



COLORADO

Department of Public
Health & Environment

2014 Annual Report to the
Colorado General Assembly
Submitted February 1, 2015

Colorado Solid Waste and Materials Management Program



A MESSAGE FROM CHARLES JOHNSON

Trash. Its so simple. You put it in the trash can, it gets picked up and it just disappears. It seems so simple— or is it? Putting material into its proper place is not so simple as it once was. Now we need to decide if the material is waste destined for the landfill, or is it really a valuable material that needs to be recycled. Every year new businesses start up in Colorado and some of these businesses see and exercise opportunities in the reuse and recycling of materials that were once discarded and destined for the landfill. What once was trash and destined to be thrown out, now may be recycled and turned into new products. Not quite so simple as it used to be.

Waste management facilities are no longer just a “dump.” Modern landfills are well engineered, designed, constructed and operated businesses. In addition, many of Colorado’s modern landfills are not only a landfill, but much, much more. Many of these businesses are now termed “campus facilities” with landfill cells (both prior closed and current operating areas), recycling centers that may include concrete, asphalt, shingles, and electronic waste, compost areas, liquid waste solidification areas, household hazardous and waste exchange shops. Additionally, these facilities must comply with all applicable local, state and federal requirements.

So from the point of generation (“do I throw this in the trash can or the recycle bin”), to collection, to transportation to recycle or reuse, the waste disposal and materials management businesses have become increasingly more intertwined, complex and robust.

Whether public or private, trash is a business and it must be managed properly to ensure success otherwise they lose money. For the last several years solid waste has included representatives from the Air Pollution Control Division and Water Quality Control Division in our meetings with facility representatives. We do this in an effort to facilitate decision makers’ opportunities to integrate the regulatory requirements into their business model. Our goal is to facilitate business development and sustainability by allowing business owners and operators the chance to integrate the various regulatory permitting requirements into their business development plans. We hope this will result in improved management of invested capital with more predictable returns on investment and increased business opportunities for Colorado.

Charles Johnson



COLORADO
Hazardous Materials
& Waste Management Division

Department of Public Health & Environment

**Solid Waste and Materials
Management Program**

Charles Johnson, Solid Waste & Materials Management Manager
303-692-3348 | charlesg.johnson@state.co.us

Curt Stovall, Solid Waste Permitting Unit Leader
303-692-2295 | curtis.stovall@state.co.us

Jerry Henderson, Solid Waste Compliance Assurance Unit Leader
303-692-3455 | jerry.henderson@state.co.us

**Colorado Department of Public Health & Environment 4300
Cherry Creek Drive South | Denver, CO 80246-1530**

*As required by law, the recycling data reported herein is to be submitted March 1 of the following calendar year (for example, calendar year 2013 recycling data was received March 1, 2014), and reported February 1 of the subsequent year (2015). The remainder of the data is from the previous fiscal year (2014) to be timelier.

PERMITTING

What is a waste impoundment? The solid waste regulations define a waste impoundment as a natural topographic depression, excavation, pit, pond, lagoon, trench, or diked area. An impoundment, which may be lined with earthen material or synthetic material, is designed for storage, treatment, or final disposal of solid waste. Requirements for waste impoundments are found in Section 9 of the solid waste regulations. On February 21, 2012, the Solid and Hazardous Waste Commission adopted new Section 9 regulations. The prior version of Section 9 was promulgated in 1984 and had become outdated. For example, under the prior version of Section 9, an impoundment located in an area without shallow groundwater was allowed unre-

stricted seepage. The new Section 9 regulations require facilities to properly classify the characteristics of the waste being managed in impoundments and match the engineering design and operational requirements with the level of risk posed by the nature of the waste.

