

Long-Term Financial Stability Workshop #4

Capital Investment & Financing

Board of Directors
September 23, 2014

Agenda



- Introduction
- Capital Investment & Financing
- Seismic Surcharge

Workshop Topics



Workshop 1 <i>Introduction</i>	Workshop 2 <i>Reserves</i>	Workshop 3 <i>Drought Rates</i>	Workshop 4 <i>Capital Plan/Drought Rates</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"> • Review results of Cost of Service study • Develop Financial Forecast based on Workshops 1-3

Workshop #1—How The Financial Model Works



$$\begin{aligned} &+ \text{ Operating Expenditures} \\ &+ \text{ Debt Service Payments} \\ &+ \text{ PAYGO Capital Expenditures} \end{aligned} \left. \vphantom{\begin{aligned} &+ \text{ Operating Expenditures} \\ &+ \text{ Debt Service Payments} \\ &+ \text{ PAYGO Capital Expenditures} \end{aligned}} \right\} \text{ Annual capital expenses paid from revenues}$$
$$- \text{ Non-Rate Revenues}$$
$$= \text{ Revenue Requirement from Rates \& Charges}$$

Workshop #1—Financial Policies Drive Revenue Requirements



- Debt/PAYGO funding of capital plan
 - no more than 65% debt funding over 5-year period
- Debt Service Coverage Ratio (DSCR)
 - at least 1.60 x coverage
- Reserve level targets for each reserve type
 - working capital,
 - self-insurance,
 - workers compensation,
 - contingency/rate stabilization

Workshop #1—PAYGO and DSCR Policies Aligned



Budget

+ Operating Revenues

\$500 MM

- Operating Expenditures

\$247 MM

= Net Revenues

\$253 MM

- Senior Debt Service

\$153 MM

DSCR = \$253MM/\$153MM =

1.65 x

\$100 MM
Available
for PAYGO
Capital
Expenses

Three Perspectives on Capital



Accounting	Budgeting	Financing
<ul style="list-style-type: none">• Financial reporting<ul style="list-style-type: none">— Net income—fiscal health of basic operations— Capital assets—status of asset base• Credit analysts and investors	<ul style="list-style-type: none">• Managerial reporting• Control expenditures• Communicate about resource allocation• Staff, Board and customers	<ul style="list-style-type: none">• PAYGO vs. debt funding• Drives rates and charges• IRS compliance—may <u>not</u> use tax-exempt bond proceeds to pay operating expenses

Accounting Perspective



- Distinguish between operating expense and capital expenditure
- Capital asset has a useful life beyond one reporting period
- Capitalization and depreciation match the cost of the asset with revenues generated by the asset:
 - Transfer expenditures to the balance sheet as capital asset
 - Depreciate over useful life (operating expense)

Capitalization Process



- Costs including direct & indirect costs incurred to place an asset into service can be capitalized.
 - Costs are transferred to “Capital Assets” when asset is placed into service
 - During construction, costs are accumulated in “Construction Work in Progress” (CWIP)

Capitalized Costs Include

- Direct District labor/benefits and contractor payments for:
 - Planning
 - Environmental
 - Design
 - Construction
 - Testing
- Materials purchased by the District
- Indirect District A&G
- Interest during construction

Budgeting Perspective



Operations & Maintenance Budget

Capital Budget



Budgeting Considerations

- Treatment plant ops
- Chemicals
- Energy
- Water purchases
- Biosolids disposal
- Repair costs

- Expenditures that have a useful life over one year or increase the useful life, capacity or serviceability of an asset may be capitalized
- Characterizing an expenditure as Operating vs Capital has differing rate impacts:
 - O&M budget funded with rates
 - Capital budget funded with rates and debt
- Budgeting requires judgment
 - Short-lived capital assets like desktop computers
 - Conservation expenditures yielding long-term supply
 - Endowments for ongoing environmental mitigation/monitoring

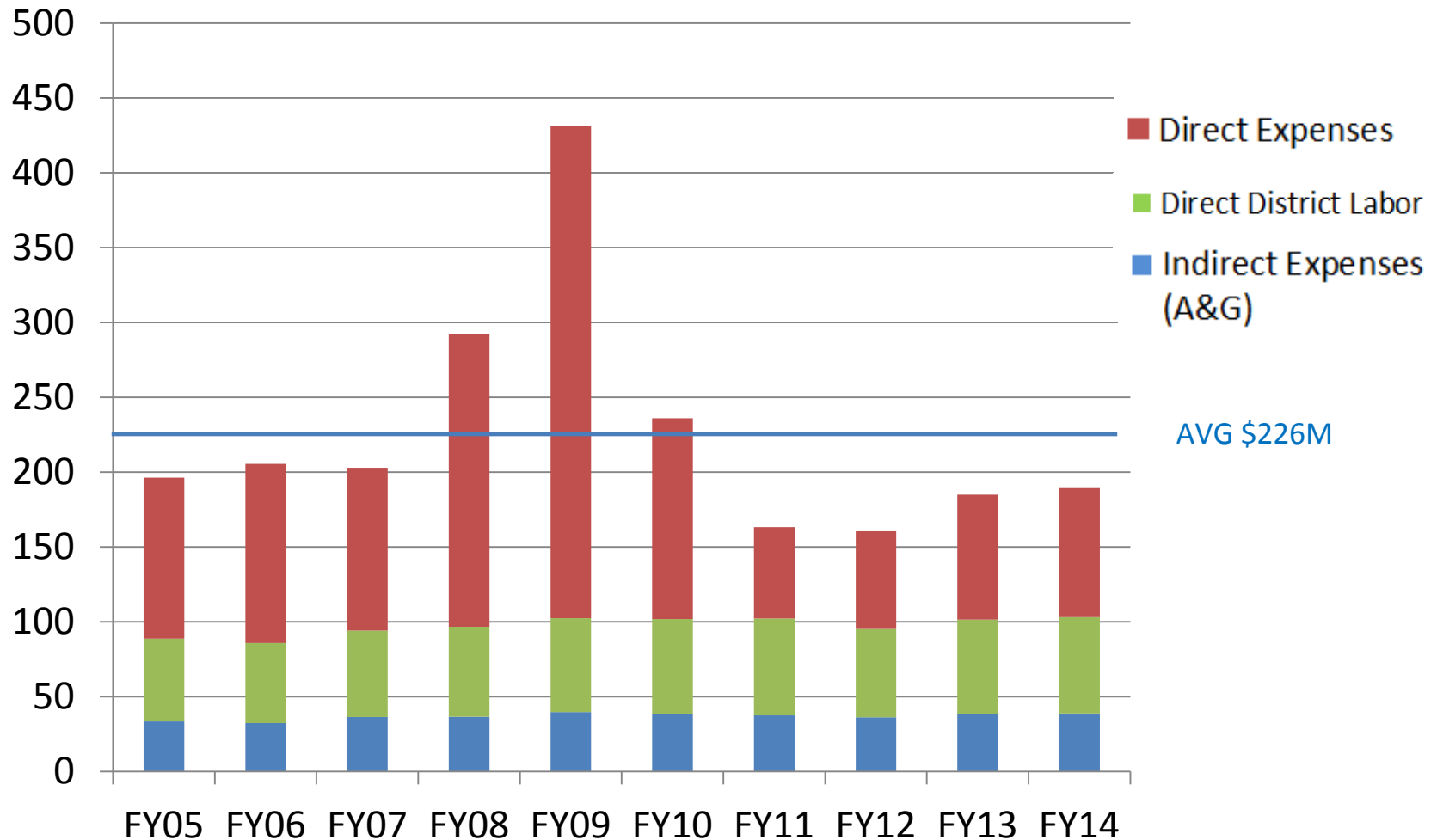
- Pipeline replacement
- Reservoir rehab
- New turbines
- Digester upgrades
- Land purchases

