

FOOD SCRAPS:



What are we Seeing? What is Succeeding in Communities?

Washington Council
of Governments
Organics Task Force, April 2014

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TOPICS

- ☐ Background / Why consider
- ☐ Common designs
- ☐ Regulatory options
- ☐ Case Studies & BMPs
- ☐ Conclusions



BACKGROUND ABOUT FOOD SCRAPS

- ☐ EPA says food is 12.5% of waste stream

- Only 3% is recovered (composted and hog fuel);
- 5.4M tons generated in Region 5 per year (est.)
- 141K tons recovered, 5.3M sent to landfill

- ☐ Restaurant waste can be 60-70%+ organics

- Some "foodie" towns find nearly 50% com'l is food

- ☐ GHG Impacts

- Landfills are one of the largest CH₄ emitters
- Aerobic vs. Anaerobic decomposition
- EPA estimates composting avoids .25 MTCE/Ton of food scraps (lower for yard trimmings and organics)

Gas	GWP
CO ₂	1
CH ₄	21
N ₂ O	310

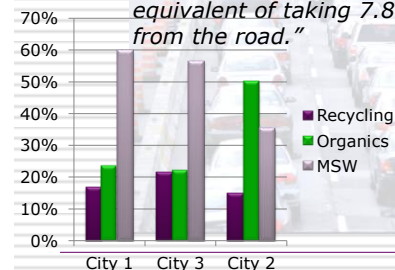
Source of statistics: Presentation by EPA / Chris Newman Region 5 and Skumatz / SERA



BACKGROUND ABOUT FOOD SCRAPS

"The US sent 25M tons of food waste to landfills in 2005. The GHG impact of composting this mass would be equal to the equivalent of taking 7.8M passenger cars from the road."

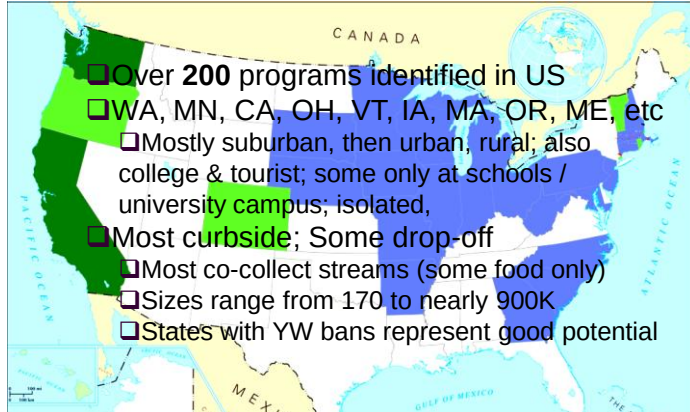
-US Composting Council



City stats from SERA Research



SURVEY OF EXISTING FOOD-WASTE PROGRAMS



TYPICAL FOOD PROGRAM ATTRIBUTES



- Commercial (if "typical" exists)
 - Only targets a portion of the businesses
 - Voluntary participation for an added fee
 - Rates are lower than MSW rates
 - Commonly 64-gallon poly carts
 - Options for collection at least 3x/week
 - Includes staff education and outreach (often by the hauler)
- Residential (varies for local conditions)
 - C/S or Drop-off
 - Most have food in YW, many include meat / dairy
 - 32-96 carts, some bags
 - Voluntary added fee most common (many embedded)
 - Weekly in most, EOW available
 - Majority have PAYT ("next steps")

Source: SERA



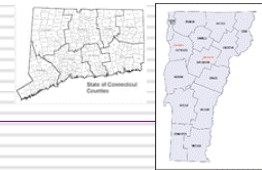
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WHAT'S HAPPENING LATELY IN REGULATIONS



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STATE MANDATES



- Connecticut mandate –
 - Commercial with caveats - Supermarkets, processors, distributors, conf ctrs >104 TPY organics must separate and send to composting facility if within 20 mi)
- Vermont: Phased in for all sectors (Act 148 passed 2012, impl 7/12)
 - Bans: 2015- recyclables; 2016- Yard debris; 2020- Food
 - Commercial Gen: Similar to CT (facility within 20 mi; 104TPY in 2014) halved each year; by 2020 all com'l, no mileage
 - Haulers: Residential PAYT & embedded recycling 2015, Yard waste separated 2015; food 2017