What have the updated Section 9 regulations meant for the Solid Waste Permitting Unit? The short answer is that the Permitting Unit received 572 new project documents in fiscal year 2014 compared to 391 in fiscal year 2013. That's an increase in documents requiring review and approval of over 45 percent. Much of the increase was due to Section 9. The staffing level of

the permitting unit did not increase in fiscal year 2014; however, the unit's efficiency and productivity increased dramatically. The Permitting Unit completed 459 projects in FY2014 compared to 259 in FY2013. The improvements in productivity can be attributed partially to: 1) higher quality submittals, 2) improved database management and project tracking and 3) improvements in staff and facility training and process streamlining. Even with the substantial improvements in productivity, the Permitting Unit increased its backlog of documents to be reviewed by 113. As such, FY2015 is shaping up to be a challenging and rewarding year for the team.

MATERIALS MANAGEMENT

The Materials Management Group (the group) discovered cutting-edge opportunities and challenges associated with waste diversion operations. The group is constantly evolving to keep up with the pace of business and the innovation of new materials management techniques.

Since the implementation of the electronic waste disposal ban, the group devoted a considerable amount of attention in early 2014 conducting inspections and following up on illegal disposal complaints. The electronic recycling jobs act resulted in 24 new electronic recycling facilities statewide, many of which were new to the industry and in need of the technical and regulatory guidance

offered by the group. A significant amount of time and effort was dedicated to providing information on the new requirements associated with the electronic waste disposal ban to ensure proper management of electronics. The most common question asked was, "where can I recycle my old television?"

During 2014 the group reviewed commercial oil and gas exploration and production waste recycling proposals to ensure consistency with the solid waste regulations. The group approved pilot projects for exploration and production solids and water. The group anticipates receiving pilot project summaries in the spring of 2015.

The group began a compost regulation revision process after learning the compost regulations inhibit small scale composting. Further, the group plans to initiate compost regulation development stakeholder meetings in January of 2015.

Beneficial use remains a popular method for managing solid waste. Beneficial use facilities operate for the purpose of processing, reclaiming or recycling. The group approved 12 beneficial use projects and in 2013, 522,749 tons of solid waste were diverted from landfills as a result.

Continued on page 6

BY THE NUMBERS: OVERVIEW OF THE PROGRAM

REGULATORY AUTHORITY & PROGRAM ELEMENTS

This program is located within the Hazardous Materials and Waste Management Division of CDPHE. It is responsible for ensuring compliance with laws pertaining to the management of solid waste and recycling activities. Primary program elements include compliance assistance; compliance monitoring and enforcement; remediation, permitting, outreach, training and information management. The program does not receive any monies from Colorado’s General Fund and is 100 percent fee supported. The Act and regulations (6-CCR 1007-2, Part 1) provide three means of collecting fees to support the program: the Solid Waste User Fee (SWUF) or “tipping fee,” the

Hourly Activity Fee and the Annual Facility Fee. In 2010, the Solid and Hazardous Waste Commission received authority for and passed regulations setting the SWUF. The SWUF supports approximately 85 percent of the program’s funding (Figure 1) and the program is expected to have adequate revenue for at least three years. In 2013, the program continued its efforts to improve efficiency and effectiveness following the passage of HB 07-1288.

Examples of these activities include:

- Improved facility assistance delivered on inspections;
- Streamlined inspection and reporting process by integrating new inspection

checklists and electronic data capture;

- Development and implementation of new workload tracking tools;
- Development of new database (ongoing);
- Continued improvement of data collection, especially in the waste tire, permitting and inspection arenas;
- Cross-media integrations with internal and external customers; and
- Integrated meetings with owners and air, water and waste regulators to expedite issue resolution.

