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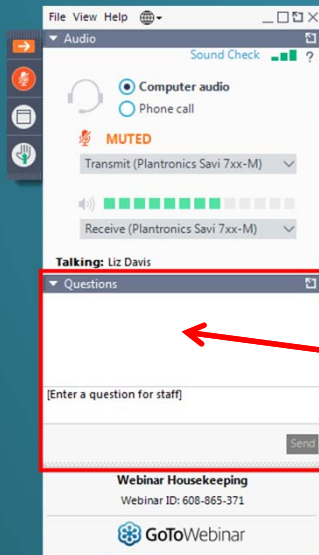
**Producing Business Process Results:
Methods and Case Studies**

Wednesday, January 19, 2021
2:00 – 3:00 PM ET

The Water Environment Federation logo and tagline are positioned in the bottom right corner of the teal background. The logo is a stylized white 'W', and the text 'Water Environment Federation' is in a bold, white, sans-serif font, with 'the water quality people' in a smaller, white, sans-serif font below it.

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How to Participate Today



- **Audio Modes**
 - Listen using Mic & Speakers
 - Or, select “Use Telephone” and dial the conference (please remember long distance phone charges apply).
- **Submit your questions using the Questions pane.**
- **A recording will be available for replay shortly after this webcast.**

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Today's Speakers

- DC Water: Business Case Evaluation (BCE) as Part of CIP Process
 - Duncan Mukira
- Asset Management Plan Development
 - Mert Muftugil & Chris Woo
- WEF WISE Team Energy: Energy Management
 - Eric Griffin
- Facilitated Discussion/Q&A
 - Zonetta English (moderator)

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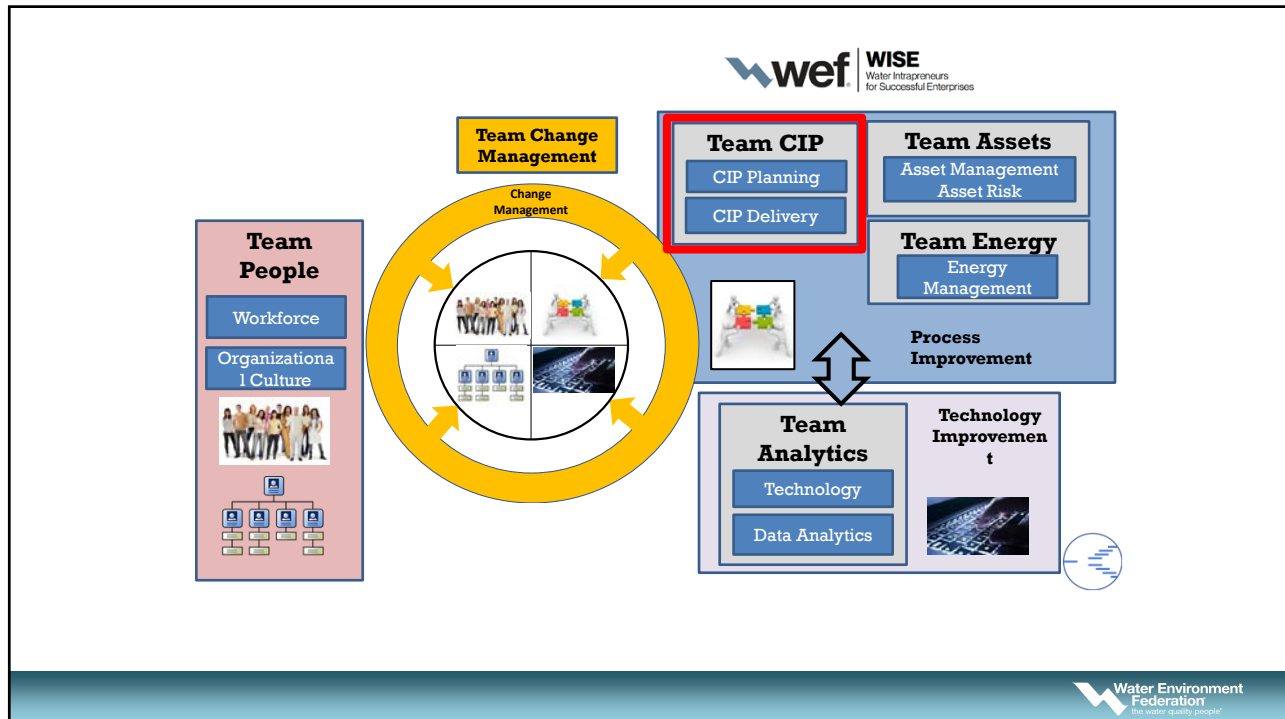


DC Water Business Case Evaluation (BCE) as Part of CIP Process

Duncan Mukira

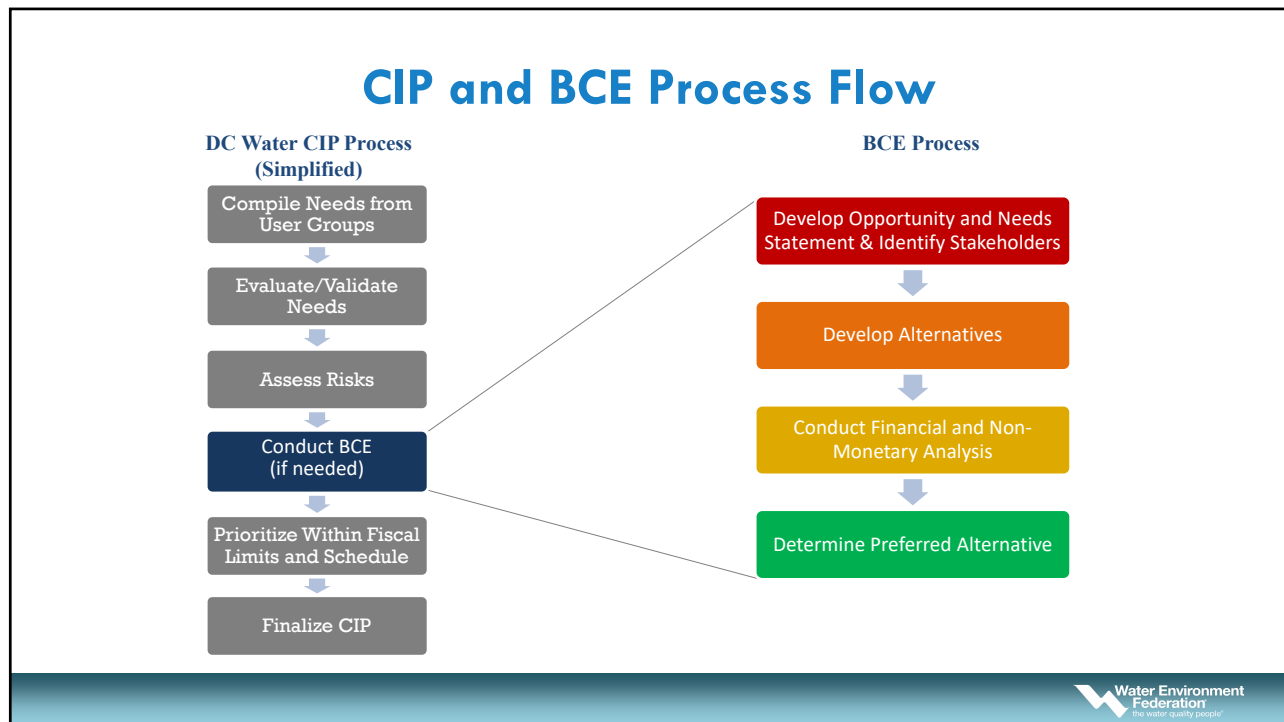


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What is Business Case Evaluation (BCE)?

