



**BOARD OF DIRECTORS  
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

**AGENDA  
Sustainability Committee  
Tuesday, October 24, 2023  
8:45 a.m.  
Boardroom  
375 11<sup>th</sup> Street  
Oakland, CA 94607**

**\*\*\* Please see appendix for public participation instructions\*\*\***

*Committee Members: Marguerite Young {Chair}, Andy Katz, and Doug A. Linney*

**ROLL CALL:**

**PUBLIC COMMENT:** The Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

**DETERMINATION AND DISCUSSION:**

1. Calendar Year 2022 Greenhouse Gas Inventory (Briggs)
2. Resource Recovery Program Update (Mutsuddy)

**ADJOURNMENT:**

***Disability Notice***

*If you require a disability-related modification or accommodation to participate in an EBMUD public meeting please call the Office of the Secretary (510) 287-0404. We will make reasonable arrangements to ensure accessibility. Some special equipment arrangements may require 48 hours advance notice.*

***Document Availability***

*Materials related to an item on this agenda that have been submitted to the EBMUD Board of Directors within 72 hours prior to this meeting are available for public inspection in EBMUD's Office of the Secretary at 375 11<sup>th</sup> Street, Oakland, California, during normal business hours, and can be viewed on our website at [www.ebmud.com](http://www.ebmud.com).*



EBMUD

# APPENDIX

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## Sustainability Committee Meeting

### Tuesday, October 24, 2023 – 8:45 a.m.

*EBMUD Board committee meetings will be conducted in person and accessible via Zoom.  
These meetings are live streamed on the District website.*

#### Online\*

<https://ebmud.zoom.us/j/91818373049?pwd=MTI1UHpFaU54SjJzZmV0QlhmUkJTQT09>

Webinar ID: 918 1837 3049

Passcode: 834363

#### By Phone\*

Telephone: 1 669 900 6833

Webinar ID: 918 1837 3049

Passcode: 834363

International numbers available: <https://ebmud.zoom.us/u/kdjdx0Kd06>

\*To familiarize yourself with Zoom, please visit <https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting>

**Providing public comment** - *The EBMUD Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.*

- Each speaker is allotted 3 minutes to speak; the Board President has the discretion to amend this time based on the number of speakers
- The Secretary will track time and inform each speaker when the allotted time has concluded
- Comments on **non-agenda items** will be heard at the beginning of the meeting
- Comments on **agenda items** will be heard when the item is up for consideration
- The Secretary will call each speaker in the order received

#### In person

- Fill out and submit a blue speaker card which is available in the meeting room

#### Via Zoom

- Use the raise hand feature in Zoom to indicate you wish to make a public comment  
<https://support.zoom.us/hc/en-us/articles/205566129-Raising-your-hand-in-a-webinar>
  - If you participate by phone, press \*9 to raise your hand
- When prompted by the Secretary, please state your name, affiliation if applicable, and topic

#### Submitting written comments or materials

- Email written comments or other materials for the Board of Directors to [SecOffice@ebmud.com](mailto:SecOffice@ebmud.com)
- Please indicate the meeting date and agenda item number or non-agenda item in the subject of the email. Contact information is optional.
- **Please email by 4 p.m. the day prior to the scheduled regular meeting;** written comments and other materials submitted to the Board of Directors will be filed in the record.

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**To view the livestream of Board meetings, please visit:**

<https://www.ebmud.com/about-us/board-directors/board-meetings/>


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## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: October 19, 2023

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager 

FROM: David A. Briggs, Director of Operations and Maintenance 

SUBJECT: Calendar Year 2022 Greenhouse Gas Inventory

### SUMMARY

The District's Policy 7.07 – Energy was updated on September 26, 2023 to accelerate reduction in greenhouse gas (GHG) emissions with a District goal to be carbon neutral by 2030. The District has tracked and reported its GHG emissions since 2005 to measure progress towards the goal. The 2022 inventory is based on the Water Energy Nexus (WEN) 2.0 protocol developed by The Climate Registry. The District's goal in 2022 was 24,611 metric tons of carbon dioxide equivalent (MT CO<sub>2</sub><sup>e</sup>) and the actual GHG emissions totaled 23,968 MT CO<sub>2</sub><sup>e</sup>. This item will be presented at the October 24, 2023 Sustainability Committee meeting.

