

Drought Financial Management ***Drought Rates***

Board of Directors
August 12, 2014

Workshop Topics



Workshop 1 <i>Introduction</i>	Workshop 2 <i>Reserves</i>	Workshop 3 <i>Drought Rates</i>	Workshop 4 <i>Capital Plan</i>	Workshop 5 <i>Rates</i>
<ul style="list-style-type: none">• Strategic Plan Update• Review Financial Planning Model• How policies drive revenue requirements	<ul style="list-style-type: none">• Demand projections and variability• Funding drought costs• Fixed/variable revenues• Review/evaluate reserve policies	<ul style="list-style-type: none">• EBMUD drought rate history• Alternative drought rate structures• Pros/cons of alternative drought rate structures	<ul style="list-style-type: none">• CIP Projections• Review/evaluate capital investment policies• CIP funding: debt vs. cash• Debt Service Coverage Ratios• Seismic Improvement program	<ul style="list-style-type: none">• Develop Financial Forecast based on Workshops 1-3• Review preliminary results of Cost of Service study

Agenda



- Rep-cap of Workshop #2
- Developing a System of Drought Rates
- What are Neighboring Agencies Doing?
- Discussion and Consideration

Re-cap of Workshop #2

Drought Management Tools

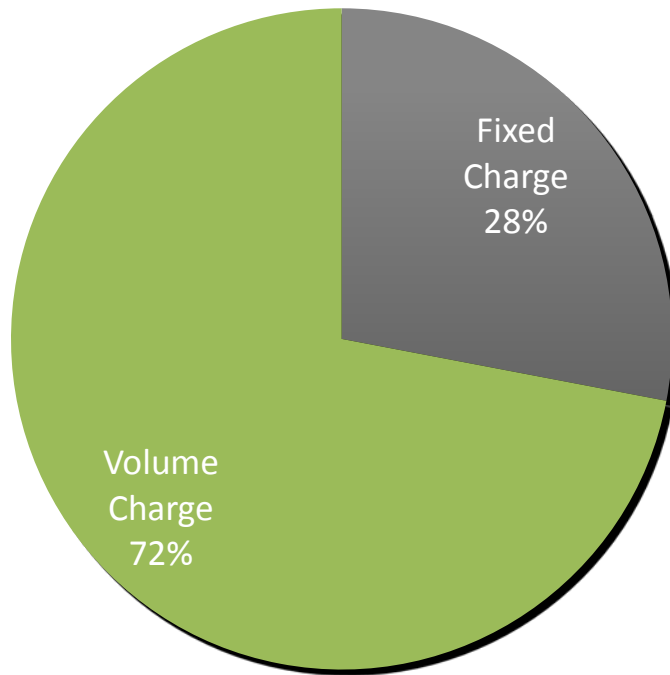


Supply/Demand Tools	Financial Tools
<ul style="list-style-type: none">• Voluntary conservation• Supplemental supplies (CVP, Placer, other)• Mandatory conservation	<ul style="list-style-type: none">• RSF• Rates<ul style="list-style-type: none">-Supplemental Supply Surcharge-Drought rates

Significant Financial Exposure to Sales

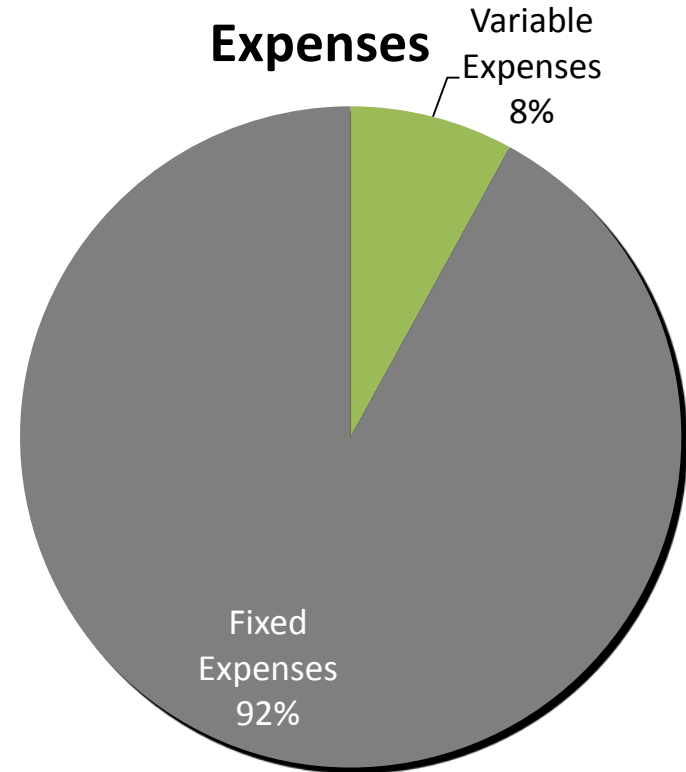


Revenues



- Fixed meter charge
- Volume charge

Expenses



- Variable Operating Expenses – electricity, chemicals, disposal
 - Fixed Operating Expenses – labor, equipment, materials
 - Excludes other fixed expenses such as debt service and capital investment
- 6

Financial Impact of Drought

Impact by Year



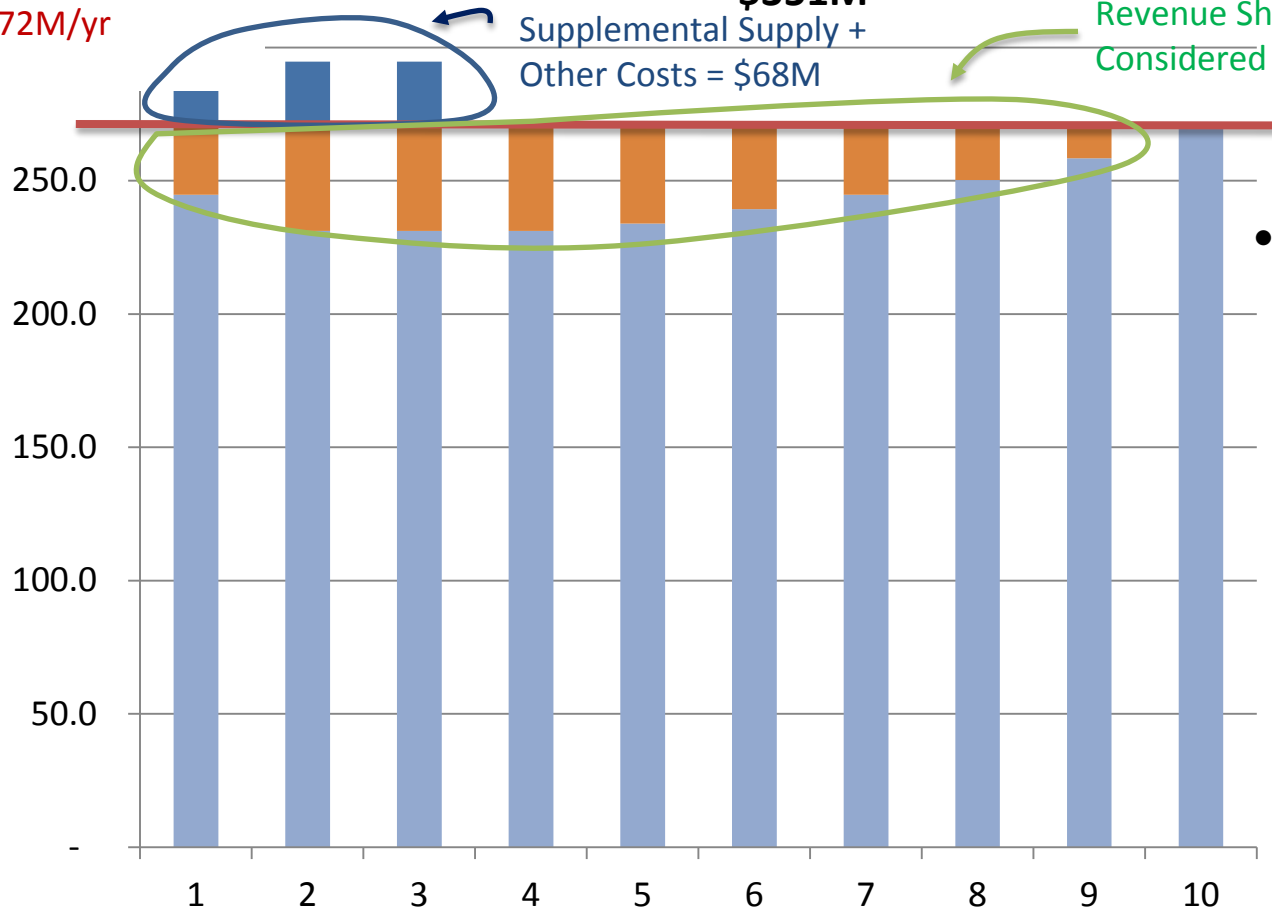
Normal Expenses
Continue @
\$272M/yr

Costs During Drought and Drought Recovery

\$351M

Supplemental Supply +
Other Costs = \$68M

Revenue Shortfall
Considered a Cost = \$283M



- Half of costs are post-drought loss of sales due to 'drought tail'

■ Supplemental Supply Costs
■ Reduced Revenue "Costs"
■ Rate Revenue

Financial Tools

Short-Term and Long-Term Considerations



Short-Term

- Depending on severity and duration of drought, current RSF may not be sufficient to meet needs
- Deploy additional tools
 - Supplemental Supply Surcharge in FY15
 - Develop drought rates for FY16 and FY17

Long-Term

- RSF not sized to handle a multi-year drought event
- Supplemental Supply Surcharge may inhibit optimal water supply decisions
- A larger RSF could
 - Help manage through a multi-year event
 - Support optimal water supply decisions
 - Mitigate volatility in drought rates

