City of San Diego
Natural Resources & Culture Committee

Water Budget Based Billing

May 23, 2012

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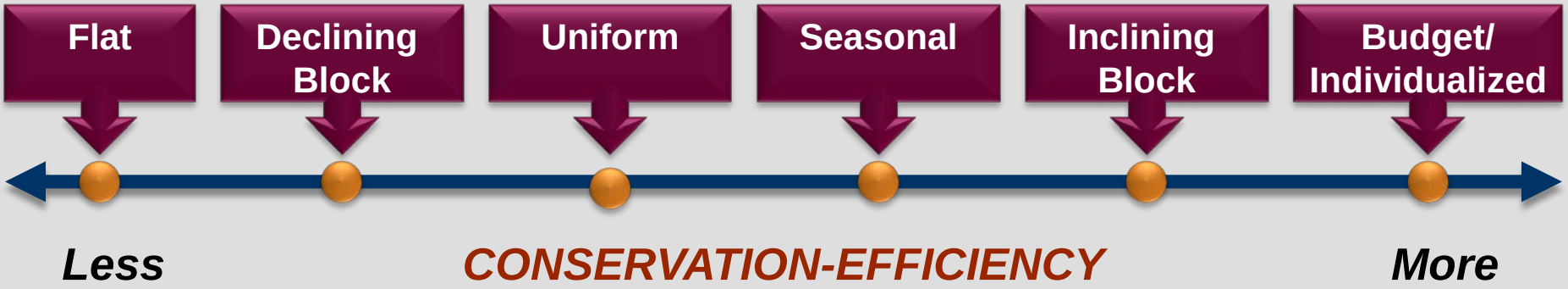
Water Pricing Structure Continuum

