



## Capital Charge Study – Workshop #1: Kickoff Meeting

April 21, 2022



# Agenda

- 1. Introductions**
- 2. Purpose & History**
- 3. Current Methodology**
- 4. Potential Options**
- 5. Advantages & Disadvantages**
- 6. Discussion**
- 7. Next Steps**



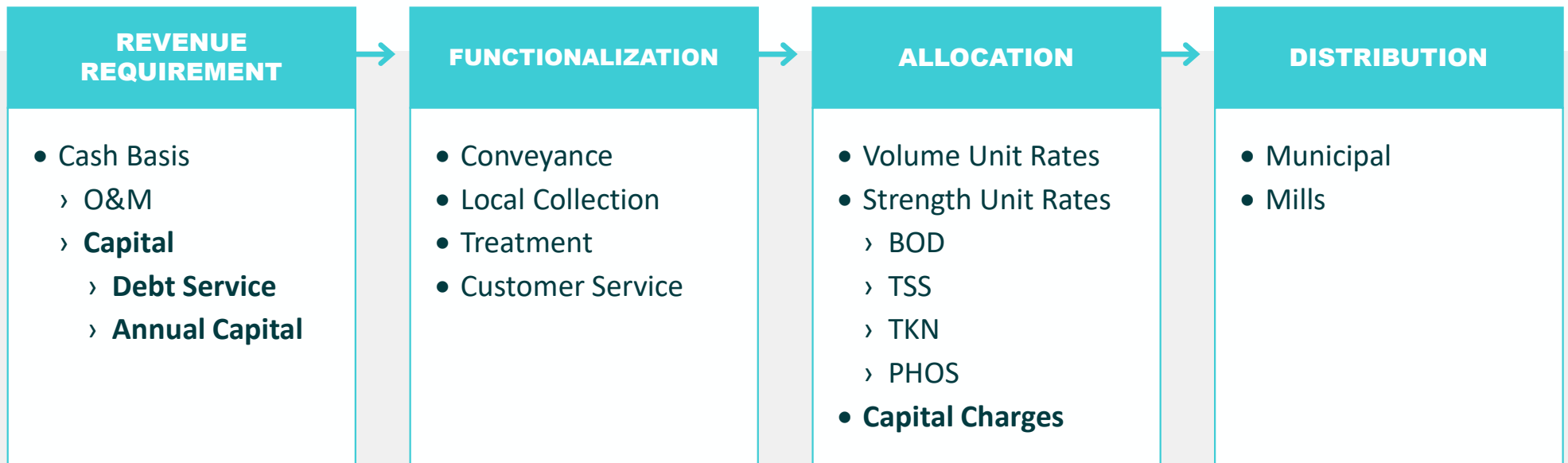
# Purpose

# Study Purpose & Meeting Objective

- **Study Purpose:** Develop and evaluate new capital charge billing approaches and make a recommendation to Commission.
- **Drivers:** Desire to explore ways to improve the capital charge billing process, including consideration of:
  - › Move from budgeted to actual units
  - › True-up procedure
  - › Revise the capital charge component from 65% to 100% of total capital
  - › Other approaches to be identified...
- **Meeting Objective:** Identify a set of preliminary capital charge billing options to carry forward for further analysis.
- **Stakeholder Advisory Group Role:** Serve in an advisory capacity to NEW Water to inform the Capital Charge Study process.

# History

# Wastewater Cost-of-Service Analysis Process



# History of the Capital Charge

**Concept:** Implemented to stabilize a portion of annual cost and revenue.

**Development:** The capital charge was introduced in 2014 following completion of a prior Study “Rate Methodology for Cost of Service Allocation”.

**Methodology:** The capital charge is allocated to each customer based on proportion of customer’s budgeted flow and loads relative to total.

**Note:** *Not a new or additional charge*, but merely a different way to collect a portion of the Total Budget Requirement.

