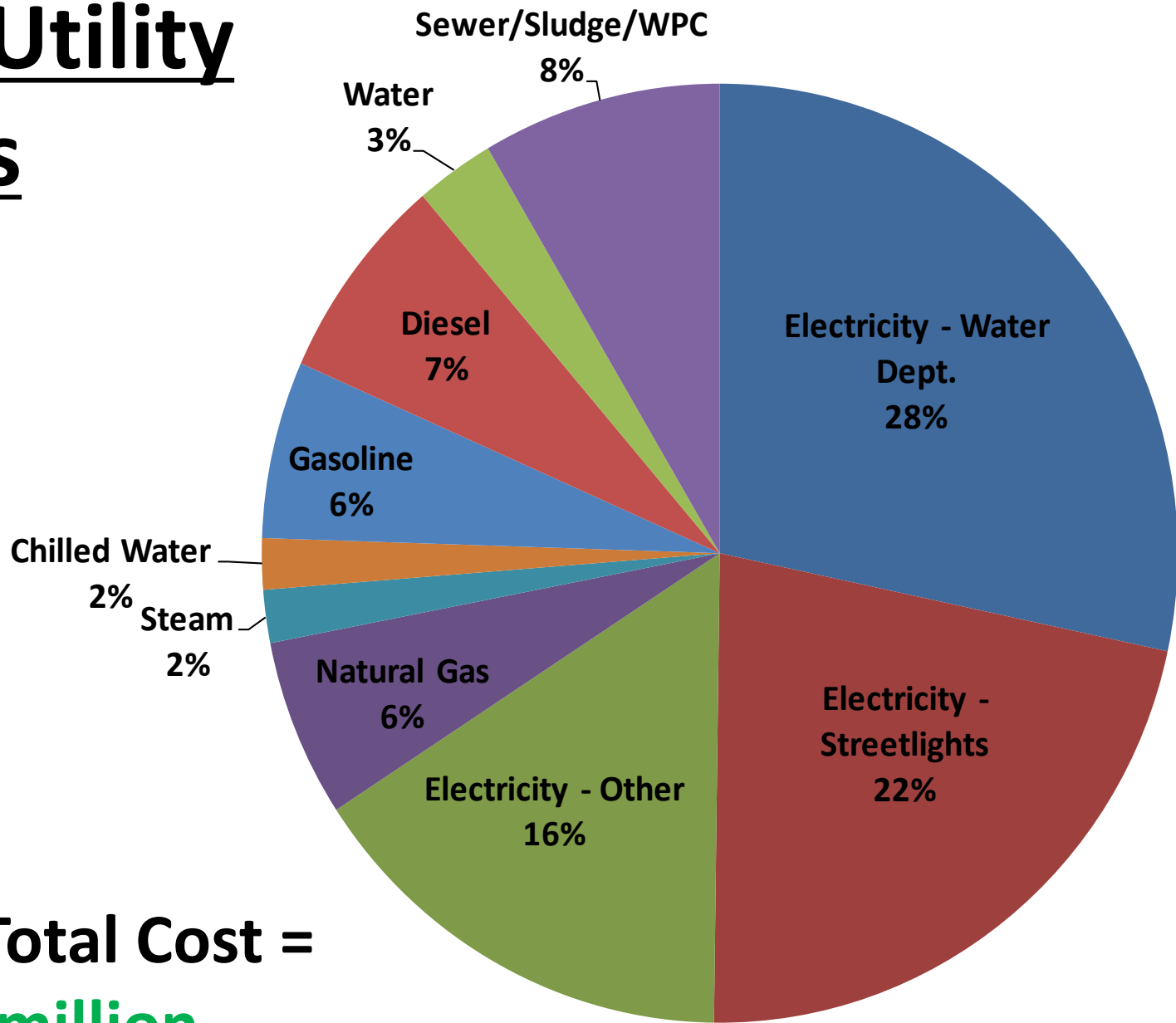


Sustainable Cleveland 2019

- 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

Sustainable Cleveland Municipal Action Plan (SC-MAP) = 25 Actions in the following Focus Areas: (1) Design, Construction & Maint., (2) Energy, (3) Transportation, (4) Water, (5) Materials Mgmt. & Purchasing

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

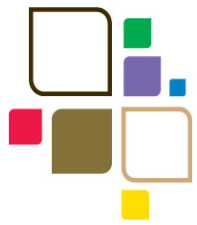
City Green Team

- 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



**SUSTAINABLE
CLEVELAND 2019**

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...

