MEMO

Discussion/Action
Item#11

Meeting Date: February 17, 2023

To: Board of Directors
From: Director of Engineering & Compliance-District Engineer, Guy R. Petraborg
Approved by: General Manager, Felipe Melchor

Subject: Discuss M1W Co-digestion Project Supported by CalRecycle (Cycle 1) Grant Funds and Authorize the General Manager to Negotiate a Feedstock Agreement for Delivery of up to 10,000 tons of Source Separated Food Waste

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Recommendation
That the Board Authorize the General Manager to Negotiate a Feedstock Agreement for Delivery of up to 10,000 tons of Source Separated Food Waste.

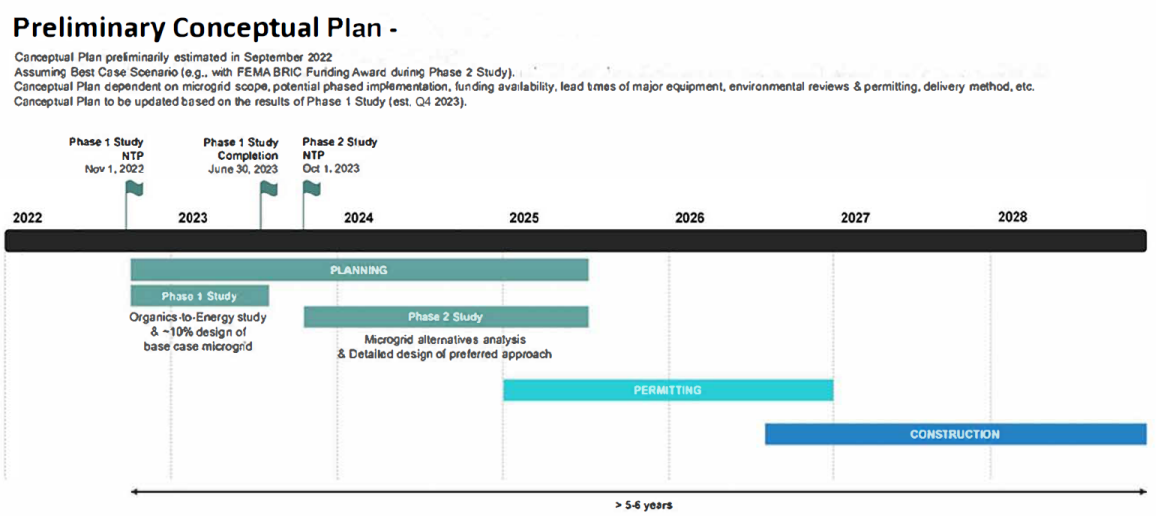
BACKGROUND

In 2018 staff presented the Board with a vision of a multi-faceted study to evaluate the highest and best use of wastes and waste by-products managed by both ReGen Monterey (ReGen) and Monterey One Water (M1W) for the purpose to:

i) gain operational reliability for these 24/7 critical public services with an electrical microgrid connecting the two treatment facilities and possibly others;
ii) environmental sustainability by incorporating renewable energy infrastructure such as solar, wind, and/or battery storage and reducing the unit rate of greenhouse gas emissions thru optimization of beneficial reuse of gaseous waste by-products; and
iii) improve financial sustainability associated with these goals and collaborative public-public partnership that leverage investments for mutual benefit and the interests of the communities and ratepayers that they serve.

