Agenda

• Key Program Initiatives
  – Oakland Food Waste/Waste Management
  – Harvest Power Project
  – Recology Project
• Next Steps
In September 2014, the City of Oakland (City) awarded a solid waste franchise to Waste Management of Alameda County (WMAC) and directed commercial food waste to EBMUD.

Board approved subcontract with WMAC on June 23:
- Includes required terms from City-WMAC contract
- Requires EBMUD to start up required receiving and preprocessing facilities by July 1, 2016 with allowance for District to seek a time extension in January 2016
- WMAC will manage material until EBMUD facilities are on-line

EBMUD and WMAC have finalized details and are ready to execute:
- Submitted to City for review and approval
- District to send letter to City
Harvest Power
Project Overview

Food Waste Collection at Local Restaurants (Commercial Source-separated Organics)

Food Waste Preprocessing Facility at EBMUD

Contaminant Removal and Size Reduction

Dedicated Digesters

Dedicated Dewatering Facility

Biogas

Renewable Compressed Natural Gas (CNG)

Renewable Electricity

Organic Compost
Food Waste Processing
Harvest Power Project

• Following an RFP in Feb 2015, staff selected Harvest Power, Inc. to design, build, and operate food waste processing facilities in Apr 2015

• On June 23, the Board authorized an MOU with Harvest Power California (Harvest Power, Inc. subsidiary) to guide ongoing contract negotiations
  – MOU will be assigned to Harvest Power Tulare (another subsidiary), which received a $4.8 million CEC grant

• Staff is requesting authorization of a preliminary engineering design services contract with Harvest Power Tulare at today’s Board meeting to maintain the overall project schedule
Harvest Power Tulare has been completing preliminary design work for the preprocessing facility at its own risk to meet the required startup date of July 1, 2016.

Staff is requesting authorization of a $261,000 contract to continue this work and meet the project schedule.

- Scope: Develop site layouts, foundation and building designs, major equipment layouts, site utilities, and permitting.
- This cost would be applied toward the District’s financial obligation under the full project contract.
- If the full project contract is not executed, the District and Harvest Power Tulare would share these costs equally.

Staff expects to submit the full project contract for Board consideration in September.
Harvest Power Project
Cash Flow Model

- Energy Facility Financing Contract model
  - Public-private partnership for alternative energy supply projects (CA Government Code 4217.13)
  - Allows design-build-operate services with projected energy revenues used to offset EBMUD’s capital and operating expenses

- Both parties contribute capital, share revenue
  - Tip fees and energy revenues cover operating costs, payback capital, and provide net revenue to both parties
Overall goal is to achieve an equitable distribution of capital costs, project revenues, operating costs, and project risks

Key Focus Areas
- Diversification of revenue streams (tipping fees, energy sales)
- Increasing share of CNG revenues (removed 20% “first cut” of CNG revenue to Harvest Power)
- Limiting construction cost obligations
- Capping Harvest Power operating costs for key cost centers
- Performance bonds, parent company guaranty

Staff is nearing completion of negotiations regarding key financial terms and finalizing contract term sheet
Harvest Power
Contract Negotiation Status

= start of negotiations
= current status

**Harvest Benefits**

<table>
<thead>
<tr>
<th>Area</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>Capital Contribution</td>
<td></td>
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<tr>
<td>Tipping Fee Revenue Sharing</td>
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<tr>
<td>CNG Revenue Sharing</td>
<td></td>
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<tr>
<td>Environmental Attribute</td>
<td></td>
</tr>
<tr>
<td>Capital Payback Period</td>
<td></td>
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<tr>
<td>Net Present Value</td>
<td></td>
</tr>
<tr>
<td>Technology Risk</td>
<td></td>
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</table>

**EBMUD Benefits**

- **Capital Contribution**: EBMUD $14.0M; HP $7.2M
- **Tipping Fee Revenue Sharing**: EBMUD: 60% of net revenue
- **CNG Revenue Sharing**: EBMUD: 25% of net revenue (No HP “first cut”)
- **Environmental Attribute Revenue Sharing**: 100% to HP for Yrs. 1-5, 100% to EBMUD for ~Yrs. 6-7, 50%/50% split thereafter
- **Capital Payback Period**: EBMUD: 17 → 15 years
- **Net Present Value**: EBMUD: $9M → $18M
- **Technology Risk**: Harvest bears risk
## Harvest Power Project