Figure 1: Solid Waste Revenues

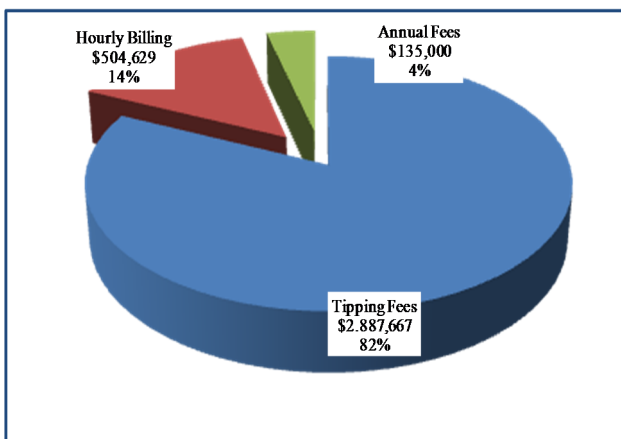
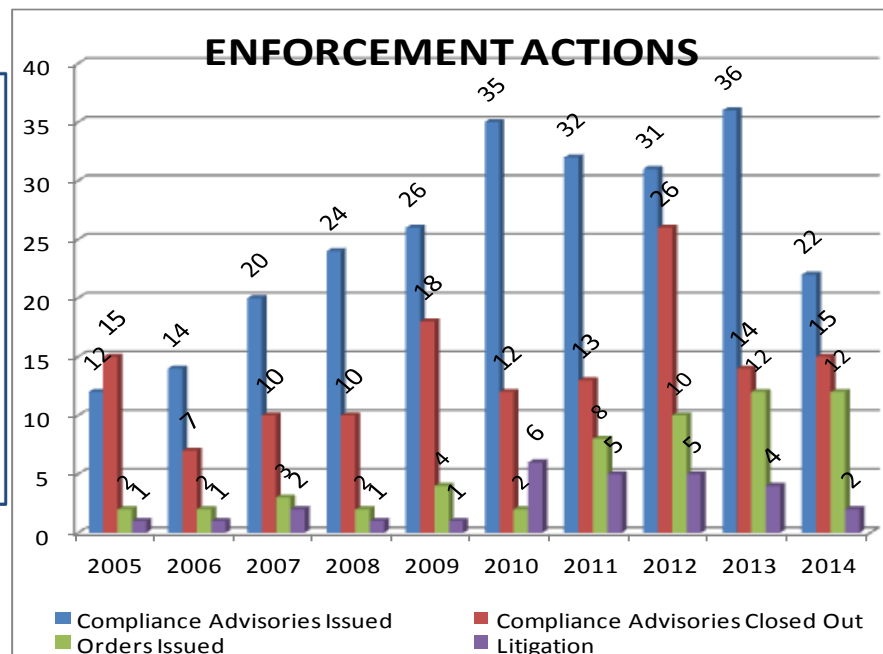


