

2020 Energy Management Master Plan Study Session



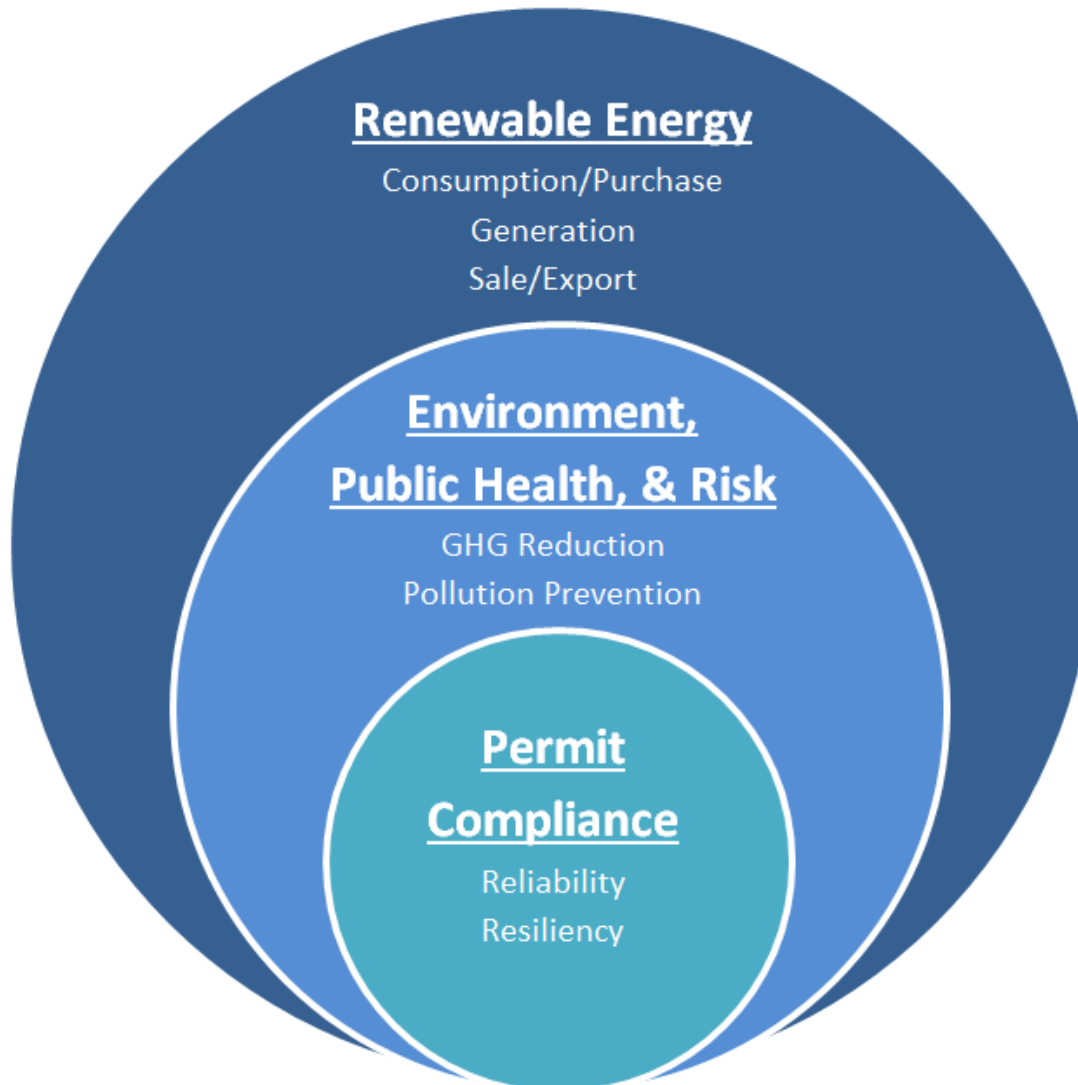
Madison Metropolitan Sewerage District

Satisfying Outcomes Policies

- **O-1 Global Outcomes Policy**
 - District customers are confident that the regional sewerage system delivers appropriate benefits for public health, the environment and the economy at an acceptable cost.
- **O-2A Wastewater Collection and Treatment**
 - Customers' wastewater is collected and treated in a manner that is consistently safe, reliable, efficient, environmentally responsible and forward thinking.
- **O-2B Resource Conservation and Recovery**
 - Natural resources are conserved, recovered and used in an environmentally responsible manner.
- **O-2C Financial Sustainability**
 - Charges for service are justified, adequate, equitable and predictable.



Organizing Energy Objectives



Commission previously indicated use of a nested hierarchy was acceptable

- March 2018
- Nested hierarchy:
 - “Inner” objectives are higher priority