Source: SERA



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STATE ACTIONS



- California 2012 law (AB 341), objective to divert for recycling rates of 75% by 2020; requires 4CY+ of trash to have mandatory recycling by July
- Massachusetts potential legislation
 - Looking at commercial based on size (>1TPweek food; ~3K businesses affected) ; Landfill thresholds
 - Draft regulations this year; implementation summer 2014. Also promulgating new regs to make it easier to site AD; allowing exceptions for small scale YD facilities; funding some new AD
- New York... "Beyond Waste"

Source: SERA

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COMMERCIAL ACTIONS CITY / COUNTY



- New York City 12/30/13:
 - 100K TPY food; 10% city's res food
 - Bloomberg recently publicized move to residential food / composting plant
 - Covered: food mfg of 25K sq.ft.; food wholesaler 20K sq ft; chain retail of 3+ with 10K sq ft total; arenas, stadiums, food service chains (2+), any food 7K sq ft; food prep 6K; catering 100+ audience; hotels 100+ rooms; public events, +++
 - Commissioner evaluates (at least annually) capacity of facility and "competitiveness of organics" (waivers/appeal)
 - Businesses must contract for food to be composted; post sign & instructions; enforced by DoH (\$250, \$500, \$1K)

Source: SERA

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REGULATIONS – CITY/COUNTY



- Honolulu Mandatory Recycling 7/1/12
 - Glass at bars & restaurants; Paper/ news/ OCC at office+
 - Food recycling: Hotels, restaurants, grocery, food courts, food mfg/processors and hospitals (meeting size criteria). Collection service offered by hog /collectors for a fee.
 - Enforcement: At point of generation; annual compliance forms to businesses; 70% compliance for food. Inspections if forms not filled out, non-compliance, random. Law allows suspension if recycling more expensive than trash

□ Swift County, MN, updated 2011

Requires 3-sorts for all residential & comm'l: Recyclables, compostables, non-processibles.
Compostables include food, paper, milk cartons, diapers...
IF arrives at compost / recycling facility unsorted, generator can be charged 200% more for services and hauler can be charged double for the load.



Source: SERA

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CLASSES OF PROGRAM STRATEGIES

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PROGRAM LEVELS

Educational / Outreach / Informational

Hauler Programs

Less Aggressive Strategies

Most Aggressive Strategies

Other

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FOOD SCRAPS STRATEGIES - COMMERCIAL

- ☐ Social marketing
- ☐ Business Tech Assistance; decals / notice on websites
- ☐ Required tonnage reporting regulation
- ☐ Drop-off

Source: SERA

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FOOD SCRAPS STRATEGIES - COMMERCIAL

- ☐ Require offering FS service
- ☐ Organics in franchise / contract
- ☐ Offer "starter" rebates / grants
- ☐ Com'l programs targeted at food-rich locations

Source: SERA

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FOOD SCRAPS STRATEGIES - COMMERCIAL

- ☐ Public / private partnerships to overcome facility / siting
- ☐ Discounted or Embedded fees for generators
- ☐ Mandatory source separation of organics

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Source: SERA

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PROGRAM CATEGORIES

Program Class	Less aggressive strategies	Most aggressive strategies	Other
Example program: Residential	Requirement to offer organics service, private / public partnerships, drop-offs, voluntary service for added fee	Every-other-week MSW collection, embedded rates for all, disposal ban, mandatory source separation	Mixed-material MRF, compostable to-go container requirements, incentives / rebates for generators, alternative funding options
Example program: Commercial	Waste audits, starter grants for schools and/or businesses, rebates on bills, shared / coordinated services, requirement to offer service, targeted routes, private / public partnerships.	Embedded rates, mandatory for certain generators, mandatory source separation for all generators, disposal ban	Mixed-material MRF, on-site / in-vessel options

Source: SERA 2011

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PROGRAM CATEGORIES

Program Class	Education / outreach / informational	Hauler programs
Example program: Residential	Social marketing, classroom curriculum, cooperative campaigns, targeting market segments, focusing on food-soiled paper, in-sink garbage disposals	Hauler incentives, contract or franchise requirements, ordinances, tip fee surcharges, licensing fees, shared outreach and audits
Example program: Commercial	Targeted marketing for generators, staff education, signs, city / hauler partnerships for outreach, waste audits	Same as residential

Source: SERA 2011

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PROGRAM CASE STUDIES

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OPTIONS FROM CASE STUDIES – RESIDENTIAL

- ☐ Commonly with yard waste
- ☐ Variety in pricing (usually with YW)
 - Extra fee
 - Free for small; larger costs more
 - Fully embedded
- ☐ Materials
 - Best to include food-soiled paper
 - YW or not; meat/dairy or not