Schedule Considerations



Board Direction
on Drought Rate
Approach

August –Sept 2014

Incorporate into
regular rate
process

Complete COS- Nov 2014
218 Notice – April 2015
Effective July 2015

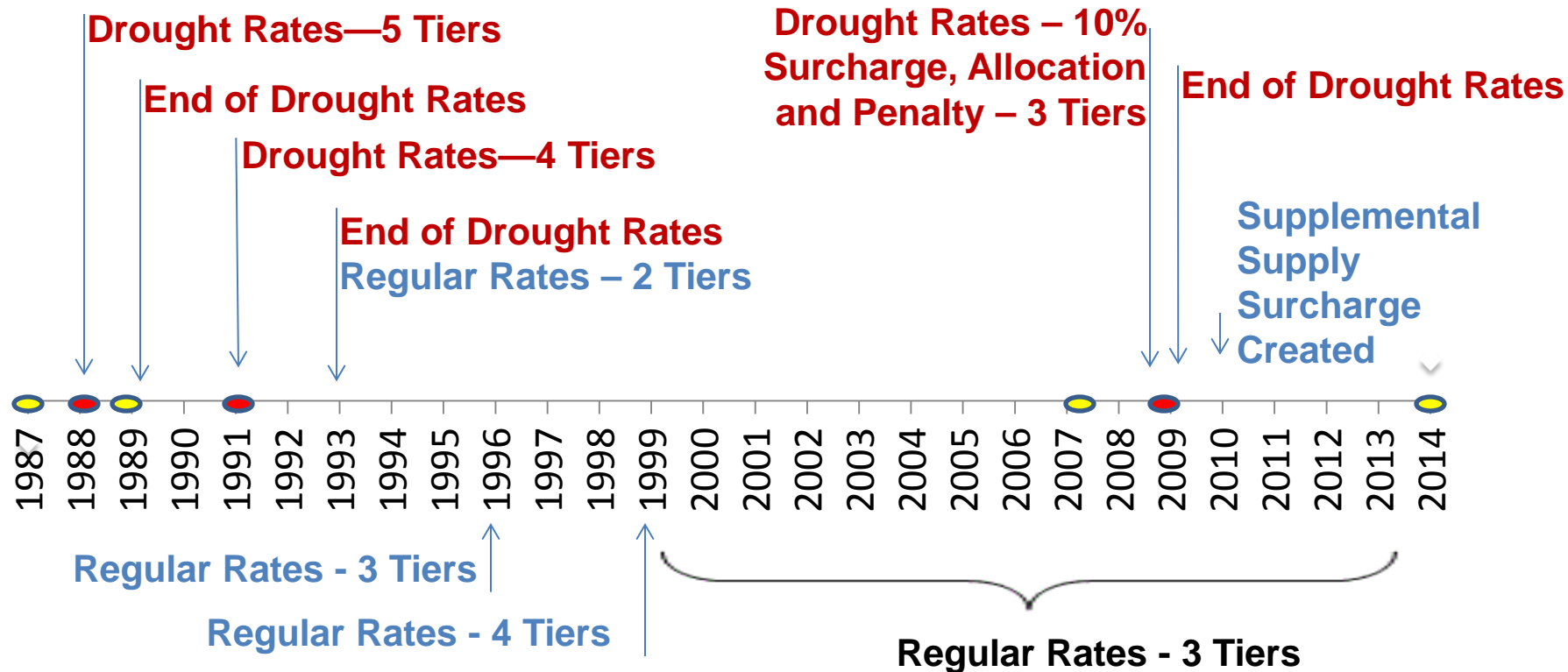
Developing a System of Drought Rates

History of Recent Regular and Drought Rates



1987-1994 Drought

2007-2010 Drought



- Yellow circle = Voluntary Conservation
- Red circle = Mandatory Conservation

Drought Rate and Regular Rate Have Converged Over Time



Fiscal Year	SFR Regular Rate Structure
1975	Declining
1986	Flat
1993	Inclining – 2 Tier
1996	Inclining – 4 Tier
1999	Inclining – 3 Tier

Current District Water Rate Structure

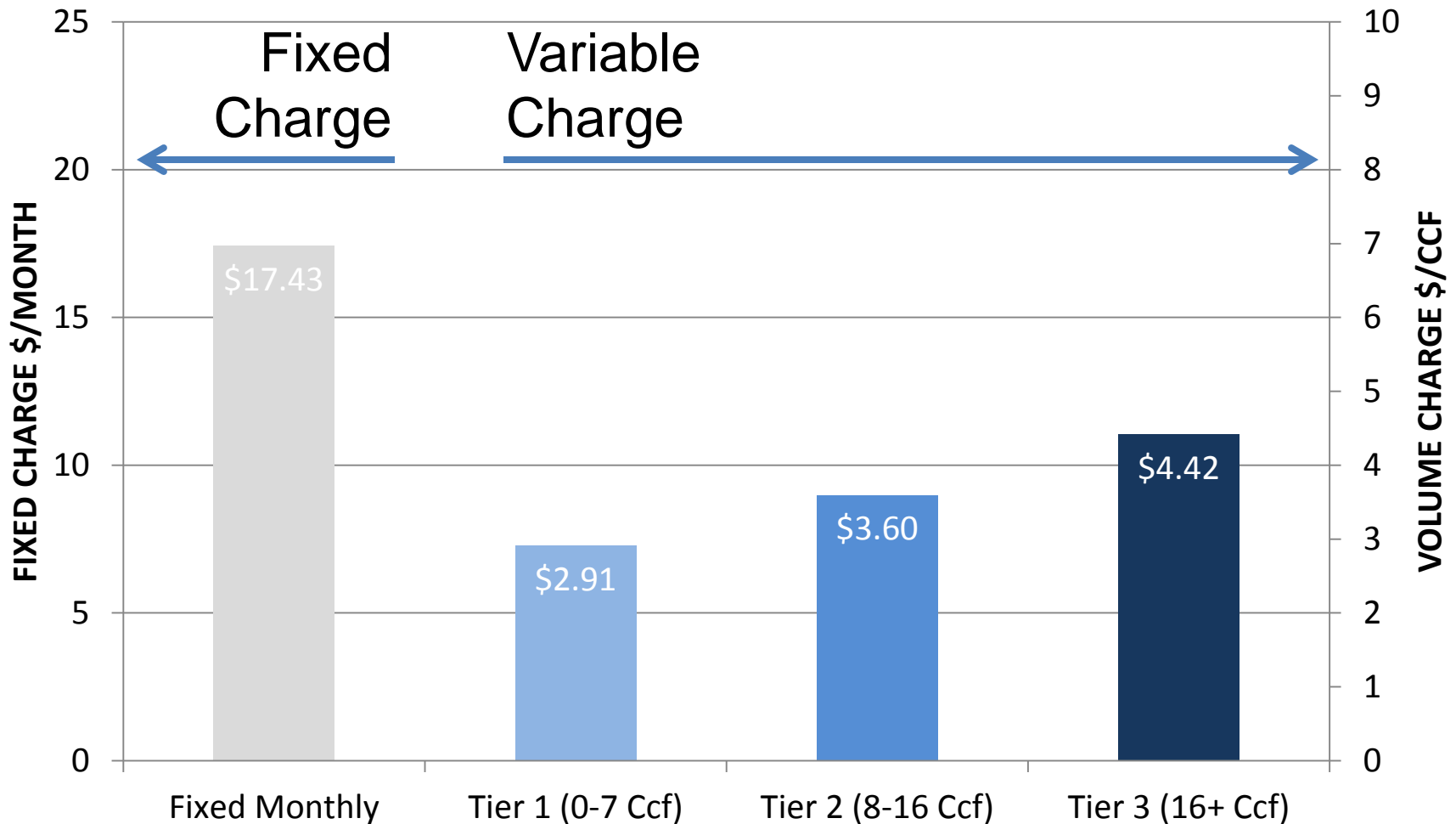


- Has four customer classes:
 - SFR, MFR, Commercial/Industrial, Non-potable
- Use a combination of a Fixed Meter and Variable Charges to recover revenue
 - SFR: uses an Inclining Tier Structure
 - 3 tier structure for SFR class
 - Tier 1 representing average indoor water use
 - Others: uses a Flat Commodity Charge

Current District SFR Rates



CURRENT FY15 RATES



Current Rate Structure vs Policy Considerations



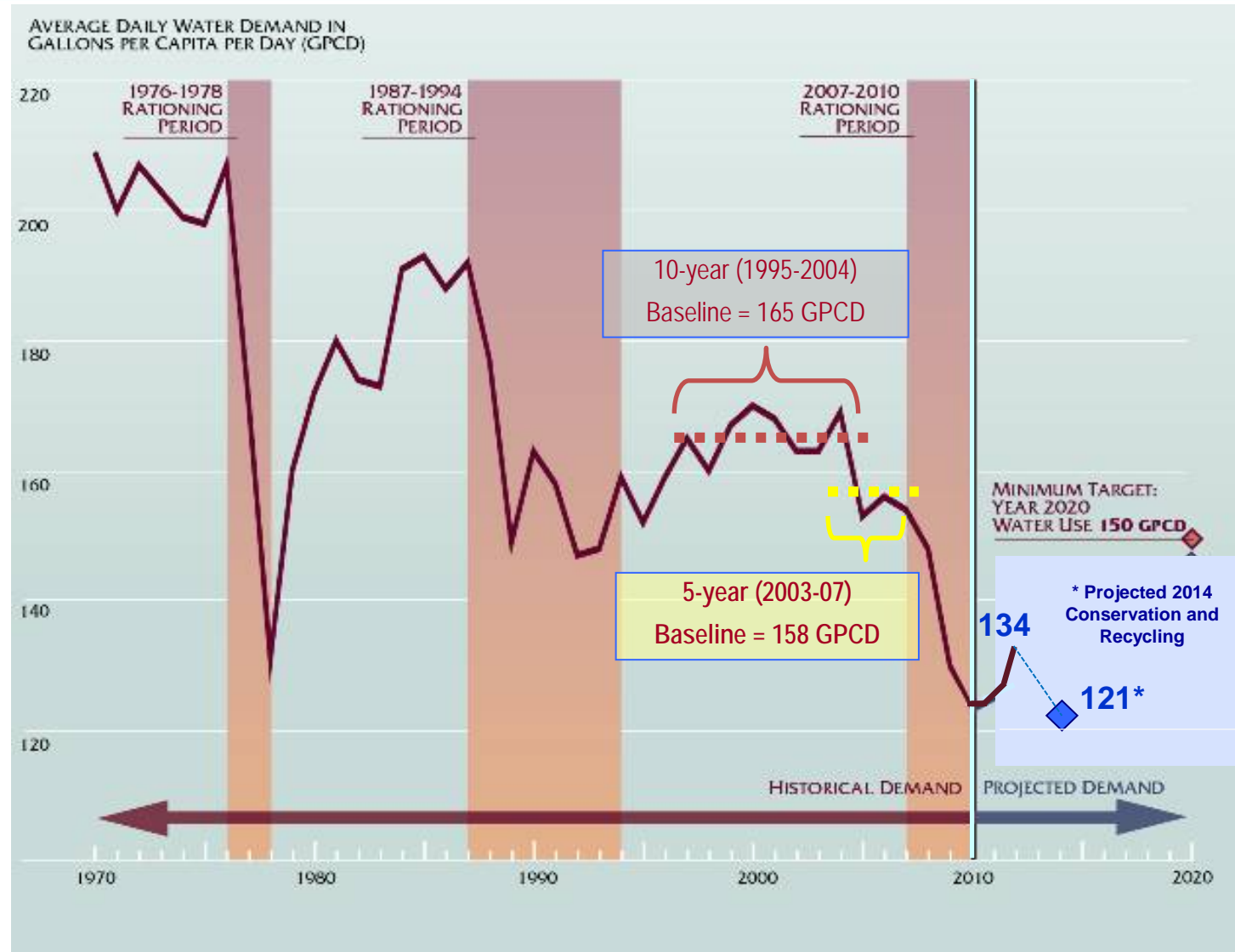
Policy Considerations

- Reliably recover sufficient revenue
- Encourage water use efficiency and provide economic incentive to conserve
- Easy to understand
- Perceived as equitable
- Implementable and manageable