“A BCE is a rigorous, uniform process to assist in decision-making through systematic evaluation of potential alternatives to address identified opportunities or needs.”

Source: DC Water BCE Guidance Manual

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Background

- In 2016 a standard BCE process became part of the CIP planning process.
- DC Water chose BCE process for the UAIM/WISE case study with goal of improving CIP delivery process.

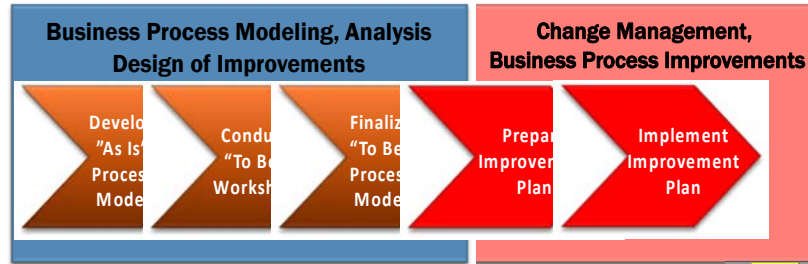
Why is BCE important to DC Water?

Some Benefits of BCE to DC Water

- Validate project need
- Ensure alternatives are identified and considered
- Consider a wide set of project costs and benefits (financial and non-monetary)
- Documentable, defensible decisions
- Consider project needs within and across Groups
- Align with DC Water's Strategic Plan (Blueprint 2.0)



2020- 2022: Implementation and Change Management



- Implement best practices for CIP delivery
 - ✓ Conduct improvement initiatives on the BCE

Shared Knowledge Base

- ✓ Business processes
- ✓ Artifacts/examples, case studies

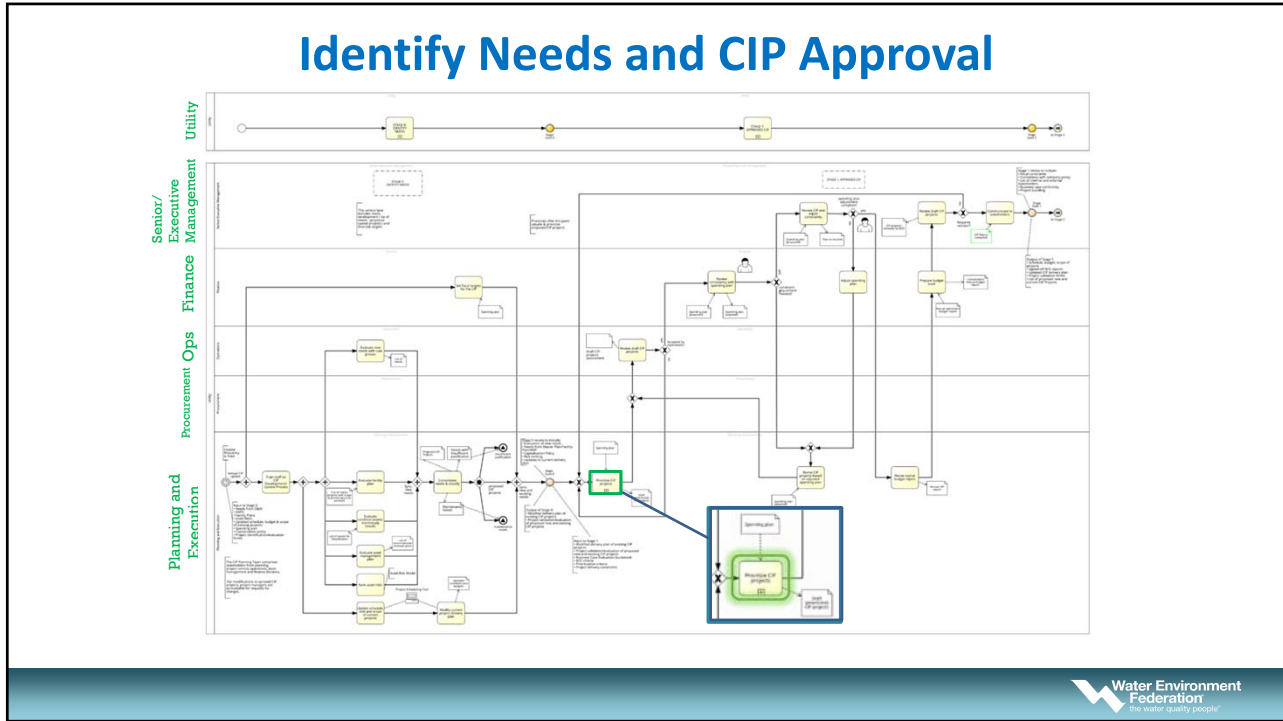
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Business Process Models

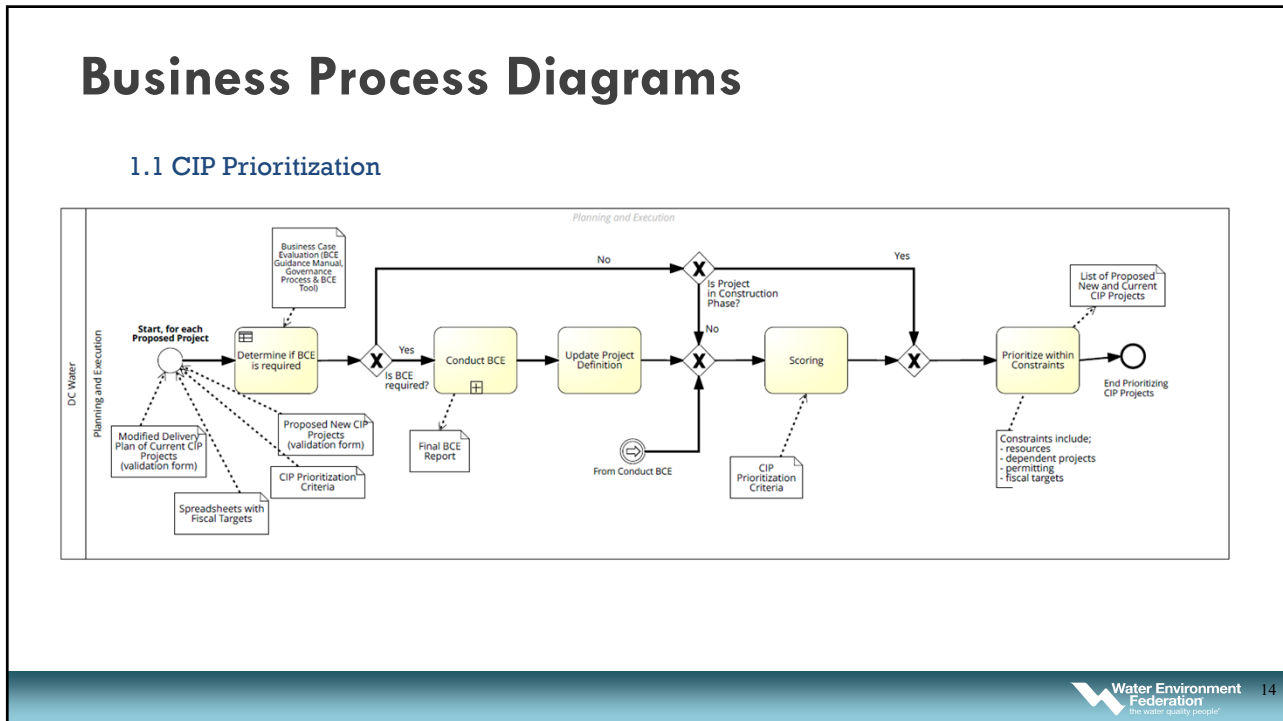
Business process models provide:

