

Better Buildings Webinar Series

We'll be starting in just a few minutes....

Tell us...please send your response to the webinar organizers via the chat window:

What topics are you interested in for future webinars?






Downstream Savings: From Water Efficiency to Energy Savings

February 2, 2016
3:00-4:00 PM ET

Overview and Agenda

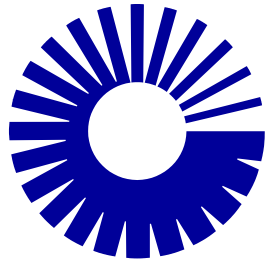
- Welcome & Introductions
- Case Studies
 - United Technologies Corporation
 - The City of Atlanta
 - InterContinental Hotels Group
- Additional Resources
- Question & Answer Session

Today's Presenters

Name		Organization
Sean West		United Technologies Corporation
Juliette Apicella		Southface Energy Institute
Jean Pullen		Southface Energy Institute
Maury Wolfe		InterContinental Hotels Group

Sean West

United Technologies Corporation



**United
Technologies**

UTC Water Reduction Goals

February 2, 2016

COMPANY PRIVATE

UNITED TECHNOLOGIES

2015 REVENUE \$56.1B



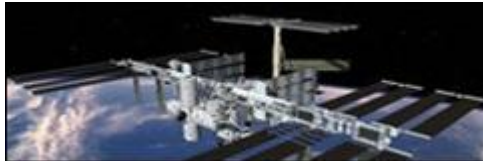
Heating, ventilating, cooling & refrigeration systems



Security & fire protection services



Elevators, escalators, moving walkways, people movers & horizontal transportation systems



Industrial & aerospace systems



Aircraft engines, gas turbines & space propulsion systems

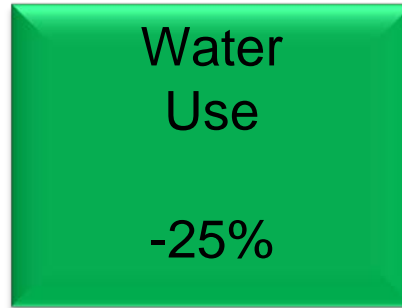
No technical data subject to the EAR or the ITAR

UNITED TECHNOLOGIES

Manufacturing Sites Worldwide



2020 WATER REDUCTION GOAL



Annual Target: annual increment 5% reduction from baseline

Reporting Sites: Manufacturing, and non-manufacturing with annual energy/water spend > \$100,000

Baseline: 2015 water use amount

No technical data subject to the EAR or the ITAR

2020 WATER BEST PRACTICE GOAL

Water
Best
Practices
100%

Annual Target: Starting Q4-2016, 20% of WMBP completed; additional 20% each year 2017-2020

Reporting Sites: All subject to 2020 water use goal

Baseline: 2015 site performance against water scarcity, WMBP matrix used to inform BU's where they stand vs 20% annual increase in target

No technical data subject to the EAR or the ITAR

WATER MANAGEMENT BEST PRACTICE IMPLEMENTATION MATRIX

	Large Sites > 1 Million Gal/year	Small Sites < 1 Million Gal/year
Stressed Regions Scarce Regions Extreme Scarce Regions	71 sites (20%) 563.9 million gallons (29%)	76 sites (22%) 28.45 million gallons (1.5%)
Abundant Regions Sufficient Regions	71 sites (20%) 1,339 million gallons (68%)	79 sites (23%) 27.5 million gallons (1.5%)

- Yellow** = All ten best practices required
Blue = Must have current water balance and leak management PLUS five additional best practices
Green = Must have current water balance and leak management

UTC MINIMUM BEST PRACTICES

Current water balance
Leak management

UTC ADDITIONAL BEST PRACTICES

Eliminate once-through cooling
Cooling tower management
Flow meters
Low flow fixtures and flow restrictors
Rinse tank overflow
Xeriscaping
Recycle Process wastewater
Rain water harvesting

Goal Attainment:

Credit given when BMP implemented across > 50% opportunities at site

No technical data subject to the EAR or the ITAR

UTC EH&S DATA COLLECTION

Project Tracking

Water Best Practice Status		
Add a Record		
UniqueKey	58223163	
Water Scarcity Classification	Abundant	
2015 Water Usage - Gals	2792478	
Required Water Best Practices	7 (2 Minimum Best Practice and 5 out of the remaining 8)	
Implementation Status		
Water Best Practice	Implementation Status	Comments
Cooling Tower Management	Less Than 50% Complete	Total of 6 towers
Current Water Balance (Required)	Complete	Annual review 2016
Elimination of Once-Through Cooling	Greater Than 50% Complete	One last process to add to cooling loop
Flow Meters	Complete	12 meters installed on all mfg. processes
Leak Management (Required)	In Progress	Ultrasonic testing underground pipes
Low Flow Fixtures and Flow Resistors	Greater Than 50% Complete	
Rain Water Harvesting	Reviewed, Exemption Granted	Cost prohibitive
Recycle Process Wastewater	Complete	Point of use filtration and reuse
Rinse Tank Overflow	Reviewed, Not Applicable	no rinse tanks
Xeriscaping	Complete	No landscape irrigation system used

Save Cancel

WBCSD WATER TOOL

Data input screenshot (WBCSD)

The screenshot displays the WBCSD Water Tool interface. At the top, there is a logo and the text "wbcسد water". Below this are three buttons: "Add new", "Set", and "Clear". The main interface is a table with the following columns: Site Name, Country, Region, Sub-Region, Site ID, Latitude, Longitude, and Operation Type. A modal window titled "Enter Site Data" is open, showing the following fields:

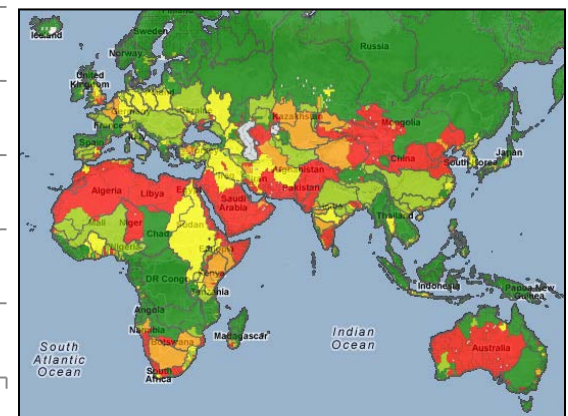
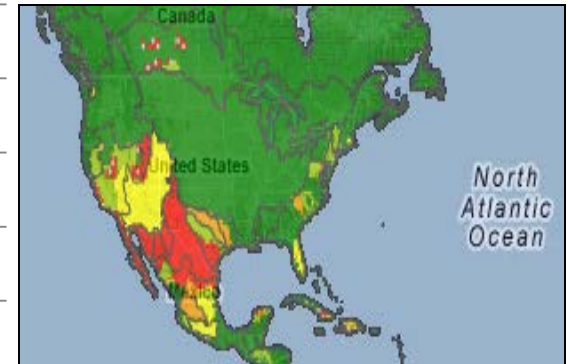
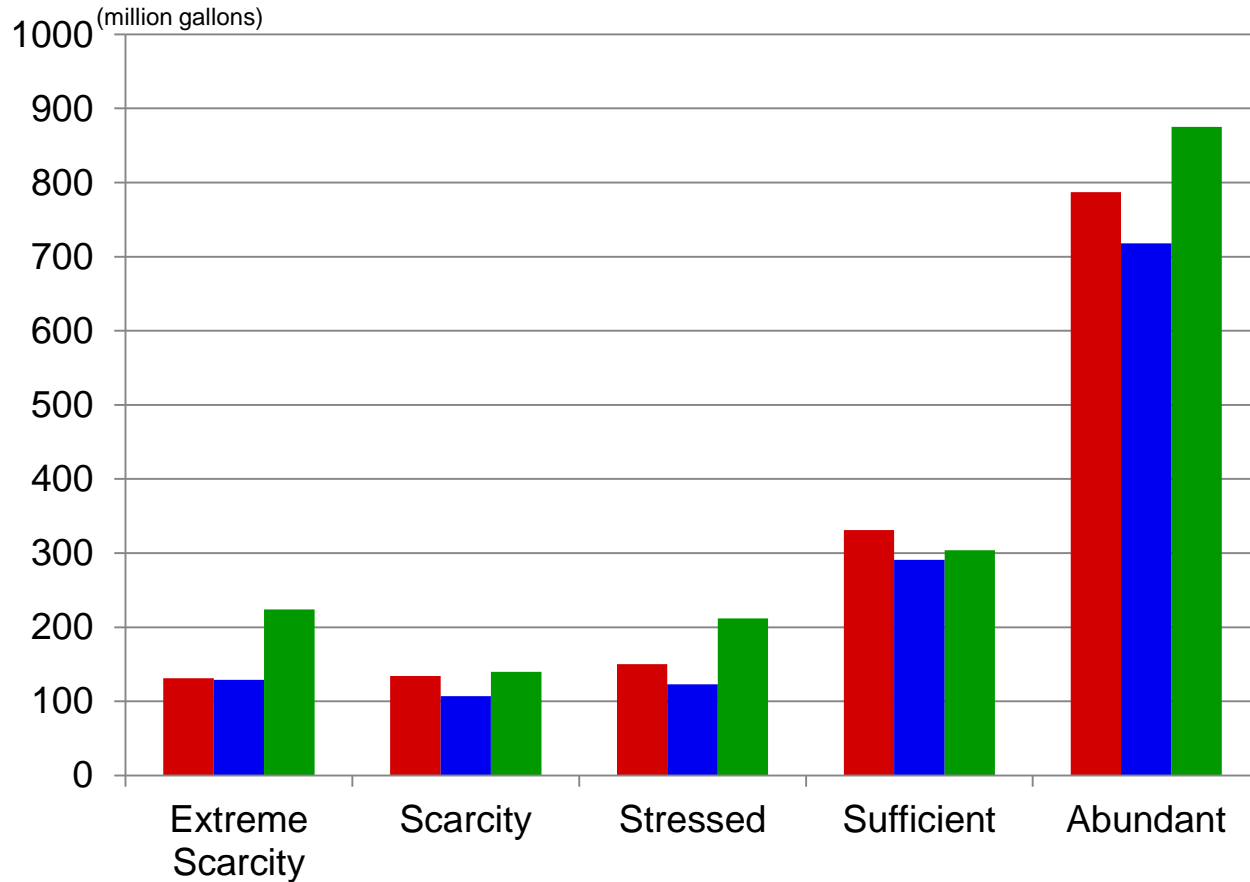
- Site Description (header)
- Site Name (text input)
- Country (dropdown menu)
- Site ID (text input)
- Operation Type (dropdown menu)
- Latitude (text input)
- Longitude (text input)
- Geocoder (button)

