

Water Pricing for a Dry Future: Policy Ideas and their Relevance to California

University of California
Giannini Foundation
Public Policy Institute
MWDSC

Sustainable Water Rate Design at Western Municipal Water District:

The “Art” of Revenue Recovery, Water Use Efficiency and Customer Equity

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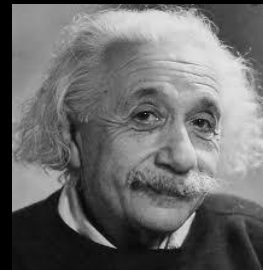
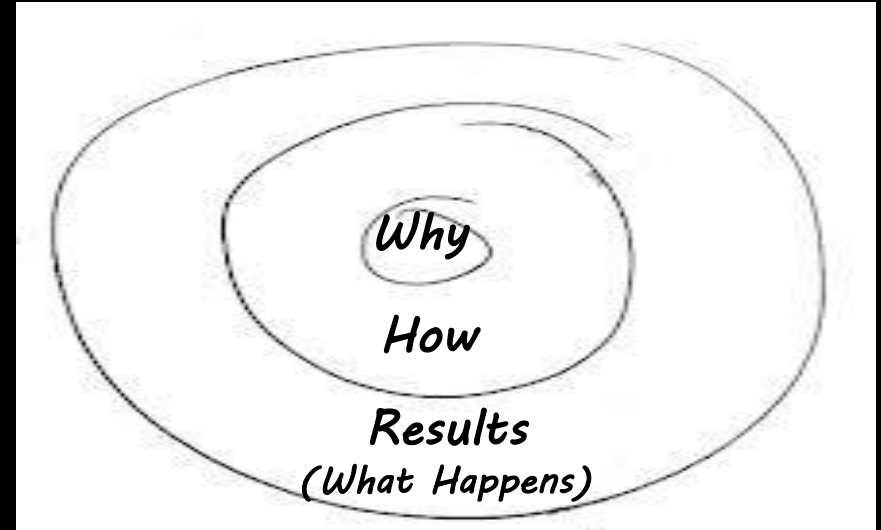
Inland Empire Utilities Agency

- Wholesaler
- 850,000 population, 239 square miles
- MWD member agency
- 30% imported water, 70% groundwater/recycled
- Over \$500 million to develop local supplies in last 15 years
- Expanding development of a large groundwater basin



What to Accomplish Today?

- Define terms
- Dispel myths
- Find the right questions
- Answer “why” change rates
- Share results
- Provide a video link that sums-up water budget rates from agencies (Elected officials, GM’s and CFO’s)
- Conclusions/Questions



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

Albert Einstein

Definitions

Equal:

Identical, even, uniform, be equal with

✓ **Equitable:**

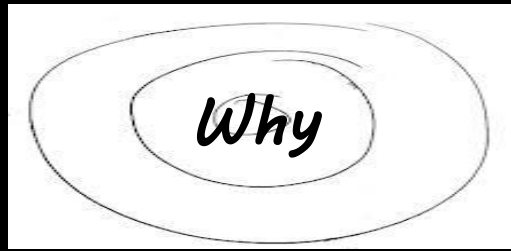
Reasonable, impartial, justifiable, fair

✓ **Proportional:**

Relative, comparative, reasonable, fair, impartial, balanced

✓ **Sustainable:**

Justifiable, workable, defensible, maintainable...



“Customers Vent Confusion over Water Rate Increase” [Missouri Journal](#)

“City Council votes to raise rates 178% over 10 years because people are using less water.” [Nov. 2015 Oceanside, Ca.](#)

82% of Californian’s say residents should conserve water, drought or no drought.” [March 2015, LA Times](#)

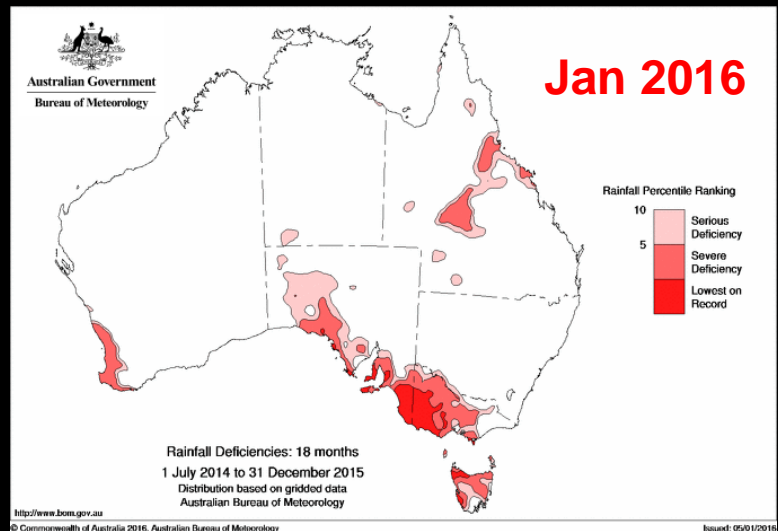
“Water Agencies Margins Dip”
[Fitch Ratings, 2015 Water Utilities Summary](#)

