

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com





Los Angeles
Department of
Water & Power

Water Conservation Potential Study

Jevon Lam

**Supervisor of Water Conservation
Policy**





- Overview of City's Water Resources
- Water Conservation History
- Water Conservation Potential Study
- Next Steps





Sources of Water for Los Angeles



Sierra Mountains

Bay Delta

State Water Project

Local Groundwater,
Stormwater,
Conservation &
Recycling

LA
Aqueduct

Colorado River
Aqueduct

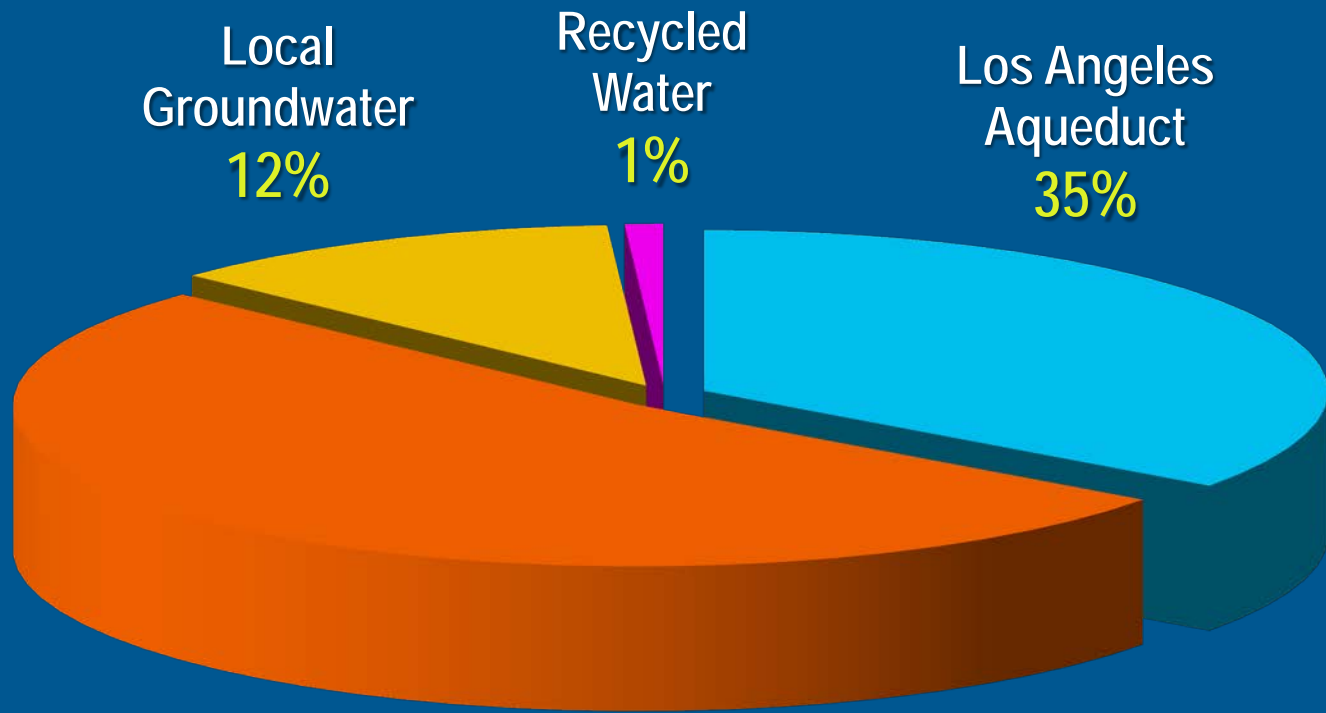