Current Structure

- Revenue sufficient
- Encourages efficient SFR use and tier efficiency as price increases at each tier breakpoint
- Familiar to customers
- Recognizes SFR indoor water-use
- In-place

Historical Average Per Capita Use



Some Observations



- Current rate structure does a good job incentivizing conservation
- Need a system of Drought rates and charges to replace emergency driven, reactive response

Features of a Staged System of Drought Rates



- Adopted in advance of drought
- Progressive response to a range of water supply conditions
- Encourage water use efficiency
- Easy to understand/message
- Meets District's financial needs

Staged System of Drought Rates



Stage	0	1	2	3	4
Demand Reduction		Voluntary 0-15%	Voluntary 0-15%	Mandatory 15%	Mandatory $\geq 15\%$
Supplemental Supplies			Up to 35 TAF	Up to 65 TAF	Up to 65 TAF
Rates and Charges	Normal rates	Normal rates	Normal rates; and Supplemental supply surcharge	Normal rates; and TBD	Normal rates; and TBD

- Moves through stages as severity of drought conditions increase
- Recovers growing drought costs with a progressive series of surcharges

How Do We Want to Recover Our Drought Costs?



- Three basic approaches:
 - Recover all costs on Fixed Charge
 - Recover all costs on Variable Charge
 - Some combination of Fixed and Variable

Drought Surcharge Options



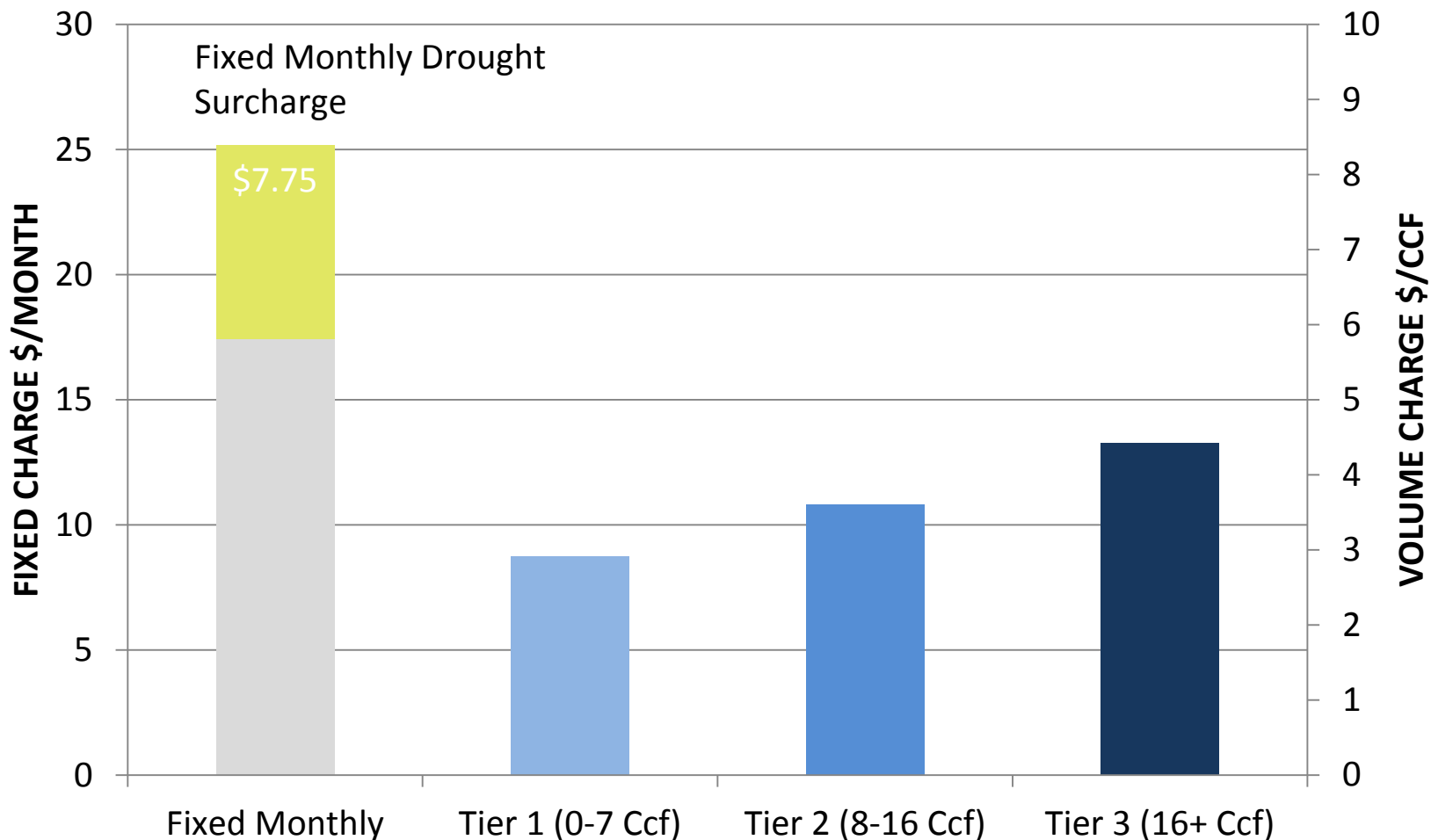
- | | | |
|-----|-------------------------------|---|
| 1 - | Fixed Surcharge | Collects all drought costs by meter size |
| 2 - | Uniform Commodity Surcharge | Increases all tiers proportionally |
| 3 - | Inclining Commodity Surcharge | Makes tiers 'steeper' to further incentive conservation |
| 4 - | Water Budget | Uses allocations to incentivize efficient water use |