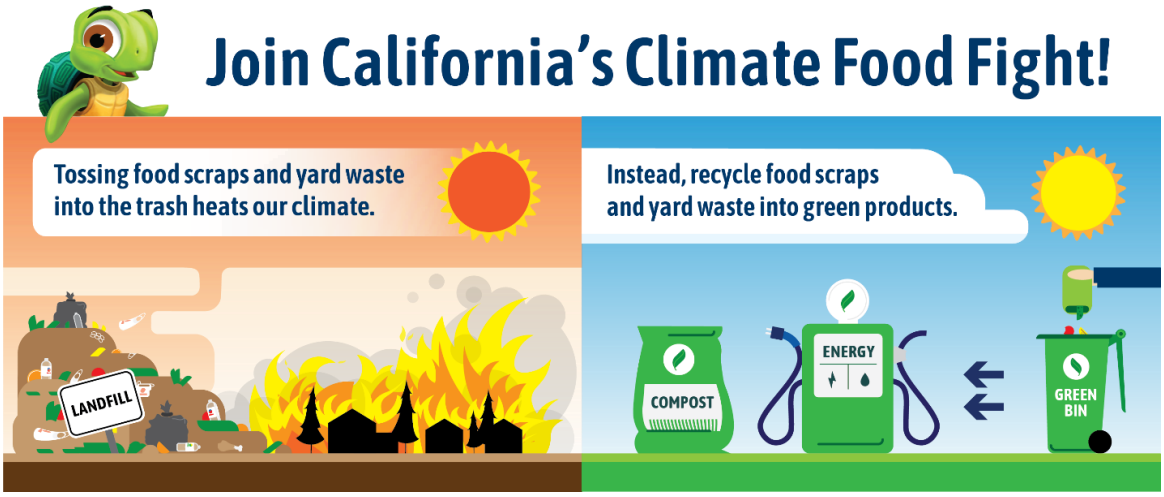
The Board adopted this vision (2018) and directed staff to engage with M1W to explore their shared interest in the vision and the significant opportunities that are present in the breadth of the vision. In 2021 M1W confirmed their shared interest in the vision and the agencies establish a joint Ad Hoc Committee of Board Directors that first met in November 2021. Staff presented the joint Ad Hoc Committee an initial 18-month period and $750,000 budget to recruit a study Director, develop the study description, develop a RFQ/RFP to solicit professional service consultants, to select a consultant(s), and seek funding opportunities for the study. Both Boards approved this initial plan in January 2022; the RFQ/RFP was developed and completed in June 2022; a study Director was retained in May 2022; and the Joint Feasibility Study consultant (GHD) was selected in October 2022 and contracted with in December 2022. The preliminary conceptual plan below illustrates the Joint Feasibility Study as a sequence of two phases consistent with the GM's negotiations of a reduced scope/cost for the current GHD contract. Note that the Joint Feasibility Study is a planning process where assessments and evaluations of

various alternatives is conducted to identify preferred scenarios that are subsequently considered for Board adoption as approved projects and later developed for environmental and planning permitting, designed for building permitting, and construction.



In summary, the Joint Feasibility Study will assess the electrical microgrid options, renewable energy opportunities, and the highest and best use of waste and waste by-products managed by the two agencies (referred to as the organics-to-energy (O2E) segment of the study). The O2E segment is influenced by SB 1383, California's Short-Lived Climate Pollutant Reduction law, which seeks to reduce organic waste disposal in landfills by 75% by 2025 thru:

- Rescue 20% of currently disposed surplus food for human consumption
- Improved consumer behavior to reduce food waste volumes generated
- Diverting food scraps to alternate processing facilities (Green Bin, garbage disposal)
- Improved recycling behavior of paper and cardboard (Blue Bin)



(*not shown is garbage disposal food scraps slurry delivery to WWTP facilities via sanitary sewer system*)

The O2E study will consider various organic waste processing technologies to assess the preferred approach for the highest and best use of organics (excludes paper and cardboard). The agencies handle the following organic materials (excludes paper and cardboard)

- Approximately 8,000~10,000 tons/year of source separated commercial food scraps
- Approximately 40,000 tons/year of yard vegetation materials
- Approximately 10,000 tons/year of wood chips (aka 'compost overs') & woody materials
- Approximately 10,000 tons/year (dry) WWTP biosolids
- A potential for about 20-30 thousand tons/year of an organic mixed waste (aka 'MRF Fines') associated with MRF processing of 250-300 thousand tons/year of MSW (trash or garbage) should such a facility be required to be developed at ReGen to accomplish the SB 1383 goal of 75% diversion of organics

The O2E study will consider organic processing technologies such as the following:

- Mono-digestion (dedicated Wet Anaerobic Digestion – WWTP)
- Co-digestion (combined sewage, non-dedicated Wet Anaerobic Digestion – WWTP)
- Dry Anaerobic Digestion (batch or continuous – Solid Waste facility)
- Composting (Solid Waste facility)
- Biochar technology (pyrolysis – various locations)

