

# Inland Empire Utilities Agency Regional Water Use Efficiency

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Business Plan

February 24, 2016

... a quick look back



# Gone are the days of...

- Inefficient showerheads
- An unsaturated toilet market
- Low efficiency washers
- “cookie cutter” rebates

# Today's Opportunities are...

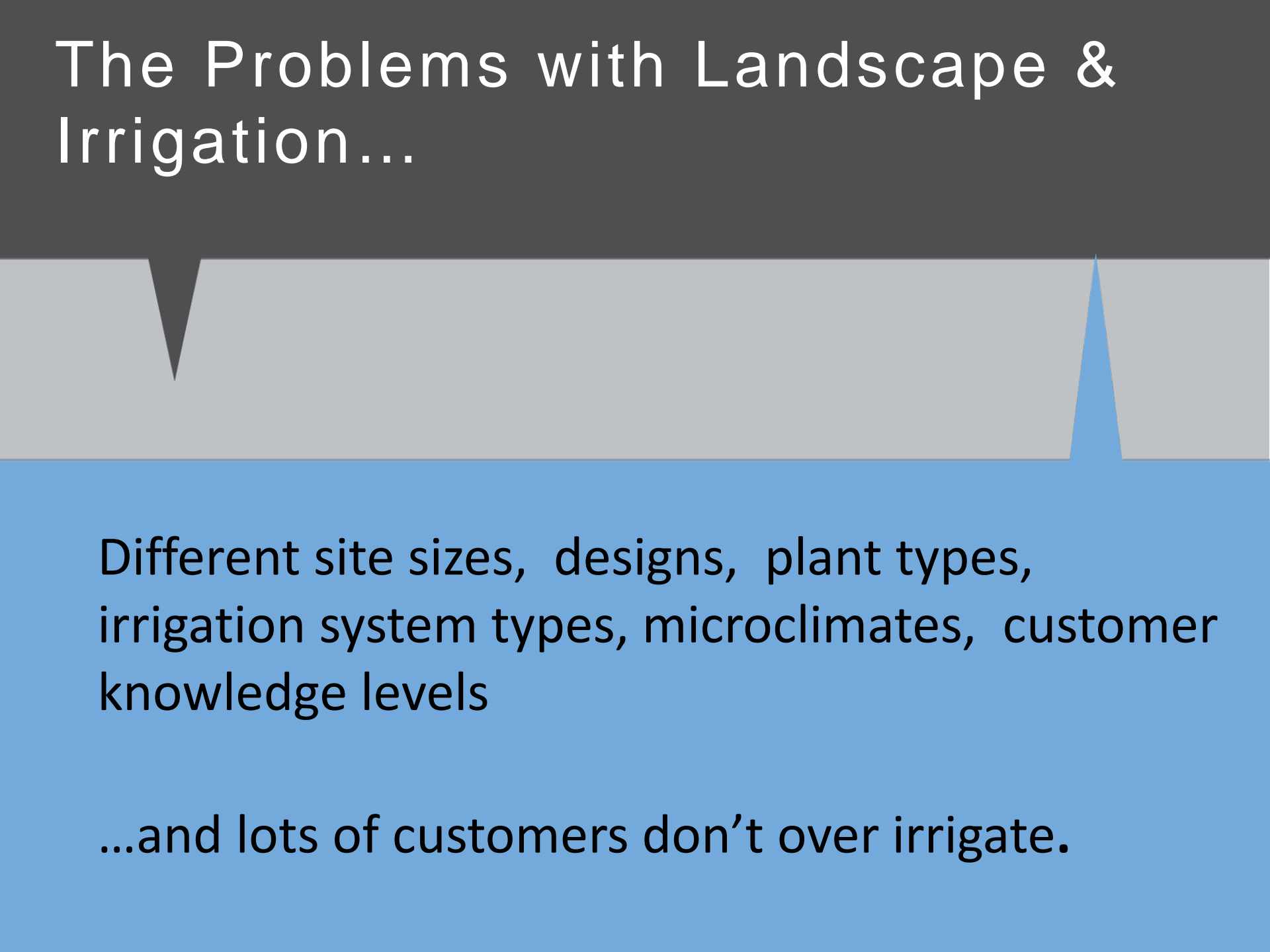
- Landscape and Irrigation
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But Landscape & Irrigation is  
different at  
**EVERY SITE!**