### DISCUSSION

The District's GHG inventory is comprised of direct and indirect emissions. Direct emissions result from the combustion of fuels including gasoline, natural gas, propane, and diesel, as well as losses from refrigerant usage. Indirect emissions are from the use of electricity. Per WEN 2.0, the District estimates process emissions of methane and nitrous oxide related to the treatment and discharge of wastewater. According to the updated Policy 7.07, process emissions will be estimated and tracked but not included as part of the District GHG goal.

The 2022 inventory is summarized below along with the baseline year (2000) values and the 2021 inventory. Note that prior-reported values including the baseline, have been updated using WEN 2.0 protocols which is a common reporting practice when protocols are updated.

Year	Water Emissions (MT)	Wastewater Emissions (MT)	Total Emissions (MT)	District Goal (MT)	Wastewater Process Emissions (MT)
2000	35,871	10,648	46,519	--	35,520
2021	17,169	7,110	24,279	27,688	47,629
<b>2022</b>	19,231	4,737	<b>23,968</b>	24,611	49,871

The District's GHG emissions inventory can be grouped into five sectors representing major areas of operation. The table below summarizes the 2022 GHG emissions for each sector.

<b>Sector / System</b>	<b>Total GHG Emissions (MT)</b>	<b>Percent of Total</b>	<b>Change from 2021</b>
Buildings	1,850	8%	+18%
Fleet	3,816	16%	-2%
Raw Water	5,198	22%	+56%
Treated Water	8,367	34%	0%
<b>Water Total</b>	<b>19,231</b>	<b>80%</b>	<b>+12%</b>
<b>Wastewater Total</b>	<b>4,737</b>	<b>20%</b>	<b>-33%</b>
<b>District Total</b>	<b>23,968</b>	<b>100%</b>	<b>-1%</b>

The 2022 GHG emissions is one percent lower than the prior year. The following items are noted for the 2022 inventory:

- Supplemental Water Supply Pumping: Most of the supplemental water supplies used during the most recent drought were conveyed to the District in 2022. About one-third of the supplies were delivered in 2021. This resulted in higher raw water-related emissions in 2022.
- Wastewater Energy: Wastewater emissions were lower in 2022 since cogeneration units, which provide green in-house power, were online most of 2022. In 2021, the turbine had an extended outage which meant more power was purchased resulting in elevated emissions in 2021.
- Building-related emissions increased because the District utilized a diesel generator to support drought operations (generators are generally included within building-related emissions regardless of the activity). The District plans to replace the generator with a new pump station utilizing PG&E line power in 2027.

## NEXT STEPS

The District will continue to collaborate with others to study emerging GHG issues such as reservoir emissions and wastewater process emissions. The District will continue converting its fleet, based on vehicle availability and appropriateness, to zero emission vehicles.


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## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: October 19, 2023

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager 

FROM: Amit K. Mutsuddy, Director of Wastewater 

SUBJECT: Resource Recovery Program Update

### SUMMARY

The Resource Recovery Program (R2 Program) accepts and treats trucked-in waste streams at the Main Wastewater Treatment Plant (MWWTP) to offset operational and maintenance costs. Last year, the R2 Program experienced a modest increase in deliveries; however, total gross revenue increased in greater proportion due to charging higher rates that reflected the additional treatment costs. The R2 Program is engaged in maintaining food waste partnerships, managing biogas energy sales, coordinating a workplace electric vehicle (EV) charging program at the MWWTP, and leasing District property to a hydrogen fuel station developer. An update on these activities will be presented at the October 24, 2023 Sustainability Committee meeting.

### DISCUSSION

The R2 Program earned \$17.9 million in gross revenue in Fiscal Year (FY) 2023, which was 22 percent higher than the previous year (\$14.6 million). While some of the additional revenue comes from growth in trucked waste deliveries, most is a result of rate increases at the start of calendar year 2023. Annually, the R2 Program reviews trucked waste treatment and handling costs to ensure that rates adequately cover these costs. Additional rate increases are likely in 2024.