Los Angeles
Department of
Water & Power

Los Angeles Water Supplies

Average Year



Over **85 percent** of L.A.'s water supplies are imported





Los Angeles
Department of
Water & Power

City of Los Angeles

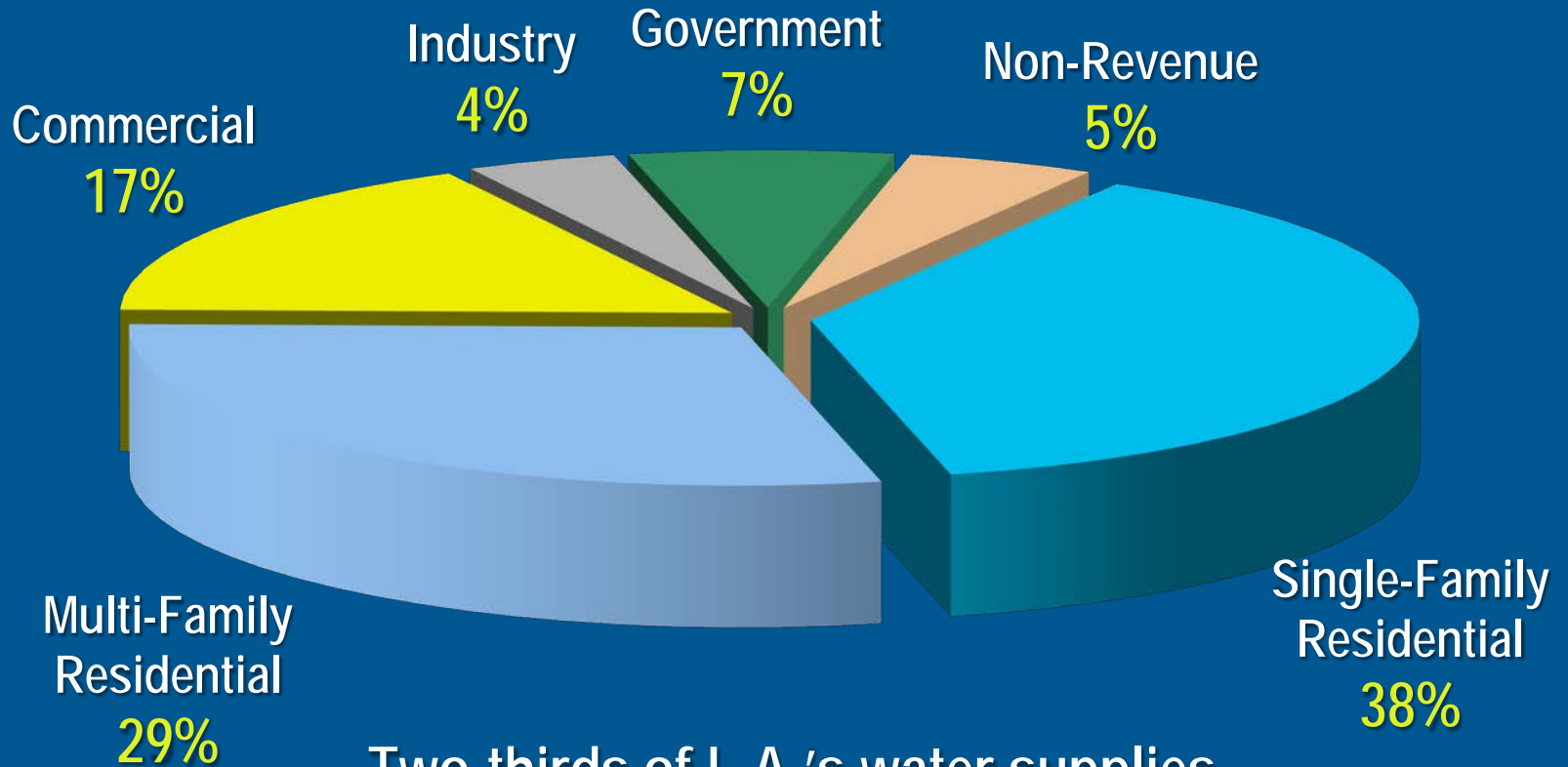
- Public Utilities Department - services **702,485** connections
- Covers **473** square miles
- Over **7,200** miles of distribution pipeline
- Over **3.9** million people
- Approximately **600,000** residential accounts and **60,000** commercial accounts





