



**NEWEA**  
WORKING FOR WATER QUALITY



# Making the Right Choices for Your Utility: Incorporating Community Priorities into Investment Decision-Making

Augmented Alternatives Analysis Process  
January 24, 2023  
2:00-4:30 PM

## Segment 1: Welcome and Introductory Session

# Welcome

**Leslie Corcelli**

**U.S. EPA Office of Wastewater Management**



# Today's Speakers

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**Leslie Corcelli**  
Office of Wastewater  
Management US EPA



**Sarah Shadid**  
Ross Strategic  
EPA Contractor



**Ed McCormick**  
McCormick Strategic  
Water  
EPA Contractor



**Howard Carter**  
Saco Water Resource  
Recovery Dept



**Dan Bisson**  
Tighe & Bond



**Emily Cole-Prescott**  
Saco Water Resource  
Recovery Dept

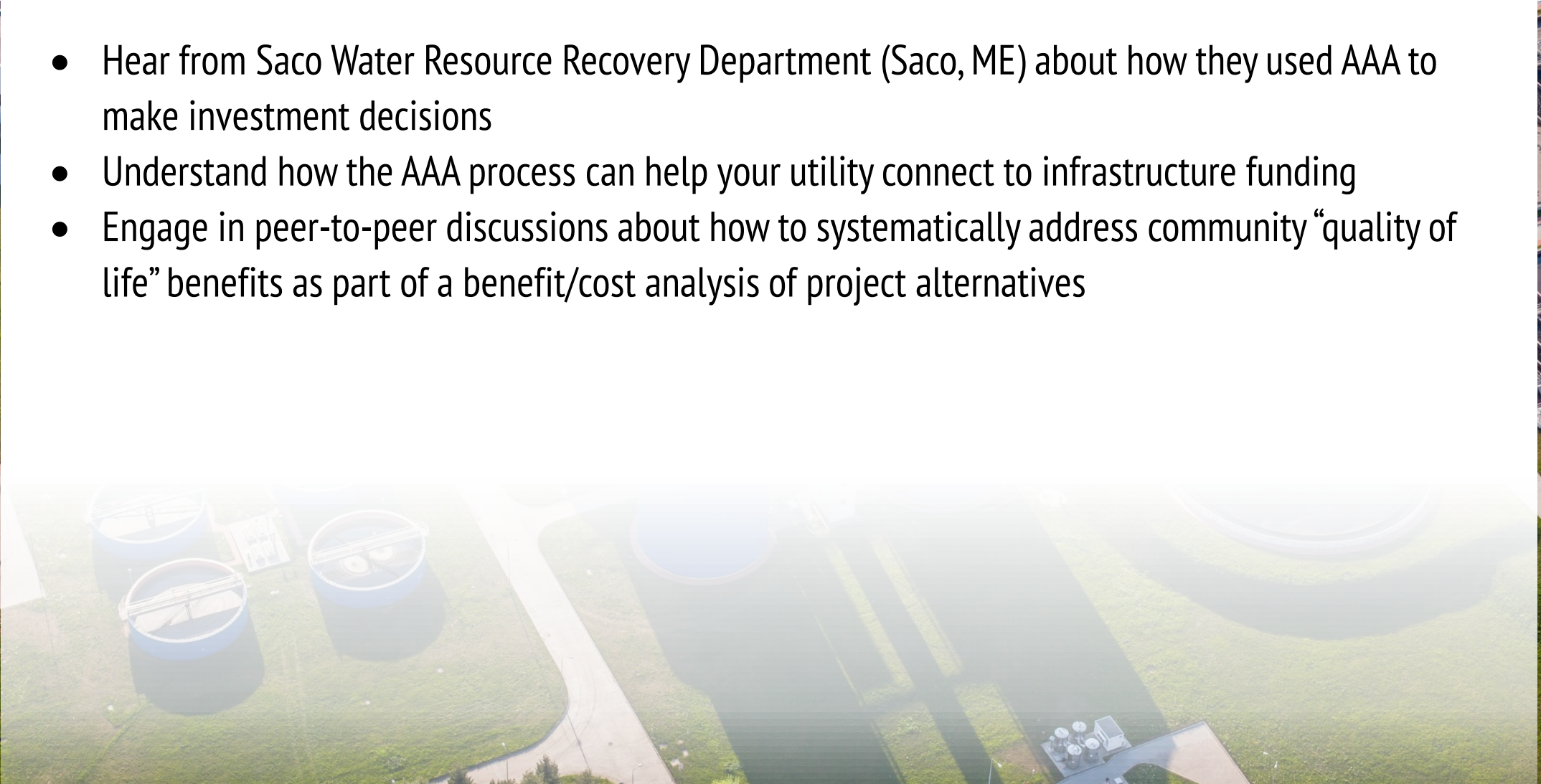


**Emily Roy**  
City of Saco

# Workshop Objectives

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- Hear from Saco Water Resource Recovery Department (Saco, ME) about how they used AAA to make investment decisions
- Understand how the AAA process can help your utility connect to infrastructure funding
- Engage in peer-to-peer discussions about how to systematically address community “quality of life” benefits as part of a benefit/cost analysis of project alternatives