- Transparency with internal and external stakeholders
- Clarity on who does what and when – swim lanes
- Input & output using stage gate principle

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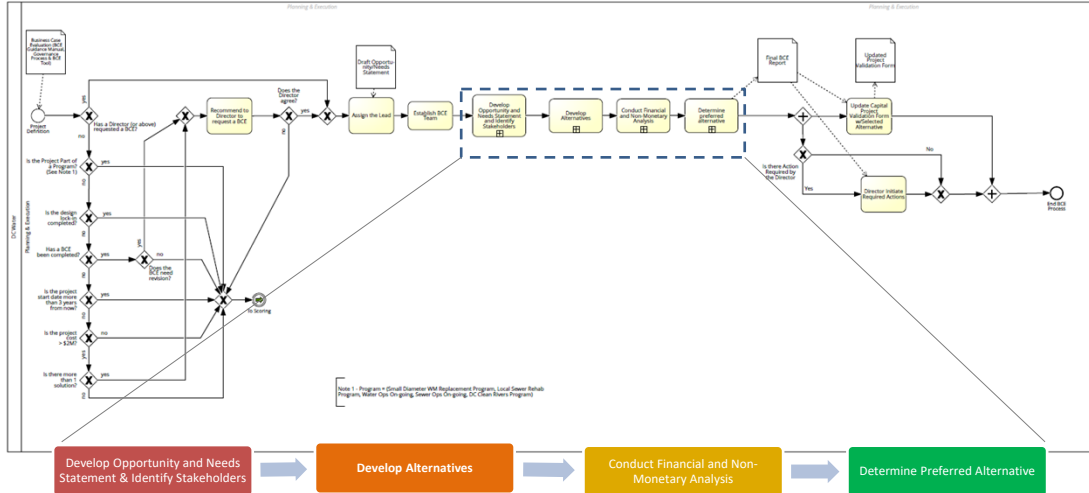
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Business Process Diagrams

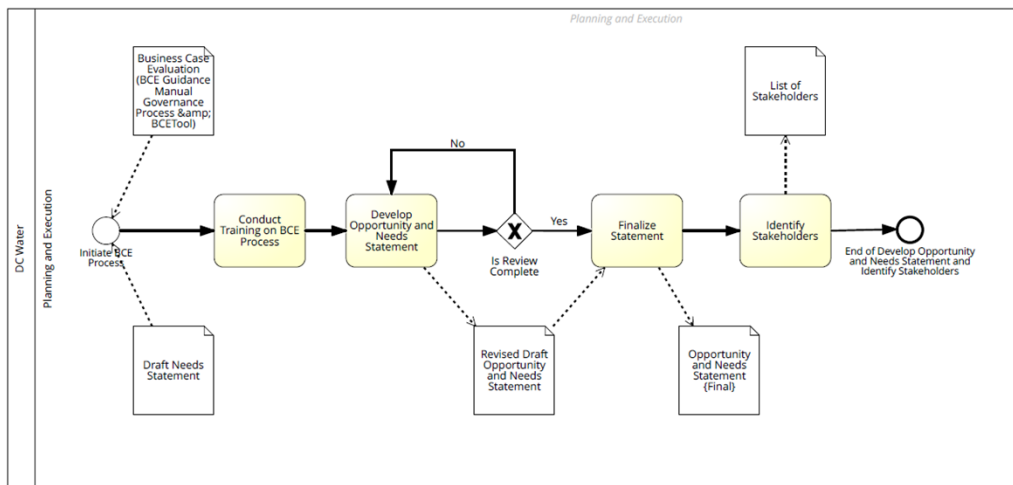
1.1.1 Conduct BCE



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Business Process Diagrams

1.1.1.2 Develop Opportunity and Needs Statement and Identify Stakeholders



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BCE Development "Artifacts"

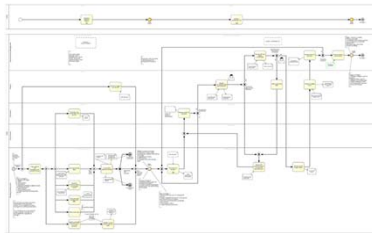
BCE Guidance Manual



DC Water BCE Tool



BCE Business Process Diagrams



BCE Decision Tool



BCE Tool -Information



BCE INFORMATION NAVIGATION

Complete this background information for BCE:
 BCE Title - The BCE title should be about the opportunity/need statement and not the individual alternatives:
 DC Water HQD Upgrades

BCE Team Lead:
 Team Member 1

CP Service Area:

BCE Team Members
 List the individual BCE Team Members, their roles, and departments:

Initials	Team Member Name
TMS	Team Member #1
TMS	Team Member #2
TMS	Team Member #3
TMS	Team Member #4
TMS	Team Member #5
TMS	Team Member #6

Opportunity/Need Statement
 Provide a description of the opportunity/need that is addressed through this BCE, including specific identifying the root cause of the opportunity/need and how it relates to DC Water's needs of service.
 Determine the need for upgrades on DC Water HQD's premises. Upgrades to the building premises can enhance the aesthetic appeal of the venue and foster business.

Location
 Identify the facility, street address, intersection, and/or general location of the opportunity/need. Provide a list of maps, site plans, and graphics that depict the location and context or dependencies on Reportable.
 DC Water Headquarters (HQD), New York, Washington D.C.

Background
 Provide a brief synopsis of relevant history associated with the opportunity/need (e.g. asset analysis, regulatory)
 DC Water Headquarters, HQD, is located in New York. The building sits on the edge of the river and is available as a venue for various events.

Asset Description
 If the opportunity/need is driven by an issue with existing assets, or may involve or impact existing assets, provide a description (e.g., asset name, subunit, ID, location, type, material, size, capacity, length, age).
 Facility is systems old.

