WASTE MANAGEMENT SECTOR PLAN

UPDATE ON THE JUNE 18, 2013 CALRECYCLE WORKSHOP AND RELATED DOCUMENTS

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DIRECTIVES

2008 Assembly Bill (AB 32) Scoping Plan

- Control of landfill methane emissions
- Mandatory commercial recycling

Scoping Plan Resolution 11-32

- CalRecycle and ARB work together to characterize emission reduction opportunities for handling solid waste, including recycling, reuse, remanufacturing, composting/AD, biomass conversion, waste thermal processes, and landfills

Cap and Trade Regulation Resolution 12-33

- Propose a comprehensive approach for the most appropriate treatment of the Waste Sector in the Cap-and-Trade program based on the analysis of emission reduction opportunities.

OVERVIEW

Waste Sector-specific GHG and waste reduction targets and actions should align with the following overarching principles and priorities

- Take full ownership of the waste generated in California
- Maximize recycling and diversion from landfills
- Build infrastructure needed to support a sustainable, low-carbon waste management system within California
- Reduce the volume of waste generated

WASTE SECTOR PLAN

ARB and CalRecycle established a joint workgroup to begin developing a Waste Sector Plan

First step was to prepare a series of technical papers

- Recycling, Reuse, and Remanufacturing
- Procurement (technical paper not yet released)
- Composting and Anaerobic Digestion
- Biomass Conversion
- Municipal Solid Waste Thermal Technologies
- Landfilling of Waste

Overview document, technical papers, and implementation released for comment June 14, 2013

Comments due July 12, 2013

GOALS

2020

- Achieve the AB341 75% recycling goal and associated 20-30 MMTCO2e reduction ***(22 million tons of waste shifted from disposal per year)***

2035

- Achieve Net-Zero GHG emissions from the entire Waste Sector and associated GHG reductions
    - To achieve “Net-Zero”, the direct GHG emissions from the Waste Sector would have to be fully offset by avoided GHG emissions. Avoided GHG emissions are reductions in lifecycle GHG emissions that would occur because waste is shifted from landfilling to alternative non-disposal pathways.

2050

- Achieve a 25% reduction in direct GHG emissions to 2035 levels

CHALLENGES

Specific challenges to reducing the amount of waste generated in California

- Educating Californians to take responsibility for the waste they generate
- Empowering the public to purchase products with low-waste or no-waste attributes
- Emphasizing packaging option and producer responsibilities
- Reducing food wastes through more efficient farm, packing house, retail, and consumer practices

CHALLENGES CONT.

Specific challenges to making non-disposal alternatives viable in California include

- Financing for needed infrastructure expansion
- Siting of new and upgraded waste management facilities
- Market for recycled, reused, remanufactured materials
- Incentives for purchasing GHG-friendly sources of electricity and biogas
- State leadership in purchasing products in keeping with the GHG and waste reduction goals
- Co-locate new waste treatment facilities at existing sites to minimize permitting and environmental impacts

RECYCLING, REUSE, AND REMANUFACTURING

Current conditions

- 2 MTPY of recycled materials processed in CA are remanufactured into products in CA while 22 MTPY recycled materials processed in CA are exported for remanufacturing

Challenges

- GHG emission reduction quantification
- Infrastructure/permitting
- Financial risk
- Market development
- Regulatory development
- Take ownership of waste

Solutions

- Model permits, PEIRs, consistent standards
- New incentives, funding mechanisms, grants, partnerships
- Increase markets and stewardship programs
- Education
- Emission reduction quantification

COMPOSTING AND AD

Current conditions

- 30% of compostable organics currently landfilled are suitable for composting and AD (food waste, green waste, soiled paper)
- 130 composting facilities (5.8 MTPY) and 5 AD facilities (0.14 MTPY), 11 AD facilities coming online with 0.4 MTPY capacity

Challenges

- GHG emission reduction quantification
- Infrastructure/permitting
- Financial risk
- Market development/quality of organics
- Regulatory development
- Public acceptance

Solutions

- Composting and AD as source of GHG and criteria emissions offsets
- New incentives, funding mechanisms, grants, partnerships, AB 118, RMDZ,
- Increase markets via incentives or disallowing ADC credit
- Education
- Emission reduction quantification

BIOMASS CONVERSION

Current conditions

- 22 biomass facilities in CA handling 1.5 MTPY of urban wood, ag, and forest waste
- Biomass-derived power provides 2% of CA's electricity demand
- CA biomass conversion operations result in net negative GHG emissions (may be opportunities for additional GHG reductions on life-cycle basis

Challenges

- Permitting facilities (current facilities 20-30 yrs old)
- Financial risk
- Barriers to increased use of biomass

Solutions

- Development of small scale facilities
- Emerging technology
- Beneficial use for ash byproducts
- Programmatic EIRs
- Others

MUNICIPAL SOLID WASTE THERMAL TECHNOLOGIES

Current conditions

- MSW thermal systems – conventional combustion (3 facilities in CA), gasification systems, and use of MSW as a supplemental fuel along with conventional fossil fuels

Challenges

- Permitting
- RPS credit (only Stanislaus facility currently gets credit)
- Potential conflict with recycling *("have the potential to reduce GHG emissions compared to landfilling of MSW. However, other waste options such as recycling, composting, AD, and biomass conversion result in even lower GHG emissions")*
- Cap-and-Trade Program Impacts (currently regulated may be excluded until 2015)
- Financial risk
- Emerging MSW thermal technology
- Beneficial use of byproducts

Solutions

- PEIR for new MSW thermal facilities (2012 Bioenergy Action Plan)
- RPS (2012 Bioenergy Action Plan)
- Cap and Trade
- Research emerging technologies and trends

LANDFILLING OF WASTE

Current conditions

- 370 landfills in CA – approximately 1.2 BILLION tons of solid waste has accumulated in CA's landfills, with 30 MTP added per year.
- Most of the approximate 220 landfills subject to the Landfill Measure have landfill gas collection and control systems.
    - Resulting in 20% reduction in landfill emissions compared to 1990 levels

Challenges

- Uncertainty in landfill emissions
- Regulatory actions and interagency collaboration
- Promote beneficial use of landfill
- Greater diversion of readily recyclable materials/ markets

Solutions

- Beneficial use of landfill gas
- Greater diversion of readily recyclable materials
- Further research

NEXT STEPS

Waste Sector Overview, Implementation Matrix, and Technical Papers available at www.calrecycle.gov

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