

FOOD SCRAPS AND ORGANICS

Positive Downstream Transformations and Job Creation

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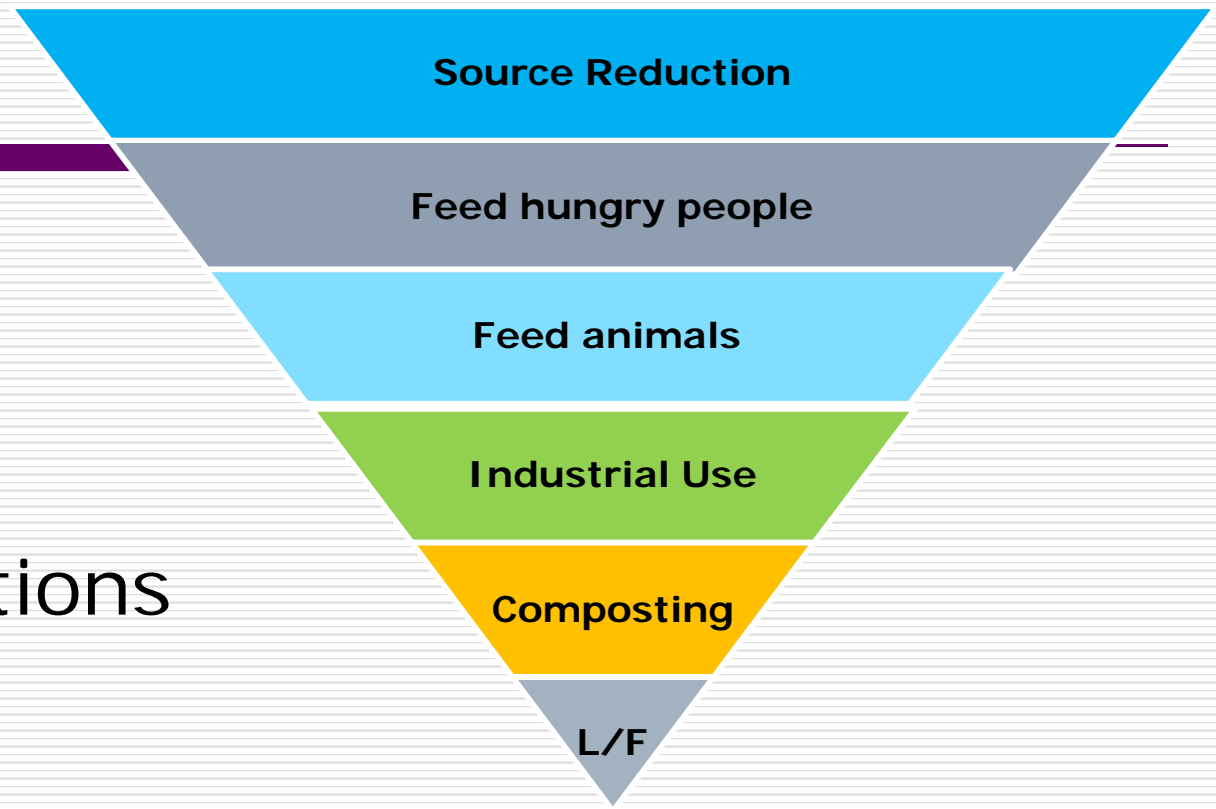


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TOPICS

- Background
- Programs
- Job Impacts
- Recommendations
- Takeaways



"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

PROJECT GOALS



- ID problems associated with landfilling organics / food scraps (FS).
- Examine solutions related to sustainable food industry.
- Examine influence of expanded FS recovery and composting programs on:
 - Improving viability of commercial composting ventures in Illinois;
 - Illinois-based food production
 - Jobs and Revenues in local Illinois food economy
- Sponsor: Seven Generations Ahead

