

The background of the slide is a waving American flag. The stars and stripes are clearly visible, with the blue field of stars on the left and the red and white stripes on the right.

**9-9:30
Networking
Question**

**What are you
proud of in your
job?**

**San Francisco Bay Area
Federal Executive Board
www.sffeb.us**



Time	Topic/Presenter
9:30 AM	Welcomes & Introductions John Kramar, Chair Review & Approval of Mar. 10, 2016 Minutes
9:35 - 9:45 AM	FEB Executive Director Report Sara Russell a. Review Agenda b. Finance Report



Time	Topic/Presenter
9:45 – 10:30 AM	Focus on Federal Sustainability <u>Executive Order 13693</u> Introduction of Speakers Andrew McMahon, Regional Administrator, GSA R9 via phone: Christine Harada, Chief Sustainability Office Council on Environmental Quality Washington DC



Time	Topic/Presenter
9:45 – 10:30 AM	R9 Overview of EO 13963 Chris Anne Halpin, P.E. Facilities Management & Services Programs Director GSA / Public Buildings Service

FEDERAL EXECUTIVE BOARD

4/14/2016

REGION 9 GSA

ACHIEVING SUSTAINABILITY



EO 13693

- In order to create a clean energy economy that will:
 - *increase our Nation's prosperity,*
 - *Promote energy security,*
 - *protect the interests of taxpayers, and*
 - *safeguard the health of our environment*
- The Federal Government must lead by example.
- All Federal agencies shall:
 - *increase energy efficiency,*
 - *measure, report, and reduce their greenhouse gas emissions,*
 - *conserve and protect water resources,*
 - *eliminate waste, recycle, and prevent pollution,*
 - *leverage agency acquisitions to foster markets for sustainable technologies and environmentally preferable materials, products, and services,*
 - *design, construct, maintain, and operate high performance sustainable buildings in sustainable locations, ..*

EO 13693 SECTION 1.

NATIONAL

Energy Usage Intensity -2.36%

(Regional: % BTU/GSF reduction FY16 vs FY13-FY15 average)

Water Usage Intensity -25.56%

(rolling 12-month status compared to base year)

Waste Diversion 54%

(surpassing 50% diversion mandate)

Sustainable Buildings TBD

(% inventory in compliance with Guiding Principles)

GSA NATIONAL

REGION 9

REGION 9

Energy Usage Intensity -4.39%

(Regional: % BTU/GSF reduction FY16 vs FY13-FY15 average)

Water Usage Intensity -33.5%

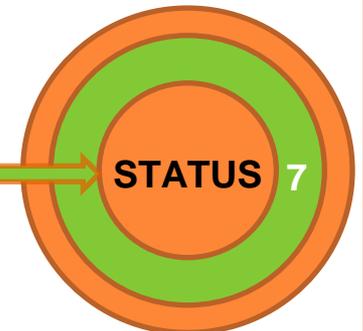
(rolling 12-month status compared to base year)

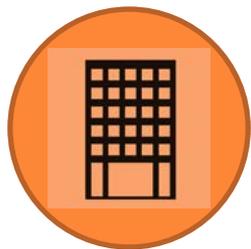
Waste Diversion 61%

(surpassing 50% diversion mandate)

Sustainable Buildings 23%

(% inventory in compliance with Guiding Principles)



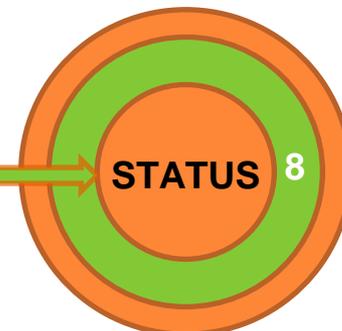


Sustainable Buildings

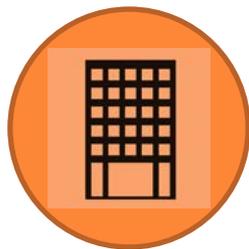
- Definition:
 - *follows a structure that ensures a high level of certainty that a building is following sustainable practices.*
- Qualifications:
 - *Employ Integrated Design*
 - *Protect and Conserve Water*
 - *Enhance Indoor Environmental Quality*
 - *Optimize Energy Performance*
 - *Reduce Environmental Impact of Materials*
 - *Assess and Consider Climate Change Risks.*