“Utilities with high volumetric rate structures are most at financial risk.”
[Fitch Ratings, 2015 Water Utilities Summary](#)

Londoner’s feeling “Water Boarded” by Rate Hikes.
[December, 2015, London Daily Mail](#)

“It’s helpful to measure everything.”
[Graham Dooley, Pres. Australian Water Association](#)

“Australia united behind conservation half-way into a 15 year drought. It’s like looking what the future could be for California.” [May, 2015 Scientific American](#)



Myth:

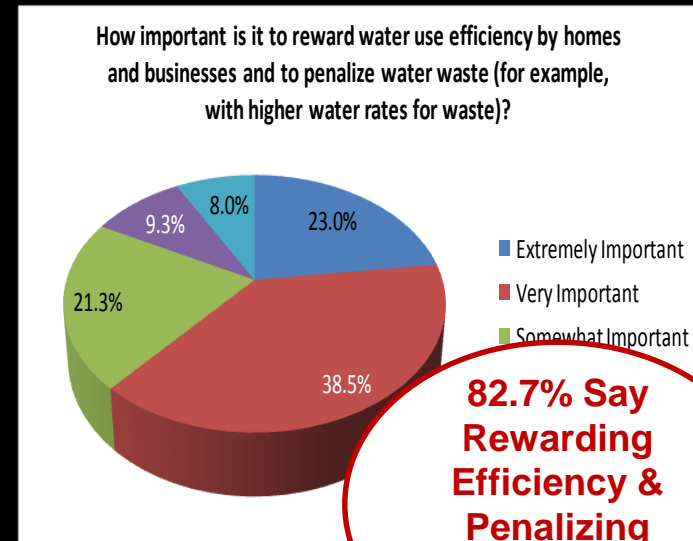
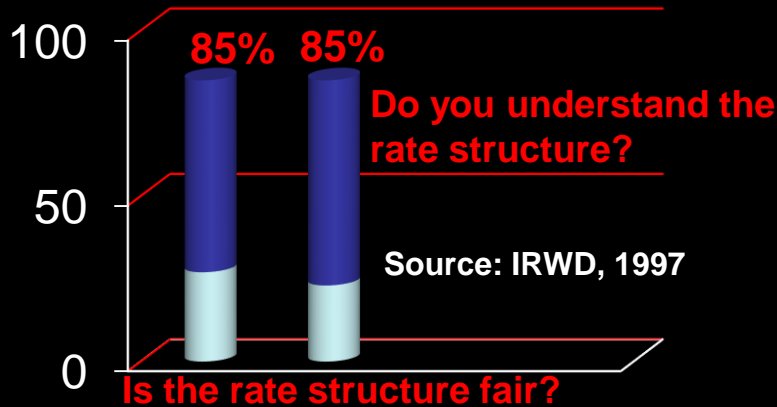
Legend, fable, folk lore, fiction, accepted as true, a story without author...

1. "It costs too much"
2. "It takes too much data"
3. "It's too hard"
4. High income users benefit
5. "One size does not fit all"
6. "It's too complicated and customer won't get it"