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CASE STUDIES – HAMILTON, MA



- ❑ Contracted hauler
 - 13 gallon, food only
 - EOW trash (35 gal) in taxes; extras in bags
- ❑ Weekly recycling & organics, embedded in trash rates
 - Private compost facility (windrows, considering AD)
 - LF \$72/ton; compost \$42/ton
- ❑ 50% participation (20% when voluntary); 13 lb/hh/wk; 70% capture from participants
- ❑ Started 2004/5 / driven by town's recycling committee
- ❑ Container costs \$29/hh; \$6-8/hh/mo (embedded)

Source: SERA



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CASE STUDIES – OLYMPIA, WA



- ❑ Muni collection
- ❑ Waste comp showed 23%+ of waste stream was food
- ❑ 20/35/65/95 trash available; 35/65/95 organics (meat & dairy included; co-collected with YW)
- ❑ Pay more for NOT recycling; organics NOT embedded
- ❑ Tip fees \$119/ton; \$34/ton compost; MRF costs \$75/t
- ❑ EOW for ALL services; food added 2008 and tons increased considerably
- ❑ 53% participation; 50%+ diversion

Source: SERA



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CASE STUDIES – WAYZATA, MN



- ❑ Contracted hauler
- ❑ PAYT, organics moved from 35 gal cart to kraft / compostable / bundles for yard waste;
- ❑ Food collected separately from YW; in bag in trash
- ❑ Trash & organics weekly; recycling EOW; option for EOW trash
- ❑ Recycling embedded; organics embedded but must "opt in" for container delivery (32g can, 60 bags, kitchen container, coupon for free bag of compost). 60% opted in. 12-17 lbs organics / wk. Extended YW available for \$78/season
- ❑ LF \$45/ton; compost \$15/ton; trash down 12%

Source: SERA



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CASE STUDIES – COMMERCIAL



- ❑ Variety
- ❑ Drop-off to mandates
- ❑ Sector wide or targeted
- ❑ Voluntary to Contracted hauler



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COMMERCIAL CASE STUDIES (RR May 2014 article)

- Boulder – 3 commercial incentives
 - 3 free months of service
 - \$2.50/CY organics service rebate (300 businesses use)
 - \$250 ZW rebate for container purchase
 - Programs funded through trash tax
 - Advise businesses
- Santa Barbara – Franchised hauler for collection
 - Composting rates at 50% of trash service fee
 - Free audits, technical assistance; city helps market
- Seattle – Franchised hauler
 - Embedded PAYT for recycling; food 30% less than trash
 - Businesses required to contract for service

Source: SERA

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COMMERCIAL CASE STUDIES

- Cambridge MA – carrot not stick
 - State mandate for commercial recycling;
 - Cambridge helped establish market for comm'l organics by working with a hauler to offer collection at a lower price than MSW – worked with anchor stores to improve density and economics (400 businesses now). Key was getting enough businesses for economics
- Olympia, WA – municipal collection
 - Commercial organics costs extra fee, 30-40% cheaper than MSW
 - City provides waste assessment, training, indoor containers, right-sizing; promotions / decals, etc.

Source: SERA

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COMMERCIAL CASE STUDIES – LOS ANGELES, CA

- FW recycling service for Restaurants & other food service establishments
- In one area, City provides incentive of 80% off program costs 1st year, 60% / 20% in later years
 - FW hauled to municipal composting facility
 - Includes meat, bones, paper, compostable containers
- Step toward becoming a City “Green Business”



Source: SERA

COMMERCIAL CASE STUDIES – OTTAWA



- ICI Yellow Bag service
 - Weekly garbage & bulky, EOW recycling; weekly YW/organics
- Eligible if pay property taxes, sign up, limited volumes (16 bags garbage or less every 2 weeks)
- Benefits touted: affordable, reduction, lowers cost, diversion, helps city, shows customers commitment
- Yellow bags costs \$3.55/bag; \$14.20 for 4.
- Embedded recycling, green service

Source: SERA

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COMMERCIAL CASE STUDIES – STOCKTON, CA

- Food scraps recycling required for hotel, restaurants, food courts, grocery, hospital, food mfg generating volumes
 - Glass required bars & restaurants; offices required paper, OCC
 - Provide “steps” on website (incl. audit, janitorial tips)
- Council set rates for green (food & yard) collection service by haulers: 90-gal \$24.71/mo + 11.24 each add’l. Billed by hauler (WM & Republic)
 - Trash costs \$93 for 1cy/wk; \$134 2CY, \$261 6CY; \$36 for 30 gal, \$47 for 90 gal.