HIGH PERFORMANCE GREEN BUILDINGS

BUILDINGS FOLLOWING SUSTAINABLE PRACTICES



GSA R9 - BUILDING TRANSFORMATIONAL CHANGE



CALIFORNIA 23 BUILDINGS total

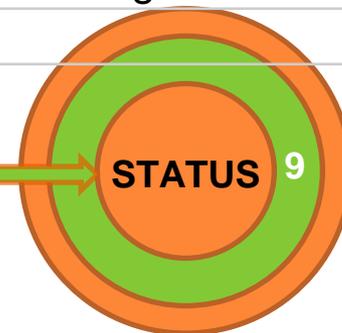
- Ronald Dellums Federal Building
- Roybal Federal Building & U.S. Courthouse
- Ronald Reagan Federal Building & U.S. Courthouse
- New San Francisco Federal Building
- Fresno Federal Building and Courthouse
- San Diego Federal Courthouse
- Bakersfield U.S. Courthouse
- Chet Holifield Federal Building
- Services Support Building
- Energy Stations
- Water Cooling Stations

CALIFORNIA BUILDINGS, con't.

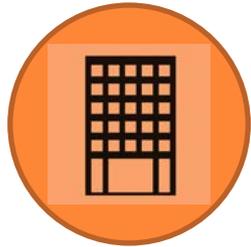
- San Ysidro LPOE
- 312 North Spring Street Courthouse
- Jacob Weinberger Courthouse
- Federal Building 50 UNP
- DEA Federal Building
- 300 North Los Angeles Street Federal Building
- Phillip Burton Federal Building & U.S. Courthouse
- Edward J. Schwartz Federal Building & U.S. Courthouse
- Social Security Building (Pasadena)
- James C. Corman Federal Building
- Leo Ryan Federal Center

HIGH PERFORMANCE GREEN BUILDINGS

REGION 9 SUCCESSES



GSA R9 - BUILDING TRANSFORMATIONAL CHANGE



ARIZONA 3 BUILDINGS

Sandra Day O'Connor Courthouse

San Luis II Land Port of Entry

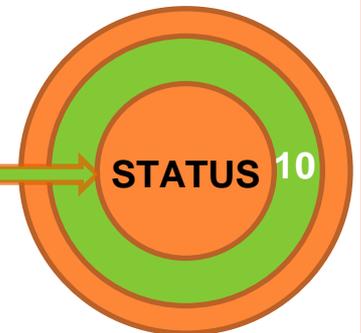
Mariposa LPOE

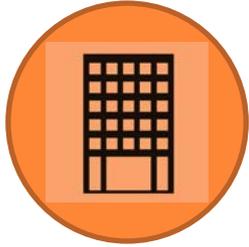
NEVADA 1 BUILDING

Bruce R. Thompson Courthouse

HIGH PERFORMANCE GREEN BUILDINGS

REGION 9 SUCCESSES





● **GPG? What is it?**

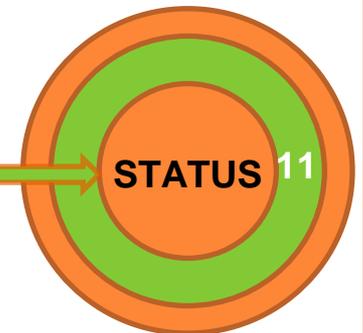
- **Green Proving Ground: a GSA national program**
- *Established in 2011*
- *Innovative response to EO 13514*
- *Continues to support EO 13693, specifically:*
- *... foster markets for sustainable technologies and environmentally preferable materials, products, and services*

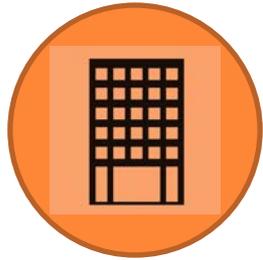
● **GPG Mission?**

- *Leverage GSA's real estate portfolio*
- *Test innovative building technologies, and*
- *Provide recommendations on deployment*