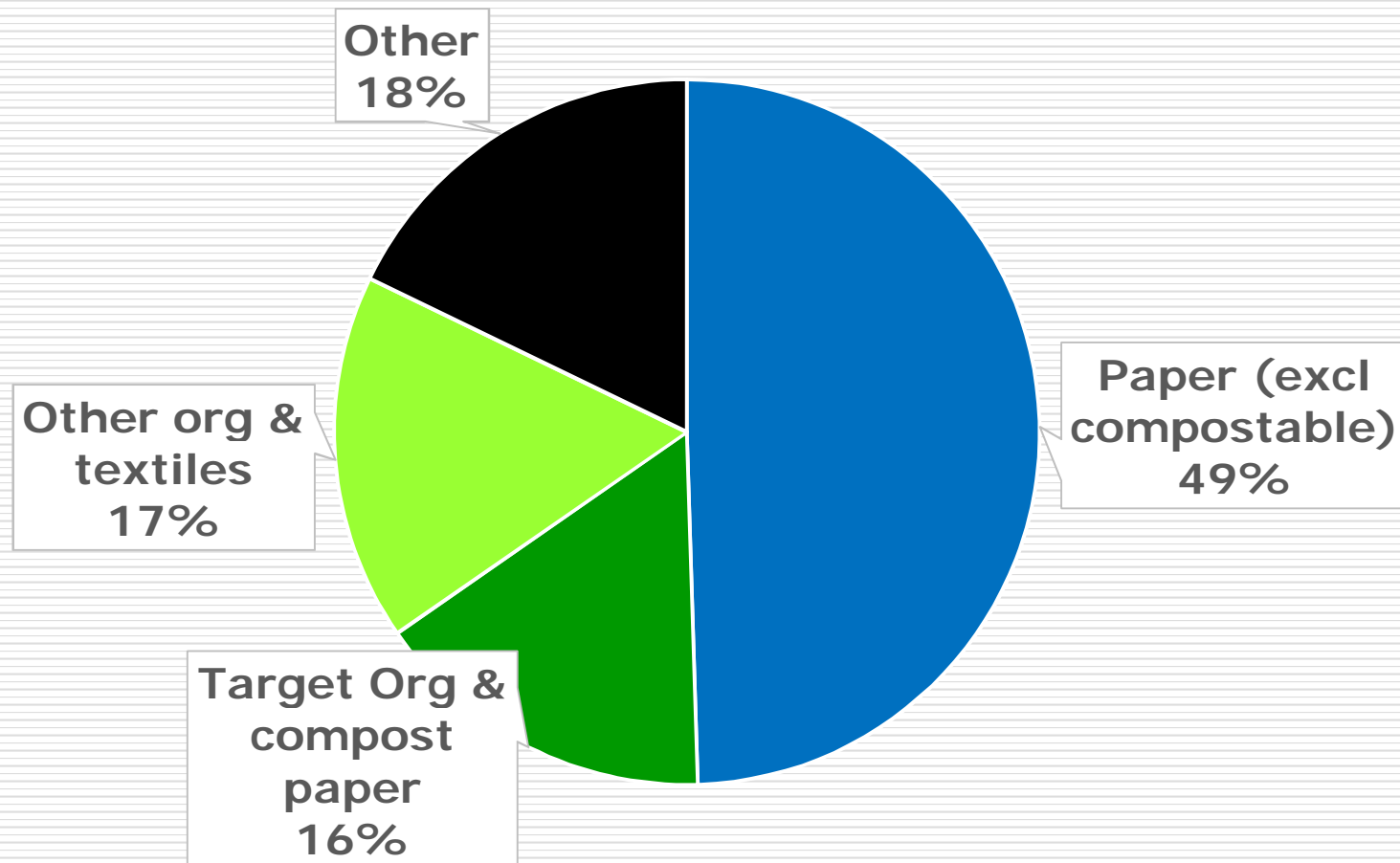
PROJECT STEPS

- Data on FS / compostables in Residential and Com'l disposal in IL
- National lit review, interviews to ID successful state & community FS / organics programs
- IL status quo on FS / organics management (baseline case)
- Develop programmatic options for recovering FSC (impact cases)

% Orgs in...	Res	Com'l	Total	% that is food
Generation	23%	13%	17.5%	64%
Diversion	22%	10%	16%	6%
Landfilled	29%	21%	25%	73%