At the bottom of the modal, there are "Cancel" and "Ok" buttons. The background table shows the following data:

Site Name	Country	Region	Sub-Region	Site ID	Latitude	Longitude	Operation Type
Dark Chocolate Lilikoi	United				20.87	-156.68	SUPPLIER
Kudu Potjie	Namibi				-22.53	17.03	INDUSTRIAL
Capitaine Fonio	Mali				13.91	-4.56	SUPPLIER
Bibimbap Co.	Korea R				35.91	128.61	INDUSTRIAL
Clam Chowder Inc.	United				40.57	-73.98	OFFICE/RETAIL
Mazamorra Morada	Peru				-13.16	-72.54	INDUSTRIAL
Maison de la Paix	Switzer				46.22	6.14	OFFICE/RETAIL
Sticky Date Pudding	Tanzan				-6.16	39.19	INDUSTRIAL
Dahi Bhalla	India				28.59	77.22	OFFICE/RETAIL
Lingonberry Ltd.	Sweder				59.28	18.02	INDUSTRIAL
Donkey Consortium	France				48.88	2.34	SUPPLIER
Obanzai Ryori	Japan				34.99	135.78	OTHER
Dobos	Hungar				47.52	19.08	INDUSTRIAL
Baghrir	Morocc				33.61	-7.62	OFFICE/RETAIL
Gallo Pinto	Costa R				9.94	-84.11	INDUSTRIAL

WATER SCARCITY

Water use by scarcity level – Water tool output




Extreme Scarcity	Scarcity	Stressed	Sufficient	Abundant
<500 (m3/person/year)	500-1000 (m3/person/year)	1001-1700 (m3/person/year)	1701-4000 (m3/person/year)	>4000 (m3/person/year)

No technical data subject to the EAR or the ITAR

UTC WATER GUIDANCE DOCUMENT

List of ten water management best practices


United Technologies

GLOBAL WATER CONSERVATION GUIDANCE DOCUMENT

Water use has always been an important part of conservation goals. From a global perspective, water supply necessities that sustainability in addition to being inextricably linked to energy, it has the potential to significantly impact how and where it is used. UTC has a successful history of implementing water conservation programs, reducing water consumption 24% from 2.1 billion gallons in 1997 to 1.6 billion gallons in 2010. UTC has reduced water consumption 57% from 3.3 billion gallons in 2006 to 1.4 billion gallons in 2010.

In addition to local water supply classification, sites should be aware of other risk factors such as local water quality conditions. Water quality statistics typically published by water suppliers or municipalities. Other risk factors include rising cost and increased regulatory requirements on water quality.


This guidance document provides details of UTC's global water scarcity assessment and best practices for managing water risks for the corporation and its sites. You will also find case studies and event projects that have been successfully implemented at UTC sites.

TABLE OF CONTENTS

- Current state assessment
- Baseline consumption and water balance
- Continuous Improvement (key areas to focus)
- Required Actions
- Minimum expectations for best practices
- Case studies

BEST PRACTICES

- Water balance
- Leak management
- Eliminate once-through cooling
- Cooling tower management
- Flow meters
- Low flow fixtures and flow restrictors
- Rinse tank overflow
- Xeriscaping
- Recycle process wastewater
- Rain water harvesting


United Technologies

CURRENT STATE ASSESSMENT

Unlike greenhouse gas emissions, water issues need to be managed accordingly. Utilizing the Water Development (WBCSD) Water Tool, UTC was able to assess its water consumption relative to our global operations.


Regional water resources are classified by the following categories: *Abundant, Sufficient, Stressed, Scarce, and Extremely Scarce*. UTC used to compare UTC sites with validated water watershed basis. It provided a baseline of UTC such as projected water availability (or scarcity), population growth patterns and industrial intensity.

According to WBCSD projections of future water use are in regions with Sufficient or Abundant water use) are in regions that are Stressed, Scarce, or Extremely Scarce. Refer to Figure #1 below.

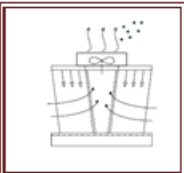
Fig. #1 (2010 data)

	Large Volume > 10 Million Gal		Medium Volume 1 Million - 10 Million Gal	
	# of Sites	Gallons	# of Sites	Gallons
Extreme Scarcity	6	102,330,595	15	1,177,808,100
Scarce	4	114,558,951	14	1,177,808,100
Stressed	3	72,503,618	14	1,177,808,100
Sufficient	6	228,129,201	24	1,177,808,100
Abundant	15	655,285,741	49	1,177,808,100
No Data	0	0	3	1,177,808,100
Total	34	1,177,808,100	116	1,177,808,100

Since 2006, UTC's water consumption has decreased by 57% in "Extremely Scarce" regions. If this trend continues, we may experience water shortages, increased regulatory requirements, and increased costs.


United Technologies

Cooling tower management program



In many cases, water consumers help track and manage water consumption. In operation, chemical evaporation and cycle operations, alternate equipment, tower make

Install flow meters


Installing flow meters on large process water consumers help track and manage water consumption. Flow meters alone do not save water, they do monitor usage and can identify water leaks and system failures.

Install low flow fixtures and flow restrictors

Modern plumbing fixtures use significant water. Replacing old plumbing fixtures with new dual flush water closets, 0.125 gallon per flush kitchen fixtures and low flow showerheads. The use of flow restrictors in the feed line to process equipment can provide sufficient water for quality rinsing.

Reduce or eliminate rinse tank

It is a common practice to use rinse tanks. The water flow to rinse tanks should be done manually or automatically. Another option is to control water flow to rinse tanks. Conductivity sensors can measure the conductivity of the water and cycle the water accordingly.


United Technologies

MINIMUM EXPECTATIONS FOR BEST PRACTICES

Water Balance per Standard Practice 009.

A Water Balance shall be prepared that illustrates the volumetric flow rate of all water used including sources that are not defined as a Significant Water Source (e.g. sanitary, cafeteria, blow down from cooling towers and boilers and mop water) and all Significant Water Sources. The Water Balance shall also indicate where wastewater is treated and/or recycled. The volume of water discharge from all water sources at the facility shall be measured using influent and/or discharge water meters. The volume of water consumed (from all sources including public water supplies or on-site diversions) and discharged shall be evaluated annually to ensure that the sources of all significant changes are identified.