HIGH PERFORMANCE GREEN BUILDINGS

REGION 9 BEYOND BUSINESS AS USUAL





● **Emerging Technology FACT!**

- *4 out of 5 technologies fail to cross the technological valley of death*

● **Emerging Technology FACT!**

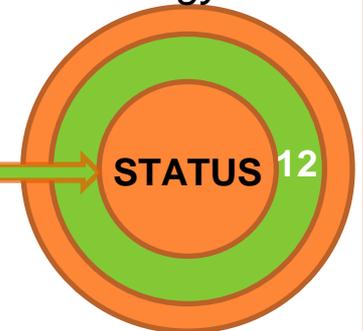
- *4 out of 5 technologies fail to achieve market acceptance because of the risk they pose to early adopters*

● **GPG bridges the technological valley of death and accelerates market acceptance by:**

- *Identifying promising technologies at the edge of commercialization*
- *Selecting sites for technology measurement and verification within GSA's real estate portfolio*
- *Partnering with Department of Energy national laboratories to evaluate real-world performance*
- *Recommending technologies proven to cost-effectively reduce energy- and water-use*

HIGH PERFORMANCE GREEN BUILDINGS

REGION 9 BEYOND BUSINESS AS USUAL



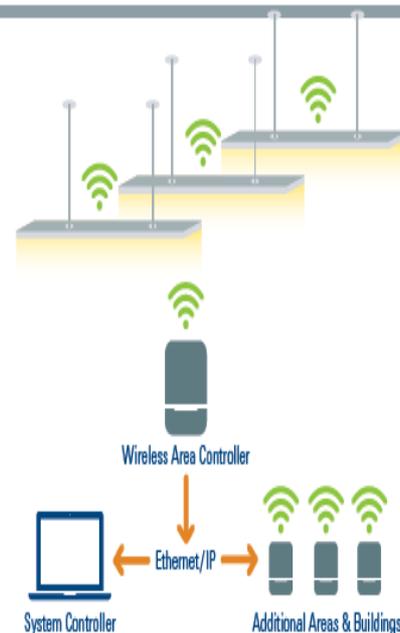


Wireless Advanced Lighting Controls

- wireless networking: relatively new to advanced lighting controls,
- enables Advanced Lighting Control functionality without the expense of installing dedicated control wiring
- functional testing in two federal sites in Northern California

TECHNOLOGY

How do Wireless Advanced Lighting Controls work?

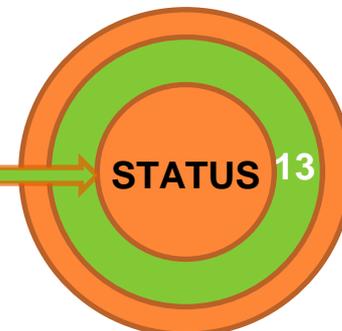


WIRELESS NETWORKING

ENABLES ALC FUNCTIONALITY WITHOUT THE EXPENSE OF INSTALLING DEDICATED CONTROL WIRING

HIGH PERFORMANCE GREEN BUILDINGS

REGION 9 BEYOND BUSINESS AS USUAL





Wireless Advanced Lighting Controls Functional Test Results:

- Proved cost effective for new installations but not for lighting retrofits

RESULTS

How did Wireless Advanced Lighting Controls perform in M&V?

54%
SAVINGS

78% SAVINGS INCLUDING LED⁴
Normalized for GSA

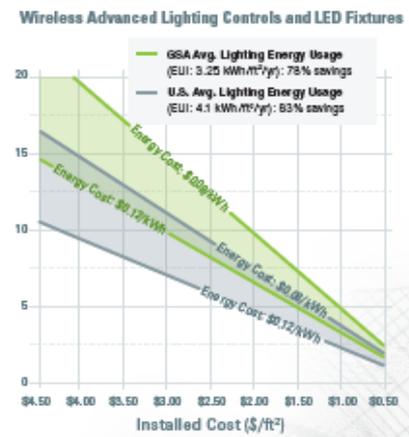
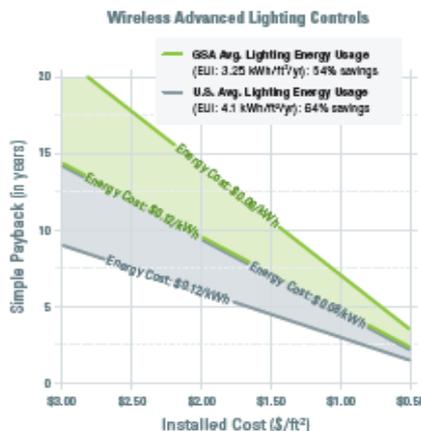
INCREASED FLEXIBILITY

