November 22, 2016

Re: Response to Public Comments Received on Implementing the 2016 Colorado Integrated Solid Waste and Materials Management Plan

Dear materials management stakeholder,

Thank you for submitting comments on how the Colorado Department of Public Health and Environment (the department) should implement the 2016 Integrated Solid Waste and Materials Management Plan (the Plan). The department has reviewed the comments to the Plan. Below, please see our response to the comments received pertaining to materials management topics. Comments are listed in order, based on the number of comments the department received per topic.

1. Set stronger resource recovery goals.

The department is in favor of the two-tier waste diversion/resource recovery goals proposed in the Plan. The goals proposed in the Plan adhere to current language in state law that says “Realistic waste reduction goals should be established” (Section 30-20-100.5(d)(III), C.R.S.). The Plan recommends goals to increase the diversion rate five percent in five years, twelve percent in ten years and twenty-two percent in twenty years from the 2014 baseline of twenty-three percent. Some may argue that these diversion goals are not aggressive enough. The department believes that Colorado must strive to set ambitious goals for improved resource recovery, yet we must also consider the difficulty of the challenge. For example, despite the investment of significant resources to expand recycling infrastructure and incentivize public drop-off centers across the state, Colorado’s diversion rate has declined from twenty-six percent (26%) in 2012 to twenty-one percent (21.4%) this past year and, Colorado’s statewide diversion rate has only increased just over one percent from 2010 to 2015.1

Colorado is not alone in experiencing a decline in diversion rates as measured by a percent by weight. Many states including those with historically high diversion rates, specifically California,2 Oregon,3 Washington4 and others are experiencing stagnant or declining diversion rates. The recent decline in diversion rates in states and for the nation can be attributed to various factors including lower commodity market values, light weighting of products and a shift in packaging materials to “the evolving ton”, all of which contributes to a decline of diverted materials when calculated by weight.5 Therefore, for these and other reasons, the

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1 Colorado statewide totals https://www.colorado.gov/pacific/sites/default/files/HM_sw-annual-diversion-totals.pdf
2 California recycling rate and composting rate drops http://resource-recycling.com/node/7584
3 Oregon recycling rate drops for the first time in a decade http://www.bizjournals.com/portland/blog/sbo/2015/12/oregon-recycling-rates-drop-for-the-first-time-in.html
4 Solid waste in Washington state- 23rd annual status report, Figure 4.4 https://fortress.wa.gov/ecy/publications/documents/1407035.pdf
5 Latest EPA figures highlight effects of evolving ton http://resource-recycling.com/node/6091
Department considers the proposed diversion goals, including the twenty year goal of 45% waste diversion by 2036 to be challenging yet realistic goals for Colorado.

2. **Commit to providing technical assistance on waste diversion, recycling and sustainable materials management.**

   We agree that CDPHE should play a larger role in providing technical assistance on waste diversion, recycling and sustainable materials management. Due to workload limitations of the existing staff available for recycling and materials management projects, we are limited on the amount of time and resources that can be allocated to technical assistance. The Materials Management Unit and Sustainability Unit at the department recognize the benefit technical assistance has for the recycling industry and we have dedicated time and resources for providing this service to the extent possible with current resources.

3. **Quantify funding gaps, identify key funding sources, set goals and increase funding for waste diversion / consider all high priority funding sources as indicated in Table 6-5.**

   The department agrees that additional funding is vital to the continued expansion of recycling and waste diversion across Colorado. To that end, we will continue to look at funding gaps and develop proposals for what we believe to be appropriate funding mechanisms and funding levels to address those gaps. To be clear, however, the department has almost no independent authority to raise existing fees or add new fees. That authority resides with the legislature. As such, additional funding must involve new legislation.