Figure 2: Enforcement Actions



BY THE NUMBERS: OVERVIEW OF THE PROGRAM

Figure 3: Annual Solid Waste Totals

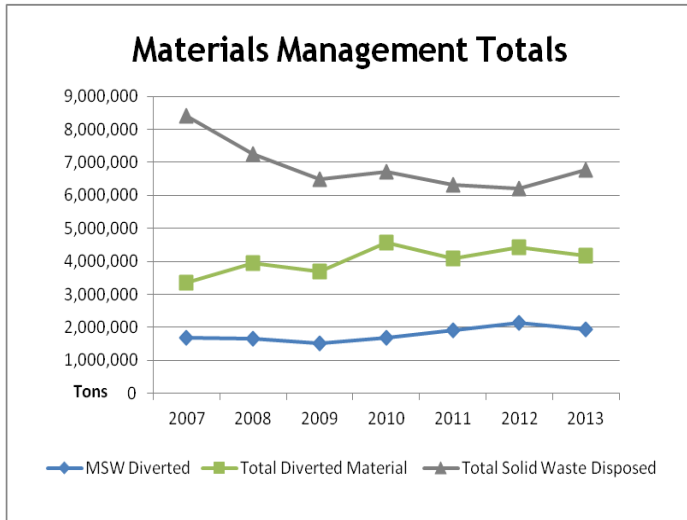


Figure 5: Annual Collected Compost Materials

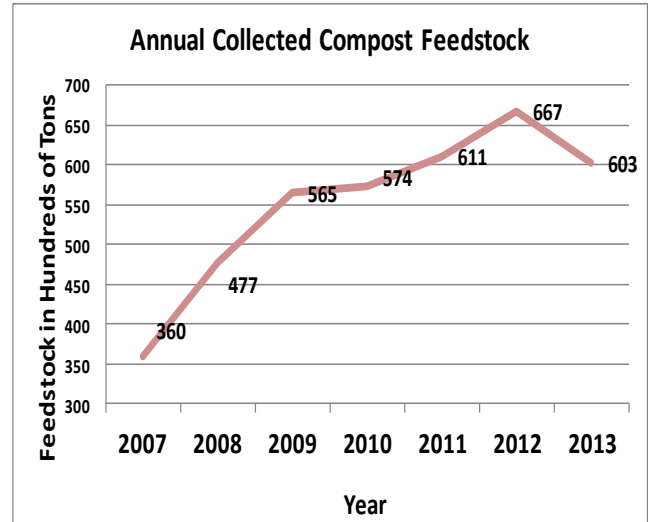
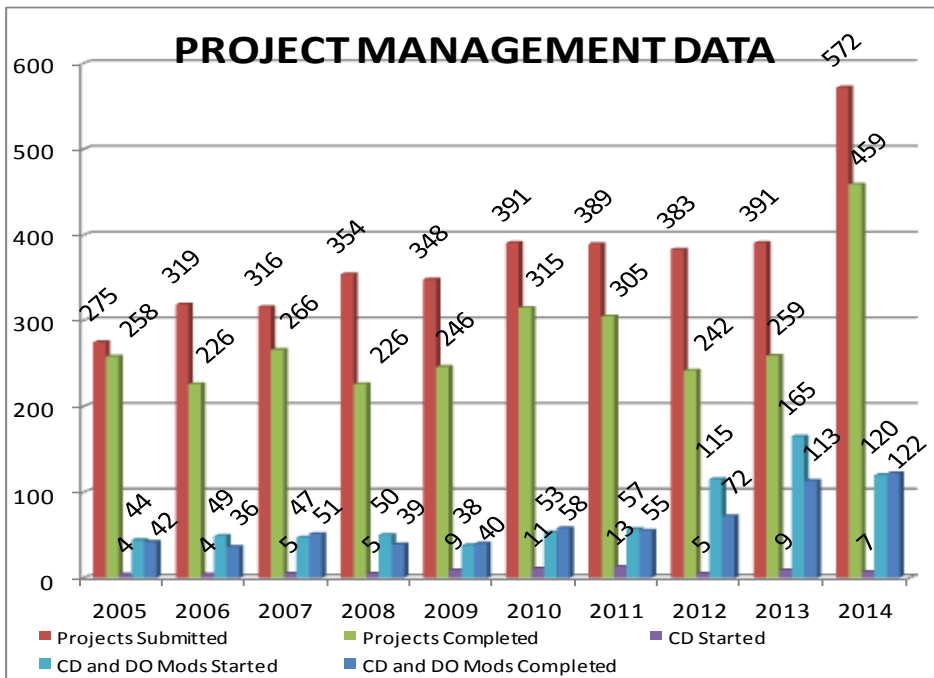


Figure 4: Project Management Data



ADDITIONAL INFORMATION

This report and additional data not reproduced here are available on the Colorado Department of Public Health and Environment website. For more information, please visit:

www.cdphe.state.co.us/hm/solidwaste.htm

IMPACTS AND SUCCESS STORIES

MATERIALS MANAGEMENT *Continued from page 3*

The group continues to oversee the waste grease program. A total of 58 waste grease transporters and 10 waste grease facilities were registered with the division in FY 2014. Staff continues to provide outreach and education about the waste grease regulations and worked with the Division of Environmental Health and Sustainability (DEHS) and developed a waste grease fact sheet. DEHS provided the flyers to local health departments, which were then distributed to restaurants in their jurisdictions.

A pilot project began early 2014 with Pueblo City-County Public Health to conduct inspections of waste tire facilities within their jurisdiction. The goal of the pro-

ject is to have a local presence with tire shops and waste tire haulers to ensure compliance with solid waste statutes and regulations. The group will be expanding the program state-wide in 2015, making funding available for other counties to participate.

The group held the first ever waste tire marketing conference in June 2014. The goal of the conference was to inform and educate attendees about waste tire regulations and end-use markets of tire-derived products. Having sustainable end use markets is important for the long-term management of waste tires in the state, especially with the sunset of the End

Users Fund rebate for tire-derived products in 2018.