 - Hierarchy is not mutually exclusive
 - Cost considered at every level



Basis for the project

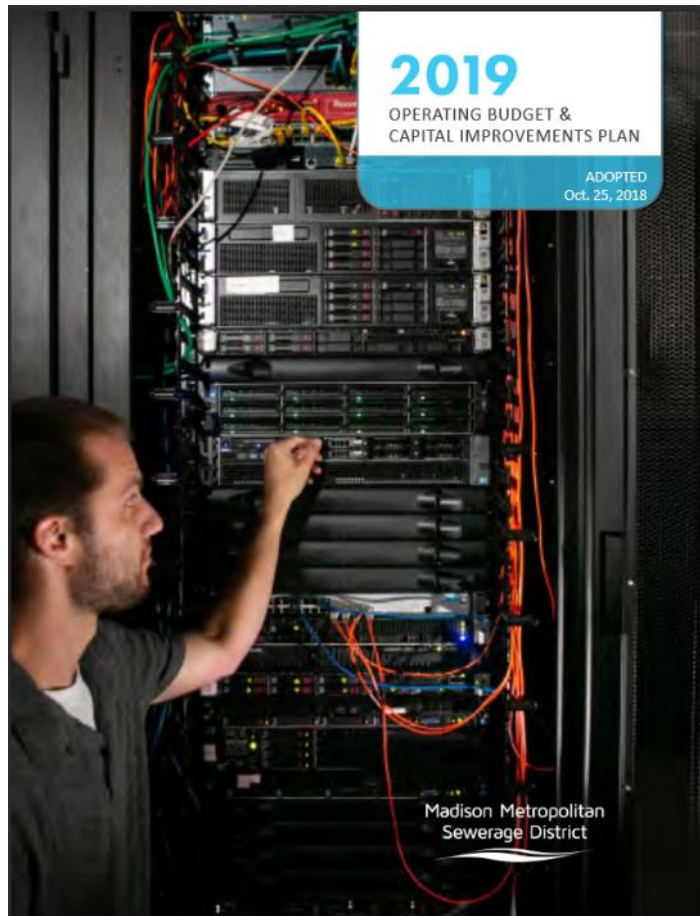


FIGURE 2 | Strategic Plan



CIP ID#
A04

Plant Energy Generation Facilities Plan

START DATE:
2020
COMPLETION DATE
2021



What is it?

- A strategic study
- A high-level evaluation of future options to:
 - Strategically replace aging infrastructure
 - Improve energy reliability and resiliency
 - Reduce energy demands
 - Increase use & generation of renewable energy
- Focused on NSWTP, not pump stations



What it isn't

- Policy(s)
- A set of actionable solutions
- THE path forward
- Not focused on the details necessary to actually build something



Opportunity

- Infrastructure replacement or change only cost effective at end of useful life
- Many pieces of energy equipment are nearing end of useful life
- Now is the time to look at doing things differently to advance desired outcomes



Future projections (business as usual)