Water leak management program

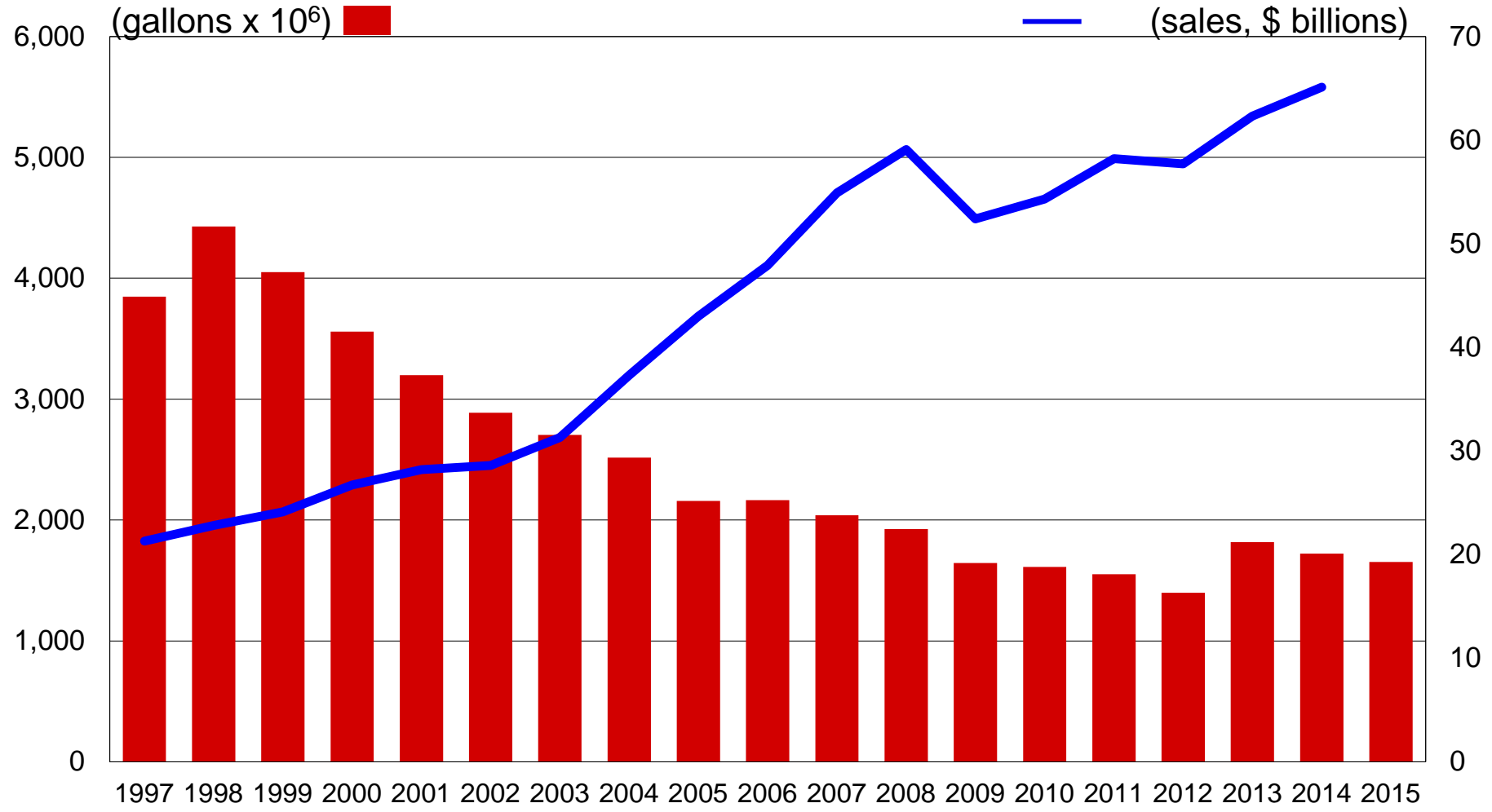
All facilities will experience some water leaks. Leaks may range from a fraction of a percent up to several percent of total water use. Common locations to find leaks are in piping joints, restroom fixtures, pump seals, hose nozzles/shut-off valves, drinking fountains, processing equipment, and other locations. Eliminating leaks typically includes tightening or replacing fittings. Leaks can be identified via visual or auditory observation. Water fixtures and process equipment should be observed during both use and down time. All employees should be responsible for notifying maintenance personnel of leaks. Underground and under-the-floor leaks can be detected through a leak detection survey. If an underground leak is suspected, but not identified, facilities should consider having a leak detection survey conducted by a consulting or service firm.

Quantifying the volume of water lost through leaks is important for determining the potential water and cost savings of leak repair. One of the simplest methods to determine leak loss is the bucket and stopwatch method. A small drip also can be measured by the bucket and stopwatch method. Mathematical estimates of leaks also can be used.

Eliminate once-through cooling

For many years it was a common practice to use municipal water in once-through or single-pass cooling systems for various HVAC and process cooling applications. Single-pass cooling systems are ineffective and waste water. All single-pass cooling systems should be replaced with air-cooled or recirculating systems.