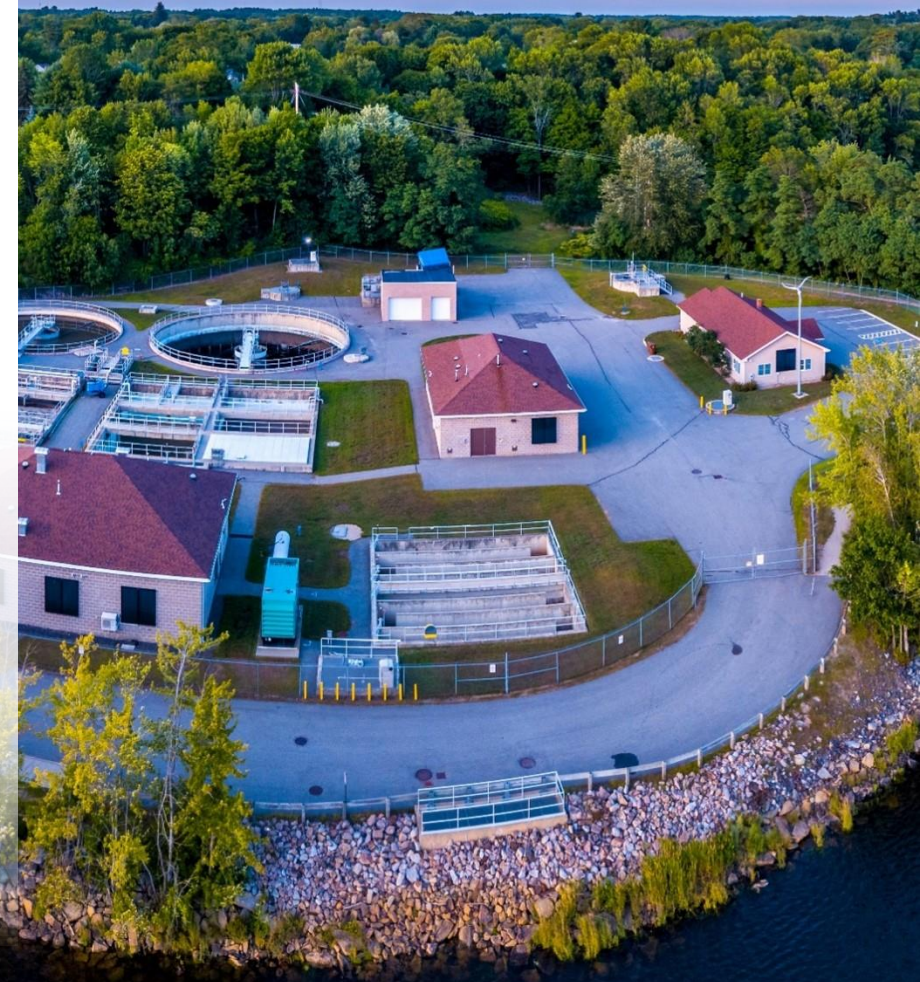


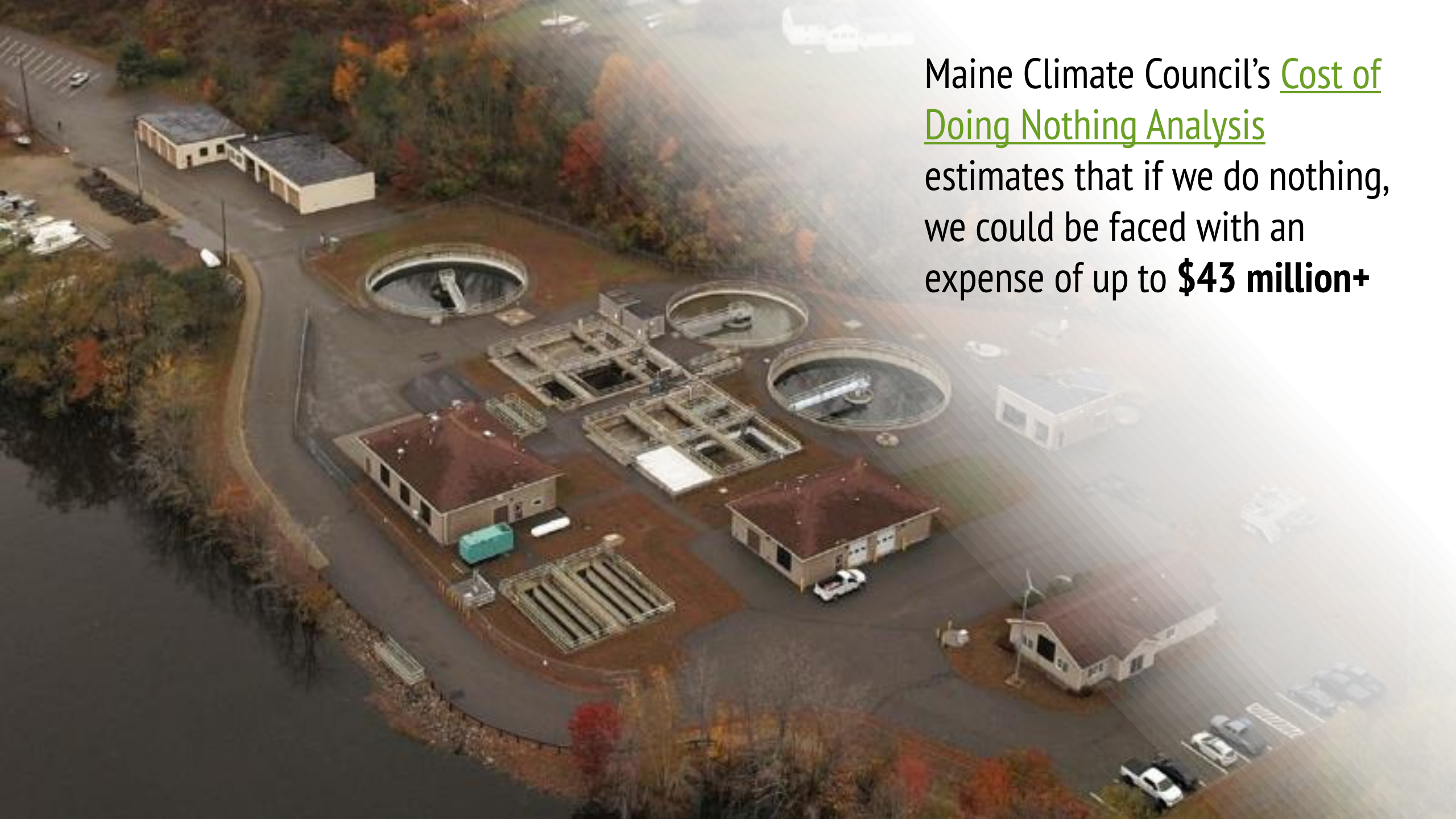
## Segment 2: Real World Application of EPA's Augmented Alternatives Analysis (AAA)

# How AAA added value to Saco's wastewater infrastructure investment decision-making

**Howard Carter, City of Saco WRRF Director**

**Dan Bisson, PE, Tighe & Bond Design Engineer**





Maine Climate Council's [Cost of Doing Nothing Analysis](#) estimates that if we do nothing, we could be faced with an expense of up to **\$43 million+**



# About the Saco WRRD project

## Michael Regan EPA Administrator Visits Saco

<https://www.wmtw.com/article/epa-administrator-visits-maine-to-promote-funding-to-protect-critical-infrastructure/39081543>





# Project History

**2019**

- Climate Adaptation Plan
- Significant Facility Flooding

- Maine Climate Council
- EPA AAA Partnership
- Coastal Resiliency Committee

**2020**

- Completed AAA Evaluation
- Long Term Facility Plan
- Engineering design ongoing

**2021**

- Secured Funding
- Procured CMAR
- Final Design

**2022**

**2025**

- Project Completion



# Addressing Climate Change Challenges through Stakeholder Engagement supports Innovation

Secure necessary funding for investment (Local, State and Federal \$\$)

Consider Innovative Approaches (Treatment process, Alternative delivery)

Rethink design planning horizons (50 years, 100 years?)

Incorporate community priorities for support



# Alternative Two: Full Plant Upgrade Aerobic Granular Sludge



- Incorporate Innovative **Aerobic Granular Sludge** Technology
- **Increase treatment capacity** to 12 MGD and accommodate growth within the community
- **Nutrient removal**
- **Restoration of land** for open green space
- Could accommodate **solar arrays**, with **enhanced Riverwalk** space and **public amenities**
- **Raise Front Street**
- Relocate critical systems to **protect against flooding**
- Remove older buildings and structures susceptible to flooding and construct newer, **more resilient** buildings and structures
- Repurpose existing tankage for **CSO Storage** and Influent pump station and CCT
- Allow for **future expansion**

## How AAA benefitted our capital planning process

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- Helped us identify how to integrate community interests into the project
- Built community and local officials' awareness and support for upgrade
- Community ultimately prioritized local bonds for this project over other public infrastructure needs
- Connected to state and federal bi-partisan infrastructure funds





# Segment 2: Real World Application of EPA's Augmented Alternatives Analysis (AAA)

The logo block contains three logos. At the top left is the EPA logo with the text "United States Environmental Protection Agency". To its right is the "Tighe &amp; Bond" logo. At the bottom right is the "CITY OF Saco" logo with the tagline "friendly by nature".

