



Memorandum

MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by: AK Date: 1-14-22
General Manager

DATE: January 14, 2022

TO: General Manager

FROM: Director of Engineering & Compliance, District Engineer

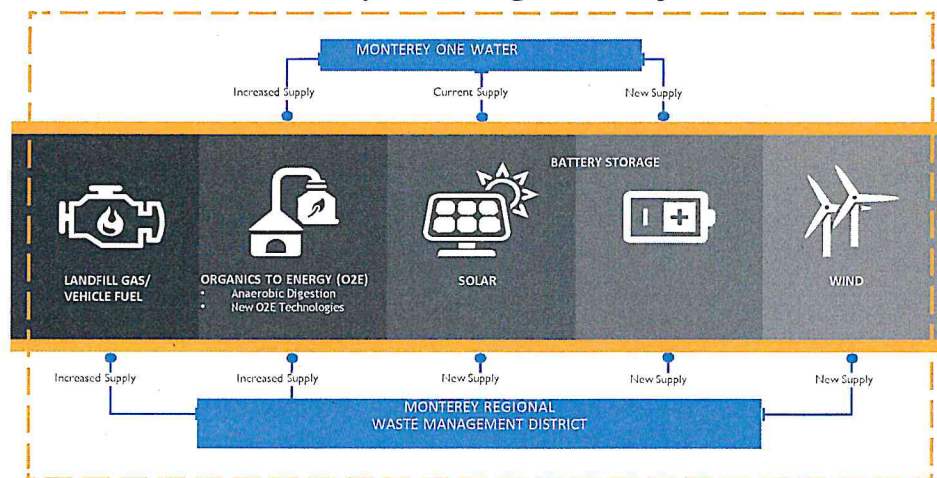
SUBJECT: MRWMD-M1W AdHoc Committee Meetings Report and Update on the Monterey Microgrid and Organics-To-Energy Feasibility Studies – 1) Approve \$175,000 of Funding in Current FY2021-22 from contingency and 2) Approve \$200,000 of Funding for FY2022-23 Preliminary Budget.

RECOMMENDATION: That the Board of Directors, having received a report of the MRWMD-M1W AdHoc Committee Meetings and Update on the Monterey Microgrid and Organics-To-Energy Feasibility Studies – 1) Approve \$175,000 of Funding in Current FY2021-22 from contingency and 2) Approve \$200,000 of Funding for FY2022-23 Preliminary Budget.

November 12, 2021 AdHoc Committee Meeting

The AdHoc Committee representing both agencies met for the first time on November 12, 2021 via a virtual meeting. The intent of the AdHoc Committee is to discuss topics of mutual interest and benefit such as shared site services (common area landscape maintenance, road maintenance, entrance maintenance, security), processing of waste waters by M1W and solid wastes by MRWMD, or potential projects such as the Monterey Microgrid and the various potential projects that are associated with processing organics for beneficial reuse of energy production and/or product development (SB1383 related). The proposed Monterey Microgrid was the main focus of the discussions given its unique, innovative, and mutually beneficial characteristics.

Monterey Microgrid Project



The following is a summary of the discussions at the first AdHoc Committee meeting:

I. November 12, 2012 ADHOC Microgrid Board Meeting

a. Attendees:

(M1W) Directors Donaldson, Committee Chair Stefani, Staff: Scuito, McNarie. General Counsel Wellington.

(MRWMD) Directors Blackwelder, Root Askew, Board Chair Campbell. Staff: Flanagan, Petraborg

Consultant: Darling

b. **Briefing Covered:** an overview of an island microgrid for the 2 agencies, recent accomplishments including the application for 3 grants, challenge of the 2 agency's properties not being included in the Tier 2/3 Fire Hazard zone maps created by CAL FIRE, a road map for the evolution of the microgrid and various Organics-to-Energy projects, and proposed activities over the next 6 months

c. **Projected Objectives:**

- i. Self Sufficiency (No PG&E Power Shut Offs)
- ii. Meet applicable new laws & state policy goals including AB 32, AB 341, SB 1383
- iii. After first establishing the scope of a 2-agency island microgrid, evaluate a larger microgrid to identify other parties that might benefit from surplus power generation at less than retail rates
- iv. Maximize dollar value of all organic waste streams (Biosolids, Food Waste, Yard Waste, Woody Debris, Rejected Paper from Recycling)
- v. Maximize dollar value of landfill/biogas, solar, and potentially wind
- vi. Added at the ADHOC Committee Meeting:
 1. Monterey Microgrid Project will lower rates for both agencies
 2. Demonstrate statewide leadership between 2 public agencies that are typically siloed to establish energy independence and develop robust renewable energy projects from organics that are often landfilled