1 - Fixed Surcharge

Recovers Drought Costs on Fixed Charge



FIXED MONTHLY SURCHARGE

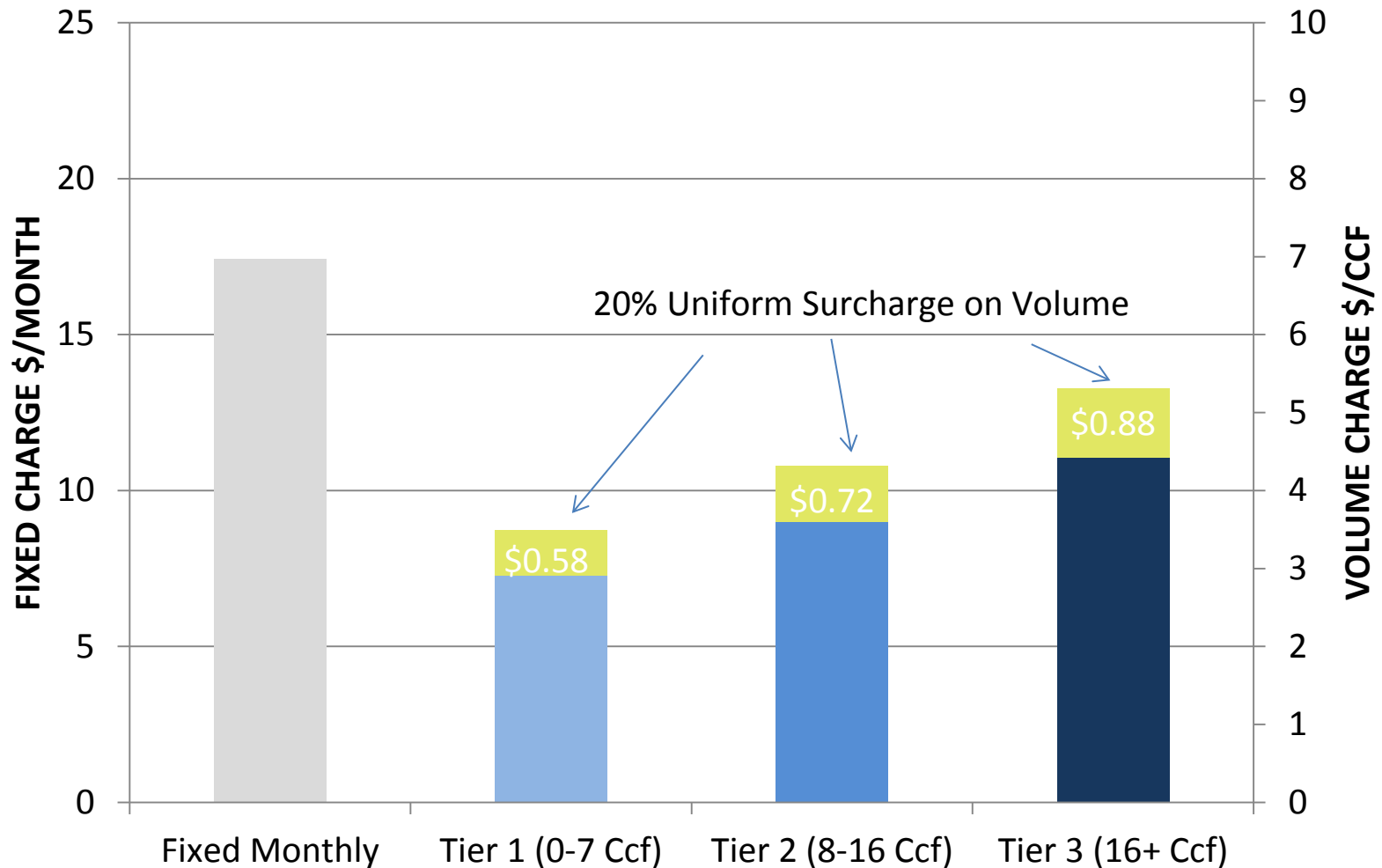


2 - Uniform Commodity Surcharge

Recovers Drought Costs on Volume Charge Increase



UNIFORM SURCHARGE ON VOLUME

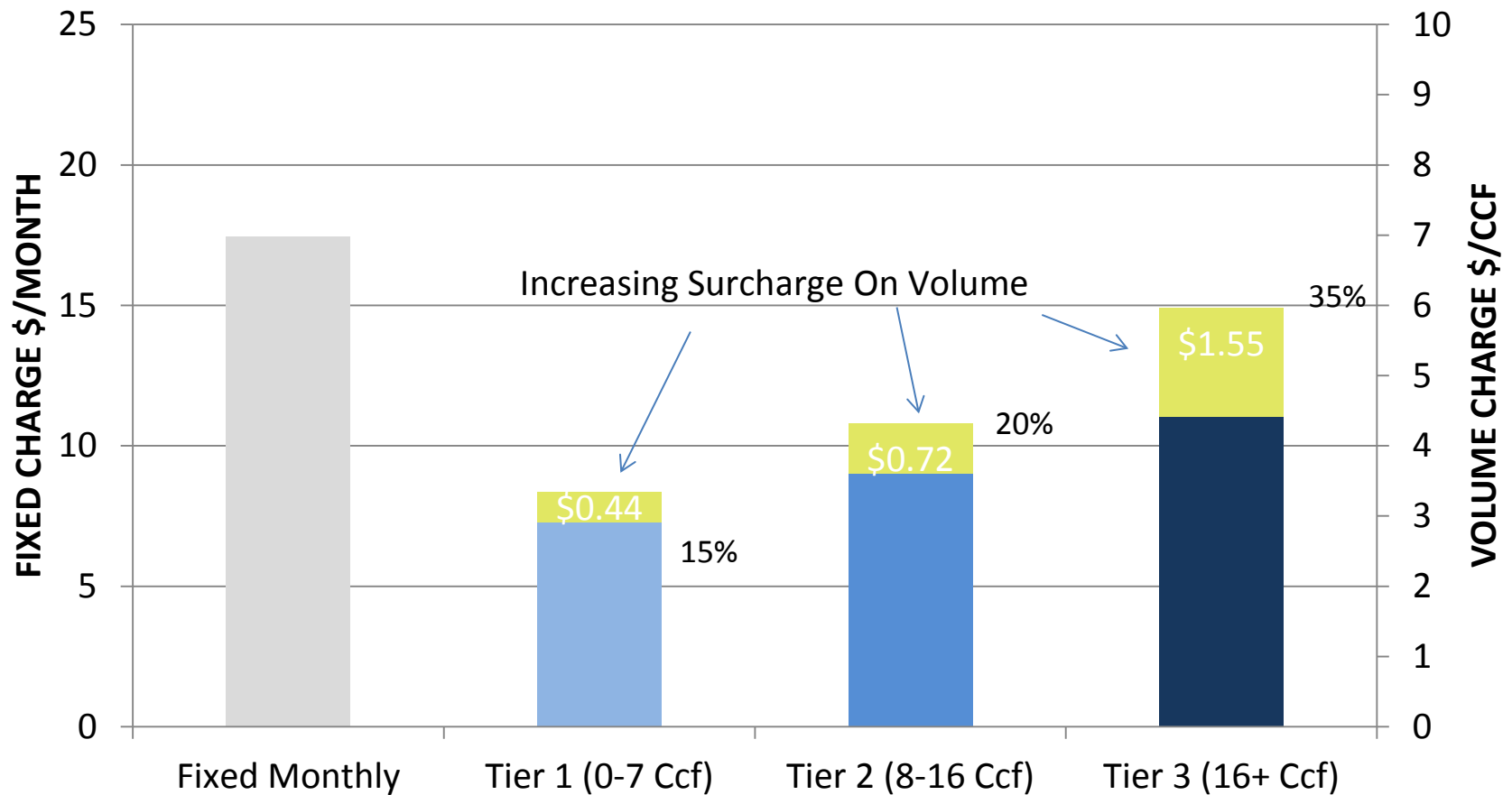


3 - Inclining Commodity Surcharge



Recovers Drought Costs on Steeper Tiers

INCREASING SURCHARGE ON VOLUME



4 - Water Budget

Individual Tiers for Each Customer



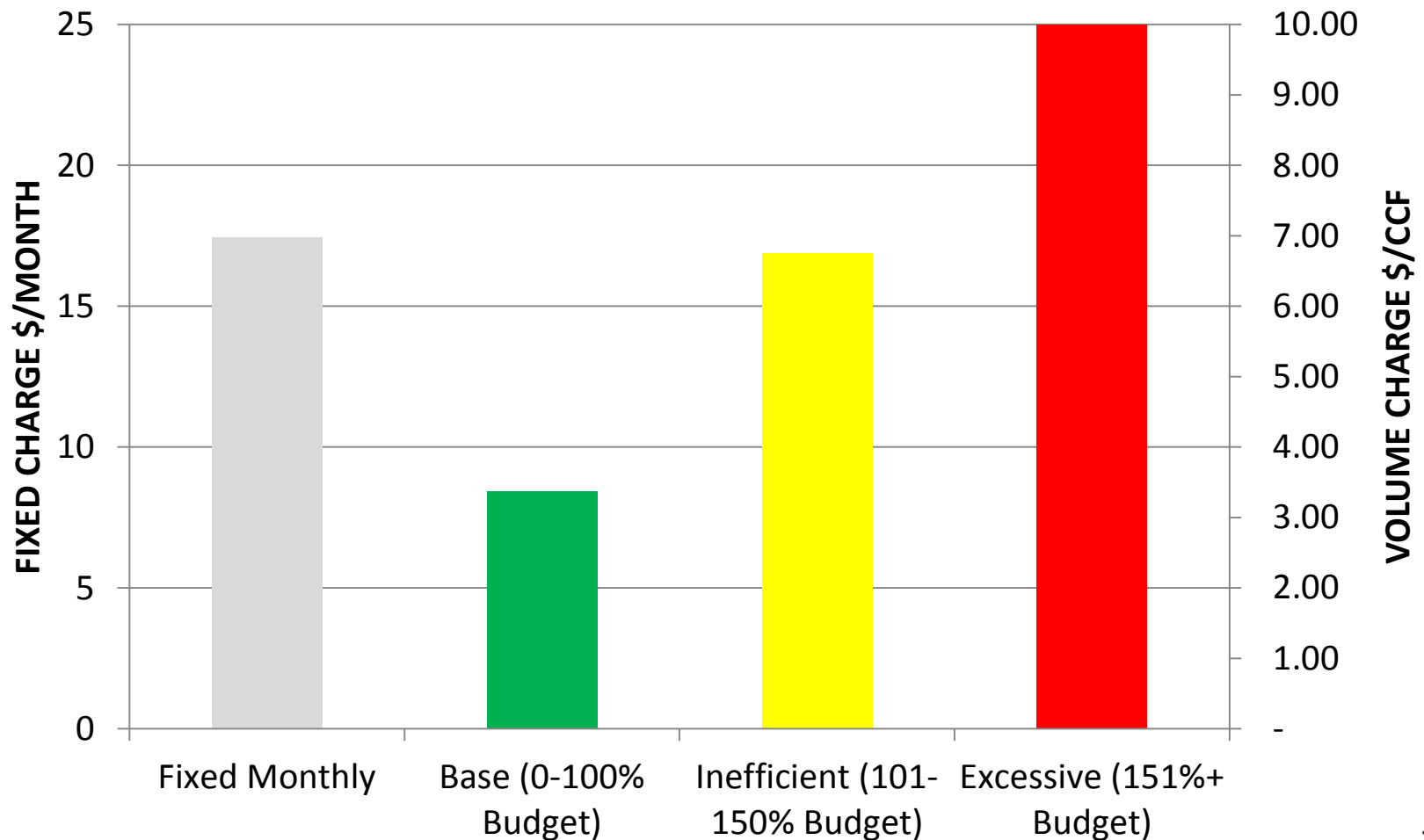
- Would be developed as a regular non-drought rate structure
 - Budget is set for each individual customer account
 - Budget is based on factors decided in non-drought periods which could be household occupancy, lot size, evapo-transpiration rate, etc.
 - Can be seasonal and vary from month to month
 - Budgets could be modified to reflect drought condition
 - Say, 15% reduction to base use and/or 50% reduction to outdoor budget