4. **Measure and evaluate and prioritize actions based on climate change impacts.**

   CDPHE favors making data driven decisions that result in the most beneficial environmental impact. We are aware of, and frequently reference the Environmental Protection Agency’s 2009 report detailing that, on a systems based inventory approach, an estimated 42% of the total greenhouse gas emissions are associated with the production and management of goods and food. CDPHE acknowledges that sustainable materials management decisions have significant impacts on reducing the lifecycle greenhouse gas emissions. CDPHE has been calculating the environmental benefits of recycling and composting in terms of greenhouse gas emissions avoided using the U.S. EPA’s Waste Reduction Model since 2008. In 2014, CDPHE authorized a report analyzing the best management practices of discarded materials. In that report, recycling and composting were noted as the most effective methods for reducing greenhouse gas emissions when evaluating lifecycle analysis of materials management options. Additionally, CDPHE factors greenhouse gas emissions avoided into RREO grant awards.

   CDPHE has often looked to the State of Oregon who is a leader on integrating materials management and greenhouse gas impacts. We plan to incorporate climate based decisions in future evaluations of sustainable materials management projects.

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6 Opportunities to reduce GHG Emissions through materials and land management practices

7 Measures to increase the percentage of discarded materials
5. Expand CDPHE’s mission and authority to waste diversion and to advance sustainable materials management.

The Materials Management Unit and the Sustainability Unit within the department are discussing which Level 1 collection and diversion recommendations to act on first. The Level 1 recommendations in the Plan require no additional authorities, allowing the department to adopt and act on the recommendations for improving waste diversion. With the additional information provided from public comments and implementation discussions occurring between the Units on what activities we can best implement, we will be developing a list and timelines of the top recommendations to act on and prioritize. CDPHE will take into consideration the public comments received and suggestions within the Plan on additional authorities recommended. Expanding authorities on waste diversion such as the Level 2, 3 and 4 recommendations require legislative action and must be vetted through the appropriate legislative process.

6. Assign timelines and priorities (Level 1 diversion goals by 2018-19, landfill compliance by a certain date).

The department is currently evaluating the Level 1 collection and diversion recommendations presented in the Plan. Some of these recommendations can begin immediately (improve tracking, training focus, inspections, materials management in CDPHE operations); others could benefit from supporting legislation (adopt diversion goals, regional planning initiatives, supporting funding, supporting authorities). Most of these recommendations cannot be fully implemented by the department or government alone and will need active participation by industry and local governments. As explained in the answer to Comment #5 above, we will be developing a list and timelines of the top recommendations to act on and prioritize.

In terms of landfill compliance, the department began an aggressive compliance initiative even before issuance of the Plan. We will continue that initiative until all landfills across Colorado comply with the regulations so that human health and the environment are protected and no facilities enjoy unfair advantages because they do not comply.

7. Prioritize additional compost facilities/ provide an expedited process for compost facility permitting, as well as funding for additional compost facilities and/or transfer stations throughout the state/ Expand compost markets.

The Solid Waste & Materials Management Program is currently revising the composting facility regulations to provide relief from unnecessary requirements and to promote organics diversion. The regulatory revisions are being developed to provide as much regulatory relief as possible for composting facilities while still fulfilling the department’s mission of protecting human health and the environment.

The Recycling Resource Economic Opportunity Fund administered by the Sustainability Division has and will continue to provide funding for approved organics diversion projects expanding the infrastructure across the state and improving access to composting and anaerobic digestion facilities.

While the department does not have authority or oversight of marketable products and recycling markets, we recognize the value of improving the economic sustainability of waste diversion by increasing market demand for recovered materials. The department will explore opportunities to partner and promote compost end use with entities that have authority and/or purchasing power to utilize compost such as the Department of Transportation.
8. Identify strategies to address market failures and the artificially cheap costs of landfills.

The relatively inexpensive cost of landfilling is often raised in the context that “it is too easy and cheap to throw things away in Colorado and the cost of recycling and waste diversion cannot compete.” However, it is important to recognize that, while the cost of landfilling is relatively inexpensive in Colorado, it is not “artificially cheap.” Landfilling is inexpensive here because market forces keep it inexpensive. Some may argue this is a “market failure,” but others would argue it is just what free markets are supposed to do - provide goods and services as inexpensively as possible.