Risk Assessment
 If the opportunity/need is driven by an issue with existing assets, or may involve or impact existing assets, provide a summary of the risk analysis performed on the existing assets using the DC Water risk framework. Provide risk score, including likelihood of failure and consequence of failure scores. If no risk assessment has been performed, please state so. Also, include estimated remaining useful life, likely failure modes, historic maintenance cost and failure data, estimated annual repair costs, construction-related risks, and comments from CM&I staff.

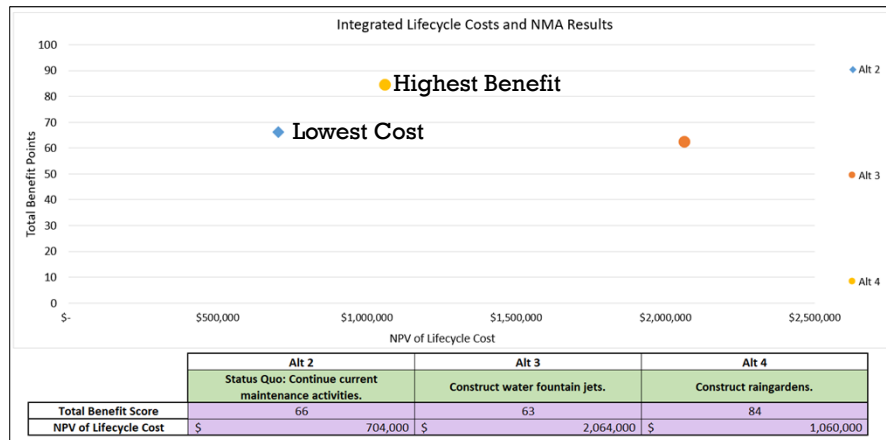
Stakeholders
 List stakeholder groups (internal as well as external) along with their interests that were considered or should be considered in addressing the opportunity/need. Include any critical customers and/or areas impacted by the evaluated alternatives (e.g., schools, hospitals, government agencies, major roadways, airports, railroad crossings, environmentally sensitive areas, etc.).

Stakeholder 1
 Stakeholder 2
 Stakeholder 3
 Stakeholder 4
 Stakeholder 5

← PREVIOUS
NEXT →

Integrated Analysis Results

- **Alt 2** – Status Quo: Lowest NPV, Less Benefit Points
- **Alt 3** – Highest NPV, Lowest Benefit Points
- **Alt 4** – Highest Benefit Points, NPV in between



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BCE Improvements

- ✓ Establish criteria for projects that need a BCE
- ✓ Add escalation process
- ✓ Have an alternative validation process for straight-forward needs
- ✓ Expand stakeholder engagement in BCE to include finance and procurement
- ✓ Update Business Case Evaluation Artifacts

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Lessons Learned

- Collaboration among various departments created a sense of ownership among team members that was critical to successful completion of the project.
- The BCE process can be used for non-CIP projects.
- Cross functional team members improve communication between Departments.
- It's important to conduct training

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Next Steps

- **Conduct additional BCE training sessions**
- **Promote use of BCE artifacts by all Departments.**
- Use *Power BI* tools to extract data from completed BCE projects and create easy to use dashboards.
- Use BCE process for nontraditional CIP projects such as IT, maintenance, pilot projects.
- Update Artifacts as needed

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Contact Information

THANKS



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Presenters



Mert Muftugil
Engineer




Chris Woo
Lead Senior Engineer

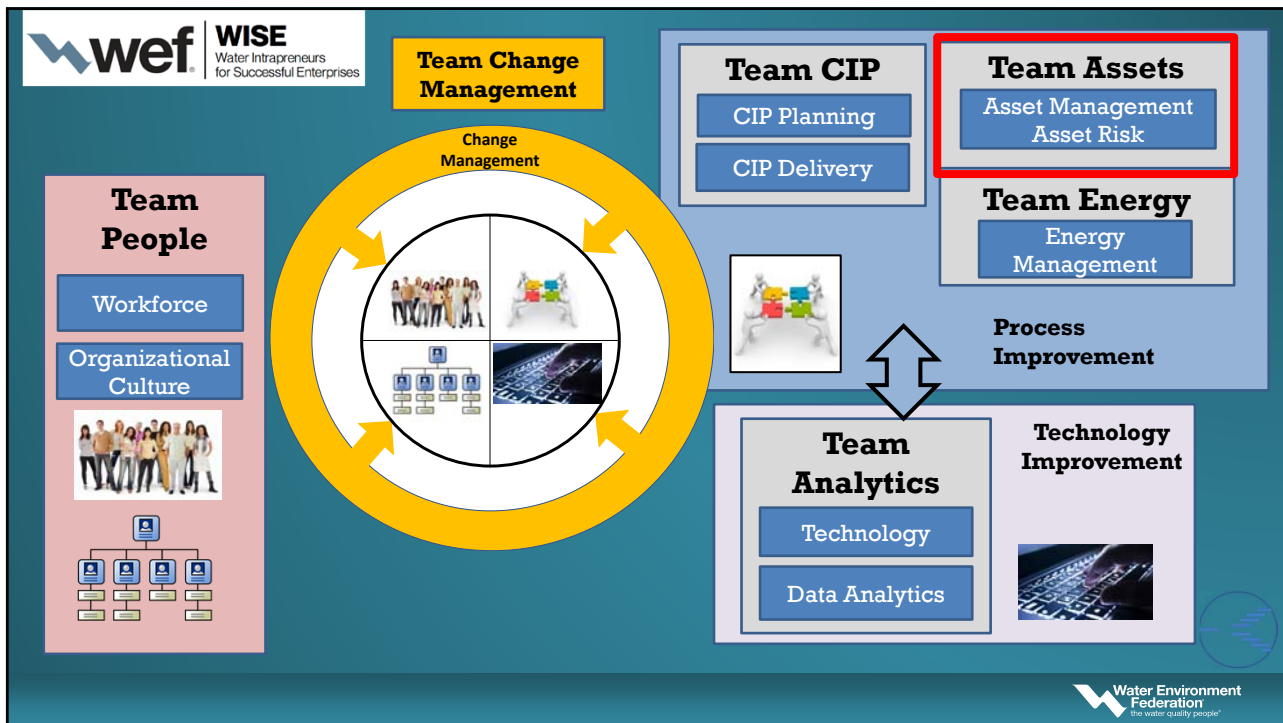
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Asset Management Plan Development