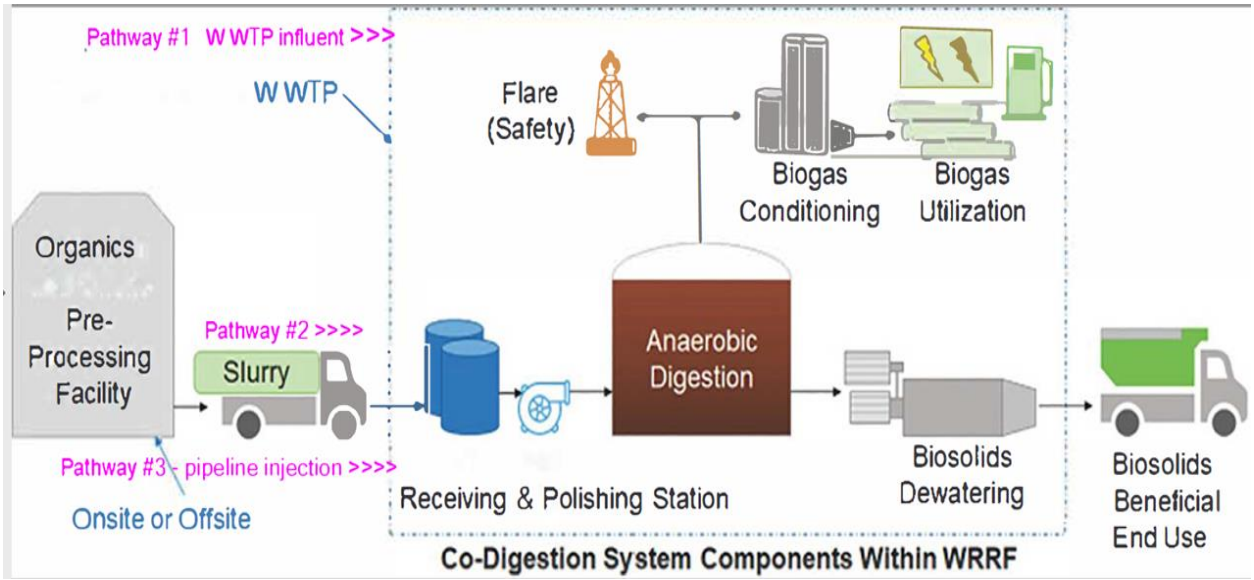
The preceding information is a summary of the Joint Feasibility study that is in-progress by GHD on behalf of ReGen and M1W. The summary is provided as context for the following discussion of developing a Feedstock Agreement with M1W for the CalRecycle (Cycle 1) Co-Digestion Grant proposal project. Aspects of the Study associated with Co-digestion are being accelerated by GHD to assist the agencies in their discussions about the CalRecycle (Cycle 1) Co-Digestion Grant project.

Discussion

On April 1, 2022 CalRecycle announced the release of the Co-Digestion Grant Program, Cycle1, for Fiscal Years 2021-22 and 2022-23. This program provides funding to **build new and expanded food waste co-digestion projects at existing wastewater treatment plants (WWTP)**. The program seeks to achieve greenhouse gas emissions reductions by significantly increasing the tonnage of California-generated organic waste diverted from landfills to co-digestion systems. Cycle 1 is the initial release of CalRecycle's Co-Digestion Grant Program and one or more grant solicitation cycles is anticipated in subsequent fiscal years.

ReGen and M1W staff were asked to jointly investigate the Cycle 1 grant solicitation given that the Co-digestion processing method was one of the processing methods identified for the Joint Feasibility Study since the time that the study vision was adopted by the ReGen Board in 2018. Coincidently, the joint staff were developing the RFQ/RFP for the Joint Feasibility Study at that time (April/May 2022). As the scope of the Cycle 1 grant solicitation was focused on new and expanded co-digestion capacity of WWTP facilities, M1W was the eligible entity that could submit a grant application. M1W retained Momentum to assist in developing the scope of the grant

project proposal and preparing the grant application. The grant application was coordinated by the Microgrid Director and lead M1W staff. I participated in some of the meetings during development of the proposal on behalf of ReGen and Anaergia, an environmental services company with high organic solids handling equipment for digesters, also assisted in the development of the grant project proposal. The proposal generally consisted of new, high solids handling equipment for the four digesters at the WWTP that process the wastewaters with low organic solids (Pathway #1), a Receiving and Polishing Station to receive organic slurries from mobile (truck) deliveries (Pathway #2) and via pipeline (Pathway #3) from a potential pre-processing facility that would transform solid organic wastes (food scraps and similar) to an organic slurry. Refer to the figure below.



Food scraps, such as those received by ReGen from commercial customers who source separate food scraps (Yellow Bin), are a feedstock that is appropriate for pre-processing facilities. ReGen currently receives about 8,000 tons/year of source separated food wastes. Some organic pre-processing facilities are also known to be capable of processing an organic mixed waste material resulting from the processing of municipal solid wastes (MSW, aka 'garbage' or 'trash') in a materials recovery facility (MRF). Commonly referred to as "MRF Fines". The ReGen MRF has limited capabilities to process MSW and would require a significant modification to operationally accommodate such an approach to produce MRF Fines. A number of public facilities have taken this approach presumably based on a conclusion that food organics cannot be sufficiently diverted to Yard materials (Green Bin) and/or garbage disposal, or reduced in quantity by the consumers that generate waste. Those public facilities required significant investments on the order of $70 +/- million and more.