The department believes that it will remain politically difficult to raise the cost of disposal through state fees such that disposal becomes more expensive relative to recycling and waste diversion. Rather, we think that money raised through small/moderate increases in disposal fees, in combination with enforceable state-wide diversion goals, can expand recycling and waste diversion such that it becomes as convenient and inexpensive as disposal.

9. Adopt and advance decisions based on a sustainable materials management approach.

We support making decisions based on a sustainable materials management approach. As mentioned in topic #4, the department puts a high degree of emphasis on data driven decisions; including lifecycle analysis for materials management.

10. Integrate materials management into state economic development programs and provide end-market development assistance/ tax incentives to encourage businesses use the recovered commodities to make new, sellable products to build in Colorado.

While CDPHE does not oversee or have authority on economic incentives or market development programs, we can assist through targeting RREO grants or rebates towards incentivizing manufacturers to increase or develop end markets utilizing recycled material feedstock in place or raw materials.

11. Develop plans/incentives/funding for additional construction and demolition (C&D) materials diversion.

Construction and demolition waste is a challenging sector within the waste diversion arena with lots of untapped potential in Colorado. There are very few C&D processing operations in Colorado that are able to separate out recyclables and sell the material as commodities. While traditional C&D materials such as concrete, asphalt and ferrous metals are frequently diverted from disposal and recycled, many other building materials such as wood, drywall and composite materials are rarely separated during demolition activities and are typically destined for disposal. Over the past few years, CDPHE has had limited success with assisting the development of material specific C&D recycling projects due to fluctuating market conditions. CDPHE would happily partner with industry experts for researching materials that have potential for sustainable markets, to expand legitimate recycling infrastructure and end uses for C&D materials.

12. Commit to expanding product stewardship programs/ regulations.

CDPHE will continue to evaluate product stewardship programs that may be beneficial to the residents of Colorado and will enact product stewardship programs as authorized by the state
legislature. For CDPHE to implement and provide regulatory oversight of new product stewardship programs, the legislature would first have to provide statutory authority for such programs. Currently the department will continue to implement and develop the Colorado paint stewardship program in association with PaintCare. CDPHE will continue to monitor the status of product stewardship laws and the implementation of extended producer responsibility programs in other states for hard to recycle materials such as carpet, batteries, mattresses, lighting, pharmaceuticals, electronics and other materials.

13. Prioritize recycling and composting practices and policies in all internal operations/ encourage all state agencies to recycle, compost, reduce and reuse as much as possible.

CDPHE is leading the way for all state of Colorado departments and agencies by developing a Waste Diversion and Prevention Plan in accordance with the Greening State Government Executive Order. The purpose of this plan is to enable the department to meet the requirements of the Greening Government Executive Order (GGE0), D 2015-013. The Executive Order requires all state departments and agencies to develop and submit a plan for waste prevention and diversion to the Greening Government Leadership Council by December 31, 2016.

In addition, the department intends for this plan to align with and advance goals already established in department policy 19.2 on Recycling, Composting, & Waste Reduction. The policy was formally adopted in March 2011 and aimed to increase overall waste diversion to 75% by 2020 at CDPHE. In addition, the policy outlined objectives for reducing paper use and adopting purchasing practices to support waste diversion and reduction. It is the department’s policy to strive for zero waste from the ongoing operations of the entire department, including meetings and other department functions.

14. Expand landfill bans to include bans on incineration.

The Department does not have the authority to implement this suggestion without legislative directive. Any facility that seeks to operate as a waste to energy facility would be subject to permitting requirements under the Air Pollution Control Division and the Solid Waste and Materials Management Program. Currently there are no waste-to-energy incineration facilities permitted in Colorado and none proposed.