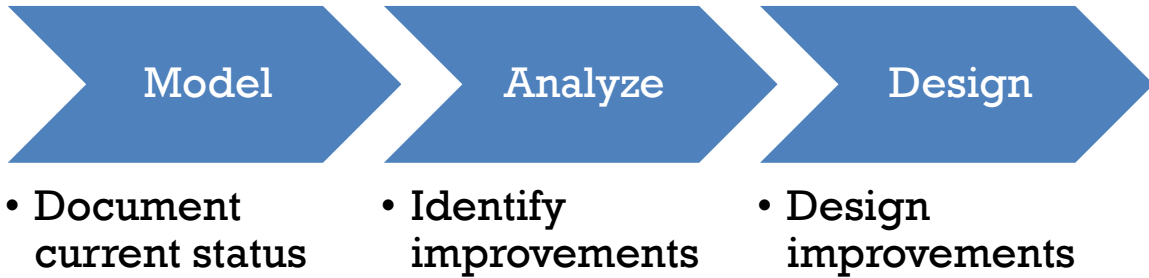


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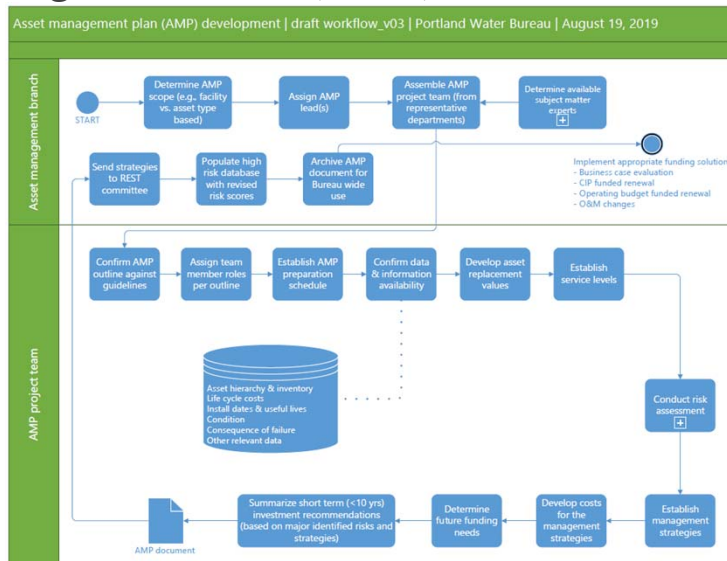
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Approach to business process improvement

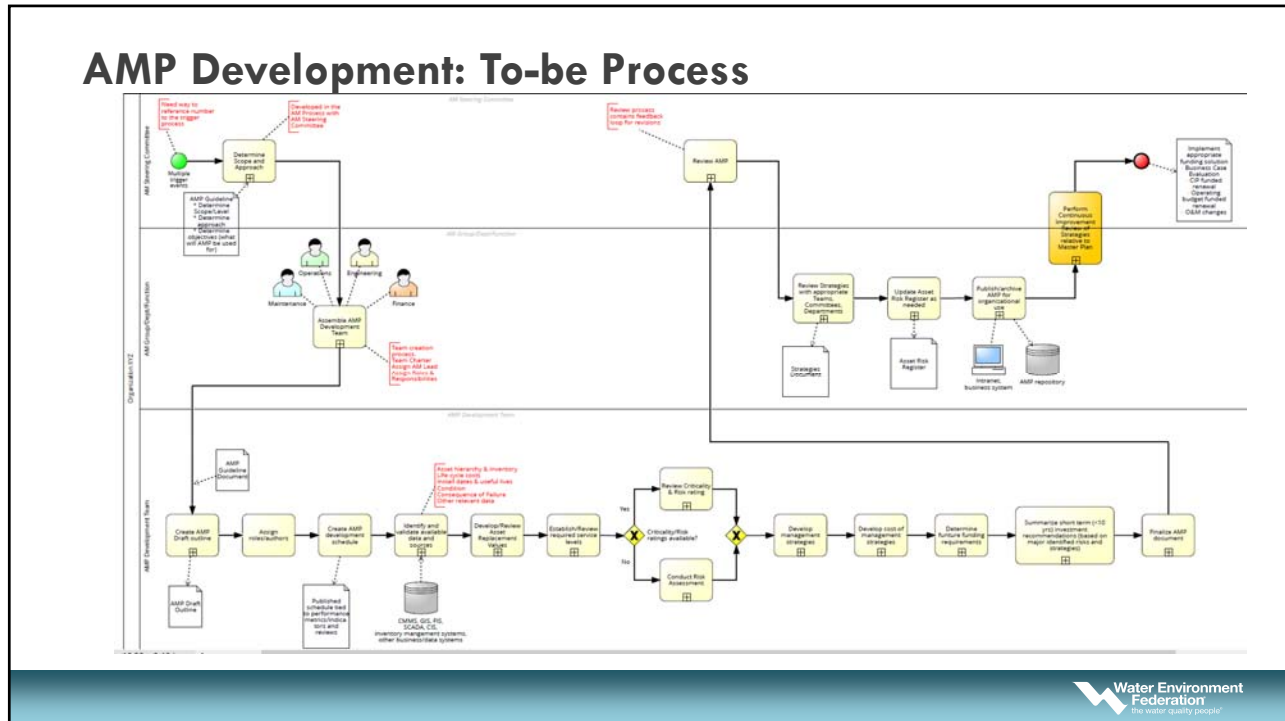


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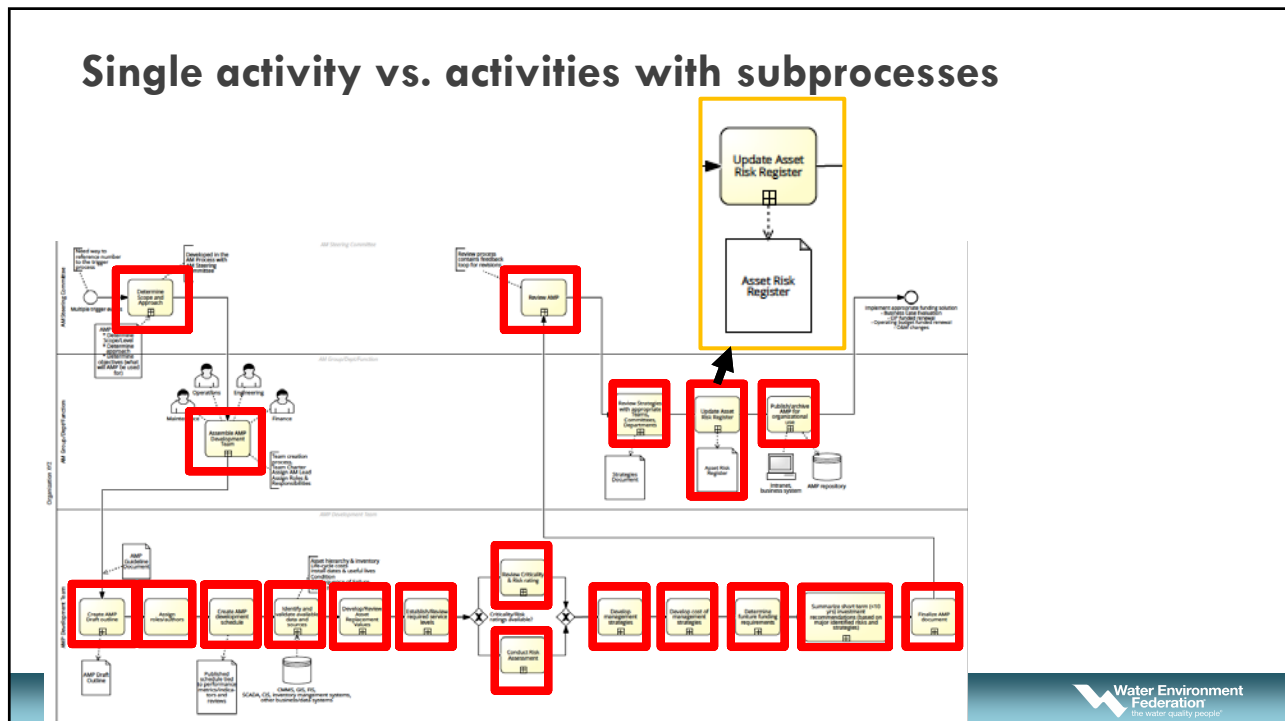
Documenting the current (as-is) status