d. **6 Month Activities (FY21-22):**

- i. Formulate a Joint Powers Agreement framework between M1W and MRWMD
- ii. Hire dedicated lead staff person to focus solely on the establishment and ultimate operations of the Microgrid
- iii. Calculate Potential Generation of the various Organics to Energy projects
- iv. Complete Initial Sizing and Logistics for the 2-agency microgrid
- v. Establish Microgrid Project Description through Technical & Economic Modeling
- vi. Request PG&E Interconnection Study with Preferred Microgrid Project (Critical Path!)
- vii. Identify state and federal grants and loans or tax breaks

e. 6 Month Budget Estimate (FY21-22):

The AdHoc Committee unanimously directed staff to present the proposed 6 month budget to the respective Board of Directors for their review, consideration, and recommended approval.

Next 6 Months Activities (FY21-22)	
from	
November 12, 2021 Ad Hoc Meeting	
Develop Joint Powers Agency Framework	
Hire Dedicated Lead Staff Person	\$100,000
Organics to Energy Feasibility Study(5 months)	\$85,000
Microgrid Conceptual Planning Analysis(2 months)	\$30,000
Technical & Economic Modelling to Establish Microgrid Project (1 month)	\$30,000
PG&E Integration Application (CRITICAL PATH)	\$60,000
Project Consultant	<u>\$38,000</u>
SUBTOTAL	\$343,000
<u>ESTIMATED FUNDING REQUEST – 6 Months</u>	~\$175,000 per agency (\$350k sum) *

**Note: budget estimates may shift between line items*

January 11, 2022 AdHoc Committee Meeting

The AdHoc Committee representing both agencies met for the second time on January 11, 2022 via a virtual meeting. The meeting discussion included an update on the status of three grant applications and mainly focused on the activities and funding needs over the next 18 months to further evolve the details for the Monterey Microgrid and the potential various organic processing alternatives.

I. January 11, 2012 ADHOC Microgrid Board Meeting

a. Attendees:

(M1W) Directors Donaldson, Committee Chair Stefani, Staff: Scuito, McNarie. General Counsel Wellington.

(MRWMD) Directors Blackwelder, Board Chair Campbell. Staff: Melchor, Brownell, Flanagan, Petraborg

Consultant: Darling

Staff presented the status of three grant applications to the committee. Two grants were not awarded to the joint agency team and the third grant application is pending notification of the results as shown below.

Opportunity/ Award Notification	Amount Requested
PG&E Better Together Resilient Communities (Not Chosen)	\$100,000
Bay Area Council CA Resilience Challenge (Not Chosen)	\$200,000
EPA Anaerobic Digestion 2021 (Still Pending)	\$169,000

In the interim between the November 12, 2021 and January 11, 2022 AdHoc Committee Meetings, staff developed an 18-month plan of activities and estimate of funding needs. The plan of activities and the estimated funding needs are presented in the following tables, respectively.

Next 18 Months Activities

1. Formulate a Joint Powers Agreement between M1W and MRWMD for Planning and Design
2. Hire dedicated staff person to focus on the establishment and ultimate operations of the Microgrid
3. Calculate Potential Generation of Organics to Energy
4. Complete Initial Sizing and Logistics for the 2 -agency microgrid
5. Establish Preferred Microgrid Project Description That Defines the Phases of Construction, Amount of Energy that can Be Produced (electric or gas) and Location for New Equipment
6. Initiate CEQA for the Preferred Project in order to apply for state and federal grants
7. Complete PG&E Interconnection Study (Critical Path!)
8. Decide on a project delivery method:
 1. Traditional or Modified Design-Bid-Build
 2. Public-Private-Partnership (P3)
9. Secure financing (grants, loans, bonds, private if P3)

Next 18 Months Activities (FY21-22 & FY22-23)
 from
January 11, 2021 Ad Hoc Meeting

• Establish JPA	\$20,000
• Feasibility Study Establishing a Preferred Project (predesign& CEQA status)	\$295,000
• PG&E Integration (application and study)	\$60,000
• Staffing	<u>\$375,000</u>
• SUBTOTAL	\$750,000
• <u>ESTIMATED FUNDING REQUEST – 18 months</u>	\$375,000 per agency*
<i>FY21-22 ~ \$175k/agency FY22-23 ~ \$200k/agency</i>	

• **Note: budget estimates may shift between line items*

The AdHoc Committee unanimously directed staff to present the proposed 18 month budget to the respective Board of Directors for their review, consideration, and recommended approval. The 18-month plan of activities and estimated funding needs are inclusive of the 6-month plan that was presented at the committee’s first (initial) meeting.

