The Resource Recovery Enhancement Project at Tajiguas Landfill: More Recycling, Composting and Energy from Our Waste

CONTEXT

Dozens of successful programs have been implemented by our South Coast and Santa Ynez Valley communities over the past 20 years. Jurisdictions served by Tajiguas divert more than 70% of their waste from the landfill. Despite this success, over 170,000 tons of material is still being landfilled each year.

We are looking at new ways of managing **what is still being buried**

- Whatever is implemented is **not a replacement for existing programs**… but an enhancement
- It is an **opportunity** to reclaim resources currently being buried (recyclables, compost, energy)
- It is an **opportunity** to extend landfill capacity and decrease generation of greenhouse gases

GOALS OF PROJECT

- 20-year solution for solid waste management
- Competitive rates compared to alternatives
- Significantly reduce environmental impacts of landfilling municipal solid waste
- Maximize recycling
- Generate green energy
- Invest in the local economy

PROJECT HISTORY

In 2002, County Board of Supervisors directed staff to look into alternatives to landfilling after approving the most recent Tajiguas Landfill expansion. In 2007, the County, in partnership with the cities of Santa Barbara, Goleta, Solvang and Buellton began a regional effort to examine the feasibility of Conversion Technology or a project to recover additional resources from the waste stream and potentially generate green energy. A feasibility study was completed in 2008, which determined there were companies capable of achieving our community waste management goals. Building on the work of the feasibility report, City and County staff cooperatively developed and released an RFP in 2009. Prior to release of the RFP, all participating City Councils also approved the release of the document. Responses to the RFP were received in the summer of 2010 and a review of those responses was completed in 2011.

PREFERRED PROJECT

Development of a Resource Recovery Enhancement Project that would process municipal solid waste (MSW) from the communities currently served by the Tajiguas Landfill (i.e., the south coast of Santa Barbara County including the Cities of Santa Barbara and Goleta and the Santa Ynez and Cuyama Valleys including the Cities of Solvang and Buellton). This Resource Recovery Enhancement Project would be constructed and operated in partnership with **Mustang Renewable Power Ventures** and would include the following facilities:

1. Materials Recovery Facility (MRF) – this facility would sort the MSW into three streams:

a. Recyclables – that would be separated, baled and sold for reuse
b. Organics – that would be recovered for digesting in the Anaerobic Digestion Facility
c. Residue – materials left over after all recyclables and organics are recovered

2. Anaerobic Digestion Facility (ADF) – this facility would convert all organics recovered from the MSW into digestate and biogas.
    a. The digestate would be aerobically cured into a compost product that would be marketed as a soil amendment or used for reclamation projects.
    b. The biogas would be converted at a power plant into electricity.
3. Power Plant – this facility would use the biogas generated by the ADF for fuel to generate electricity.

Preferred Project Benefits

- ~1 Megawatt net energy output
- ~60% additional diversion (will get region to an overall diversion rate of 85% or more)
- Little to no additional cost to ratepayer compared to alternatives
- Significant reduction in greenhouse gases (equivalent to 22,000 fewer vehicles per year)
- Commonly used technology resulting in a straightforward permitting process, as compared to alternative thermal technologies
- Added benefit of greater flexibility to potentially process material collected by current and proposed diversion programs (such as commingled recyclables, green waste and food scraps)

Potential Future Project

Additionally, the County of Santa Barbara and participating Cities will continue to actively research the potential future use of thermal gasification for the processing of non-recyclable and non-compostable waste to further reduce the volume of waste that is landfilled. Specifically, they will monitor the availability of air emissions data associated with these types of facilities using a similar feedstock.

STATEWIDE TRENDS

- CalRecycle Anaerobic Digestion Initiative
    - Goal to reduce 50% of all organic material from landfills by 2020
    - Produced Program EIR
    - Grant funding may be available
- Recent passage of AB 341
    - Setting a goal for the State of California of 75% diversion by 2020
- Energy created by organics from anaerobic digester eligible for Renewable Energy Credits

NEXT STEPS

- June - November 2011 – Receive community feedback through public meetings and presentations
- Winter 2011/2012 – Return to participating jurisdictions with recommended project
- Winter/Spring 2012 – Approval from Board of Supervisors to move forward with selected vendor and conduct CEQA

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