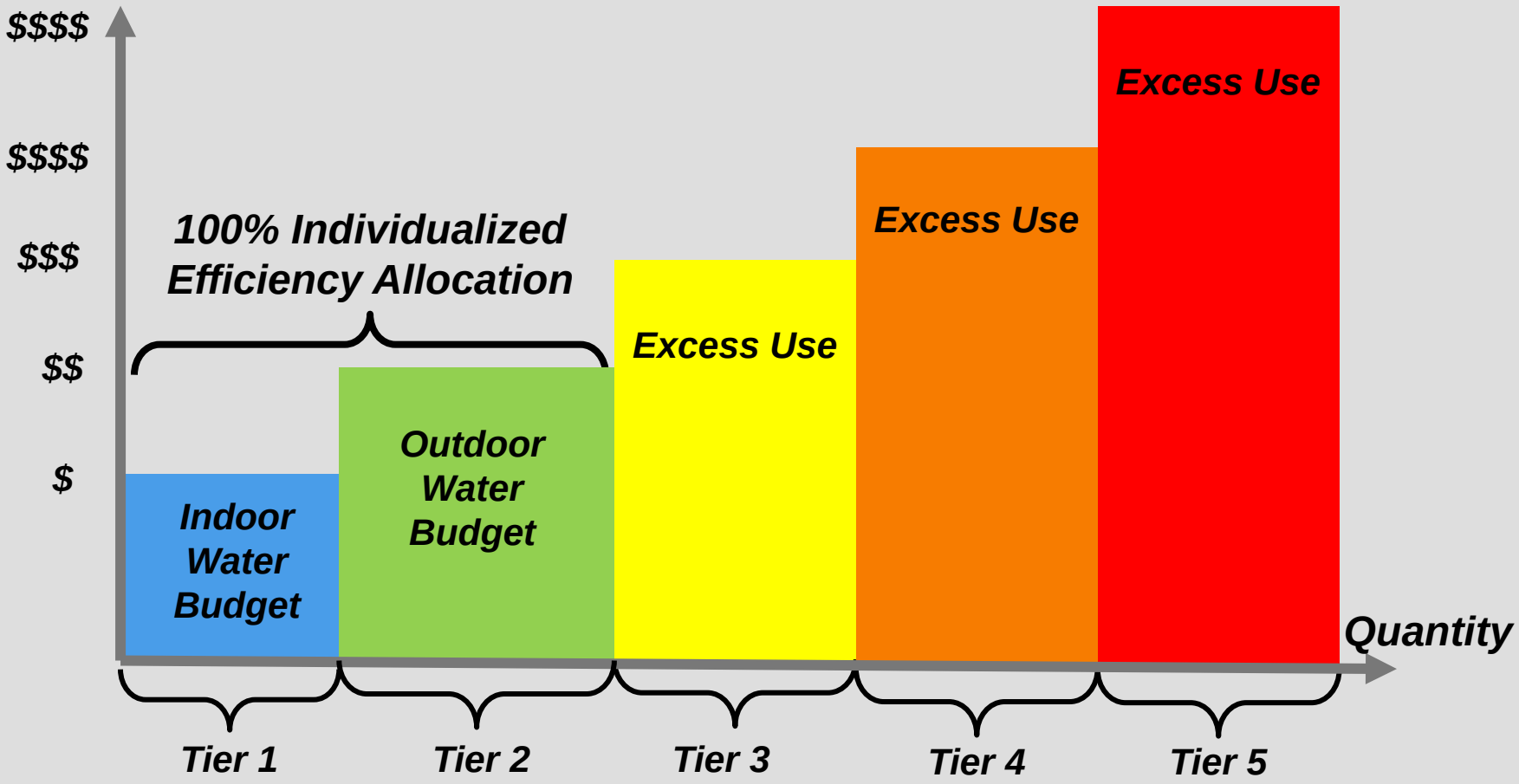


What is a Water Budget?

Individual allocation of indoor and outdoor water use

- Indoor – Household requirement based on…
  - # Residents x gallons per day (gpd)
  - Matches 2009 California legislation (20 x 2020)
- Outdoor – Irrigation requirement based on…
  - Landscape Area
  - Local Weather (Evapotranspiration–ET)
  - Conservation Factor (established by State legislation, AB 1881)

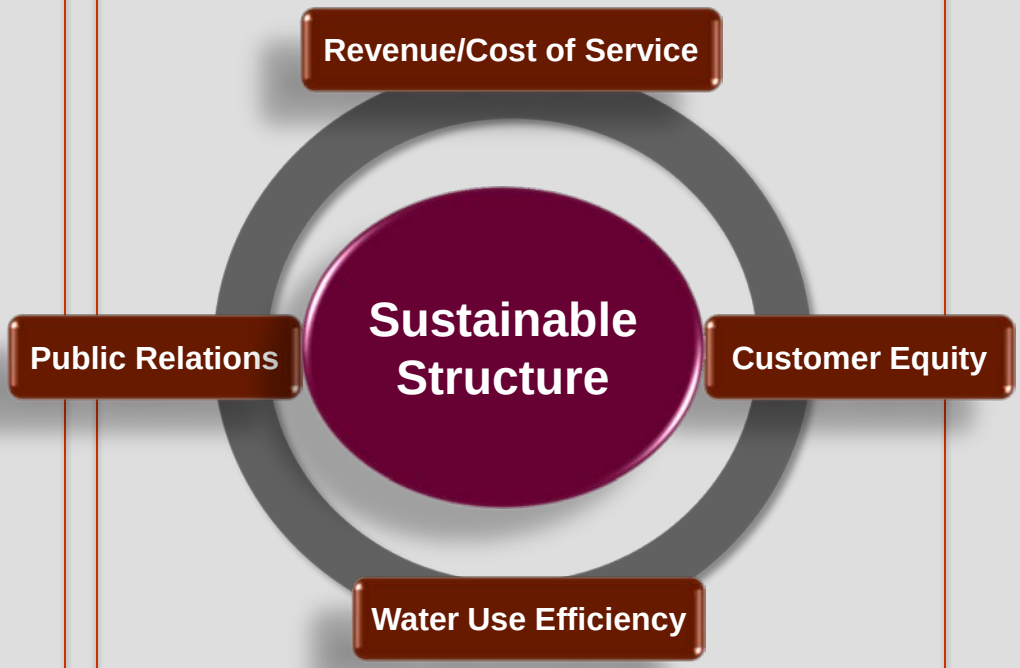
Water Budget Tiers



Water Pricing Structure Needs to Accomplish:

- Recover costs accurately for the agency "cost of service"
- Meet State legislation
  - SBX7-7 (20% reduction by 2020)
  - AB 1881 (landscape water efficiency)
  - Prop 218
- Recognize local conditions
  - Water supply
  - Different customer needs
  - Weather
- Send clear message to customers
  - Water conservation/efficiency

- Revenue Accuracy & Stability
- Water Efficiency
- Customer Equity



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Water Budget in Action:

- An objective water allocation
- Potentially different for every customer
- Creates the ability to identify efficient and wasteful users
- Results in equity by recognizing each customers water need

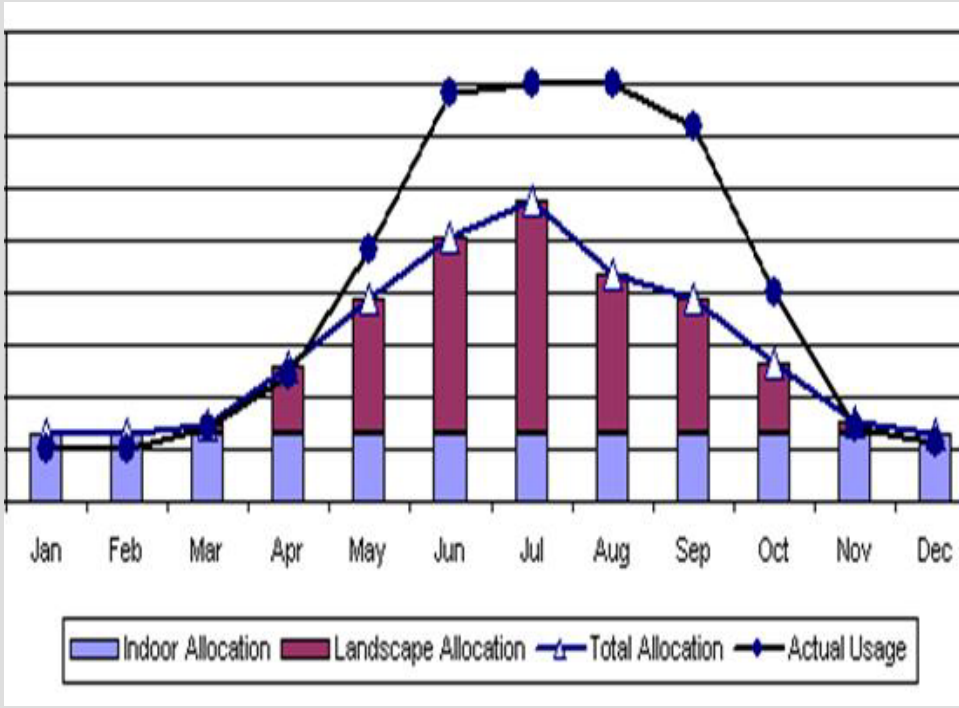
Definitions:

"Equal" = identical, the same

"Equity" = fairness, impartial, just

- **2 people**
- **1,200 sq ft landscape**

- **5 people**
- **10,500 sq ft landscape**
- **Pool**



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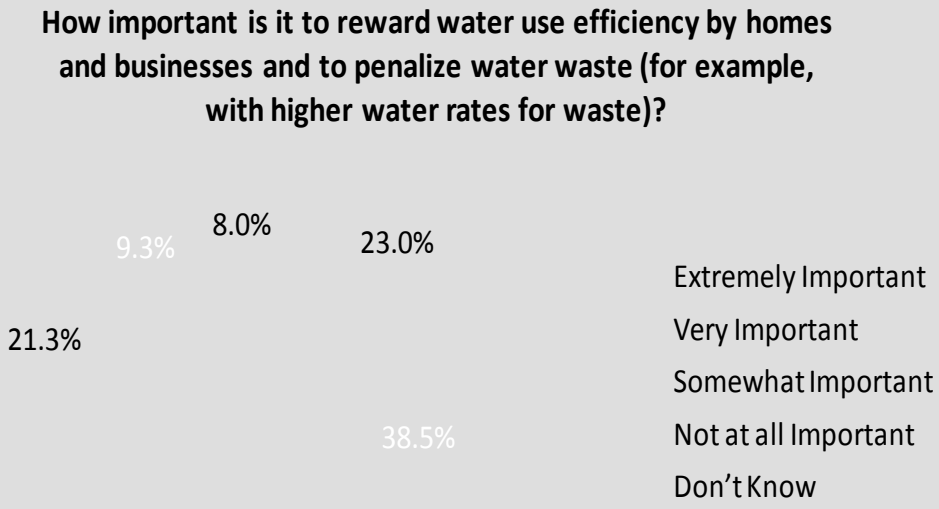
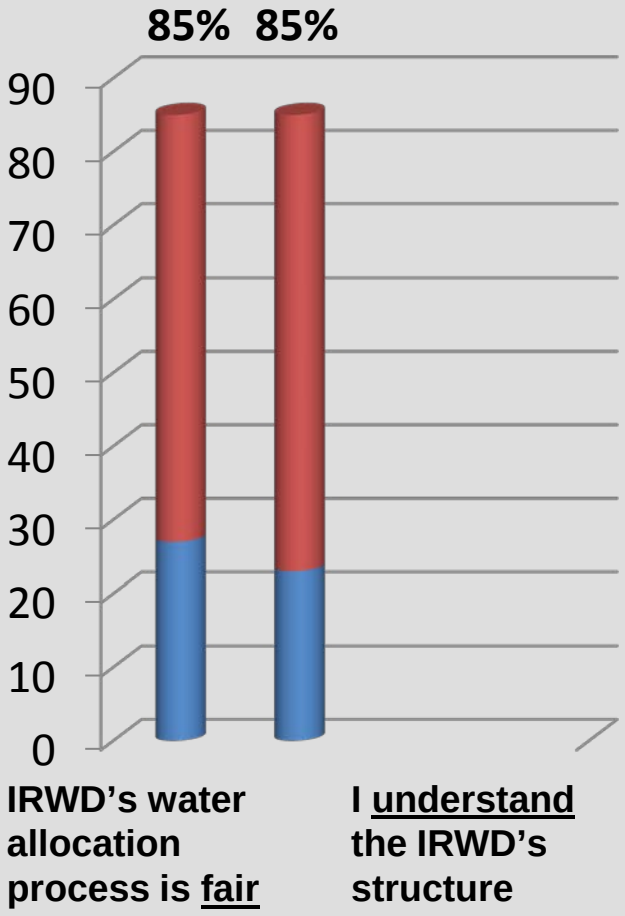
What Do Customers Think? (Myth Busters)



82.7% Say Rewarding Efficiency & Penalizing Water Waste is Important!

Source: Riverside, CA Customer Survey 2010



Source: Irvine Ranch Water District, CA Customer Survey 1998

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Water Budget Recognizes State, Local Agency and Customer Needs

State:

- Per Capita Efficiency Legislation = 55 gpd (SBX7-7, 20 x 2020)
- Landscape Efficiency Standard = 80% of local evapotranspiration (ET)

Local:

- Different customer water needs (family size, lot size, business need)
- Weather variation (cooler coast to hotter inland)
- Policy priorities (adjust up or down from State guidelines)
- Drought response mechanism (DF)

