600 NE Grand Ave.
Portland, OR 97232-2736

Metro | *Agenda*

Meeting: Solid Waste Alternatives Advisory Committee (SWAAC)
Date: Wednesday, December 10, 2014
Time: 10 a.m. to 12 p.m. (noon)
Place: Metro, Room 401 – ***Note room change***

The purpose of the Solid Waste Alternatives Advisory Committee is to develop policy options that, if implemented, would serve the public interest by reducing the amount and toxicity of waste generated and disposed, or enhancing the effectiveness and sustainability of the system through which the region's solid waste is managed.

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10 AM	**1.**		**CALL TO ORDER AND DECLARATION OF A QUORUM**	**Matt Korot, Chair**
10:02 AM	**2.**		**COMMENTS FROM THE CHAIR AND SWAAC MEMBERS**	
10:07 AM	**3.**	**	**CONSIDERATION OF SWAAC MINUTES FOR SEPTEMBER 10, 2014**	
10:10 AM	**4.**		**UPDATE ON METRO COUNCIL DISCUSSIONS OF SOLID WASTE ROADMAP PROJECTS** *Purpose*: To summarize the content and outcomes of this fall's Metro Council discussions of the Solid Waste Roadmap's Transfer System Configuration, Food Scraps Processing Capacity and Metro South projects.	**Tom Chaimov, Metro**
10:30 AM	**5.**	**	**WOOD WASTE MARKET ALTERNATIVES** *Purpose*: • To describe this project, which is looking to identify and assess options for improving the capacity, stability and environmental outcomes of markets for the region's urban wood waste. • To summarize the work completed to date and to get SWAAC members' input on an initial set of identified options. *Outcomes*: • SWAAC members understand the purpose, scope and timeline of the project. • Input from SWAAC on the initial set of options and identified next steps.	**Andy Sloop, Metro**
11:45 AM	**6.**		**CITIZEN COMMUNICATIONS TO SWAAC AGENDA ITEMS**	
11:55 AM	**7.**		**PREVIEW OF THE NEXT MEETING'S AGENDA AND FINAL COMMENTS**	**Matt Korot, Chair**
12 PM	**8.**		**ADJOURN**	

Continued on back…

* Material available on the Metro website.
** Material will be distributed in advance of the meeting.
# Material will be distributed at the meeting.

Upcoming SWAAC Meetings:

- Wednesday, January 14, 2015 from 10 a.m. to 12 p.m. (noon) at the Metro Regional Center
- Wednesday, February 11, 2015 from 10 a.m. to 12 p.m. (noon) at the Metro Regional Center

For agenda and schedule information, call Matt Korot at 503-797-1760, e-mail: matt.korot@oregonmetro.gov.
To check on closure or cancellations during inclement weather please call 503-797-1700.

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Metro | *Meeting minutes*

Meeting: Solid Waste Alternatives Advisory Committee (SWAAC)

Date: September 10, 2014

Place: Metro Regional Center, Council Chamber

Members present

Dan Blue, City of Gresham
Kathy Kaatz, City of Tualatin
Scott Keller, City of Beaverton
Leslie Kochan, Oregon Dept. of Environmental Quality (DEQ)
Mike Leichner, Pride Disposal
Keith Ristau, Far West Fibers
Amy Roth, Association of Oregon Recyclers
Alando Simpson, City of Roses Disposal & Recycling
Bruce Walker, City of Portland

Members absent

Theresa Koppang, Washington County
Matt Korot, Metro
Amy Pepper, City of Troutdale

Guests

David Allaway, Oregon Dept. of Environmental Quality
Roy Brower, Metro
Bill Metzler, Metro
Andy Sloop, Metro

1. CALL TO ORDER AND DECLARATION OF A QUORUM

Acting Chair Roy Brower called the meeting to order and declared a quorum.

2. COMMENTS FROM THE CHAIR AND COMMITTEE MEMBERS

Acting Chair Brower reviewed the agenda items.

3. CONSIDERATION OF SWAC MINUTES FOR AUGUST 13, 2014

The minutes of the August 13, 2014 SWAAC meeting were approved as written. A motion to approve was made and seconded.

4. UPDATE ON COMMUNITY ENHANCEMENT PROGRAM CHANGES

Roy Brower and Bill Metzler, Metro, discussed proposed changes to the Community Enhancement Grant programs (see Sept. 10, 2014 memorandum to committee and presentation). Discussion was held to clarify several minor points.