### Financials (190 tpd)

### Initial Capital Costs

<table>
<thead>
<tr>
<th></th>
<th>EBMUD</th>
<th>Harvest</th>
<th>Project</th>
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</thead>
<tbody>
<tr>
<td>Site Improvements</td>
<td>$3.4</td>
<td>-</td>
<td>$3.4</td>
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<tr>
<td>Processing Facilities</td>
<td>$11.8</td>
<td>$9.6</td>
<td>$21.4</td>
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<tr>
<td>CEC Grant</td>
<td>-$2.4</td>
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<td>-$4.8</td>
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<tr>
<td>Construction Management</td>
<td>$1.2</td>
<td>-</td>
<td>$1.2</td>
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<tr>
<td><strong>Total Capital Costs</strong></td>
<td><strong>$14.0</strong></td>
<td><strong>$7.2</strong></td>
<td><strong>$21.2</strong></td>
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### Net Revenue

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<th></th>
<th>EBMUD</th>
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<th>Project</th>
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</thead>
<tbody>
<tr>
<td>Tipping fees</td>
<td>$19.5</td>
<td>$9.7</td>
<td>$29.2</td>
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<tr>
<td>CNG fuel sales</td>
<td>$5.7</td>
<td>$8.9</td>
<td>$14.6</td>
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<tr>
<td>RINS/LCFS</td>
<td>$2.1</td>
<td>$4.3</td>
<td>$6.4</td>
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<tr>
<td><strong>Total Net Revenue</strong></td>
<td><strong>$27.3</strong></td>
<td><strong>$22.9</strong></td>
<td><strong>$50.2</strong></td>
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### Net Present Value

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<th>Harvest</th>
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<tr>
<td><strong>Net Present Value ( @ 4%)</strong></td>
<td><strong>$18.2</strong></td>
<td><strong>$15.7</strong></td>
<td><strong>$33.9</strong></td>
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### Payback (discounted)

<table>
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<th>EBMUD</th>
<th>Harvest</th>
<th>Project</th>
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<tr>
<td>Payback</td>
<td>15</td>
<td>5</td>
<td>9</td>
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</table>

*Millions of dollars. Present values at 4% discount rate.*
Harvest Power Project Financial Analysis

EBMUD Revenues

- Financial risks
  - Capital
  - Feedstock growth (shortfall)

EBMUD Pays Ops Shortfall of $1.3M

EBMUD Risk Curve

Increase in tip fee revenue offsets future CNG price uncertainty

Majority of EBMUD revenue is from tipping fees

Harvest Exits after Year 20

EBMUD Excess Tip Fee

Lease

RINs/LCFS Proceeds (after Shortfall Payback)

Payments of Shortfall from Excess RINs/LCFS

Excess CNG Sales Revenue
Harvest Power Project Financial Analysis

Harvest Power Revenues

- High technology risk
- High financial risk
  - Capital
  - Operating
  - Odors

- Reduced technology risk
- Reduced financial risk
  - Limited capital risk
  - Stable operating costs
  - Odors addressed

Harvest revenue is balanced between tip fees and energy sales

Harvest Exits after Year 20
Higher revenue to Harvest to offset technology, financial risks; payback venture capital

Balanced revenue sharing in Years 6-20

All project revenue to EBMUD in Years 21-25

EBMUD Total Revenues
Total Harvest Revenue

Millions

What if Harvest exits early?