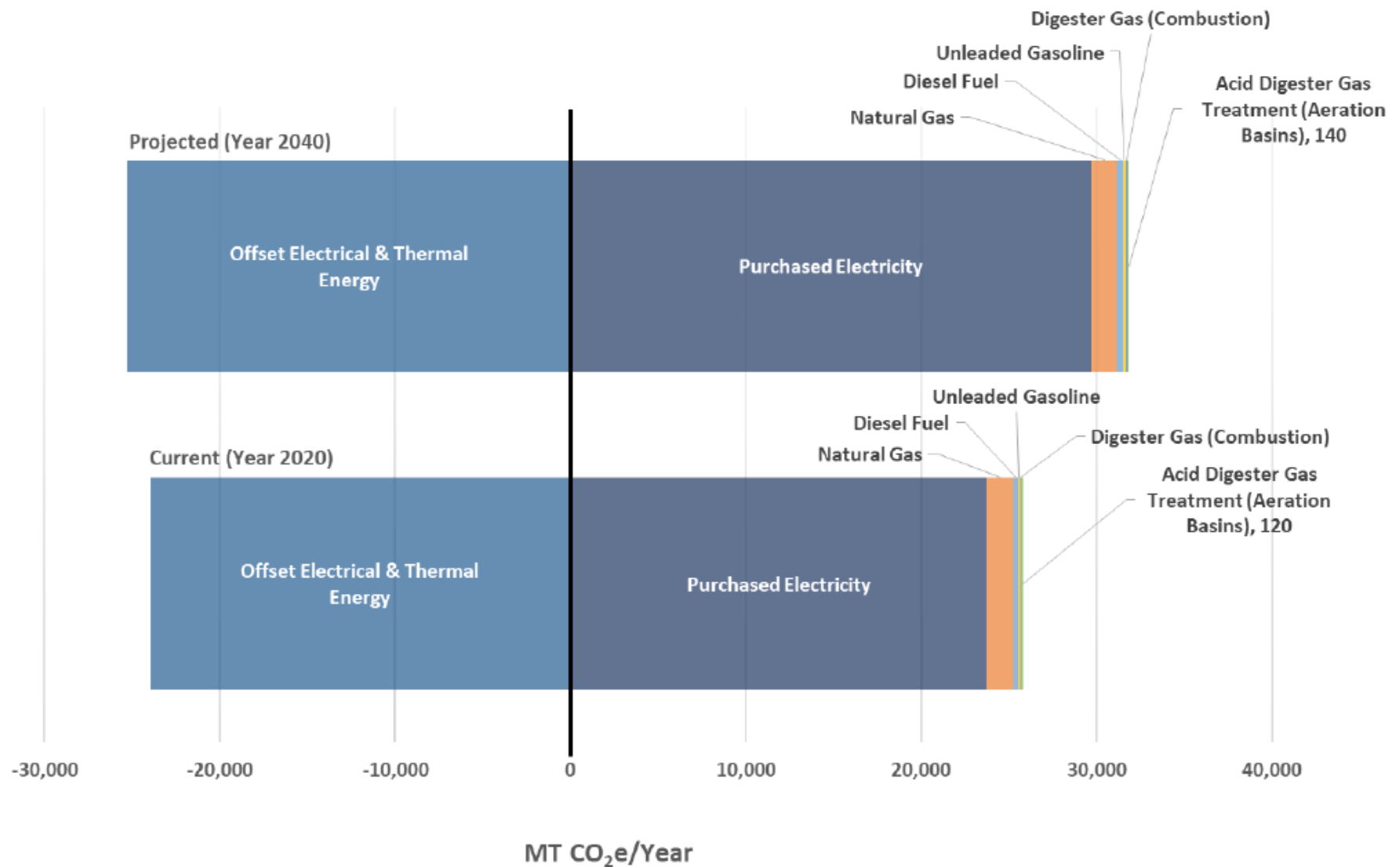


Figure 1.3.13 Summary of the Current and Projected Greenhouse Gas Emissions in Metric Tons of Carbon Dioxide Equivalents per Year