Developing Capital Plans

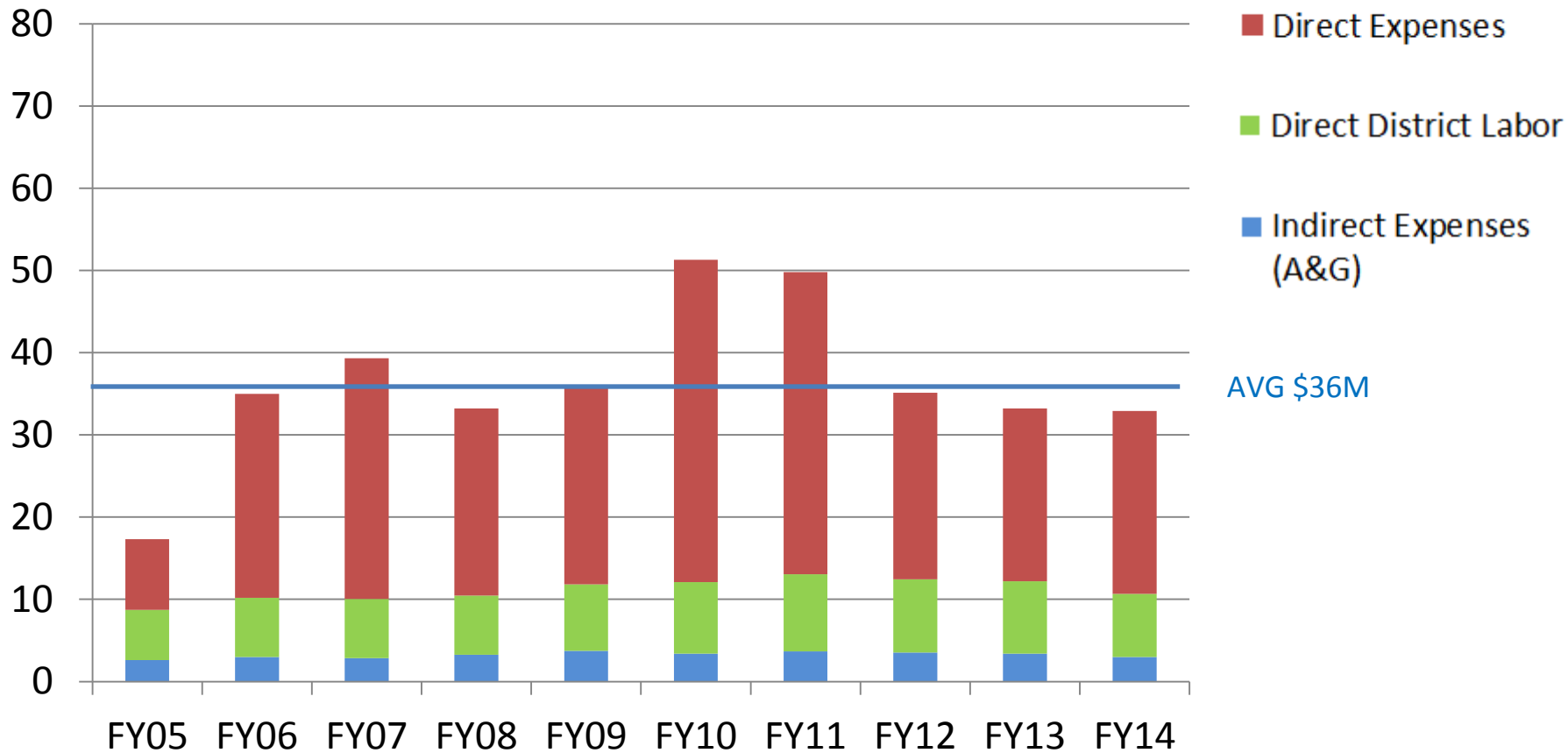


- Capital Steering Committee
 - Senior District staff
 - Meets during the biennial year fiscal budget development process.
 - Approves projects for the proposed CIP while balancing capital needs and available resources.
- Master plans for all major District facilities
 - Considers current facility condition and performance and addresses future service needs as well as potential threats, challenges, and opportunities.
 - Generally look out over a 30 year horizon.

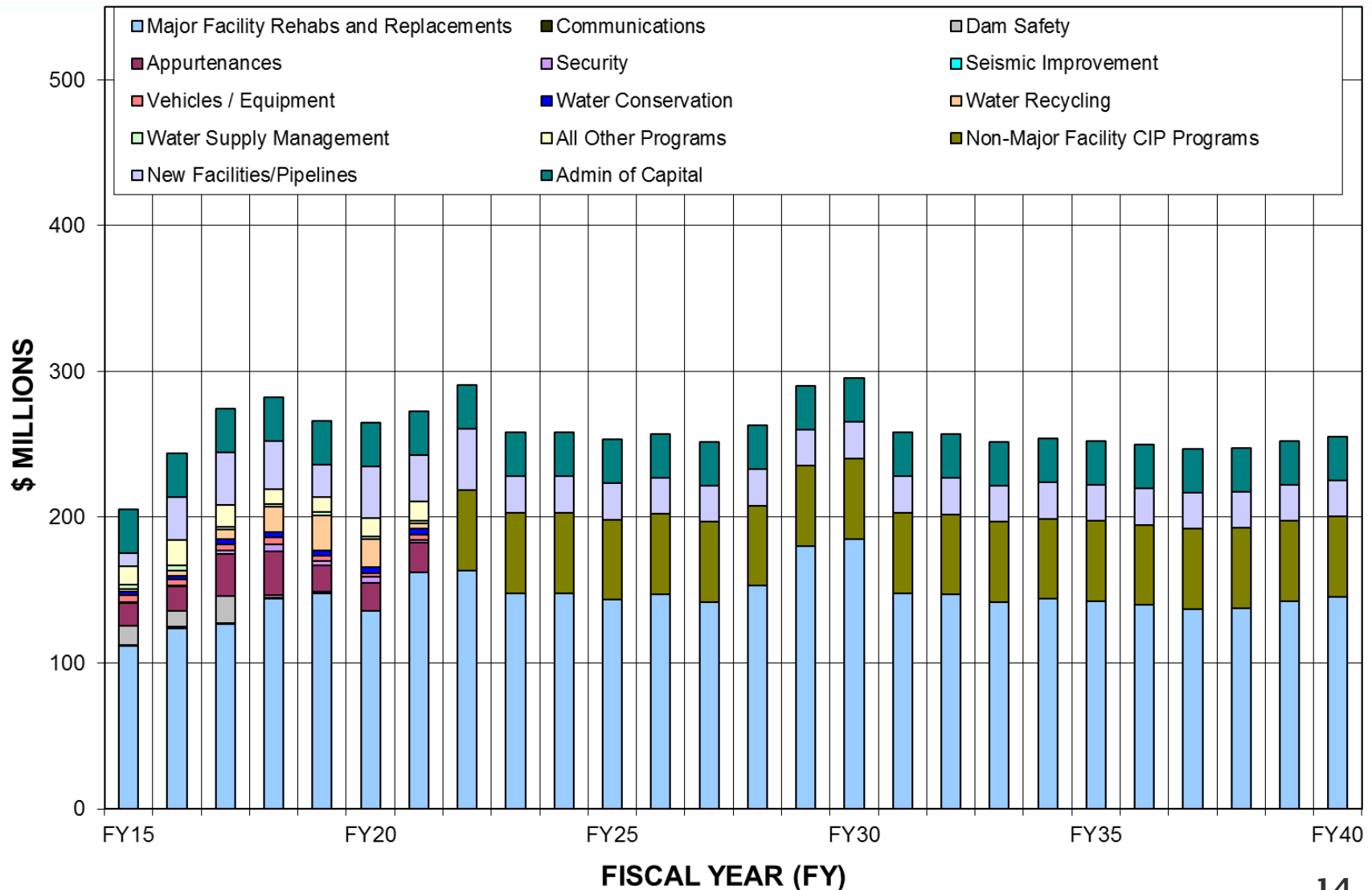
Historical CIP Expenditures— Water



Historical CIP Expenditures— Wastewater



Projected CIP Expenditures – Water



- **PAYGO Funding**
 - Pay for capital project out of rate revenue (current year or reserves for capital projects)
- **Debt Funding**
 - Pay for capital project out of bond proceeds

Capital Financing Considerations



	Pay-As You Go or Cash Funding	Debt Funding
Description	<ul style="list-style-type: none">• Pay project costs out of current year revenues	<ul style="list-style-type: none">• Issue bonds to pay project costs and repay principal with interest over 30 years
Typical use	<ul style="list-style-type: none">• Replacement and reconstruction costs are regular and predictable	<ul style="list-style-type: none">• Large, “one-time” projects• Spread cost over current and future customers• Urgent project need
Considerations	<ul style="list-style-type: none">• Lower total cost; more funding for capital projects; near-term rate impact• PAYGO increases future financial flexibility	<ul style="list-style-type: none">• Higher total cost; interest doubles the cost; mitigates near-term rate impact• Leverage reduces future financial flexibility