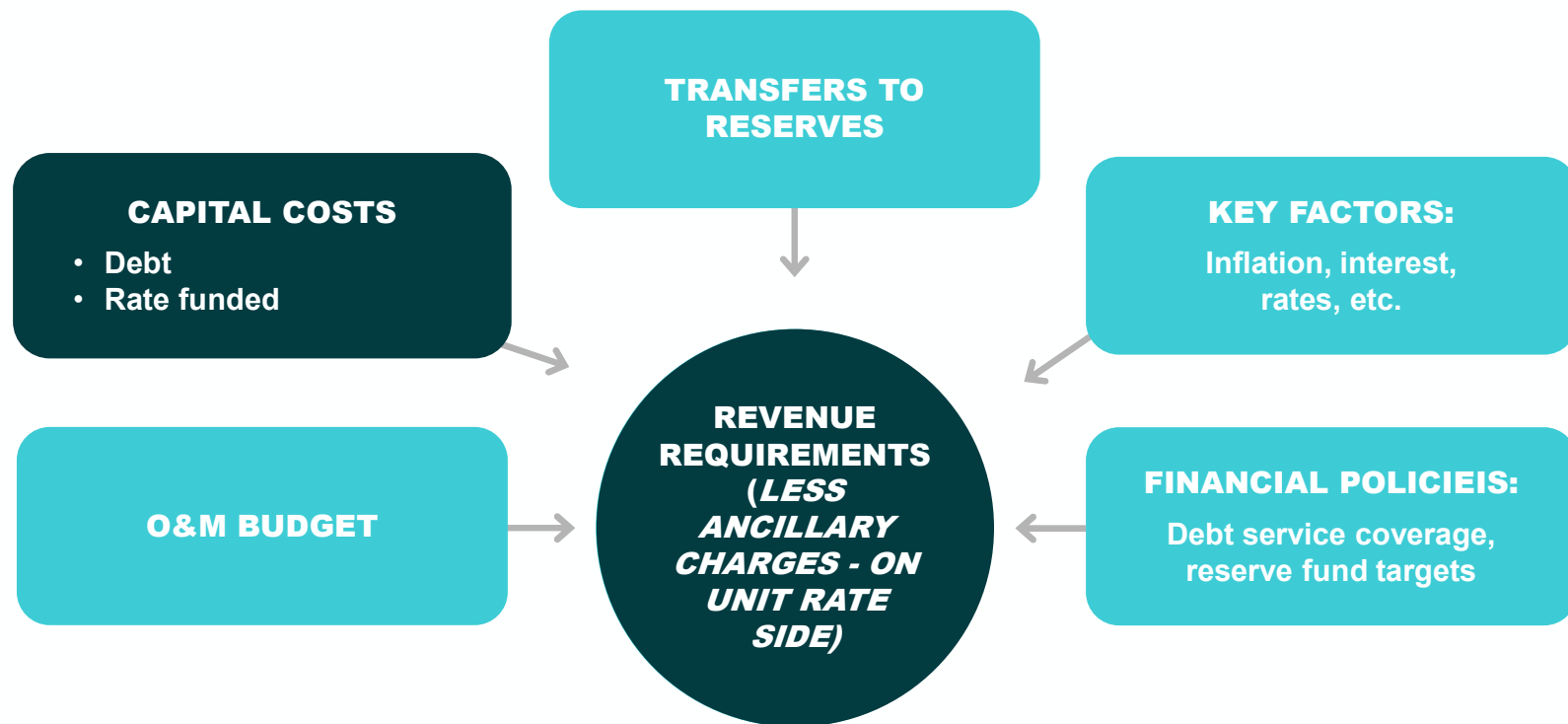
# History of the Capital Charge

Budget Year	Amount of Capital Charge*	How Capital Charge Distributed/Collected
Pre 2014	No capital charge	All capital collected via parameter rates based on actual system use
2014	15% of total budget	Collected based on budgeted system use, equal across parameters
2015		
2016		
2017		
2018	45% of capital budget	Collected based on budgeted system use, across parameters consistent with our cost methodology
2019	65% of capital budget	
2020		
2021		
2022		