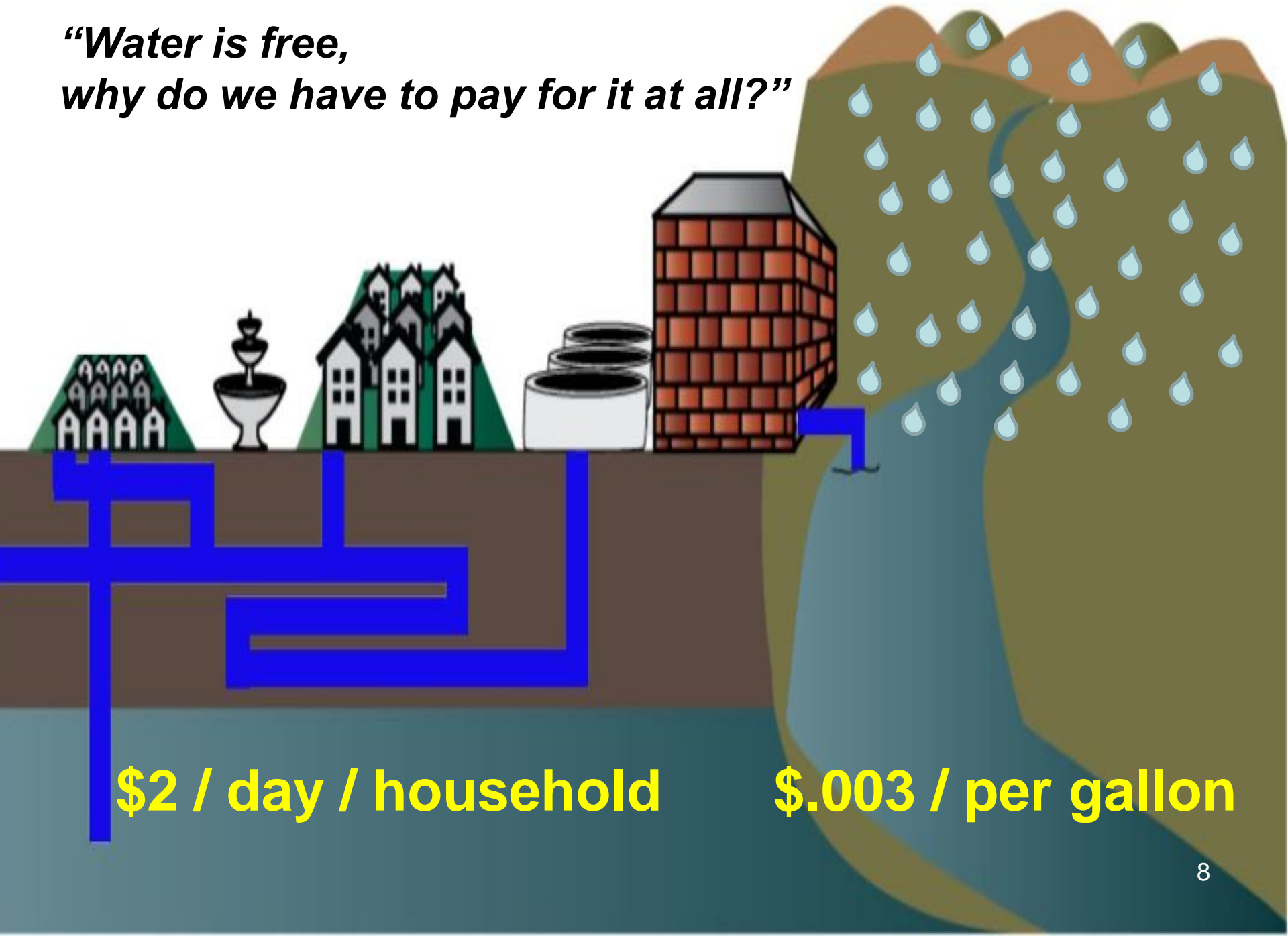
1. It costs less to change than to continue doing the same thing over and over again
2. Technology assists change
3. It does take work...
4. UC studies show the opposite
5. An individualized budget-based rate structure is by definition "proportional, fair, impartial" and is unique to the agency and their wide-range of customers
6. Customers "get it"

Myth: “Too Complicated for Customers”



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

***“Water is free,
why do we have to pay for it at all?”***

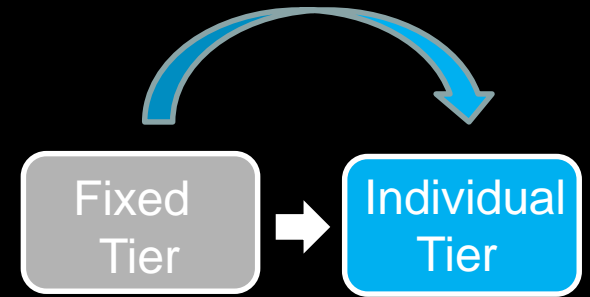


\$2 / day / household

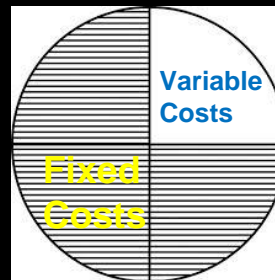
\$.003 / per gallon

What's the Difference?

- Customer Equity/Proportionality
- Build an “efficiency ethic” (education)
- **Revenue Stability with demand reductions**