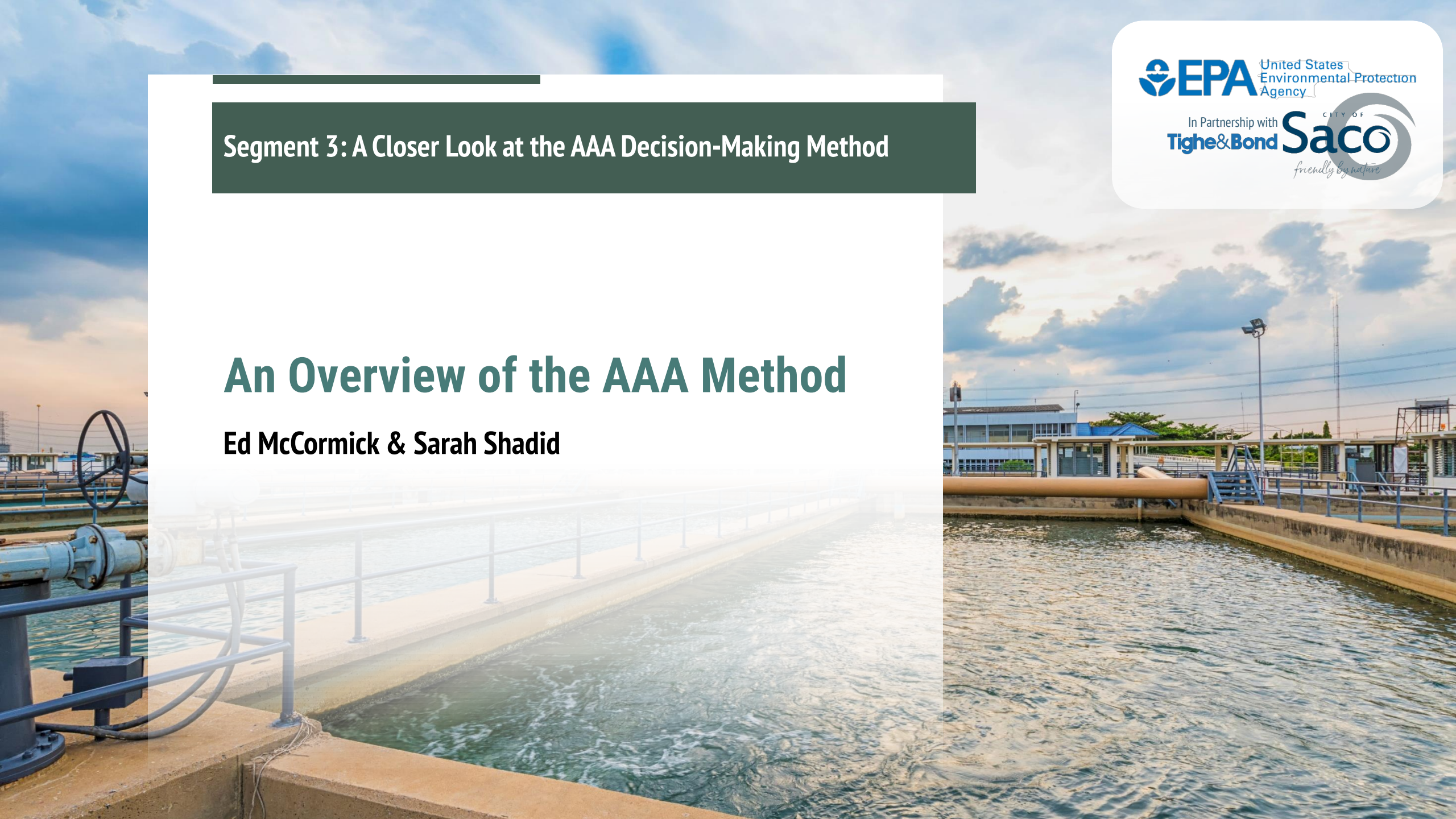
## Q&A

## Segment 3: A Closer Look at the AAA Decision-Making Method



# An Overview of the AAA Method

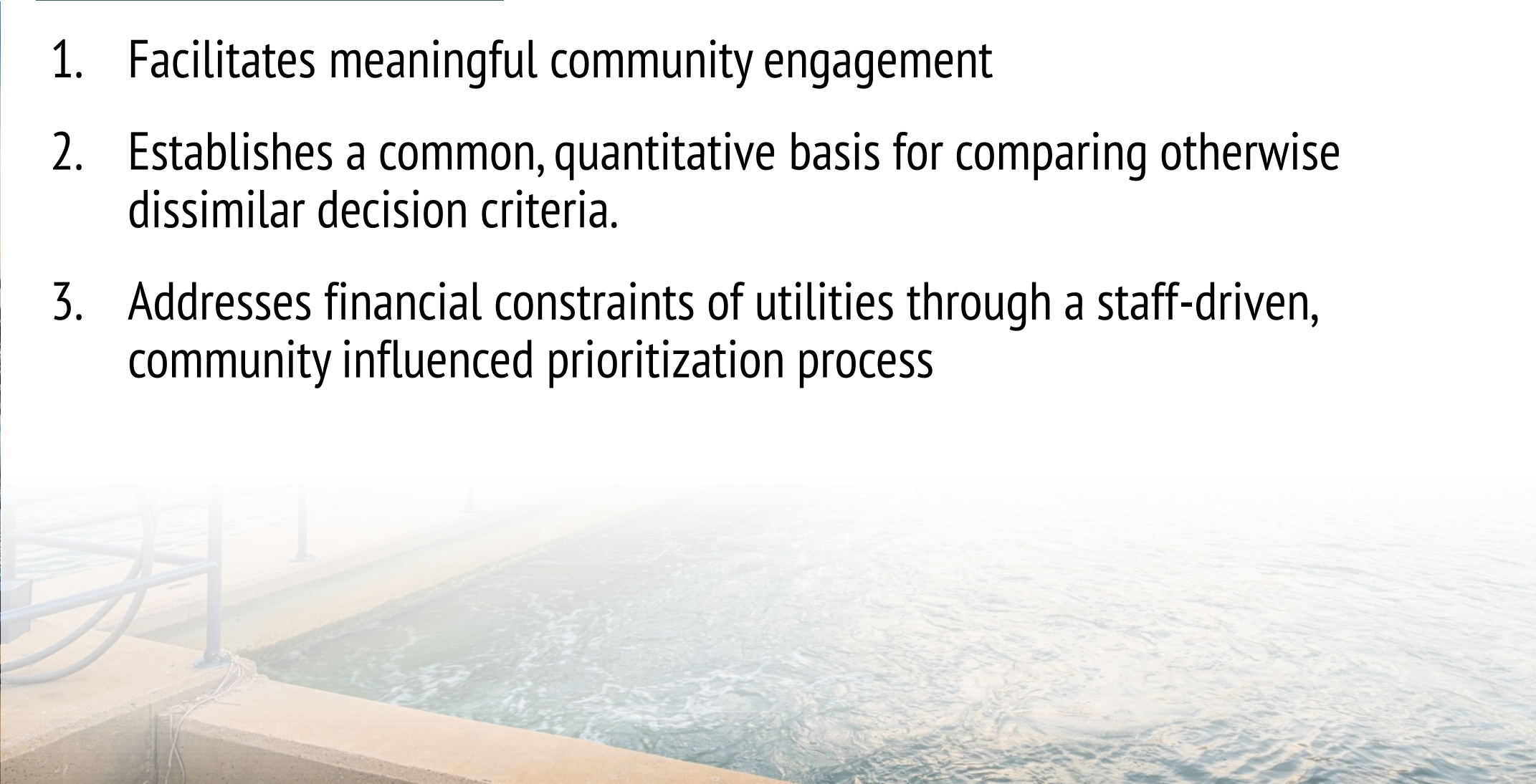
Ed McCormick & Sarah Shadid



# Three Key Attributes of the AAA Process

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1. Facilitates meaningful community engagement
2. Establishes a common, quantitative basis for comparing otherwise dissimilar decision criteria.
3. Addresses financial constraints of utilities through a staff-driven, community influenced prioritization process



