



DEPARTMENT OF
ENVIRONMENTAL PROTECTION
MONTGOMERY COUNTY • MARYLAND

MSW Management Systems Analysis

MSW Process Technology Assessment & REOI Overview

SWAC Discussion Meeting – 6.05.2024



Aiming for Zero Waste

A Vision for Sustainable Materials
Management in Montgomery County

Agenda

1. Welcome and Introductions (5 minutes)
2. Presentation by Arcadis (20 Minutes)
3. Stakeholder Feedback/Discussion (30 Minutes)
4. Next Steps and Closing (5 minutes)

WELCOME & INTRODUCTIONS

A large, abstract orange graphic on the left side of the slide, composed of several horizontal bars of varying lengths that appear to flow from left to right, creating a sense of movement and depth.

**Sustainable
Project Choices**

MSW Management System Analysis Montgomery County, MD DEP

Solid Waste Advisory Committee Meeting – June 5, 2024

Steve Nesbitt, Vice President

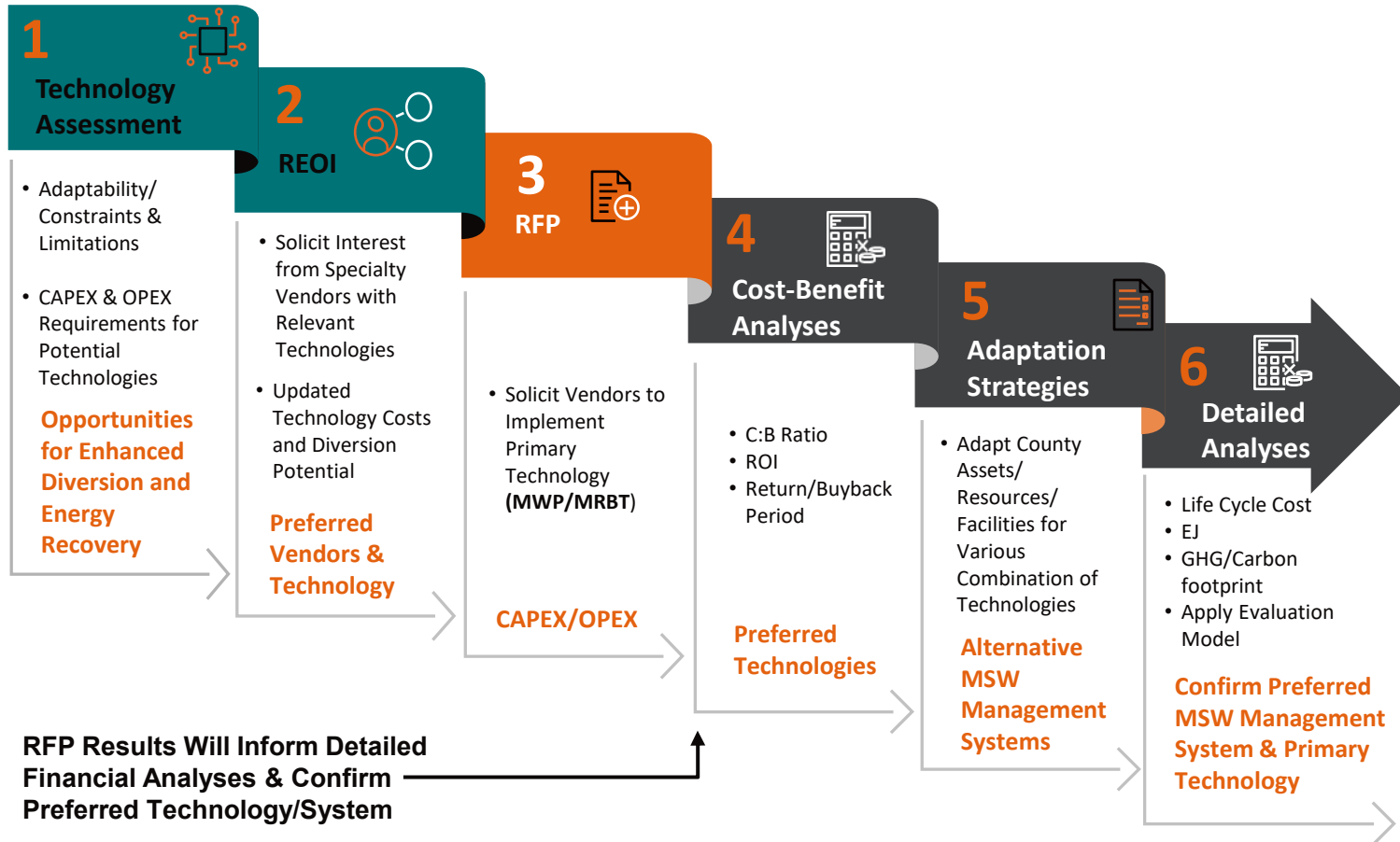
Overview

Technology (Refresher)