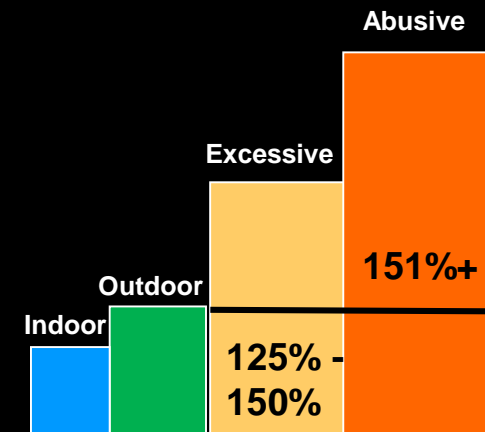
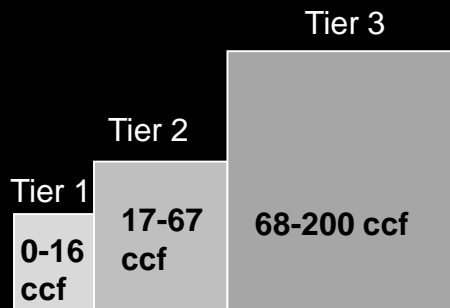


Fixed Tiers

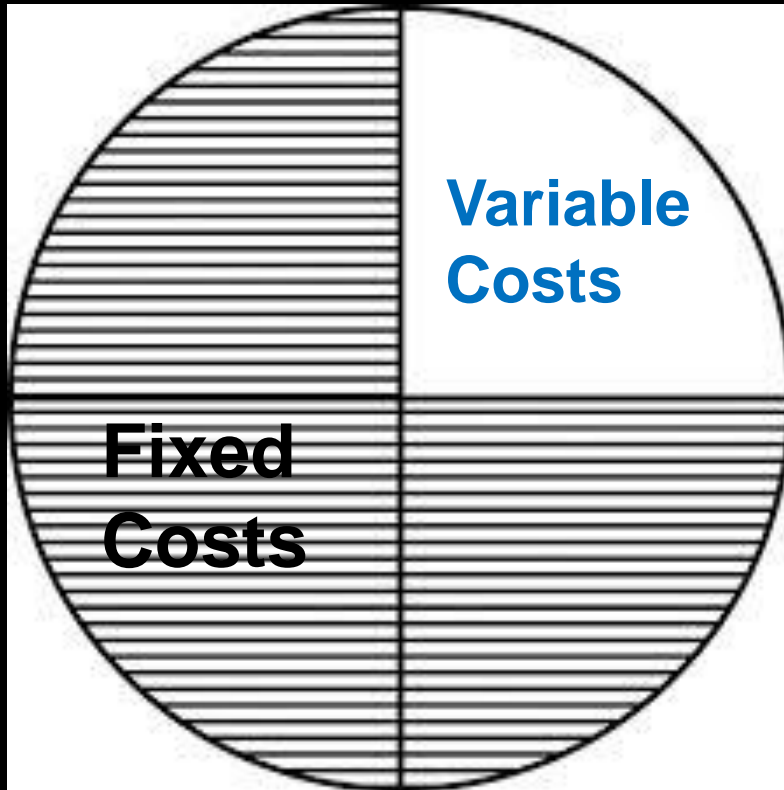


Service Fee

Individualized Tiers



Fixed & Variable Cost Recovery



Success = Matching Rate Design & the Agency Business

Why Change?

- ✓ Stop losing money when less water is used/sold!
- ✓ Create a water efficiency “ethic”!
- ✓ Be fair and equitable to customers!
- ✓ And...get us re-elected!