## Benefits of the AAA Process

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- Integrates community engagement into capital planning in a proven and systematic way
- Helps establish community groups as advocates for future projects and local utility investments
- Builds awareness for project and investment need with local decision-makers
- Can help justify rate increases and allocation of bond capacity
- Addresses the community engagement requirement of many public funding opportunities (e.g., EPA's integrated planning)



# How does AAA add to a conventional analysis?

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## Conventional Alternatives Analysis

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**Determine Project Goals**

**Define Objectives**

**Establish Criteria**

**Choose Metrics for Your Criteria**

**Evaluate Performance of Each Alternative**

**Compare Across Alternatives**

**Incorporate Cost Considerations**





# How does AAA add to a conventional analysis?

Conventional Alternatives Analysis	+	Augmented Steps of AAA
+	1	Understand Community Priorities
	2	Determine Project Goals
	3	Define Objectives
+	4	Rank the Importance of Goals
	5	Establish Criteria
	6	Choose Metrics for Your Criteria
+	7	Create Performance Ranges
	8	Evaluate Performance of Each Alternative
	9	Compare Across Alternatives
	10	Incorporate Cost Considerations

# How does AAA add to a conventional analysis?

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## Understand Community Priorities

- Ask the community what they want to achieve with these investments
- Communicate how community input be used to make decisions

## Rank the Importance of Goals

- Community + utility works to determine how important goals are relative to one another

## Create Performance Ranges

- Use performance ranges to create the ability to evaluate otherwise dissimilar metrics (e.g., greenspace and energy use)

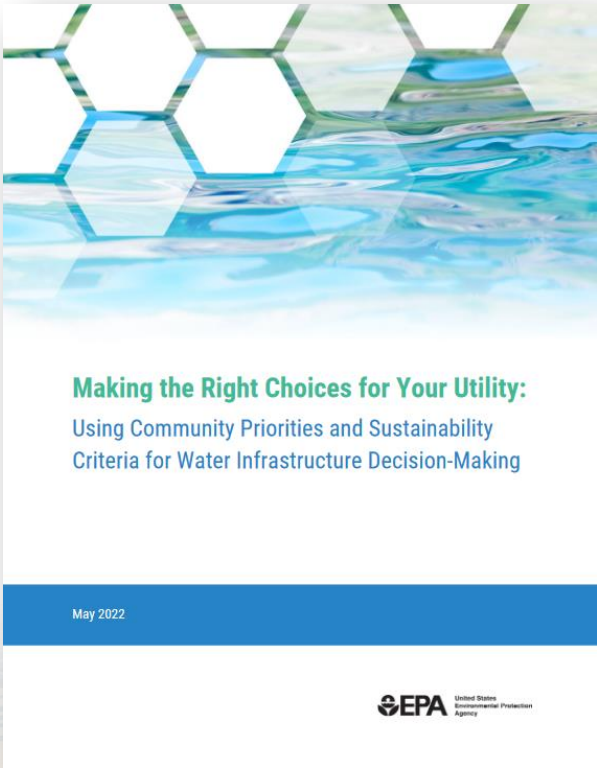
# What organizations have used the AAA process?

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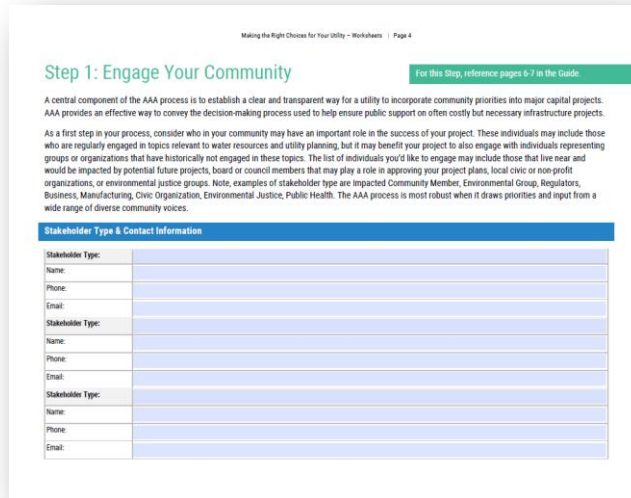
- **City of Saco Water Resource Recovery Department**
  - Small Town
  - Water Resource Recovery Utility
- **Camden County Municipal Utilities Authority**
  - Large City
  - Water Resource Recovery Utility
- **High Line Canal Conservancy**
  - Non-profit
  - Works with 11 jurisdictions and water districts



# AAA Resources



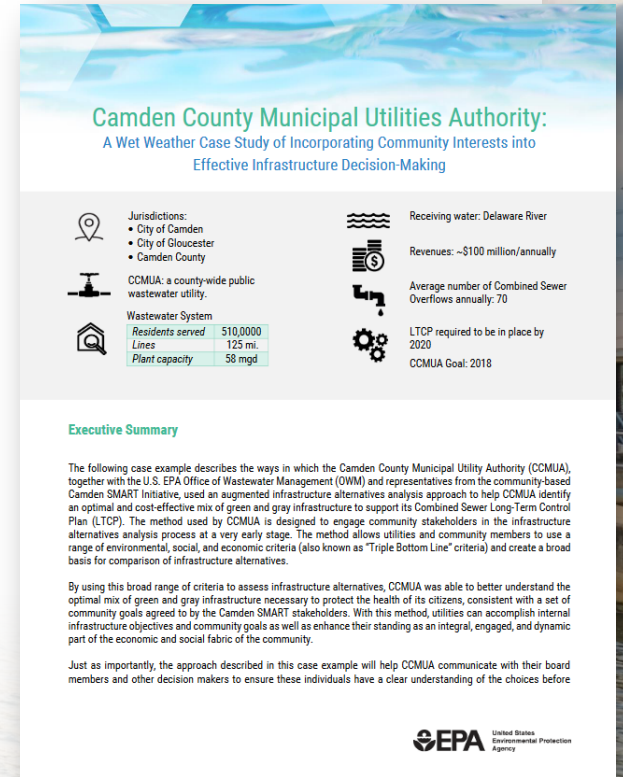
**EPA's AAA Guide  
(Revised May 2022)**