15. Develop and coordinate a plan for statewide public education to promote materials management

Along with increasing technical assistance to the recycling industry, developing a statewide public education campaign on the benefits of recycling and materials management is something the department favors. The department is currently resource limited in terms of staff time and funding and unable to develop and implement a full scale statewide public education campaign. The department has been discussing this need with the Pollution Prevention Advisory Board and considering options for potential funding sources to create a campaign.

16. Accelerate the phase-out of noncompliant landfills.

The department began an aggressive compliance initiative at landfills even before issuance of the Plan. We will continue that initiative until all landfills across Colorado comply with the
regulations so that human health and the environment are protected and no facilities enjoy unfair advantages because they do not comply.

17. Expand data collection to include per capita waste generation and disposal.

We agree that this is an important topic and a high priority of the Department to improve the accuracy of recycling data available. We would like to discuss revising data collection methods with stakeholders to obtain better data, specifically more accurate data detailing how much MSW is generated annually by the residential and commercial sector, compared to how data is currently reported–all solid waste disposed of at landfills annually. In response to the specific comment, data is currently available for per capita rates and waste generation.8

18. Highlight the roles of current and future partners, and the opportunities to outsource programs.

There is much that can be done to improve waste diversion and sustainable materials management by partnering with the various organizations that advocate for, or are involved with, recycling, composting and waste prevention services in Colorado. There are many organizations playing an important role promoting, and educating the public on, the benefits of recycling, composting and sustainable materials management. CDPHE is regularly involved in conferences and meetings with the Colorado Association for Recycling, the Solid Waste Association of North America’s Rocky Mountain Chapter and many other groups that promote and encourage the benefits of recycling. We would like to continue partnering with such organizations and working with those within the industry to expand education and outreach of the benefits of recycling. CDPHE also sees a role working with local governments and associated organizations, including the Colorado Municipal League and Colorado Counties Inc., to promote recycling at the local level, to continue developing recycling opportunities and to increase access to recycling services.

19. Expand RREO funding to support city-level planning.

The RREO Program has put an emphasis on regional planning to encourage partnerships and to promote coordination among multiple entities for expanding waste diversion infrastructure. As Colorado’s recycling infrastructure continues to develop, the department will focus future grant dollars on collaborative projects as opposed to competing interests. By establishing regional plans across the state focused on waste diversion, the department hopes to incentivize the creation of efficient collection and transportation networks and minimize redundancies in each study area so that Colorado continues to see an improvement in its overall waste diversion rate. Cities are eligible for the current planning funds if the scope includes partnering waste diversion planning with other municipalities. Once rural areas fulfill regional recycling planning, the department will likely shift towards addressing urbanized city level planning.

20. Prioritize recycling access at new transfer stations.

Over the last four years, the RREO grant program has emphasized expanding access to recycling collection centers at new transfer stations as one of the top tiers of eligible projects. Additionally, free public drop-off centers, including those at transfer stations are eligible for

the RREO rebates. The department is receptive to additional input on how to promote and incentivize recycling access at new transfer stations.

21. Develop an implementation plan that clarifies initial steps to move ahead on the recommendations set forth in this plan, with special attention paid to how stakeholders can get involved.

The Plan contains recommendations for all waste disposal and waste diversion stakeholders across Colorado, not just for the department. We are currently in the process of developing an implementation plan, and we will continue to provide updates on all issues related to the Integrated Plan on our webpage including the implementation priorities and timelines of the specific topics within the Plan. In addition, we look forward to working with any and all stakeholders on their initiatives for implementing the recommendations in the Plan and/or for working on ideas that go beyond the Plan.

22. Consider review and revision of existing CRS 30-15-401 which hamstrings municipalities’ ability to serve residential buildings with more than 7 units and the commercial sector.

The topic of municipal waste hauler restrictions is not something the department has authority over. We support the concept behind this comment, however, and would support local government or other efforts to solve this problem.