Revenue Requirement Impact



- Capital project costs increase Revenue Requirement differently, depending on funding—Debt (over time), PAYGO (current year)

\$20 million Capital Project

	Total Cost	Recoverd Over	Annual Cost
PAYGO	\$20 MM	1 year	\$20 MM
Debt	\$38 MM	30 years	\$1.2 MM

+ Operating Expenditures

+ Debt Service Payments

+ PAYGO Capital Expenditures

- Non-Rate Revenues

= Revenue Requirement from Rates & Charges



*\$1.2 million
or*



\$20 million

Policy 4.02—Cash Reserves & Debt Management

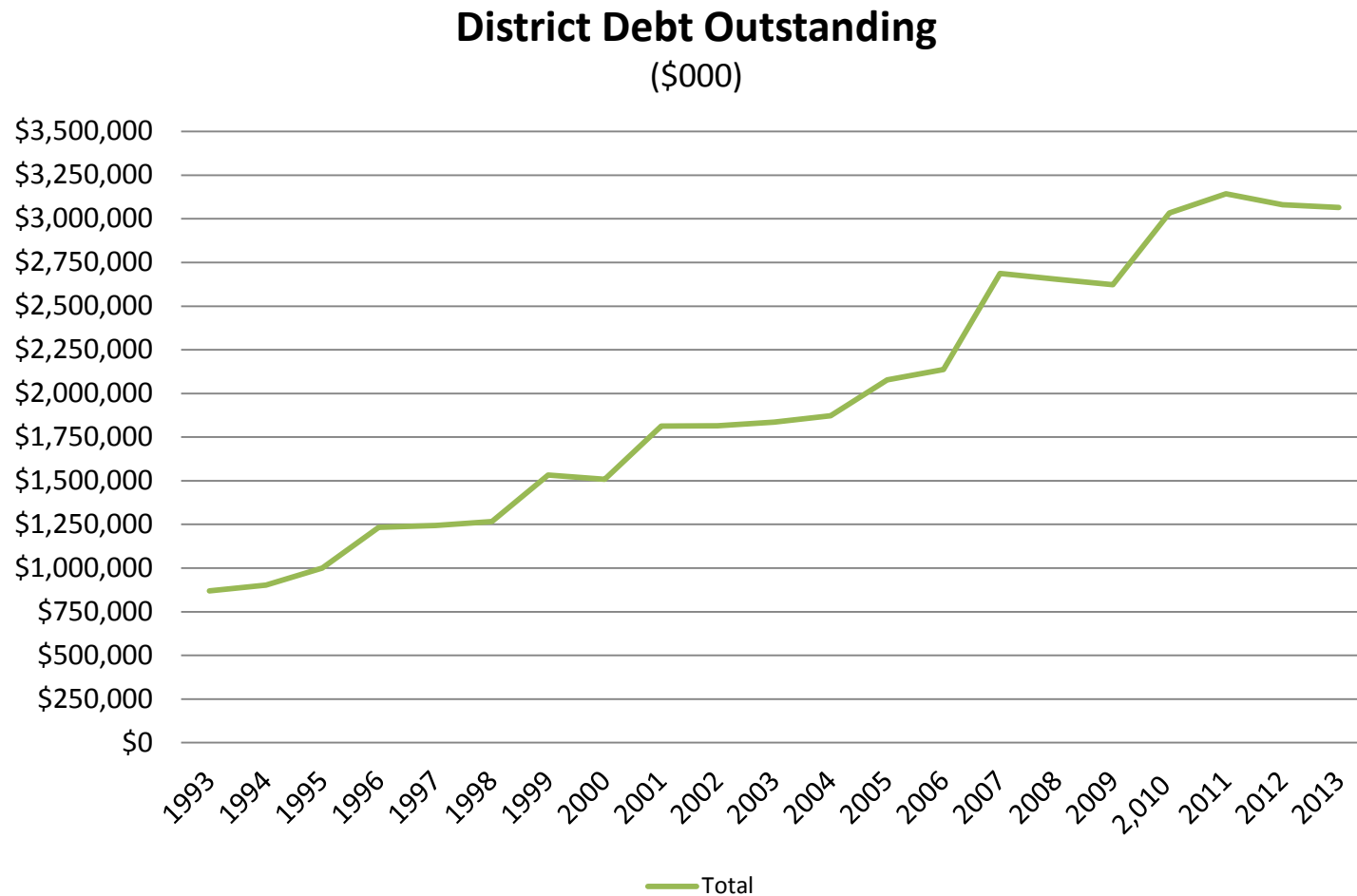


- Debt/PAYGO funding of capital plan
 - no more than 65% debt funding over 5-year period
- Debt Service Coverage Ratio (DSCR)
 - at least 1.60 x coverage

History of EBMUD Outstanding Debt



**Total District debt has grown over the past 20 years
from \$0.8 billion to \$3.1 billion**



Debt-Related Financial Ratios



	Debt Ratio	Debt Service Coverage Ratio	Debt Per Capita
Definition	<u>Outstanding Debt</u> Net Capital Assets	<u>Net Revenue</u> Senior Debt Service	<u>Outstanding Debt</u> Service Area Population
Indicates	Degree of leverage	Revenue available to pay debt service	Debt affordability
AAA Median*	25%	2.75	\$393
EBMUD Water	69%	1.71	\$1,907**
EBMUD Wastewater	61%	1.59	\$743**

*Median Debt Ratio and DSCR, Moody's FY13, Median Debt per Capita FY12 Fitch

**EBMUD Debt per Capita from Fitch FY12 report

Debt-Related Financial Ratios— Water Agencies



	Debt Ratio	Debt Service Coverage Ratio	Debt Per Capita
EBMUD—Water	69%	1.71	\$1,907
SFPUC Water Enterprise	82%	2.14	\$1,780
San Diego Co Water	62%	1.69	\$770
LADWP	61%	2.11	\$852
Metropolitan Water District	44%	2.71	\$249
CCWD	37%	1.34	\$1,229
Santa Clara Valley Water	22%	3.68	\$202
ACWD	14%	4.19	\$187
Median – Aaa	25%	2.75	\$393
Median – Aa1	33%	1.99	\$691

Source - Median Debt Ratio and DSCR, Moody's FY13, Median Debt per Capita FY12 Fitch or Agency CAFR

Debt-Related Financial Ratios— Wastewater Agencies



	Debt Ratio	Debt Service Coverage Ratio	Debt Per Capita
EBMUD—Wastewater	61%	1.59	\$743
Sacramento Regional County Sanitation District	71%	2.19	\$942
SFPUC Sewer Enterprise	45%	2.99	\$869
LA County Sanitation District	26%	2.48	\$102
Central Contra Costa Sanitary District	6%	4.49	\$270
Union Sanitary District	N/A	N/A	\$430
Median – Aaa	37%	1.21	\$393
Median – Aa1	32%	2.00	\$691

Debt-Related Policies



- Financial metrics require context
 - District ratings higher than metrics would indicate
 - Not unlike other large urban agencies
- No “right answer” for debt policies
- Future CIP suggests higher PAYGO funding and higher DSCR
 - Focus on replacement and rehabilitation
 - District costs are a large share of capital
- Phase in policy targets over time

Seismic Improvement Program



- 1994 seismic study following Loma Prieta identified a critical seismic upgrade program:
 - Seismic upgrades to 70 reservoirs, 130 pumping plants, six treatment plants
 - Southern Loop
 - Claremont Tunnel fault bypass

- Fixed surcharge was developed based on estimates of:
 - Capital cost of \$189 MM (NPV)
 - 100% financing
 - No customer growth
- Surcharge history
 - Initially was funded via both parcel charge and seismic surcharge (1994)
 - 1995 California Supreme Court decision led to move of entire charge to seismic surcharge (1996)

SIP Ahead of Schedule



	Plan	Estimated Through FY15	Difference
Construction Cost	\$241 MM	\$266 MM	\$25 MM
Net Interest Cost	<u>\$136 MM</u>	<u>\$43 MM</u>	<u>-\$93 MM</u>
Total Cost	\$377 MM	\$309 MM	-\$68 MM

- By 2016 all initial SIP costs will have been fully recovered
- Lower costs
 - Longer construction period—15 years vs. 10 years
 - Lower net interest cost
 - More PAYGO/less debt
 - Lower interest rates
- Higher revenues
 - Increase in new connections
 - Increase in charge since 2008