For the purpose of the grant proposal description, it was identified that ReGen could supply feedstock to a potential pre-processing facility (not in the scope of the Cycle 1 grant) to produce an organic slurry for pipeline delivery (Pathway #3) to the new digesters of the Cycle 1 grant

project. The feedstock could foreseeably consist of 10,000 tons/year of source separated commercial food waste and 21,000 tons/year of MRF Fines.

The risks associated with these feedstocks identified by ReGen during the Cycle 1 grant application preparation process were as follows:

- That the determination to divert food waste to Co-digestion was contingent upon the findings of the Joint Feasibility Study to identify the preferred processing technology selection(s)
- That the ~10,000 tons/year of source separated commercial food scraps were existing 'diverted tons' as they are currently processed thru the Composting Facility for beneficial reuse and thus, would not be considered 'new' diverted tons should that be a CalRecycle grant requirement
- That the ~20,000 tons/year of MRF Fines was contingent on the Joint Feasibility Study findings that define it as a necessary process to accomplish the SB 1383 75% diversion requirement and subsequent approval by the Board of Directors of the requisite capital expenditure for such a facility

The CalRecycle (Cycle 1) Co-Digestion Grant application was submitted in May 2022 and subsequently awarded to M1W in September 2022. The feedstock risks of the Cycle 1 grant proposal remain present at this time. These risks are being addressed in part by GHD thru accelerating their work associated with the Co-digestion processing approach. At the same time ('in parallel'), the joint staff desire to explore drafting the terms of a Feedstock Agreement associated with the source separated commercial food wastes (up to 10,000 tons/year) that are handled by ReGen. This is desired so that the business case for the Co-digestion processing approach can be characterized. Joint staff envision characterizing the life cycle costs of the Co-digestion process option consisting of the both the Cycle 1 grant project proposal elements and those associated with an upstream organic pre-processing facility elements. Capital investments (CAPEX) and annual operating and maintenance costs (OPEX) would be characterized for the proposed Co-digestion option.

Note that CalRecycle announced last week on February 9th that their Organics Grant Program, Cycle 7 (ORG 7) solicitation was opened. Applications are due on April 20, 2023. Both ReGen and M1W are eligible entities for that grant and an organic pre-processing facility was one of the four types of eligible projects identified in the solicitation. The requested approval to develop a Feedstock Agreement with M1W at this time would assist staff in their deliberations of the ORG 7 grant opportunity in addition to that of the Cycle 1 grant project. Both are elements of the business case to be characterized for the Co-digestion process approach.

FINANCIAL IMPACT

For the GMs to collaborate on developing a Feedstock Agreement and establishing a business case for adoption of the Co-digestion processing method for food scraps, it is anticipated that it will consist primarily of staff time currently budgeted for FY22/23 and some additional limited technical and legal support resource expenditures estimated to be less than $25,000. This is anticipated to be incurred within the approved FY 22/23 expense budget.

CONCLUSION

For a business case to be developed around the CalRecycle (Cycle 1) Co-digestion Grant proposal and the potential adoption of the Co-digestion processing method for food scraps, staff recommends that the Board authorize the General Manager to negotiate a Feedstock Agreement with M1W for delivery of up to 10,000 tons of source separated food scrap materials.]