#### R2 Program and Nutrient Discharges

While the acceptance of high-strength organic waste for anaerobic digestion delivers significant benefits in the form of renewable energy generation, provides effective treatment of organic wastes, and generates nutrient-rich biosolids, it also contributes nutrients to the MWWTP discharge to the San Francisco Bay. In June 2023, the R2 Program stopped accepting high-strength protein (blood) waste streams due to their high nutrient contribution. Staff estimates that eliminating these waste streams reduced total nitrogen in the MWWTP discharge by approximately eight percent. High-strength protein waste was the largest contributor of nutrients from any category of trucked-in wastes. The R2 Program will continue to retain flexibility in its waste acceptance permits and agreements and will reduce other categories of waste as necessary.

### Food Waste Partnerships

The District received solid food waste from the Central Contra Costa Solid Waste Authority (CCCSWA) and processed liquid food waste from commercial processors, at levels similar to past years. Republic Services, the franchise hauler for CCCSWA, also continued to deliver preprocessed solid food waste from Daly City. Food waste processing improvements at Republic Services' Martinez transfer station continue to deliver material of improved quality with much lower levels of contamination greatly reducing associated costs to process the material at the MWWTP. Staff are beginning negotiations with CCCSWA for a new contract on or before March 2025 to continue to receive food waste.

### Surplus Energy Sales

The District's current power purchase agreement (PPA) with the Port of Oakland expires on June 30, 2025. Under this PPA, the District receives \$66 per megawatt hour for exported surplus power. In early 2024, staff will prepare a Request for Expressions of Interest (RFEOI) and contact potential buyers to ensure the District receives the best value for its surplus renewable electricity and associated renewable energy credits. Unlike the most recent RFEOI, which was only for biogas-generated electricity from the MWWTP, the upcoming RFEOI will include the District's hydropower and biogas energy. This approach is expected to provide greater value to the District by selling a larger volume of renewable electricity.

### Workplace EV Charging Pilot

A small portion of onsite electricity generation at the MWWTP is used to power electric vehicles. The workplace EV charging pilot for District employees at the MWWTP is ongoing and will expand in the upcoming year as new charging stations are incorporated in building upgrades. Over the past year, employee participation has increased from 12 to 25, reflecting the growing interest in the program.

### Hydrogen Fuel Station Development

In April 2021, the California Energy Commission awarded grant funds to a project team led by the Center for Transportation and the Environment (CTE), a non-profit organization that develops and leads renewable fuel transportation projects, for zero-emission drayage trucks to serve the Port of Oakland. The project is an important precursor initiative that lays the groundwork for the future development of clean hydrogen projects for the State of California, which was recently selected to receive \$1.2 billion in federal funding to become a hydrogen hub. The CTE team includes Hyundai, that will supply fuel cell trucks, and FirstElement Fuel, that is constructing and will operate the hydrogen fueling station on the District's West End property adjacent to the MWWTP. The project will generate approximately \$300,000 annually in lease revenue and will advance the use of zero-emission trucks in the West Oakland neighborhood,

which is heavily impacted by drayage truck diesel emissions. The station is scheduled to open by the end of calendar year 2023.

## **FISCAL IMPACT**

The R2 Program generated record gross revenues last year, which helps stabilize wastewater rates. In FY 2023, the R2 Program generated \$16.8 million in tipping and other associated fees and \$1.1 million in surplus energy sales. The combined gross revenue of \$17.9 million is equivalent to approximately 10 percent of wastewater-related gross revenues, which exceeds the costs to operate the program and treat the waste delivered.

## **NEXT STEPS**

Staff will continue to utilize existing infrastructure to treat a variety of organic wastes and produce and utilize renewable energy at the MWWTP while managing nutrient discharges. Staff will continue to pursue wastes that can be managed cost effectively, including clean liquid food waste. Staff will also continue to support the workplace EV charging pilot and expand the number of charging stations available at the MWWTP.

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