FINANCIAL IMPACT

The \$175,000 of funding that the AdHoc Committee is requesting from the District in the current fiscal year (FY21-22) is available the approved FY21-22 thru cost savings, expenditure deferrals, and additional revenues collected by the District. The estimated \$200,000 of funding that the AdHoc Committee is requesting from the District in the next fiscal year (FY22-23) will be accomplished thru the normal budget process and by management of expenditures if approved by the District’s Board

STRATEGIC PLAN

The joint MRWMD-M1W collaboration to define a microgrid and potentially develop one or more organics-to-energy projects aligns with several of the District’s “Pillars of Sustainability”. Principally under the Community, Innovation, and Environment pillars. The potential projects are unique and innovative in several ways; not only does it represent a collaboration of two public entities, it accrues financial benefits to both agencies and creates a more sustainable operations framework that will yield cost savings to the customers of both agencies and the communities served for years to come. In addition, it has the capability to contribute to the state’s goals of electrification and reduction of short-lived pollutants.

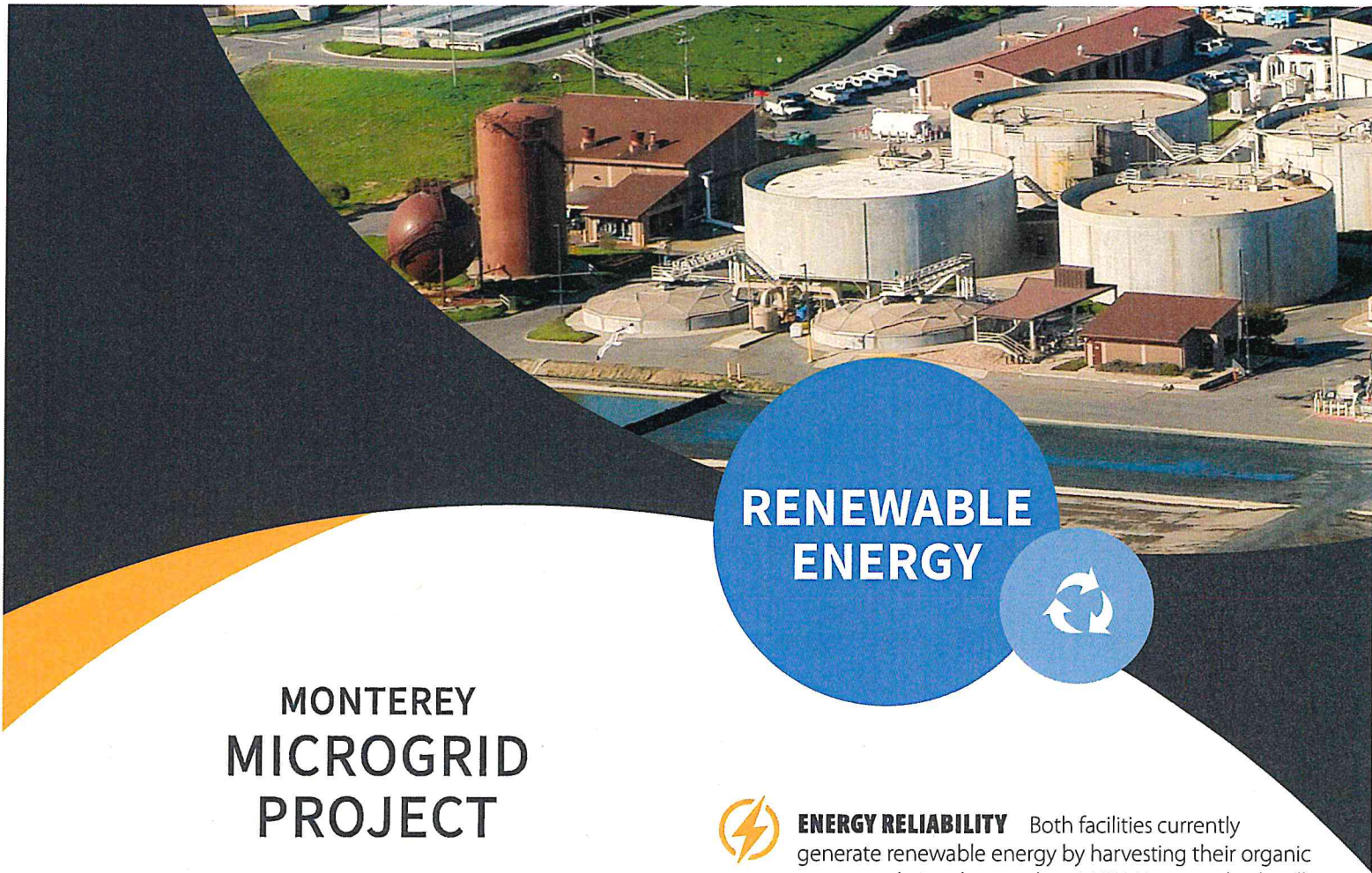
RECOMMENDATION

The AdHoc Committee, consisting of representatives of the District and M1W Board of Directors, has unanimously directed staff to present the 18-month plan of activities and request for funding to their respective Boards for consideration for approval. Staff requests that the Board of Directors, having received a report of the MRWMD-M1W AdHoc Committee Meetings and Update on the Monterey Microgrid and Organics-To-Energy Feasibility Studies – 1) Approve \$175,000 of Funding in Current FY2021-22 from contingency and 2) Approve \$200,000 of Funding for FY2022-23 Preliminary Budget.

Guy R. Petraborg, P.E., G.E.

Attachments:

Monterey Microgrid Flyer



MONTEREY MICROGRID PROJECT