WATER CONSUMPTION WORLDWIDE



Juliette Apicella and Jean Pullen

**Southface Energy Institute
(Representing the City of Atlanta)**

TOTAL IMPACT: THE ENERGY & WATER NEXUS OF UTILITY AND COMMUNITY SCALE EFFORTS IN THE CITY OF ATLANTA

Jean Pullen, PE, CEM, BEAP, LEED AP

Principal Engineer for Resource Efficiency

Juliette Apicella, LEED AP

Program Manager, Southface, Atlanta Better Building Challenge



ATLANTA BETTER BUILDINGS CHALLENGE



2014 SAVINGS compared to baseline year

Energy 11% savings - 1.97 Trillion Btu

Water 20% savings - 163M Gallons of Water

100,788 metric tons CO₂ Emissions

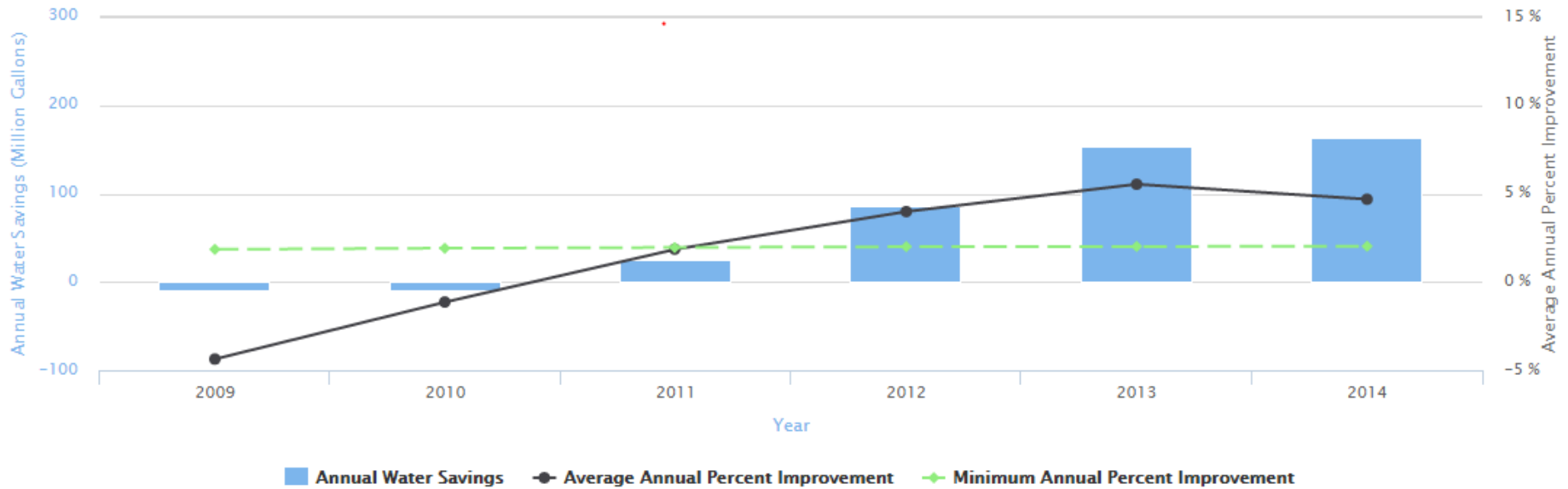
Over 100 million square feet

400+ Properties



PARTICIPANT PROGRESS - WATER

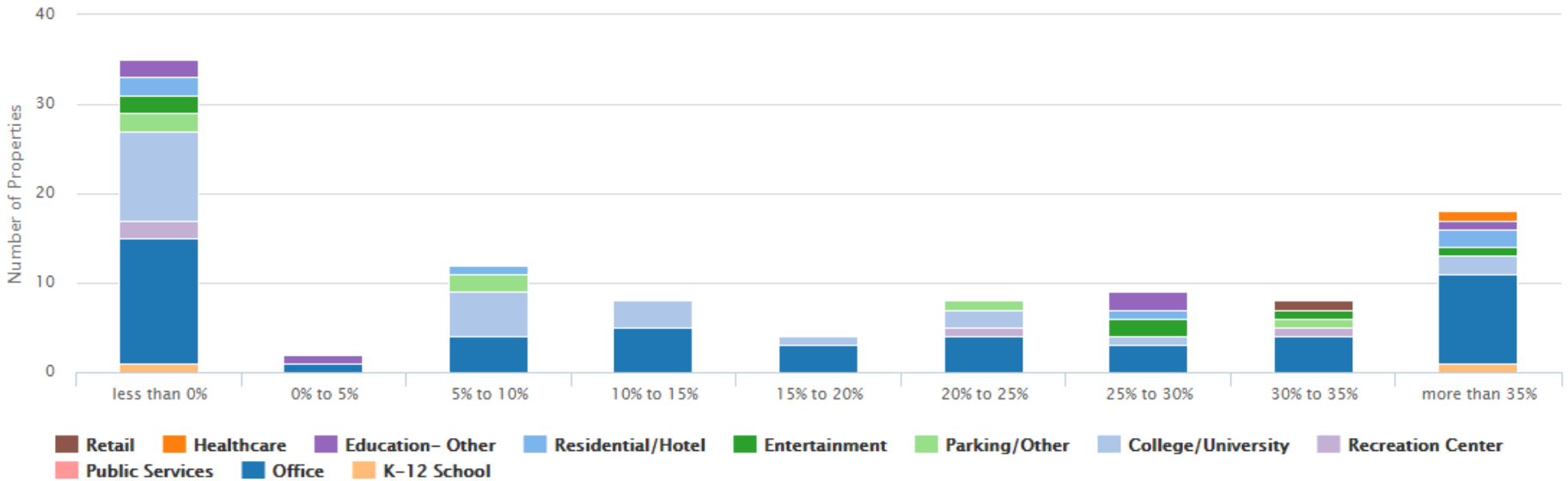
Water Performance – Average Annual Percent Improvement





PARTICIPANT PROGRESS - WATER

2014 Water Savings by Property Type



WATER EFFICIENCY MEASURES

- AC condensate capture for cooling tower makeup
- Rainwater harvesting
- High-performance toilets, urinals, and faucets
- Cooling tower upgrades
- Domestic hot water equipment and fixture upgrades
- Irrigation optimization
- Leak repair & detection



