Massachusetts Department of Environmental Protection (MassDEP)
Recycling Market Development Workgroup
June 7, 2022, 1:00 pm to 3:00 pm
Meeting #4 Summary
Topic: Demand-Side Strategies

Introduction

Recap of Meetings 1-3

- Meeting 1 – Intro
  - MassDEP Market Development Programs
  - OSD Environmentally Preferable Purchasing
  - MassDevelopment
  - Mass Office of Business Development
- Meeting 2 – Regional and National Perspectives
  - NERC and Circular Matters
- Meeting 3 – Business Support & Economic Development Strategies

State Agency Council

- First meeting held in February 2022
  - Featured presentations by recycling and composting industry representatives
- Next meeting being planned on procurement opportunities for recycled glass products in construction applications
- Goal is to build on extensive environmentally preferable purchasing programs already in place
  - https://www.mass.gov/guides/epp-program-environmentally-preferable-products-and-services-on-statewide-contracts
  - Key product criteria – availability, quality and price

Meeting #4 featured four breakout groups, each focused on different groups of recyclable materials:

1. **Packaging – all forms of packaging**
2. **Organics – food scraps and other organics**
3. **Construction & Bulky Materials – construction, furniture and other bulky materials, mattresses and household goods (including textiles)**
4. **Materials with New and Emerging Markets – such as solar panels and wind turbines**

Group 1 (Packaging) Notes

Are there specific materials or products that we should focus on building demand for? Where are the best opportunities to build demand?

There is a need for direct recycling of glass into new products, a need for glass manufacturers to move into state (bottle, window or insulation). Possible tax incentives? Glass is heavy to ship.

Strides have been made for using glass. Down-cycling of glass currently happening. A step up would be a glass bottle or insulation manufacturer.

It would be great if retailers used re-useable packaging instead of making more cardboard boxes. Cardboard is a durable material. A box retailer (like U-Haul, Mail Boxes, etc.) could do a box reuse program and have a discount/used boxes section. Some shipping places already accept packaging material for re-use (packing peanuts).

It would also be great to recapture film plastics, but options are needed for small and medium businesses. It's a challenging material for small generators. It's an issue of getting it from who has it to somebody who can do something with it.

Retail stores ship back to a distribution center. Small businesses don't have the room for baler and bale storage. They either need a baler onsite or could self-haul to local centers (film plastics). Could work on aggregation sites for small generators. Perhaps municipalities could partner with local businesses – could we offer incentives to a municipality to host a baler for film?

Mills are being/have been retrofitted to take recycled material instead of trees (NERC has worked on this).

How can we increase recycled content purchasing by private businesses and NGOs?

A lot of distributors are involved in the State Contract process and act as middlemen, making it harder to oversee compliance with desirable requirements.

Vendors are having a hard time getting recycled content for materials (supply chain issues) and things will probably get worse before they get better. There is a backlog with vendors; for instance, it's currently hard to get recycled content copy paper.

Anyone can start a third party certification organization. There are hundreds out there. EPA has criteria for third party certification. Massachusetts uses EPA criteria. It depends on what you're looking for, but it's important to have claims that are verified and not green washing.

Environmental Claim Verification - https://www.mass.gov/doc/epp-environmental-claim-verification-report-rpn/download

Garbage Bags are getting Green Seal standard in the next year.

What other organizations should we partner with to build demand for recyclable content products?

There is room to have conversations with manufacturers. Manufacturers are thinking about packaging, could use more engagement.

The Sustainable Purchasing Leadership Council has a packaging work group. You have to be a member to participate.

"NexTrex" retail recycling program engages approximately 32,000 stores nationwide - https://www.trex.com/our-company/news/introducing-nextrex-composite-decking-leader-announces-

new-name-for-successful-retail-recycling-program/ - currently for medium-sized generators. Infrastructure incomplete.

What program or policy models in other states should we consider for Massachusetts?

Expand the Bottle Bill.

Packaging EPR Legislation would help.

Q: Could Recycling Business Development Grants for glass be focused on making new products instead of aggregate?

Note: Any business operating a glass recycling operation (of any sort) are eligible for an RBDG grant.

Group 2 (Organics) Notes

Are there specific materials or products that we should focus on building demand for? Where are the best opportunities to build demand?

The economic impact report on the first organics waste ban demonstrated successes diverting material and creating jobs.

With AD on dairy farms, there are challenges with trucks full of packaged food waste. You can recover cardboard as much as possible but how do we do this with pallets and mixed packaging? Struggling with price differential between incoming organics waste and outgoing packaging waste.
Disposal capacity in state is very tight and tenuous; disposal facilities are very difficult to site.