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

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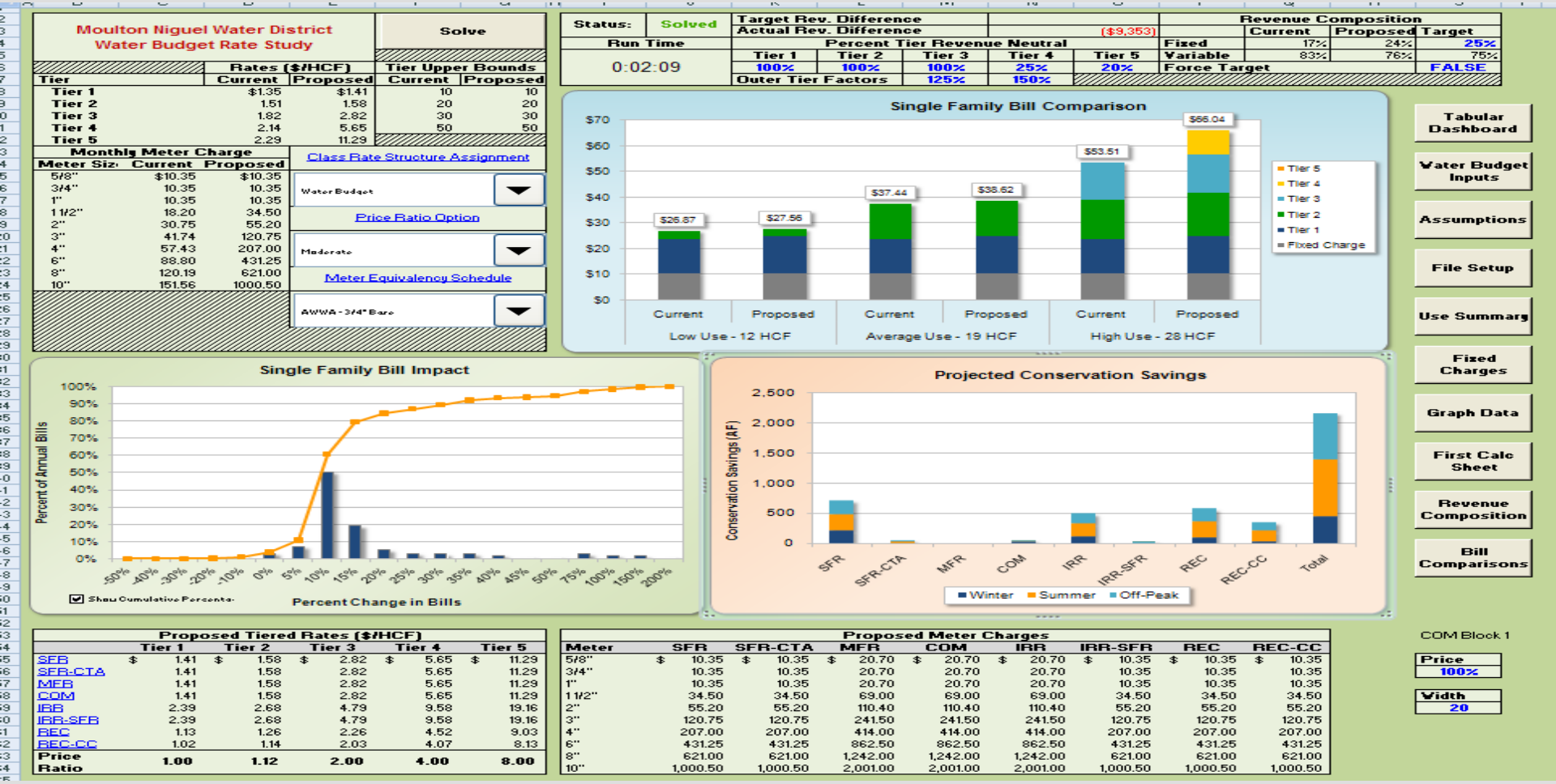
Establishing Successful Water Budget:

Technical and "Art"



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"*Think Different*": Change the current story to a more positive story with "Sustainable" Design

Technical

Financial analysis, data collection, testing allocation variables, software/hardware, etc.

Philosophical

Move agency from water "seller" to a water "manager" and customer service provider

Political

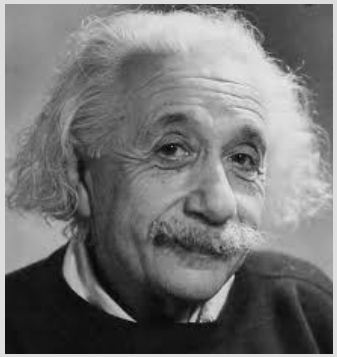
Transparent story, defensible, helps the community, etc.