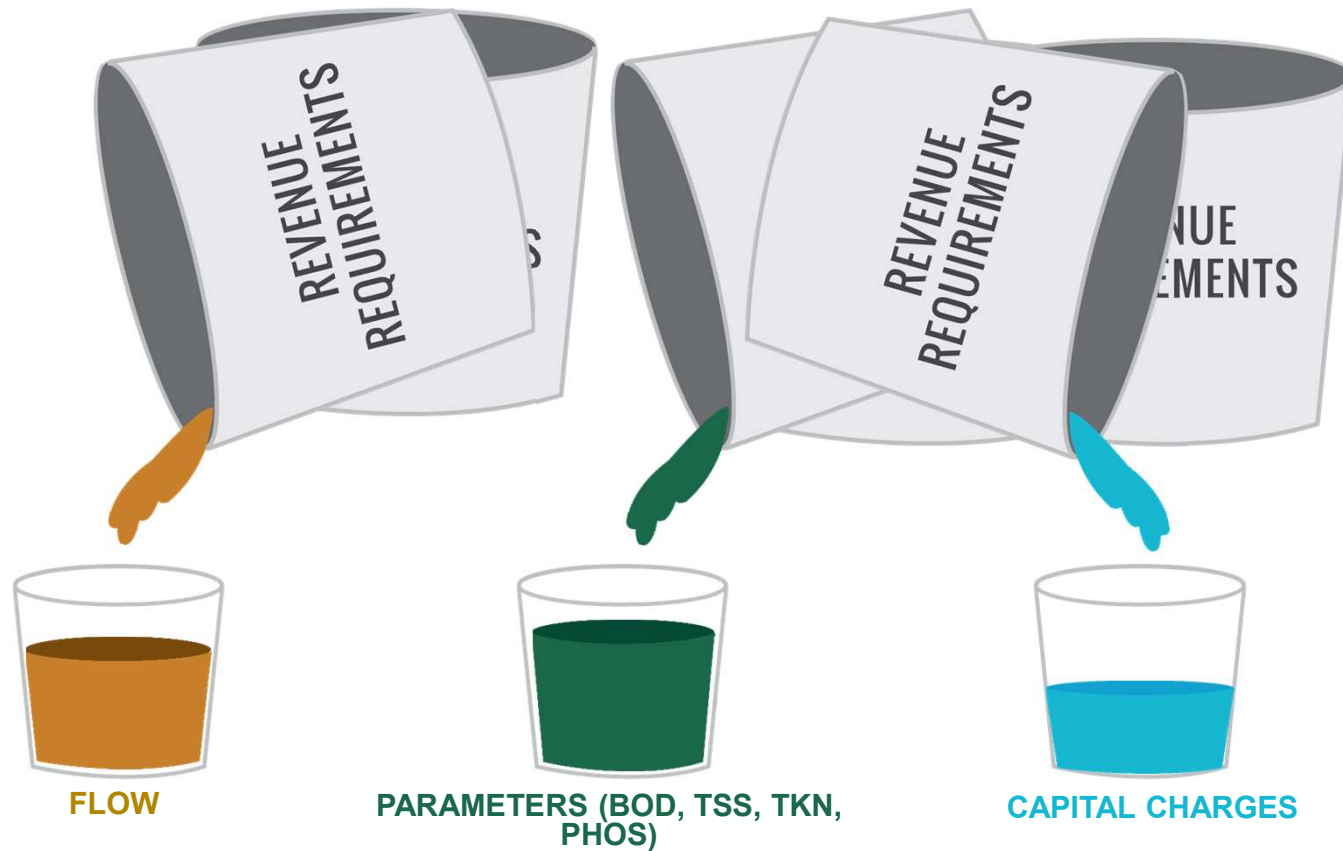
# Current Approach

# Identify Revenue Requirements

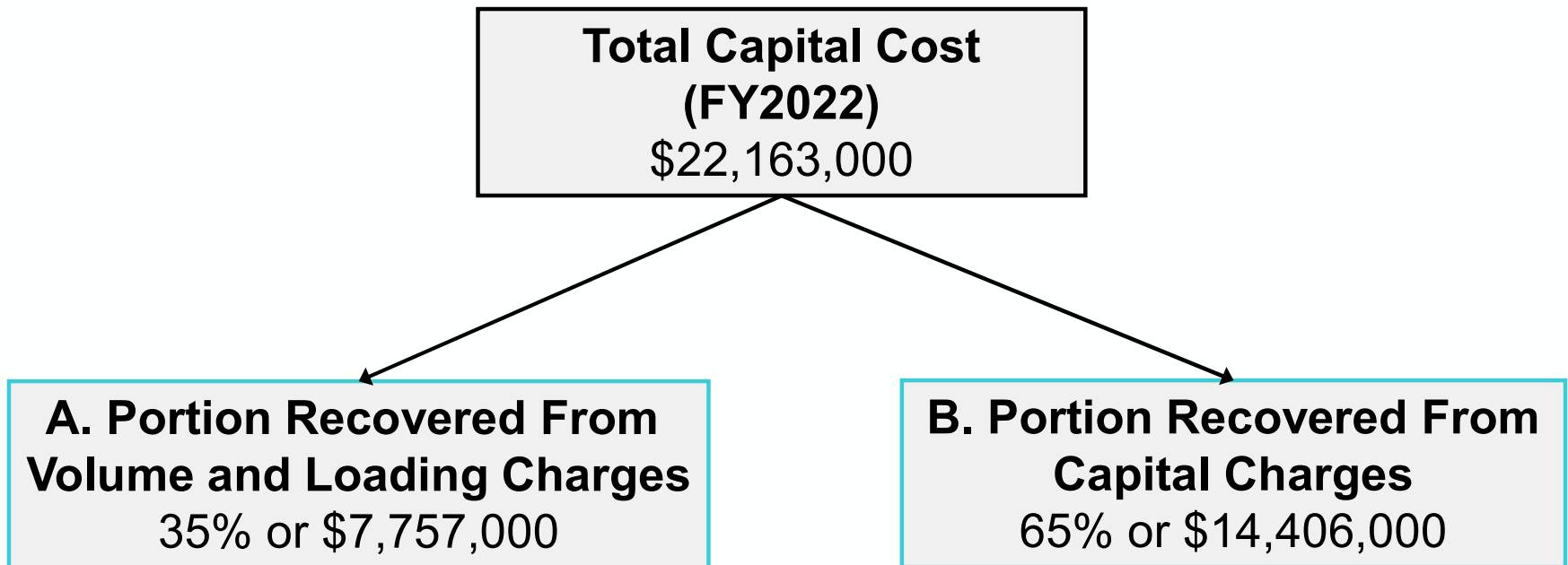


# Wastewater Cost of Service Analysis

Allocation of Revenue Requirements

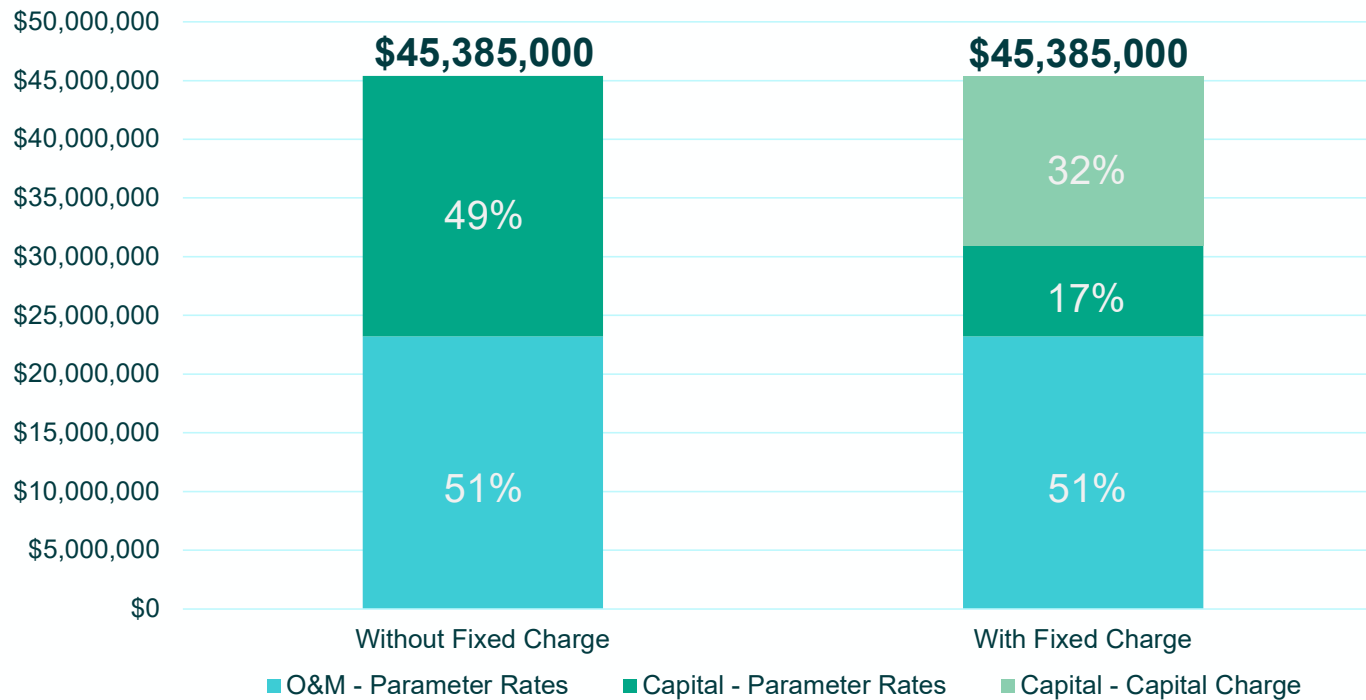


# Illustration of Current Methodology



# Illustration of cost distribution

## Distribution of Budgeted Revenue Requirement



# Illustration of Current Methodology

## A. Portion From Volume & Loading Charges 35% or \$7,757,000

1. Adjust for GP, Mill Charges and Other Revenues  
Remaining portion = \$4,025,000

2. Allocate costs to Parameters based on Fixed Asset Allocation

Customer	Flow	BOD	TSS	Phos	TKN
ALL	14.4%	33.2%	45.3%	3.1%	4.0%
ALL	\$0.58M	\$1.34M	\$1.82M	\$0.13M	\$0.16M

3. Divide by Flows and Loadings to Calculate Unit Rate and Bill Based on Actual Flows and Loadings

Customer	Flow	BOD	TSS	Phos	TKN
ALL	\$0.0500	\$0.0600	\$0.0900	\$0.3000	\$0.0500
Customer X	X MG	X LBS	X LBS	X LBS	X LBS

4. Customer X Portion =  $(\$0.0500 \times X \text{ MG Flow}) + (\$0.0600 \times X \text{ LBS BOD...etc})$

# Illustration of Current Methodology

## B. Portion from Capital Charge

65% or \$14,406,000

1. Allocate Capital Charge to Parameters based on Fixed Asset Allocation

Customer	Flow	BOD	TSS	Phos	TKN
ALL	14.4%	33.2%	45.3%	3.1%	4.0%
ALL	\$2.07M	\$4.79M	\$6.52M	\$0.45M	\$0.58M

2. Distribute Capital Charge to Customers based on Budgeted Flow / Strength

Customer	Flow	BOD	TSS	Phos	TKN
Customer X	2.1%	8.2%	4.2%	6.0%	8.9%

3. Customer X Portion =  $(2.1\% \times \$2.07M) + (8.2\% \times \$4.79M) + \text{etc...}$