Los Angeles Water Demands

Average Year



Two-thirds of L.A.'s water supplies are used in the residential sector

L.A.'s non-revenue rate is among the lowest in the U.S. for large water agencies





Los Angeles
Department of
Water & Power

Water Conservation History

- Early **1900s** - fully metered
- Los Angeles began implementing conservation in **1977**
- Original Signatory to CUWCC in **1991**
- To date, LADWP has spent over **\$300 million** on conservation with cumulative hardware savings totaling over **115,000 AFY**





CONSERVE



Local City Ordinances



Commercial Programs



Residential Programs



Public Outreach & Education



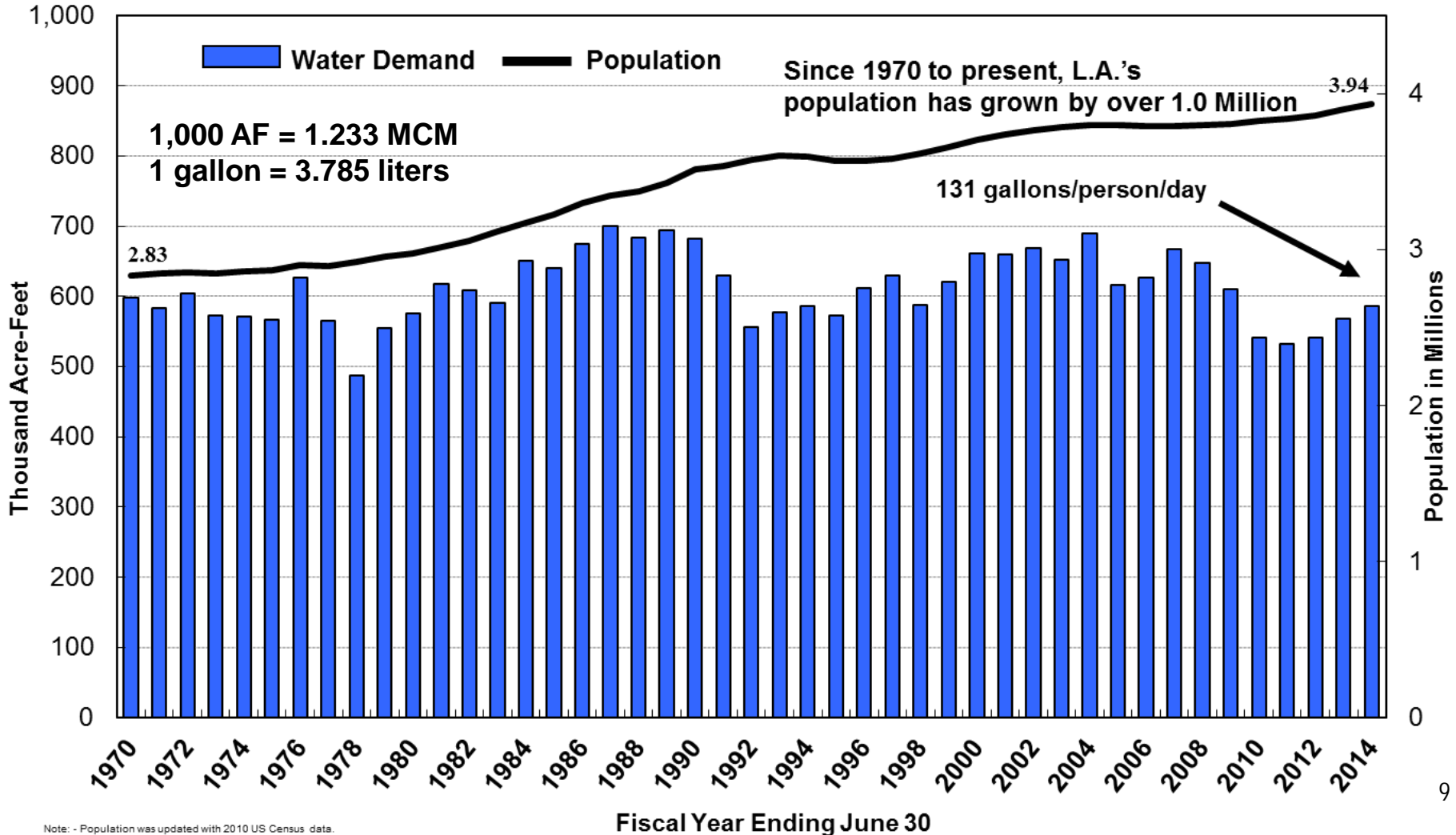
LADWP Partnerships