4 - Water Budget

Individual Tiers for Each Customer



Water Budget Non Drought

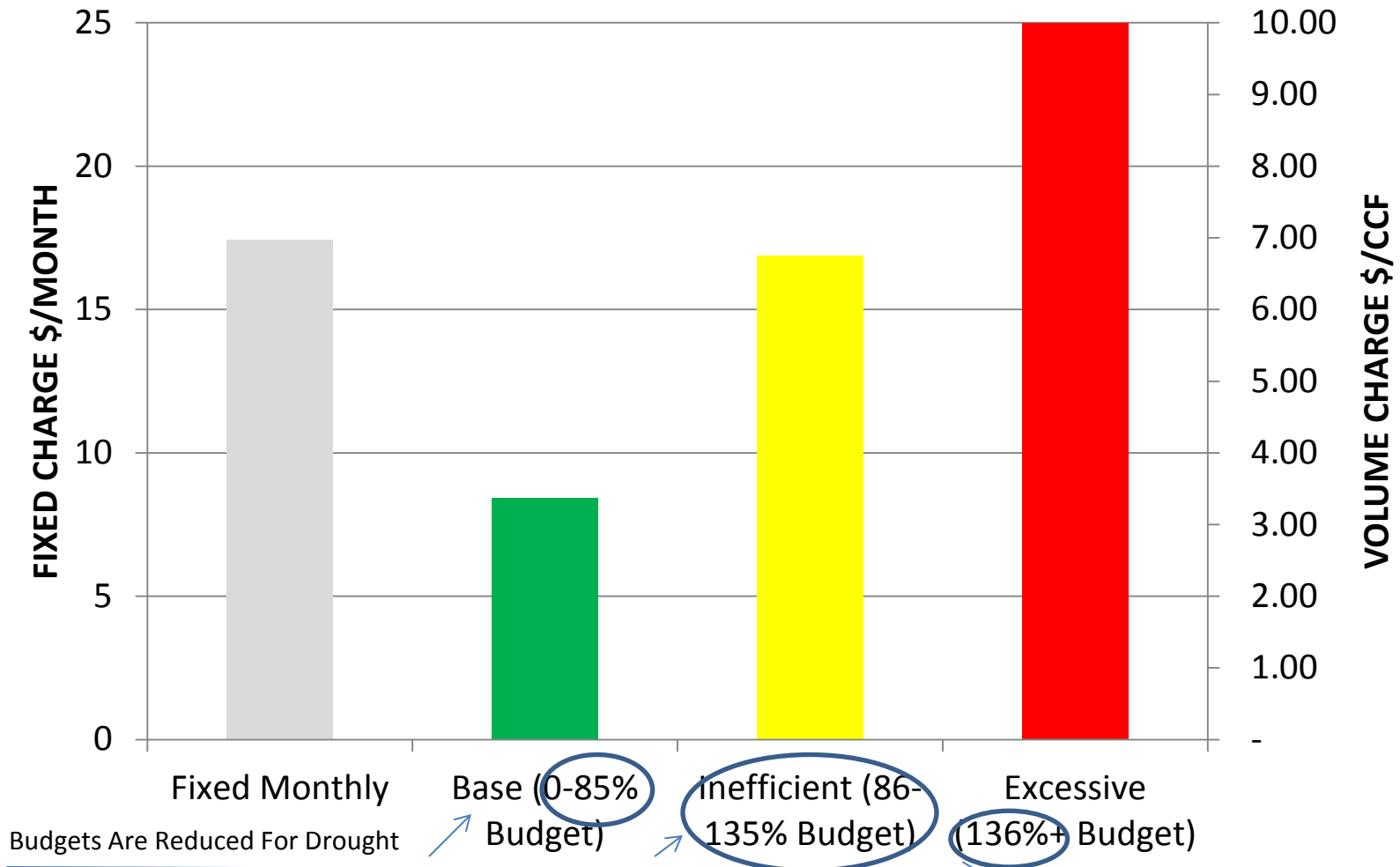


5 - Water Budget

Individual Tiers for Each Customer Reduced



Water Budget Drought Rates



4 - Water Budget

Experience with Water Budget Rate Structure



- Irvine Ranch Water District
 - Regular rate structure is Water Budget
 - Generally has homogenous SFR usage – master planned community
- San Diego
 - Reviewed Water Budget structure; mixed reviews
 - 90% of SFR homes in pilot were w/in efficient budget
 - Initial implementation and on-going maintenance costs were high

Summary of Drought Rate Surcharge Options



	Promote Water User Efficiency and Economic Incentive to Conserve	Revenue Predictability
Fixed Surcharge	+	+++
Uniform Commodity Surcharge	++	++
Inclining Commodity Surcharge	+++	+

Fixed, Uniform Commodity, and Inclining Bill Impacts



		SFR Bill Impacts BASIC DROUGHT SURCHARGE OPTIONS								
FY15		OPTION 1 FIXED			OPTION 2 UNIFORM 20%			OPTION 3 INCLINING		
Monthly Consump CCF	Bill	Surcharge	Total Bill	%	Surcharge	Total Bill	%	Surcharge	Total Bill	%
4	\$29.07	\$7.75	\$36.82	26.7%	\$2.32	\$31.39	8.0%	\$1.76	\$30.83	6.1%
7	\$37.80	\$7.75	\$45.55	20.5%	\$4.06	\$41.86	10.7%	\$3.08	\$40.88	8.1%
10	\$48.60	\$7.75	\$56.35	15.9%	\$6.22	\$54.82	12.8%	\$5.24	\$53.84	10.8%
20	\$87.88	\$7.75	\$95.63	8.8%	\$14.06	\$101.94	16.0%	\$15.76	\$103.64	17.9%
30	\$132.08	\$7.75	\$139.83	5.9%	\$22.86	\$154.94	17.3%	\$31.26	\$163.34	23.7%
50	\$220.48	\$7.75	\$228.23	3.5%	\$40.46	\$260.94	18.4%	\$62.26	\$282.74	28.2%

Staged System of Drought Rates



Stage	0	1	2	3	4
Demand Reduction		Voluntary 0-15%	Voluntary 0-15%	Mandatory 15%	Mandatory $\geq 15\%$
Supplemental Supplies			Up to 35 TAF	Up to 65 TAF	Up to 65 TAF
Rates and Charges	Normal rates	Normal rates	Normal rates; and Supplemental supply surcharge (replaced w/uniform drought surcharge)	Normal rates; and Uniform drought surcharge; or Fixed and uniform drought surcharge	Normal rates; and Uniform drought and penalty surcharges

- Moves through stages as severity of drought conditions increase
- Recovers growing drought costs with a progressive series of surcharges
- Address excessive use through penalty surcharge

Discussion and Consideration



- Drought surcharges for Stages 3 and 4
- Review bill impacts for Stage 3 options
 - Uniform drought surcharge
 - Fixed and uniform drought surcharge
- Review bill impacts for Stage 4 options
 - Uniform and penalty drought surcharges
 - Penalty surcharge of \$2.00/CCF applied to units over 60 CCF/month
 - Two Inclining drought surcharges (steepening tiers)

Stage 3 – Mix of Fixed and Uniform Commodity Options



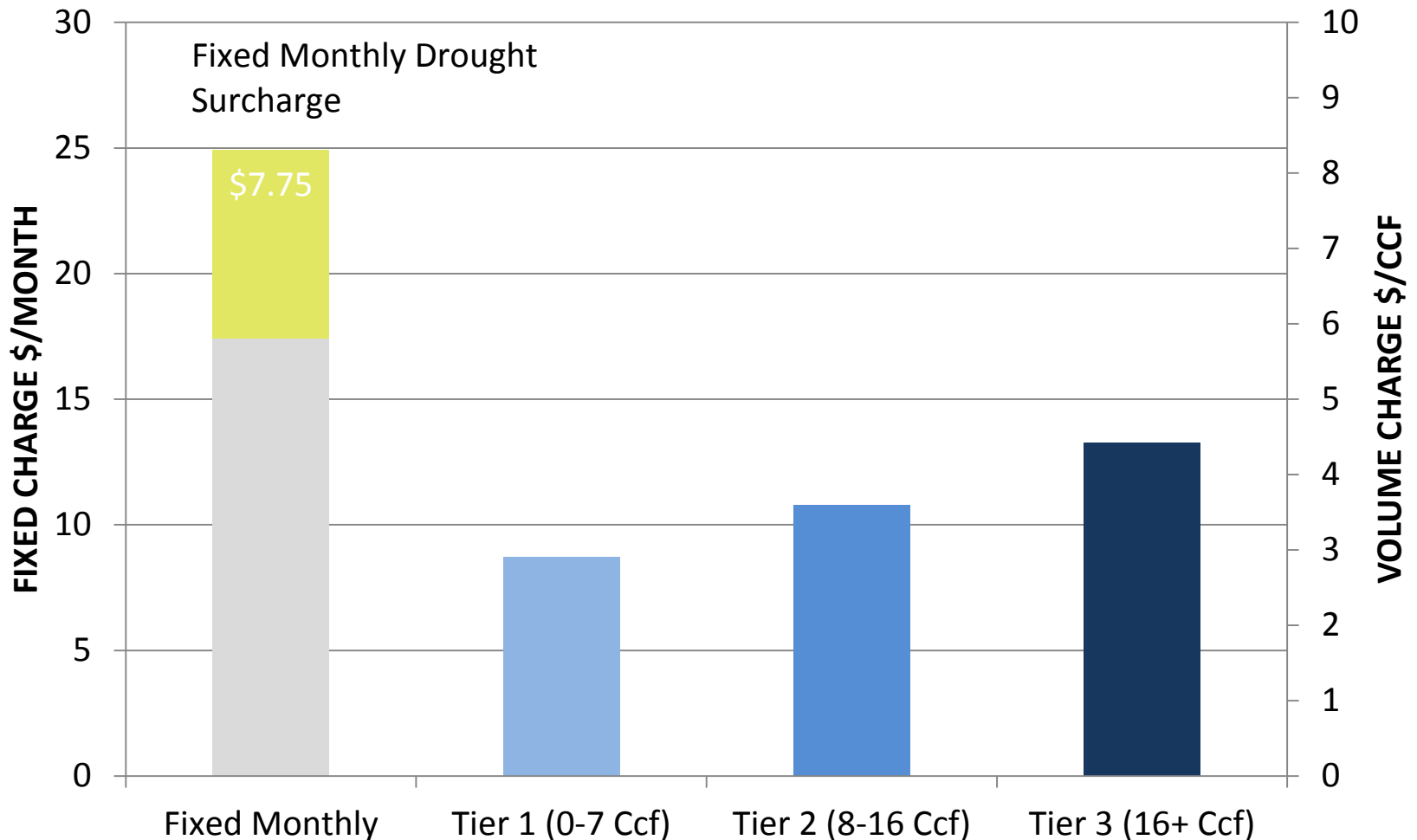
Review a Mix of Fixed and Uniform Commodity Options

