The Role of Biomass in RCEA’s Power Portfolio

Comprehensive Action Plan for Energy 2019 Update
Topics

• History of inclusion of biomass power in RCEA’s Community Choice Energy (CCE) program
• Community perspectives on biomass
• Environmental issues and plant performance
Our CCE Goal: Maximize the use of local renewable energy while providing competitive rates
Rationale for Inclusion of Biomass in RCEA Power Portfolio

• Represented sole opportunity to include local, utility-scale renewable energy at CCE program launch

• RePower Humboldt study (2013) that recommended creating CCE program identified biomass as a regionally appropriate renewable power option

• Community benefits seen in waste management, preservation of skilled local jobs

• Program launch period guidelines adopted by RCEA Board (2016) called for contracts with 1-2 existing facilities for “around 20 MW of local biomass energy”
Biomass plants process material that would otherwise be burned or landfilled.
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What volume are we talking about?

(1 truckload = 120 cubic yards)

County Sawmills

- Produce 140 Truckloads/day
- 5 days/wk

- 40% goes to other local uses or leaves Humboldt

HSC Scotia

- Consumes 50 Truckloads/day
- 7 days/wk

DG Fairhaven

- Consumes 35 Truckloads/day
- 7 days/wk
Biomass Procurement History

• Issued Request for Offers for local biomass power October 2016
• Received offers from all three local plants
• Selected Humboldt Redwood Co. (now Humboldt Sawmill Co.), began taking deliveries at program launch in 2017
• Added contract with DG Fairhaven in 2018 to fulfill RCEA Board’s biomass procurement objective
Biomass in RCEA’s Current Portfolio

- 13.25 MW from Humboldt Sawmill Co. (5-yr contract)
- 10 MW from DG Fairhaven (1-yr contract)
- Both currently @ $65/MWh where resource adequacy included

Together these resources made up 23% of our power supply in 2018.
Community Perspectives

- A small but vocal set of community members persistently address our Board with concerns about greenhouse gas emissions, criteria pollutants, and public health impacts associated with biomass power.

- Local climate action organization 350 Humboldt has elected to be neutral on RCEA biomass after much internal discussion.

- At our recent community workshops, opinion in Eureka was mixed on biomass, while participants at the smaller Orleans and Redway workshops were unanimously supportive of biomass.
Biomass: 24% no; 29% as-needed, minimize; 48% support
Biomass and Greenhouse Gas Emissions

• Carbon neutrality of biomass power is much debated
• State and international (IPCC) conventions consider biogenic and non-biogenic emissions from biomass plants separately
• For state GHG compliance purposes, only non-biogenic emissions (e.g. fossil fuels used for equipment startup) are counted
• These data are publicly available via CA Air Resources Board’s Pollution Mapping Tool*
• For local plants in 2016, biogenic emissions were 13x (DG Fairhaven) and 36x (HRC) greater than non-biogenic emissions in MTCO2e

* https://ww3.arb.ca.gov/ei/tools/pollution_map/
Important Caveats:

- Emissions that occur near to where people live may have greater health impact.
- Not all PM2.5 particle types have the same health impact; e.g., combustion products vs road dust.


Note per NCUAQMD staff: some sources such as waste disposal are actually statewide emissions ascribed to counties by population.
PM2.5 Emissions by County and Source
Units = Tons, Year = 2014

del Norte Humboldt Mendocino Siskiyou Trinity

source: https://www.epa.gov/air-emissions-inventories/2014-nei-data
Thank you