



DATE: February 27, 2018

TO: Waste Management Authority Board

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SUBJECT: Materials-Energy-Climate Nexus

SUMMARY

At the December 19, 2018 WMA meeting and October 24, 2018 Energy Council meeting, the Boards updated their respective priorities. Three priorities now address the nexus of our work with climate change. At the February 27 WMA meeting, staff will discuss the connection between climate, materials, and energy.

DISCUSSION

To achieve the global greenhouse gas emissions levels recommended by climate scientists, economies and communities must transform their use of energy and materials. Increasingly, local communities are recognizing that the embodied carbon impacts of materials they consume (generated by the supply chain upstream of purchase and use) can outweigh the emissions generated within their geographic boundaries from burning fossil fuels for energy in buildings and transportation. Local governments are beginning to understand the intersection of materials and energy emissions, revealing parallels and trade-offs that inform policies and programs. Alameda County jurisdictions are proactively including materials related emissions in their climate action plan updates.

At its October 24, 2018 meeting, the Energy Council adopted two new priorities that address climate change and greenhouse gas (GHG) or carbon emissions:

- Member Agency Services: Continue Technical Advisory Group and Climate Action Planning support; coordinate with EBCE
- Zero Net Carbon with a focus on municipal buildings

On December 19, 2018, the WMA adopted an adjustment to a previous priority. The new language specifically addresses climate:

- Prioritize waste reduction and prevention projects that have beneficial climate impacts.

Many of the Agency's programs already reduce greenhouse gas emissions. With the additional climate emphasis of the recently updated Board priorities, staff is exploring how to more directly serve the member agencies' climate goals. Emerging themes include:

- **Materials management versus waste management:** Refocuses the emphasis on most effective and efficient uses of materials, long before they are turned into waste, recyclables, or compost. Materials management has a greater impact on greenhouse gas emissions.
- **Decarbonization:** Reduces the GHG or "carbon" emissions intensity of activities such as energy and material consumption through efficiency and renewable sources.
- **Clean and circular economy:** Seeks to reverse the linear economic trends of the past, which pushed employment opportunities outside of the region and increased global emissions. Bringing more economic activities into the region and powering them with clean energy (e.g. through community choice aggregation) reduces total emissions and builds a diverse and resilient economic base. Circular economy is also a key strategy to addressing the impacts of China's National Sword policy.
- **Lifecycle analysis (LCA):** Reveals the full scope of GHG emissions and other environmental impacts of a material or product from its extraction (cradle) through production, delivery, use, and ultimately disposal (grave, or cradle if re-entering production). LCA shows that embodied/upstream emissions are greater than landfill emissions in most cases. In the case of buildings and other energy uses, LCA allows a comparison between embodied emissions in materials and the operational emissions from on-site energy usage during the use phase.

These trends inform the Agency's activities, and highlight the advantage of having both materials and energy initiatives within one agency.

StopWaste staff presented to member agencies at a joint meeting of WMA TAC and Energy Council TAG on January 15, 2018, which brought together member agency staff working on recycling and energy. There was general agreement on the need to increase coordination between materials and energy work, and an interest to have StopWaste facilitate that coordination.

RECOMMENDATION

This item is for information only.