100% Recovery on Fixed Surcharge

Recovers Drought Costs on Fixed Charge



FIXED MONTHLY SURCHARGE

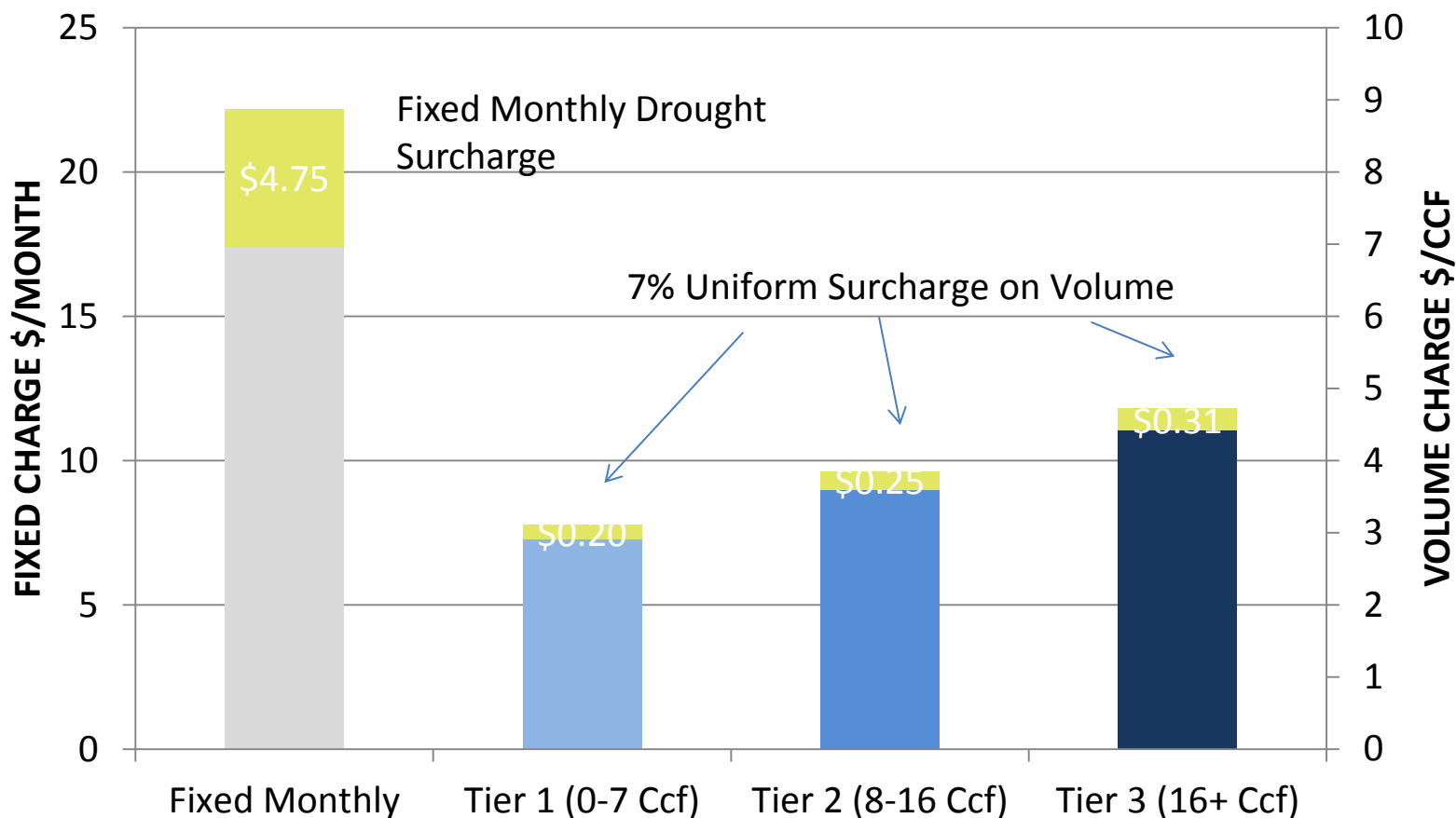


60% Recovery on Fixed Surcharge

40% Recovery on Volume Surcharge



60%/40% RECOVERY ON FIXED/VOLUME SURCHARGE

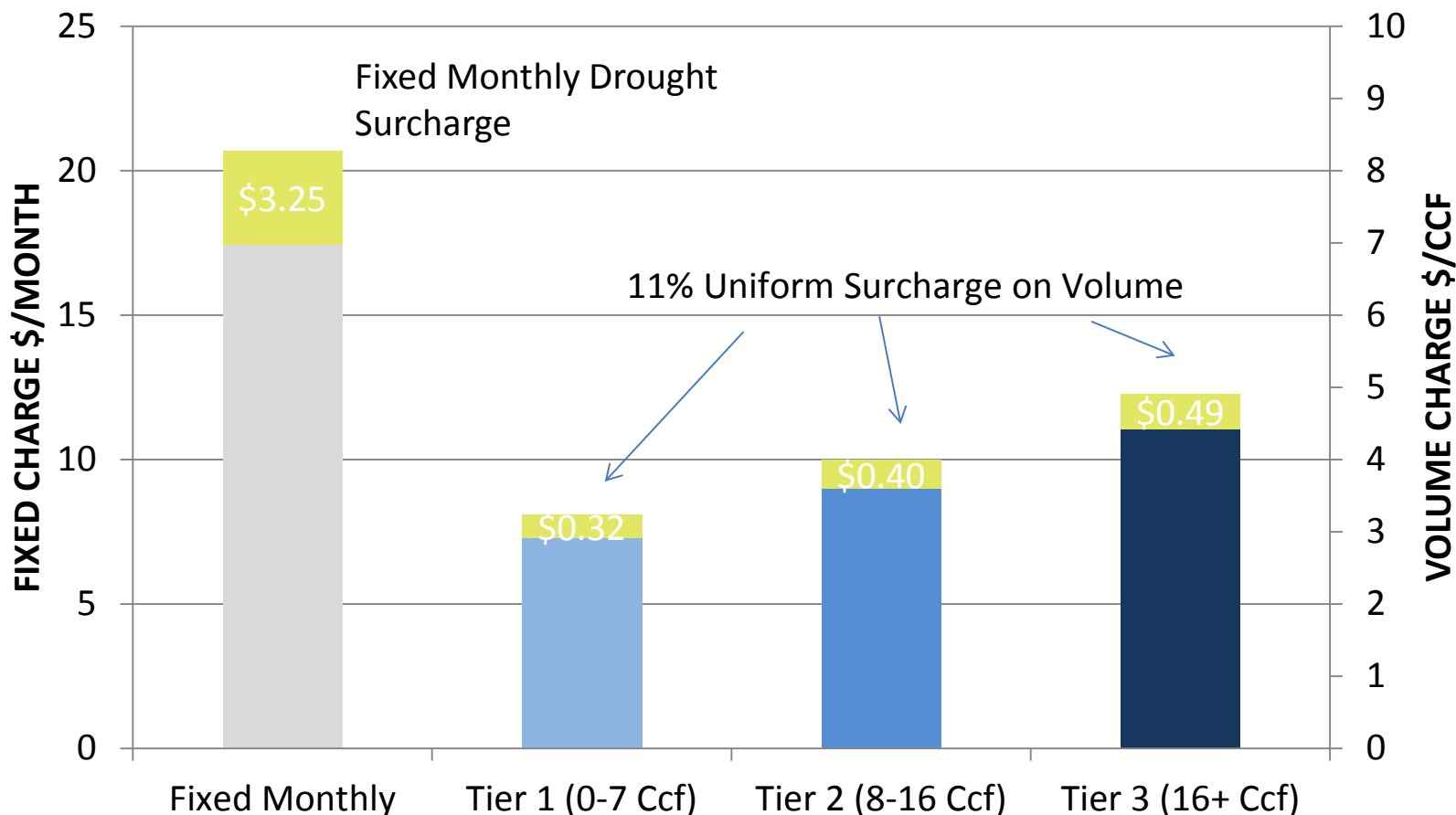


40% Recovery on Fixed Surcharge

60% Recovery on Volume Surcharge



40%/60% RECOVERY ON FIXED/VOLUME SURCHARGE

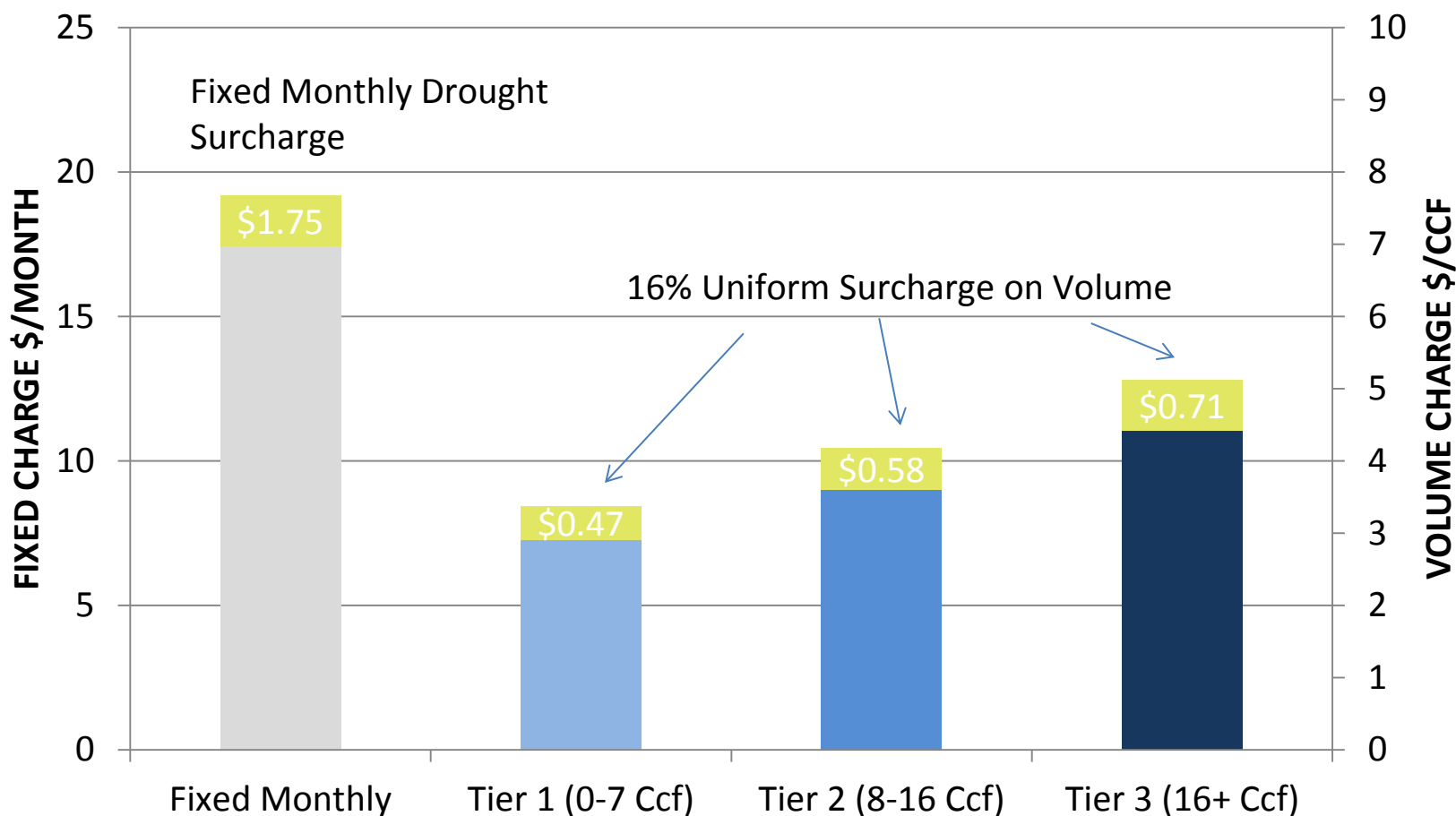


20% Recovery on Fixed Surcharge

80% Recovery on Volume Surcharge



20%/80% RECOVERY ON FIXED/VOLUME SURCHARGE

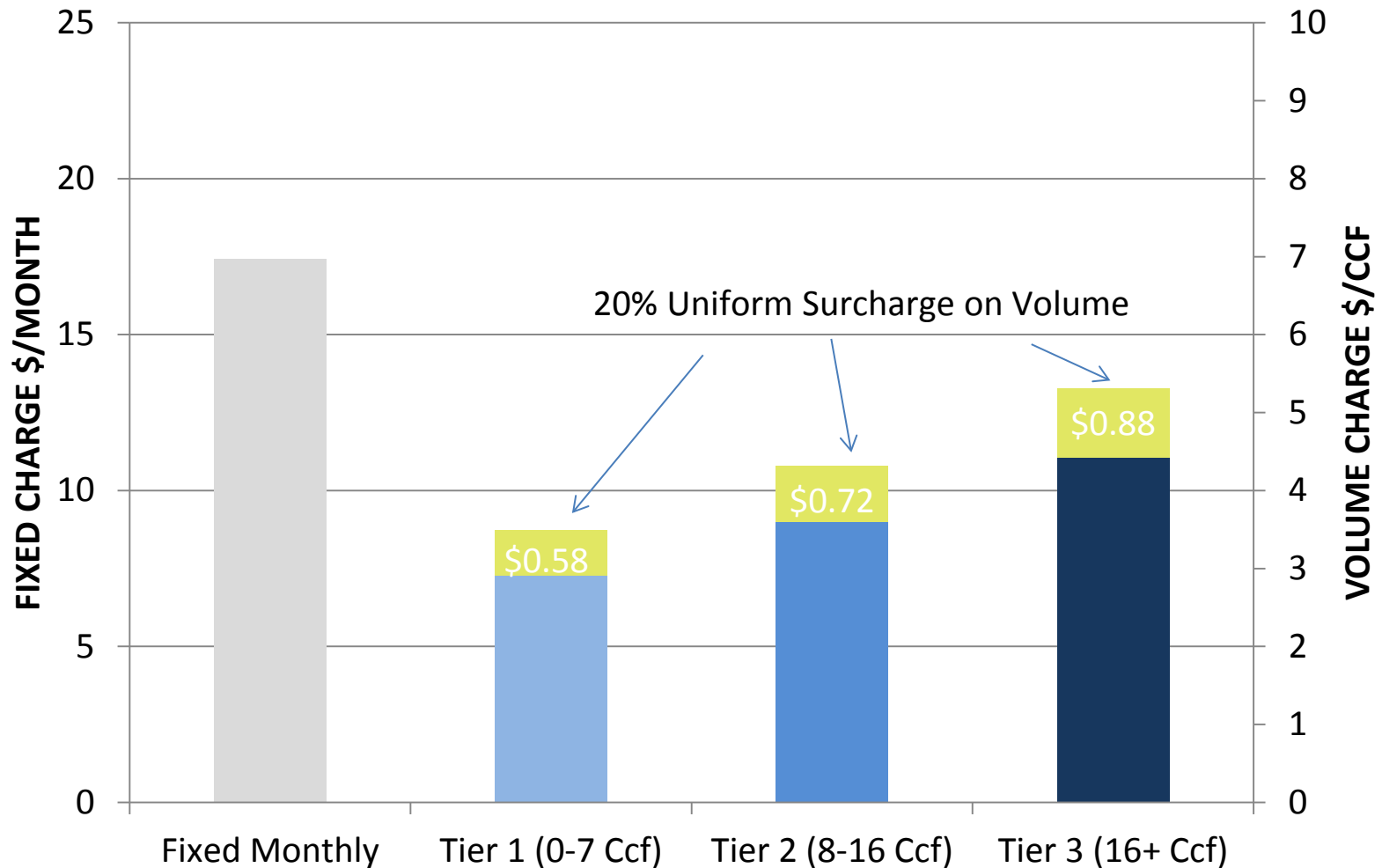


0% Recovery on Fixed Surcharge

Recovers Drought Costs on Volume Charge Increase



UNIFORM SURCHARGE ON VOLUME



Fixed/Variable SFR Bill Impacts



SFR Bill Impacts MIX OF FIXED/VARIABLE DROUGHT SURCHARGE OPTIONS

FY15		100/0			60/40			40/60			20/80			100/0		
Monthly Consump CCF	Bill	Surcharge	Total Bill	%	Surcharge	Total Bill	%	Surcharge	Total Bill	%	Surcharge	Total Bill	%	Surcharge	Total Bill	%