SIP Surcharge



- SIP surcharge represents \$20 million in fixed revenues
- Without action, anticipated to sunset in 2016
- District revenue requirement does not change:
 - Revenue requirement is based on level debt service to create predictable bills for ratepayers
 - Current COS would recover the \$20 million on volume charge
 - Fixed revenues would drop from ~30% to ~25%

SIP Surcharge Alternatives



Alternative	Description/Impacts
Continue SIP surcharge	<ul style="list-style-type: none">•Add more projects to SIP•Continue to collect SIP surcharge until cost of additional projects is recovered
Replace SIP surcharge	<ul style="list-style-type: none">•Sunset SIP surcharge•As part of FY16 COS update propose a fixed Infrastructure Renewal Charge to fund increased infrastructure rehab spending•Maintain or increase level of fixed revenues

Next Steps



- November workshops
 - Review cost of service study findings
 - Review updated financial forecast
- Evaluate impacts of policy alternatives
 - Rate Stabilization Fund levels
 - PAYGO and DSCR Policy target
 - SIP Surcharge alternatives

Discussion



Long Term Financial Stability Workshop 4 –

**Drought Financial Management
Drought Rates
(continued)**

Board of Directors
September 23, 2014

Agenda



- Re-cap of Workshop #3
- Drought Rate Alternatives
- Water Conservation Drivers and Drought
- Calendar
- Discussion

Recap of Workshop #3



- Reviewed history of drought rates – drought and regular rates have converged over time
- Proposed a staged system of drought rates
- Evaluated building blocks for staged system
 - Reserves for Stage 1
 - Reserves and Supplemental Supply Surcharge for Stage 2
 - Various options for Stages 3/4

Recap of Workshop #3 cont..



- Interest expressed in:
 - Wider public engagement on drought rates
 - Moving to a higher percentage of fixed revenues over time
 - Future consideration of an allocation approach as a drought rate structure if part of a future regular rate structure
 - Inclusion of a 'fourth stage' as long as no conflict with existing adopted water supply planning documents
 - More interest in uniform commodity approach than for other options

Staged System of Drought Rates



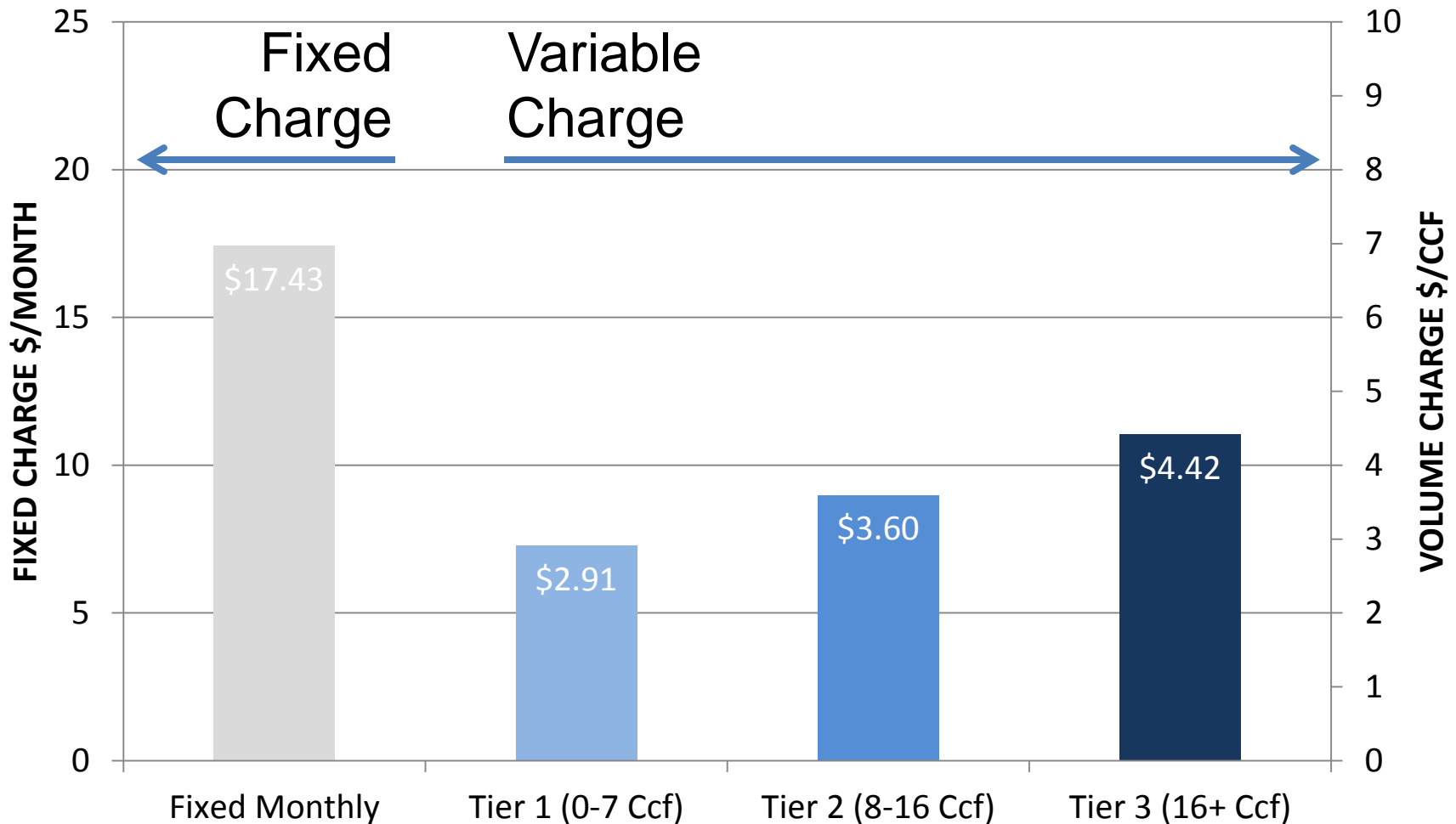
Stage	0	1	2	3	4
Demand Reduction		Voluntary 0-15%	Voluntary 0-15%	Mandatory up to 15%	Mandatory 15%
Supplemental Supplies			Up to 35 TAF	35 to 65 TAF	> 65 TAF
Rates and Charges	Normal rates	Normal rates	Normal rates; and Supplemental supply surcharge	Normal rates; and TBD	Normal rates; and TBD