*What to do?*

# The Problems with Landscape & Irrigation...



Different site sizes, designs, plant types,  
irrigation system types, microclimates, customer  
knowledge levels

...and lots of customers don't over irrigate.

Just around  
the corner...




# ... Are New Tools and Technologies

- Affordable GIS Mapping & Aerial Imaging
- Smart Software- Computes Info Accurately & Efficiently
- Landscape and Irrigation
- Website & Mobile Interactive Customer Apps
  - Shown to be Effective & Least Cost Option
- The Tech World is Here & Available to Help

# Looking Ahead...



# With a New Vision...

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- Target inefficient use & not just any customer
  - Utilize some of the great new technologies on the market
  - Re-think traditional ways & try new approaches

Make Changes and  
Hit the Target



# Four Steps to Real Change...

- 1<sup>st</sup>:** Define Customer's *Efficient Use*
- 2<sup>nd</sup>:** Assess Customer's *Actual Usage*
- 3<sup>rd</sup>:** Communicate/Educate Customer on  
Efficient Use vs. Their Actual Use
- 4<sup>th</sup>:** Guide Customer Through Steps to Efficiency

# This is YOUR Journey



There isn't one program, one measure, a "silver bullet".

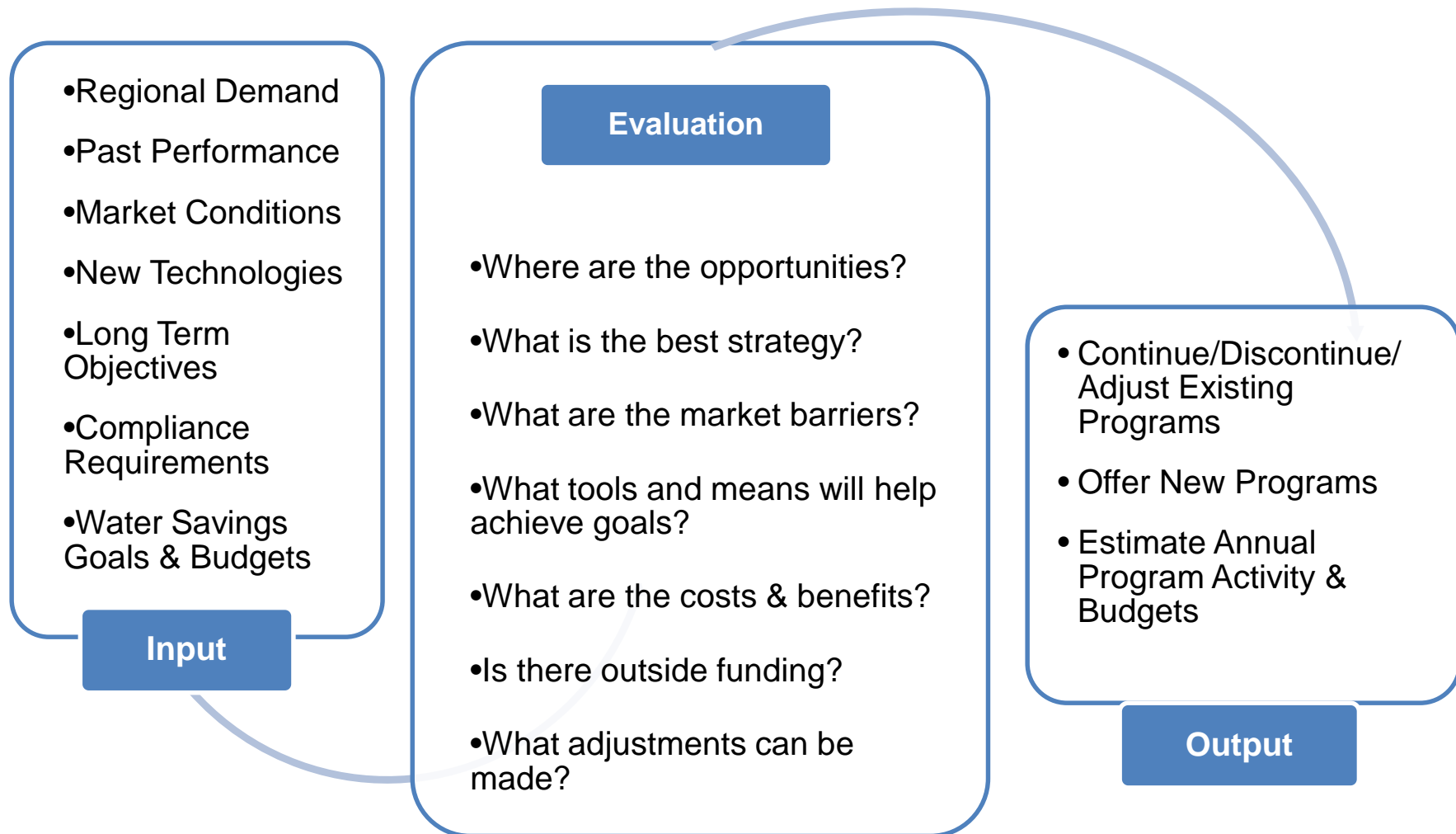
As retail agencies it's your choice how you move forward.