**Years 6-25 (Base Scenario)**
- Harvest leaves $26M in future revenues (190 tpd)
- Digestate management cost increases by $8M
- District has $12M remaining in initial capital (simple payback = +4 years)

**Scenario 1 – CNG Price Drop**
- Total Revenues (190 tpd) $80M
- Digestate Management ($8M)
- CNG Price Drop (30%) ($20M)
- Total Revenues $52M
- Simple Payback = 4.5 years

**Scenario 2 – Feedstock Drops**
- Total Revenues (190 tpd) $80M
- Digestate Management ($5M)
- 190 tpd → 120 tpd (40%) ($35M)
- Total Revenues $40M
- Simple Payback = 6 years
Harvest Power Facilities
Facility Operations Approach

- Staff has reached a resolution of the approach to operation of the dedicated dewatering and CNG (postprocessing) facilities
  - Harvest Power will operate the facilities for the first two years (startup period) and train District O&M staff for six months beginning at the 18-month mark
  - After the first two years, Harvest Power will utilize District O&M staff and provide oversight and direction under a task-based model with Harvest Power maintaining process control and operational responsibility
  - Harvest Power will communicate with District O&M supervisors and the District’s supervisory structure will remain intact

- Harvest Power will be solely responsible for preprocessing facility operation for the contract term
Project Schedule

- **Sep 2014**: City Contract Award to WMAC
- **Jun 2015**: EBMUD-WMAC Subcontract Finalized
- **July 1, 2016**: EBMUD food waste facility in-service date
- **Jan 2016**: EBMUD check-in w/City re: schedule extension
- **Jul 2015**: Harvest Preliminary Engineering Design Services Contract Submitted for Consideration
- **Sep 2015**: Harvest Full Project Contract Submitted for Consideration
- **Apr 2015**: EBMUD selected Harvest Power
- **Jun 2015**: Harvest MOU Executed
- **Contingent Upon City Approval of Schedule Extension Request**
In 2014, Recology was awarded a $3 million grant from CalRecycle for organics diversion and digestion at the District’s MWWTP.

Project would extract organics from San Francisco mixed solid waste (“urban organics”):
- 70-100 tpd with significant potential for expansion
• The District and Recology have signed a Letter of Intent to enter into a contract

• Staff is currently negotiating a contract that would include three phases:
  – Pilot (6 months)
  – Interim (~18 months)
  – Long-term (10 years)

• The pilot period would help better define material quality and processing requirements

• The contract is expected to be submitted for Board consideration in September
Next Steps

• Recommended Action (7/28 Board Meeting)
  – Authorize a $261,000 agreement with Harvest Power Tulare for preliminary engineering design services

• Continue contract negotiations with Harvest Power and Recology
  – Submit contracts for Board consideration in September

• Send letter to City and continue to monitor City rate structure issue
Resolution Proclaiming Support for the San Francisco Bay Delta Estuary

Presentation to the Sustainability Committee

July 28, 2015

Paul Gilbert-Snyder
History of the Resolution

• Jan/Feb 2012 – San Joaquin and Contra Costa counties passed resolutions in support of the Estuary.

• May 2012, ABAG passed a similar resolution.

• Friends of the Estuary is working with other entities to pass similar resolutions.

• Each resolution is unique to the supporting agency, but fundamental points are similar:
  – Estuary, an important ecosystem, is at risk
  – Protection and restoration of the Estuary is important.
Delta Flow Criteria

- 2009 Delta Reform Act required the State Board to develop Delta flow criteria to protect public trust resources.
- Flow criteria were developed and finalized in 2010.
- Resolution affirms support for improvements in Delta outflows and water supply reliability.
Resolution Acknowledges...

- EBMUD has made substantial investments to protect and enhance water quality and ecosystem.
- Importance of the Estuary as both ecosystem habitat and water supply.
- Estuary is at risk from many factors and fish abundance and diversity in the Estuary are generally declining.
- New water conveyance and ecosystem restoration projects in the Delta may have long-term impacts on the Estuary.
Resolution Supports

• Protection and restoration of ecosystems, including improvements in water quality, flows and flow patterns, and habitat.

• Acknowledges the criticality of Delta outflows and supports a balance with reliable water supply.

• Regional self-sufficiency, economic viability, flood protection, and emergency response.

• Financing consistent with beneficiary pays principles.
Similar Resolutions

- ABAG
- San Joaquin County
- Contra Costa County
- Napa County
- Marin County
- City of Emeryville

- Marin Municipal Water District
- Sonoma County
- San Mateo County
- San Francisco City and County
- North Marin Water District