A “Request for Qualifications” was released in December to create a list of pre-qualified cleanup contractors to conduct abatement work at illegal waste tire sites in the state. With the passing of House Bill 14-1352, the program can now contract directly with cleanup contractors, eliminating the burden for counties and municipalities to have to select cleanup contractors and provide funding upfront prior to receiving reimbursement from the state. Pre-qualified cleanup contractor abatement projects will begin in early 2015.

COMPLIANCE

In spite of being short staffed through the majority of 2014, the Compliance Assurance Unit’s complaint-driven enforcement continued apace with prior years. While the number of inspections dropped by 20%, the enforcement actions remained level with 2013 numbers, indicating that the most important problems were prioritized with our remaining resources. The problem encountered most often is illegal dumping. Those cases are always handled in partnership with the local code enforcement and environmental health staff.

Toward that end, in collaboration with the Western States Project, the unit developed training for local government staff in implementing the Colorado Solid Waste

Act and Regulations. Unlike most other environmental regulatory programs, solid waste enforcement is set up to be a shared authority between the local governments and the state. Turnover of senior staff in the counties and towns means such training is both germane and timely, and has been well received by the attendees.

Another development this year with the rebounding economy, was a resurgence in Section 5.5 asbestos in soil projects. These projects tend to happen in response to redevelopment of urban areas. The program’s expertise on asbestos soil projects lies within the Compliance Assurance Unit. The review of site-specific plans, and the follow up inspec-

tions on these sites to make sure they are following their plans, constitutes a significant portion of the unit’s workload. In addition, the unit’s asbestos in soil expert, spent a vast amount of time working on significant revisions to the asbestos in soil regulations. (See following page related to the new asbestos regulations.)

Integrating 21st Century technology into the inspection process is a goal for the coming year. The unit piloted three different electronic tablets in the past year. Once selected, work will be streamlined.

TRENDS TO WATCH

In 1992 then Governor Romer's administration team completed a waste management strategy (Solid Waste Management in Colorado: Goals, Objectives and Strategies) for Colorado. The strategy was meant to be a roadmap for Colorado's waste management future. Colorado has changed dramatically since then. The population alone has grown from 3,294,394 in 1990 to nearly six million today. This growth, while exhilarating, has put pressure on Colorado's infrastructure, including the waste disposal and recycling systems. In addition, the economic prosperity has not hit all parts of the state equally. Parts of the state's struggles with increased water demands coupled with prolonged drought conditions have hampered businesses and agriculture development and sustainability.

For the last seven years the Pollution Prevention Advisory board has awarded Resource Recycling and

Economic Opportunity grants to develop, expand and improve Colorado's recycling businesses and infrastructure. Grants have and will continue to be awarded to support the hub and spoke recycling model. In an effort to capitalize on the recycling grants the program has requested spending authority to support a state-wide integrated waste disposal and material management study. The goal of the study is to refresh a 1992 study by evaluating the current state of the disposal and recycling businesses and develop a long-term roadmap for Colorado's future activities.

The desired outcome will be improved sustainable disposal and recycling services throughout Colorado. In addition, under-resourced areas with non-complaint facilities may have opportunities to upgrade or change operations to reduce their financial burdens and improved liability management.

LEGISLATION, REGULATIONS & WORKGROUPS

Senate Bill 14-029 and House Bill 14-1352 were passed during the 2014 legislative session. The laws impact the management of residual paint and waste tires, respectively.

Senate Bill 14-029 is the first of its kind producer responsibility law passed in Colorado. The law promotes the recycling of unused architectural paint. The program will be administered through a private company whose operation will be overseen by the state and audited by a third party. The program will be operated in accordance with a department approved plan that ensures service to all areas of the state. The program will include drop-off locations within 15 miles of 90% of the state's homes and collection events for the portion of the state not within 15 miles of the drop-off locations. The program will also include an annual audit and report to the legislature. Operation of the program and state oversight will be funded by a fee assessed on the purchase of new architectural paint.