CLEVELAND 2030 DISTRICT

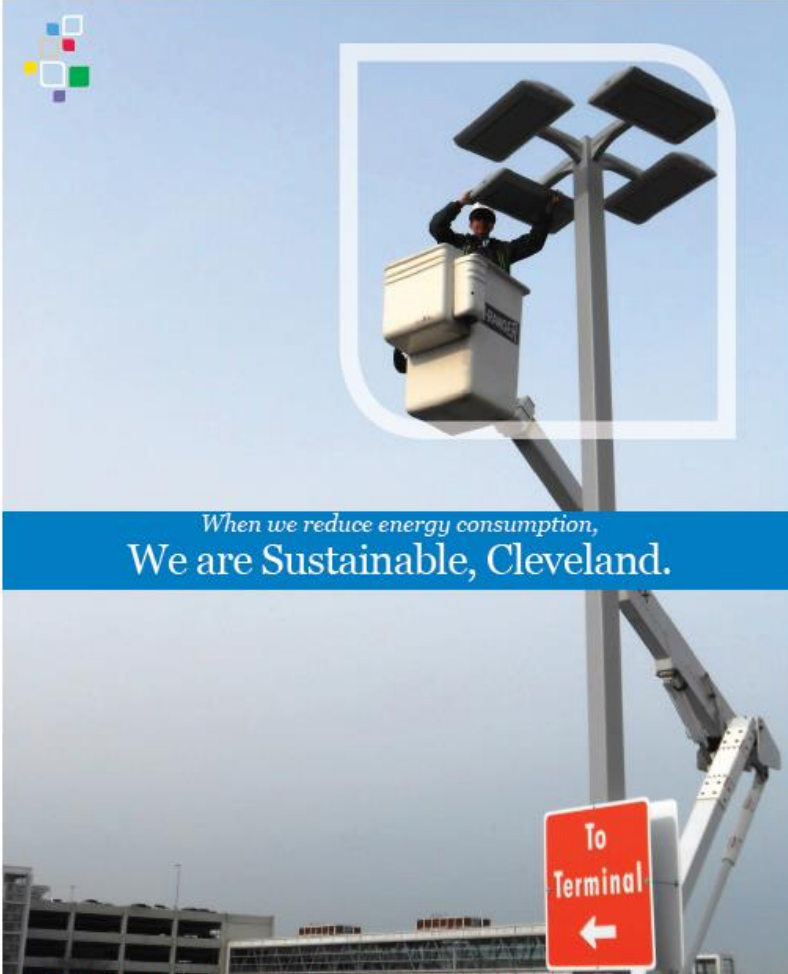


**Downtown District
Phase 1**

**University Circle
District
Phase 2**

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.



*When we reduce energy consumption,
We are Sustainable, Cleveland.*

CLE has replaced over a thousand traditional light fixtures with LED fixtures in its terminal, concourses, stairwells, garages, parking lots, roadways, and airfield.