Irvine Ranch WD 1991

Western Municipal WD 2007/2011

Palmdale WD 2008

Coachella Valley WD 2008

Eastern Municipal WD 2009

City of Corona 2009

Rancho California WD 2010

Elsinore Valley WD 2010

El Toro WD 2011

Monte Vista WD 2011

Moulton Niguel WD 2011

East Valley WD 2015

Las Virgenes WD 2016

City of Redlands

City of Riverside

City of Chino

City of Hemet

Santa Margarita WD

City of Tustin

City of Rialto

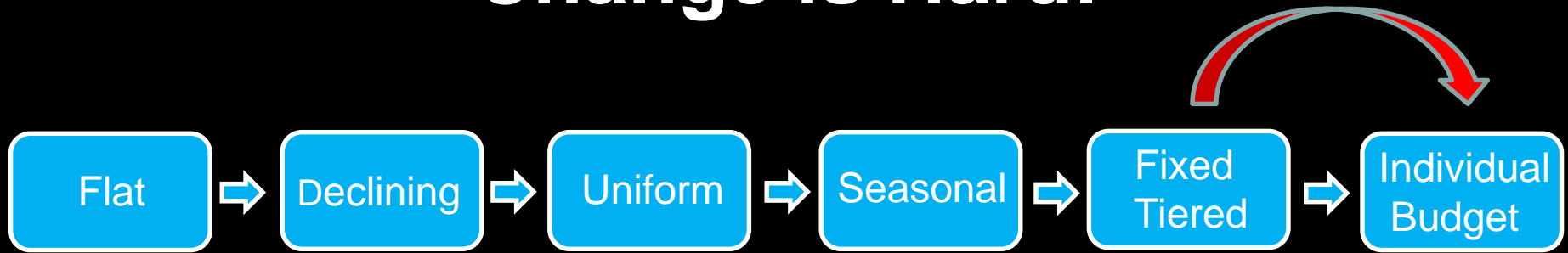
City of Garden Grove

City of Chino Hills

Cucamonga Valley WD

West Valley WD

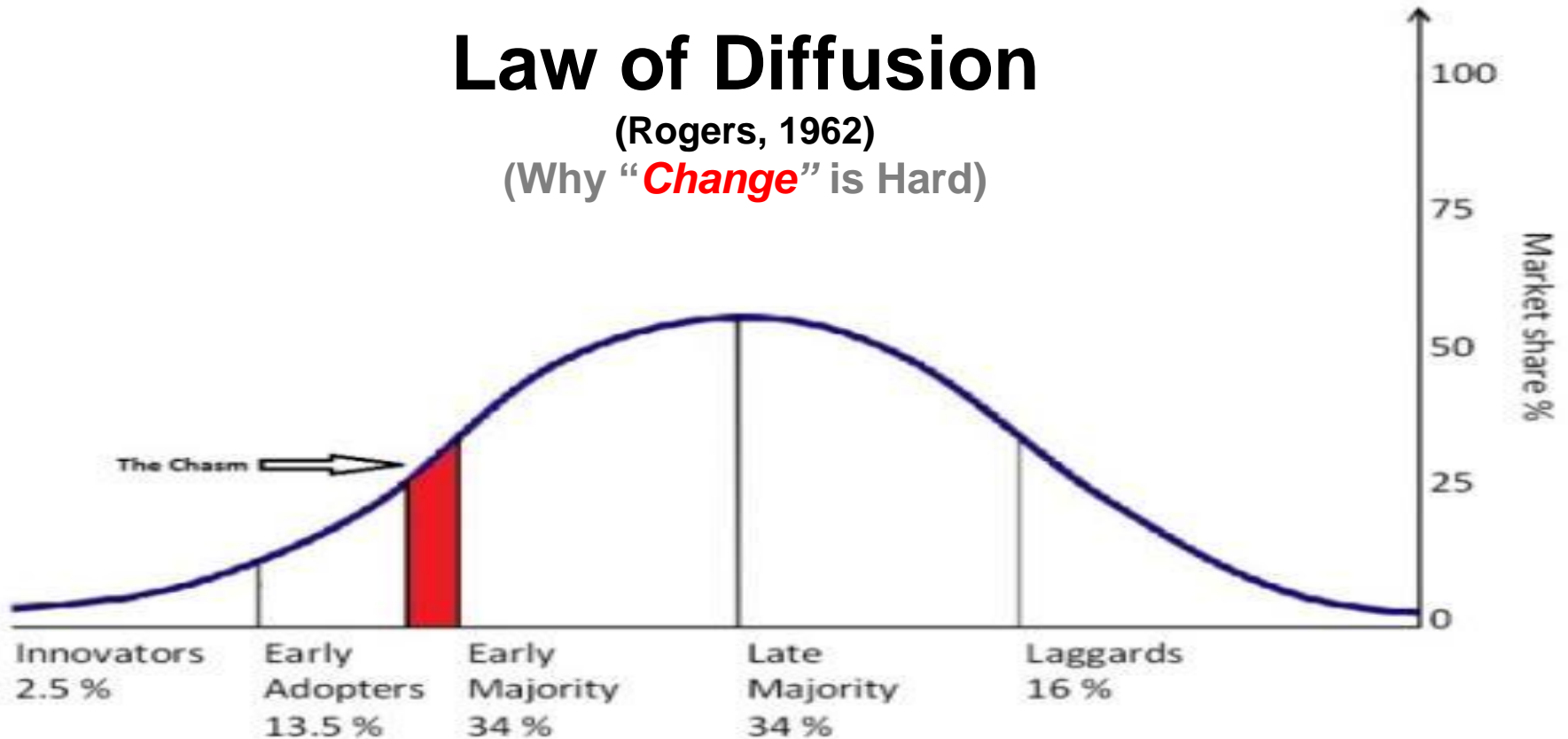
Change is Hard!



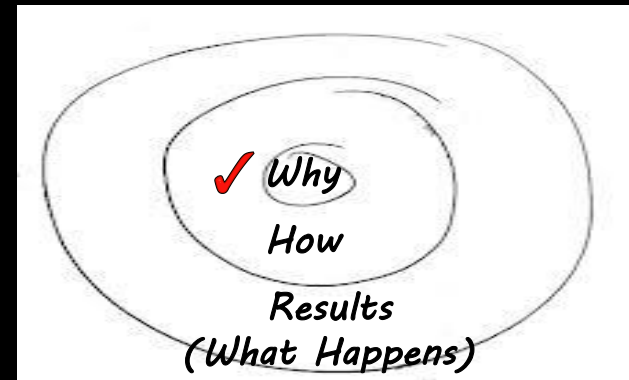
Law of Diffusion

(Rogers, 1962)

(Why “**Change**” is Hard)



How?