5. DEQ DRAFT MATERIALS MANAGEMENT LEGISLATIVE CONCEPT

Andy Sloop, Metro and David Allaway and Leslie Kochan, DEQ, presented information about the DEQ draft materials management legislative concept (see summary and presentation). In general, the committee agreed with the proposed concepts. Discussion was held as follows:

There are significant challenges related to implementation, and DEQ wants to give the industry enough time to prepare. DEQ will identify best practices and work with local governments and haulers to implement the program. There are several ways to change this policy via state requirements, such as requiring every city to adopt via ordinance. The DEQ proposal avoids that requirement and will make it easier for DEQ to step in when necessary.

Funding from disposal fees is probably not a stable funding source. Longer-term funding options need to be identified. The proposed changes will have an impact on consumers, and cities and counties need to understand that haulers are going to be talking about costs. Extensive discussion needs to be held with the jurisdictions and haulers so they are comfortable about any fee increase.

Most jurisdictions in the Metro region are already meeting the basic requirements.

Questions for Committee consideration and members' responses:

What do you think about DEQ's specific proposals for recovery and waste generation goals for the metro region?

- DEQ's proposal is a step in the right direction.
- Goals are modest and achievable.
- It is time to move on from the "bonus points" system.
- How do we compare to other west coast jurisdictions?
- The Environmental Quality Commission will have the ability to adjust rates as needed.
- Zoning and code requirements should be put in place for new multi-family construction.

What do you think would be the implications of the draft legislation for the Metro region's solid waste system?

- Not much impact short term.
- Rates will be the biggest change, and challenge. A bigger impact would be to the counties outside the region that don't have a specific funding base.
- Metro has already set a high standard of working together; need to strive for continuous improvement and innovation through ongoing partnerships.
- Environmental and cost benefits are important factors.
- Education is important to illustrate potentially hidden costs and benefits.

How would the proposed legislation specifically affect your jurisdiction and its residents, or your business and industry?

- Will encourage the industry to maintain a mindset for innovation and going forward.
- Must be attentive to the sum of all of the costs, not just rate increases.

6. CITIZEN COMMUNICATIONS TO SWAAC AGENDA ITEMS

Dave White, representing Oregon Refuse and Recycling Association, regarding DEQ presentation:

- DEQ will need to clearly illustrate how it will spend the additional $3.5 million in revenue and show what the individual wastesheds will receive in increased financial support and program assistance.

- DEQ will need to make a strong effort to understand the impacts of these changes on local government programs and ratepayers.
- Metro has partners in local governments and should get input from local elected officials before taking a position on state legislation. I would think this is an example of something that should go to MPAC for comment.

Response from Mr. Allaway: Implementing new services typically has a cost impact. The requirement for new elements is not a requirement for new action, but that local governments provide seven or eight elements of the thirteen. In the Metro region, those elements are already in place and built into rate base.

Thane Tienson, representing NatureWorks, regarding DEQ presentation:

What are the implications of the DEQ proposals for compostable serviceware types of products and, specifically, the impact of the proposed fee on compostable feedstocks?

Response from Mr. Allaway: Regarding the fee, there is interest in diversifying the funding base by spreading rate impacts across all materials, not just those disposed as garbage. Proposal is that if, and only if, disposal tonnage continues to fall and stays below recent baseline levels, then the Environmental Quality Commission will have authority to impose a per ton fee on compostable feedstocks. That per ton fee can be no higher than a proposed increase on fee at landfills. Regarding the impact on compostable products, the Materials Management Vision looks at the lifecycle of materials and compostable products may offer significant environmental benefits that have nothing to do with how they are managed at their end of life.

7. PREVIEW OF THE NEXT MEETING'S AGENDA AND FINAL COMMENTS

The next meeting is scheduled for Oct. 8, 2014 and is expected to include discussion on the stakeholder feedback process that Doug Anderson is leading on the transfer system configuration project.

8. ADJOURN

Acting Chair Brower adjourned the meeting at noon.

