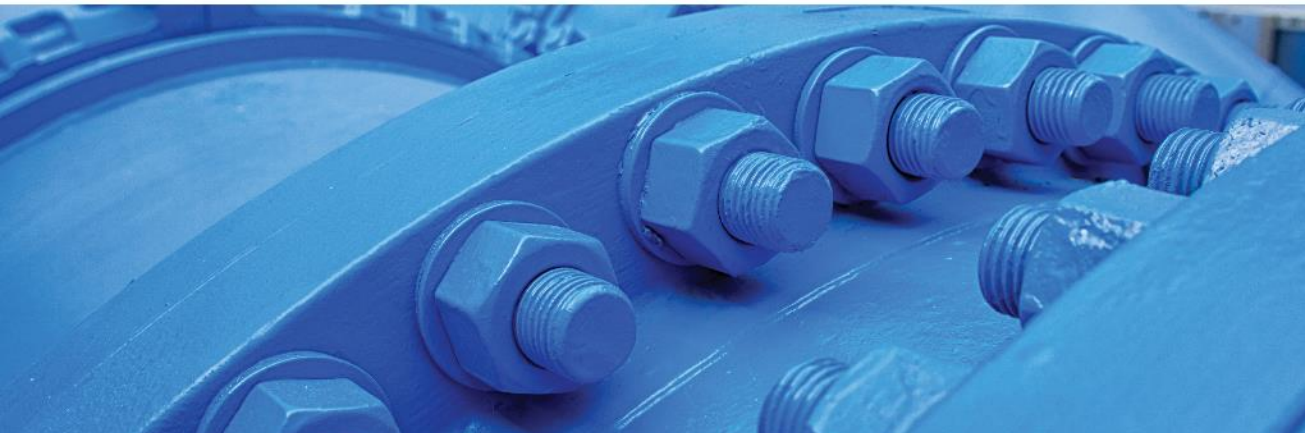




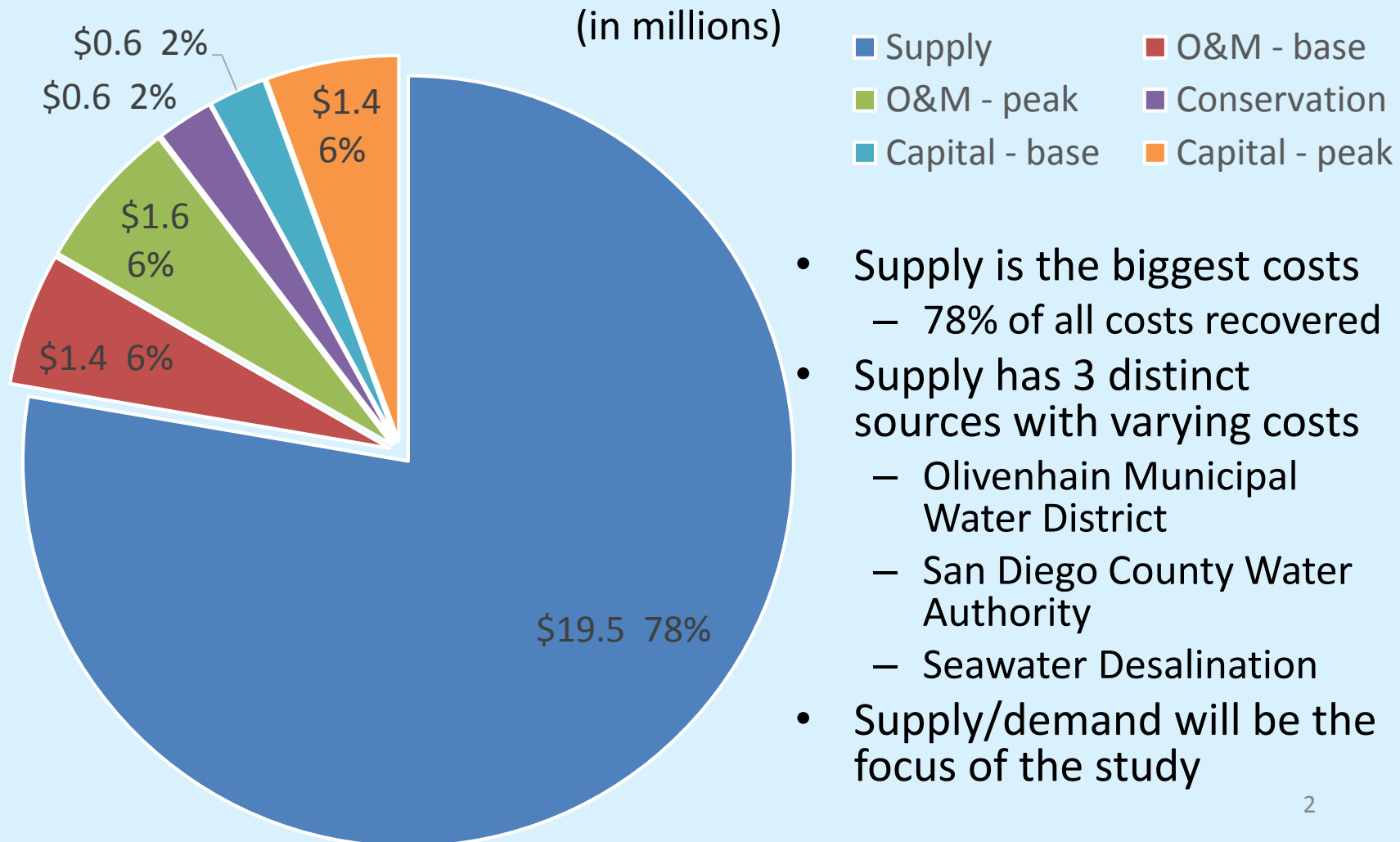
Water Rate Structure Development

Vallecitos Water District Board of Directors Meeting
February 15, 2017

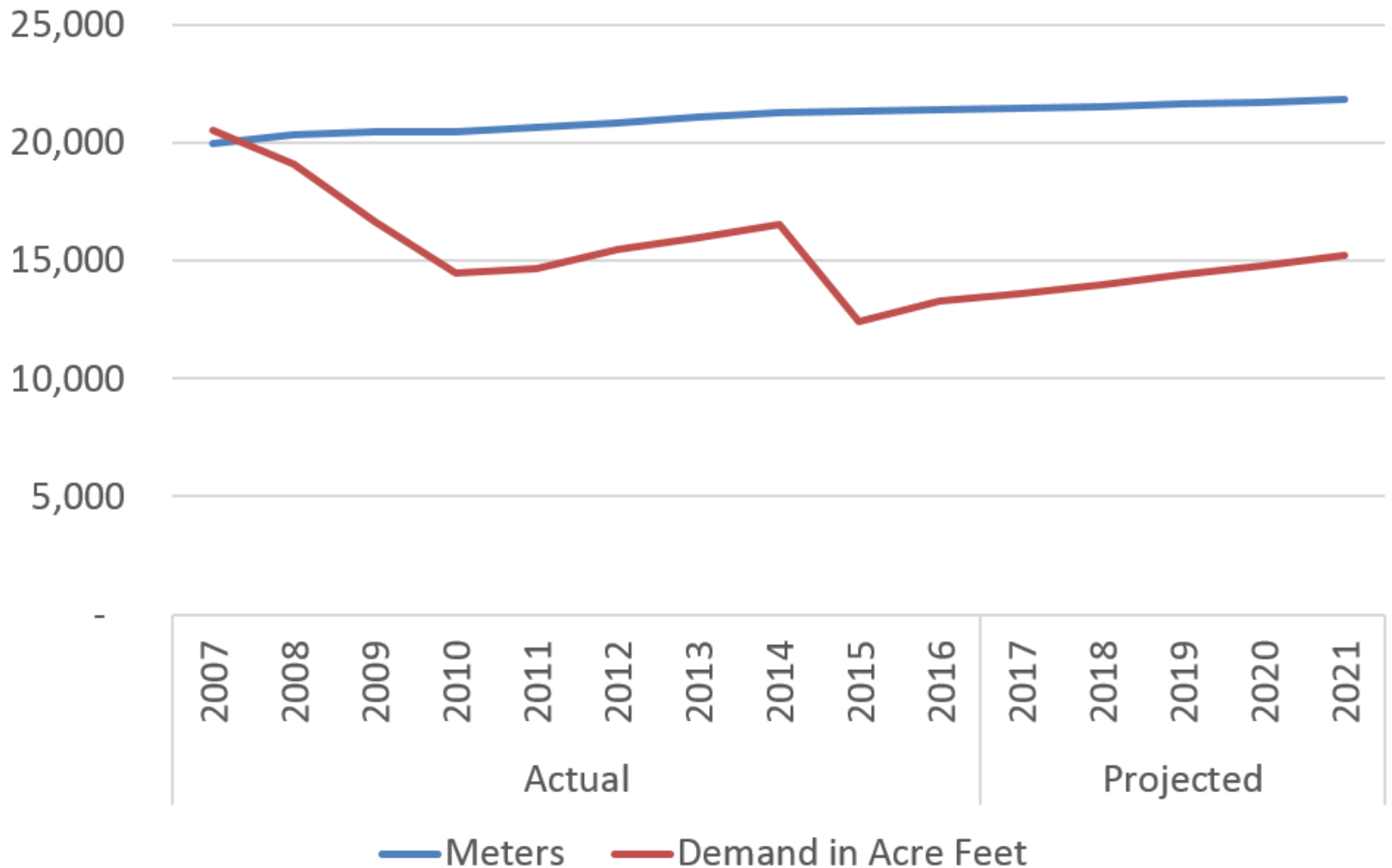


Cost Considerations

Costs Recovered through Water Commodity Charges



Demand Projection Graph



Demand Projection Table



| | Meters | Demand in Acre Feet | | | | Meter Increase | | M&I |
|--------|--------|---------------------|-------|--------------|--------|--|------|----------|
| | | M&I | AG | Construction | Total | # | % | Increase |
| 2007 | 19,929 | 17,595 | 2,438 | 465 | 20,499 | | | |
| 2008 | 20,332 | 17,121 | 1,685 | 252 | 19,058 | 403 | 2.0% | -2.7% |