REOI Overview

Next Steps

MSW System Analysis Approach





Waste Stream Components & Processing Technologies

Municipal Solid Waste



Mixed Waste Processing

Dry Mechanical Combined with Dual Stream Recycling and Source Separated Organics

Materials Recovery with Biological Treatment (with/without Thermal Hydrolysis)

Organic Fraction of Waste &/ or Source Separated Organics



Anaerobic Digestion

Renewable Natural Gas

CLO

Composting

Aerated Static Pile w Membrane Cover

In-Vessel

CDD



Recycling

Beneficial Reuse

Overview

Technology

REOI

Next Steps

Alternate Project Delivery Methods

These Technologies Can Be Provided via a Range of Alternative Delivery Methods

DB = Design-Build

DBO = Design-Build-Operate

DBO-O = Design-Build-Operate & Own

Overview

Technology

REOI

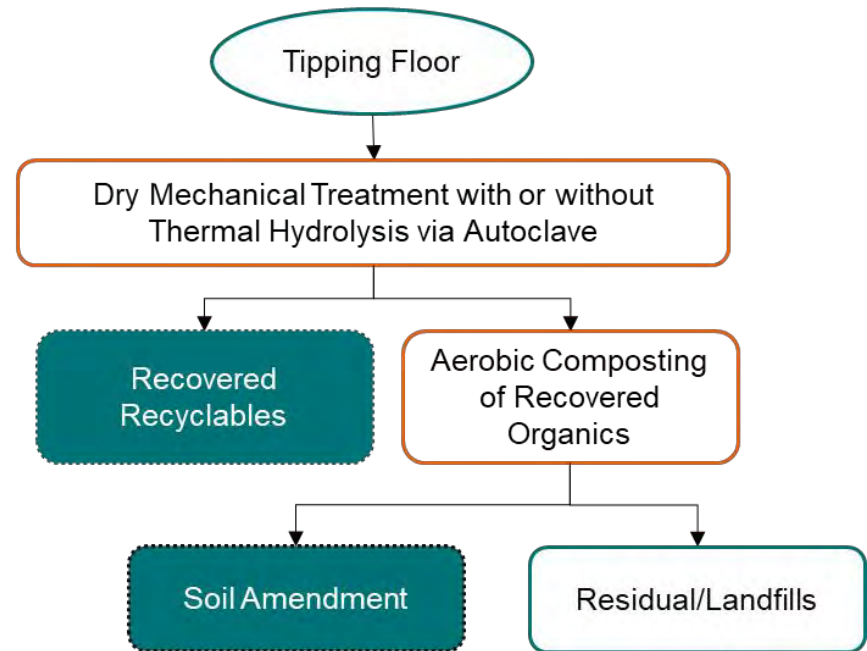
Next Steps



Mixed Waste Processing

Combined with Dual Stream Recycling and Source Separated Organics

Materials Recovery with Biological Treatment



Overview

Technology

REOI

Next Steps



Source Separated Organics - Composting



**Aerated Static Pile w Membrane
at MCYTCF**



In-Vessel Composting

Overview

Technology

REOI

Next Steps



Recycling of Concrete, Brick, Rock/Stone/Earth & Other Building Materials

Overview

Technology

REOI

Next Steps



Co-Located Revenue Generating Technologies (Additional RFPs/Capital Projects)



**Anaerobic Digestion with
RNG from Biogas**



**Solar Electricity/'Green'
Hydrogen**

Overview

Technology

REOI

Next Steps

Estimated Capital Cost for Recent MWP/MRBT Facilities



Source	Project Year	Capacity (tons/yr.)	Capital Cost New Facility	Rough Order Magnitude CAPEX \$2024
Monroe County, IN	2018	130,000	\$ 40,000,000	\$ 47,507,452
San Leandro, CA	2020	150,000	\$ 120,000,000	\$ 133,046,145
Santa Barbara, CA	2021	180,000	\$ 130,000,000	\$ 139,259,250

Overview

Technology

REOI

Next Steps

**Preferred MSW
Processing
Vendors &
Technologies**

2



REOI

Overview

Technology

REOI

Next Steps



Big Picture/Overview

REOI Approach

- Industry/Internet Based Research
- ~40 Vendors Contacted
- Progressive Vendor Outreach
- Technology Focused
- Reduced Exclusions/Streamlined