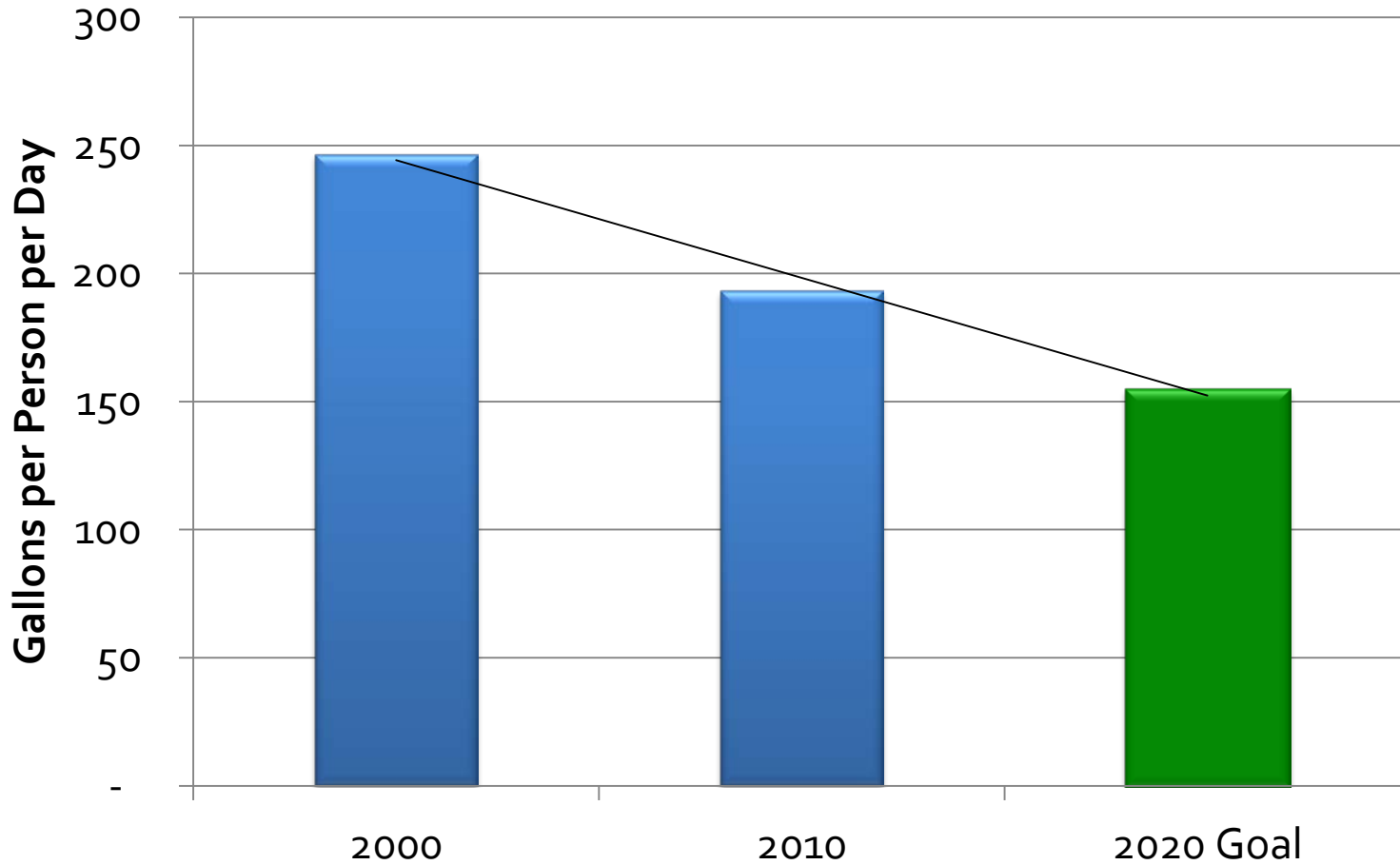
Condensate Capture System

PARTICIPANT SUCCESS STORY

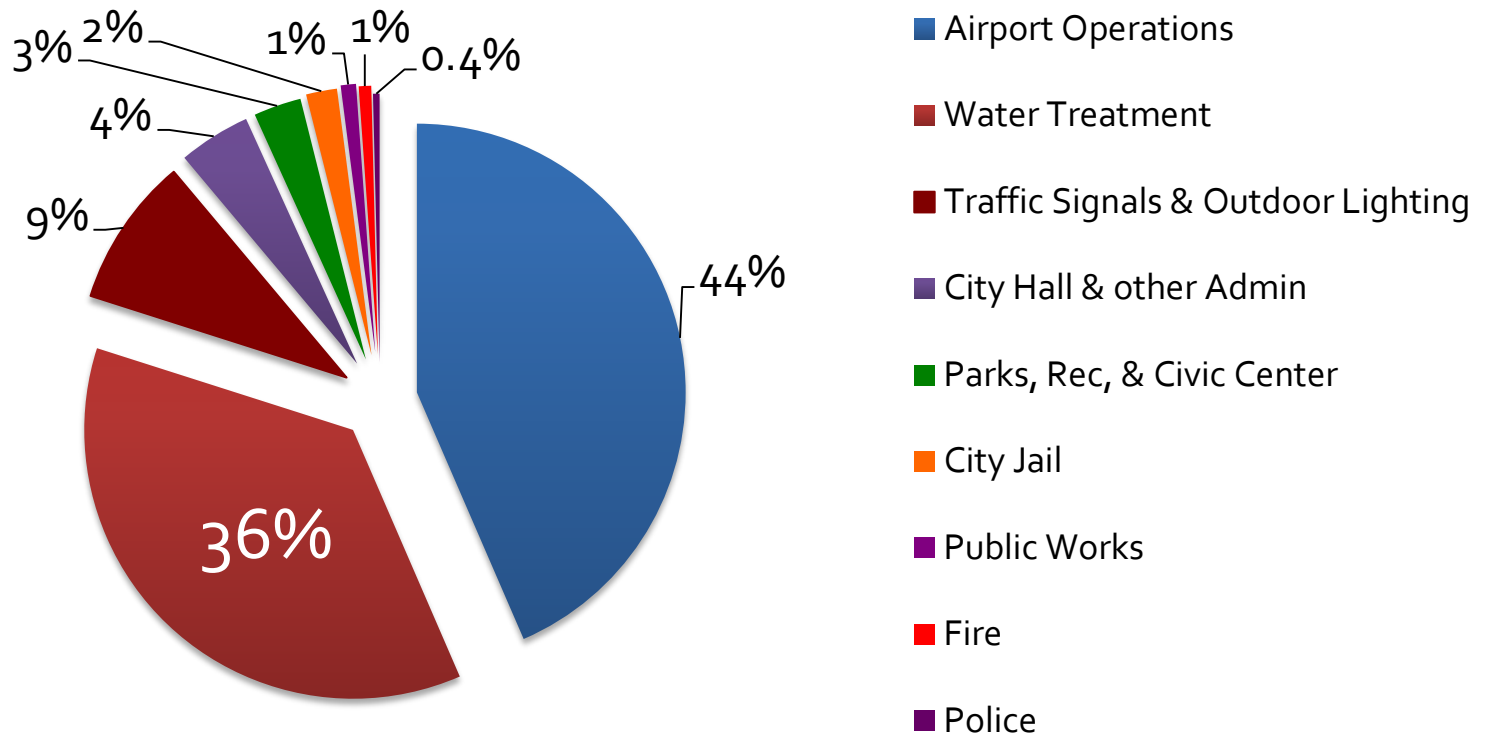


Bank of America Plaza

CITY OF ATLANTA PER-CAPITA WATER USE



CITY OF ATLANTA MUNICIPAL ENERGY USE BY DEPARTMENT



36% of municipal energy is used in water treatment operations (excludes fleet fuels).

HIGH-PERFORMANCE PUMPS & LIGHTING



Photo: Steve Swieter, 2013

HEMPHILL WATER TREATMENT PLANT VARIABLE-SPEED PUMPS



- 36% source energy savings.
- Over \$1 million in annual energy cost savings.



Photo: Steve Swieter, 2013

SENSOR-CONTROLLED TUNNEL LIGHTING

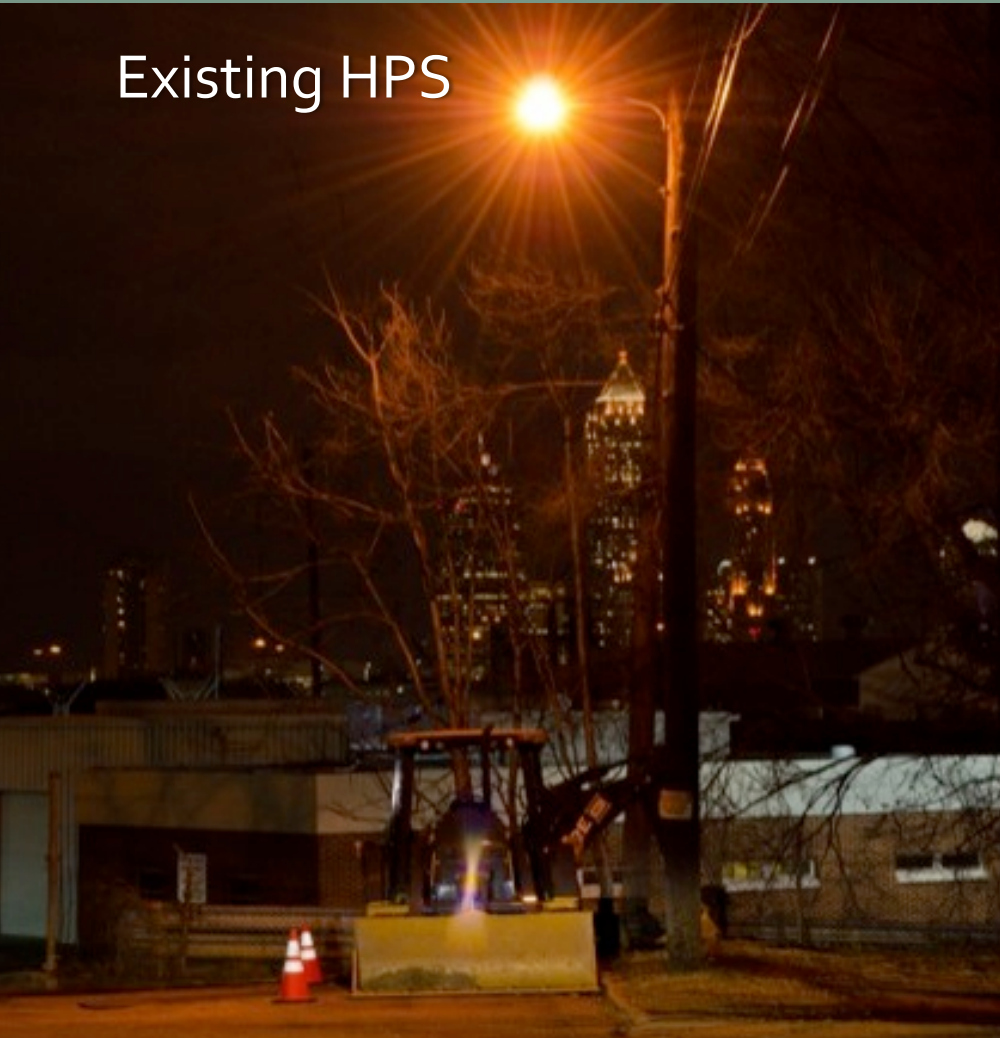


Video: Steve Swieter, 2013

LED OUTDOOR LIGHTING: EFFICIENCY, QUALITY, SAFETY, & SECURITY IMPACTS



Existing HPS



New LEDs



Savings range from 82-86%



Photos: Steve Swieter, 2013



INDOOR LED PILOTS

Office, control room, and lab area lighting reduced by 69%





LIGHTING PROJECTS: FINAL IMPACTS

Overall Program Impacts	Design & Construction Costs	Annual Cost Savings	Simple Payback Period, years	Lighting Power Reduction	Lighting Energy Reduction
Hemphill	\$488,949	\$187,741	2.6	64%	88%
Chattahoochee	\$386,682	\$115,024	3.4	66%	89%
RM Clayton	\$324,369	\$89,078	3.6	60%	78%
All 3 Plants	\$1,200,000	\$391,844	3.1	64%	86%



4 million kWh savings = annual electricity use by 33 city fire stations or 270 single-family homes.

IMPACTS



Photo: Steve Swieter, 2013



- Significant contributor to the success of the Atlanta Better Buildings Challenge
- 5th place in EPA's 2012 National Building Competition