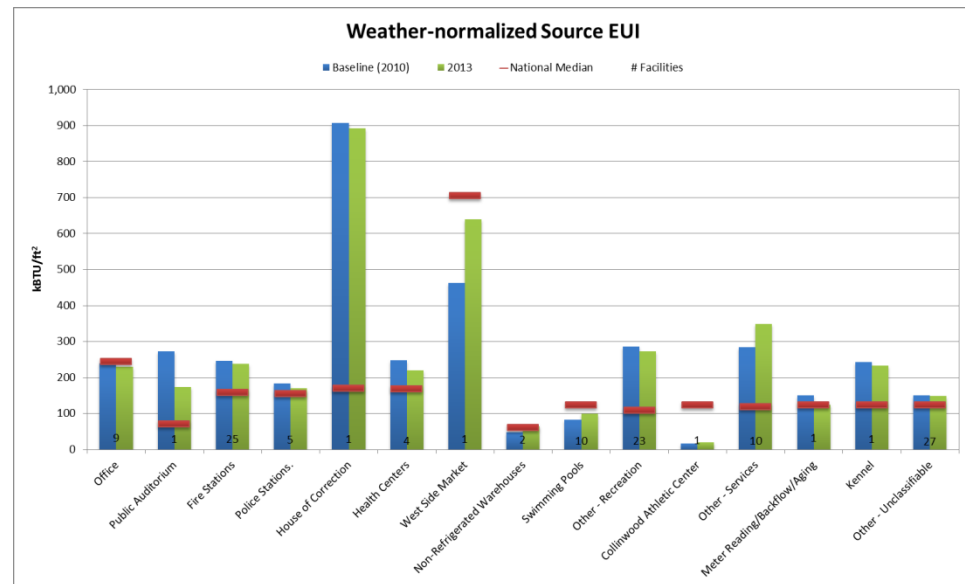
CLEVELAND AIRPORT SYSTEM

SUSTAINABLE CLEVELAND 2019

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

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



ENERGY

| ACTION | PROGRESS/KEY ACCOMPLISHMENTS | KEY NEXT STEPS |
|--|---|---|
| 01 Energy Efficiency in Existing Buildings | 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 | Complete Energy Audits for 3-4 City buildings; Implement Energy Efficiency through several Capital Bond Projects in 2014/2015; Incorporate energy efficiency into CitiStat reporting; Prioritize and track efficiency projects across all departments |
| 02 Energy Conservation in Existing Buildings | Met with Public Works and DPU to begin incorporating energy conservation into CitiStat metrics | Develop and distribute posters to all departments; implement programs to incentivize behavior change; continue training designated EnergyCAP users |
| 03 Building Automation System | Becoming more standard in larger new construction | Capture lessons learned from buildings with BAS (e.g. 205 St. Clair) and identify existing buildings to install systems |
| 04 Re-Commissioning Tune-Up | - | DPU, working with the Office of Sustainability, to develop and issue RFP for retro commissioning on 2-3 buildings |
| 05 Cleveland Division of Water (CWD) System Pumping and Treatment Optimization | Saved money and energy by reducing pump station temperatures and lowering tank water levels | Determine if pumps at Nottingham, Engle, and Crown are sized correctly - replace oversized pumps in 2015; Make new Aurora Rd. pump station energy efficient |
| 06 Streetlight Upgrades | LED Streetlight Pilot (700 replacements); LED area lighting at Airport | Develop standard specifications for future LED streetlights; Identify opportunities for using alternative financing to fund LED streetlight retrofits; develop process for incorporating LED into new area / protective lighting projects |
| 07 Renewable Energy | Completed CWD wind assessment; installed solar hot water tank at Collinwood rec center; issued RFP for solar farm at Kohltoff Landfill | Complete Renewable Energy Site Screening on select City Facilities to identify cost-effective solar opportunities; Based on findings, issue RFP to install solar |
| 08 Cleveland Public Power's Advanced Energy Portfolio Standard | On track to meet renewable energy targets (hydropower purchases, Collinwood BioEnergy, LEEDCo., etc.) | Examine Renewable Energy Site Screening results to identify potential local projects to support |
| 09 Smart Savings | DPU Demand Response; cost savings from EnergyCAP analyses | Determine approach for EnergyCAP going forward; identify other possible opportunities at City facilities, including cost saving energy procurement opportunities. |



BUILT ENVIRONMENT
Quality, Choice & Access
Where We Live, Work & Play



CLIMATE & ENERGY
Increase Efficiency, Reduce Impact



ECONOMY & JOBS
Quality Jobs, Shared Prosperity



EDUCATION, ARTS & COMMUNITY
Vibrant, Connected & Diverse Culture



EQUITY & EMPOWERMENT
Inclusion & Access for
All Community Members



HEALTH & SAFETY
Strong, Resilient & Safe



NATURAL SYSTEMS
Protect & Restore the
Resources of Life



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



**NY 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**



BuildSmartNY

Background

About NY Power Authority....