IEUA is here to Provide Data & Analytics,  
Pilot New Technologies & Approaches,  
Secure Outside Funding & Overall Support

# Agenda

- Evaluation Process
- Regional Demand
- Regulatory Compliance
- Past Performance
- Market Conditions & Opportunities
- Possible Strategies & Tactics
- Potential and Selected Programs
- Five Year Plan

# Evaluation Process



# Why Water Use Efficiency? Why State Standard?

Goal:

Achieve permanent water use efficiency  
by creating a new resource value for water  
in the eyes of the end user.

# Regional Demand

*Estimated **66%** of  
Use is Outdoors*

Customer Type	Annual Consumption	Customer Class Share of Total Demand	Estimated Outdoor Use
Single Family	112,171	48.5%	70,071
Multi-Family	27,818	12.0%	9,314
Commercial	32,010	11.1%	14,959
Landscape	31,119	13.5%	31,199
Other	27,893	12.1%	27,893
Total	231,092		153,435

Residential and Landscape

# Program Performance - Water Savings

Measure	Lifetime Savings (AF)	% of Total Savings
<b>High Efficiency and ULF Toilets (all markets)</b>	<b>49,347</b>	<b>55.35%</b>
Smart Controllers (all markets)	8,581	9.62%
High Efficiency Clothes Washers (all markets)	6,669	7.48%
High Efficiency Nozzles (all markets)	5,966	6.69%
Fontana USD Retrofits	4,170	4.68%
Ultra Low Volume Urinals	4,155	4.66%
Residential Landscape Retrofits	4,104	4.60%
Turf Removal (all markets)	2,911	3.26%
Landscape Evaluations	1,855	2.08%

\* Savings Represent all Programs Local and Regional: FY 2002 - 2015

# Indoor Measure Saturation

Single Family	Toilets	Clothes Washers
Total Devices	390,324	161,925
Remaining (Non-Efficient) Devices	83,383	75,932
Devices Actively Retrofitted	18,940	15,359
Devices Passively Retrofitted	288,001	70,633
Saturation	79%	53%

Multi-Family	Toilets	Clothes Washers
Total Devices	117,559	29,771
Remaining (Non-Efficient) Devices	Very few	16,785
Devices Actively Retrofitted	31,534	NA
Devices Passively Retrofitted	94,956	12,987
Saturation	Near 100%	44%