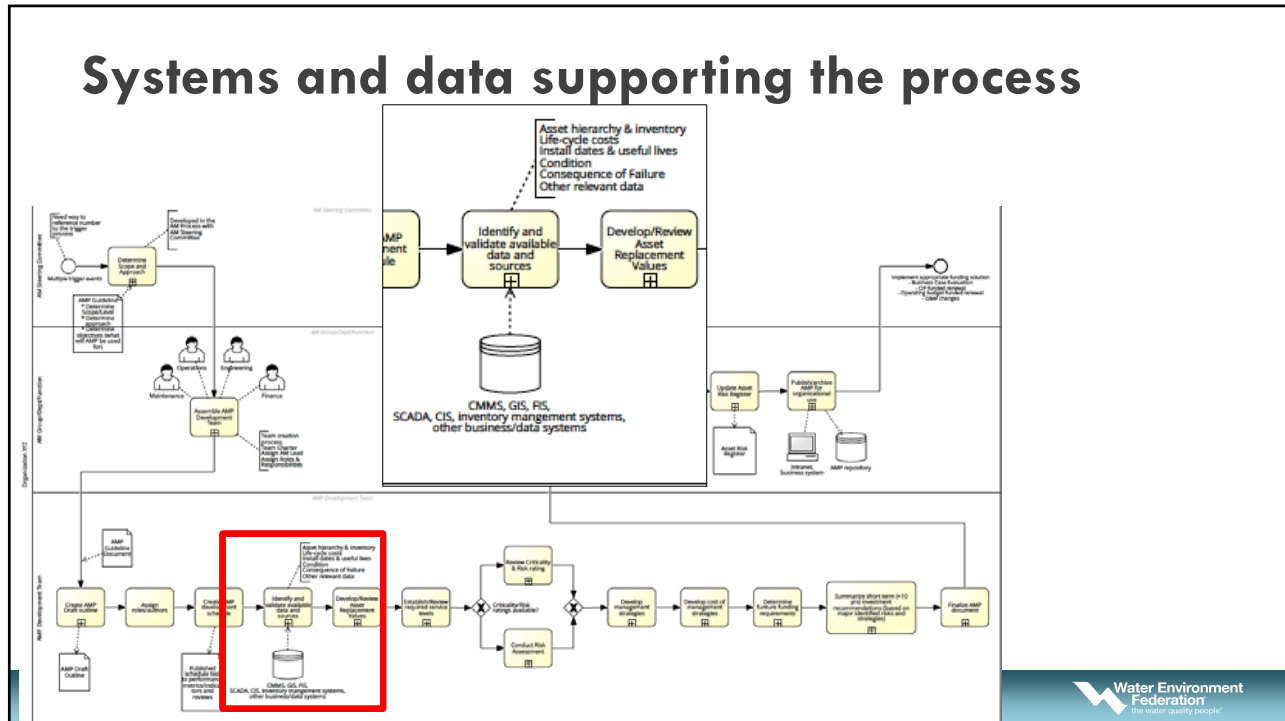
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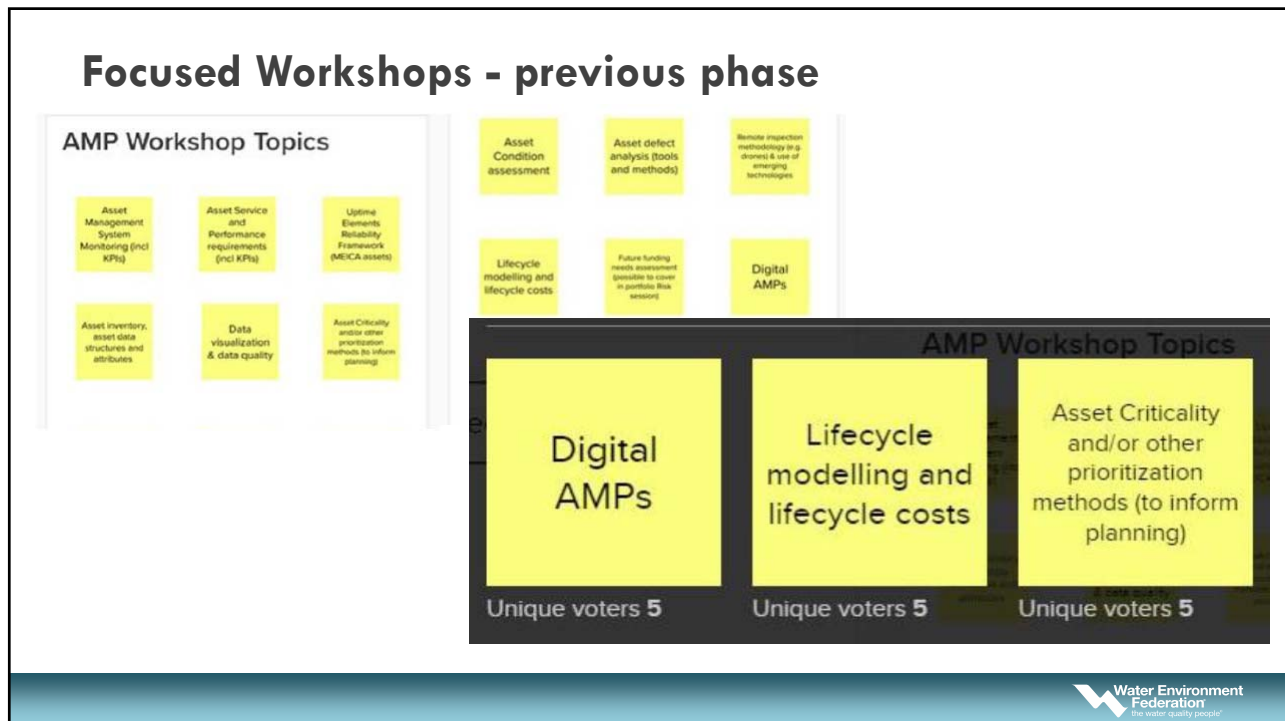
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Focused Workshops

