Renewables Portfolio Standard

Status of Bioenergy Market
Adjusting Tariff (BioMAT)
Feed-in Tariff Program

Presentation to the
Commissioner Committee on Emerging Trends
October 11, 2017
About BioMAT

Threshold Issue: If BioMAT prices reach $197/MWh for two consecutive periods:

- Energy Division must investigate
- Energy Division Director has the discretion to suspend the program

Background

- **Established:** A feed-in-tariff for small bioenergy facilities established by SB 1122 (Rubio, 2013) and implemented in D.14-12-081
  - Uses a price-adjustment mechanism that is dependent on market interest and activity

- **Objective:** Create a simple procurement mechanism for different types of Distribution-sized bioenergy projects (< 3MWs) for a total of 250 MW
  - Municipal Biogas
  - Agriculture: Dairy and Other Ag
  - Forest
BioMAT Program Status

Program Commenced February 2016 at starting Price of $127.72 / MWh

- **Category 1 - Biogas:** 4 Contracts executed at $127.72 / MWh with no price change
  - Category has <5 unaffiliated applicants in the queue

- **Category 2 – Agriculture:** Price accepted in Aug-Sep 2017 period at $187.72 / MWh
  - **Dairy:** 8 applicants in the queue (7 unaffiliated)
  - **Other Ag:** <5 unaffiliated applicants in the queue

- **Category 3 – Forest:** No price yet accepted, $197.92 as of Oct 1 (will hit soft cap on Nov 1 if the price is not taken)
  - 4 applicants in the queue

<table>
<thead>
<tr>
<th>SB 1122 Assigned BioMAT Targets</th>
<th>Compared with MWs Achieved</th>
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<tbody>
<tr>
<td>BioMAT Category</td>
<td>BioMAT MW Allocation</td>
</tr>
<tr>
<td>Biogas</td>
<td>110</td>
</tr>
<tr>
<td>Agriculture</td>
<td>90</td>
</tr>
<tr>
<td>Forest</td>
<td>50</td>
</tr>
<tr>
<td>TOTAL</td>
<td>250</td>
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BioMAT Program Observations

- **Limited Impact:** Only 10.4 MW of the total 250 MW allocated to BioMAT have been contracted in the nearly 2 years of the program.

- **Lack of Diversity / Competition:** Not sufficient market depth to promote program competition so that BioMAT prices will decrease.

- **No Indication of Market Transformation:** Costs may be initially high, but successful market transformation should demonstrate:
  - Some decline in prices over time
  - Increase in the number of competitors in the market
  - Envision clear roadmap to where targeted technology can survive w/out program subsidies

- **High Costs:** No indication that costs will begin to decrease, and BioMAT costs are disproportionately high compared with other renewable procurement options
  - E.g., A fully subscribed Forest category with 20-year contracts at $212/MWh would cost ratepayers ~$1.4 billion for 50 MW
  - **Departing Load:** Any BioMAT contracts signed after load has departed would not be eligible for cost-recovery of high program costs from those departing load customers
Comparative Cost of BioMAT

Comparison of Average Levelized Price by Renewable Technology
2016 - 2017 Executed RPS Contracts vs. BioMAT Forest Category Price Levels – Across All IOUs

$197/MWh Bid Price, for 2 Auction periods, triggers CPUC Review

Bid Price increases monthly, if no takers

*Pre-TOD Adjusted
BioMAT Industry Barriers

Each BioMAT Category Has Its Own Unique Challenges

**Category 1 - Biogas:** There are unique costs associated with existing digestion facilities, including gas cleaning and infrastructure requirements

**Category 2 – Agriculture:** High capital costs are required for on-site equipment and air permits can be difficult to obtain in some areas

**Category 3 – Forest:** High cost of interconnection related to location

- **Challenges of Access to High Hazard Zone (HHZ) fuel:** While BioMAT programs do not have HHZ requirements, mitigating wildfires is envisioned as a key benefit of this category

**Program Challenges**

- Complex mechanism that is time-intensive to administer
- MWs not needed for capacity or RPS requirements
Commission Options to Address BioMAT

Consider a Stakeholder Process to Inform Modifications

1. **Suspend the Program**: Pause the BioMAT program while making modifications to ensure program addresses State’s goals, but the suspension could be disruptive to current participants
   - Optional suspension when any program category hits the $197/MWh soft cap for two periods
   - The IOUs can petition to suspend the program due to market failure
   - The Commission could undertake a total program review, of its own volition

2. **Minor Modifications**: Make quick, minor modifications to the BioMAT program, which may be expedient but may not resolve the market issues or costs to ratepayers

3. **Substantive Modifications**: Make substantive modifications to the BioMAT program, which could ensure program categories are targeted to the State’s objectives and are more cost-effective, but may take longer to implement

4. **Legislation**: Seek to modify SB 1122, which could provide clear legislature direction, although could be time-intensive and take longer to implement with no certainty that a final bill would result