\* Method results in the **same customer allocation as if there was no capital charge**, and the costs were recovered through the variable rates (assuming actual usage mirrored budgeted usage).

# How are budgeted units estimated?

## Volume:

- Historical billing data is analyzed using a weighted average with less weight on outlier years
- A 30-year precipitation average is reviewed
- Estimates are vetted to ensure results are within range
- A growth percentage is then added to baseline flow based on trends
- Feedback from customers to gather information on expected changes and review results

## Loading:

- Historical billing data average (1 to 5 years) is the basis (note there is a data lag)
- More industry driven, so new / lost industries, and customer process changes included
- A growth percentage is then added to baseline flow based on trends
- Manual adjustments based on industry knowledge, feedback from customers, and observed trends are employed as needed



*Note: All figures shown here are illustrative.*

# Using budgeted or actual units won't impact NEW Water revenues

Customer	Budgeted Units	%	Actual Units	%
Customer 1	5,000,000	50%	2,000,000	25%
Customer 2	5,000,000	50%	6,000,000	75%
<b>Total</b>	<b>10,000,000</b>	<b>100%</b>	<b>8,000,000</b>	<b>100%</b>

Cost	%	Customer	Unit Rate Revenue	Budget Based Capital Charge	Actuals Based Capital Charge
O&M + 35% Capital	\$25,000,000	Customer 1	\$5,000,000	\$10,000,000	\$5,000,000
65% Capital Charge	\$20,000,000	Customer 2	\$15,000,000	\$10,000,000	\$15,000,000
<b>Item</b>	<b>Value</b>	<b>Total</b>	<b>\$20,000,000</b>	<b>\$20,000,000</b>	<b>\$20,000,000</b>