## Worksheets Fillable PDF & Excel



**Webinar Recording**

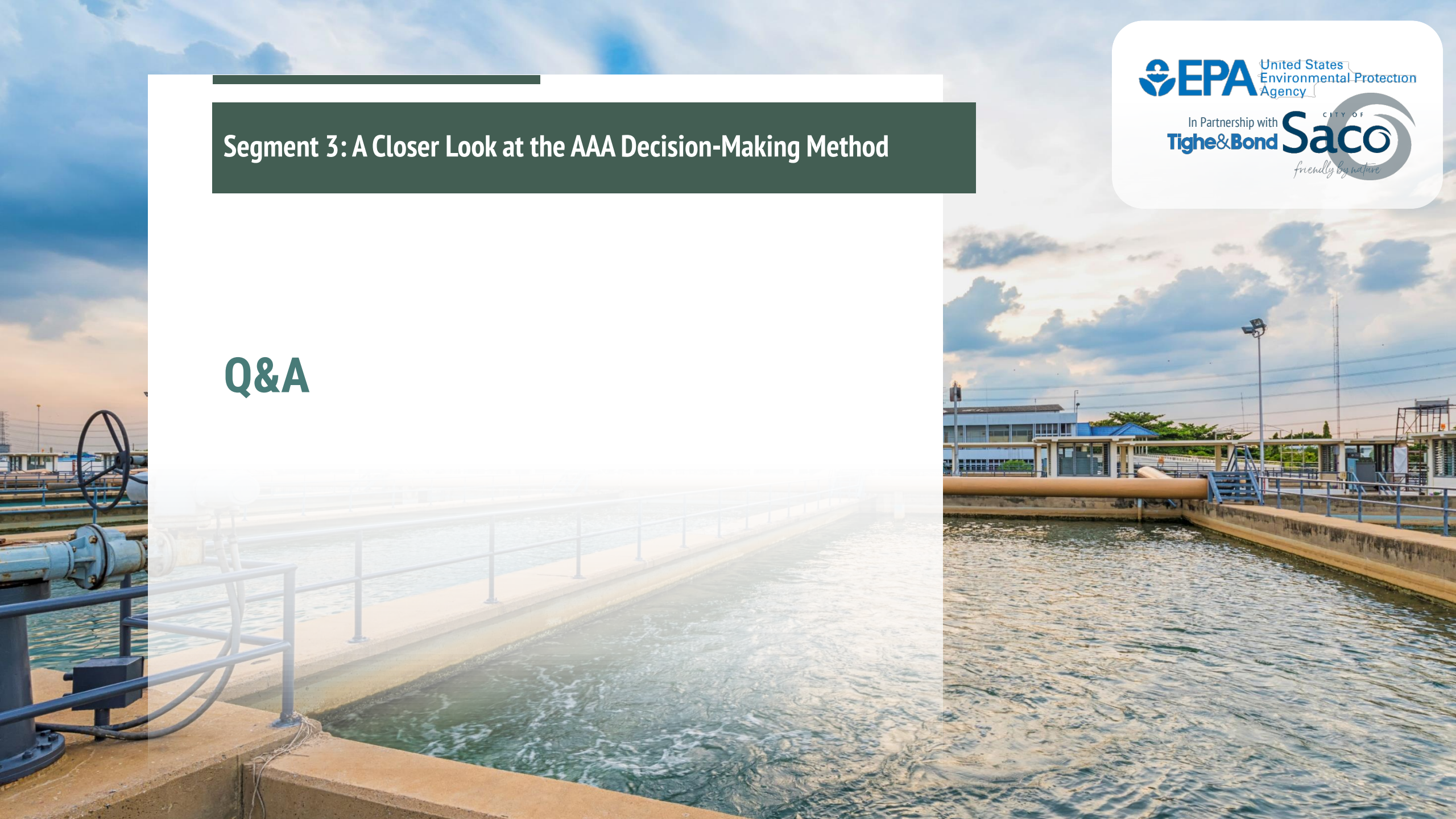


**Case examples**

## Segment 3: A Closer Look at the AAA Decision-Making Method



## Q&A



## Segment 4: Preview of Peer-to-Peer Sharing after the Break

### Return here at 3:30pm to:

- **Hear more specifics from Saco WRRD on how they used the AAA process**
- **Engage in interactive discussions while you learn about how to use AAA worksheets**
- **Begin to think about how AAA can enhance your utility's capital improvement planning**

## Segment 5: AAA Steps 1-4

# A Walkthrough & Saco Example

Emily Roy, Emily Cole-Prescott, & Sarah Shadid



# Step 1: Understand Community Priorities

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- Determine method of engagement
- Gather information on community needs and priorities





# Step 1: Understand Community Priorities – Saco Example

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- Created the Coastal Resiliency Committee
  - environmental groups
  - City Council
  - commercial and recreational fishing
  - consulting firms
- Community Priorities Meeting
  - Overview of plant operations, flooding challenges, cost of doing nothing
  - Introduction to the AAA process & how committee feedback would be used
  - Gathered committee input on priorities for the investments



## Step 2: Determine Goals


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- Analyze community and utility needs and priorities
- Identify a set of goals the utility hopes to achieve with the investments



## **Step 2: Determine Goals – Saco Example**

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**Improve System  
Resiliency to Enhance  
Environmental Health**

**Ensure Financial  
Sustainability**

**Support Economic and  
Community  
Development to Bolster  
Saco's Livability**

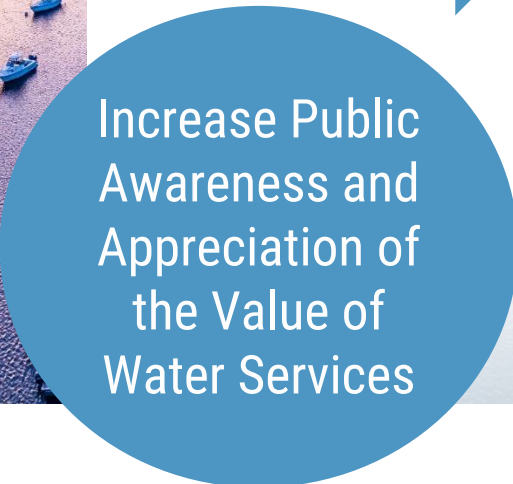
**Increase Public  
Awareness and  
Appreciation of the  
Value of Water Services**

## Step 2: Determine Goals – Saco Example

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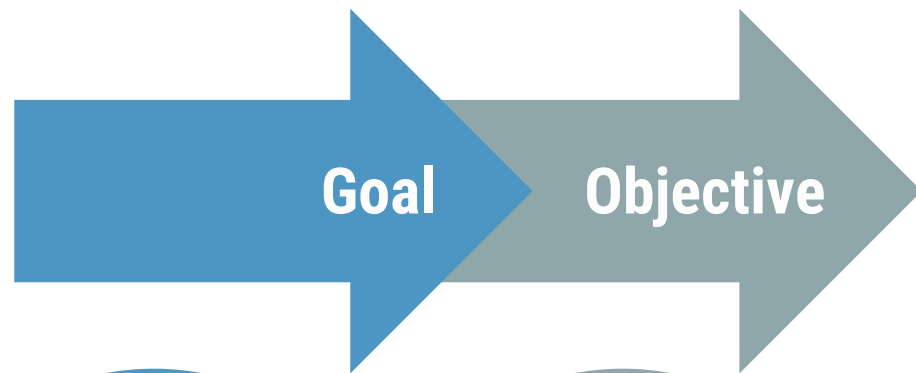
Goal



Increase Public Awareness and Appreciation of the Value of Water Services

**Goals** are big picture and articulate what the investments hope to achieve.

## Step 2: Define Objectives – Saco Example



**Objectives** are a specific, measurable outcome that contributes to the achievement of the goal.

They are specific, measurable, assignable, realistic, and time-based.