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

Current District SFR Rates



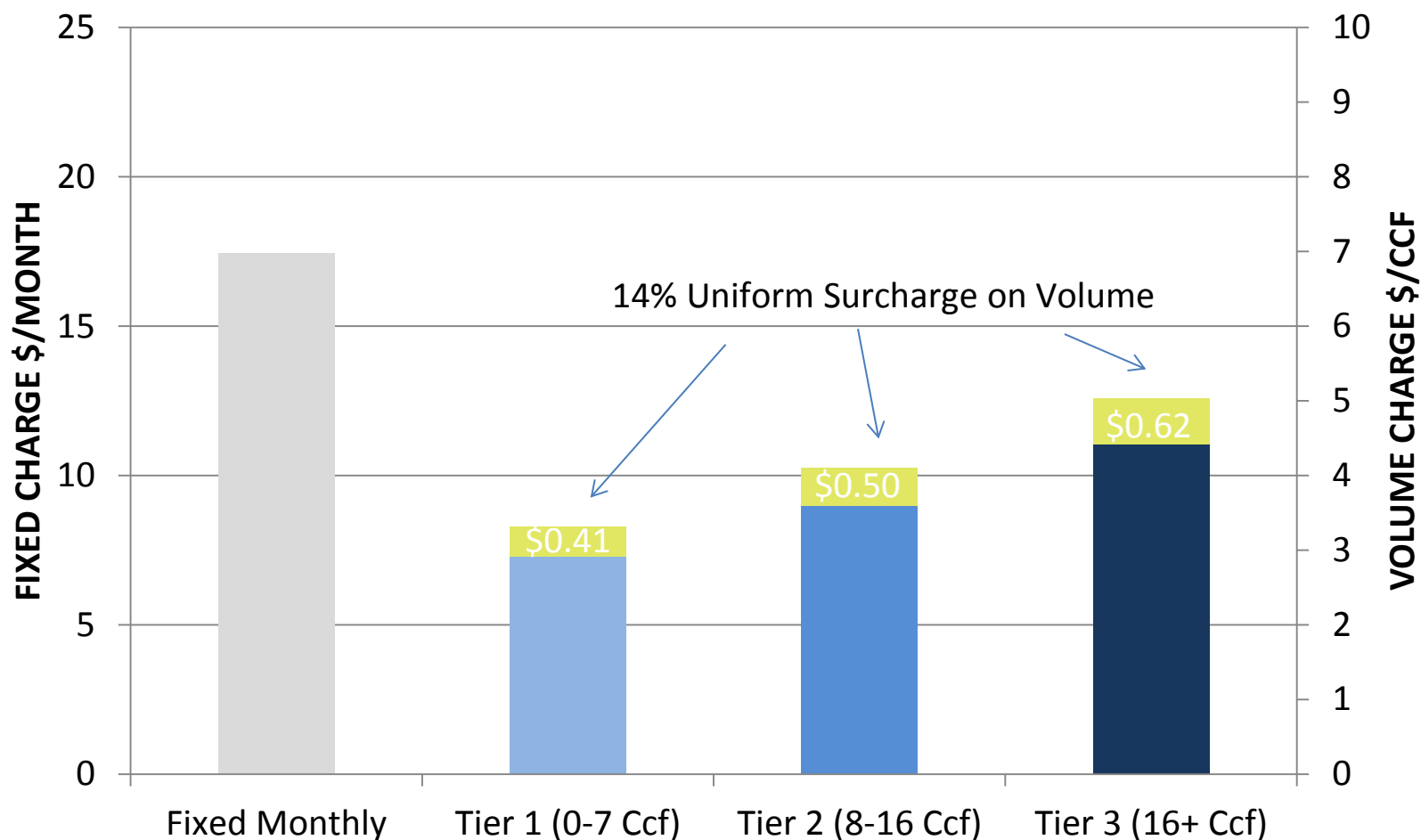
CURRENT FY15 RATES



Stage 2 – Supplemental Supply Surcharge (SSS)