O&M + 35% Capital	\$25,000,000
Units	10,000,000
Unit Rate	\$2.5 / unit

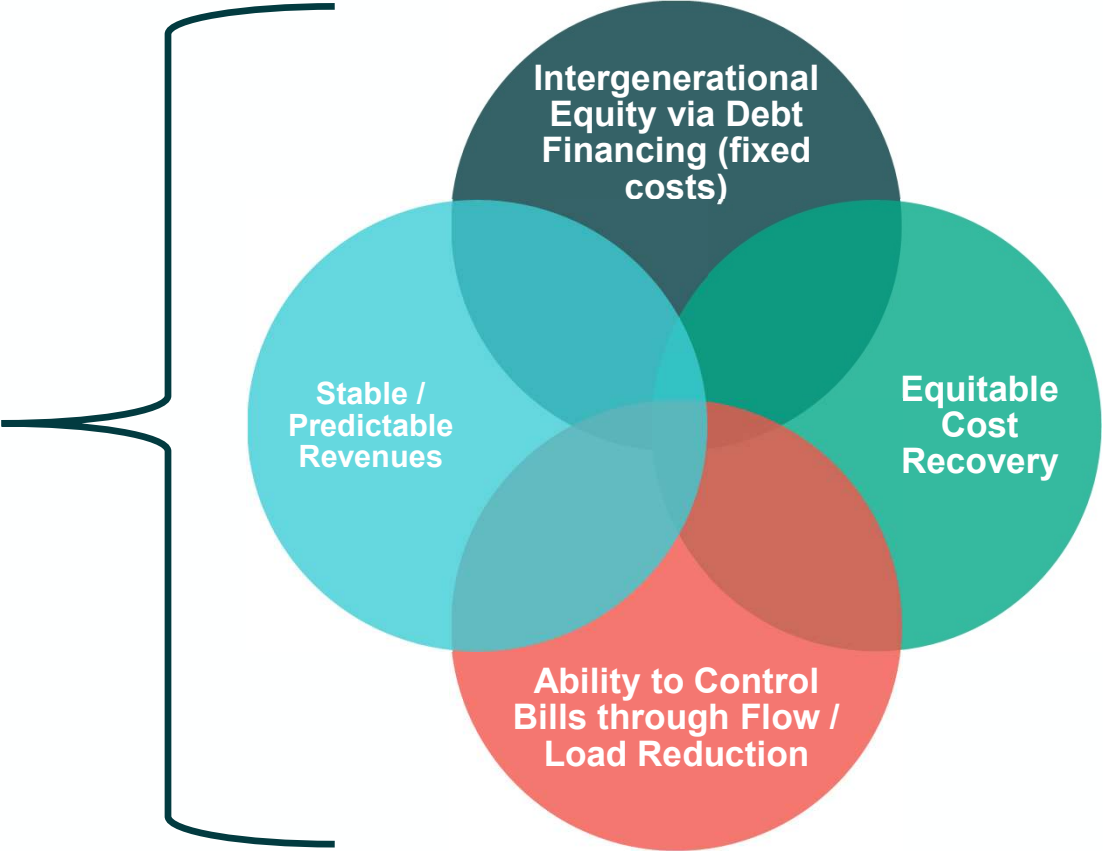
**\$5M Rate  
Revenue  
Shortfall**

**\$0 Change in Total Capital  
Charge Revenue Regardless  
of Basis, Just Mix Changes**

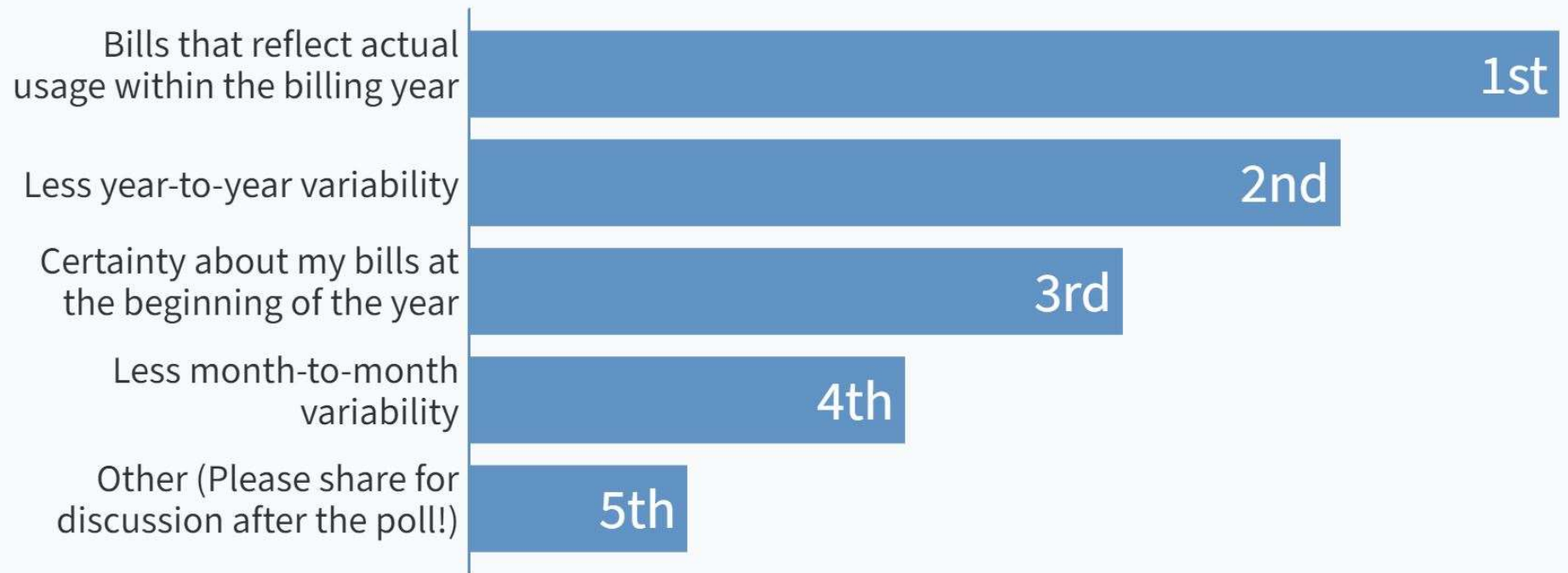
# Options

# What is the goal?

*Achieve a balance...*



## What is most important to you regarding the capital charge? Please click each option in order of importance.



# Preliminary options

## 1. Status quo

- **Process:** Capital charge allocated to customers based on budgeted units, capital charge is billed at 1/12<sup>th</sup> per month.
- **Examples:** NEW Water (See prior slides)