GHG SOURCES IN IL LANDFILLS

% GHG in IL LF Materials



PROGRAMS

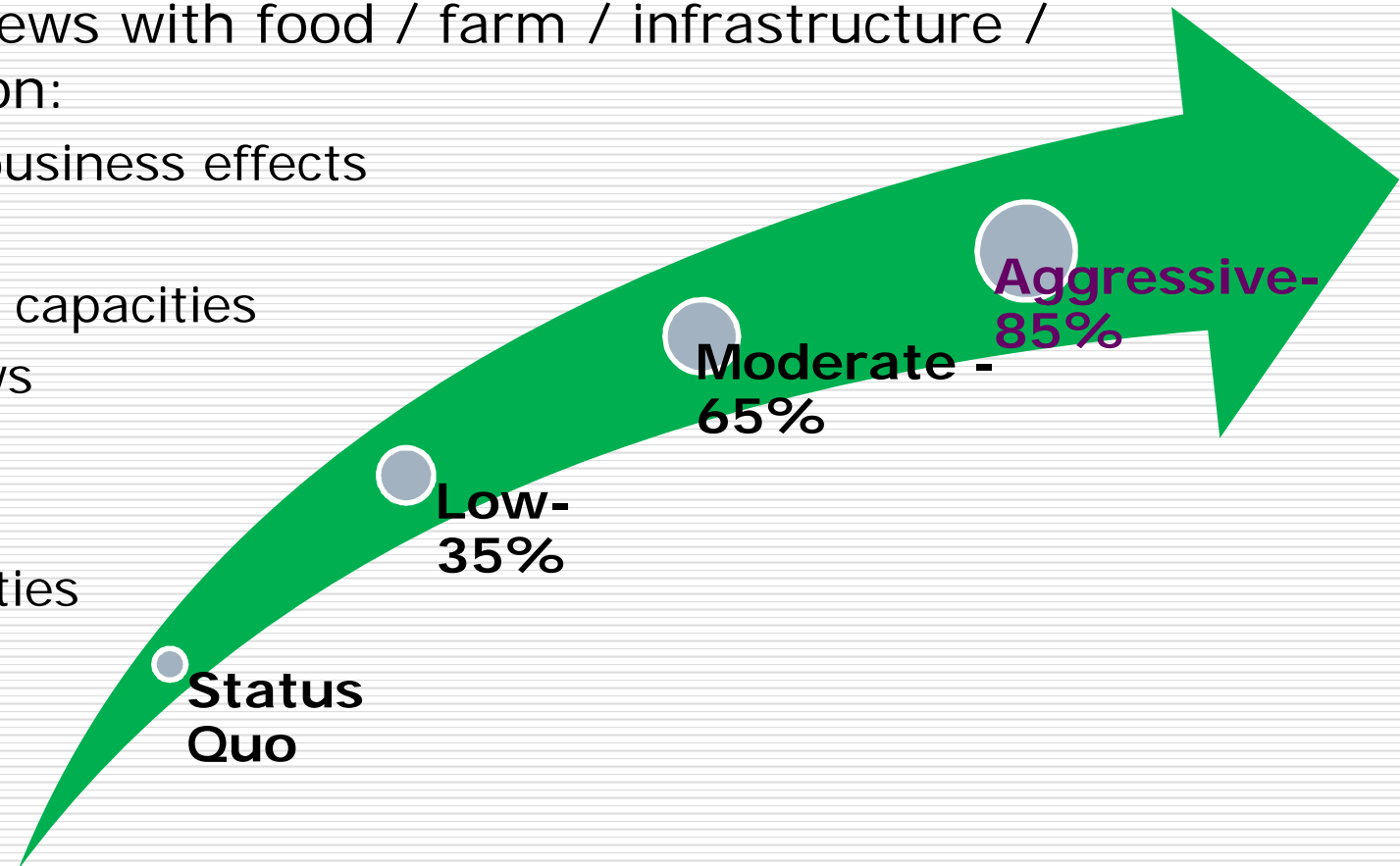


- “Piggy back” on existing YW LF Ban
- Tip fee incentives
- Residential-PAYT, Frequency
- Grants
- Urban gardens / BYC and education/ Multi-level
- Donation regulations
- Diversion goal
- Commercial PAYT / organics
- Organics requirements by business type
- Generator database
- Tracking / measurement
- Metric Percent Recoverables Remaining (PRR)

EXPLORING SCENARIO OPTIONS

□ Detailed interviews with food / farm / infrastructure / market actors on:











- Market and business effects
- Composting
- Facilities and capacities
- Tonnage flows
- Costs
- Other effects
- Pgm suitabilities



Increases in currently available organics stock recovered / processed, based on low, moderate, & aggressive coll'n program & policy portfolios

SCENARIO MAPPING

Programs Additions for each Scenario Package

Program Recommendation	35%	65%	85%
Statewide Organics Diversion Goal			
Generator Database / Materials Exchange			
Education / Urban Garden/ Backyard Composting			
Donation Regulations or Farm Tax Incentives			
Tip Fee Incentives			
Residential PAYT with Embedded Organics			
Commercial PAYT with Embedded Organics			
Organics Requirement by Business Type			
Phased in Statewide Organics Ban			
Statewide Organics Ban w/ Measurement/ Enforcement			