Metro Wood Waste Markets Alternatives Project Briefing Paper
Metro Solid Waste Alternatives Advisory Committee
December 10, 2014

BACKGROUND

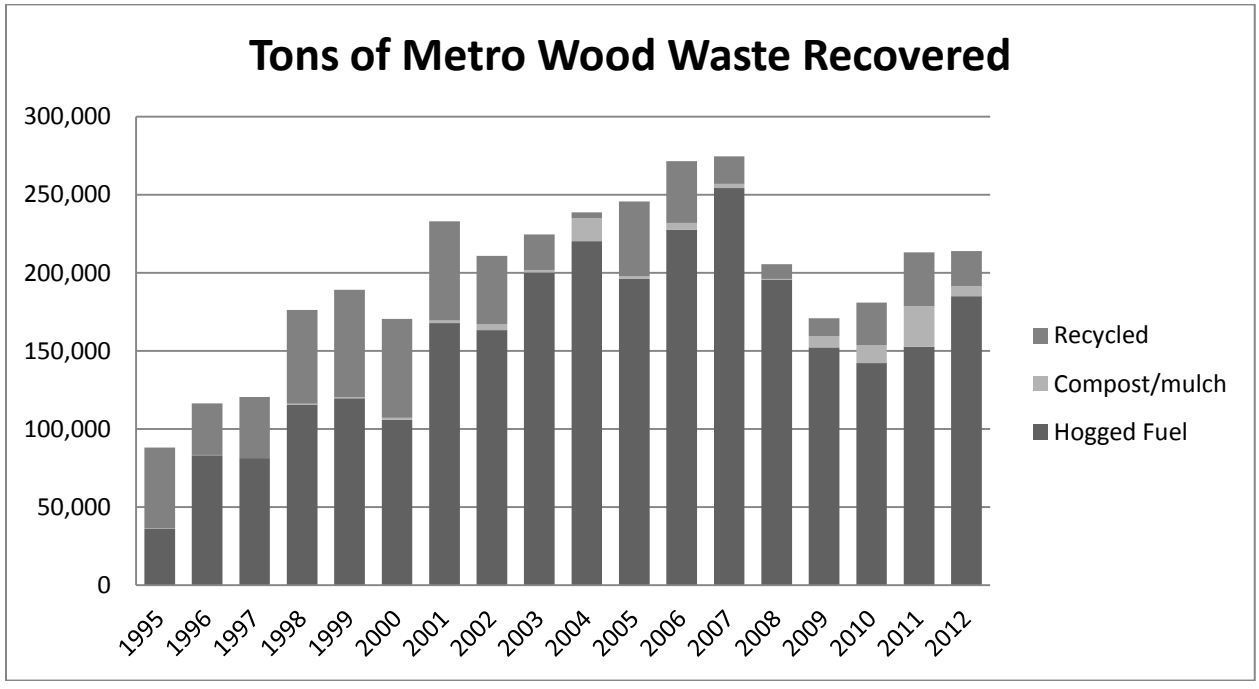
This paper provides background for discussion of Metro's Wood Waste Markets Alternatives project that will be discussed at the December 10, 2014 meeting of the Solid Waste Alternatives Advisory Committee.

Project Purpose

The purpose of this project is to identify and assess options for maintaining and improving the end-market capacity, stability and environmental outcomes for the region's urban wood waste that can be implemented within the next 10 years, with emphasis on roles that Metro and other public sector entities could play.

Generation and Recovery Data

Construction and demolition (C&D) waste is a major component of the region's waste stream, accounts for most of the region's urban wood waste (UWW), and is a priority focus of the Regional Solid Waste Management Plan (RSWMP). 248,000 tons of UWW were generated in 2009, which is the most current year for which waste composition data is available. Approximately 80 percent of this tonnage was from C&D activity and the remainder was mostly from commercial/retail pallets and crating. Of the C&D portion of wood generated, Metro estimates that 70% is from demolition/renovation activities and the remaining 30% is from new construction. The generation rate for urban wood waste is closely tied to construction activity and is currently increasing as the construction economy recovers from the recession. Metro estimates that the region's current wood waste recovery rate is 60-70%. Approximately 65% of the UWW recovered is from source-separated wood loads and 35% is from mixed dry waste.



End Markets

Almost all of the region's UWW is now processed into hogged fuel that is burned at three local paper mills to generate energy and steam, and two of these mills are phasing out their use of this fuel. As the graph above shows, this is a change from 10 years ago when there were other higher-value markets for this material including paper mill furnish, feedstock for engineered lumber products (medium density fiberboard) and erosion control products. For a variety of reasons, those higher value markets have largely disappeared, resulting in the region's current reliance on hogged fuel combustion by paper mills. The lack of other markets for the region's urban wood waste creates operational challenges for wood waste processors when demand from paper mills ebbs, such as when mills close for maintenance.