Digital AMPs Lifecycle costs & modelling **Asset Criticality & Prioritization**

Developing Digital Asset Management Developing lifecycle costs modelling **Asset Criticality & Prioritization Methods**

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In summary, business process models describe:

- Who is involved in the business process (swim lanes)
- Work flow (sequence paths of activities)
- What decisions need to be made (and by whom)
- What resources (e.g. time, staff, equipment) are needed
- The metrics impacted by the process
- What data is required to execute work (and make decisions)
- Where (in what systems) the required data resides

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Benefits for participating utility partners

- **Exchange of ideas**/experiences with peers from different utilities
- **In-depth examination** of important topics/business areas
- Access to a **knowledge base** (models, artifacts)
- Adopted standards for:
 - **Metrics** associated with specific business processes
 - **Documentation** of business processes (e.g. format, notation, hierarchy)

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Eric L Griffin

Energy Program Manager



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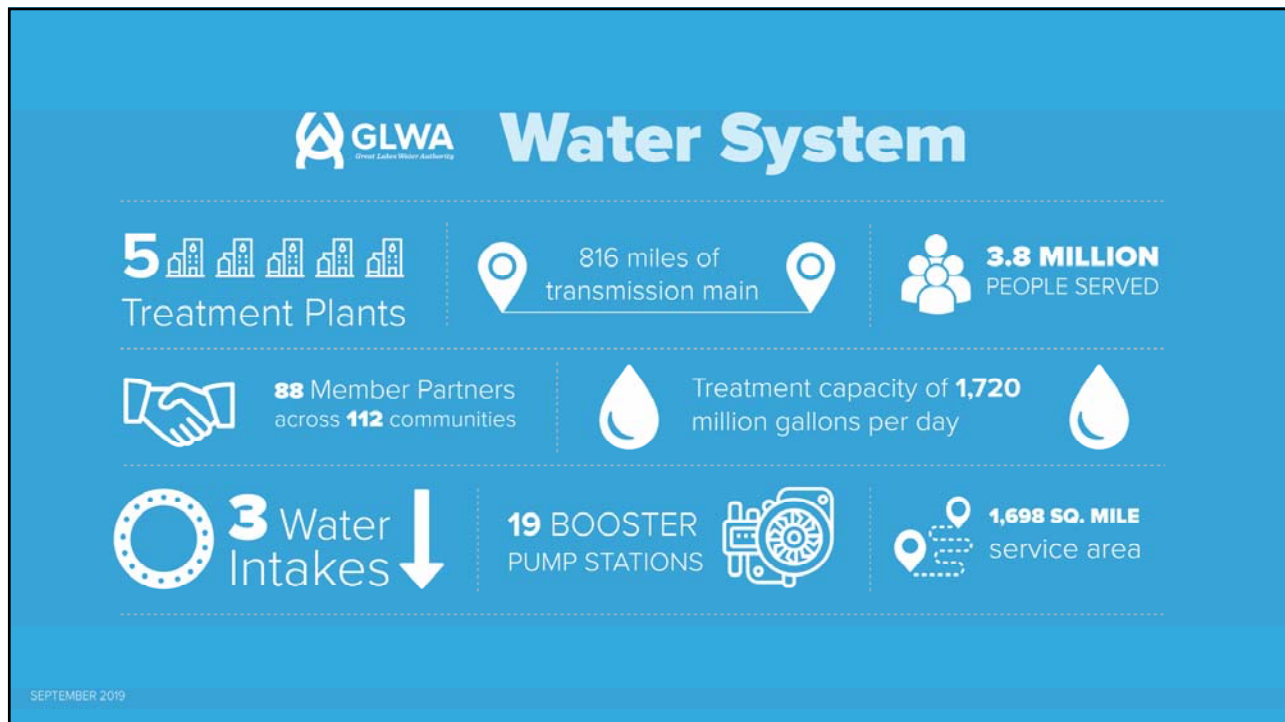
WEF WISE Team Energy Energy Management

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About GLWA

- Water and Wastewater Wholesaler for Southeastern Michigan
- One of the largest electrical customers for Detroit Edison (DTE) our electrical provider
- Electrical costs over \$40M annually

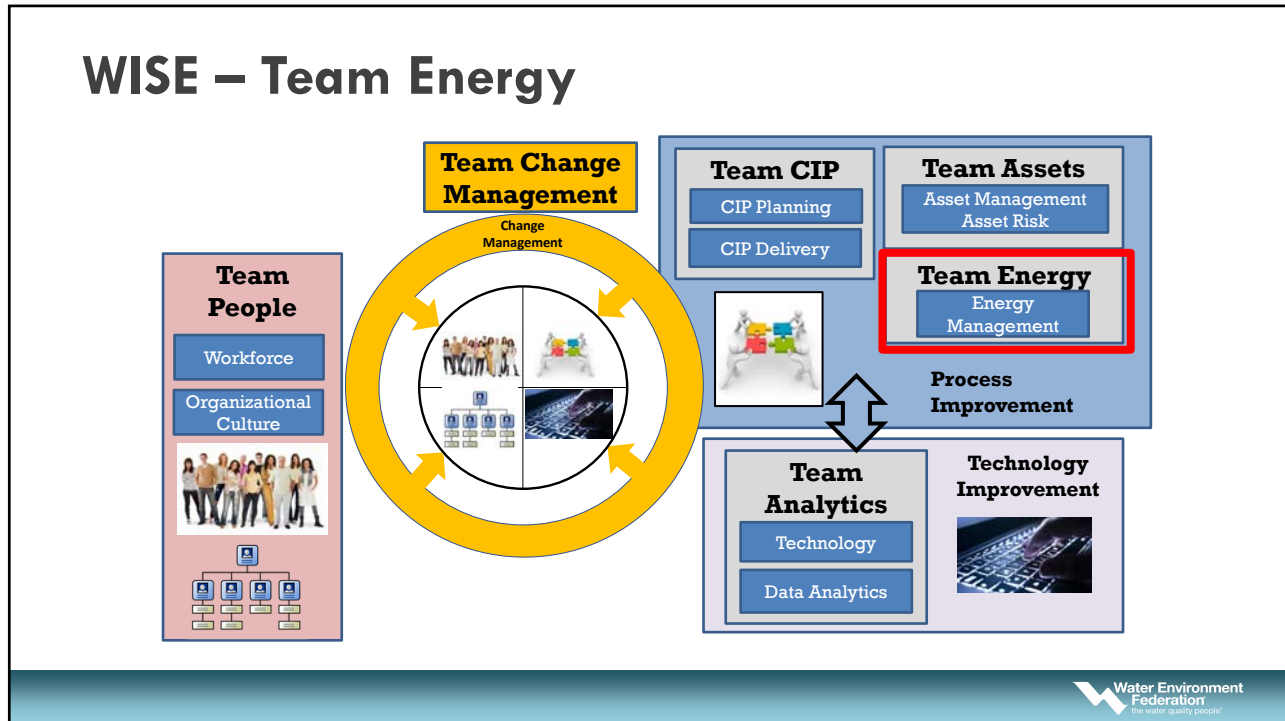
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WEF WISE Energy Management Team

msd

METROPOLITAN COUNCIL

METRO WATER RECOVERY

WSSCWATER
DELIVERING THE ESSENTIAL

metrovancouver

GLWA
Great Lakes Water Authority

Environmental Services
working for clean rivers

dc
water is life®

Water Environment Federation
the water quality people

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WEF WISE Energy Management Team