Long-Term Effect of Conservation on Water Demand on Water Demand

CITY OF LOS ANGELES WATER USE AND POPULATION

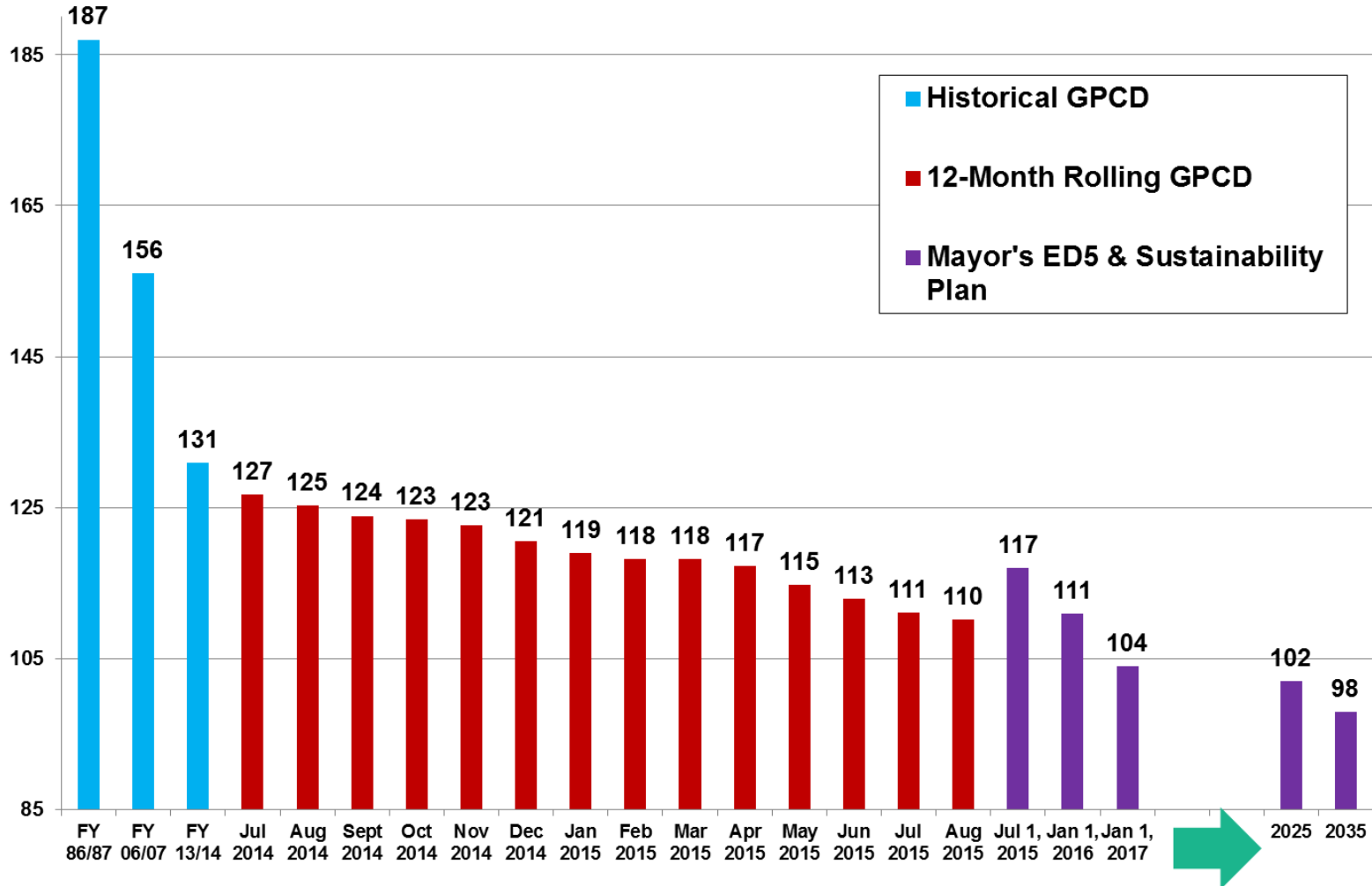




Los Angeles
Department of
Water & Power

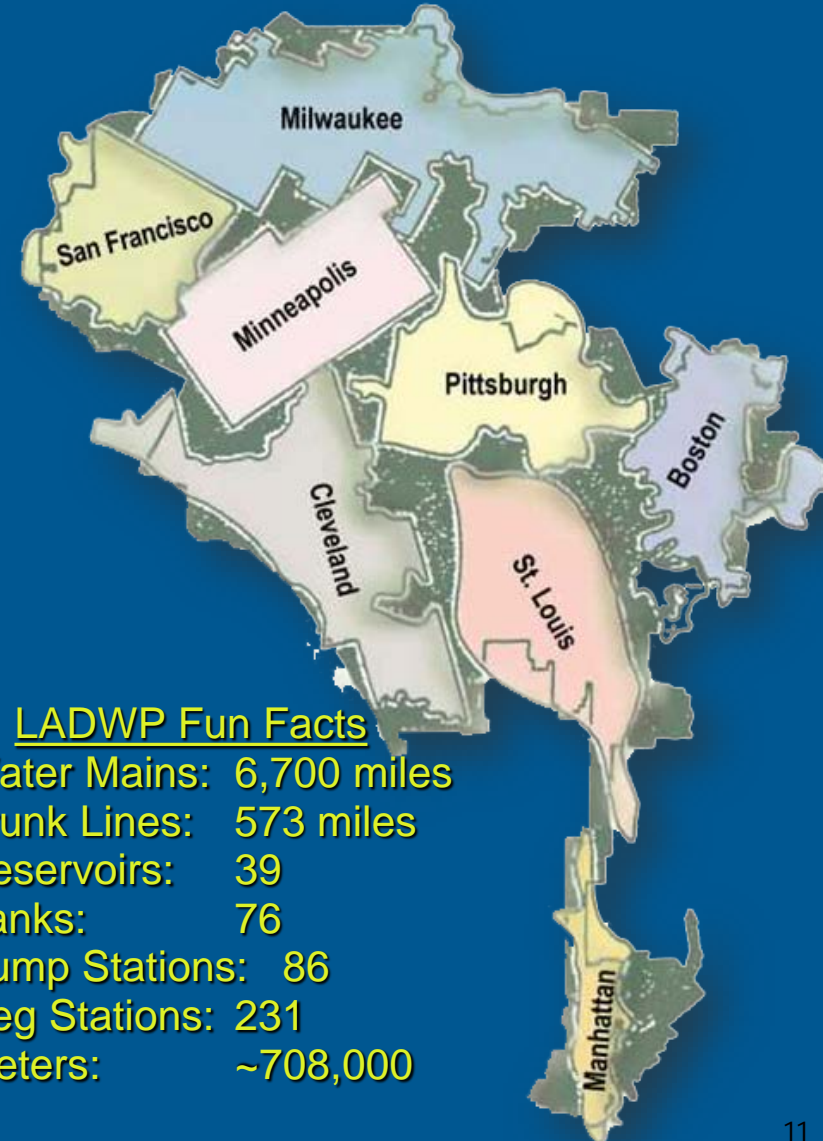
Aggressive Short and Long-Term Conservation Goals

LADWP 12-Month Rolling Total GPCD



Why Do We Need a Water Conservation Potential Study?