23. Expand community re-use centers.

Under the EPA waste hierarchy, reuse remains as the most preferred management option for minimizing environmental impacts through materials management. The department supports community re-use centers that keep viable commodities out of the waste stream. The department recently provided technical assistance on the regulatory requirements for a county landfill looking to develop a reuse center and we are available to assist anyone else with questions on starting a reuse center.

24. PAYT is unfair to waste haulers, a better place to start would be banning recyclables from landfills, mandate recycle services for all households in multi-family units and then let the markets determine cost for these services.

If implemented incorrectly in an ordinance, Pay As You Throw / volume based disposal fee programs could potentially hinder waste hauler profits. However, many cities including some in Colorado such as Fort Collins, Golden, Louisville and others have implemented successful PAYT ordinances in partnership with the private hauling industry. In Fort Collins, the municipal ordinance requiring private haulers to provide PAYT and recycling allows haulers the option to charge a service surcharge on residential trash and recycling bills, equal to up to 25% of the cost of the smallest trash cart. PAYT when paired with recycling and organics collection has many benefits including an economic driver to reduce waste generation and increase recycling of recyclable materials.

The same can be said for landfill bans. If implemented incorrectly, unintended consequences such as illegal dumping are likely to occur. However, when there is a well established infrastructure in place from collection and processing all the way to sustainable end use markets, landfill bans for recyclable commodities can be very successful and create a closed loop approach to materials management.
25. A landfill ban on recyclables could result in illegal dumping. Western Slope arroyos, BLM, ditches, etc. are filling up with electronic waste and tires because of disposal bans already in place.

As mentioned in the previous response, we recognize that landfill bans, if implemented incorrectly, can have unintended consequences and result in illegal dumping. Landfill bans should only be established if there is an outlet for collection, processing and end use for the banned material; in addition to allowing ample time for creating a network of collection locations statewide prior to the ban taking effect. Landfill bans also require a great deal of public education and outreach in order to be seamlessly put into place. The most successful landfill bans, as observed in other states, are often enacted along with product stewardship/producer responsibly take-back programs which minimize the likelihood of illegal dumping. Landfill bans on recyclables do have the potential to create new markets and additional materials management and manufacturing jobs from the increase of recovered materials.9

26. Consider that recycling is the most cost prohibitive method outside of the Front Range

The department is well aware of the economic challenges with developing and sustaining recycling programs in the rural areas of the state. For this very reason, the RREO program has been specifically prioritizing rural recycling through grants and rebates 1) incentivizing infrastructure development via hub and spoke networks, 2) rebates to assist miles traveled for public drop-off recycling centers in rural areas and 3) funding for regional planning to maximize the cost effectiveness of recycling programs by developing partnerships and economies of scale.

27. The vast majority of recovered paper reportedly goes to Seven Dragons Paper Mill in China to be re-processed. Is it GHG friendly to ship those recovered commodities to and from China?

According to research conducted by the Oregon Department of Environmental Quality, transporting recyclable materials long distances to end markets typically still results in energy and emissions savings compared to extraction and production using virgin raw materials. Even with shipping recovered materials to distant end markets overseas, recycling still results in less emissions and energy use compared to raw material extraction. As calculated by Oregon DEQ, the breakeven point where the transportation distance would no longer justify the energy savings offset by recycling would require office paper to be shipped 7,000 miles by truck, 27,000 miles by rail or 31,000 miles by ocean freighter. The breakeven point to ship cardboard for recycling is 9,000 miles by truck, 33,000 miles by rail or 38,000 miles by ocean freighter.10 Considering that it is approximately 1,000 miles from Colorado to the Port of Long Beach by truck and 7,000 miles by ocean freighter to the nine dragons’ mill in China, it appears that the long haul transport is justified as environmentally beneficial as material is recycled.

9 North Carolina DEQ Banned Materials Press Release 2009
10 Materials Management, Climate and Waste: Making the Connections 2009 David Allaway