Designate roles & responsibilities

Strategy Network	Energy Team	Energy Manager	Facility Teams	All Employees
<ul style="list-style-type: none"> Incorporate ENMS in strategic direction Monitor performance Provide resources 	<ul style="list-style-type: none"> Review action plans Review performance targets and progress Champion ENMS with leadership, employees and stakeholders Facilitate and support improvement opportunities 	<ul style="list-style-type: none"> Plan and lead implementation of ENMS Facilitate dialogues among stakeholders, prioritization, and execution of improvement opportunities Incorporate ENMS in operation, maintenance & planning activities Coordinate performance 	<ul style="list-style-type: none"> Track & monitor performance Recommend performance targets Identify & prioritize improvement opportunities Incorporate ENMS in operation, maintenance & planning activities 	<ul style="list-style-type: none"> Suggest improvements Understand relationship of their work to energy performance



Energy Management Assessment

- What's going well?
 - We have policy and goals in place
 - We have resources and communication in place
 - We have a good Project Management in place
 - We are active in employee engagement and reassessment
 - We have Data Collection and availability in place



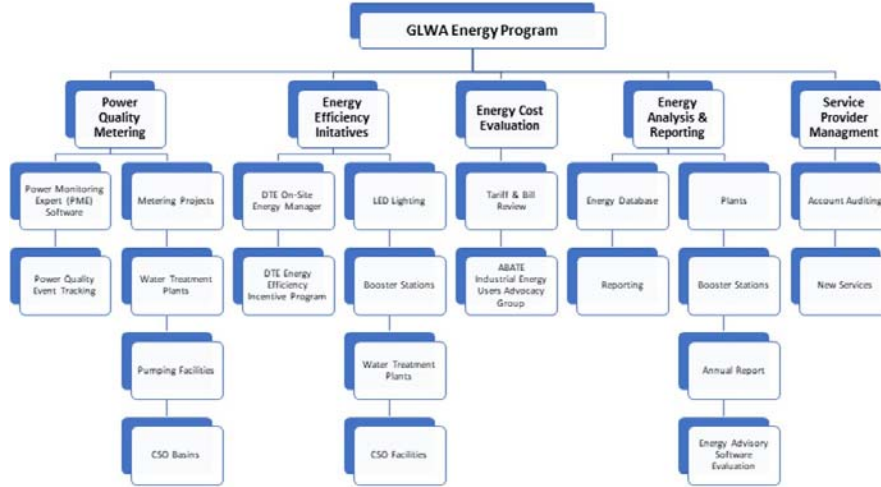
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Sector Energy Management Challenges

- Lack of organizational emphasis
- Energy Management has different meanings to different organizations
 - Efficiency
 - Reduction
 - Generation
- Business processes aren't documented and fully developed

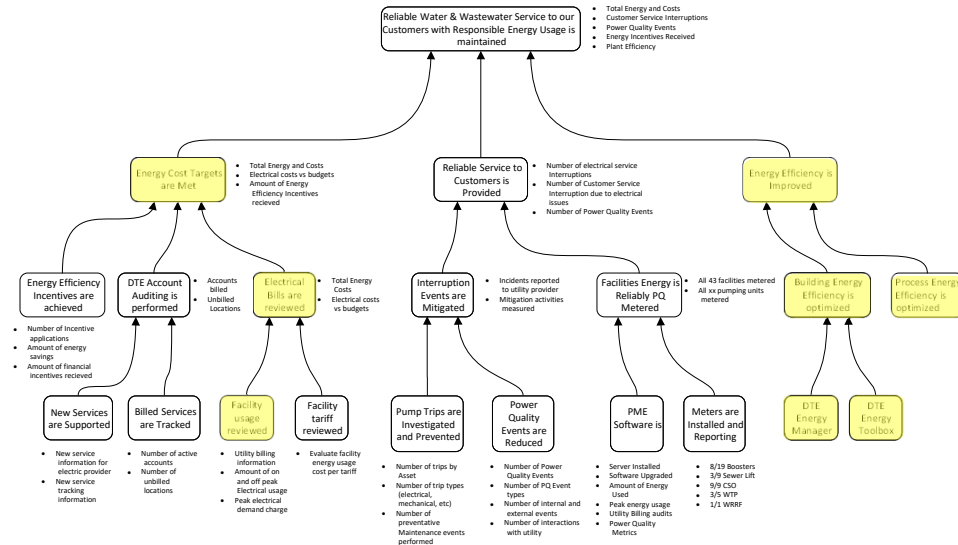
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GLWA Energy Program



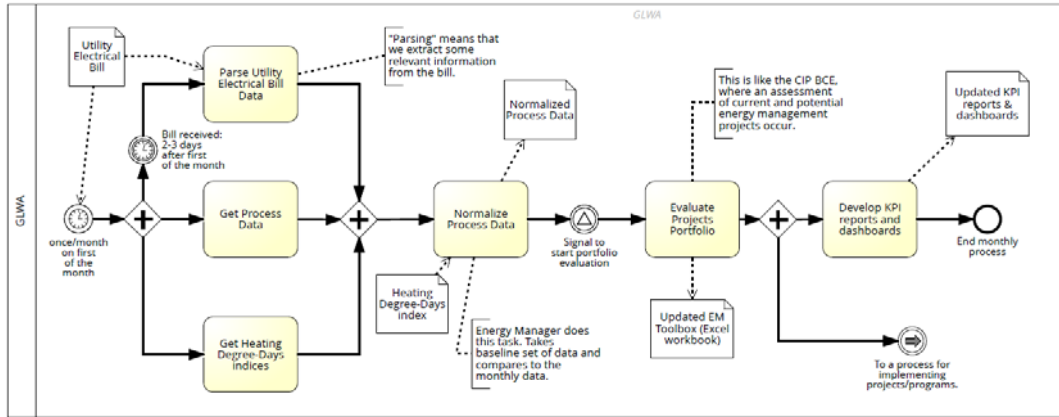
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GLWA Goal Tree



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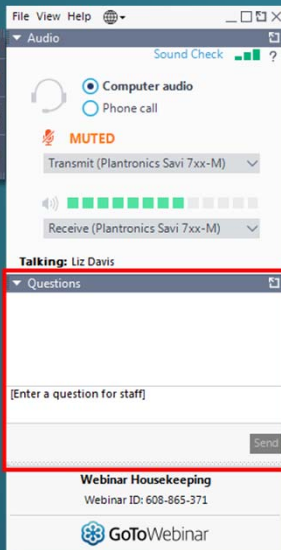
Energy Tracking / Conservation Projects Business Process



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Q&A Discussion

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Submit your questions using the Questions pane.

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