Generation

- 16 power plants

Transmission

- 1,400 circuit miles

Customer solutions

- \$200M+ annually in clean energy projects

About NY State government facilities....

Portfolio size

- 212 million square feet

Utility costs

- \$500+ million per year

Main drivers

- Higher education, prisons, mental health, 2 large office campuses

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

=

Source
Energy Use
Facility
Square Feet



Governance



STATE OF NEW YORK
EXECUTIVE CHAMBER
ALBANY 12224

ANDREW M. CUOMO
GOVERNOR

HOWARD B. GLASER
DIRECTOR OF STATE OPERATIONS

MEMORANDUM

TO: All Commissioners and Agency Heads

FROM: Howard Glaser, Director of State Operations

SUBJECT: "Build Smart NY" and the Implementation of Executive Order 88

DATE: March 5, 2013

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



EXECUTIVE ORDER 88 GUIDELINES
NEW YORK STATE GOVERNMENT BUILDINGS



BuildSmartNY

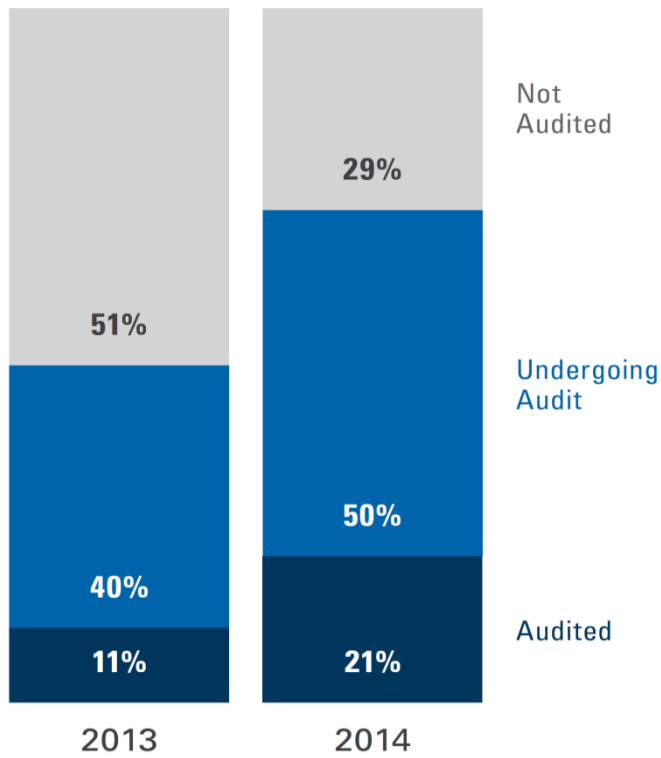
APPENDIX C: TABLE OF EXECUTIVE ORDER 88 DEADLINES

| DATE | DELIVERABLE | DESCRIPTION |
|-------------------|--|--|
| 2015 | | |
| January 10, 2015 | Quarterly Report | Recurring Quarterly reports of EO 88 progress |
| April 10, 2015 | Quarterly Report | Quarterly Status of all EO 88 activities |
| June 30, 2015 | Retro-Commissioning Deadline | Complete RCx studies and measure implementation for one-quarter of portfolio |
| July 10, 2015 | Quarterly Report | Quarterly Status of all EO 88 activities |
| October 1, 2015 | Annual Report | Submit Covered building energy consumption and costs for SFY 2014-2015. 2015 Energy Audit Plan. 2015 Project Tracker. 2015 Submetering plan. |
| December 31, 2015 | Energy Audits of lowest performing buildings | ASHRAE II Audits of lowest performing quartile of buildings. |
| December 31, 2015 | Implement CMMS for Operations and Maintenance Activities | All Agencies deploy a new or updated CMMS with energy related preventative maintenance protocols in place |
| 2016 | | |
| January 10, 2016 | Quarterly Report | Recurring Quarterly reports of EO 88 progress |
| April 10, 2016 | Quarterly Report | Quarterly Status of all EO 88 activities |
| July 10, 2016 | Quarterly Report | Quarterly Status of all EO 88 activities |
| October 1, 2016 | Annual Report | Submit Covered building energy consumption and costs for SFY 2015-2016. 2016 Energy Audit Plan. 2016 Project Tracker. 2016 Sub meter plan |
| December 31, 2016 | EO 88 Submetering requirement complete | Covered buildings larger than 100,000 gross sqft. shall be submetered for all fuels. |