| A 2009 | 20,445 | 14,985 | 1,607 | 62 | 16,655 | 113 | 0.6% | -12.5% |
| c 2010 | 20,459 | 13,250 | 1,176 | 41 | 14,466 | 14 | 0.1% | -11.6% |
| t 2011 | 20,622 | 13,532 | 1,062 | 40 | 14,634 | 163 | 0.8% | 2.1% |
| u 2012 | 20,828 | 14,109 | 1,342 | 38 | 15,489 | 206 | 1.0% | 4.3% |
| a 2013 | 21,080 | 14,399 | 1,535 | 50 | 15,984 | 252 | 1.2% | 2.1% |
| l 2014 | 21,273 | 14,994 | 1,455 | 74 | 16,522 | 193 | 0.9% | 4.1% |
| 2015 | 21,340 | 11,398 | 991 | 37 | 12,426 | 67 | 0.3% | -24.0% |
| 2016 | 21,397 | 12,236 | 909 | 145 | 13,290 | 57 | 0.3% | 7.4% |
| P 2017 | 21,460 | 12,600 | 900 | 100 | 13,600 | <i>assumptions: 3% increase in M&I - 0.3% growth, 2.7% behavior; 1% decline in Ag; 30% decrease in</i> | | |
| r 2018 | 21,530 | 13,000 | 900 | 100 | 14,000 | <i>assumptions: 3% increase in M&I - 0.3% growth, 2.7% behavior; Ag and construction flat</i> | | |
| o 2019 | 21,610 | 13,400 | 900 | 100 | 14,400 | <i>assumptions: 3% increase in M&I - 0.3% growth, 2.7% behavior; Ag and construction flat</i> | | |
| j 2020 | 21,700 | 13,800 | 900 | 100 | 14,800 | <i>assumptions: 3% increase in M&I - 0.3% growth, 2.7% behavior; Ag and construction flat</i> | | |
| e 2021 | 21,800 | 14,200 | 900 | 100 | 15,200 | <i>assumptions: 3% increase in M&I - 0.3% growth, 2.7% behavior; Ag and construction flat</i> | | |