OPPORTUNITY: COMBINED HEAT & POWER FROM RENEWABLE BIOGAS



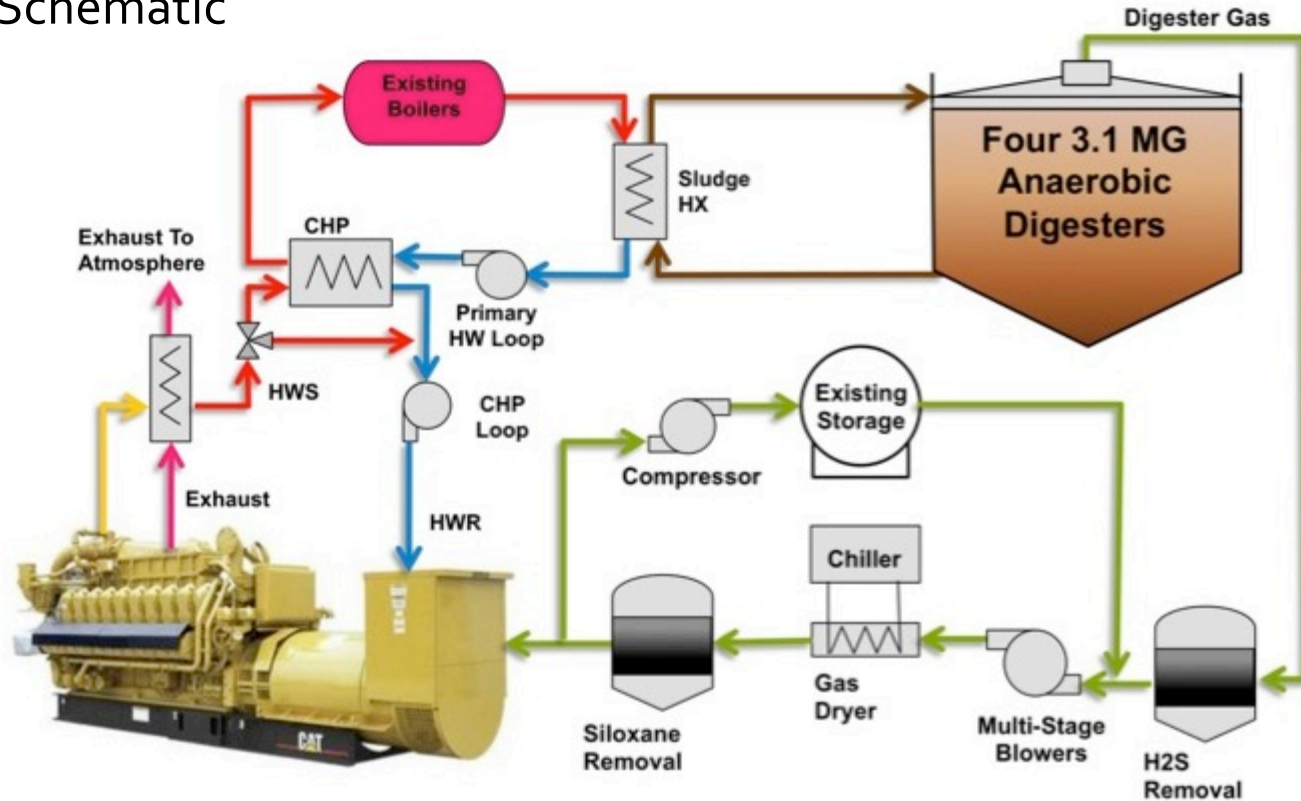
- 1.6 MW capacity is equivalent to 9 MW solar (PV) in annual output
- Uses digester gas that was previously flared
- \$1 million in net annual savings potential
- \$7 million capital cost
- Potential to meet entire city renewable energy goal of 5% by 2015
- Engine & exhaust heat returned to the process
- Equals energy use of over 1,000 homes



Combined heat & power system
1.6-MW engine

RM CLAYTON COMBINED & POWER

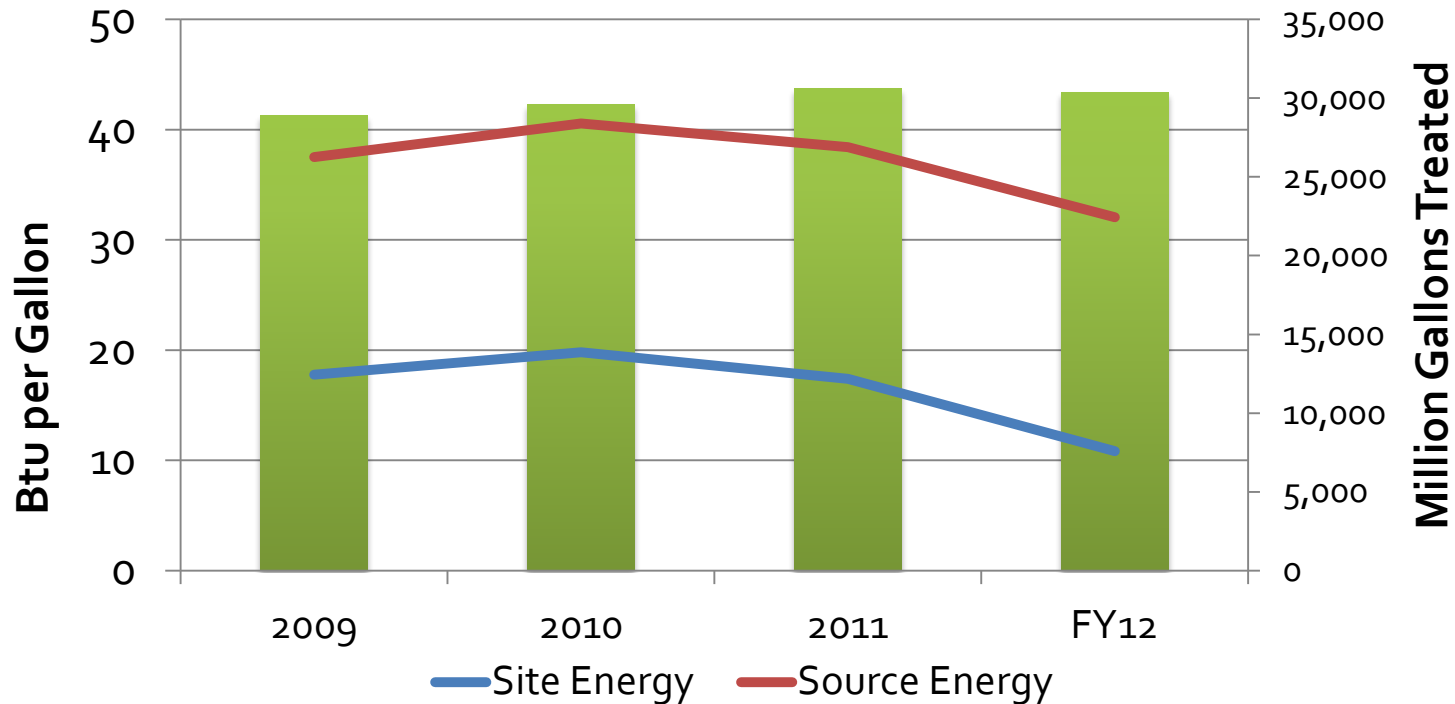
Design Schematic



Schematic:
Hazen & Sawyer

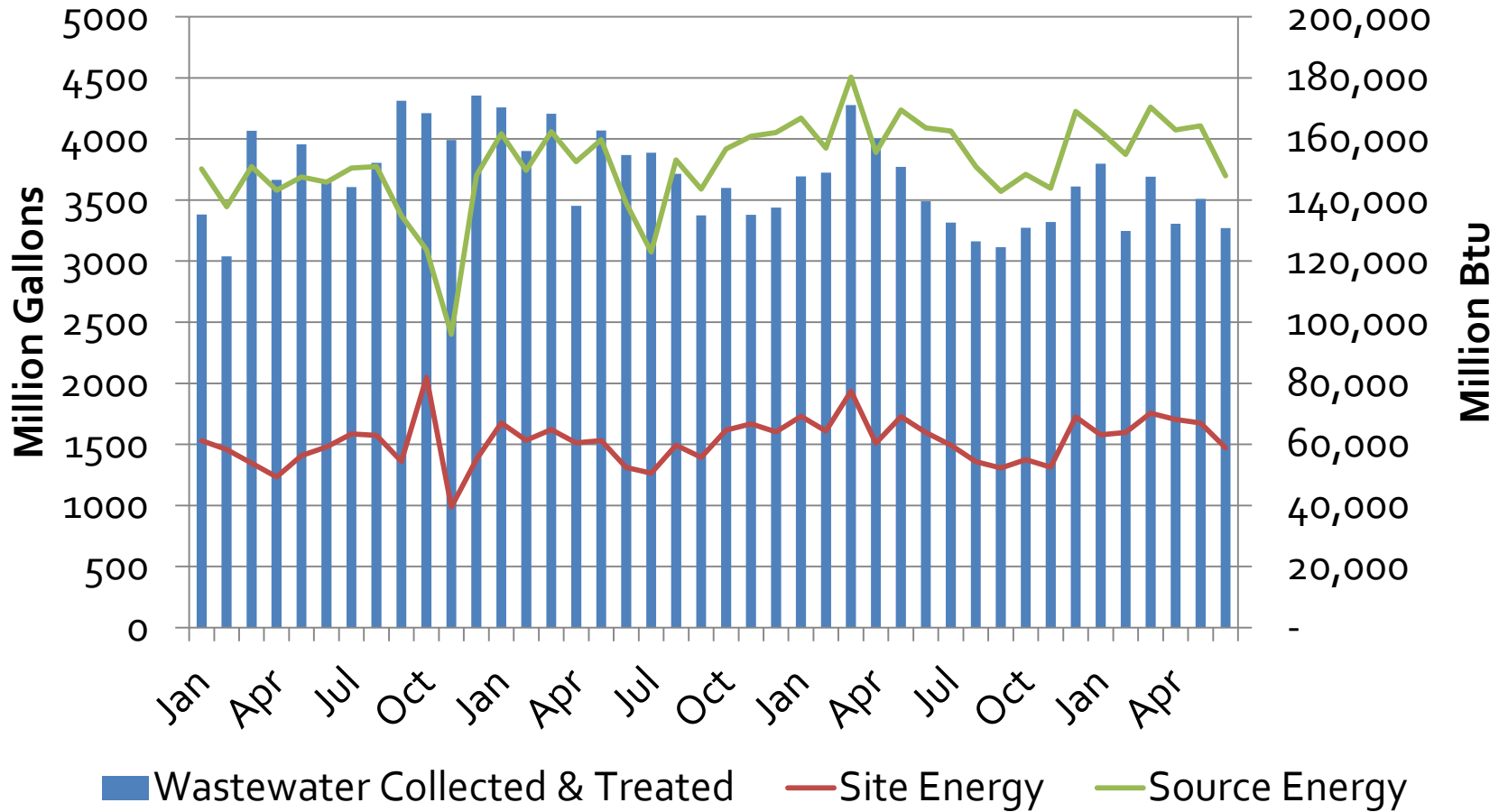
Project of the Year award (2012) from the American Society of Civil Engineers – Georgia Chapter.