Increase Public Awareness and Appreciation of the Value of Water Services

Make plant an asset to City and community


## Step 4: Rank the Importance of Goals

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- Now, with clearly defined goals & objectives, rank the importance of each goal relative to the others
- Instead of ranking goals #1, #2, and #3 – “weigh” goals on a 1–10 scale (10 being the highest rank and 1 the lowest)
  - ensures goals accurately represent the priorities of your community
  - The heavier the weight (i.e., 10) the more important the goal

## **Step 4: Rank the Importance of Goals – Saco Example**

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**Improve System  
Resiliency to Enhance  
Environmental Health  
(10)**

**Ensure Financial  
Sustainability  
(8.8)**

**Support Economic  
and Community  
Development to  
Bolster Saco's  
Livability  
(8.6)**

**Increase Public  
Awareness and  
Appreciation of  
the Value of Water  
Services  
(7)**

## Table Discussions

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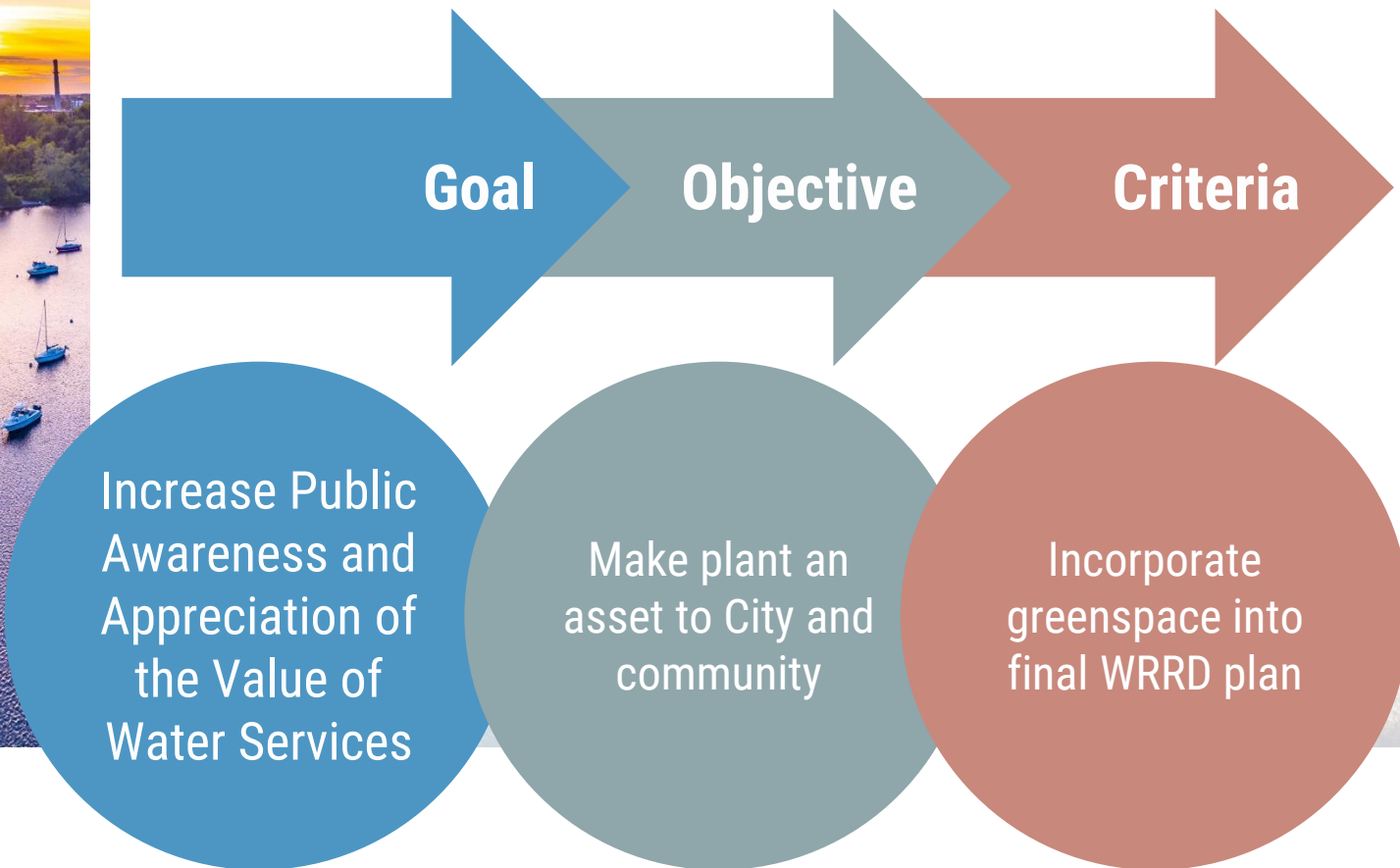
- Do you see any similarities between Saco's community priorities and what you anticipate your service area's to be?





## Step 5: Establish Criteria – Saco Example

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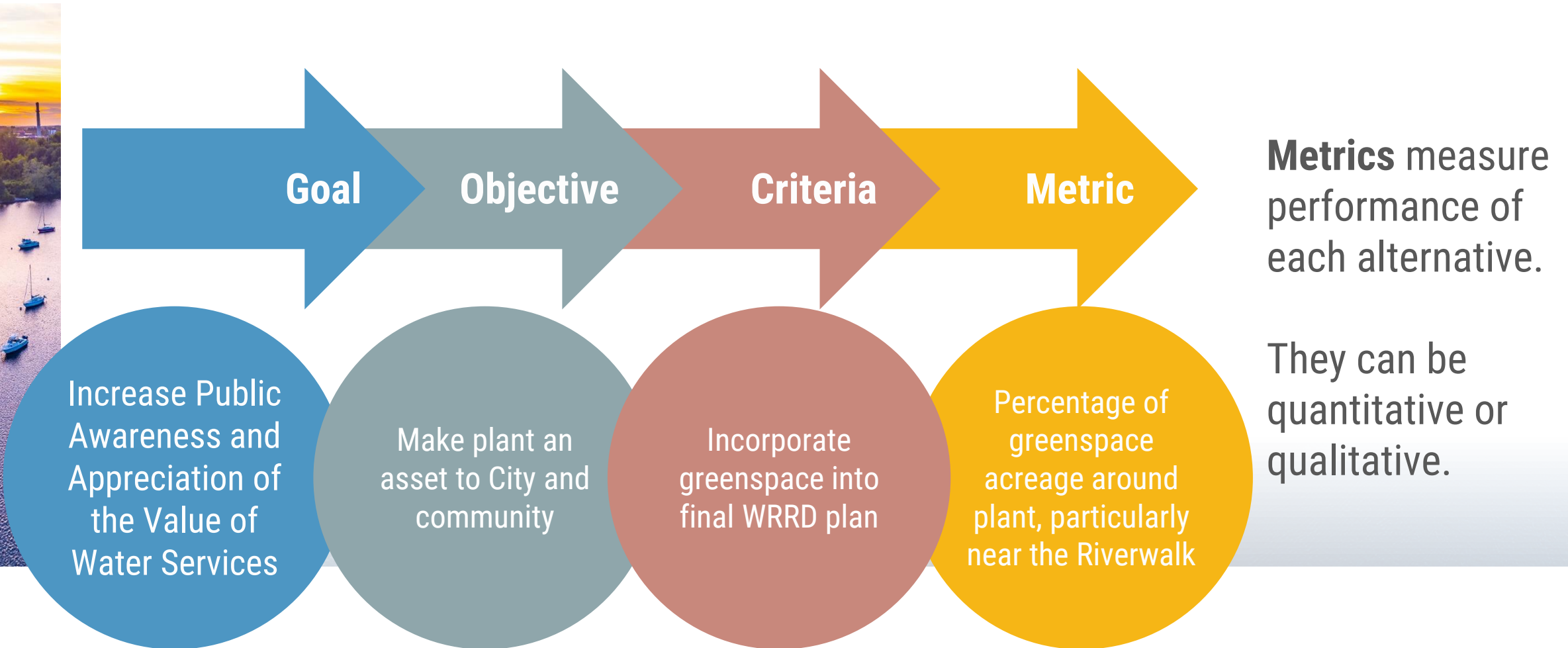


**Criteria** evaluate an alternative and reveal an alternative's strengths and weaknesses.

They demonstrate how an alternative will perform relative to goal and objective.