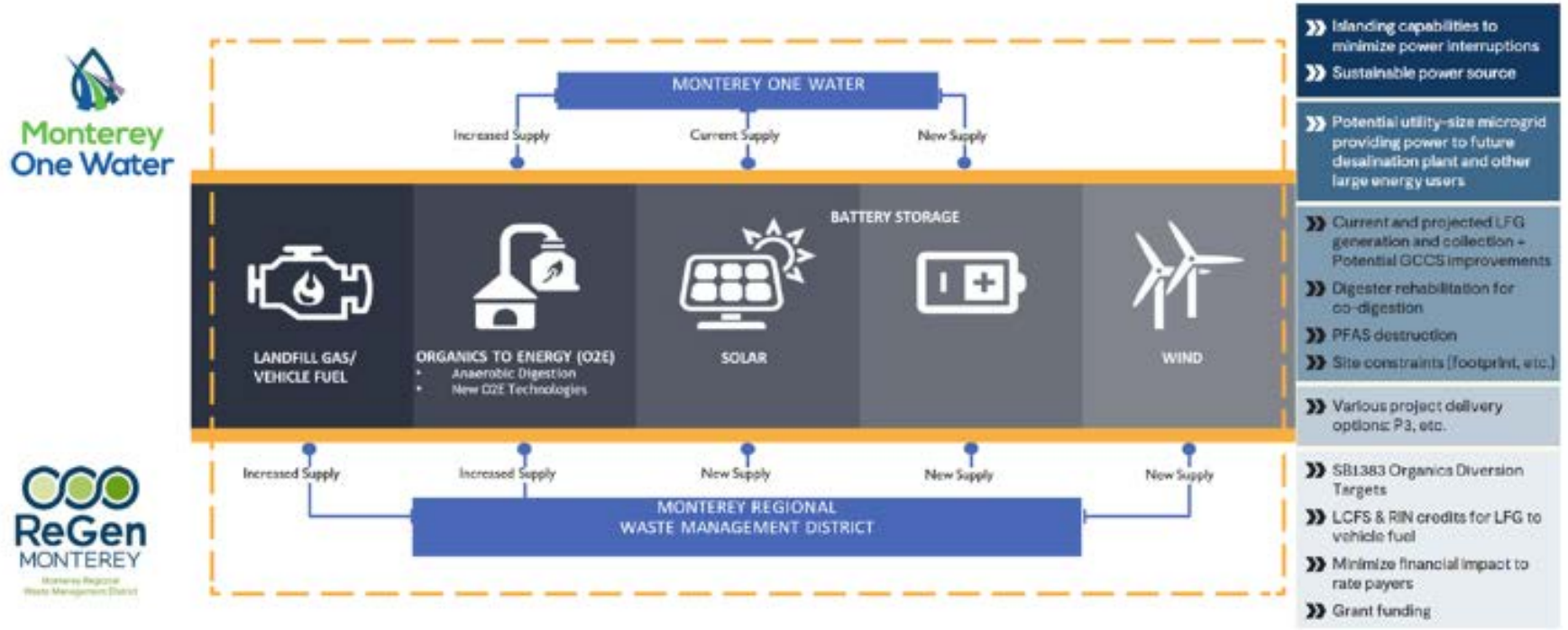
Agenda
Item# 11

ReGen MONTEREY

Board of Director's
Finance Committee Meeting
February 1, 2023

Potential for Co-Digestion Project with Monterey One Water (M1W)

Monterey Microgrid Project Vision



- History of Joint Feasibility Study (JFS)
  - 2018 – ReGen Board concurs with Staff's Vision for the JFS and grants support to pursue engagement with M1W
  - 2021 – M1W adopts the JFS Vision and the Joint Ad Hoc Committee formed
  - November 2021 – Joint Ad Hoc Committee meets and approves funding for an 18-month Plan for hiring a Study Director and issuing aa RFQ/RFP for JFS
  - January 2022 – Board approves 18-month Plan
  - May 2022 – Study Director onboarded
  - June 2022 – RFQ/RFP issued

- History of Joint Feasibility Study (JFS) - *continued*
  - June 2022 – RFQ/RFP issued
  - June 2022 – M1W and ReGen staff engage around a CalRecycle Co-Digestion Grant Opportunity as “Co-Digestion (wet, dry, other) is part of JFS Vision.
  - September 2022 – Both Boards approve the selection of GHD to perform the Joint Feasibility Study
  - December 2022 – GHD has been contracted and JFS Kick-off Meeting occurs
  - January 2022 – GHD field Kick-off meetings & equipment assessment occur

- Approval of the Joint Feasibility Study by the Joint Ad Hoc Committee and Joint Boards represents a joint commitment to assess the highest & best use of Wastes and Waste By-Products; and to be informed of the 'Preferred Alternatives' for the agencies considerations

- The agencies may then decide to pursue 'Preferred Alternatives' jointly or separately. Important to honor the Joint Feasibility Study assessment process to preserve integrity of the joint consultant's (GHD) review process and allow either or both agencies to "pivot" to a better alternative

- ReGen's commitment to the Joint Feasibility Study was disclosed before, during, and after M1W's application process for the CalRecycle Co-Digestion Grant (Cycle 1); a grant decision that M1W made to upgrade the WWTP digesters to have a capacity for 'high solids' liquid wastes

- Important to maintain transparency of purpose and the decision making process to the Boards and within the Staff Teams; to not foreclose on a potential alternative prior to assessments of the joint consultant (GHD)

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ReGen Monterey
is the public name of
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