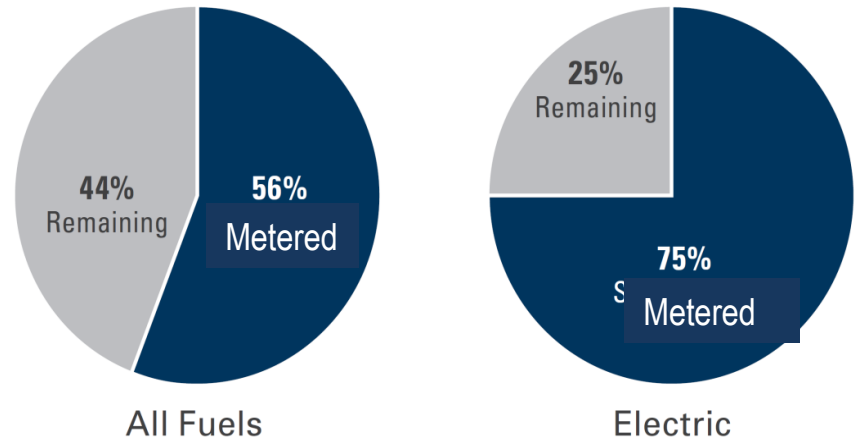


Auditing & Metering

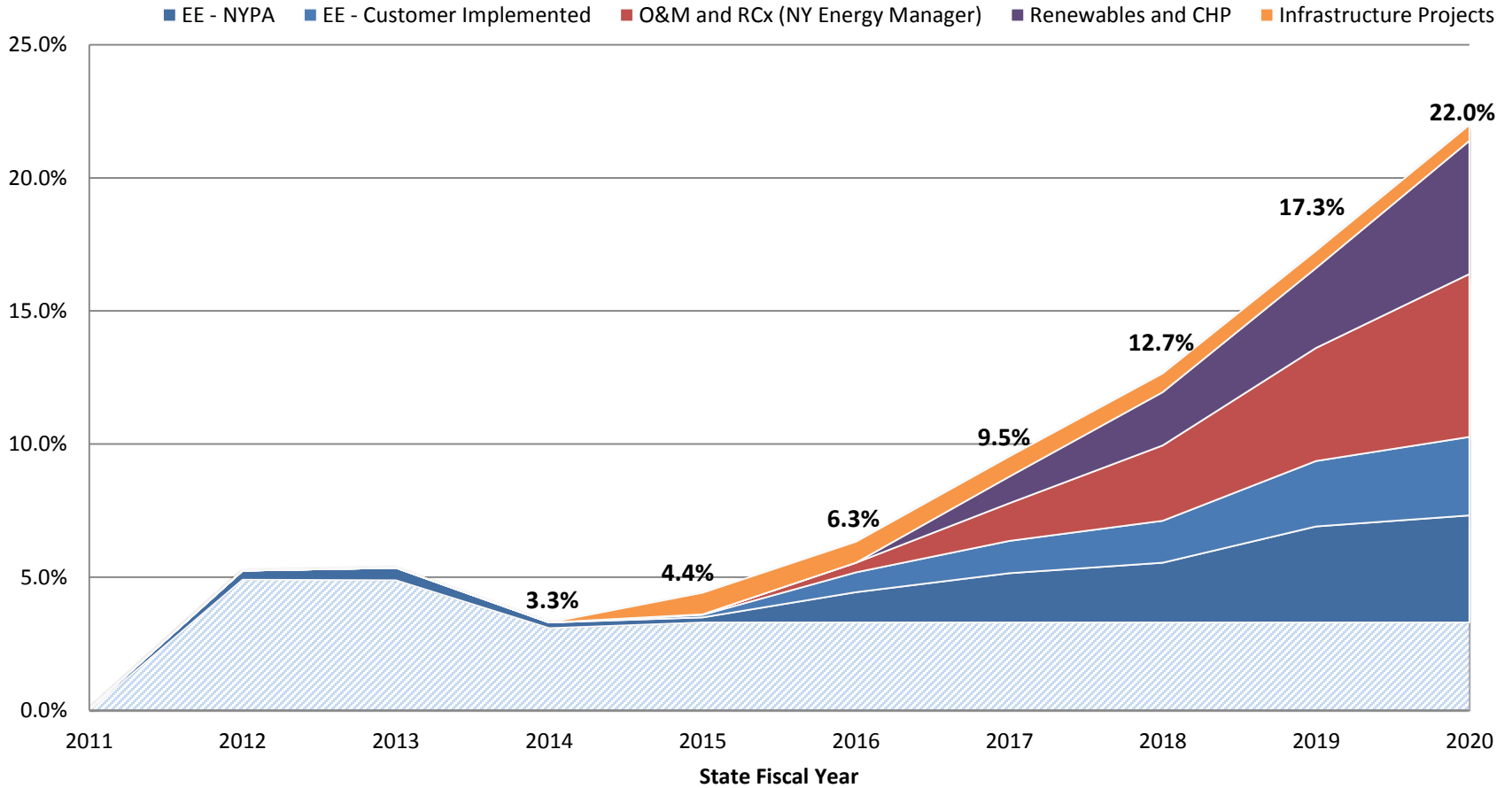
Audit Progress



Metering Progress



Progress and projections...



Data, data, data.... NY EnergyManager


- NY state's first energy management network operations center, launched in Oct 2014
- Utilizes "Big Data" analytics to monitor and troubleshoot energy waste out of public buildings
- 3,300 state buildings already feeding monthly data to the software platform