## 2. Year-end true-up

- **Process:** Use budgeted units during the year, redistribute capital charge at end of the year using actual units settled with December invoice payment (or to-be-determined deadline).
- **Examples:** DC Water

## 3. In-year true-up (or actuals)

- **Process:** Capital charge allocated to each customer adjusted using actuals every six months, quarterly, or just-in-time (monthly).
- **Examples:** Williamsport, PA

## 4. Rolling actuals

- **Process:** Capital charge allocated to customers each month using a rolling average of 3, 6, or 12 months of actuals.
- **Examples:** Unknown

## 5. Lagging actuals

- **Process:** Capital charge allocated to customers during the year based on the prior year or an average of 3 prior years of actuals.
- **Example:** Dayton Water (3-year average)

# Additional feature

## A. 65% to 100% capital charge

- **Process:** All capital costs would be billed on a capital charge basis.
- **Examples:** City of Wilmington, DE

# Advantages vs. Disadvantages

# Option #1: Status quo

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## Advantages

- Familiar process.
- Certainty to customers.
- Relatively less administratively burdensome than other options.
- Customers who deliver **more** flow/loads than budgeted may save on the capital charge portion of the bill.

## Disadvantages

- Equity. Does not tie directly to actual usage, which is less equitable for customers.
- Customers who deliver **less** flow/loads than budgeted may pay more on the capital charge portion of the bill.



# Option #2: Year-end true-up

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## Advantages

- More equitable than status quo.
- Relatively easy to administer compared to other options besides status quo.
- Similar to existing smoothing procedure.
- Common industry practice.

## Disadvantages

- Could lead to surprises in customer year-end bills.
- Adds additional administrative effort (modest).
- Potential billing process changes.
- Reduces customer certainty about annual bill.
- Variation between budget and actuals may equalize over time, so annual efforts may not yield much net change for customers.

# Option #3: In-year true-up (or actuals)

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## Advantages

- Improves equity compared to status quo option.
- Could result in lower magnitude changes than a year-end true-up.

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## Disadvantages

- Increases month to month customer variability.
- Adds administrative effort (modest).
- Requires billing process changes.
- Reduces customer certainty about annual bill.

# Option 4: Rolling actuals

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## Advantages

- Potential for improved equity compared to status quo option.
- Reduces customer bill variability because units are smoothed.

## Disadvantages

- Not as equitable as other options since units are from a different period than capital costs.
- Reduces customer certainty about annual bill.
- Could introduce seasonality issues (recommend rolling 12 months to avoid).
- Not a common industry practice.
- Adds administrative effort (modest).
- Requires billing process changes.

# Option #5: Lagging actuals

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## Advantages

- Certainty to customers because units are known in advance.
- Relatively easy to administer compared to other options besides status quo.

## Disadvantages

- Not as equitable as other options since units are from a different period than capital costs.
- Adds administrative effort (modest).
- Requires billing process changes.

# Option A: 65% to 100% capital charge

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## Advantages

- Improves revenue stability for NEW Water.
- Improves bill predictability for customers (eliminate 35% variable capital cost recovery in unit rates).
- Could be paired with any prior option.
- Moves capital fixed costs to full capital charge basis.

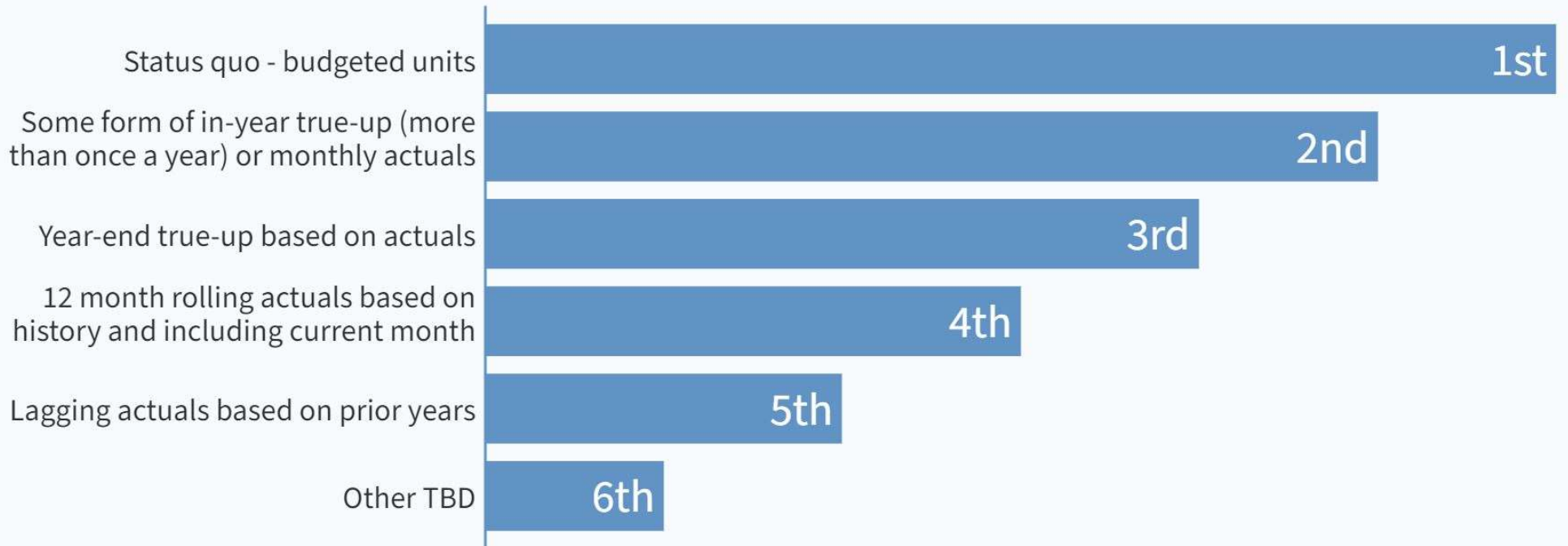
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## Disadvantages

