STRATEGIES FOR SMM
AT THE STATE/LOCAL LEVEL

Markets, Economic Development, Recycling & SMM: What Works (and Doesn’t) at the Local Level?

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<th>Upstream Production Savings – Long-haul Breakeven Distances</th>
<th>In trips to the Moon</th>
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<td>Aluminum</td>
<td>![Image of the Moon]</td>
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<td>Plastics (LDPE&amp;PET)</td>
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<td>Steel</td>
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<td>Paper (News, Cardboard, Office Paper)</td>
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Excludes direct market prices

Source: Adapted from Allaway, OR DEQ
LOOKING FOR WHAT WORKS AT STATE & LOCAL LEVEL

- Work for several states, counties, large communities, culminating in CO
- Goal – analyze SMM, recycling & economic development to inform potential state & local actions
  - Fruitful for actionable recommendations / Bang for the buck
- Reflects project work plus input from NRC
PROJECT ACTIVITIES

- **Literature Review** – strategies & interview leads
  - 10 years of studies and white papers, 70+ reviewed in detail, most not useful and dated

- **SMEs / Expert Interviews** – State SMM & Market Development programs, industry, investors, market experts
  - Subject matter experts in state/community SMM & recycling market development

- **Survey** – State feedback; some national input
  - Detailed information on supply / demand by material; industry / infrastructure, barriers, potential, and market opportunities

- **Stakeholder meeting** – State and national experts / discussion and opportunities – by material (set priorities)
  - Explore regional material-specific barriers, opportunities, and considerations toward SMM in CO and market development

- **Analysis, Recommendations**
MATERIALS – COMPOST / ORGANICS DIVERSION

- Lends itself to strong local market development opportunities
  - Separate generation stream
  - Separate regulation that can be amended for reasonable activities and oversight level
  - Processing technology readily available / accessible – options for proven choice for given situation
  - Processing cost varies – balance the economics
  - Low value / high volume / minimize transport - Local product
  - Reduces methane in landfills
  - Create a value-added product to use locally for soil amendment

  ➔ Fast turnaround time; demand issue- local
MATERIALS – GLASS

☐ By creating an end-market in-state (or regionally) it is ripe for diversion

- Heavy / low value – not suitable for long transport
- **Easy to source separate** in C&I and Residential sources
- Problem at MRFs from breakage and contamination... **BUT**
- Technology to separate from MRF residue ($ but proving do-able)

☐ Many **end-markets** exist –
  - Glass to glass (clean **cullet**)
  - Sandblasting, aggregate (roads, septic, leach fields)
  - Landscaping, art (some suitable to state / local development)

☐ Potential for **reuse / bottle return** programs

☐ No methane, but **embedded energy**

- ➔ Fast turnaround time; demand issue – **state / region**
MATERIALS – PAPER / OCC / CARTONS

- May have some localized uses, but regional solutions may make more sense
  - Generation – **not as separate**
  - Localized uses include **building materials** (paper-crete, insulation, wallboard replacement, temporary shelters)
  - **Codes & standards** changes may be needed to allow new uses (e.g. testing / standards for use of paper / concrete building blocks in construction)
  - Some success using **cartons as building materials** (Rewall) but need more facilities built – could be state-level option
  - Limited options for using **quantities produced**
  - Some can be incorporated into **composting**, but not highest / best use

→ Some options ready – others need steps. **Regional?**
MATERIALS – PLASTICS & METALS

- More challenging for state level / local markets unless they exist currently
  - Require more (and more **costly**) technology for end use
  - Transport not the barrier issue
  - Need to make (credible) case for expansion of existing end-users to **open additional facilities**
  - Need more **research into new uses** (engage universities / companies in development of ideas, methods)
  - Plastics - Currently, strong push to use plastics, especially in **energy production** – issues:
    - Concerns in regulatory, emissions
    - Diversion progress (incineration is not recycling)
    - Not highest / best use
    - No incentive for design change or alternative end markets

⇒ **Leverage existing may be best hope**
VARIETY OF STRATEGY TYPES

- **TA: Tech Assistance**
  - Dedicated experts
  - Local market devp assistance staff
  - Toolkits / biz devp plan templates, info on "specifications" by mat'l

- **FA: Financial Assistance**
  - Loans for priority materials, gaps, barriers
  - Incentives (tax exemptions, credit, biz incentives)
  - Grant programs / priorities

- **MatchUps – Direct Connections, support, networking**
  - Help find / foster strategic partnerships
  - Marketing / promo assistance
  - Siting assistance
  - Aggregation help
  - Demo project assistance

- **Reserarch – Info / research, proactive & on-demand)**
  - Markets, tonnage, economics
  - Infrastructure
  - Financing
  - Econ development contacts
  - Partnering with other states & national organizations on priority areas

- **Advocacy**
  - To increase supply of recyclables (bans / mandates)
  - Increase demand
  - Improve economics
  - For financial incentives
  - For EPR
  - Direct advocacy

- **Outreach**
  - Promote priority state-made recycled content products to biz, HHs
  - Res / generator outreach – places to recycle, importance
VARIETY OF STRATEGIES

- Business advice, assistance
- Materials exchange marketplace
- Encourage technology dev’p
- State lead by example / reach out to involve stakeholders
- Directing processed material to be used at xyz
- Advise businesses on how to deal with barriers to remanufacturing industry
- Map flows of material through entities in state
- Promote improved recycling processes / techniques to increase quality of recycled material
- Data gathering initiatives
- E-market for returned deposits
- Establish closed-loop supply chain via product acquisition, reverse logistics, inspection, testing, disposition, remanufacturing, selling, distribution
FEATURES OF BEST REGIONAL SMM & MARKET DEVELOPMENT