House Bill 14-1352 updated and further consolidated Colorado's waste tire management and recycling laws. One key goal of the 2014 legislation is to make the management of waste tires market driven by January 1, 2018. In order to achieve this goal the waste tire the market development fund was ex-

tended through January 1, 2018. In addition, waste tires will no longer be allowed to be buried in mono-fills and the end user subsidy will be terminated on January 1, 2018. Further, the waste tire monofills must be closed by July 1, 2024. This will help develop tire derived product markets and ensure all waste tires are funneled into the recycling infrastructure. The Commission promulgated the implementing regulations in November 2014.

In November 2014 the Commission passed, following a multi-year all-inclusive stakeholder process, the revised Management of Asbestos Contaminated Soil regulations. The final regulations are currently under appeal by the City and County of Denver and others. The regulations were drafted, with significant stakeholder input and participation, using a practical performance based approach. In fact, the regulations include a first of its kind ([for our solid waste regulations](#)), pre-approved, ready to implement, fully functional work plan. The work plan may also be used as-is or as the basis for a site specific work plan.

2014 MUNICIPAL SOLID WASTE RECYCLING & WASTE DIVERSION FACTS

MSW Generated:

8.5 million tons

Total Waste Generated

10.9 million tons

MSW Diversion Rate

22.8 percent

Total Waste Diversion Rate

38.2 percent

Per Capita Generation

MSW Disposed 6.8 lbs.

MSW Recycled 2.0 lbs.

MSW Generated 8.8 lbs.

End Markets

1.1 million tons of recycled material was used in the manufacturing of metal, glass and plastic products in Colorado

Diverted Materials

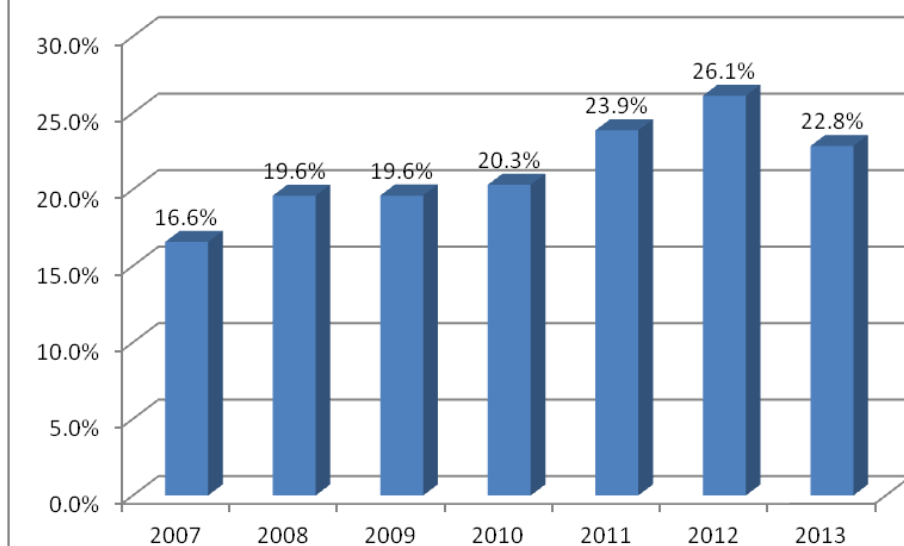
18,000 tons of single-stream

22,000 tons of electronics

608,000 tons of compost

1.4 million tons of concrete & asphalt

Colorado MSW Diversion Rate



For the first time since data collection on waste diversion commenced, the annual statewide diversion rate for Colorado decreased.

BENEFITS OF RECYCLING MSW

Energy Savings

Energy savings from recycling was equivalent to the energy use of 107,000 homes in a year¹



Natural Resources Conserved

2 million barrels of oil¹

10,300 railcars worth of coal¹



Greenhouse Gas Emissions Avoided

1,920,000 million metric tons of carbon dioxide emissions prevented, which equates to avoided annual emissions from over 400,000 cars¹



¹US EPA Waste Reduction Model "WARM" Version 12

Additional Data

For the complete database of the annual waste diversion totals, please visit:

<https://www.colorado.gov/pacific/cdphe/swreports>