- 600 sending data on 15-min intervals



Reporting and transparency

New York State's Implementation of
Executive Order 88
2014

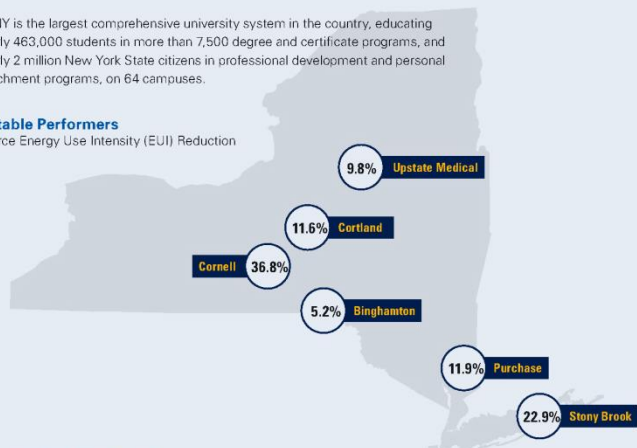
ANNUAL PROGRESS REPORT



State University of New York

SUNY is the largest comprehensive university system in the country, educating nearly 463,000 students in more than 7,500 degree and certificate programs, and nearly 2 million New York State citizens in professional development and personal enrichment programs, on 64 campuses.