How can we increase recycled content purchasing by private businesses and NGOs?

With food rescue and recovery, it's both looking into recovered produce and supply and what outlets are available and connecting to buying power. MassDEP Grants have gone to food rescue to expand operations; COVID had a short-term impact. The highest and best use is feeding people

Private subscription efforts like those announced by Boston get the discussion going and have impacted industry efforts to expand service by looking to site facilities to handle and manage material. We have to figure out ways to support AD. What's happening with finished compost, where are we using it and where are opportunities to use it more? We need to promote the higher use of finished compost.

State incentives for the energy market (renewable energy credits) exceeded expectations. High levels of uncertainty are off-putting for businesses; we should make waste certificates like solar energy credits. We need to pair the carrot with the stick, look regionally at waste management and create a similar program with incentives/credits to shift costs from "brown trash to green trash." Monetizing benefits is the way to build the industry.

Charismatic leaders are needed in each sector, otherwise efforts peter out.

One bad experience with a type of product can linger in people's minds for a long time and leave a lasting negative impression.

What other organizations should we partner with to build demand for recyclable content products?

Where is progress on education and outreach to restaurant associations? There are still restaurants that have no idea about the lowering of the organic waste threshold.

RecyclingWorks is conducting direct outreach to restaurants and most recently to black-owned restaurants in the Boston and Worcester area. RecyclingWorks is also working on a case study featuring a restaurant that produces approximately 1/2 ton of food waste per week.

MassDEP has worked with DOER because AD facilities can benefit from energy credits.

Recycling Dividend Program funds can be earned with organics programs in place and organics programs can be funded with RDP funds. RDP is available to all municipalities.

What program or policy models in other states should we consider for Massachusetts?

Vermont has aggressive approaches to organics. Legislation has survived but can they process as quickly as they can mandate? Oversight, infrastructure, and education are important for managing materials.

Colorado is making progress in developing EPR that privatized their material management programs in a legislative effort that gives a top-down incentive and demonstrates economic advantage. It's more than an environment/climate issue - it's a capacity issue.

Group 3 (Construction & Bulky) Notes

Are there specific materials or products that we should focus on building demand for? Where are the best opportunities to build demand?

From a commercial contractor/construction point of view: Gypsum wallboard needs markets. We have supply, but it is very hard to find markets. You can't dispose of it and there's no end-use market. There are a lot of reuse and deconstruction materials that should have reuse markets (carpets, furniture, acoustic ceiling tile) through nonprofits, but they can't handle the supply so it's not adequate. The fast turnaround of corporate projects in Boston (3-5 years) means there's a LOT of stuff going to waste.

Q: Where is the closest gypsum recycler?
A: USA Gypsum in PA is taking about 2,000 tons per year of gypsum from MA generators. There's an estimated 50,000 tons of clean gypsum "cut-offs," which can be used for agricultural amendments and the paper for animal bedding.

It makes sense to go after high volume items like gypsum, but we also have to think about partners. Recycling is complicated. We need willing partners throughout the value chain for it to work. So we need volume/supply, demand, and businesses that will find a value proposition in managing the stuff towards

a higher end use. In the plastics/vinyl industry; the thought was that recycled resin competes with virgin resin, so why invest in recycling? That's changed, with industry recognizing the need to provide solutions and lighten environmental footprint.

Q: What kind of vinyl?
A: Both rigid and flexible. Rigid (i.e. siding) is easier to recycle. But there's a pretty robust vinyl roofing recycling program with recyclers involved throughout the country.

A big concern is wood and how to increase supply of wood so that architects have a reliable stream to incorporate reused wood into design projects. We need a large volume to insure it is specified in building designs. Wood also creates more jobs than any other construction material on a very local level. From youth jobs pulling nails to higher end design. We need to reduce reliance on virgin wood, and we dispose of lots of reusable wood.

Asphalt shingles and membranes on flat roofs and the insulation underneath. Also, the window- glass, wood and PVC. Whenever we remove a window, it could be deconstructed to recover the parts.

Windows are one of the most expensive building materials in a remodel or new construction. They are easily reused and it creates jobs for people with a huge range of skill levels. There's a myth of the energy efficiency of new windows making old windows undesirable.

Agree about PVC windows and flat roofs. Also, supply chain shortages are creating a unique opportunity because supply of virgin materials is constrained. Now is the time to build recycling outlets since they can compete better, due to the high costs of virgin materials.

How can we increase recycled content purchasing by private businesses and NGOs?