Process:

1. Internal questions
2. Board direction to staff
3. Staff engagement
4. Cost of service/rate study
5. Development of landscape square footage data
6. Development of local ET
7. Number of Residents
8. Development of Customer Allocations
9. Billing system review/upgrade
10. Policy review
11. Board review
12. Conduct outreach
13. Test the “system”
14. Public Hearing/Prop 218



Customer Allocations

State Efficiency Standards, Science and Customer Reality

$$\begin{array}{c} \text{Indoor} \qquad \qquad \qquad \text{Outdoor} \\ \text{(# Residents)} \quad (55 \text{ gpcd}) \quad + \quad (\text{ET}) \quad (\text{SF}) \quad (\text{ETAF}) = \text{Budget} \\ \swarrow \qquad \qquad \searrow \qquad \qquad \swarrow \qquad \qquad \nwarrow \\ \text{(Reality + State Standard)} + \text{(Science + Reality + State Standard)} = \text{Budget} \end{array}$$

Data



SBX7
(20 X 2020)

Data



AB 1881
(MWELO)

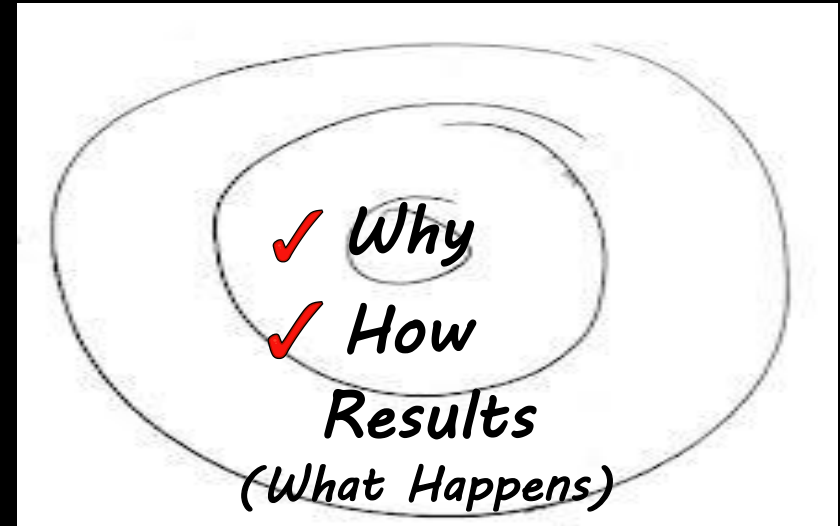
Data



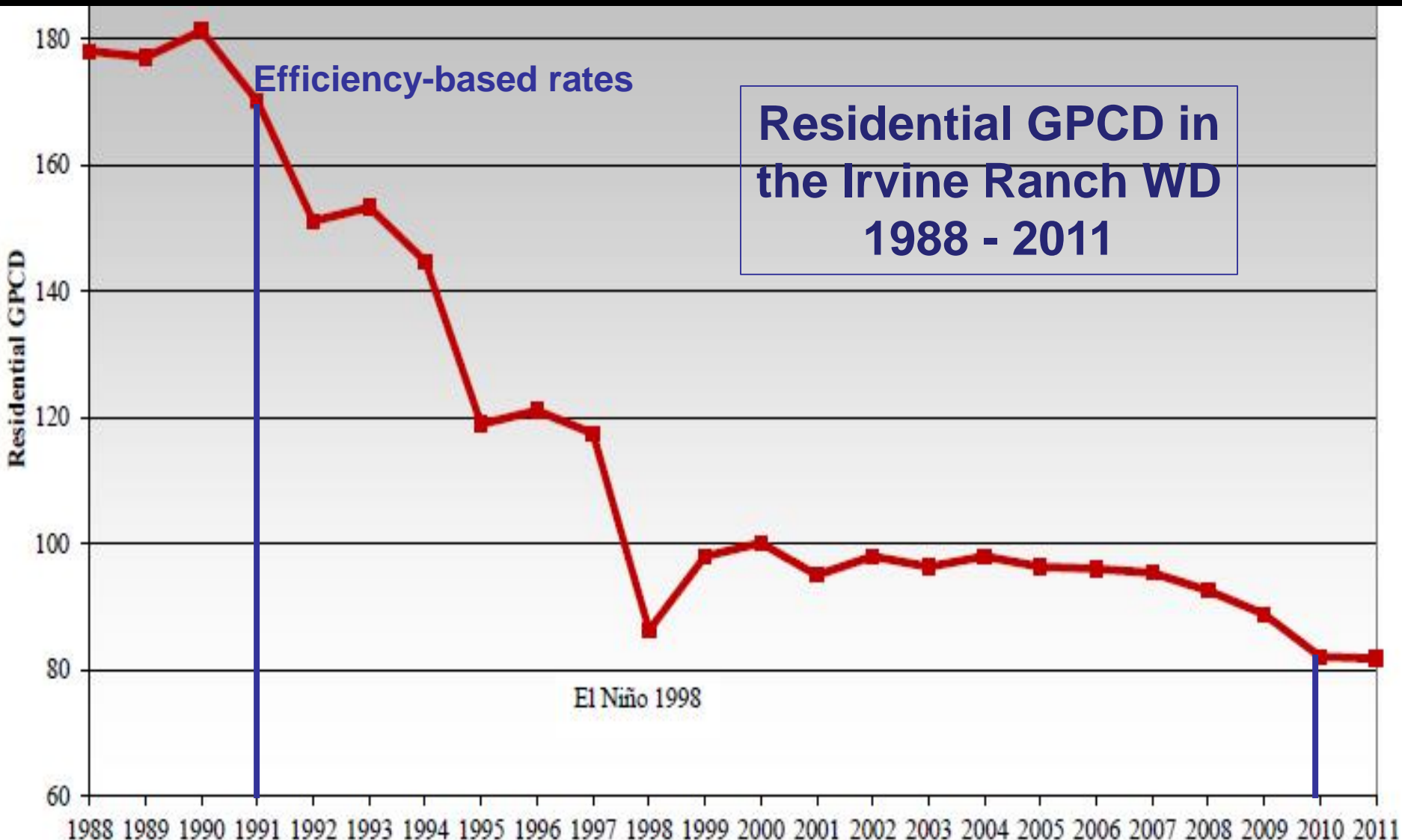
AB 1881
(MWELO)

How

- **Ask the tough questions**
 - What are the agencies fixed costs (%)?
 - What % do we recover on fixed charges?
 - What % of fixed costs are imbedded in tiers?
 - Do we lose money (fixed revenues) when less water is sold?
 - Are end-users happy with our rate structure?
 - Do we know who is efficient and who is inefficient with water?
 - How do we pay for conservation?
- **Get past “Why”**
- **Use existing State water use efficiency legislation**
- **Use technology for customer level data collection**
- **Establish a timeline / tasks...**
- **Take the accurate story of your business and those costs to provide our most vital resource to constituents**