## Step 6: Choose Metrics – Saco Example

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# Step 7: Create Performance Ranges

Goal: Increase Public Awareness and Appreciation of the Value of Water Services

Objective: Make plant an asset to City and community

Criteria: Incorporate greenspace into final WRRD plan

Metric: Percentage of greenspace acreage around plant, particularly near the Riverwalk

-5	-4	-3	-2	-1	0	1	2	3	4	5
					No increase in greenspace					



“0” represents a neutral, or no impact outcome

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11-15% decrease in greenspace		6-10% decrease in greenspace		1-5% decrease in greenspace	No increase in greenspace	1-5% increase in greenspace		6-10% increase in greenspace		11-15% increase in greenspace

## **Table Discussions (15 min)**

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- What challenges or opportunities could you envision for building in non-conventional criteria into your utility's planning?
- Of Steps 1-7, which one(s) do you think would be particularly useful or challenging for your utility to work through?



## Segment 7: Full Group Discussion

- **What did you learn from the AAA Saco example?**
- **Any surprises, key takeaways, or remaining questions?**





## Segment 7: Full Group Discussion

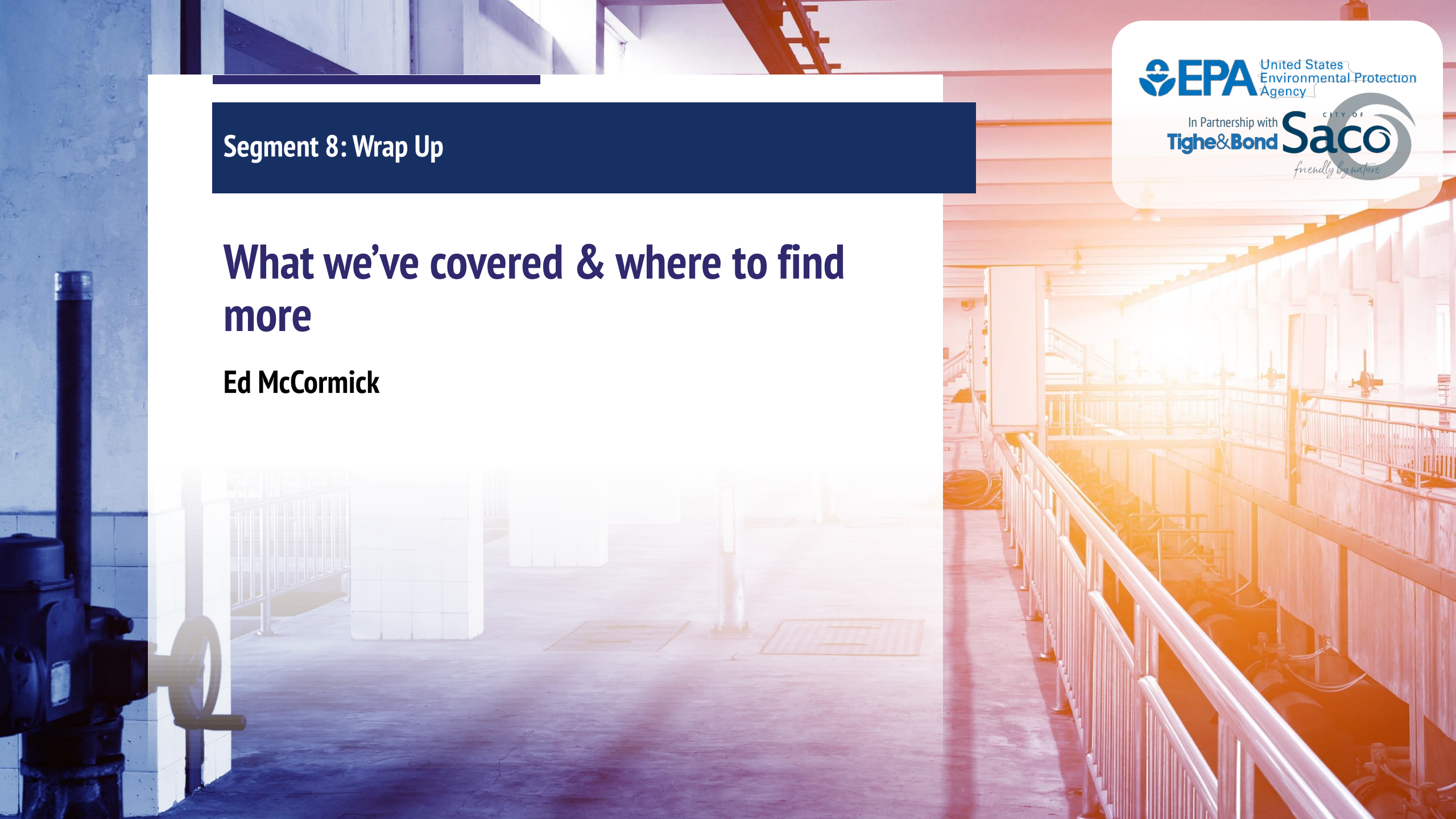
- **What advice do you have for improving the presentation materials and/or table exercises for future participants?**



