



# DRINKING WATER SHOULD BE FOR DRINKING

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SAVING 20% WATER  
IN YOUR BUILDING

WE WILL START PROMPTLY AT 12:00PM

Presented by



Los Angeles  
Department of  
Water & Power



# Housekeeping

- You'll get slides and recording by Friday
- Attendee lines will be muted
- Submit questions during session via the chat box
- Q&A session at the end of webinar
- Tell us how we did

# Our Speakers

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**MODERATOR**

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**David Hodgins**  
*Executive Director*  
LA Better Buildings  
Challenge



**SPEAKER**

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**Maureen Erbeznik**  
*Technical Advisor - Water*  
LA Better Buildings  
Challenge

# LEARNING OBJECTIVES

- Understand how state and local legislation may impact your property
- Questions to help chart out the right strategy for your facility
- Learn about water saving opportunities and available incentives

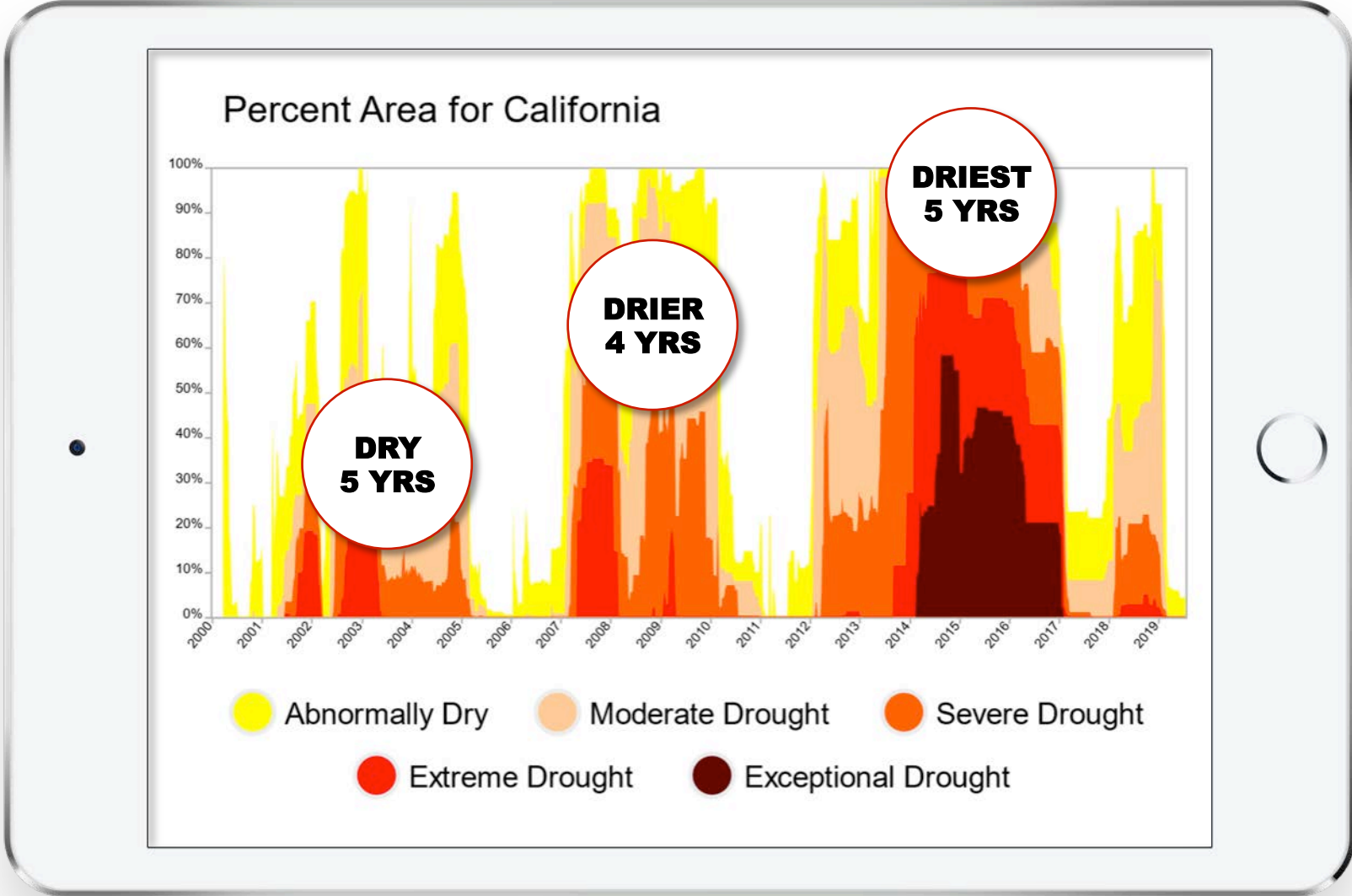
# GOAL

Assess your property and select the best and most cost-effective efficiency measures specific to your needs



# Current Reality

Droughts are intensifying



Source: Drought.gov

# Current Reality

State legislation is tightening, demanding measures be taken