IN LIGHT LEVELS TO SUIT USER PREFERENCES⁵

3-6 yr INCREMENTAL PAYBACK
FOR RENOVATIONS⁶

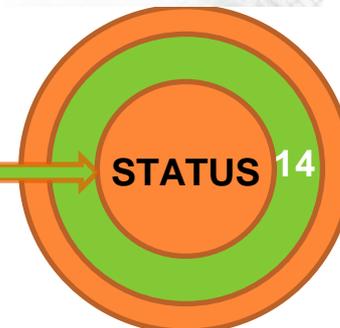
Payback for Advanced Lighting Controls

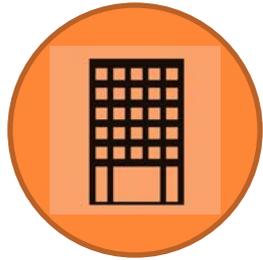
Savings are heavily dependent on baseline conditions



HIGH PERFORMANCE GREEN BUILDINGS

REGION 9 BEYOND BUSINESS AS USUAL





Electrochromic Windows

TECHNOLOGY

How do electrochromic (EC) windows work?



TRANSITION FROM CLEAR TO DARK
USING PHOTOSENSOR READINGS AND SUN PATH CALCULATIONS

Project Locations:

- Donna Land Port of Entry at Texas border
- 911 Federal Building, Portland, Oregon
- 650 Capitol Mall, Sacramento, CA

EC Window Technology:

A nanometer-thin EC coating on a dual-pane low-e window can switch from clear to dark tinted blue with a small applied direct current voltage (3-5 vdc)

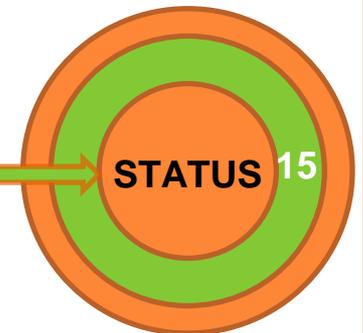
- When tinted: reduces solar heat gains
- When clear: admits daylight

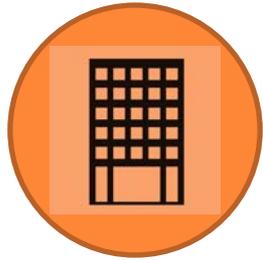
There are four pre-defined levels of tinting:

- Switching time is between 3-45 minutes: large, cold windows can take a long time to switch to the darkest state
- A transparent view to the outdoors is maintained at all times

HIGH PERFORMANCE GREEN BUILDINGS

REGION 9 BEYOND BUSINESS AS USUAL





Electrochromic Windows

• ADVANTAGES:

- In sunny conditions, views through windows can be severely compromised by glare.
- Researchers found a significant reduction in glare, along with high user satisfaction.

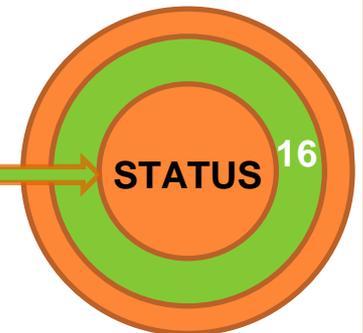
EC windows admitted more daylight and therefore **reduced lighting energy use by 36-49%** compared to the reference windows with blinds.

In private offices, occupants **used the venetian blinds considerably less** in the EC offices than compared to the reference offices: **20% versus 50-75%** of the blinds were used, respectively.

An analysis of the cost-effectiveness of this installation indicates that the energy savings of reduced lighting energy use and peak HVAC energy use (if controlled properly for critical peak summer periods) could yield a **simple payback of 10.8 to 25 years**

HIGH PERFORMANCE GREEN BUILDINGS

REGION 9 BEYOND BUSINESS AS USUAL



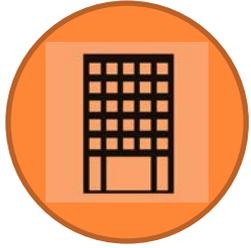
EO 13693

● **Regional Coordination:**

- *GSA & EPA Regionally shall coordinate with FEBs, DoD & other Federal Gov't Agencies, and*
- *Convene interagency workgroups to address and identify:*
 - *sustainable operations of Federal fleet*
 - *water resource management and drought response opportunities;*
 - *climate change preparedness and resilience planning in coordination with State, local, and tribal communities; and*
 - *opportunities for collective procurement of clean energy to satisfy energy demand for multiple agency buildings*

EO 13693 SECTION 10.