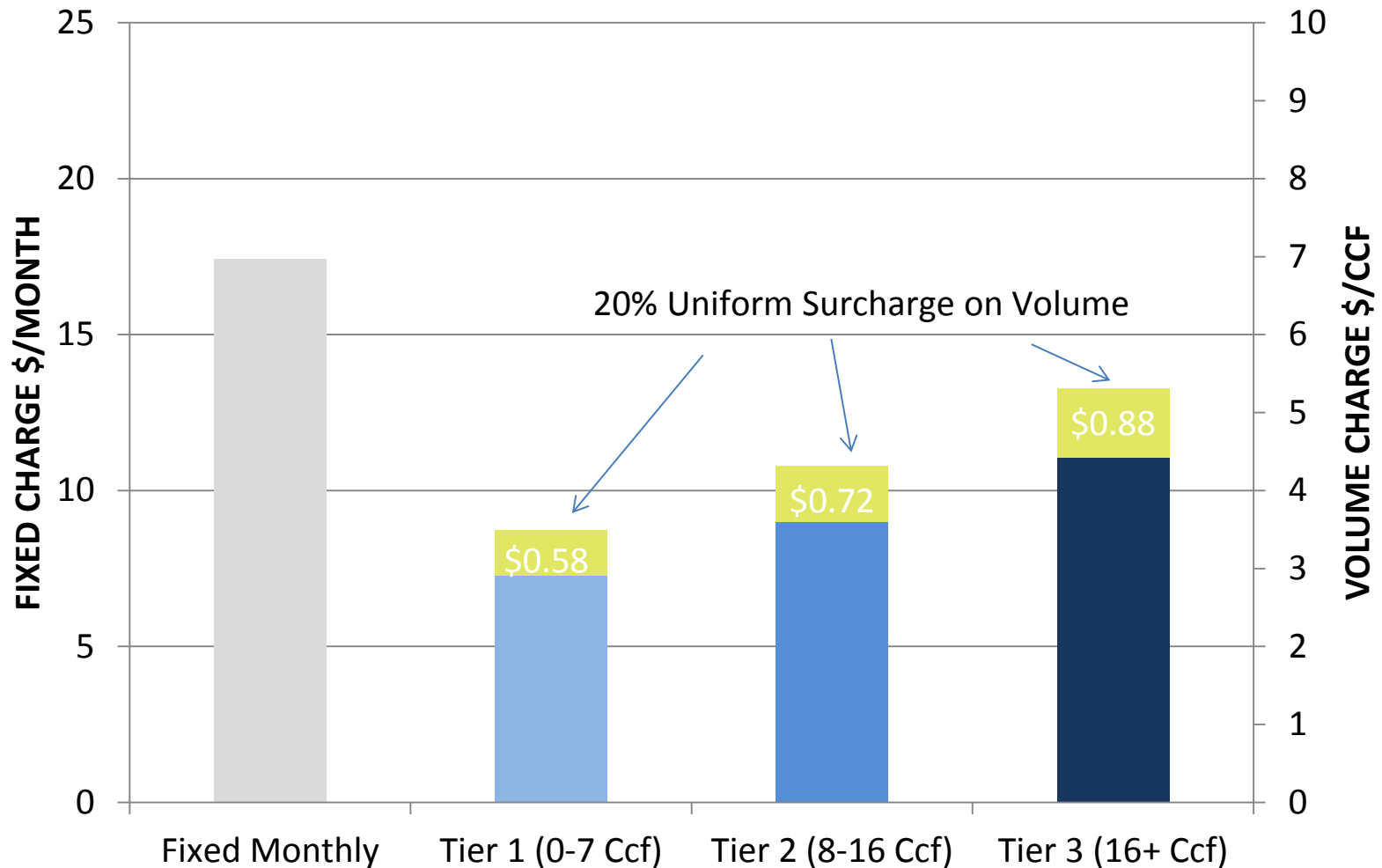
UNIFORM SURCHARGE ON VOLUME



Stage 3A – Uniform Commodity Surcharge



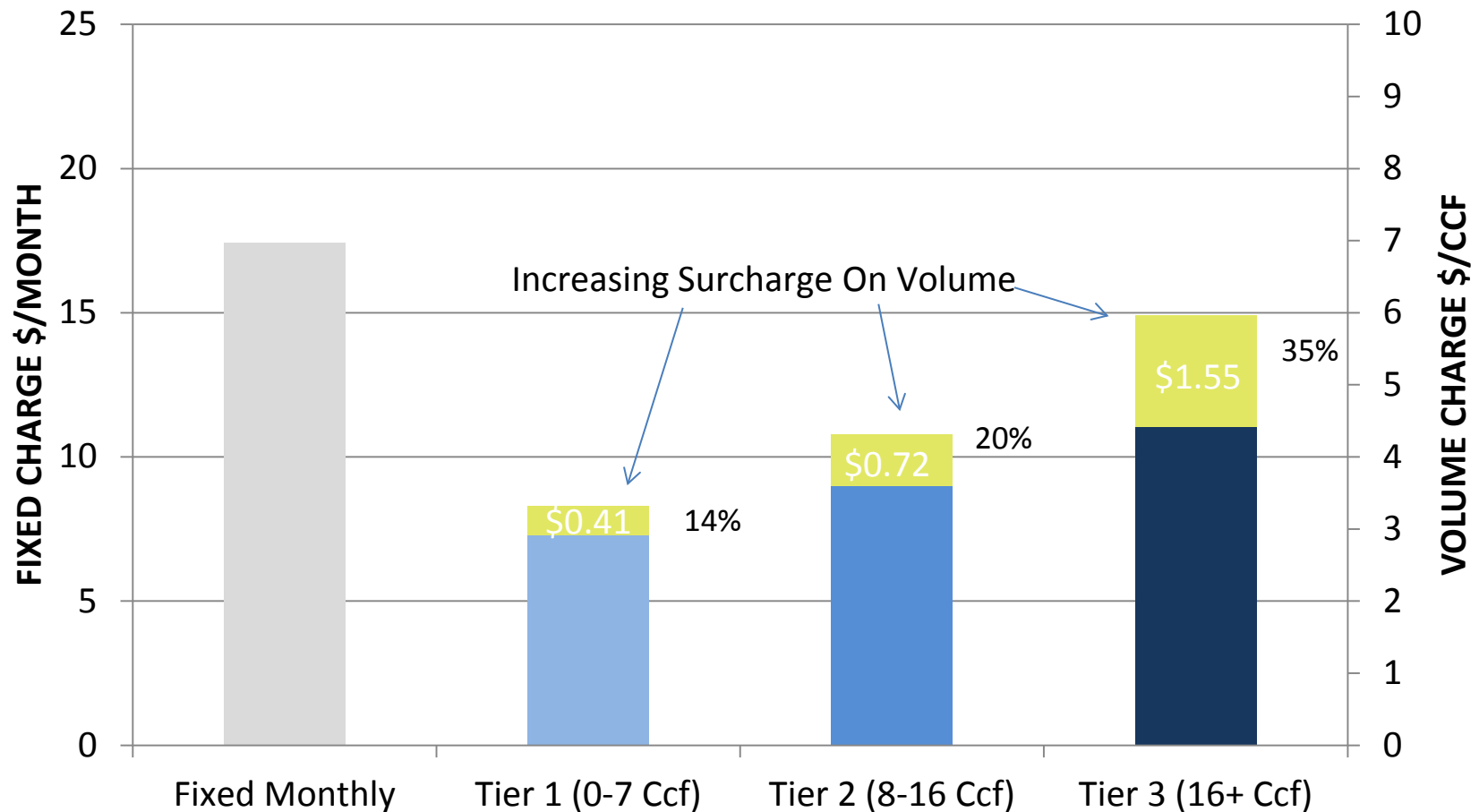
UNIFORM SURCHARGE ON VOLUME



Stage 3B – Inclining Commodity Surcharge



STEEPENS TIERS

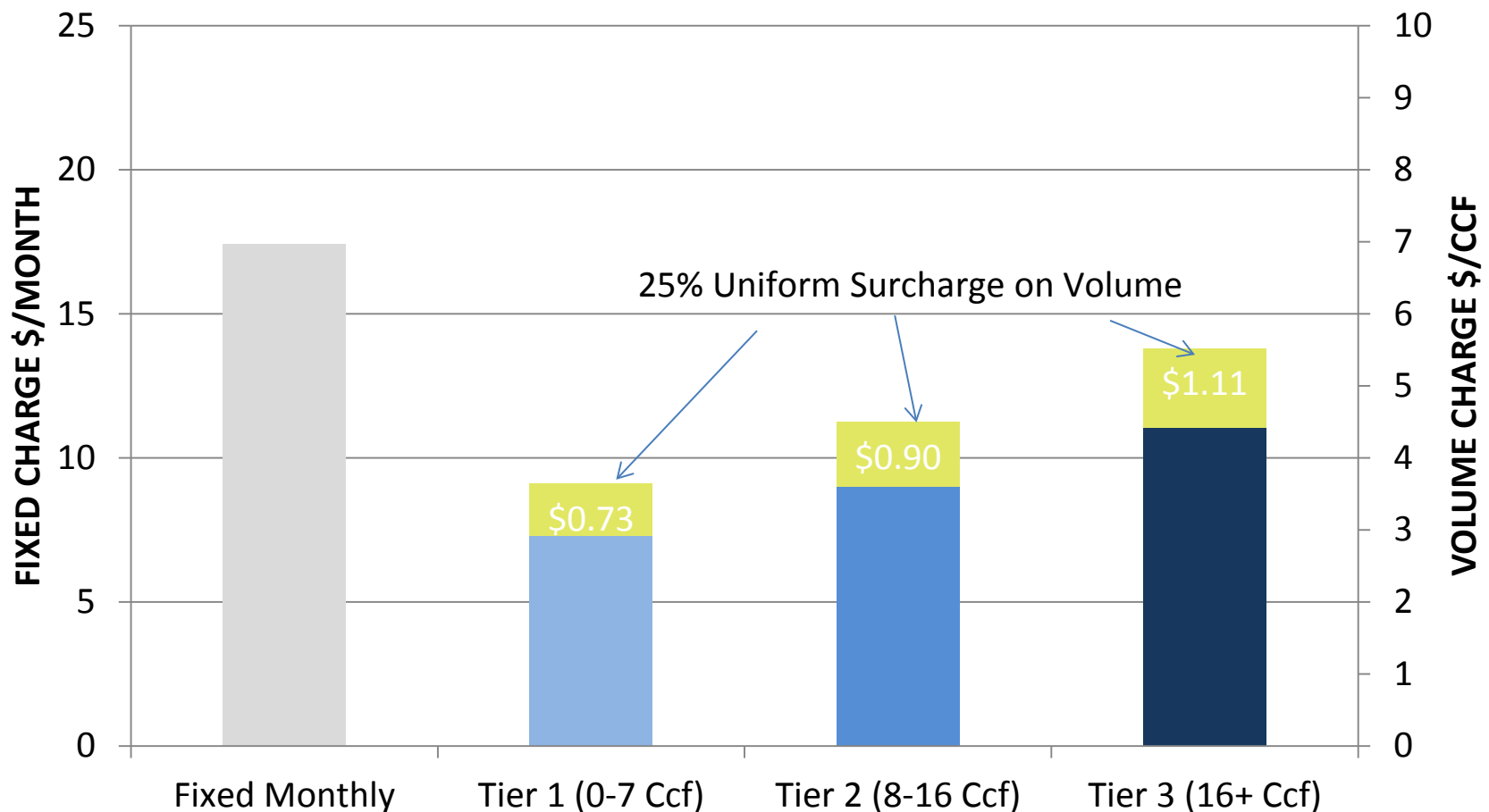


Stage 4A - Uniform Commodity Surcharge



Larger Surcharge Reflects Increased Drought Costs

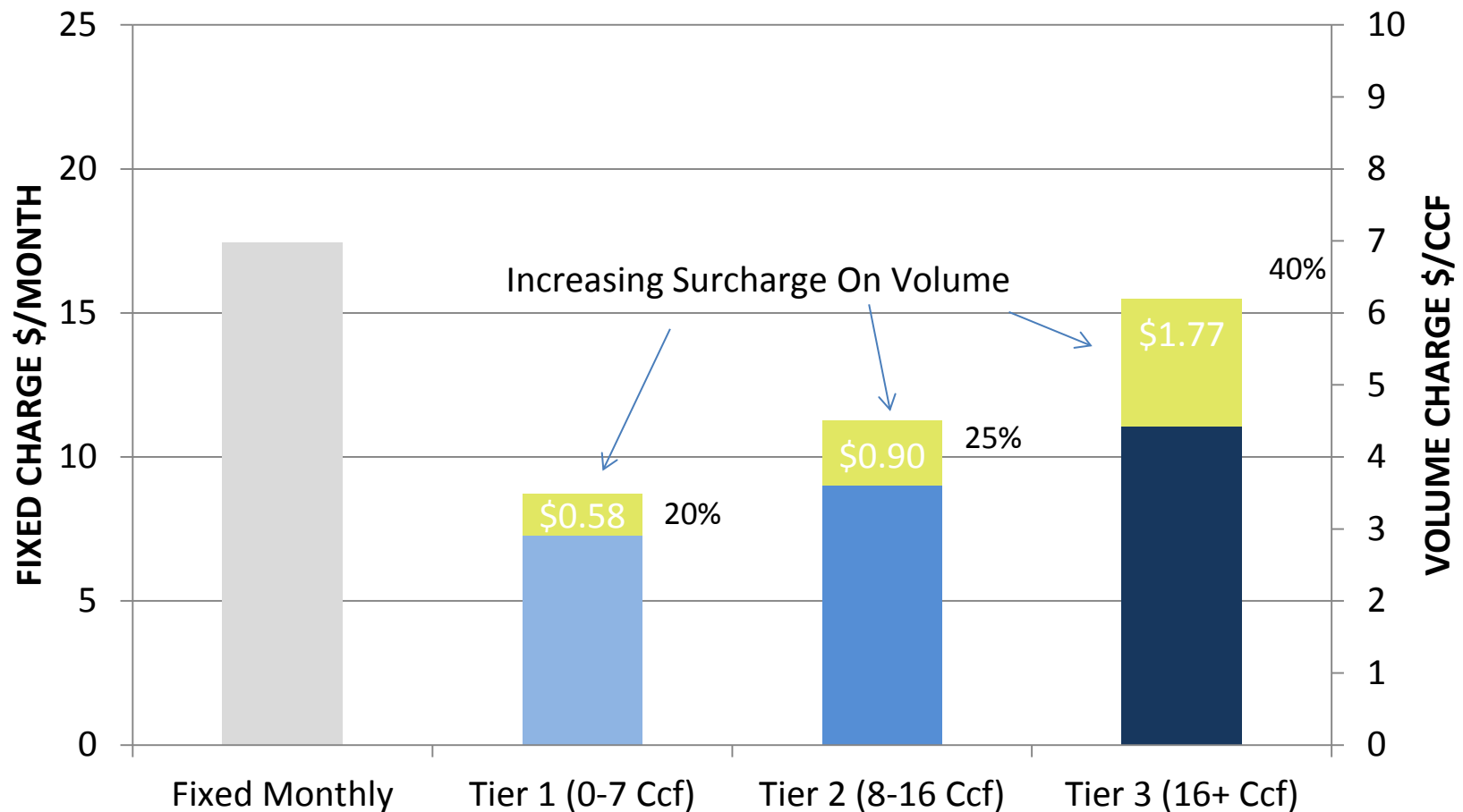
UNIFORM SURCHARGE ON VOLUME



Stage 4B – Inclining Commodity Surcharge



STEEPENS TIERS



Excess Use Penalty Considerations

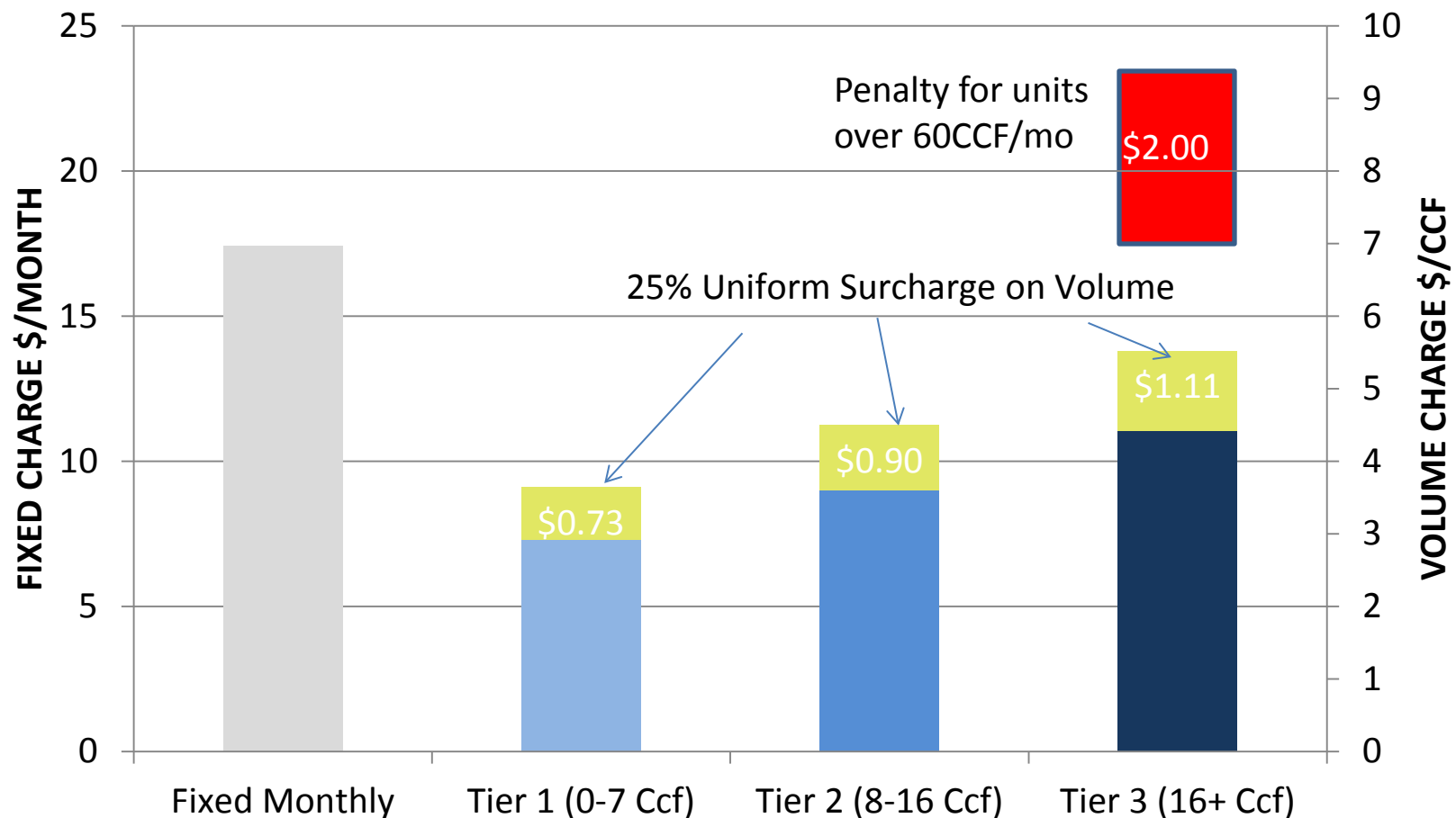
- Setting an appropriate penalty level:
 - Not so high that it is meaningless
 - Not so low that it recovers significant revenue at which point it ceases to be a penalty and becomes a charge requiring Cost of Service analysis
- Recommend excess use level at 60HCF
 - 6x Ave Household Use
 - Top 1% of bills
 - Represents ~9% of SFR water usage

Stage 4C - Uniform Commodity Surcharge



Defines Excess Use Level and Creates Penalty Above this Level

UNIFORM SURCHARGE ON VOLUME



Stage 2 -SSS Bill Impacts



	FY15		STAGE 2 - 14% SSS		
gpd	Monthly Consump CCF	Bill	Surcharge	Total Bill	%
24.6					
98.3	4	\$29.07	\$1.64	\$30.71	5.6%
172	7	\$37.80	\$2.87	\$40.67	7.6%
246	10	\$48.60	\$4.37	\$52.97	9.0%
491	20	\$87.88	\$9.85	\$97.73	11.2%
737	30	\$132.08	\$16.05	\$148.13	12.2%
1229	50	\$220.48	\$28.45	\$248.93	12.9%
1474	60	\$264.68	\$34.65	\$299.33	13.1%
1720	70	\$308.88	\$40.85	\$349.73	13.2%
1966	80	\$353.08	\$47.05	\$400.13	13.3%
2211	90	\$397.28	\$53.25	\$450.53	13.4%
2457	100	\$441.48	\$59.45	\$500.93	13.5%

Stage 3 – Bill Impacts



		SFR Bill Impacts - Stage 3						
		FY15	3A-Uniform 20%			3B-Inclining 14% 20% 35%		