## Outside

**Target Set for Each Area**  
based on local climate &  
amount of landscape area



## Inside

**55 Gallons**  
per person / per day  
times population  
served

**SB407 requires**  
plumbing replacement  
for pre-1994 builds.



## Commercial

**Target TBD**  
likely a mandatory percent  
reduction

Source: Calwep.org

# Current Reality

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EBEWE  
ordinance  
requirements

1

**Benchmarking whole-building data through Energy Star**

2

**Submit building performance:**  
Show 22% reduction or Water Audit & RCx

3

**Public disclosure through Open Data**





# Desired Reality

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## Efficiency

Maximize water efficiency  
and reduce use by 22%  
within 5 years



## Incentives

Leverage local and  
state incentives



## Compliance

Comply with  
local and state law



## Make Money

Strengthen your brand, save on  
your bottom line, get higher rents

# THE POINT IS

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Water conservation will be required in the near future, so it makes good business sense to initiate activities now.

# THE STRATEGY

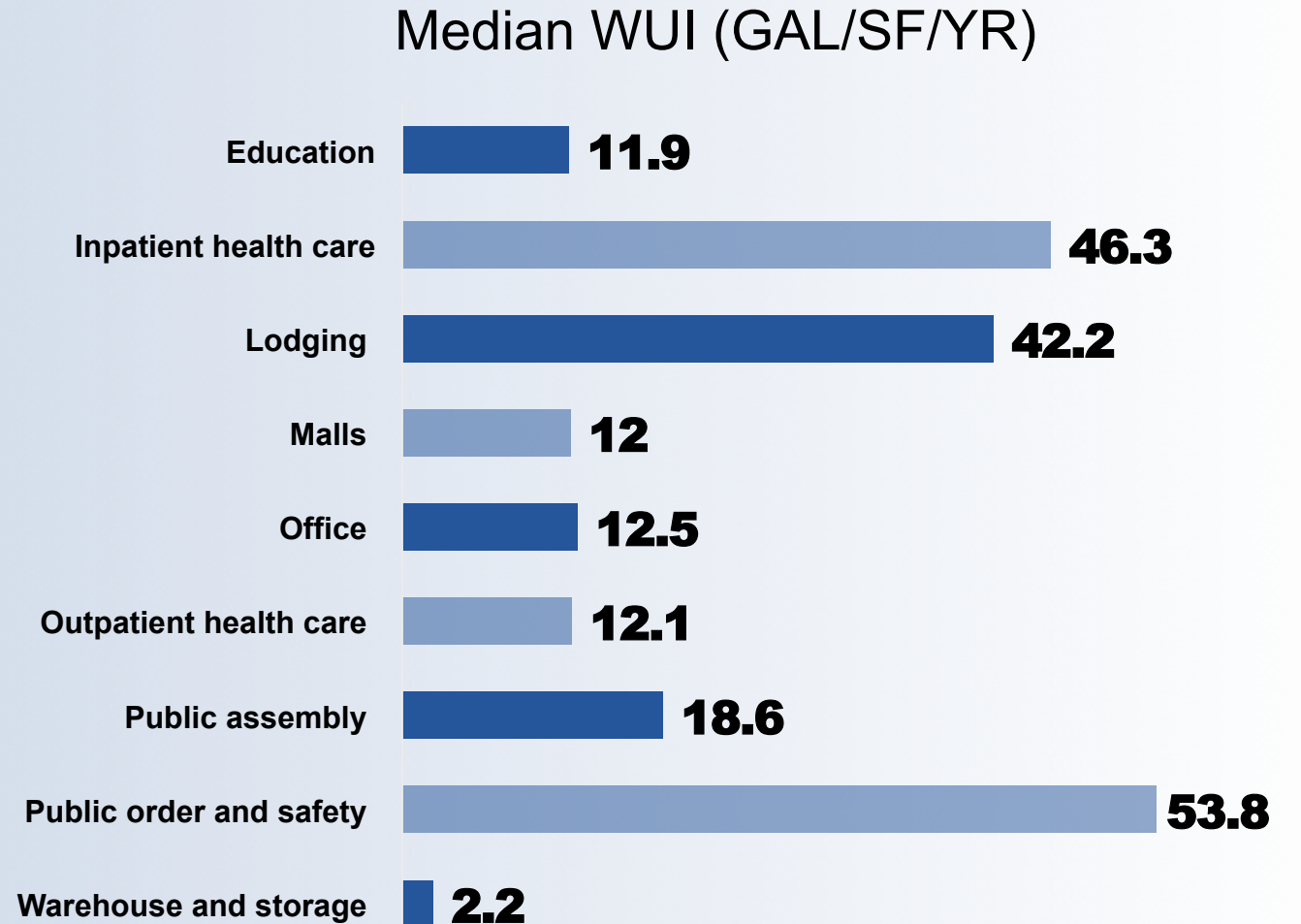
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- 1 Assess your building and/or portfolio
- 2 Review options/measures
- 3 Get to know your resources