Notable Performers
 Source Energy Use Intensity (EUI) Reduction



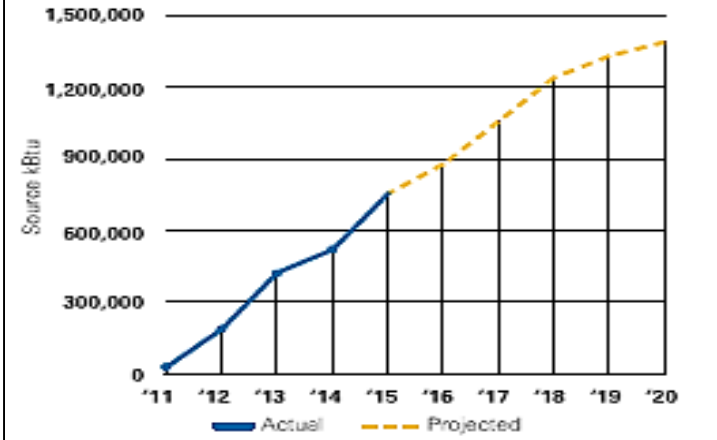
| Activity | Compliance to Date | Description |
|----------------------------|--------------------|---|
| Data and Reporting | Fully Compliant | SUNY is current with EO 88 reporting, having provided complete utility data through 2014 on over 2,700 buildings. NYPAA will work with SUNY to facilitate automated reporting to NY EnergyManager in future years. |
| Energy Audits | Partial | SUNY has completed five energy audits as part of its first phase of energy master plans, with seven more currently underway. These five audits cover over nine million square feet of SUNY campuses. |
| Retrocommissioning | Partial | Retrocommissioning (RCx) measures have been included as part of SUNY's energy master planning process. A more formal RCx strategy for SUNY campuses will be developed in 2015, with assistance from NYPAA, to more effectively utilize these activities. |
| Operations and Maintenance | Partial | SUNY is pursuing an Agency-wide O&M Strategic Plan to help address structural barriers to effective O&M programs at the campus level. SUNY also implemented its quick win strategy of hiring an energy manager. |
| Submetering | Partial | As part of SUNY's energy master planning process, it is performing submetering surveys during energy audits when applicable. Nearly three-quarters of its facilities are already metered for all fuels and 278 buildings have been brought online to the NY EnergyManager system. |

12 BuildSmart NY 2014 Annual Progress Report NEW YORK POWER AUTHORITY

Many retrofit projects, large and small...