POLICY 17

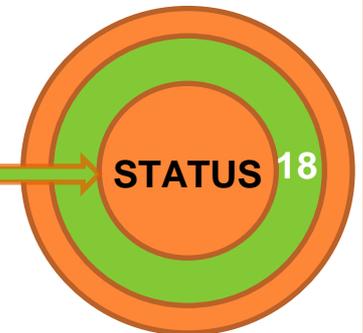


FASPP (Federal Aggregated Solar Procurement Pilot)

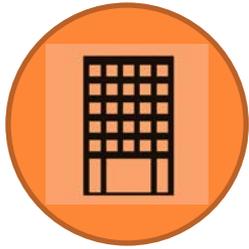
- A strategic sourcing project that combines several small to mid-size photovoltaic (PV) installation opportunities within northern California and northern Nevada into a single procurement.
- Designed to take advantage of economics of scale in solar installation with no up-front cost to the government.
- It will help achieve the Administration's 2025 Renewable Energy Goal as outlined in EO 13693, Planning for Federal Sustainability in the Next Decade.

INTER-AGENCY COLLABORATION

REGION 9 BEYOND BUSINESS AS USUAL



GSA R9 - BUILDING TRANSFORMATIONAL CHANGE

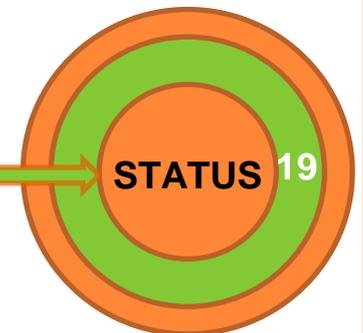


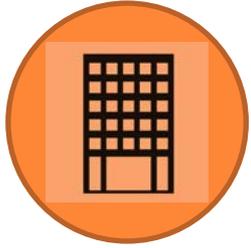
FASPP (Federal Aggregated Solar Procurement Pilot)

- 9 sites (8 GSA, 1 Forest Service):
 - GSA sites are: Peckham USCH, USGS Menlo Park, Browning USCH, Ryan FB (NARA), Shea FB, FB 2800 Cottage Way, C. Clifton Young FB, and the Carson City FB.
 - Forest Service site: regional office building at Mare Island (Vallejo).
- Estimated aggregate capacity of about 5 megawatts (MW)
- The systems will be a mix of rooftop, parking lot canopy and ground mounted, depending on the circumstances of each site.
- No up-front cost to the government
- Contractor/Service Provider: SolarCity

INTER-AGENCY COLLABORATION

REGION 9 BEYOND BUSINESS AS USUAL





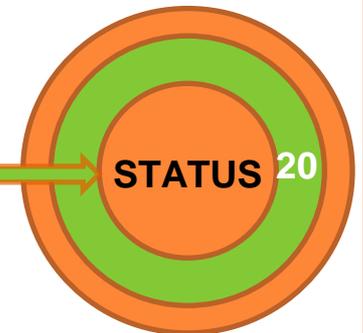
FASPP (Federal Aggregated Solar Procurement Pilot)

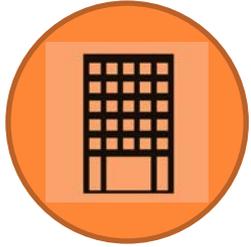
- Concepts for installation:



INTER-AGENCY COLLABORATION

REGION 9 BEYOND BUSINESS AS USUAL



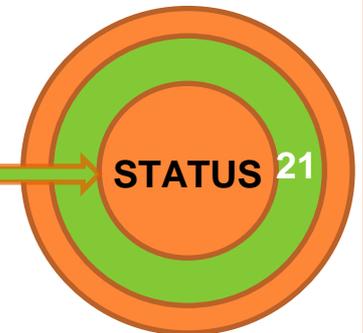


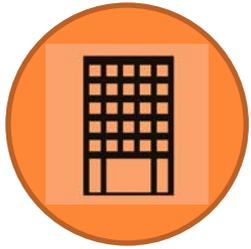
Electric Vehicle Charging Stations

- Grant from California Energy Commission
- Approximately 10 sites with approximately 50 charging stations
- 2-pilot locations:
 - Cottage Way, Sacramento
 - DoD/DoN at Norco and Seal Beach (San Diego)
- Conducting Market Research for vendors/service providers
- Assessing options for usage fees

INTER-AGENCY COLLABORATION

REGION 9 BEYOND BUSINESS AS USUAL





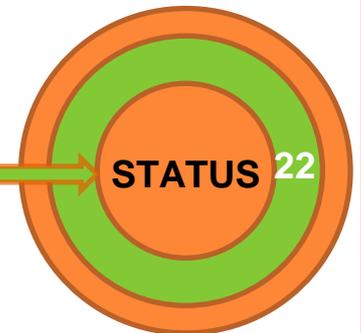
Electric Vehicle Charging Stations

- Concepts for installation:



INTER-AGENCY COLLABORATION

REGION 9 BEYOND BUSINESS AS USUAL



REGION 9 GSA

ACHIEVING SUSTAINABILITY

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GSA



Time	Topic/Presenter
9:45 – 10:30 AM	R9 Overview of EO 13963 Kathy Meltzer Lead Region Coordinator EPA Region 9



Time	Topic/Presenter
10:30 – 10:45 AM	EPA’s Federal Green Challenge Program and Why You Should Sign Up! Kathy Taylor, Assistant Director, Pollution Prevention Branch EPA Region 9



Federal Green Challenge

epa.gov/fgc



Rethink

CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



Overview

- What is the Federal Green Challenge
- Benefits
- How to participate
- What you can do



“The future vitality of our lives and our economy depends on clean air, clean water, and a stable climate. The power to shape that future is in your hands.”

-- EPA Administrator, Gina McCarthy



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



US Federal Footprint Data

We can make a difference!

The Federal Government:

- Nation's largest vehicle fleet operator
- One of the largest IT purchasers
- Largest purchaser of goods and services in the U.S.
- Controls a real estate portfolio of more than 1.2 million assets