Intermediate Processing Facilities

The majority of the UWW generated in the region is collected source-separated at construction sites and delivered to one of the region's 20 privately-owned intermediate processing facilities. Processors that produce hogged fuel generally accept painted and unpainted wood, all types of engineered wood and limited quantities of pressure treated wood, and wood with nails and other fasteners in it. Processors assess the quality of inbound loads by visual inspection. Loads are rarely refused unless they contain visibly high levels of melamine laminates, high pressure plastic laminates, plastic or plastic composite lumber, fiber cement composite siding products, creosote treated lumber (railroad ties) or other non-wood material or wood products that are bonded or glued to other non-wood materials like vinyl flooring.

Approximately 35% of the region's UWW is collected in mixed dry waste loads and dropped at one of 11 dry waste material recovery facilities (MRFs). These facilities use hand or mechanical sort lines to recover wood, cardboard and metal before disposing of the residual material. The recovered wood is then processed on or off site into hogged fuel. Generally, the wood recovered from mixed loads has more contaminants than the wood collected via source separation. Metro owns two solid waste transfer stations where contract operators recover wood from mixed dry waste loads. The remaining nine dry waste MRFs are privately owned.

The decline in end markets for hogged fuel has had an impact on the Metro region's capacity to process wood waste into hogged fuel. In late June 2013, NW Wood and Fiber Recovery, which was one of the region's largest intermediate processors of urban wood waste, closed after 18 years of operation.

Salvage and Reuse

Over the last 20 years, the privately-owned building material reuse industry in the Metro region has expanded and evolved. A growing group of deconstruction contractors now bid on work and there is a wide range of reuse-related entities. Across all of these entities, wood continues to be the most common material that is reused and it is a major source of revenue

While the salvage and deconstruction industry recognizes that the best way to capture reusable building materials is through front-end job-site reclamation and deconstruction, this is not the dominant practice for taking down buildings. Mechanical demolition with excavators is still very common in both the residential and commercial sectors. As a result, a large quantity or salvageable/reusable material still ends up in drop boxes bound for source-separated wood waste processing yards and dry waste processing facilities.

Metro research shows that timbers, dimensional lumber and sheet goods like plywood are durable enough to make it through the waste loading and drop box transport process intact and potentially reusable. This has been measured at dry waste processing facilities, but not at source-separated wood waste processing facilities. DEQ data suggest that up to 20% of the wood that arrives at a dry waste processing facility meets material quality and size specifications for reuse at local building material reuse facilities.

In fiscal year 2014-15, Metro is undertaking small-scale efforts to help build the region's salvage capacity through projects to develop a region-wide salvage brokerage partnership, conduct pre-demolition deconstruction cost-benefit assessments, and assess needs and options for standardizing demolition permitting practices.

Environmental Issues to Consider

As mentioned above, current collection and processing is geared for making hogged fuel. Alternatives include various forms of reuse, recycling, and energy recovery. As part of this project, Metro intends to assess the relative environmental benefits of each alternative based on greenhouse gas emissions, water pollution, human health and ecotoxicity. This is intended to help identify which alternatives appear to be environmentally preferable to the status quo.

PROJECT FINDINGS TO DATE

Metro hired the team of Evergreen Engineering and Good Company to do a preliminary identification and assessment of market alternatives. Their findings are described below.

- UWW is a tough material to utilize but there are practical ways to get it out of the waste stream and into higher value products and applications.
- Our region is already doing as good a job as any place in North America in diverting UWW from the landfill.
- There is no doubt that the region must continue to rely heavily on existing hog fuel markets in the short term.
- UWW is being successfully recycled into composite panelboard and fuel pellets on a large scale in Europe using systems that probably could be implemented successfully in the Metro region. Biochar, fuel for district energy, and use of UWW as a bulking material in dry anaerobic digestion also are potentially feasible options.
- Salvage opportunities seem ripe for growth if supported with building permit interventions requiring deconstruction and clean wood recovery that is separate from other C&D waste separation.
- In the northwest, UWW competes for markets with virgin mill residuals. This presents a challenge for many options. Moreover, residential and commercial remodeling drives the generation of both UWW and competing virgin mill residuals.
- There is a significant environmental benefit to diverting UWW into reuse and recycling markets such as reclaimed building materials and wood products, refurbished pallets, biochar, and composite panelboard and pulp raw material.
- The relative environmental benefits of energy recovery versus landfilling depend on carbon accounting, emissions controls, displaced fuels, and impact costs. These need to be researched further.
- The painted, treated, and laminated portions of the UWW stream are the most difficult to divert from landfill.