It's important to show the value of materials that are recovered through deconstruction.

Creating local markets lowers the cost of recycling and allows recycled content materials to compete with virgin materials.

Q: Would tax credits for use of recycled content products in construction projects be possible?

The state purchases a lot of goods and could leverage more demand for recycled content products. OSD's EPP office could incorporate recycled content preferences or mandates in their bids/contracts for goods and materials. DCAM must also purchase a lot of goods for state owned buildings (construction and maintenance).

Increasing the use of recycled content is largely based on the availability of supply. Springfield has the north/south/east/west rail center to distribute materials throughout the country. This makes Springfield the ideal spot to center the collection of wood.

C&D waste doesn't travel well; needs local markets. On construction sites, you'll never find copper, aluminum in the waste; they're valuable and they are separated. We need to build the value of the material and that will incentivize its separation.

What other organizations should we partner with to build demand for recyclable content products?

The Vinyl Sustainability Council is actively trying to build recovery of vinyl. For every building product, there's a trade association. We should reach out to them to discuss their interest in partnering.

The Gypsum Association has participated in all of the C&D meetings; they are present and transparent about their challenges. There are six major gypsum manufacturers, and they are taking a greater interest in recycling.

Old notions about trade associations should be set aside. Things are moving faster and change is coming.

St. Gobain made a presentation on EPR in Canada. Under the new EPR law in France (effective Jan 2023) governing all construction materials (17 categories), the producers of these materials formed a producer responsibility organization to take back materials from construction and demolition work. St. Gobain sees the writing on the wall. As supply gets more challenging, the "urban mining" of gypsum is more attractive. They are very open to talking with suppliers of post-consumer gypsum (and glass, which is another market that St. Gobain is heavily invested in). Major worldwide manufacturers should be contacted to learn what their expectations are for quality, volume and price.

The national non-profit Build Reuse should be included.

Regional non-profits: Boston Building Resources, The Furniture Trust, Eco-Building Bargains might be able to grow with grant assistance. Helping move the market from residential to combined residential and business can lower costs, ease time concerns and help grow jobs regionally.

A Canton company has been recycling vinyl roofs for 20 years; can we use a voluntary approach rather than regulating it? Incentives vs. mandates. Azek is another company using recycled content.

What program or policy models in other states should we consider for Massachusetts?

France's EPR law.

Local ordinances on deconstruction. For instance, Portland, OR and Seattle, WA have developed deconstruction ordinances.

MassDEP's R&R Working group is forming a deconstruction workgroup. The first meeting will be in a couple months and will model the work done by EPA Region 9 and Alameda County.

Once materials are comingled at a job site, it's very hard to separate for recycling.

Abbey Massaro shared this resource, recently created by CET with support from Recycle CT: https://www.centerforecotechnology.org/wp-content/uploads/2022/05/Promoting-the-Practice-of-Deconstruction-1.pdf

Group 4 (Emerging Markets) Notes

Are there specific materials or products that we should focus on building demand for? Where are the best opportunities to build demand?

New emerging materials can be classified as e-waste; we can take similar approaches to what is done with e-waste now.

But we need better analysis of what we're doing with it. How much is being sent to third world countries? What are the conditions there? Are there lessons learned from, for instance, how we handle cell phones.

Solar panels are anemerging waste stream.

Wind turbines: What available technologies are there? For example, for wind turbine polymer components? Wind turbine blades recycled for cement, kept from landfills | STLPR (stlpublicradio.org)

Will sodium-based batteries replace lithium? Lithium is very recyclable, but the handling/processing is difficult (e.g., fire issues).

Q: Semi-conductors – what happens with those?

Pyrolysis and chemical processes should be considered.

How can we increase recycled content purchasing by private businesses and NGOs?

Contract management for Extended Producer Responsibility (EPR), instead of waiting on legislation. Include recycled content in the Procurement process. Building expectations for recycled content.

Designing for recovery, dismantling, and re-use is key (extracting precious metals).

Movement for repair.

R&D, market analysis and communicating the results.

A lot more analysis needs to be done, and answers (to emerging markets) could flow from those analyses.

What other organizations should we partner with to build demand for recyclable content products?

Collaboration with universities will be important. New degree programs can be developed with a focus on recyclability/designing for recovery. UMass Lowell is a great Materials group to work with.

Participate in conferences/webinars with private businesses.

The State Agency Recycling Market Development working group, TURI, NERC (Regional Materials Management).

What program or policy models in other states should we consider for Massachusetts?

Lessons from Maine (EPR legislation).

Grant funding: Small R&D grants could help.