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COMMERCIAL- ASPEN, CO - GRANT

- Grant-funded program; Pitkin purchased compost grinder for food & paper
 - Containers & training - City provides businesses (restaurant focus) with FREE 25-gallon slim containers for inside, and offer bi-lingual staff / worker training
 - Bear-proof 96-gallon containers provided out back (ltd number); Hauler collection. (Res also c/s)
 - Website highlights participating restaurants & haulers
- Materials: food (incl. meat & dairy), food-soiled paper (incl. waxed OCC), plants, flowers, etc.
- Rationale: save money (30-60% of waste stream), be a leader, get noticed.



Source: SERA



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COMMERCIAL CASE STUDIES – WESTERN LAKE SUPERIOR SANITARY DISTRICT, MN – D/O

- October 2006 mandate that businesses must separate food waste; affects 150 businesses
 - Duluth, MN; Food waste drop-off program
 - Shares agreement for organics site with Superior, WI; built 2001 with state grant
 - Tried curbside pilot but couldn’t renew – too spread out; no mandate; no price incentives; pilot got public, but not hauler, interest
- Drop-off – stakeholder meetings, “organics council” for business mandate;
- 7 sites; customer traffic; little contamination, sites not locked; compost sold locally at \$4.50/bag

Source: SERA



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COMMERCIAL CASE STUDIES – DUBUQUE

- GreenCart and Source Separated Organics – Fee based
 - Fee-based program - Res & Com'l & Institutional
 - Res: 5-gallon Kitchen Catcher & 13 gallon wheeler for \$1/mo, co-collected with YW weekly, <40 lbs (Apr-Nov)
- C&I: 48-gallon @\$15/mo, 64-gallon @\$20/mo
 - Materials: food (incl. meat & dairy), coffee filters, tea bags, food-soiled cups & paper (plates, towels, napkins, bags, pizza boxes). No plastic.
- Rationale: landfill life, pollution, recy goal, beneficial product; Yuck tips plus work to keep from freezing to container sides. Also tested sticker option.



Source: SERA



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BEST MANAGEMENT PRACTICES

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BEST MANAGEMENT PRACTICES – SET-UP

ASPECT	BMPS / ALTERNATIVES - RESIDENTIAL	COM'L
Start-up – getting interest	➤Summit with stakeholders / face-to-face, match needs, work on barriers ➤Alt: University incubators (access to grants, etc.)	➤Same
Pilot or not?	➤Especially in areas without many programs; address barriers, tweak processing, familiarize, build support, examine efficiencies; use random assignment or selected neighborhood, not opt in for transferability of results ➤Pilot not needed in all cases; Less need if facilities tested; use literature & neighbors; quicker implementation	➤Same

Source: SERA

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BEST MANAGEMENT PRACTICES – DESIGN

ASPECT	BMPS - Residential	Commercial
Eligible materials	➤Add food – AND soiled paper to yard waste program if possible – quick & cheap (paper~50%); "gateway" ➤ALT: Food scraps only is an option – consider 12 gal or smaller container at drop-offs.	➤Often pre-consumer first for lower container, education issues. Include soiled paper if possible. Compostable serving ware ONLY if processing can really handle ➤OR pre- and post- consumer for higher tons (but more contam.)
Coll'n Frequency – C/S	➤Weekly; some change to EOW during winter ➤Some EOW year-round in north – alternate with recy. ➤BEST: EOW trash, weekly organics ➤ALT: in-sink garbage disposal option	➤At least as often as trash ➤Weekly not sufficient unless small generators ➤ALT: in-sink disposal increasing
Coll'n Frequency – D/O	➤Varies – examples include every other day, daily, other	➤n/a

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Source: SERA

BEST MANAGEMENT PRACTICES – RATES

ASPECT	BMPS - Residential	Comm'l
Rates – Coll'n	➤BEST: small container embedded in trash (best use, economies); pay extra for additional service (often with yard waste) ➤ALT: fee for service PAYT-style ➤AVOID: fully embedded (esp. if collected with YW) because it discourages composting ➤AVOID: computing costs assuming end-product sales – plan for \$0 revenues to be safe	➤Usually added fee; typically 40% cheaper / discount ➤ALT: A few embed costs in trash ➤ALT: if no rate discount; 3 months fee, subsidy (adjusting trash)
Rates - Tipping	➤Organics lower than trash for incentive	➤Same

Source: SERA

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BEST MANAGEMENT PRACTICES – CONTAINERS