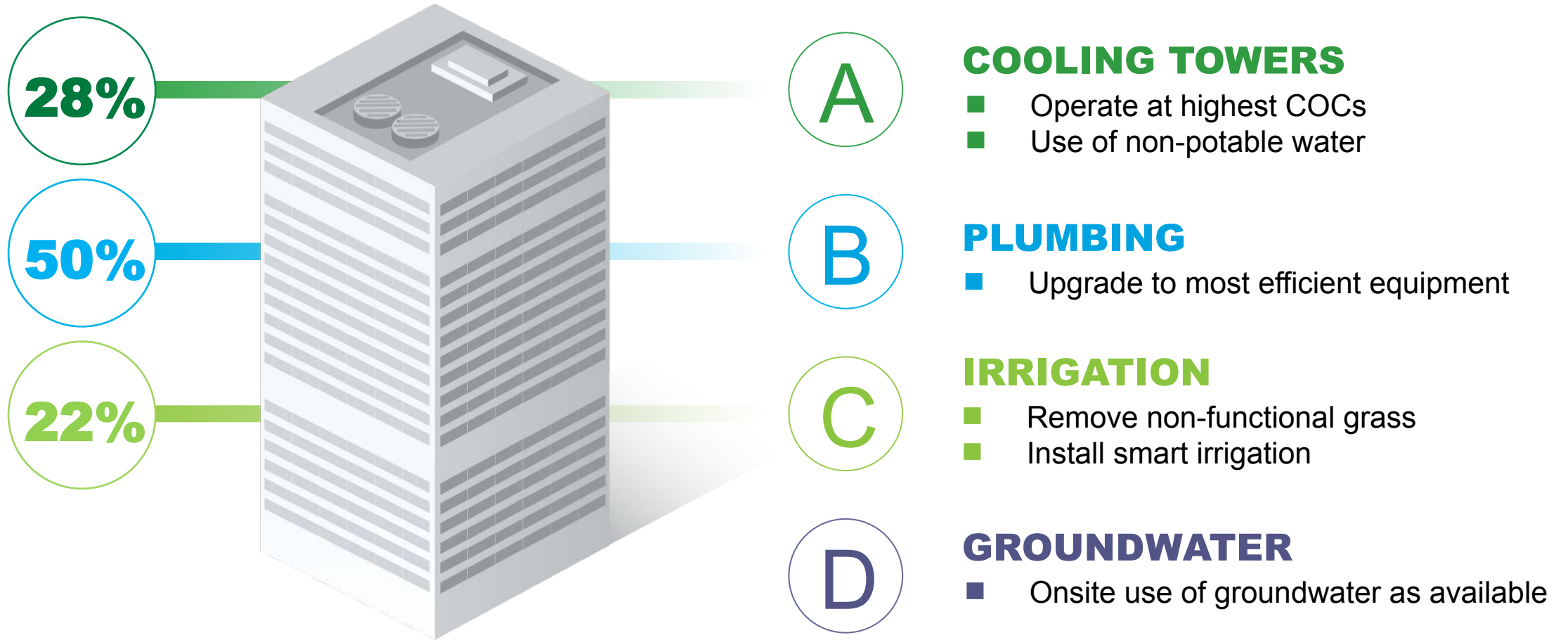
# Building Type Water Use Intensity

If your building is using more than the median shown on chart, there's an opportunity to assess for water savings.