DRINKING WATER SYSTEM-WIDE ENERGY IMPACT



- 16% drinking water system source energy savings
- 17% department-wide site energy savings
- 22% reduction in greenhouse gas emissions from energy (16.8% emissions factor impact & 5.5% energy impact)

WATER RECLAMATION ENERGY

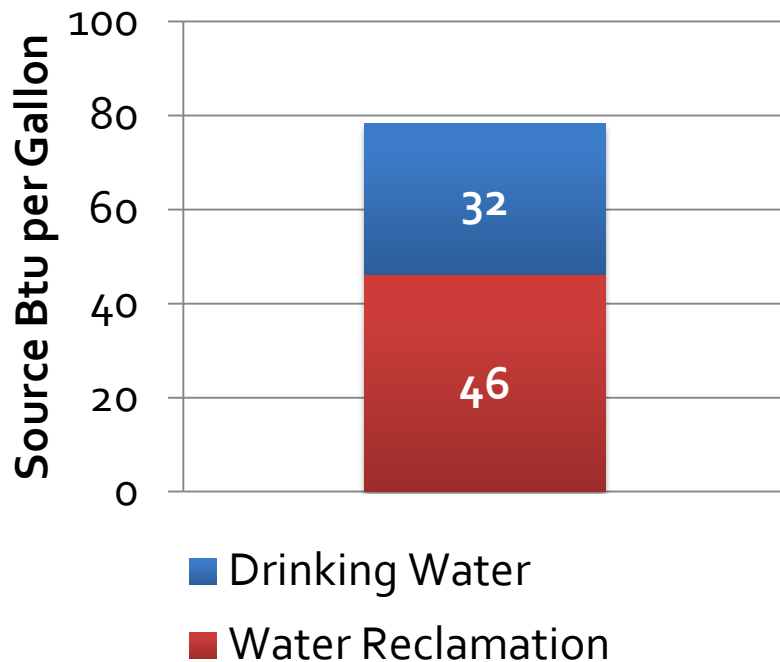


2009-2012



CITY OF ATLANTA & ABBC IMPACTS

System-Wide Energy Use in Treatment & Conveyance



- 163 million gallons saved each year
- 78 million source Btu per million gallons treated & conveyed
- *ABBC impact of water savings estimated to be up to 13 billion source Btu per year*

Maury Wolfe

InterContinental Hotels Group



Water Stewardship at InterContinental Hotels Group (IHG)

InterContinental Hotels Group

- *IHG is a global hotel company whose goal is to create **Great Hotels Guests Love**.*
- **726,876 rooms** in more than **5,000 hotels** in nearly **100 countries** around the world.
- **We treat responsible business as a strategic business issue** -- We believe that incorporating societal and environmental factors in our business strategy and operations will play a vital role in the long-term viability of our business and the travel and tourism sector.
- **Our Brands:**



*IHG® Rewards Club not applicable to Kimpton® Hotels & Restaurants; to be included at a future date.

IHG's Corporate Responsibility initiatives keep us ahead of the competition

Corporate Responsibility at IHG

Key Public Facing Targets

Responsible Business Ambition

To create more sustainable communities and better lives...

How we get there

3 Core Programs:

- IHG Green Engage
- IHG Academy
- IHG Shelter in a Storm Program

Outcomes

Enhanced:

- Reputation for IHG – third party research by FSG shows IHG among Industry Leaders for our Corporate Responsibility initiatives
- Profitability
- Employee engagement
- Communities
- Customer Relationships – our programs help answer our customer's questions about our activities and impact – allowing them to meet their corporate responsibility goals

Key CR targets 2013-2017

- Reduce carbon footprint per occupied room by 12% across our entire estate
- Reduce water use per occupied room in water-stressed areas by 12%
- Provide skills and improved employability to 20,000 people via the IHG Academy
- Contribute a total of \$10m to communities through monetary donations and in-kind support, including funds deployed through the IHG Shelter in a Storm Programme
- Track and report supply chain diversity
- Integrate CR criteria into the selection and evaluation process for all preferred suppliers.

Learn more and read our policies at:
www.ihgplc.com/corporateresponsibility

At IHG, the notion of acting responsibly is at the heart of everything we do. It means doing the right things in the right way and thinking longer term so that we conduct our business in ways that are mutually beneficial for our business, our stakeholders and society, and which champion and protect the trusted reputation of IHG and our brands. For that reason we treat CR as a strategic business issue, believing it only makes sense if it aligns to our purpose of creating Great Hotels Guests Love.

IHG Green Engage™ system



What is IHG Green Engage?

- Online sustainability platform designed by IHG to identify the most appropriate “green” solutions for our hotels.
- Helps hotels measure, manage, and report their energy, water and waste.
- Automatically feeds data into IHG RFP to help answer sustainability questions – carbon footprint, for example - and help our customers meet their sustainability goals.



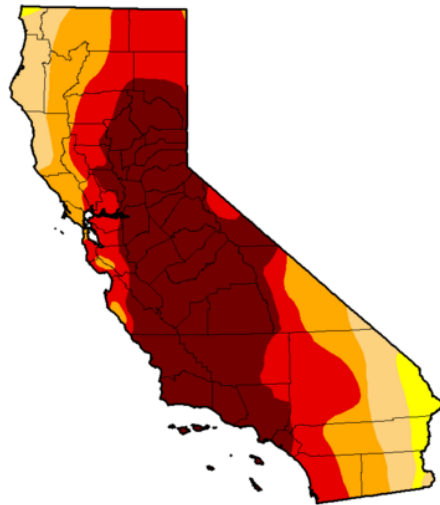
Recent Initiatives and Results

- **As of January 1st 2015 the IHG Green Engage system is a foundational standard for all IHG hotels. All over 5,000 IHG hotels are now enrolled in the system and required to complete Level 1 Certification.**
- Since 2012, avoided over \$185 million in utility costs in our company managed estate from their IHG Green Engage efforts.
- Over 100,000 Green solutions have been completed in IHG hotels globally, 17,000 of these relate specifically to water.
- Reduced our carbon footprint per occupied room by 3% from a 2012 baseline.
- Reduced water use by 4.2% per occupied room in water-stressed areas from a 2012 base line.

California Drought: The Facts



U.S. Drought Monitor California



load:

[View drought planning resources](#)

January 19, 2016

(Released Thursday January 21, 2016)

Valid 7 a.m. EST

Statistics type: Export table:

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current 2016-01-19	0.00	100.00	97.17	86.13	68.15	42.66
Last Week 2016-01-12	0.00	100.00	97.33	87.55	69.07	42.66
3 Months Ago 2015-10-20	0.14	99.86	97.33	92.27	71.08	46.00
Start of Calendar Year 2015-12-29	0.00	100.00	97.33	87.55	69.07	44.84
Start of Water Year 2015-09-29	0.14	99.86	97.33	92.36	71.08	46.00
One Year Ago 2015-01-20	0.00	100.00	98.13	94.34	77.52	39.15

Estimated Population in Drought Areas: **36,653,314**

[View More Statistics](#)

Intensity:

■ D0 (Abnormally Dry)
 ■ D2 (Severe Drought)
 ■ D4 (Exceptional Drought)
■ D1 (Moderate Drought)
 ■ D3 (Extreme Drought)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying [text summary](#) for forecast statements.