Demand by Source of Supply



| | <u>2018 Cost</u> | | <u>Projected AF Demand</u> | <u>Extended Cost</u> |
|-----------------|------------------|---------------|--------------------------------|----------------------------|
| | <u>per Unit</u> | <u>per AF</u> | | |
| Tier 3 | | | | |
| Desal | \$ 5.51 | \$ 2,401 | 3,854 | \$ 9,252,005 |
| Tier 2 | | | | |
| SDCWA | 3.13 | 1,362 | 6,306 | 8,590,589 |
| Tier 1 | | | | |
| Treated by OMWD | 2.96 | 1,291 | <u>3,840</u> | <u>4,958,892</u> |
| TOTAL | | | <u><u>14,000</u></u> | <u><u>\$22,801,486</u></u> |

Price per Acre Foot (AF) includes unbilled water

Demand by Source of Supply



| | 2018 Cost | | Projected | Extended |
|-----------------|-----------|----------|-----------|--------------|
| | per Unit | per AF | AF Demand | Cost |
| Tier 1 | | | | |
| Treated by OMWD | \$ 2.96 | \$ 1,291 | 3,840 | \$ 4,958,892 |

OMWD treats SDCWA raw water and provides to the District charging 20% less for treatment than SDCWA treatment charge.

| | 2018 Projected per Acre Foot Charge | | |
|-------------------------------------|-------------------------------------|----------|-----------------|
| | SDCWA | Discount | OMWD |
| Supply | \$ 833 | | \$ 833 |
| Transportation | 118 | | 118 |
| Treatment | 335 | \$ (67) | 268 |
| | <u>\$ 1,286</u> | | <u>\$ 1,219</u> |
| Projected Acre Feet of Production | | | <u>4,068</u> |
| Total Cost of Tier 1 | | | \$4,958,892 |
| Projected Acre Feet of Demand | | | |
| Production | | 4,068 | |
| Unbilled Water at 5.6% | | (228) | 3,840 |
| Supply Cost per Acre Foot Delivered | | | <u>\$ 1,291</u> |



Demand by Source of Supply



| | <u>2018 Cost</u> | | <u>Projected</u> | <u>Extended</u> |
|---------------|------------------|---------------|------------------|-----------------|
| | <u>per Unit</u> | <u>per AF</u> | <u>AF Demand</u> | <u>Cost</u> |
| Tier 2 | | | | |
| SDCWA | \$ 3.13 | \$ 1,362 | 6,306 | \$ 8,590,589 |

| | |
|---------------------------|------------------------|
| Total Projected AF Demand | 14,000 |
| Supplied by OMWD | (3,840) |
| Supplied by Desal | (3,854) |
| Tier 2 Demand | <u>6,306</u> |
| Unbilled Water at 5.6% | <u>374</u> |
| Total SDCWA Production | 6,680 |
| Production Cost per AF | <u>\$ 1,286</u> |
| Total Cost of Tier 2 | \$8,590,589 |
| Tier 2 Demand | <u>6,306</u> |
| Cost per AF of Demand | <u><u>\$ 1,362</u></u> |

Demand by Source of Supply



| | 2018 Cost | | Projected | Extended |
|---------------|-----------|----------|-----------|--------------|
| | per Unit | per AF | AF Demand | Cost |
| Tier 1 | | | | |
| Desal | \$ 5.51 | \$ 2,401 | 3,854 | \$ 9,252,005 |

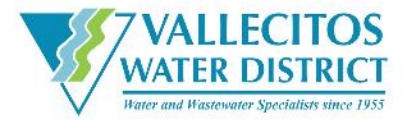
- SDCWA purchase commitment with Poseidon for 48KAF.
- VWD purchase commitment for 3.5 of the 48KAF
- First 3,500 at full cost recovery
- County-wide deliveries in excess of 48KAF priced at variable cost recovery only
- VWD gets pro-rata share of excess – 3.5/48 X County-wide excess
- 56KAF – 87% of plant capacity = anticipated County-wide deliveries

Projected 2018 Desal

| | AF Demand | Cost/AF | Total Cost |
|-------------------------------|--------------|----------|--------------------|
| Purchase Commitment | 3,500 | \$ 2,521 | \$8,823,500 |
| Anticipate Amount in Excess | 583 | 735 | 428,505 |
| Total Desal Production | 4,083 | | \$9,252,005 |
| Unbilled Water at 5.6% | (229) | | |
| Tier 1 Demand | 3,854 | ÷ | 3,854 |
| Cost per AF of Demand | | | \$ 2,401 |