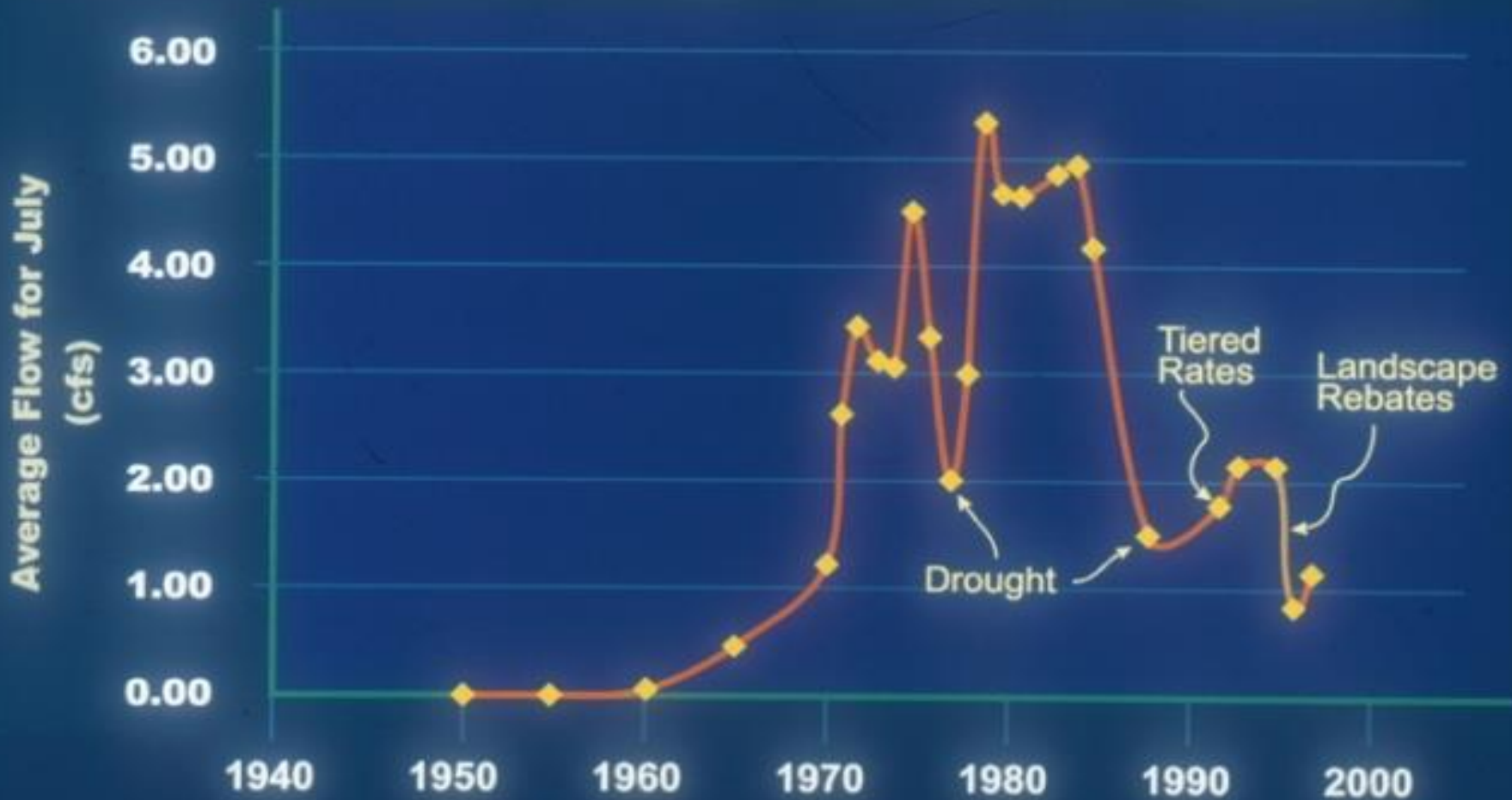


Results: Increased and Long-term Efficiency



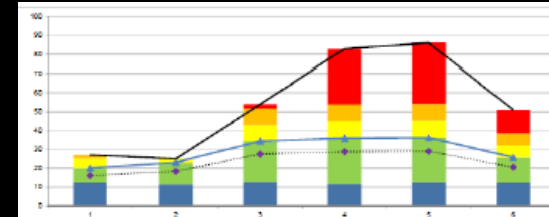
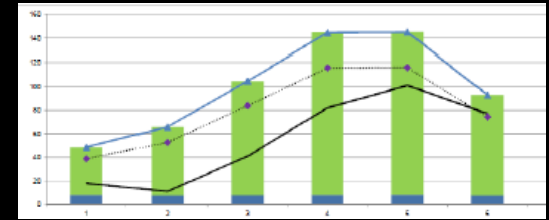
Results: Unforeseen Benefit

Flows in San Diego Creek at Culver



Results

- ***“Customers reduced use 15%, without a negative economic impact to the agency, and we have funding for conservation programs paid for by water wasters.”*** EMWD CFO
- ***“We recover 80% of our fixed costs on the fixed service charge. Our revenues are right where we estimated even with significant water savings.”*** RCWD Customer Service Mgr. (Now GM)
- ***(Western Municipal) “Healthy financial performance has continued strong in the face of a sharp decrease in water demand, economic stress and rising imported water costs. Margins remain healthy even with State mandates.”*** Fitch Ratings
- ***“People now pay attention to leaks and water waste.”*** Palmdale WD
- ***“92% of customers meet allocations. There are no negatives IF you take the time and educate the customers. We received 97% positive Prop 218 votes.”*** MNWD
- ***“This is the most important project I have done as GM in my time at the agency.”*** LVMWD GM



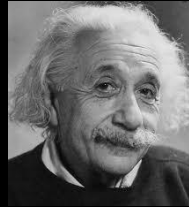
Resolve

- **Understand the business model that is needed to:**
 - Reward Efficient users
 - Penalize Over-users
 - Allocate water based on customer needs that match State efficiency legislation
 - Allocate water and costs “Proportionally”
 - Stabilize Revenue
 - Generate a funding source for Conservation
 - Improve Water Quality
 - Direct high water rates at the right consumers
 - Education consumers to what an agency does and what it costs
 - Give Elected officials an impartial, defensible position built upon existing State legislation
- **With “Data” and “Thinking Different” build the agency tool that meets agency objectives, and is flexible to changes with climate, legislation, customer needs...**



Conclusions:

<http://www.sawpa.org/owow/pa-22drought-project/conservation-based-rates/>



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



“A **Think Different** attitude enables our company to do things others could not even consider.”



“Boys we need to **Think Different.**” Billy Beane, Oakland A's (Moneyball)

*The "ART" of Revenue Recovery, Water Use
Efficiency and Customer Equity*