- States where it works:
  - Already have existing manufacturing base in place
  - **Support** from state:
    - Sometimes money
    - Sometimes employee / division / dept specializing in eco devp for recycling
  - Often support from **electeds**
  - Constantly **reiterating** benefits to state in econ & jobs
  - Continued **R&D & data** dev’p with outreach and targeted education (to econ devp, electeds)
  - **Fierce competition** to bring in more recycling businesses
FEATURES OF BEST REGIONAL SMM & MARKET DEVELOPMENT

- States where it **works**:
  - **Incentives**
    - Sales or prop tax
    - Employment goals (hire x people at x wage for x period of time)
    - Reduced utilities
    - Land / favorable
  - **Obvious support from business community**
    - THEY contact electeds, gov’t, others with influence
  - **Local demand** for materials
  - Local value added before it leaves the state
FEATURES OF LESS SUCCESSFUL STATE PROGRAMS

- States where it **doesn’t work** as well:
  - Little / **no manufacturing** to leverage; low / no demand for materials
  - **Usual reasons**
    - Low / dispersed populations
    - Limited material
    - Low landfill tip fees
    - Costly transportation
  - **Lack of support** / participation from states
    - Limited employees
    - No eco dev’p involvement
    - Ennui from elected
    - No financial backing
FEATURES OF LESS SUCCESSFUL STATE PROGRAMS

States where it doesn’t work as well:

- No easy **centralized location** to get access to requirements for siting facility in state
- No **skin** in the game
- Lack of **data**
- No **R&D $** spent
- No / limited **incentives**
WHERE IT IS WORKING

- Southeast – especially Carolinas
- MN
- PA
- Some in WA, OR (BB), CA
- MA used to be a great example, but when funding pulled, so did program. Not sure if programs will always need subsidies
- Idea-based grant programs growing
- Bans are chicken / egg approach that can work

- States can morph existing programs and dollars
STRATEGIES...

Tier 1: Glass & Plastics

- Existing in-state end users for glass; more limited plastic;
- Increase demand and supply in-state

- Glass
  - Consider separate glass collection curbside or drop-off bunkers
  - Introduce legislation for residential glass diversion (bottle bill)
  - Pass ordinances / programs / incentives increasing commercial glass
  - Develop shared mobile processing for better transport cost-effectiveness
  - Explore niche market development opportunities; including whole-bottle reuse and washing opportunities (given in-state breweries)

- Plastic
  - ID whether collection changes (or more uniformity) can improve material integrity; or if processing / sorting technologies can reduce contamination for better use
  - Examine the potential for growth; few existing firms
  - Assess data on sources by material type to match new users with supply
  - Investigate barriers / incentives for existing virgin plastic processors to use recycled; ID support system and/or relative cost of new / expanded plastics fabricating facilities relative to paper and metal

Tier 2: Paper

- Potential for small-investment specialty products; needs new industry research

- Paper
  - Examine data on sources by paper product to match new demand with supply sources
  - Encourage University research on new local uses
  - Work with Green Building Industry on standards development and new products
  - Identify / assist local small-scale niche products using paper (insulation, etc)
  - Investigate if aggregation can improve potential
STRATEGIES...

Tier 3: Metals

- Robust Collection & Processing; High capital cost to entry; Address specific barriers
- Metals
- Fairly mature collection & processing
- Explore opportunities for more in-state material - existing end market could use it
- Conduct transport cost research to ID barriers, improve status quo
- Engage to help existing businesses thrive
- Art metal working unlikely large or highly job-creating

Overarching Strategies

- Success strategies from other States & "Out of Box" concepts
  - Menu for Research
  - Hire dedicated staff; Identify grant funding
  - Introduce concierge approach (including permitting)
  - Develop detailed Info packets / contacts
  - ID large-scale state purchases & Develop industry to make them in-state (prison / schools purchases, etc.)
  - Explore virgin material substitution for local industries
  - Adopt purchasing requirements; closed loop purchasing
  - Introduce programs to support Innovation
  - Identify leveraging opportunities from vertical integration
  - Consider mobile / shared solutions for economies / efficiencies
  - Investigate cooperative market value-adds
  - Engage decisionmakers with job creation info; legislator updates
NEXT STEPS

☐ More outreach / education to econ dev’p organizations is needed
   ■ Create kit with data / ideas to pitch – tailored, target
   ■ Educate the right people; outside of recycling diversion sector
   ■ Educate often

☐ NRC planning series of regional workshops (Jan-May 2018) to help regions find solutions:
   ■ Address issues, solutions (infra, jobs, master plans, needs assessments, goas)
   ■ Bring together relevant people (recy, elected, econ dev’p, state employees, industry)
   ■ Want to host a workshop? Contact NRC-ED
BEST(?) NEXT STEPS

☐ Strong package:
  ■ Data
    ☐ and remember is it ONLY local for some materials
  ■ Meetings, info, buy-in, “talk it up”
  ■ Focused challenge grant
    ☐ 1 or a few; Skin in the game; “improvement” in state
    ☐ Money and support and monitoring
    ☐ Work at demand & supply & decision-making ends
    ☐ Phase in related ban if relevant(?)
  ■ Data & tracking / independent evaluation
  ■ Education / feedback to the right players; annual updates – “tell stories”
  ■ Succeed, rinse (refine), & repeat

Blue sky? Carbon tax. CBOT; Better ROI than films!?
THANK YOU!!
Comments & Questions?

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