SCENARIOS

The consultant team concluded that the following scenarios may be feasible and worth investigating further.

1. **Enhanced Base Case: Reclaimed Wood Products, Refurbished Pallets, Hogged Fuel, Landfill and Waste-to-Energy (WTE).**

   Description: This is the status quo, but with implementation of best practices to increase reuse. Clean hogged fuel would be sent to traditional markets. Some treated wood would go to the Covanta WTE facility in Marion County and some would be landfilled.

   Implementation: Work with generators and receiving stations to upgrade ability to reclaim used lumber, panels, pallets and other wooden building materials (doors, case goods) through changes in collection procedures and sorting capabilities. Some processing (e.g., pulling nails, sawing to rough size) may be needed.

2. **Enhanced Base Case Plus District Heat and Biochar**

   Description: Implement the Enhanced Base Case and then build a thermochemical (pyrolysis) processing facility to convert hogged fuel into biochar, biogas, and bio-oil. Strategically locate facility so that the biogas and bio-oil could heat the pyrolysis unit and make steam or hot water for sale to a new district heat system.

   Implementation: Build a stand-alone heat plant as the centerpiece of a new eco-plex to revitalize a strategic neighborhood in the Metro area. Subdivide the property into commercial and light industrial zones and install underground hydronic heating distribution to all locations. Add capabilities to enhance the biochar through screening, filling, and packaging. Recruit tenants to the eco-plex through low-cost thermal energy supply contracts and tax incentives. Sell biochar to local governments in the region for stormwater filtration and to nursery soil producers.

3. **Enhanced Base Case Plus Clean Raw Material for Composite Panelboard, Pulp Chips, and Densified Wood Fuels**

   Description: Implement the Enhanced Base Case, but add a sort to divert clean wood assemblies like broken pallets and crates or pieces too small for lumber reclaim. Equip a central facility with the coarse grinding, chipping, screening, and cleaning equipment needed to remove metal, plastic, paper, and grit to produce quality chips for the pulp, pellet, and particleboard markets.

   Implementation: Sort targeted material out of hogged fuel stream prior to grinding. Accumulate sorted material at receiving facilities for periodic transfer to a central processing facility. Negotiate supply contracts and quality specs with regional pulp, pellet, and particleboard producers. Acquire cleaning equipment for use either at central processing facility or at manufacturing plant.

4. **Enhanced Base Case Plus Anaerobic Digestion.**

   Description: Implement the Enhanced Base Case, but add a sort to divert clean wood assemblies like broken pallets and cut ends or pieces too small for lumber reclaim to coarse grinding, chipping,

screening, and metal removal equipment capable. Produce quality chips to provide structure and voids for wetter material used in dry anaerobic digestion (AD) process to produce biogas. Compost the AD digestate and augment with other products as necessary. Develop public market for soil products at this scale.

Implementation: Develop sorting standards and best practices. Consider capitalizing screening equipment to remove plastics. Work with public agencies to require public procurement of compost-based erosion control blankets and berms.

DISCUSSION QUESTIONS FOR SWAAC MEMBERS

1. What are your general impressions of these scenarios?
2. Given the nature of the scenarios, what are your thoughts about the role that Metro and local governments should play in implementing them?
3. In general, salvage and recycling options provide greater environmental benefit on a per unit basis than energy recovery options, while recovery options probably can handle much more material. If Metro were to invest time and money in market development, on which types of options do you think it should focus its resources?

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Solid Waste Alternatives Advisory Committee (SWAAC)
2015 Tentative Schedule of Topics
Dec. 4, 2014

Month	Topics
January	No Meeting
February	Waste Generation Goal for the Metro Region
	Mid-Term Review of Regional Solid Waste Management Plan Waste Reduction Program
March	TBD
April	Regional Recycling Service Standards
	Material Recovery Facility System Improvements
May	Solid Waste Roadmap: Food Scraps Processing Capacity
June	Solid Waste Roadmap: Long-Term Management of Discards
July	TBD
August	Solid Waste Roadmap: Food Scraps Processing Capacity
September	TBD
October	Solid Waste Roadmap: Transfer System Configuration
November	Solid Waste Roadmap: Metro South Transfer Station Assessment
December	TBD