Project goals

- The plan will aim to:
 - Advance district outcomes policies
 - Outline pathways for infrastructure replacement
 - Identify opportunities to reduce costs, conserve resources, reduce operational footprint
 - Utilize established frameworks that seek continuous improvement
 - Add value to rate payers

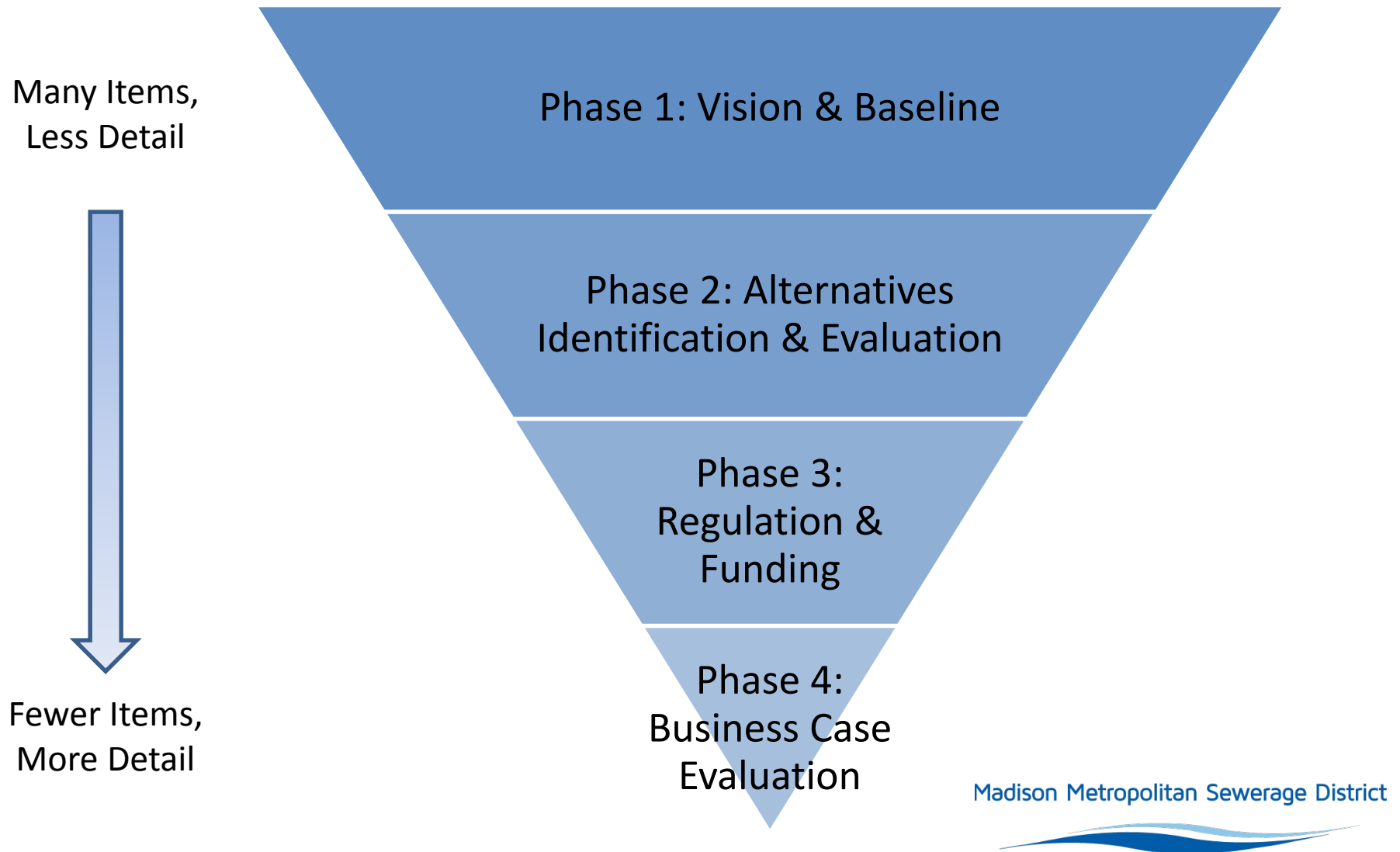


Project outputs

- The plan will:
 - Quantify status quo & future needs
 - Identify alternative strategies to advance District goals and policies
 - Prioritize alternatives based on impact, complexity, and cost
 - Provide business cases for alternatives with highest expected value