Indoor Measures No Longer

# Regulatory Compliance

Regulatory Statute	Requirements	Approach	Status
<b>Assembly Bill 1420</b>	Mandatory BMP Compliance	Lines up with actions taken to meet CUWCC BMP compliance	In compliance – requirement sunsets July 1, 2016.
<b>20x2020 (SBx7-7)</b>	Reduce per capita water use by 10% by 2015 AND Reduce per capita water use by 20% by 2020	Implementing active water use efficiency programs and policy Initiatives.	2015 Target = 226 2015 Reported = 188  2020 Target = 201 2020 Projected = 193
<b>Governor's Executive Order Regulations</b>	Mandatory 4 – 36% reduction of residential per capita water use	Each member agency is designated a mandatory % reduction.	Collective % Goal = 28% Collective % Saved = 29.5%

# Market Conditions



Region




Multifamily & HOAs



CII



Single Family

Real Estate	Favorable	Median Price ↑	Occupancy ↑   Rents ↑	Building ↑   Median Price ↑
 <b>Program Considerations</b>	Supply chain is info. source	<ul style="list-style-type: none"> <li>• Landscape: Maintain property values.</li> <li>• New Projects: Reluctant.</li> <li>• Volunteer decision makers.</li> <li>• Status quo easier than approval/implementation.</li> <li>• Low cost.</li> </ul>	<ul style="list-style-type: none"> <li>• Expense savings.</li> <li>• Asset value.</li> <li>• Contractor recommendation.</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain property values.</li> <li>• Drought response: Civic duty.</li> <li>• Low cost: High Incentives.</li> </ul>
<b>Jobs</b>	Unemployment 6.1% Dec '15 7.1% June '15 8.4% June '14			



# IEUA's *Best* Water Use Efficiency Opportunities



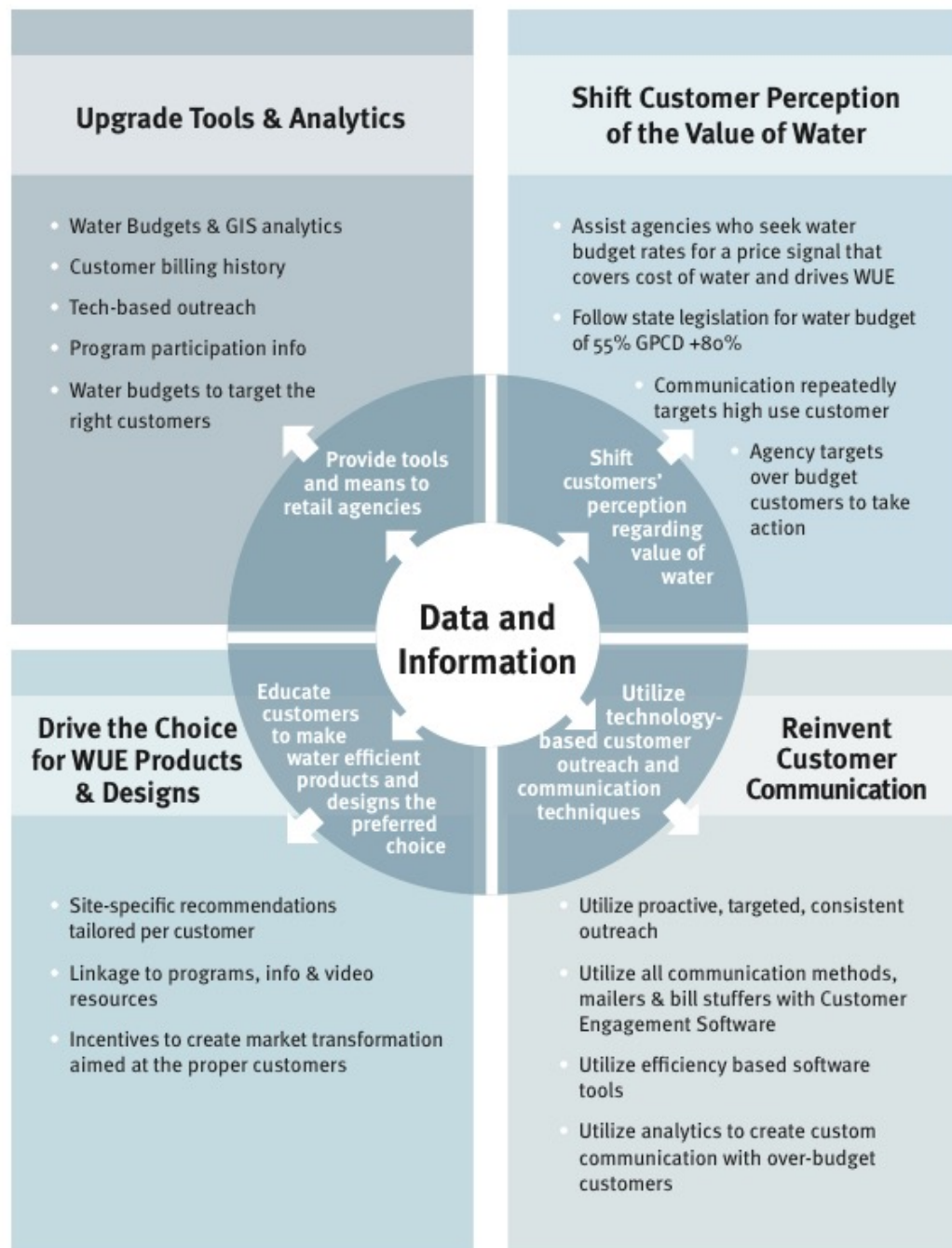
Landscape water savings  
for ALL customer classes.