Source: CBECS February 2017

# Water Use & Potential Measures





# COOLING TOWERS

Cooling towers, on average,  
account for 40% of  
building's water demand



**QUESTIONS TO ASK**

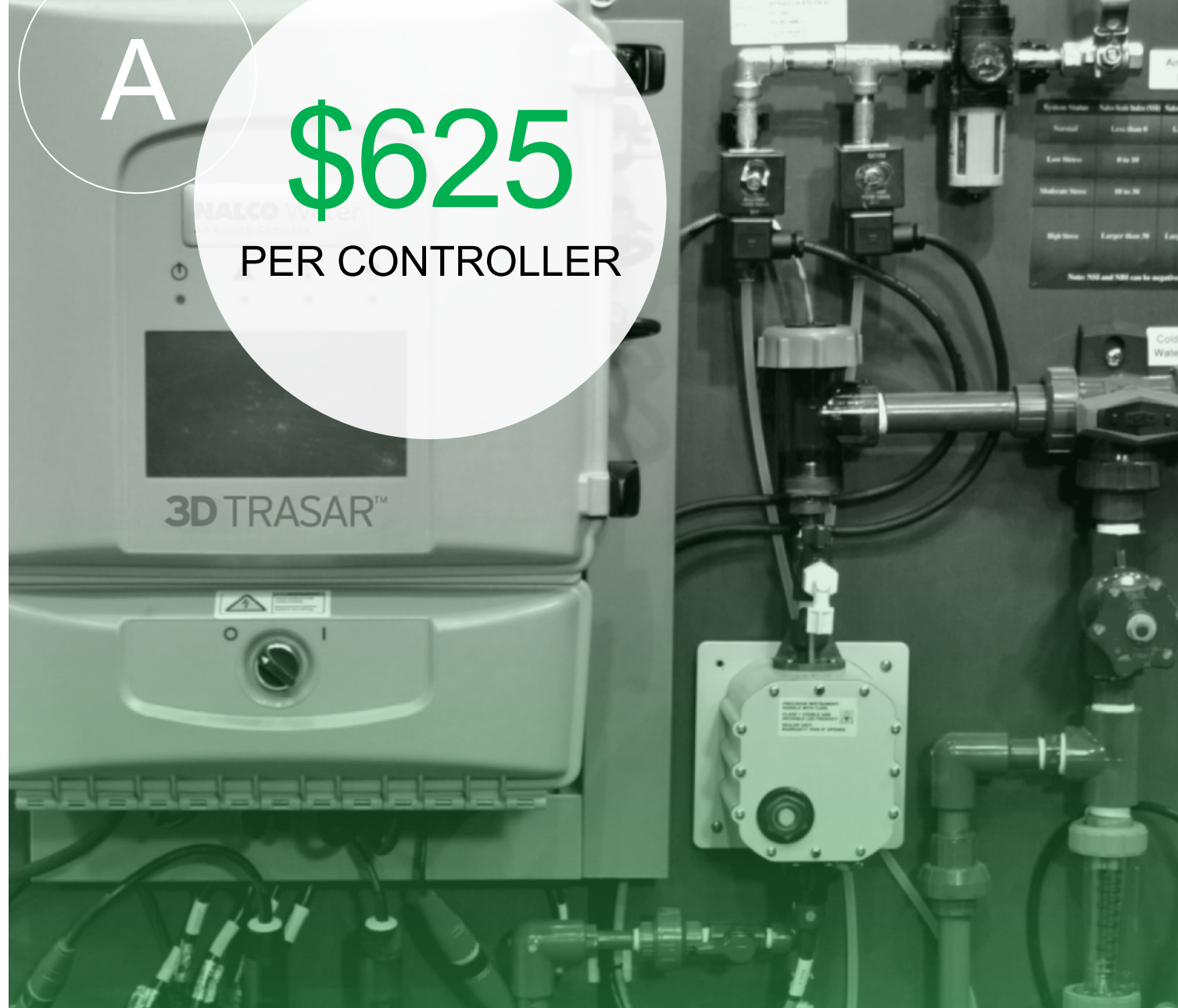


**UPGRADE PROCESS**

## COOLING TOWERS

Upgrade conductivity controller and maximize cycles

**ROI:**  
Immediate



## COOLING TOWERS

Treat water with acid to increase COCs to 4

**ROI:**

Immediate – 2 Months





## COOLING TOWERS

Water Softening  
Removes  
Hardness to  
Increase Cycles  
to 6-8 COCs

**ROI:**  
2-4 Years



**\$1.75**  
PER 1,000 GALLON

A

## COOLING TOWERS

Non-Chemical  
Precipitation Type or  
Electro-Chemical to  
Increase Cycles to  
25-50 COCs

**ROI:**

4-6+ Years

**\$1.75**

PER 1,000 GALLON

A

CASE STUDY  
**LA CITY HALL - EAST**

## **Changes in Cooling Tower Treatment Eliminates Chemicals and Saves 20%**

- Implemented electrochemical water treatment for towers
- Eliminated all chemicals
- Removed historic scale/ prevents formation
- Nearly 20% reduction – 1.2M gallons
- \$38,000 annually savings



CASE STUDY  
**LA COUNTY**

**County Implements  
Performance Based Bid  
for Cooling Tower  
Treatment & Secures  
60M+ Gallons in Savings**

- RFP included cost estimate formula incorporated to cost of chemicals and water
- Awarded to lowest cost/competent vendor: Nalco
- Sites implemented most cost effective & highest water savings treatment solutions

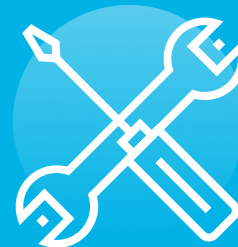


# PLUMBING

DOE estimates that plumbing fixtures account for up to 60% of total water use in commercial buildings



**QUESTIONS TO ASK**



**TUNE-UP  
OR REPLACEMENT**

## PLUMBING

Save 11,000 –  
24,000 Gallons per  
Year per Toilet by  
Upgrading Your  
Fixtures