NYPA-Implemented Projects for BuildSmart NY Customers

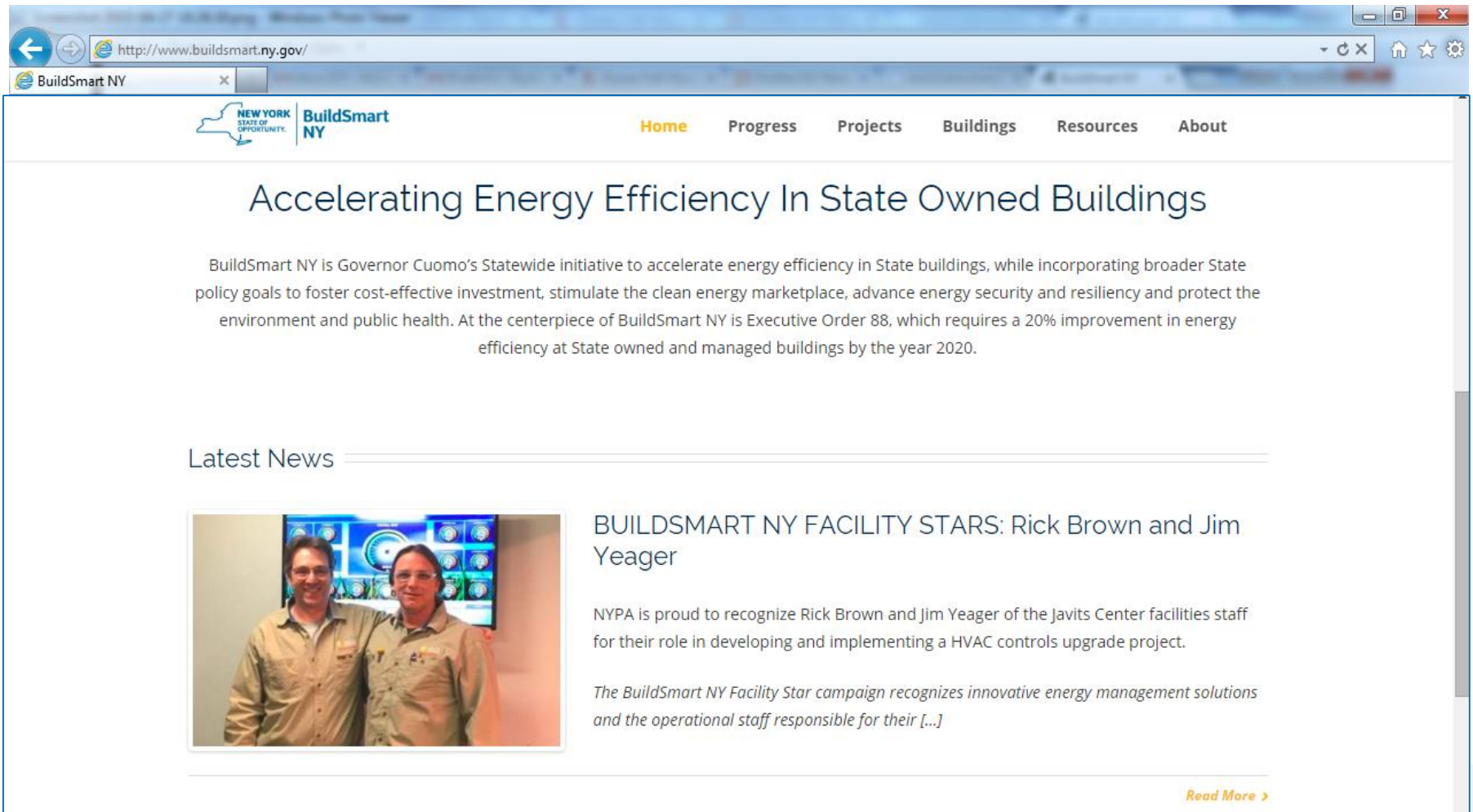


BuildSmart NY 2014 Awards go to....

“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....




The image is a screenshot of a web browser displaying the BuildSmart NY website. The browser's address bar shows the URL "http://www.buildsmart.ny.gov/". The website's header includes the BuildSmart NY logo, which features the New York State outline and the text "NEW YORK STATE OF OPPORTUNITY | BuildSmart NY". To the right of the logo is a navigation menu with links for "Home", "Progress", "Projects", "Buildings", "Resources", and "About".

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



A photograph of two men, Rick Brown and Jim Yeager, standing side-by-side in front of a large digital control panel. They are both wearing light-colored, short-sleeved work shirts. The control panel behind them displays various graphs and data points.

BUILDSMART NY FACILITY STARS: Rick Brown and Jim Yeager

NYP&A 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 [...]

[Read More >](#)

Thanks

LLOYD KASS

Director, Energy Services Marketing

New York Power Authority

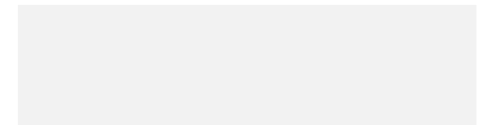
123 Main Street

White Plains, NY 10601

Direct (914) 681-6403 | Mobile (914) 357-6624

lloyd.kass@nypa.gov | Twitter @Lloyd_Kass

www.nypa.gov | www.buildsmart.ny.gov



Questions & Discussion