# Possible Strategies

## Goal:

*To achieve permanent WUE by creating a new resource value for water in the eyes of the end user*

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## Strategic Element:

## Reason Proposed:

Provide satellite-based COMPUTER MAPPING DATA for each retail agency

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Delivers valuable site-specific data on all customers that can be used to target inefficient water users.

Encourage retailer agencies to utilize WATER EFFICIENCY PRICING SIGNALS

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Proven to be equitable and effect change at least cost to the agencies. Helps agencies achieve revenue and conservation balance.

Focus on OUTDOOR water use

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Outdoor use is **66%** of total water demand.

Use TECHNOLOGY-BASED SOFTWARE designed to engage, educate, and motivate customers

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Provides convenient, interactive connection with customer via mobile device or computer.

Implement WUE CODE requirements for new construction

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Lowest cost opportunity for lifetime water use efficiency.

TARGET OVER-ALLOCATION CUSTOMERS and offer ACTIONABLE water saving solutions

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Best opportunities for cost effective savings .

Provide INCENTIVE-BASED & Regional INFORMATION-BASED Programs for IRRIGATION & LANDSCAPE MEASURES

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Drives customers to act on their own and pushes market transformation.

TRACK WUE RESULTS & MAKE ADJUSTMENTS when necessary

.....

To meet changing regional demand reduction goals.



# New Water Savings Approaches and Technologies

# Budget-based Water Rates

## **Target Customer:**

Customers exceeding water budget

## **Potential for the Region:**

High

## **Water Savings:**

11-15%

## **Cost per Acre-foot: \$47**

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- Increasing block rate
- Uses customer-specific definition of efficient water use based on household and environmental characteristics.
- Customers who manage their water consumption within their efficient allocation/water-budget pay a lower water rate
- Customers who exceed their efficient allocation/water-budget pay higher water rates.

