



# STRATEGIES FOR SMM AT THE STATE/LOCAL LEVEL

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

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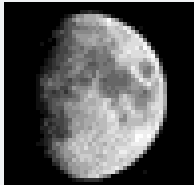

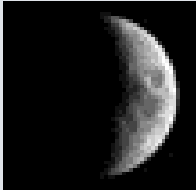

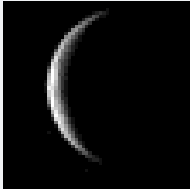
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# STRATEGIC MATERIALS MANAGEMENT – TONS, GHG, VALUE, WITH LOCAL CONSIDERATIONS – MOVING THE NEEDLE

Upstream Production Savings – Long-haul Breakeven Distances	In trips to the Moon
Aluminum	   
Plastics (LDPE&PET)	 
Steel	 
Paper (News, Cardboard, Office Paper)	 

Excludes direct market prices

Source: Adapted from Allaway, OF

**SERA**

# ***LOOKING FOR WHAT WORKS AT STATE & LOCAL LEVEL***

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- 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

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- **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

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- 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

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- 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

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- 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 need to allow new uses (e.g. testing / standards for use fo 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

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- 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

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- 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***

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- 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***

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- 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***

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- 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***

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- 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

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- ❑ 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 com'l 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

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- 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***

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- 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

# ***THANK YOU!!***

## ***Comments & Questions?***

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