Practical

Revenue/Conservation, funding for conservation, staff training, customer services may increase

Public Relations

How, when, what, etc.
Increased customer services paid for by those who waste water



"Doing the same thing over and over again and expecting a different outcome, is the definition of insanity. ***Think differently."*** *Albert Einstein*

"Boys we need to ***think different."***
Billy Beane, Oakland Athletics/Moneyball

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Water Budget Based Billing
Task 1 – Pilot Study Review

May 23, 2012

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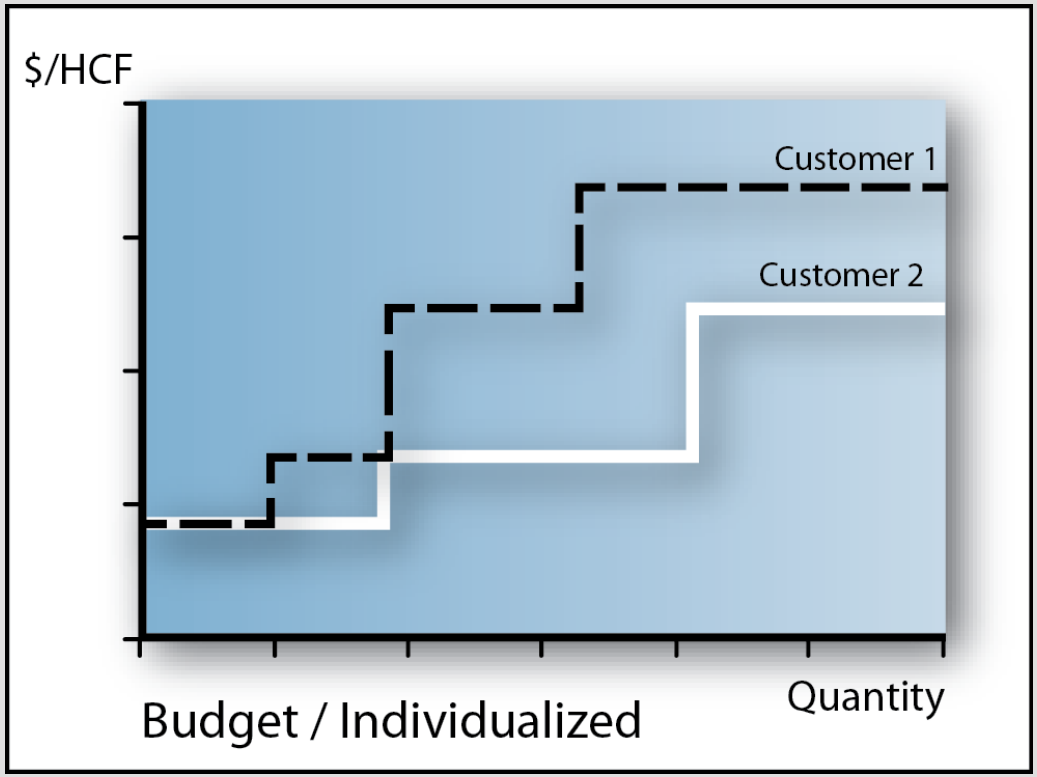
Water Budget Structure

- Blocks and prices are based on individual water budgets:
  - Number of people in house
  - Square feet of landscaped area
  - Efficient water use



Methodology Successfully Used by Others

Approach to test assumptions and required variables for determining a SFR water budget allocation:

- **Irvine Ranch Water District**
- **Western Municipal Water District**
- **City of Corona**
- **Eastern Municipal Water District**
- **Rancho California Water District**
- **Moulton Niguel Water District**