- Leader in Conservation
- Long Running Successful Program
- Need for Careful Planning With Good Forecasting
- Changing Water Demands Need Calibrated Response
- Huge City With Diverse Customer Needs





Los Angeles
Department of
Water & Power

Water Conservation Potential Study Overview

- Comprehensive study of water use in Los Angeles
- Conservation Potential of Each Customer Sector
 - Single Family
 - Multi-Family
 - Commercial & Industrial
 - Government
- Annual Projections Up To 2040





Los Angeles
Department of
Water & Power

Water Conservation Potential Study Overview

- Detailed surveys, audits, and data mining
- Customer Acceptability
- Analysis Based on Economic Considerations
- Dynamic, Adjustable Conservation Model
- Benchmarks for Future Conservation





Los Angeles Department of Water & Power

Residential & Commercial Appliance Rebates



Up to \$300



\$500



Up to \$1.75/sq.ft.



\$100

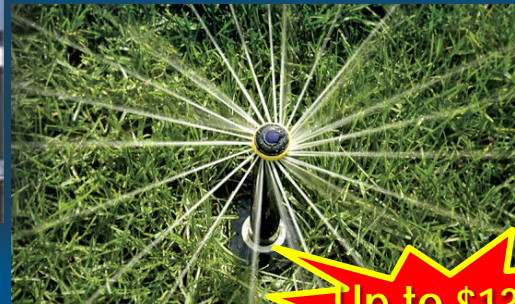
Free



\$300



\$3,000



Up to \$13



\$200



Los Angeles
Department of
Water & Power

Single Family Residential Conservation Potential

- Largest customer group
 - ~450,000 accounts
- Data Collection Method:
 - 615 Phone Surveys
 - 72 On-Site Audits
- Sub-Analysis On Major Climate Zones



Single Family Residential – Conservation Potential

- Indoor End Uses

- Toilets
- Clothes Washers
- Dishwashers



- Outdoor End Uses

- Landscape
 - Turf vs Sustainable Landscaping
 - Irrigation Systems
- Pools



Single Family Residential – Challenges to Consider

Lessons Learned:

- Simplified survey with quality controls
- In-person audit scheduling
- Extensive IT assistance required





Los Angeles
Department of
Water & Power

Multi-Family Residential Conservation Potential

- Data Collection Method:
 - Online Survey
 - Mailed Letter to All Multi-Family Accounts (~90,000 Accounts)
- High Response Rate Exceeded Expectations
- Partnered with Apartment Association of Greater Los Angeles





Los Angeles
Department of
Water & Power

Multi Family Residential Conservation Potential

Additional Considerations:

- High Variability In Apartment Sizes (from Duplexes to Over 100 Units)
- Occupancy Rates
- Tenant Responsibilities
- Leased vs Owned Appliances



Commercial & Industrial Conservation Potential

- Most diverse sector
 - Schools
 - Hospitals
 - Restaurants
 - Office
 - Retail
 - Manufacturing
 - Petrochemicals

- Large potential for innovation and emerging technology





Los Angeles
Department of
Water & Power

City Owned Facilities Conservation Potential

- Leading By Example
 - 100 Facility Audits (~6000 Total Accounts)
- Targeting All Facility Types
 - Offices
 - Maintenance Yards
 - Parks & Golf Courses
 - Airports
 - Port of LA