ASPECT	BMPS - Residential	Comm'l
Kitchen or in-building containers	➤Costly – sending to all residents expensive / not sending reduces use ➤Consider inexpensive plastic pitchers (2 if possible) – cheap, 1 can be in dishwasher at any time ➤ALT: coupons to redeem for container at local vendor (cheaper) ➤ALT: compostable bags/liners– allow but don't promote (Yuck factor)	➤Offer free or discounted containers to employees; typically 23-gal slims; larger too heavy. ➤KEY: signage and convenient placement ➤ALT: waxed cardboard for grocery (free!) ➤Some vented /slit for air
Outdoor containers	➤Generally no larger than 64 gallons for weight issues, wheeled, lidded (can offer multiples); 96 gal. can be ok if MOSTLY yardwaste ➤ALT: Compostable bags – allow but do not promote ➤ALT: Bags (paper with YW ok / clear plastic poor). Plastic bags contaminate, hard to remove	➤64 gallon cart (no larger) because weight ➤Multiple 64s ok ➤Wash carts / yuck ➤ALT: Compactors (10 CY) in some communities; some dehydrators reported ➤ALT: in-sink, in-ground

Source: SERA

BEST MANAGEMENT PRACTICES–EDUCATION PLUS

ASPECT	BMPS - Residential	Comm'l
Education	➤Consistent, clear, quarterly for new ➤Define food scraps clearly! ➤Electronic, social marketing helps	➤KEY: On-site training (hauler or city); multi-lingual signs, flyers
Yuck Factor	➤Educate / remind not new materials – just different container ➤Suggest layering materials, freeze, or wrap "yukky" items ➤Free compostable bags, pictures of clean organics streams help	➤In addition to residential suggestions... ➤Washing containers (1-2/yr; some every time) ➤Lining with compostable bags, cardboard, paper towels ➤Empty before full ➤Vented or slit containers for air
Vermin fears	➤Educate / remind not new materials – just different container	

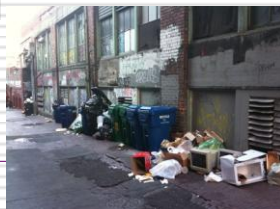
Source: SERA

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SURVEY – BARRIERS?

- ☐ Political will
- ☐ Facility issues
- ☐ Costs
- ☐ Contamination
- ☐ Yuck factor, pests and vectors



Source: SERA

BARRIERS? – POLITICAL WILL & COST

- ☐ Political Will
 - Approach on jobs, goals, business – what THEY care about
 - Waste characterizations helpful to “make case”
 - A few motivated individuals can be effective



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OTHER BARRIERS?

- Certification:
 - Uncertainty is killer / chicken and egg / national issue; Either NOT classified / undefined (not sure process), OR classified as MSW (and stringent application process)
- Contamination
 - Bags in stream (bio and plastic); local decision
 - Education, staff training, have seen bans of bags / others it is fine
- Yuck & pests
 - BMPs suggestions; more perception
 - Just a change in containers(!); education, persistent message, clarify meat/dairy helps (freeze, layers, paper towels, boxes, etc.)
 - People do NOT put all their food scraps in can (pilots/sorts)

Source: SERA



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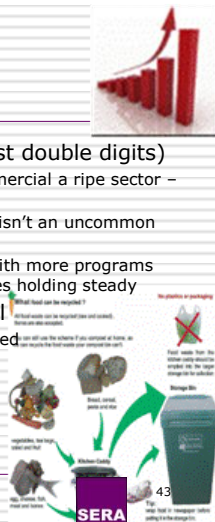
FINDINGS / SUMMARY



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SUMMARY

- ❑ Food a significant stream (one of last double digits)
 - Big proportion of res & commercial; Commercial a ripe sector – 60%+ in some sectors
 - Growing trend: “grown 20% in last year” isn’t an uncommon response;
 - Issues about capacity shortfalls abound with more programs (esp. metropolitan areas); but facility rates holding steady
- ❑ Variety of options, res & commercial
 - Voluntary, mandatory, widespread, targeted
- ❑ Variety of programs & BMPs
 - Test well – can’t be “turned off”
 - Doesn’t have to be expensive
 - Many examples
 - Move beyond Recycling... potential!



THANK YOU!

Questions?

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Happy to help with ordinance / legislation design, best Practices, food program design (res & com'l) and measuring potential (impacts, costs, optimized program).

Thanks for filling out surveys; more food reports & info at www.foodscrapsrecovery.com