4	\$29.07	\$7.75	\$36.82	26.7%	\$5.55	\$34.62	19.1%	\$4.53	\$33.60	15.6%	\$3.63	\$32.70	12.5%	\$2.32	\$31.39	8.0%
7	\$37.80	\$7.75	\$45.55	20.5%	\$6.15	\$43.95	16.3%	\$5.49	\$43.29	14.5%	\$5.04	\$42.84	13.3%	\$4.06	\$41.86	10.7%
10	\$48.60	\$7.75	\$56.35	15.9%	\$6.90	\$55.50	14.2%	\$6.69	\$55.29	13.8%	\$6.78	\$55.38	14.0%	\$6.22	\$54.82	12.8%
20	\$87.88	\$7.75	\$95.63	8.8%	\$9.64	\$97.52	11.0%	\$11.05	\$98.93	12.6%	\$13.10	\$100.98	14.9%	\$14.06	\$101.94	16.0%
30	\$132.08	\$7.75	\$139.83	5.9%	\$12.74	\$144.82	9.6%	\$15.95	\$148.03	12.1%	\$20.20	\$152.28	15.3%	\$22.86	\$154.94	17.3%
50	\$220.48	\$7.75	\$228.23	3.5%	\$18.94	\$239.42	8.6%	\$25.75	\$246.23	11.7%	\$34.40	\$254.88	15.6%	\$40.46	\$260.94	18.4%

Recovering greater share of drought costs on fixed surcharge results in higher percentage impact on low users with smaller bills.

Stage 4 – Uniform Commodity + Penalty Drought Surcharge



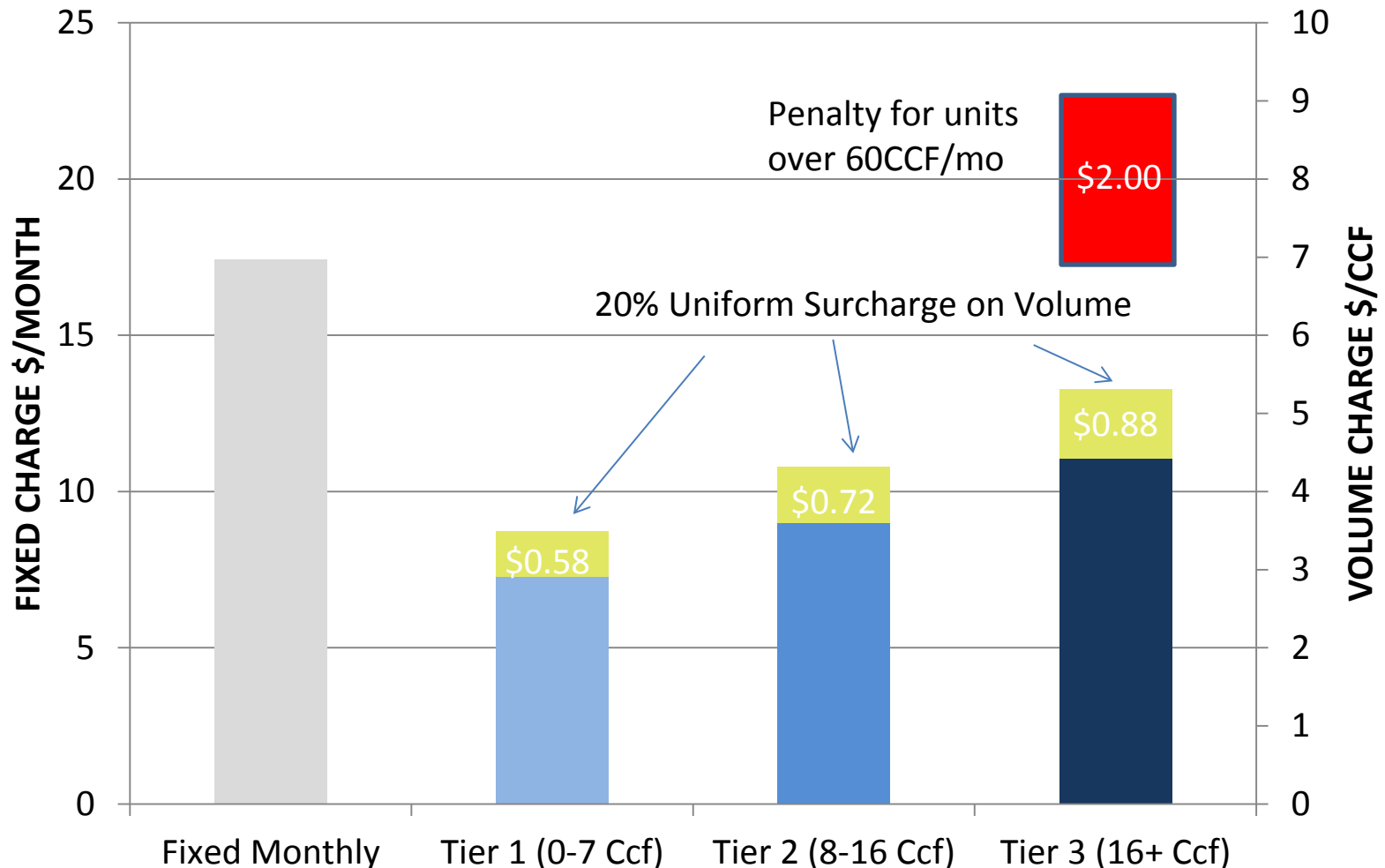
Review Uniform Commodity with Penalty
Drought Surcharge