Project organization



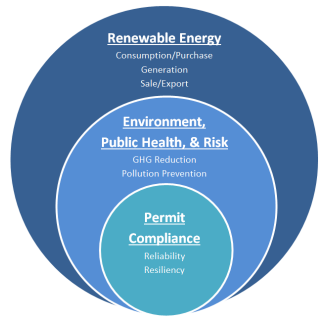
Progress to date

Project Phase	2020												2021								
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Phase 1: Vision & Baseline																					
Phase 2: Alternatives Identification and Evaluation																					
Phase 3: Regulatory and Financial Considerations																					
Phase 4: Business Case Evaluation																					

- Phase 1: Vision & Baseline completed
- Phase 3: Regulatory and Financial Considerations completed
- Phase 2: Alternatives Identification & Evaluation ongoing



Metrics for understanding outcomes

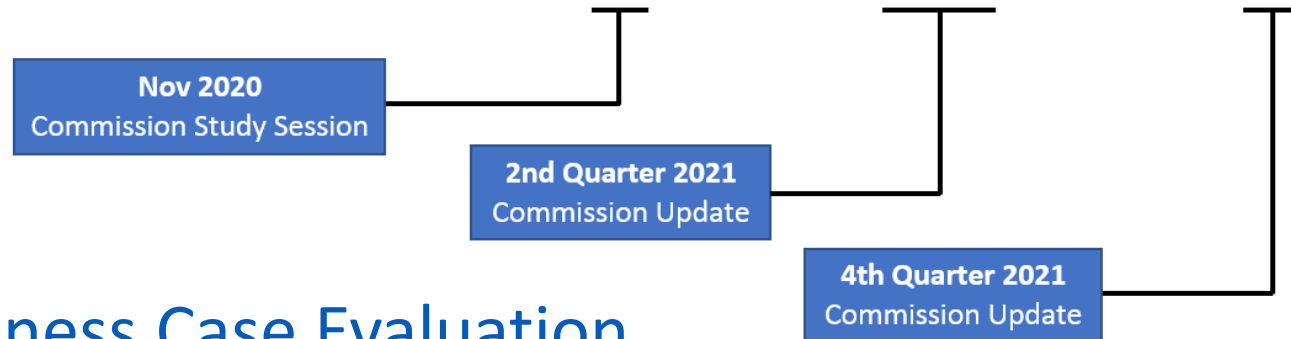


		Evaluation Criteria
	Renewable Energy	<ul style="list-style-type: none">• Energy Impact
	Environment, Public Health, & Risk	<ul style="list-style-type: none">• GHG Footprint• Maturity of Technology
	Permit Compliance	<ul style="list-style-type: none">• Aging Infrastructure• Operational Impacts/Flexibility• Energy Impact
		Synergistic Benefits



Anticipated next steps

Project Phase	2020												2021								
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Phase 1: Vision & Baseline																					
Phase 2: Alternatives Identification and Evaluation																					
Phase 3: Regulatory and Financial Considerations																					
Phase 4: Business Case Evaluation																					



- Phase 4: Business Case Evaluation
- 2nd quarter 2021 – Commission update
- Sept 2021 – Final report, project complete
- 4th quarter 2021 – Commission update
- Beyond – begin facility planning and design



Study Session Questions

- Is there any portion of this study that the Commission considers unacceptable and needs to be reconsidered?
- Is the Commission comfortable with the process pathway for Commission involvement?





Questions • Comments • Discussion



Thank you!