Monterey One Water (M1W) and the Monterey Regional Waste Management District (MRWMD) are public entities who respectively manage wastewater and non-hazardous solid wastes. These two agencies serve similar constituencies along the central coast of California and both provide essential public services that need reliable access to power.

As neighbors, they have established a visionary partnership to study and establish a microgrid to secure the level of energy resilience their critical, 24/7 operations require. This concept leverages existing infrastructure to combine M1W's and MRWMD's organics and other feedstock to further convert waste to energy, creating a renewable energy microgrid that can sustainably supply their power needs.

The goals of the Monterey Microgrid Project are to 1) expand biogas generation for productive use; 2) support California mandates on organics diversion and sustainable waste management practices; and 3) create an island microgrid that eliminates power interruptions and provides a sustainable power source.

RENEWABLE ENERGY



ENERGY RELIABILITY Both facilities currently generate renewable energy by harvesting their organic wastes and via solar panels at M1W. However, both still rely on commercial power from the utility grid to fulfill their energy needs. Reliance on commercial power for these essential services is challenging given rotating outages. By leveraging resources, M1W and MRWMD plan to create a microgrid of reliable, green energy sources to power their critical facilities.



EFFECTIVE INTER-AGENCY COLLABORATION M1W and MRWMD are committed to a collaborative, unprecedented public-public partnership between the wastewater and waste management sectors that will be replicable in California and other states. Both entities are eager to establish a renewable energy microgrid which will optimize the beneficial reuse of waste materials to yield sustainable, cost-effective operations to benefit their communities.