## Segment 8: Wrap Up

# What we've covered & where to find more

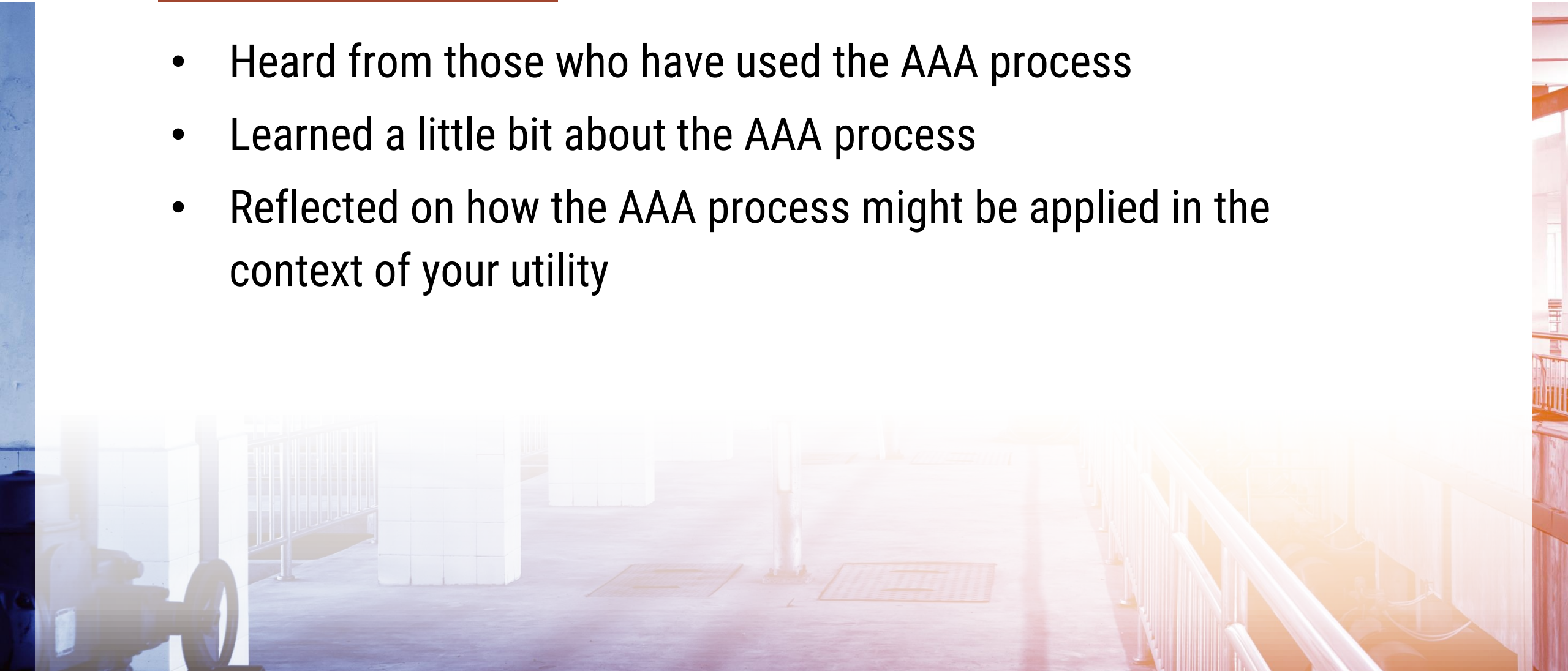
**Ed McCormick**



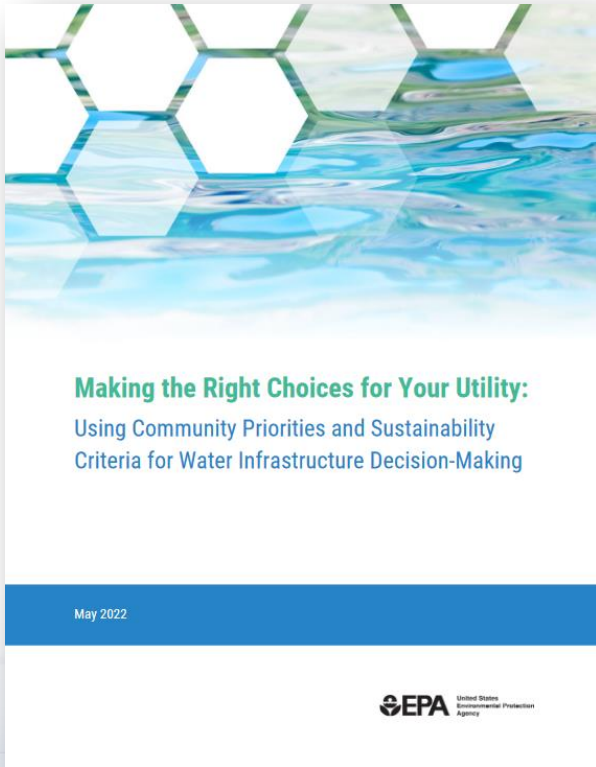
## What we've covered

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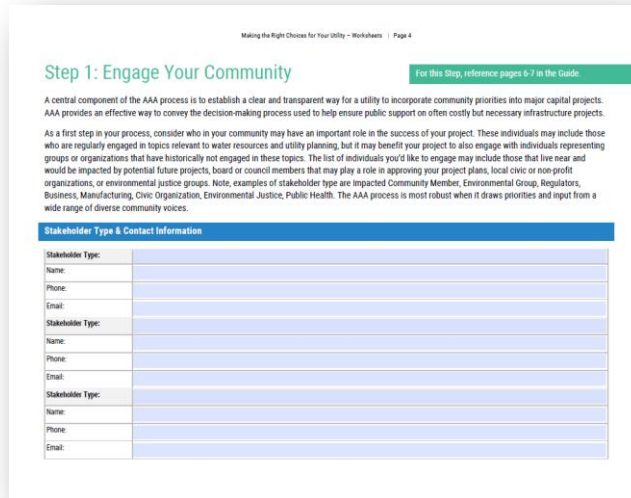
- Heard from those who have used the AAA process
- Learned a little bit about the AAA process
- Reflected on how the AAA process might be applied in the context of your utility



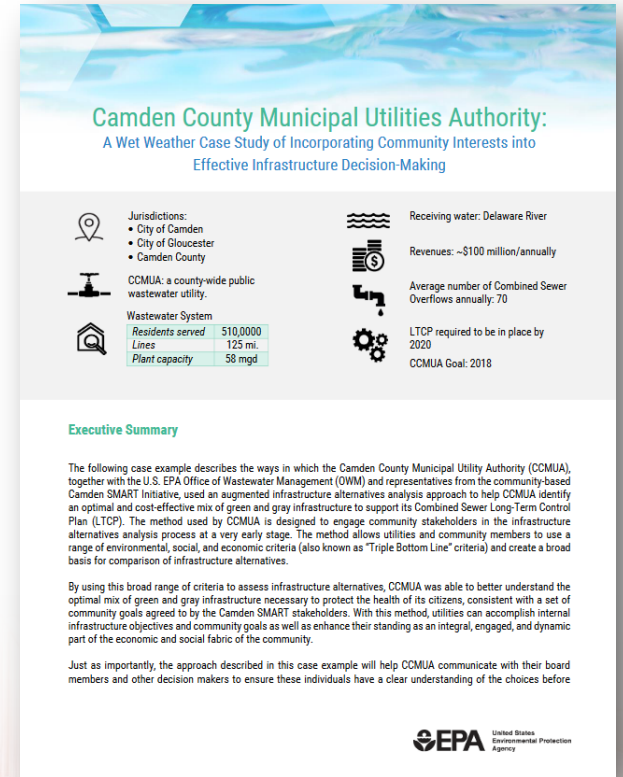
# Where to find more



**EPA's AAA Guide  
(Revised May 2022)**



**Worksheets**  
*Fillable PDF & Excel*



**Case examples**



**Webinar Recording**

## Segment 8: Wrap Up

To view resources:



Or search online for EPA's  
“Planning For Sustainability”  
webpage

## Segment 8: Wrap Up

**EPA hopes to host more AAA  
Workshops in 2023-2024.**

**Stay tuned to the EPA's Sustainable  
Utility Management webpage for  
updates!**

## Segment 8: Wrap Up

# Closing Remarks

**Leslie Corcelli**



## Segment 8: Wrap Up

**Thank you for attending today's  
workshop!**

**Contact:**

**Leslie Corcelli**

**[Corcelli.leslie@epa.gov](mailto:Corcelli.leslie@epa.gov)**