Author(s):

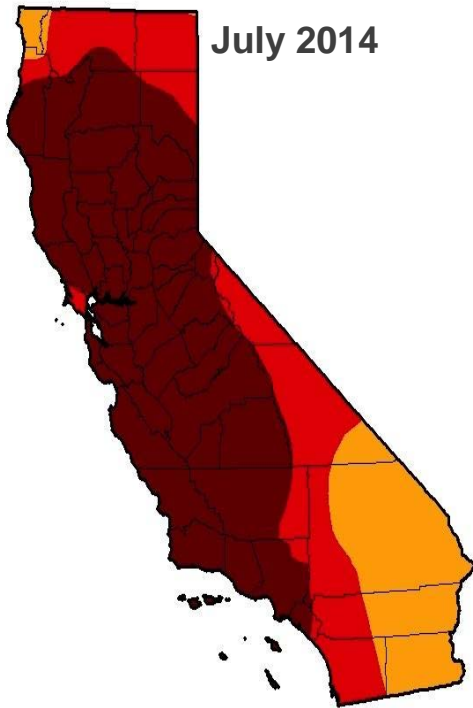
Mark Svoboda, National Drought Mitigation Center

- 2014 was the worst drought on record in California, and has not eased up through 2015 and into 2016.
- Californians view the drought as the single most critical issue facing the state right now, above jobs, the economy, the cost of health care, the quality of schools, etc.

Environmental Sustainability Case Study: California



U.S. Drought Monitor California



- California is facing a severe drought.
- IHG took a leadership position, leveraging IHG Green Engage, Public Affairs relationships and our Operations teams.
- Water saving toolkits were sent to every hotel. Over 90% of the hotels installed aerators for over 7MM gallons of potential water savings annually.
- Completed a pilot project, partnering with vendors and the California Conservation Corps to retrofit the Holiday Inn Diamond Bar with new water saving toilets. This installation is expected to reduce hotel water utility costs by \$2400 a year.
- Exploring several additional locations, the first began a full bathroom refresh on April 27th, and supporting larger rollout across the state.
- In response to the Governor's recent water conservation measures, which includes mandatory towel and linen reuse programs in California hotels, IHG is sending all California hotels the materials they need to comply.

“Local accounts and travelers are excited we are doing something proactive about this ... it lets community know that we are engaged and creates a great image for our hotel.” _ Michael Tsai, General Manager, Holiday Inn Diamond Bar



IHG Takes a Proactive Role

- IHG took a leadership position, leveraging IHG Green Engage, Public Affairs relationships and our Operations teams.
- Water saving toolkits were sent to every hotel in 2014. Over 90% of the hotels installed aerators for over 7MM gallons of potential water savings annually.
- First pilot complete – Holiday Inn Diamond Bar.
- Launching 2nd and 3rd pilots in Los Angeles and supporting larger roll out across the state.
- Towel/Linen reuse cards were sent to all California IHG properties to help them comply with new regulations.

The screenshot shows a Facebook post from the page 'IHG Planet CR' dated July 4, 2014. The post text reads: 'California IHG-ers are banding together to conserve water during the state's drought! This kit recently went out to all the hotels with some handy IHG Green Engage tips for saving water.' Below the text is a photograph of a red box labeled 'Your Water Conservation Kit' with the IHG logo and 'GREEN engage' branding. The box features an image of hands holding a black water filter with a white leaf logo. The text on the box says 'Solving California's drought one hotel at a time.' Below the photo, the post shows engagement metrics: 'Like · Comment · Share · 39 likes · 2 comments · 6 shares'. A comment from 'Tatty Pineda' is visible at the bottom, stating 'I have mines already. You can get this product from HD Supply' and is dated July 4, 2014 at 9:47pm.

IHG Green Engage™ Case Study: Water Conservation in California



In 2014 IHG sent all California hotels a water conservation kit that saved IHG properties **7M gallons** of water annually....since then, 6 properties have completed a broader bathroom refresh, replacing toilets and showerheads, and collectively will save **2.4M gallons** of water and **\$13,000 on water costs per year!**

Look what some of these hotels have done...

The **Holiday Inn Diamond Bar** completed Green Solution 'Dual Flush/Low Flush Toilets' and replaced outdated 3.5 gallon per flush toilets with water efficient 1.6 gallon per flush toilets. This will help them save \$2,400 annually on their water utility bill.



The **Holiday Inn Express Downtown LA** installed water efficient toilets and showerheads in all guest rooms and is expected to save over \$2,600 and 475,000 gallons of water annually.

In April of this year, the **Crowne Plaza Los Angeles Airport** completed Green Solution 'Low Flow Showerheads' by replacing 48 2.5 gallon per minute showerheads with water efficient 1.75 gallon per minute fixtures. In May and June, their water consumption was down an average of 10%.



The Situation in California...

- 2014 was the worst drought on record in California, and continues into 2015...earlier this year, Governor Brown declared the drought a state of emergency, followed by an Executive Order announcing the first ever 25% mandatory water reductions and a series of action to help save water.
- Californians view the drought as the single most critical issue facing the state right now, above jobs, the economy, the cost of health care, the quality of schools, etc.
- IHG took a leadership position, leveraging IHG Green Engage, Public Affairs relationships and our Operations teams.
- Water saving toolkits were sent to every hotel in 2014. Over 90% of the hotels installed aerators for over 7MM gallons of potential water savings annually.
- Towel/Linen reuse cards were sent to all California IHG properties to help them comply with new regulations.
- In 2015, 6 properties have completed a broader bathroom refresh, replacing toilets and showerheads, and collectively will save **2.4M gallons** of water, and **\$13,000 on water costs** per year.



Case Study: Holiday Inn Diamond Bar

- Replaced toilets for all 176 guest rooms with water efficient Penguin 1.28gpf toilets.
- Cost of the toilets was almost completely covered by local rebates. HD Supply applied for the rebates on behalf of the hotel so they didn't have to pay the rebate amount upfront.
- Labor costs were covered through installation by the California Conservation Core, and the hotel recycled all toilets that were replaced.
- The hotel expects to see a reduction in water use of around 20%, and a savings of approximately \$2,400 annually.
- Received positive feedback from guests on their proactive water saving efforts, and on the attractiveness of the toilets themselves.



“We were interested in participating in this project in order to support IHG and the California water conservation project, and want to do our part to help with the drought. Our toilets were really old and used a lot of water that was not needed. This was a great opportunity to make sure we help the environment and the local drought, as well as save on costs. It is a win-win situation.”

– Michael Tsai, General Manager, Holiday Inn Diamond Bar

What we know now – competitor activity

IHG target = reduce water consumption per occupied room in water scarce regions by 12% between 2013 and 2017



- **Target:** reduce water consumption by 20% per occupied room by 2020 on 2007 baseline
- **Current Consumption:** 0.76m³ per occupied room (IHG is 0.6m³)
- **Progress:** Achieved 11.6% reduction to date



- **Target:** 15% reduction in water use by 2015
- **Progress:** Achieved 1.3% reduction in water use between 2011 and 2012 (owned/leased and managed hotels).



- **Target:** 10% reduction in water consumption
- **Current Consumption:** 0.74 m³ per occupied room (IHG is 0.6m³)
- **Progress:** Achieved 10.2% reduction in water consumption between 2009 and 2012 (normalised for weather and occupancy)



- **Target:** 20% reduction in water use per square foot by 2020
- **Progress:** Achieved 1.7% reduction in water use in 2012.

Driving Leadership: Water Stewardship



Water Overview

- Average water use per night is 158 gallons
- 71% of water consumption is in areas of moderate to severe water scarcity.
- Full service/Limited service split is 73%/27%
- Franchised/Company Managed split is 59%/41%



Questions



Additional Resources

For More Information

United Technologies Corporation

- [Partner Profile](#)
- [Implementation Model: Global Water Conservation Guidance Document](#)

City of Atlanta

- [Partner Profile](#)
- [Implementation Model: Public-Private Partnership](#)

InterContinental Hotels Group

- [Partner Profile](#)
- [Implementation Model: Green Engage](#)

Q & A

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