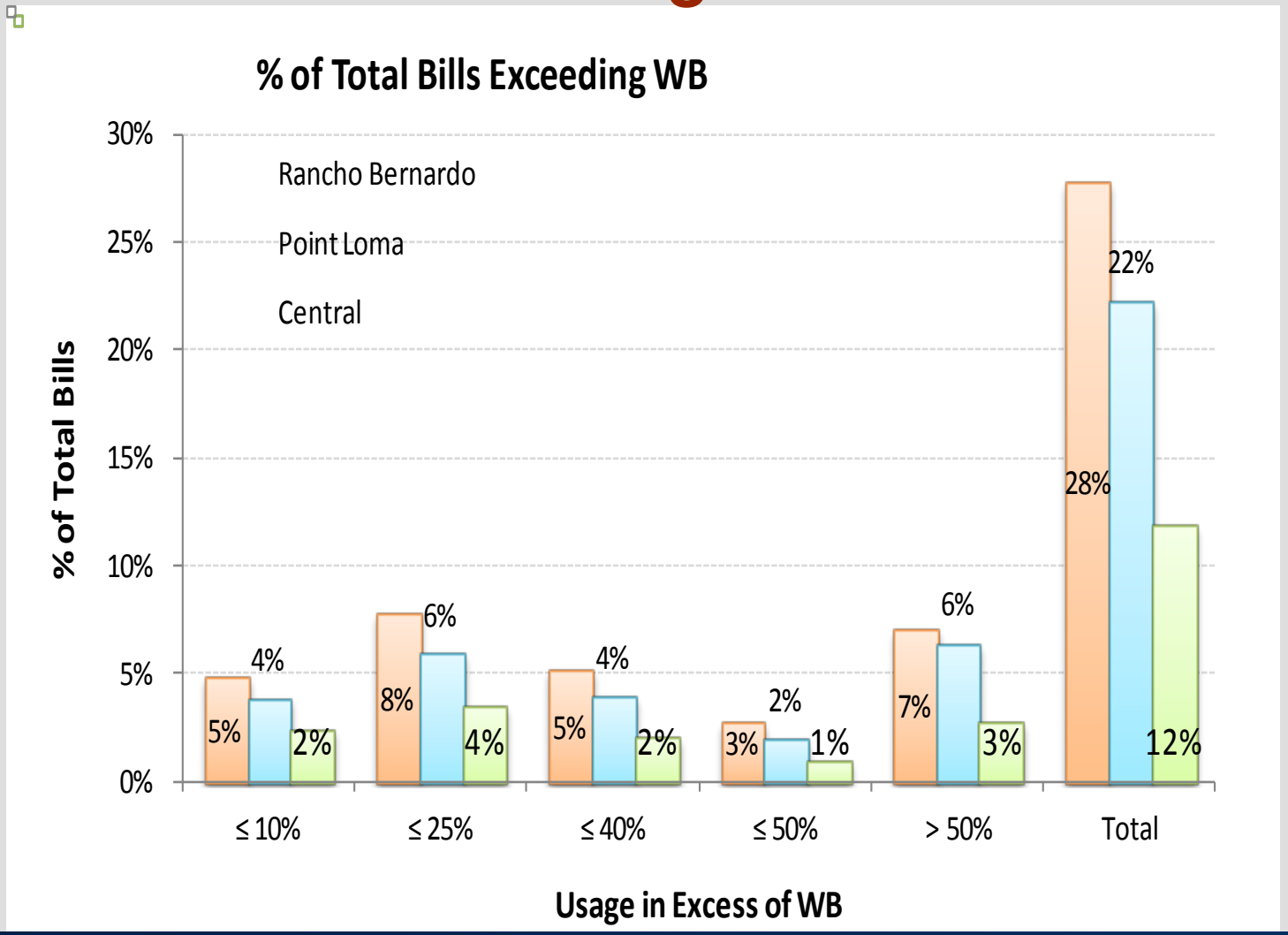
Pilot Study Key Assumptions:

1. Indoor use of 60 gallons per capita per day
2. Average of 4 people per household
3. Landscape factor of 80% of local evapotranspiration
4. Size of the landscape area was determined by:
   - Using existing parcel data (lot size)
   - Conducting hand-measurements over parcel images (geographic information system parcel images) of select sites
   - Determining a typical percentage of landscape area per parcel size

Size of the Landscape Area

Total SFR Property Size	Percent of SFR Property Landscaped
<= 1/8 acre	28%
> 1/8 acre but <= ¼ acre	39%
> ¼ acre but <= ½ acre	59%
> ½ acre but <= ¾ acre	60%
> ¾ acre but <= 1 acre	67%
> 1 acre	72%

80% of Bills Met Budget Allocations



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Pilot Study Review Conclusions

- The Study approach/methodology is valid
- The key assumptions are reasonable and appropriate
- Water budget values are reasonable and will be finalized during Tasks 2-5:
  - persons per household
  - water use per person
  - landscape area “OK” at this stage of the project
- Water budget based billing is feasible for single-family residential customers

Additional Observations

- The data required for implementing a water budget allocation for SFR accounts exists and/or can reasonably be developed
- Integration with new billing system is critical
- A well-designed internal education and external outreach and education program is integral to successful implementation of a water budget based billing structure