- End-users have less ability to impact their bill in a given year.
- May increase demand for some form of true-up because capital charges are higher.
- Sends less of a conservation signal for water and energy by reducing variable unit rates.

# Discussion

## Which capital charge billing options would you most like to study further? Please rank the following.



# Next Steps



# Next Steps



**Task 1: Kickoff Meeting & Workshop #1**



**Task 2: Options Analysis & Workshop #2**



**Task 3: Path Forward Selection & Workshop #3**



**Task 4: Commission Meeting**



**Task 5: Summary Reporting**



**Task 6: OPTIONAL - Model Incorporation & User Guide Updates**

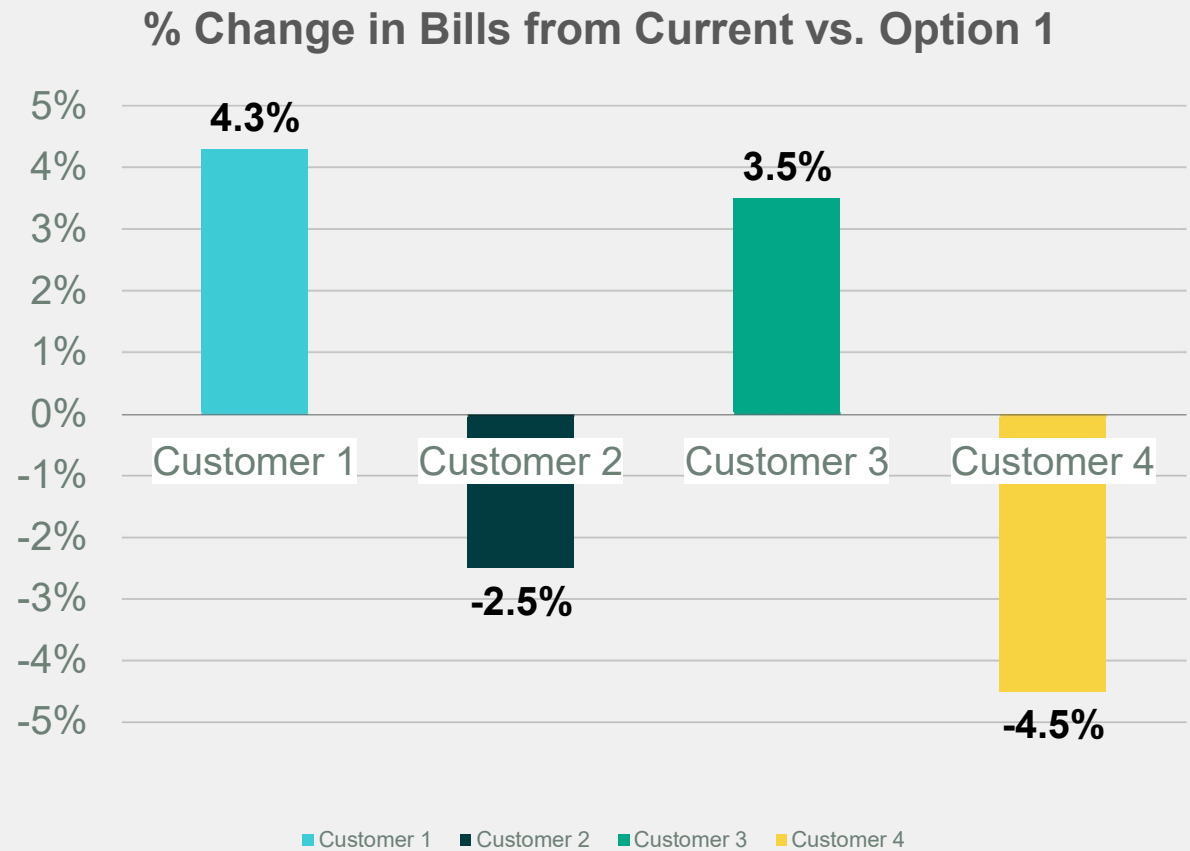
# Example Analysis Views

# Option #1: Table of impacts (\$ and %)

Customer	Current Capital Charge	Option 1 Capital Charge	\$ Change	% Change
Customer 1	\$#	\$#	Δ\$#	+ -X%
Customer 2	\$#	\$#	Δ\$#	+ -X%
Customer 3	\$#	\$#	Δ\$#	+ -X%
Customer 4	\$#	\$#	Δ\$#	+ -X%
...	\$#	\$#	Δ\$#	+ -X%
Customer n	\$#	\$#	Δ\$#	+ -X%
<b>Totals</b>	<b>\$#</b>	<b>\$#</b>	<b>Δ\$#</b>	<b>+ -X%</b>