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW

E.O. 13693 Planning for Federal Sustainability in the Next Decade

Clean Energy

Energy Efficiency

Water Efficiency

Cleaner Fleet

40% Federal GHG Reduction

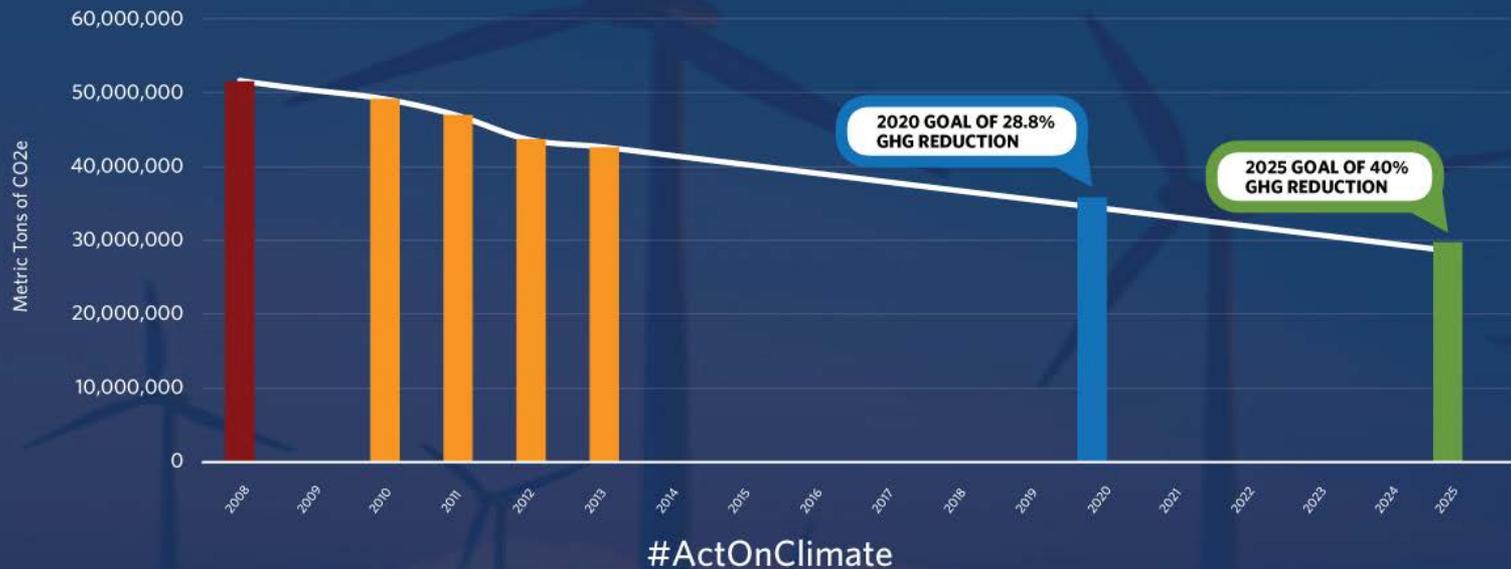


CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW

E.O. 13693 Federal GHG Target

Will create up to \$18B in cumulative (2008-2025) avoided energy costs.

PRESIDENT OBAMA JUST TOOK ACTION TO CUT THE FEDERAL GOVERNMENT'S CARBON POLLUTION EMISSIONS BY 40% BY 2025



 **Rethink**

Source: U.S. Digital Services

CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



What is the Federal Green Challenge?

Challenges federal facilities to commit to a minimum 5% annual sustainability improvement in two of the six target areas (at least one must be waste, purchasing or electronics)



Rethink

CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



Who can Join?



The Federal Green Challenge welcomes participants at all levels

You have the flexibility to decide at what level you would like to join



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



Benefits to Participants

- Maximize resources, improve efficiencies, and increase employee morale
- Demonstrate innovative techniques for **reducing environmental footprints**
- Receive EPA's technical assistance and resources
- Implement and exceed your responsibilities under EO 13693.



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



Benefits to Participants

The FGC supports agencies in their efforts to comply with Executive Order 13693 and other regulatory requirements

FGC staff will help you set and achieve your goals, provide you with a platform to track your progress, and reward you for your achievements



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



Federal Green Challenge National 2014 Results

National 2014 Results



Diverted 390,000 tons of waste from landfills



Saved 80 million gallons of water



Avoided purchasing 15,000 pounds of office paper



Reduced fleet distance traveled by 12.3 million miles



Saved 107 million cubic feet of natural gas



Sent 457 tons of end of life electronics to third party certified recyclers



These Combined Efforts Result in an Estimated Cost Savings of More Than \$24 million to U.S. Taxpayers



www.epa.gov/smm



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



How to participate in FGC



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



Awards & Recognition



Data Driven and Narrative Awards

- **Data Driven** – at **National Level** and **Regional Level** for Greatest Improvement in each of the 6 target areas
- **Data Driven** - Overall Level of Performance for cumulative percentage improvement in 2 or more target areas
- **Narrative** – 3 Awards at the Regional Level for
 1. Education and Outreach
 2. Leadership
 3. Innovation



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



What can you do?

Waste (Reduce, reuse, recycle, compost)

Purchasing (products and services)

Electronics (equipment and practices)

Energy (facility and tenant practices)

Transportation (travel, vehicles and commuting)

Water (use and equipment)



 **Rethink**

CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



What have we done?

- Region 9 FGC executive leaders agreed to work together on shifting from **30% to 100% recycled copy paper**
- **Region 9 Results (FY12-FY14)**
 - Over **50 million sheets** of 100% recycled paper purchased
 - Cut GHG equivalent of nearly 2 million passenger car miles
 - Conserved 2 million gallons of water
 - Saved **4,200 forty-foot tall trees**



Thank You!

Rethink

CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



Join Us!



www.epa.gov/fgc

R9 FGC Team

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Timonie Hood (hood.timonie@epa.gov)

André Villaseñor (villasenor.andre@epa.gov)



CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



Time	Topic/Presenter
10:45 – 11 AM May 12th	FEB Trainings Announcements Adjournment Next FEB Board Meeting: <ul style="list-style-type: none">• Shared Neutrals Program• LDP Mentoring Program