Los Angeles
Department of
Water & Power

City Owned Facilities Conservation Potential

- End Use Categories

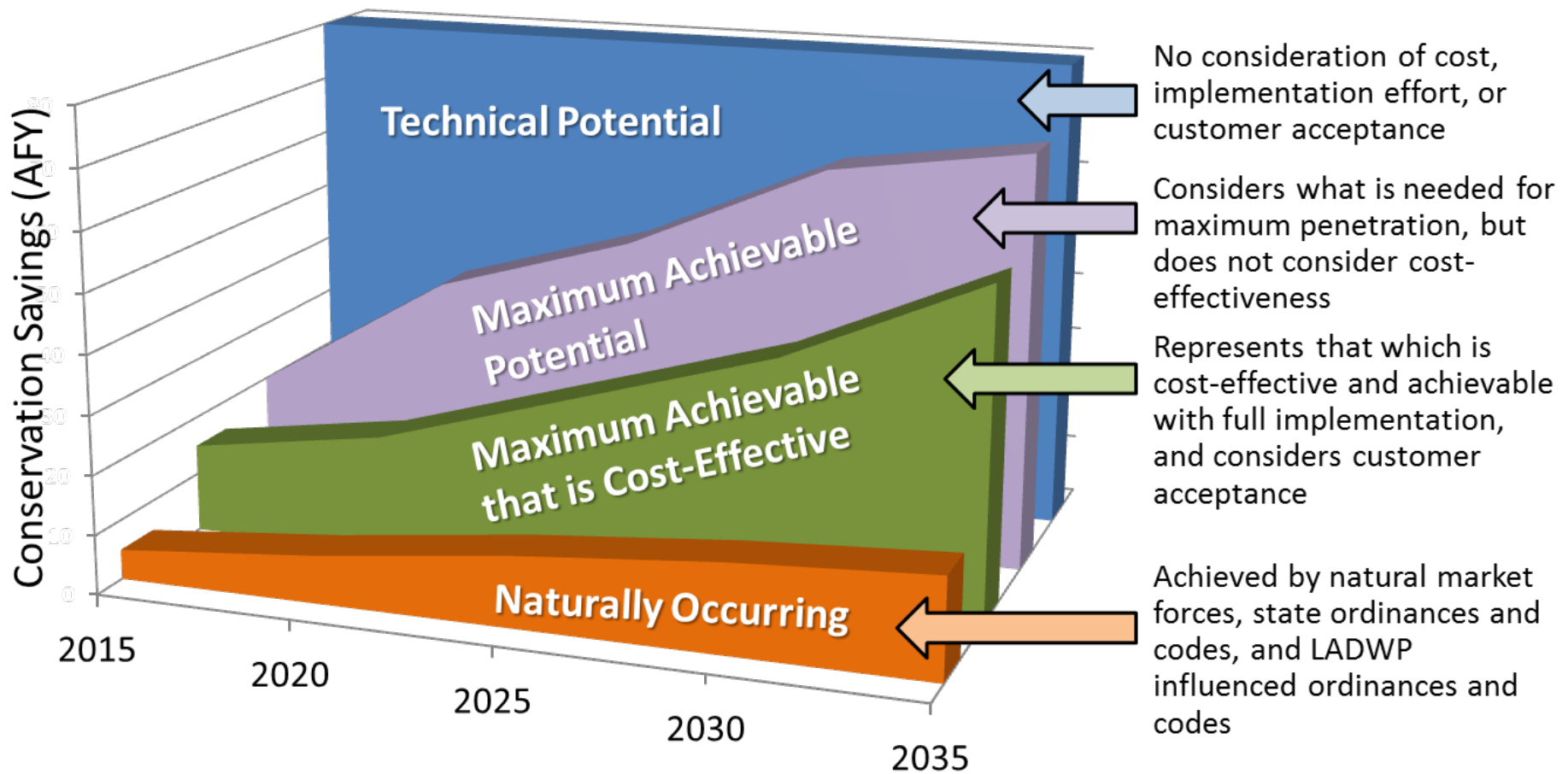
- Restrooms
- Kitchens
- Pools & Ponds
- Laundry
- Landscape
- Fountains
- Car Washing
- Cooling

- Challenges





Water Conservation Potential Model



Study Completion and Next Steps

- Complete In Spring 2016
- Analysis Between Conservation Potential and Long-Term Goals
- Long-term Conservation Plan
 - Program Spending
 - Outreach Strategy
 - Potential New Programs





Los Angeles
Department of
Water & Power

New Normal – Vision for future Los Angeles Landscaping

