Regional & Local Initiatives Addressing Drought, Increasing Water-Use Efficiency, Agency Finances and End-User Acceptance:

The Problem
Solving for the Problem
State Legislation and Efficiency Standards
The Data & Tools to Support Agencies to Meet State Efficiency Goals
MWD member wholesale agency
7 retail member agencies
850,000 population in service area
$500 million in “local water” development over past 15 years

New Initiatives:
Significant increase in WUE
Assist member agencies with revenue and conservation in the form of new rate designs, data collection, tools, and public outreach
Exceed current 20x2020 goal
The Problem: Declining Water Sales and Utility Revenues.

The Solution: 

- Public Policy
  - Revenue Stability
  - Water Efficiency
  - User Satisfaction

“The most important rate design criteria are fiscal adequacy (collection of the agency revenue requirement), efficiency (encouragement of economically efficient consumption and discouragement of waste), and fairness to all customer classes.”

Scott Ruban, J.D.
National Public Policy Institute
The State Has Set the Standards:

Water Budget = (# Residents) (55gpcd) + (ET) (.80) (SF of Landscape) (DF)

Indoor Allocation (SBX7-7)

Outdoor Allocation (AB 1881)
Why a Water Budget Rate Design is Sustainable?

**Agency:**

- Recover costs of service accurately while customers use less water
- Accurately portrays what the agency really does (provides “reliable” water service)
- Recognizes and rewards efficient users, penalizes water waste
- Provides the retail agency with a new, independent source of funding for conservation programs (paid only by those who use water over State efficiency standards)

**Figure 1. Comparison of observed demand against model predictions**

Source: UCR study of EMWD WBBR structure

Vertical dashed line indicates the date when the water budget IBR price structure was implemented.
Regional & Local Agency Initiative

✓ Collect Data

Prop 84 Grant

SAWPA

Western Municipal WD
Eastern Municipal WD
San Bernardino Valley WD
Orange Co. Water District
Inland Empire Utilities Agency

(ET) (.80) (SF of Landscape)
### Water Efficiency Calculator - SFR

Enter input data in the orange cells.

**Customer No.**
40597-2

**Zone**
1280

**Meter Size**
5/8-in

### Indoor Consumption

<table>
<thead>
<tr>
<th>Number of Residents</th>
<th>2.8 Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Indoor per Person Allocation</td>
<td>55 Gallons</td>
</tr>
</tbody>
</table>

### Outdoor Consumption

**Landscape Factor**

<table>
<thead>
<tr>
<th>Month</th>
<th>Turf Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>0.61</td>
</tr>
<tr>
<td>February</td>
<td>0.64</td>
</tr>
<tr>
<td>March</td>
<td>0.75</td>
</tr>
<tr>
<td>April</td>
<td>1.04</td>
</tr>
<tr>
<td>May</td>
<td>0.95</td>
</tr>
<tr>
<td>June</td>
<td>0.88</td>
</tr>
<tr>
<td>July</td>
<td>0.94</td>
</tr>
<tr>
<td>August</td>
<td>0.86</td>
</tr>
<tr>
<td>September</td>
<td>0.74</td>
</tr>
<tr>
<td>October</td>
<td>0.75</td>
</tr>
<tr>
<td>November</td>
<td>0.69</td>
</tr>
<tr>
<td>December</td>
<td>0.61</td>
</tr>
</tbody>
</table>

**Landscape Area (Square Feet)**
13098

**Drought Factor**
20%

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### Average Usage as Percentage of Water Budget

<table>
<thead>
<tr>
<th>Cust. No</th>
<th>Average Usage as Percentage of Water Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>42527-1</td>
<td>260.1%</td>
</tr>
<tr>
<td>41617-1</td>
<td>259.4%</td>
</tr>
<tr>
<td>40726-1</td>
<td>256.0%</td>
</tr>
<tr>
<td>42525-1</td>
<td>252.9%</td>
</tr>
</tbody>
</table>

### Efficient Customers

Most inefficient users, top drought response targets

Efficient customers not included in drought outreach

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### Consumption

<table>
<thead>
<tr>
<th>Consumption</th>
<th>% of Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>At or below allocation</td>
<td>74.1%</td>
</tr>
<tr>
<td>Greater than 100% up to 125% of allocation</td>
<td>17.6%</td>
</tr>
<tr>
<td>Greater than 125% up to 150% of allocation</td>
<td>5.1%</td>
</tr>
<tr>
<td>More than 150% of allocation</td>
<td>3.2%</td>
</tr>
</tbody>
</table>
How Would Data be Used?

- To build a “Water Efficiency Calculator” to rank and sort accounts by efficiency
- To direct conservation funds for the most cost-effective use
- To build a “water budget rate modeling tool”
- To populate retail agency billing systems to support water budget based rate structures
The Cost of Not Changing?
Economic, Environmental & Political

The Law of Diffusion
(Why “Change” is Hard)

The Law of Diffusion
(Why “Change” is Hard)

$1/day/household
$.002 / gal
Recommendations:

• Expand Board support for allocation-based rates building on the “Alternative compliance” mechanism as described in the July Emergency Regulations.”

• Require agencies to report the % of users who meet State water efficiency standards.

• Conduct State-wide training on the technologies necessary to measure water-use efficiency.

- Be clear about State efficiency standards; Help us build the tools that incentivize market-based, fiscally responsible water rate structures that incorporate State efficiency standards.

- GPCD comparisons have limitations; reporting % of accounts meeting efficiency standards is equitable across agencies and helps to target water waste.

- Consider how to make the technology and/or data available to agencies across the State.
Questions?

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