Determining Customer Classification Meter Size vs Customer Type



Customer classification is a grouping of customers into homogeneous groups or classes. [M1 Manual]

| CY 2015 | | | | | CY 2016 | | | | |
|----------|----------------------|--------------------|----------|---------------|----------|----------------------|--------------------|----------|--|
| # meters | Avg Use per Month | Standard Deviation | | Meter size | # meters | Avg Use per Month | Standard Deviation | | |
| | | Absolute | Relative | | | | Absolute | Relative | |
| 19,206 | 11 | 11 | 93% | < 1" | 19,239 | 12 | 11 | 96% | |
| 1,016 | 37 | 55 | 147% | 1" | 1,021 | 40 | 66 | 164% | |
| 682 | 94 | 150 | 160% | 1.5" | 689 | 101 | 152 | 151% | |
| 500 | 170 | 217 | 127% | 2" | 505 | 188 | 236 | 126% | |
| 95 | 476 | 682 | 143% | > 2" | 101 | 511 | 754 | 148% | |

| # meters | Avg Use per Month | Standard Deviation | | Customer Type | # meters | Avg Use per Month | Standard Deviation | |
|----------|----------------------|--------------------|----------|------------------|----------|----------------------|--------------------|----------|
| | | Absolute | Relative | | | | Absolute | Relative |
| 18,997 | 11.47 | 13 | 116% | Residential - SF | 19,036 | 12 | 11 | 96% |
| 506 | 140.48 | 280 | 199% | Residential - MF | 512 | 142 | 282 | 198% |
| 818 | 84.51 | 132 | 156% | Irrigation | 826 | 106 | 175 | 165% |
| 117 | 282.19 | 484 | 171% | Agriculture | 115 | 280 | 450 | 160% |
| 942 | 47.55 | 97 | 205% | Comm/Ind | 939 | 49 | 106 | 216% |
| 89 | 123.79 | 321 | 259% | Other | 91 | 126 | 317 | 252% |

Allocating Tiers to Customer Classes

Supply makes up 78% of costs recovered.

Usage patterns are the starting point for determine Tier limits.

| Meter size | 2013 through 2016 | | | | | |
|------------|-------------------|--------------|-------------|--------------|-----------------|--------------|
| | Minimum Avg Use | Use Captured | Average Use | Use Captured | Maximum Avg Use | Use Captured |
| < 1" | 6 | | 13 | | 21 | |
| 1" | 16 | | 45 | | 79 | |
| 1.5" | 43 | | 117 | | 196 | |
| 2" | 85 | | 201 | | 336 | |
| > 2" | 430 | | 778 | | 1,197 | |
| AG | | | | | | |
| TOTAL | | | | | | |

Consumptive Use Model

- “Minimum” use inputted comes closest to accumulating Tranche 1 demand
- Reiterations with tiers limits adjusted proportionately until Tranche 1 demand is accumulated
- Same procedure used to establish Tier 2 limit starting with average use
- Ag is added in at the projected amount

Proposed Tier Limits



| Meter size | Tier 1 | | Tier 2 | |
|---------------|--------|-----|--------|-----|
| | Limit | Use | Limit | Use |
| < 1" | | | | |
| 1" | | | | |
| 1.5" | | | | |
| 2" | | | | |
| > 2" | | | | |
| AG | | | | |
| TOTAL | | | | |

What's next?

Cost Allocation to Tiers

- Tier 1
 - OMWD water supply
 - Base costs
- Tier 2
 - SDCWA water supply
 - Base costs
 - Peaking costs
- Tier 3
 - Desal water supply
 - Base costs
 - Peaking costs
 - Conservation costs



Cost of Service and Rate Structure Study Time Line



February 1 - Water Rate Structure Considerations

- Presented rate structure alternatives to Board
- Consensus to prepare internal rate study

February 15 - Rate Structure Development

- Presented progress on rate structure development to the Board

March 15 - Cost Allocation

- Present progress on cost allocation

April 19 – Draft Cost of Service and Rate Structure Study Complete

- Present to Board
- Send to attorney firms with RFP for review

May 29 – Workshop

- Review legal comments
- Populate with recommended budget amounts

June 7 – Board Adoption