**ROI:**

6 Months – 3 Years



**\$250**

PER FIXTURE

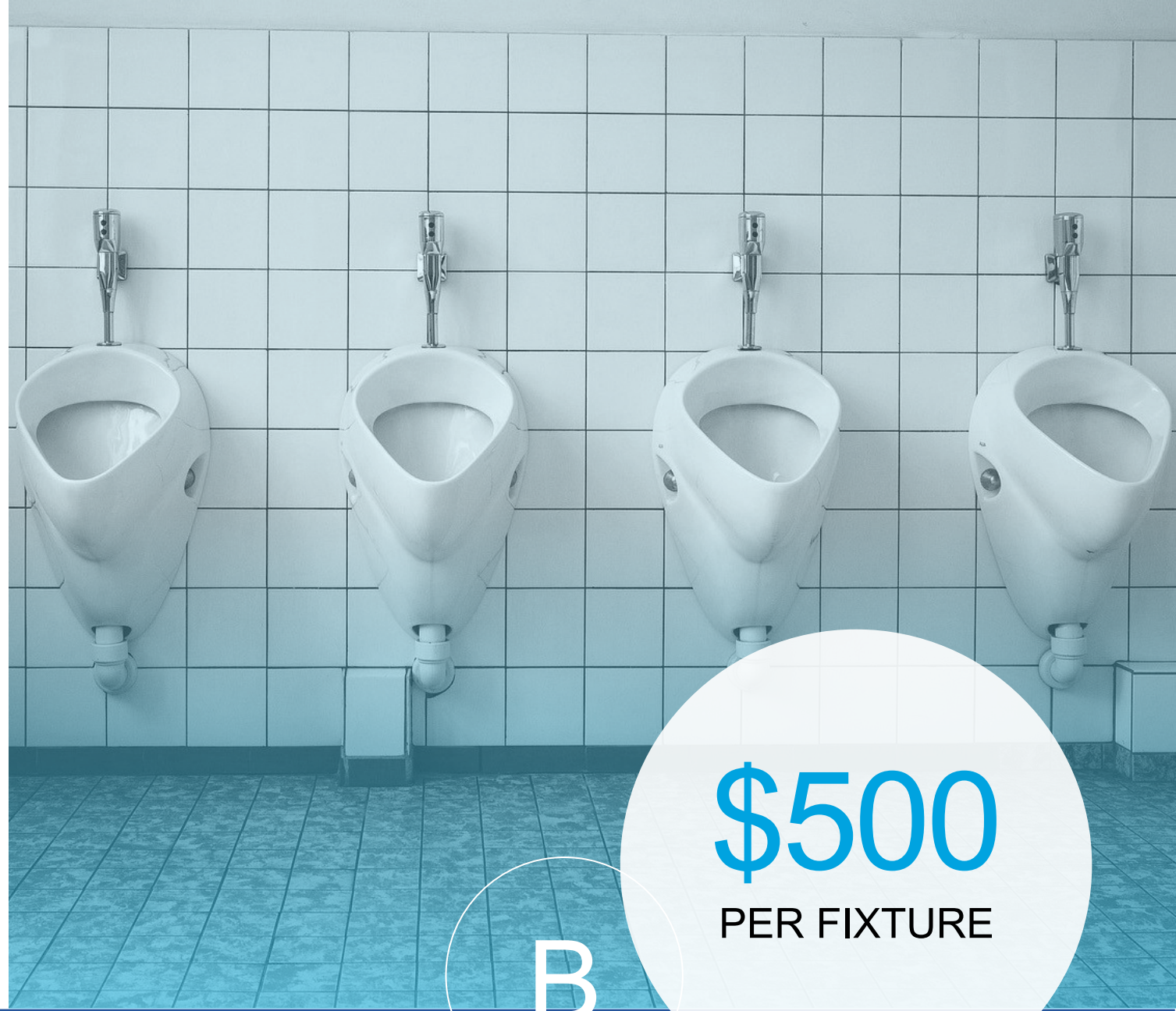
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## PLUMBING

Upgrades  
Can Save You  
26,000 Gallons per  
Urinal per Year

**ROI:**

Immediate – 3 Years



**\$500**  
PER FIXTURE

B

## PLUMBING

Reduce Faucet  
Flow by 30%  
Without Sacrificing  
Performance or  
User Experience

**ROI:**

Immediate – 3 Years

STARTING AT  
**FREE**

B





## CASE STUDY **AVALON BAY**

### **Simple Upgrades Yield Millions in Savings**

- 1,492 Premium Efficiency Toilets Installed Saving 5.1 Million Gallons
- \$373,000 in Rebates & \$75,000 in Annual Utility Savings
- Immediate ROI



CASE STUDY  
**E&S RING MANAGEMENT**

**Zero Cost  
After Rebates,  
Millions Saved**

- Three Apartment Buildings in Los Angeles
- 817 Premium Efficiency Toilets
- \$212K in Costs;  
\$212K in Rebates
- \$112K in Annual Utility Savings

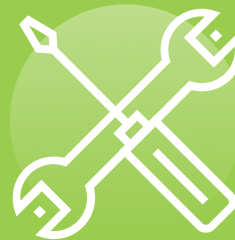
In Los Angeles,  
50% of water use is outdoors.