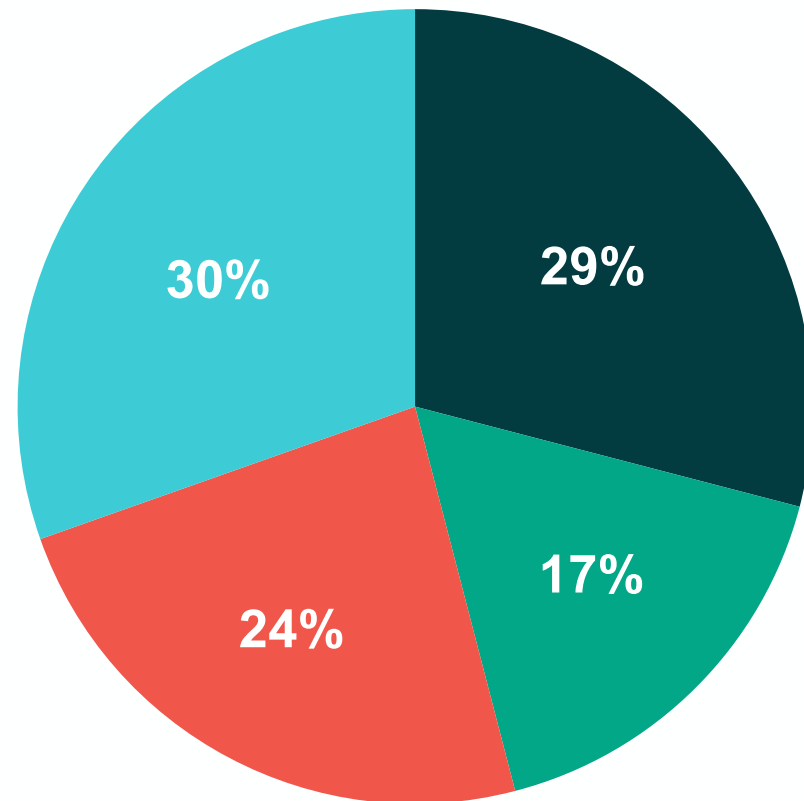
# Option #1

Histogram of % bill changes



# Option #1

Share of costs (%)

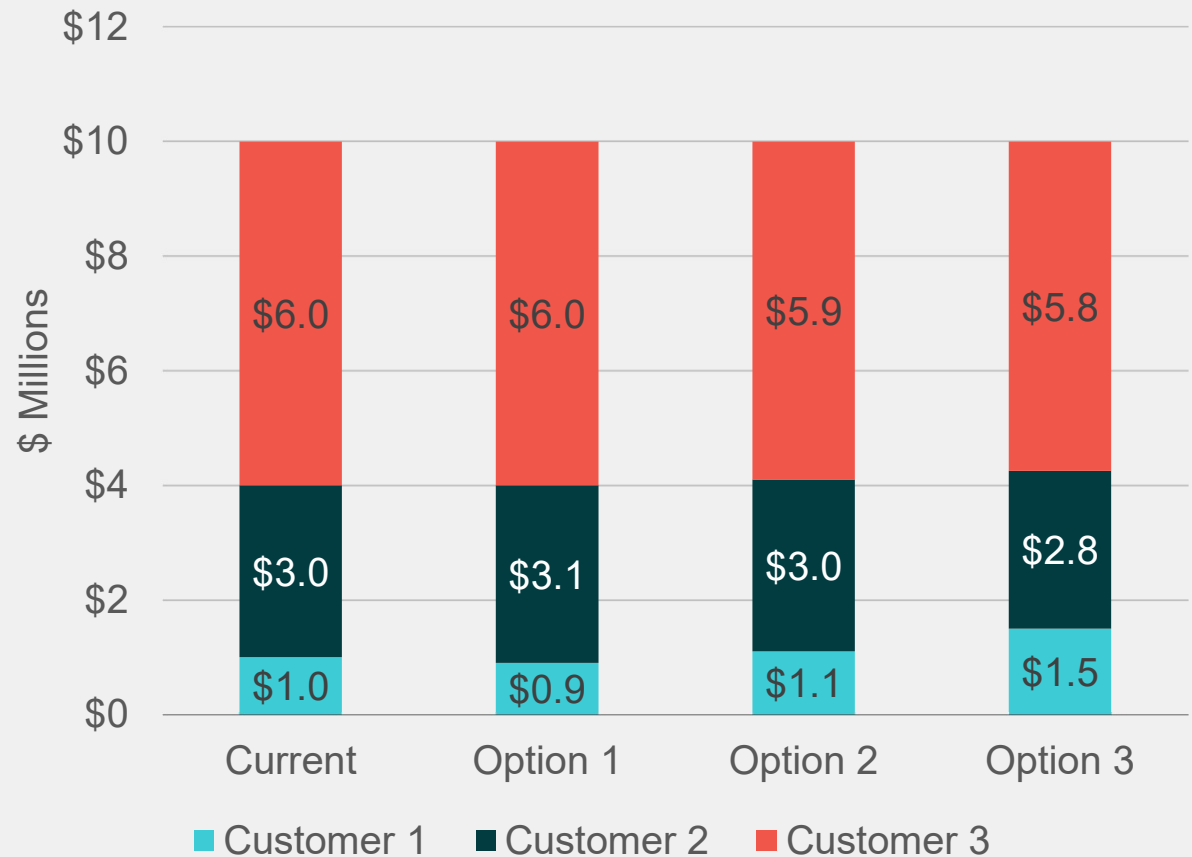


■ Customer 1 ■ Customer 2 ■ Customer 3 ■ Customer 4

# All Options

Histogram comparing distribution of costs across options

## Mix of Costs by Customer and Option





# Thank you!

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