gpd	Monthly Consump CCF	Bill	Surcharge	Total Bill	%	Surcharge	Total Bill	%
24.6								
98.3	4	\$29.07	\$2.32	\$31.39	8.0%	\$1.64	\$30.71	5.6%
172	7	\$37.80	\$4.06	\$41.86	10.7%	\$2.87	\$40.67	7.6%
246	10	\$48.60	\$6.22	\$54.82	12.8%	\$5.03	\$53.63	10.3%
491	20	\$87.88	\$14.06	\$101.94	16.0%	\$15.55	\$103.43	17.7%
737	30	\$132.08	\$22.86	\$154.94	17.3%	\$31.05	\$163.13	23.5%
1229	50	\$220.48	\$40.46	\$260.94	18.4%	\$62.05	\$282.53	28.1%
1474	60	\$264.68	\$49.26	\$313.94	18.6%	\$77.55	\$342.23	29.3%
1720	70	\$308.88	\$58.06	\$366.94	18.8%	\$93.05	\$401.93	30.1%
1966	80	\$353.08	\$66.86	\$419.94	18.9%	\$108.55	\$461.63	30.7%
2211	90	\$397.28	\$75.66	\$472.94	19.0%	\$124.05	\$521.33	31.2%
2457	100	\$441.48	\$84.46	\$525.94	19.1%	\$139.55	\$581.03	31.6%

Stage 4 – Bill Impacts

No Excess Use Penalty



		SFR Bill Impacts - Stage 4 - No Excess Use Penalties						
		FY15	4A-Uniform 25%			4B-Inclining 20% 25% 40%		
gpd	Monthly Consump CCF	Bill	Surcharge	Total Bill	%	Surcharge	Total Bill	%
24.6								
98.3	4	\$29.07	\$2.92	\$31.99	10.0%	\$2.32	\$31.39	8.0%
172	7	\$37.80	\$5.11	\$42.91	13.5%	\$4.06	\$41.86	10.7%
246	10	\$48.60	\$7.81	\$56.41	16.1%	\$6.76	\$55.36	13.9%
491	20	\$87.88	\$17.65	\$105.53	20.1%	\$19.24	\$107.12	21.9%
737	30	\$132.08	\$28.75	\$160.83	21.8%	\$36.94	\$169.02	28.0%
1229	50	\$220.48	\$50.95	\$271.43	23.1%	\$72.34	\$292.82	32.8%
1474	60	\$264.68	\$62.05	\$326.73	23.4%	\$90.04	\$354.72	34.0%
1720	70	\$308.88	\$73.15	\$382.03	23.7%	\$107.74	\$416.62	34.9%
1966	80	\$353.08	\$84.25	\$437.33	23.9%	\$125.44	\$478.52	35.5%
2211	90	\$397.28	\$95.35	\$492.63	24.0%	\$143.14	\$540.42	36.0%
2457	100	\$441.48	\$106.45	\$547.93	24.1%	\$160.84	\$602.32	36.4%