## ***Benefits***

- Sends strong pricing signal
- Drives over-allocation customer to consider change
- Proven effective at reducing water demand

# Customer Engagement Software

## **Target Customer:**

Customers exceeding water budget

## **Potential for the Region:**

High

## **Water Savings:**

2-5%

## **Cost per Acre-foot: \$190**

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- Combines physical characteristics of parcels collected through aerial imagery with customer information.
- Creates water budgets
- Compares water budgets against actual use.
- Information presented to customer in various ways.

## ***Benefits***

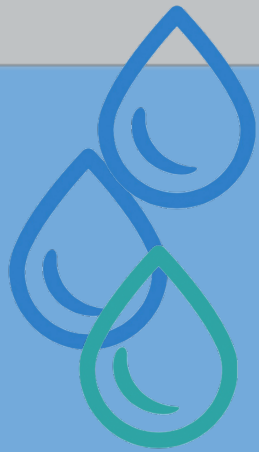
- Provides vital information for customer targeting.
- Communicates efficient use message with customer.
- Proven effective at reducing water demand

# *Best* Measures Available Today



High Efficiency Nozzles  
Drip Irrigation  
Turf Removal  
Smart Controllers

# Up and Coming



Pressure Regulation  
Irrigation Repairs  
Leak Detection / Flow Monitoring

# Potential Programs

## Existing Programs

- SoCal Water\$mart Rebates
- HE Toilet Direct Install
- Turf Removal Incentives
- Smart Control Direct Install
- HE Nozzle Voucher and Direct Install
- Landscape Evaluations

## New Programs

- Submetering
- Greywater Incentives
- Pressure Regulation Incentives
- Irrigation Repair Incentives and DI
- Leak Detection and Flow Monitoring Incentives
- Budget-based Rates
- Customer Engagement Technology

Focus on Landscape &

# Eliminated Potential Programs

## Eliminated Existing Programs

- HE Toilet Direct Install
  - Market is saturated
- Turf Removal Incentives
  - Until outside funding is secured

## Eliminated New Programs

- Submetering
  - Extremely costly
  - Reading meters and billing is complicated
- Greywater Incentives
  - As a retrofit option, not cost effective
- Irrigation Repair Incentives and DI
  - Savings are not known
  - Hard to set average incentive
  - Potential liability
- Leak Detection and Flow Monitoring Incentives
  - Savings are not known
  - Many solution require expensive digging

# Selected Programs – Cost per Acre-Foot

Portfolio Costs  
= \$52 per AF

Measure	Cost per AF
Budget-Based Water Rate Structure	\$0
Residential Landscape Retrofit Program	\$0
Turf Removal \$2.00	\$81
Cooling Tower Conductivity Controller SCWS Rebate	\$124
Smart Controller SCWS Rebate (CII)	\$133
Ultra Low Volume Urinals SCWS Rebate	\$148
FreeSprinklerNozzles.com Voucher	\$185
High Efficiency Toilets SCWS Rebate (CII)	\$185
Premium Efficiency Toilets SCWS Rebate	\$186
Technology Customer Engagement Software	\$190
HE Sprinkler Nozzles SCWD Rebate (CII)	\$202
Smart Controller SCWS Rebate (SF)	\$221
High Efficiency Clothes Washer SCWS Rebate (SF)	\$303
High Efficiency Toilets SCWS Rebate (SF)	\$370
Air-Cooled Ice Machine SCWS Rebate	\$744
HE Sprinkler Nozzle Direction Installation Program	\$931
Landscape Evaluation Program	\$1,286
Residential Smart Controller Upgrade Program	\$2,215

*\*IEUA costs only*


# Plan Overview

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## Plan Overview

<b>Cost per Acre-foot</b>	\$52 per acre-foot
<b>Five-Year Water Savings (active programs)</b>	33,554 acre-feet
<b>Lifetime Water Savings (active programs)</b>	147,836 acre-feet
<b>Avoided Costs (NVP)</b>	\$152.7 Million
<b>Five-Year Total Budget*</b>	\$7.5 Million

*\*IEUA costs only, includes education and outreach costs*



Thank you!