Results

- 7 of 8 Offerors Pre-Qualified for Next Step/RFP
- Combined System Integrators and/or Specialized Technology Vendors Address All Primary Technologies
- Affords Flexibility in Formulation of RFP

Overview

Technology

REOI

Next Steps

Combined System Integrators & Specialty Vendors Address All Primary Technologies



	Classification		Role				Technology			
Offeror	System Integrator	Specialty Process/Technology Vendor	DBO-O	DBO	DB	Equipment Supplier	MWP	MRBT	AD	CDD Recycling
Freepoint Ecosystems (w BHS)	█	█	█				█	█	█	
AMP Robotics Corporation	█			█		█	█	█		
Juno	█	█			█			█		
Stadler American	█				█	█	█	█	█	█
Machinex		█			█	█	█	█	█	
Republic	█			█			█	█	█	█
Sparta Manufacturing	█	█				█	█	█	█	█

Overview

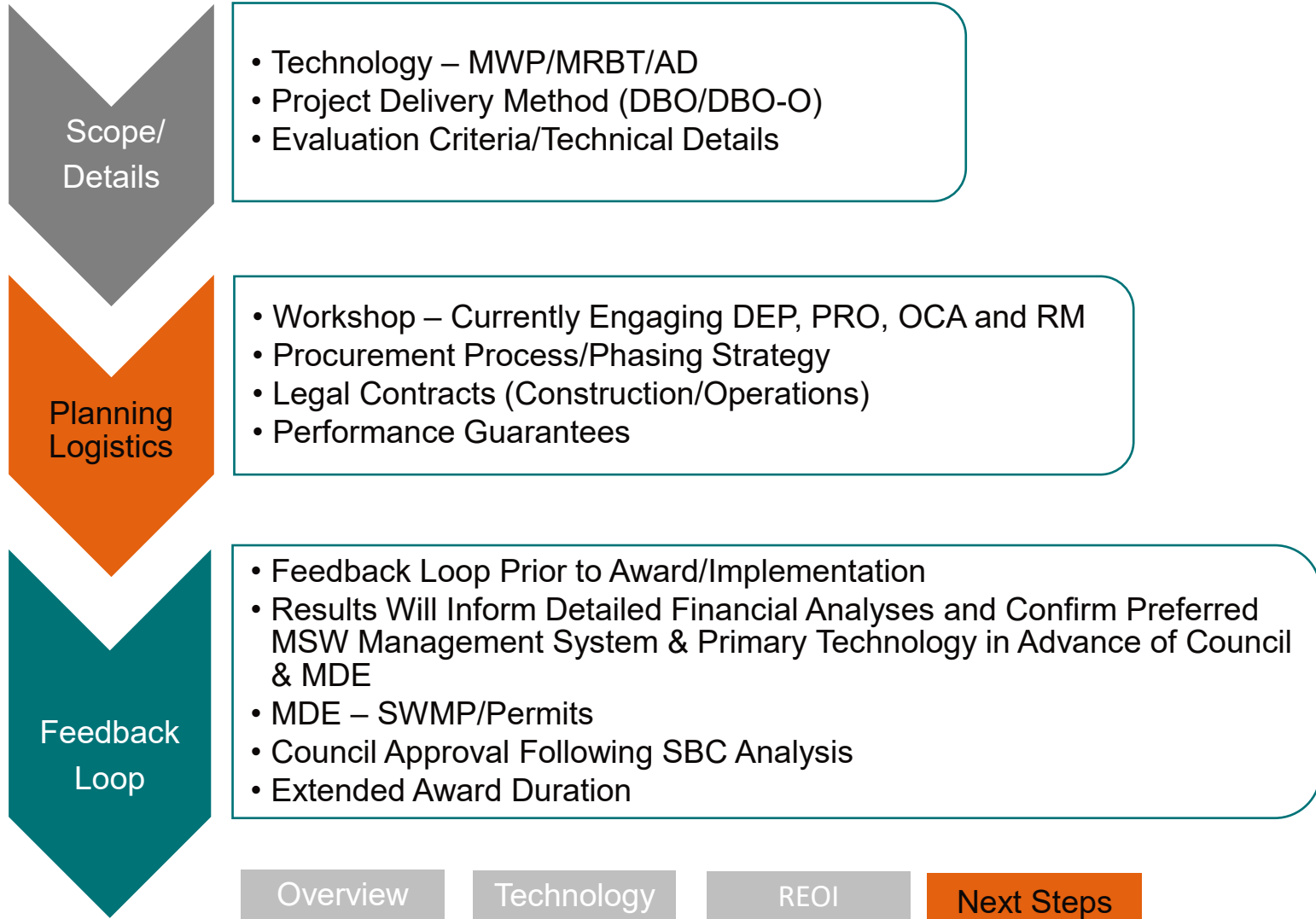
Technology

REOI

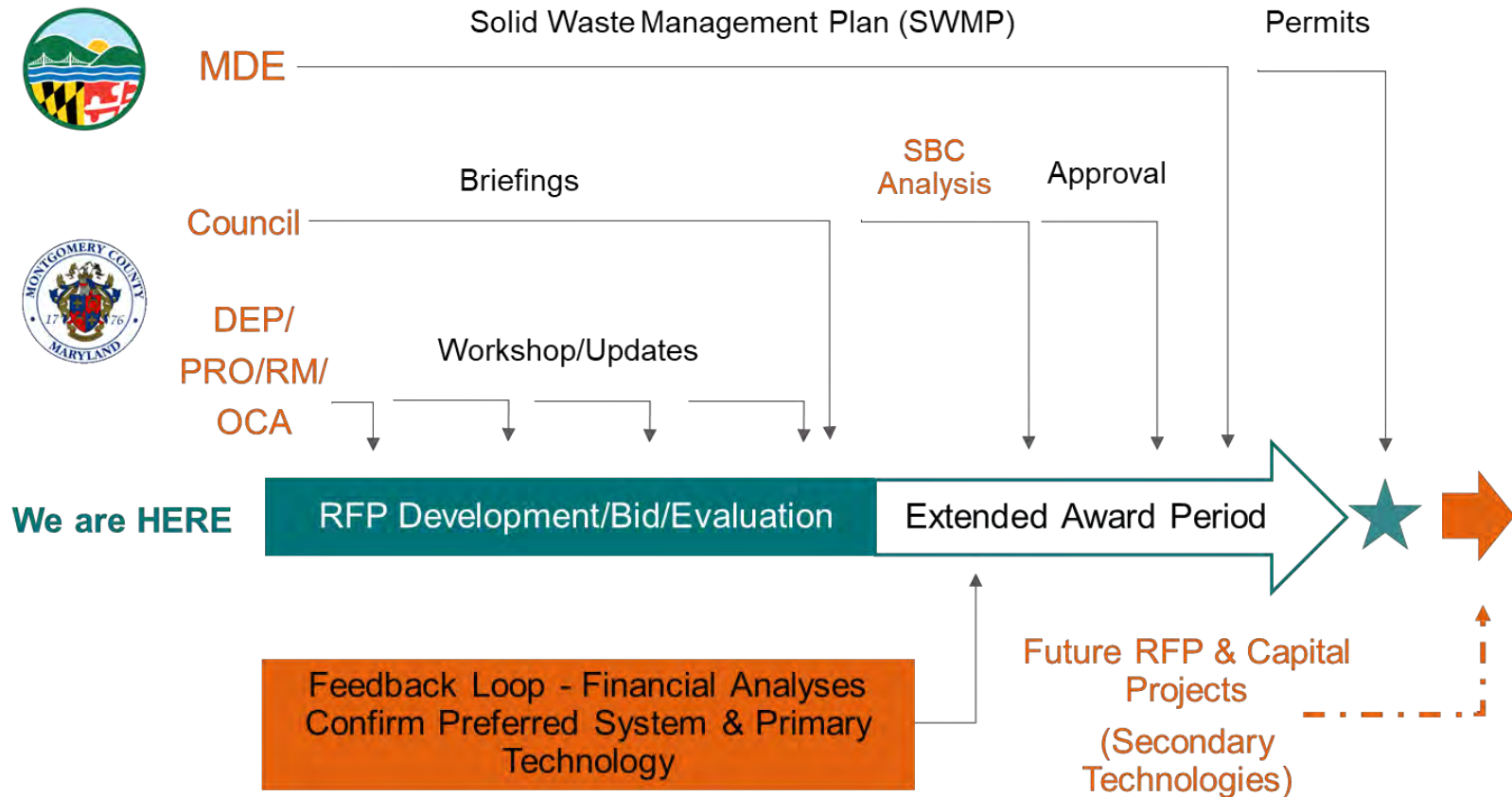
Next Steps



Proceed Immediately with RFP



Initial RFP/Primary Technology



Overview

Technology

REOI

Next Steps


















Stakeholder Feedback and Discussion

NEXT STEPS AND CLOSING



Alternative MSW Management System Components



Material	Processing Technology	Transfer & Hauling	Location
 MSW	 MWP & MRBT	 Material Transfer	 Derwood
 SSO	 WTE/RRF	 Rail Haul	 Dickerson
 CDD	 MSWLF	 Truck Haul	 Site 2
 Glass	 Anaerobic Digestion		 Out-Of-County MSWLF
	 Composting		
	 Recycling		