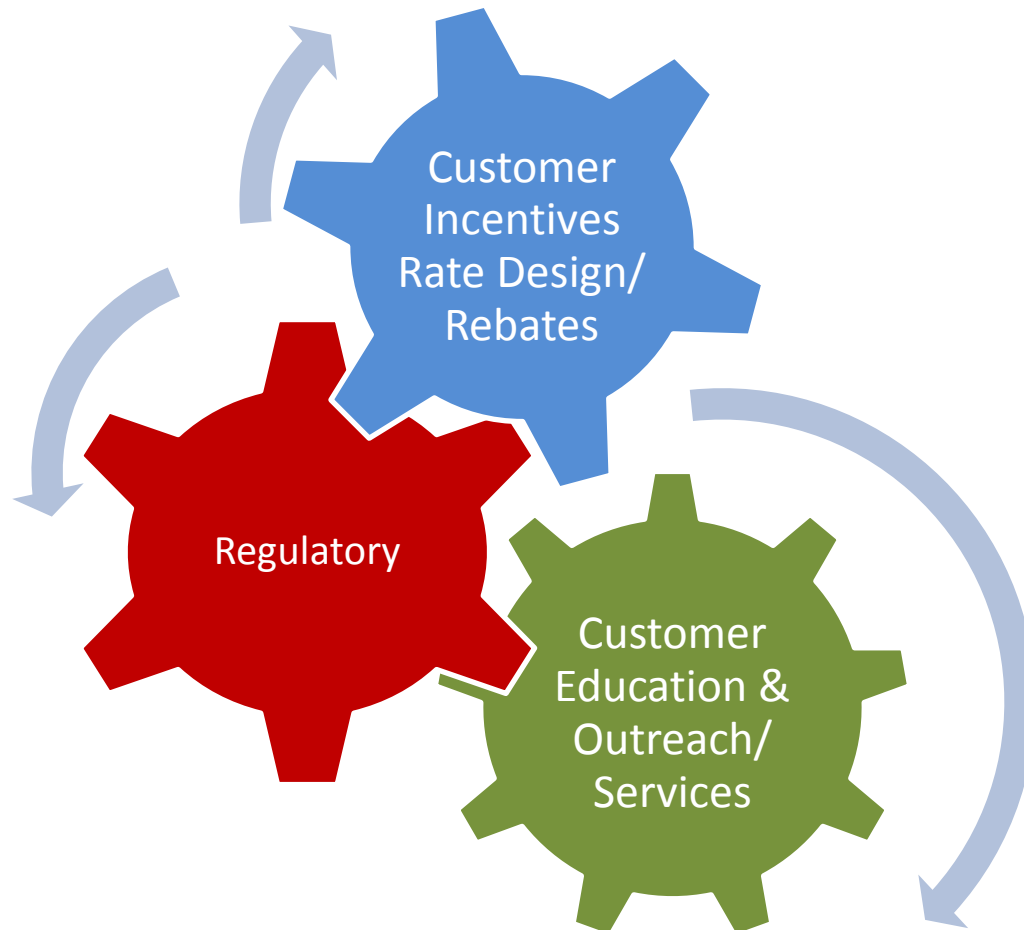
Stage 4 – Bill Impacts

With Excess Use Penalty



		SFR Bill Impacts - Stage 4 - With Excess Use Penalties						
		FY15	4A-Uniform 25%+\$2			4B-Steepens 20%-25%-40% +\$2		
gpd	Monthly Consump CCF	Bill	Surcharge	Total Bill	%	Surcharge	Total Bill	%
24.6								
98.3	4	\$29.07	\$2.92	\$31.99	10.0%	\$2.32	\$31.39	8.0%
172	7	\$37.80	\$5.11	\$42.91	13.5%	\$4.06	\$41.86	10.7%
246	10	\$48.60	\$7.81	\$56.41	16.1%	\$6.76	\$55.36	13.9%
491	20	\$87.88	\$17.65	\$105.53	20.1%	\$19.24	\$107.12	21.9%
737	30	\$132.08	\$28.75	\$160.83	21.8%	\$36.94	\$169.02	28.0%
1229	50	\$220.48	\$50.95	\$271.43	23.1%	\$72.34	\$292.82	32.8%
1474	60	\$264.68	\$62.05	\$326.73	23.4%	\$90.04	\$354.72	34.0%
1720	70	\$308.88	\$93.15	\$402.03	30.2%	\$127.74	\$436.62	41.4%
1966	80	\$353.08	\$124.25	\$477.33	35.2%	\$165.44	\$518.52	46.9%
2211	90	\$397.28	\$155.35	\$552.63	39.1%	\$203.14	\$600.42	51.1%
2457	100	\$441.48	\$186.45	\$627.93	42.2%	\$240.84	\$682.32	54.6%

Water Conservation Drivers and Drought



- District's water supply plan is to call for no more than 15% mandatory conservation
- To date customers have cut-back 11% in response to our 10% requested cut-back w/out rate incentive

Water Conservation Master Plan: Initiatives



Public
education

Marketing

Community
events

Conservation
workshops

Training &
certifications



Plumbing
Fixtures

Appliances

Landscape

Irrigation
Systems

Process
Equipment

Customized



Leak
Detection

Meter
Accuracy

Water Facility
Audits

Pressure
Management

Distribution
Monitoring



Web
services

Water
surveys &
budgets

Customer
engagement

Leak
notification

How to
instructions



Local &
State
Ordinances

Plumbing
Code

Water Code

National
Standards

Research on Customer Behavior & Water Pricing



- 5-15% reductions in water use are achieved through modest price increases and voluntary policy tools such as public information campaigns*.
- ✓ District is in a good position to achieve up to 15% reductions in water use:
 - ✓ Considering staged system of drought rate increases
 - ✓ An active water conservation public outreach campaign

**“Do Residential Water Demand Side Management Policies Measure Up? An Analysis of Eight California Water Agencies”, Renwick and Green, 1999*

Staged System of Drought Rates



Stage	0	1	2	3	4
Demand Reduction		Voluntary 0-15%	Voluntary 0-15%	Mandatory up to 15%	Mandatory 15%
Supplemental Supplies			Up to 35 TAF	35 to 65 TAF	> 65 TAF
Rates and Charges	Normal rates	Normal rates	Normal rates; and Supplemental supply surcharge (SSS)	Normal rates; and Uniform Percent Increase Drought Surcharge*	Normal rates; and Higher Uniform Percent Increase Drought Surcharge*

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

*Drought surcharge supersedes those of the prior Stage.

Additional Outstanding Items from Last Workshop



- Interest in additional public outreach
- Interest in additional information on historical water use

Proposed Drought Rate Outreach



- Three evening outreach events between October 20 and November 7 (6:30pm-8:30pm):
 - Walnut Creek – Thursday October 23rd
Walnut Creek Civic Park Community Center
 - Richmond – Wednesday October 29th
City of Richmond Council Chamber
 - Castro Valley – Wednesday November 5th
Castro Valley Library
- Additional events to be scheduled as interest warrants

Proposed Agenda for Outreach Events



- Welcome and Opening Remarks
- Agenda Review
- Status of EBMUD's Water Supply & 2015 Forecast
- Drought Budget Impacts, Rate Approach Being Considered and Proposed Direction
- Conservation Tips
- Next Steps for Board actions
- Closing Remarks

Next Steps



2014

- Sept-Oct
 - Drought rate COS
- Nov-Dec
 - Review COS
 - Consider adopting staged system
 - Review water supply; if warranted declare Stage 2
 - If Stage 2 declared and supplemental supplies taken; authorize Supplemental Supply Surcharge

2015

- Jan-Mar
 - If in Stage 2, expand public outreach
 - If SSS authorized, implement
 - Board workshops on rates and charges
- April-May
 - Prop 218 notice
 - Review water supply; if warranted declare Stage 3
- June – July
 - Hold rate hearings
 - If Stage 3 declared implement Stage 3 charges

Discussion