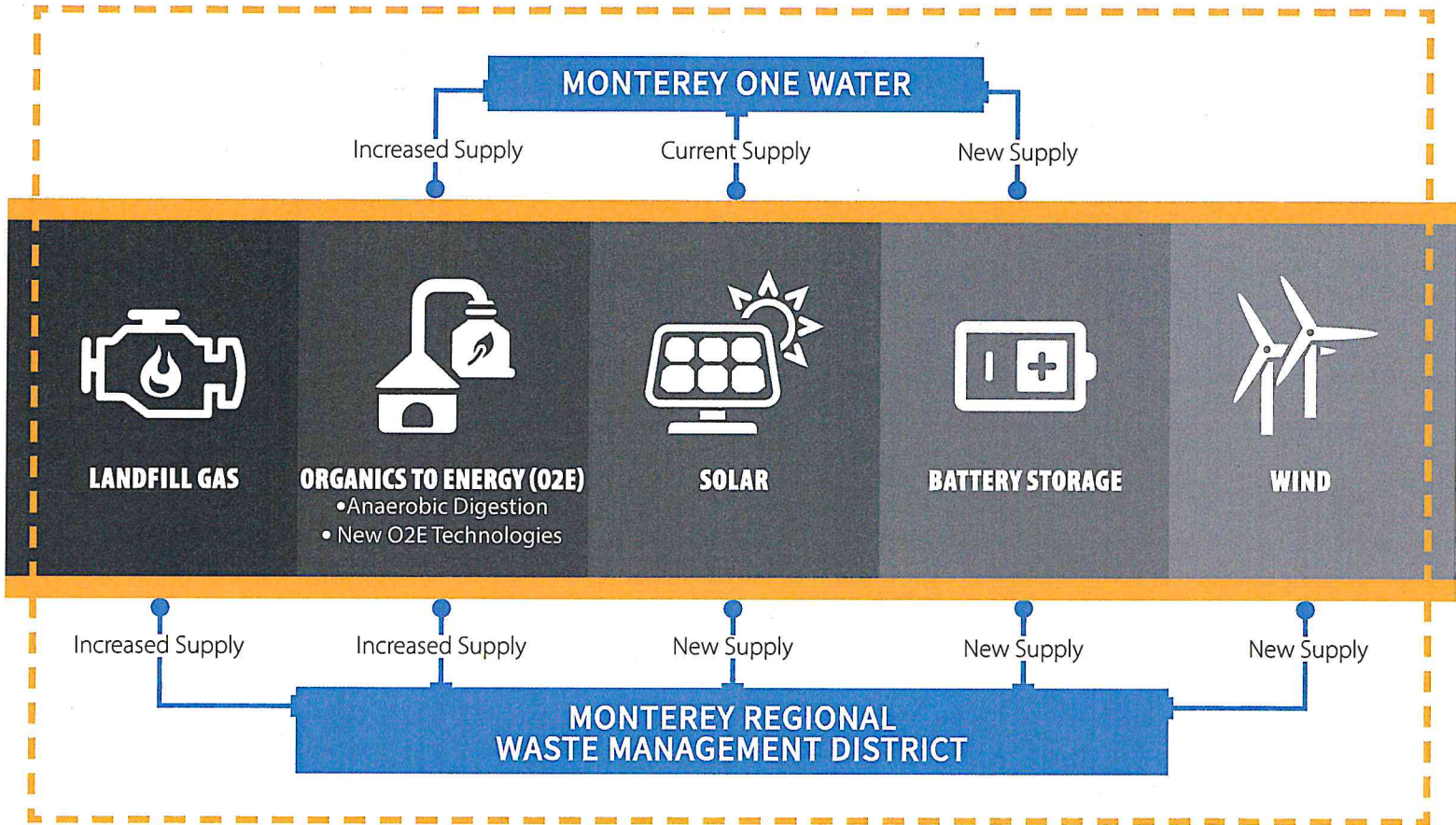


REGIONAL SUSTAINABILITY Together, M1W and MRWMD will help the region reduce its greenhouse gas footprint and create a more sustainable environment for current and future generations. This shared accountability and innovation will create a model of using local resources to address local issues in the interest of local benefits.



MONTEREY MICROGRID PROJECT

In California's wastewater industry alone, 156 wastewater treatment plants currently operate anaerobic digestion systems large enough to support future microgrid development. Additionally, new laws in California mandate the diversion of organic materials from landfills and direct the state to become carbon neutral by 2045. This project has the potential to serve as a model for inter-agency collaboration and for communities looking to enhance their renewable energy efforts.



ANTICIPATED PROCESS AND OUTCOMES

Implementation Steps

- Study co-digestion and other technologies that can harvest the power of wastewater solids and landfill organics and the full microgrid concept
- Develop a Operations Optimization Plan and long-term Fiscal Sustainability Plan
- Identify funding opportunities to help finance required capital investments
- Design, permit, and construct renewable energy infrastructure

Environmental and Project Benefits

- Reliable 24/7 power supply
- Reduction in greenhouse gases and the associated indirect benefits related to climate change
- Preservation of landfill capacity as a result of organics being re-directed for in-vessel anaerobic digestion
- Decrease in commercial energy demand
- Sustainable financial benefits of renewable energy

CONTACT

MONTEREY ONE WATER

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