2 - Uniform Commodity Surcharge

Recovers Drought Costs on Volume Charge Increase



UNIFORM SURCHARGE ON VOLUME



Stage 4 – Inclining Tier Options



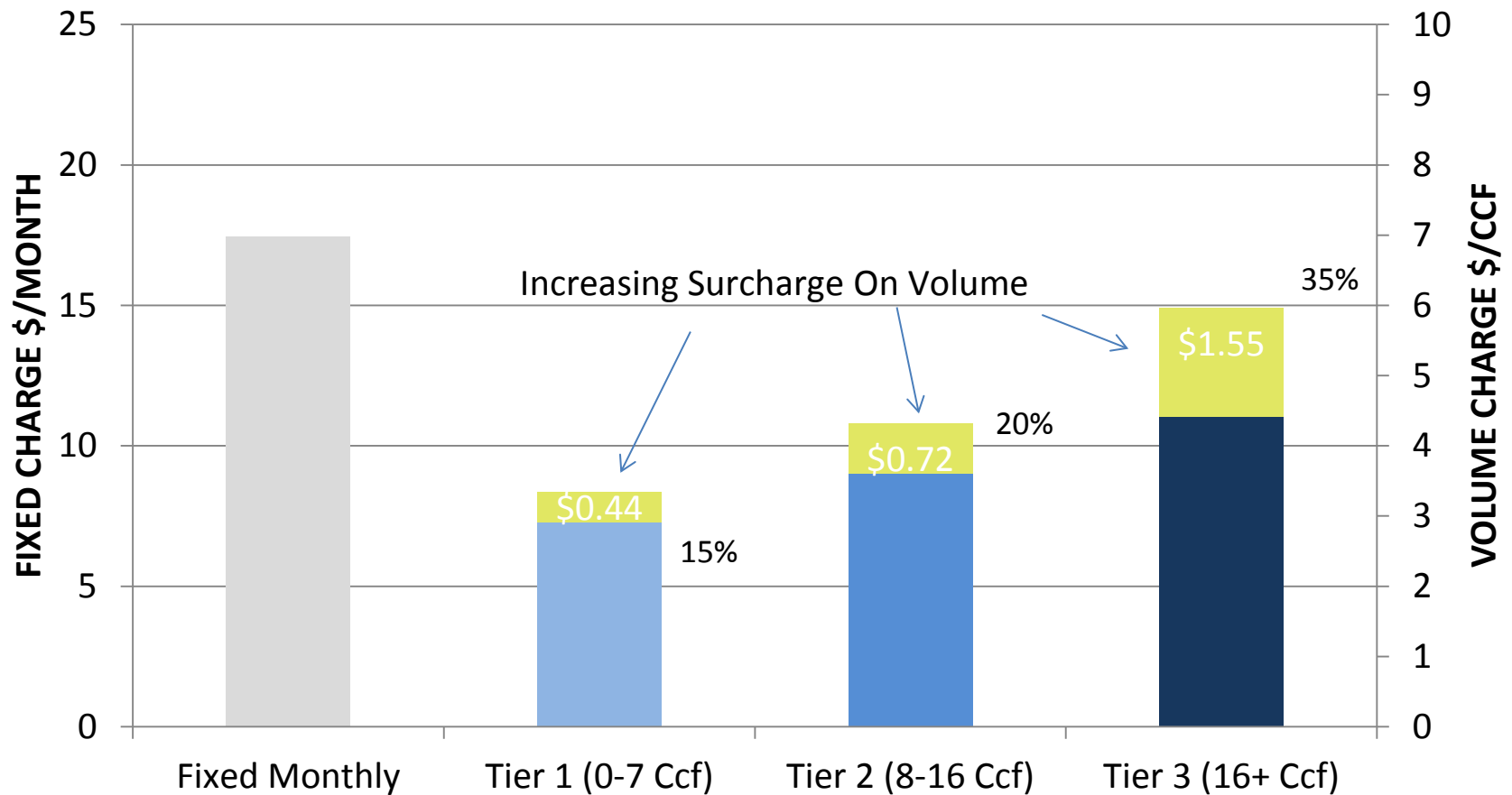
Considerations for Inclining Drought
Surcharges (steepening tiers)

A - Inclining Commodity Surcharge

15% Tier 1, 20% Tier 2, 35% Tier 3



INCREASING SURCHARGE ON VOLUME

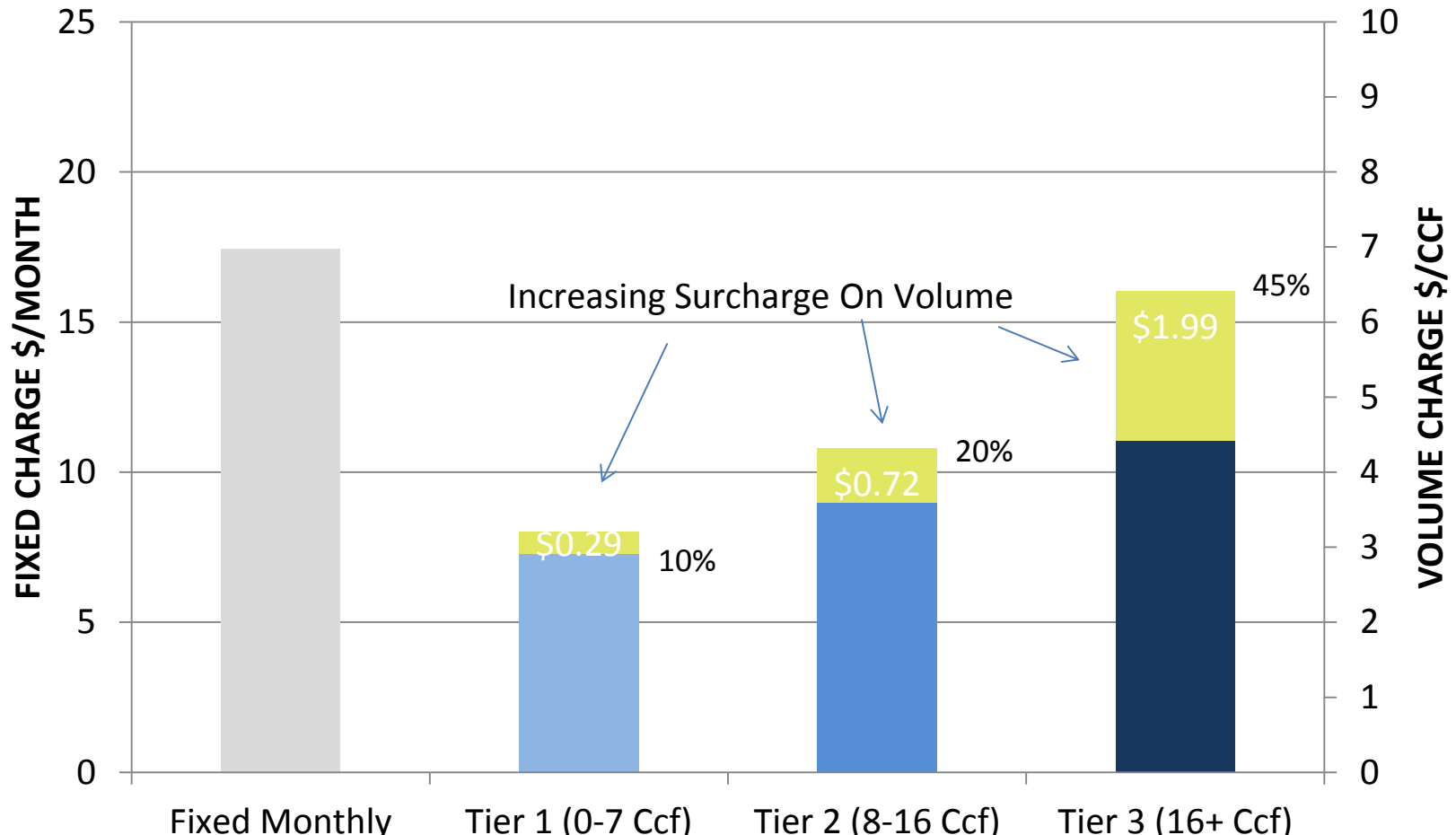


B - Inclining Commodity Surcharge

10% Tier 1, 20% Tier 2, 45% Tier 3



INCREASING SURCHARGE ON VOLUME



Inclining Tier SFR Bill Impacts

Drought Options A and B



SFR Bill Impacts INCLINING DROUGHT SURCHARGE OPTIONS							
FY15			A		B		
Monthly Consump CCF	Bill	Surcharge	Total Bill	%	Surcharge	Total Bill	%
4	\$29.07	\$1.76	\$30.83	6.1%	\$1.16	\$30.23	4.0%
7	\$37.80	\$3.08	\$40.88	8.1%	\$2.03	\$39.83	5.4%
10	\$48.60	\$5.24	\$53.84	10.8%	\$4.19	\$52.79	8.6%
20	\$87.88	\$15.76	\$103.64	17.9%	\$16.47	\$104.35	18.7%
30	\$132.08	\$31.26	\$163.34	23.7%	\$36.37	\$168.45	27.5%
50	\$220.48	\$62.26	\$282.74	28.2%	\$76.17	\$296.65	34.5%

The challenge with introducing inclining tiers in Stage 4 is the price signal to Tier 1.

Uniform Commodity + Penalty Tier at \$2/CCF



Penalty surcharge targets excessive use—not able to recover significant share of drought costs.

SFR Bill Impacts UNIFORM + PENALTY DROUGHT SURCHARGE OPTIONS					
FY15		UNIFORM 20% +\$2 PENALTY ABOVE 60 CCF			
Monthly Consump CCF	Bill	Surcharge	\$2 Penalty	Total Bill	%
4	\$29.07	\$2.32		\$31.39	8.0%
7	\$37.80	\$4.06		\$41.86	10.7%
10	\$48.60	\$6.22		\$54.82	12.8%
20	\$87.88	\$14.06		\$101.94	16.0%
30	\$132.08	\$22.86		\$154.94	17.3%
50	\$220.48	\$40.46		\$260.94	18.4%
60	\$264.68	\$49.26	\$0.00	\$313.94	18.6%
70	\$308.88	\$58.06	\$20.00	\$386.94	25.3%
80	\$353.08	\$66.86	\$40.00	\$459.94	30.3%
90	\$397.28	\$75.66	\$60.00	\$532.94	34.1%
100	\$441.48	\$84.46	\$80.00	\$605.94	37.3%

What are Neighboring Agencies Doing?

How Are Neighboring Agencies Approaching Drought?



Agency	Water Supply	Call for Conservation	Planned Additional Drought Response
SFPUC	Strong	10% voluntary	None at present
CCWD	Strong	15% voluntary	None at present
SCVWD	Medium	20% mandatory	None at present
MMWD	Medium	25% voluntary	None at present
ACWD	Weak	20% mandatory	Moved from flat \$/CCF to inclining tier drought rate
DSRSD	Weak	25% mandatory	In Stage 3 of 4-Stage drought system
Santa Cruz	Weak	25% mandatory	-SFR allocation of 10 CCF/mo with \$25/CCF and \$50/CCF penalties in place -Fall vote on recovering all drought costs on fixed charge

Schedule Considerations



Board Direction
on Drought Rate
Approach

August –Sept 2014

Incorporate into
regular rate
process

Complete COS- Nov 2014
218 Notice – April 2015
Effective July 2015

Board Discussion