# IRRIGATION



**QUESTIONS TO ASK**



**TUNE-UP,  
REPLACEMENT  
OR UPGRADE**

## IRRIGATION

Reduce Some of  
the Lawn Area

20-35%

Water Savings

Reduce All of  
the Lawn Area

30-50%

Water Savings

**\$3/SF**

UP TO  
50,000 SF

**\$1/SF**

UP TO  
7 ACRES

**OR**

**C**

C

## IRRIGATION

# Smart Irrigation Technologies

20-35%

## Water Savings

- Smart Cloud-based Irrigation Controller
- High-efficiency Sprinkler Nozzles
- Pressure Regulating Spray Heads and Check Valves
- Master Valve and Flow Sensors
- Drip Irrigation System

\$50

PER  
SMART CONTROLLER  
STATION

+

\$6

PER  
HIGH EFFICIENCY  
SPRINKLER  
NOZZLE



## CASE STUDY **CSU NORTHRIDGE**

### **Simple Upgrades Yield Millions in Savings**

- Water-absorbing polymers injected into turf grass
- Maintains moist soil requiring less watering
- 60% water savings – 8.3M gallons/year
- Lasts 5-7 years
- LADWP TAP incentive



# **GROUNDWATER USE**



**QUESTIONS TO ASK**



**ROADMAP**



# Groundwater Reuse

- Considered Nuisance Water
- Excess Wasted to Storm Drain/Sewer
- Typically High Quality
- Can be Reused on Site





CASE STUDY  
**CEDARS SINAI**

## **Groundwater Diversion Saves 28M Gallons a Year**

- Captured groundwater from river running under the building
- Treated with RO and used for cooling tower
- Saved 28 million gallons a year
- \$343K in incentives



CASE STUDY  
**CENTURY PLAZA TOWERS**

**Groundwater  
Diversion Delivers  
Huge Savings**

- Reclamation of groundwater supplies 100% irrigation
- Preserving grass
- Saving 2.9M gallons of potable water

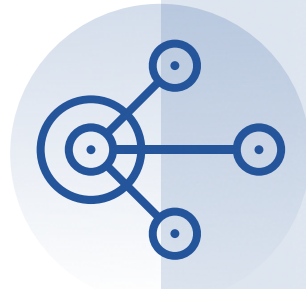
# What can LABBC do for you?

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## Market Visibility

- Awards
- Case Studies
- Speaking Opportunities



## Networking / Education

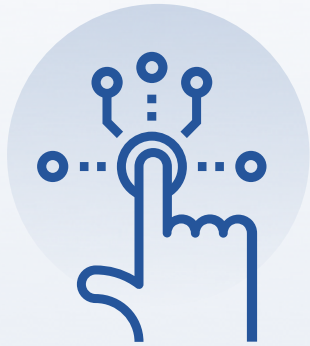
- Peer Exchange
- Webinars & Events
- Industry Partnerships



## Advisory Services

- Project Discovery
- Business Case Development & Procurement Support
- Rebate/Incentive Assistance

# Upcoming Events



**Aug. 9**

Building  
Technology  
Showcase



**Aug. 28**

Reframing the  
ROI of Efficiency  
Projects



**April 2020**

7<sup>th</sup> Annual  
Innovation  
Awards



And it never failed that during the dry years the people forgot about the rich years. And during the wet years they lost all memory of the dry years. It was always that way.

— John Steinbeck, *East of Eden*



# Recap

1

## Legislation

Water efficiency is becoming mandatory

2

## Due Diligence

Assess your use and ask the right questions

3

## Options

Cooling Towers, Plumbing, Irrigation, and Groundwater

4

## Incentives

LADWP and SoCal Gas provide substantial incentives for efficiency projects

5

## LABBC Resources

Case Studies, Technology Primers, Webinars, Events, Ordinance Support.

# Q&A



- **Cooling Tower COCs rule of thumb: 6, but it depends on local water quality which can modulate.**
- **Water Softening: What percentage of project cost do savings come out to in the 4yr ROI projection? About 50% but it depends on the size**
- **How do I know if I have groundwater onsite that I can use? You would have a permit either with the regional board or with LA Sanitation and you would be paying permit fees – we can assist you with looking at the areas. The question is whether you have enough groundwater to offset demand, or demand to use the groundwater.**

# Q&A



- **Keep in mind time is of the essence with incentive programs – they change based on new mandates and codes.**
- **Where can I find documentation on the current plumbing code and SB407 requirements?** *Our primers have information on codes (view on our website) and there is information in the EBEWE ordinance as well.*
- **Tours at City Hall East – Contact us at [info@la-bbc.com](mailto:info@la-bbc.com) for more information, and we will coordinate.**



# Stay In Touch



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