7 *SCENARIOS*

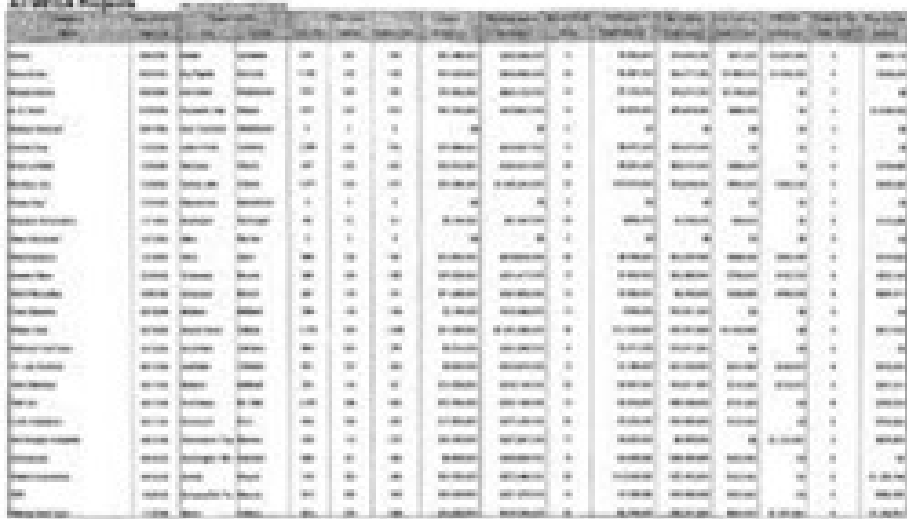
- 3 recovery levels (35%, 65%, 85%)
- X 2 options based on different end use application of the compost:
 - Agricultural uses
 - Non-ag (highway remediation, etc.) uses
 - Plus: Aggressive option also included 50/50 split in end use (hwy in winter; ag in planting / growing seasons)

INPUT-OUTPUT MODELING IMPACTS ON IL ECONOMY

- Literature review & local / national interviews
- Able to tweak inputs and conditions incl:
 - Amount of FS collected / processed
 - Intended end-use of compost
- Modeled base case / test cases
- Modeled effects of reduced fertilizer demand
 - Economic changes; Political influence
 - Positive because spreading jobs > spraying; trade deficit, soil health, multistate action plan re excess soil nutrients

INPUT-OUTPUT MODELING IMPACTS ON IL ECONOMY

- Modeling Complications: Compost, collection & processing not NAICS sector
 - fragments in waste remed / chemical fertilizer mixing.
- Estimate economic impacts of policies aimed at bolstering organics collection & processing



The image shows a screenshot of a data table, likely from an input-output model. The table has many columns and rows, with text that is mostly illegible due to blurring. It appears to be a detailed economic model output, possibly showing flows between different sectors or regions.

IL INDUSTRIES AFFECTED



- Sustainable food production (1)
- Composting (8)
- Ag/forestry (19)
- Transp maint & repair (64)
- Refineries (156)
- Paving (157)
- Wholesale trade (395)
- Colleges/univ (473)
- MD, Hosp (475/482)
- Restaurants (501/502)
- Retail
 - Bldg mat/garden(399)
 - Food/bev (400)
 - Genl merch(405)
 - Misc stores (406)
- Truck Transpo (411)
- Monetary / credit & financial invest (433/436)
- Insurance (437)
- Real estate (440)
- Own.Occ dwell (441)
- A&E service (449)

MODEL RESULTS

NET Effect by Organics COMPOSTING Scenario

Scenario	Employment	Labor Income (\$millions)	Total Value Added (\$millions)	Output (\$millions)	State and Local Tax (\$millions)
35%Ag	1,599	\$85.0	\$114.3	\$152.2	\$2.9
35%Hwy	1,715	\$81.5	\$119.4	\$156.3	\$5.6
65%Ag	2,970	\$158.0	\$212.3	\$282.6	\$5.5
65%Hwy	3,185	\$151.4	\$221.8	\$290.2	\$10.4
85%Ag	3,884	\$206.6	\$277.6	\$369.6	\$7.2
85%Hwy	4,165	\$198.0	\$290.0	\$379.5	\$13.6
85%Ag / Hwy	4,024	\$202.2	\$283.87	\$374.5	\$10.4

BARRIERS & POLICY SOLUTIONS



- Complex compost facility processing – time consuming & expensive
 - Standardize food scrap processing technique for expedited permitting
 - Minimize regulatory constraints for on-farm composted materials & urban FS collection & processing facilities
 - Encourage local zoning to allow compost facilities as normal ag or com'l operation

BARRIERS & POLICY SOLUTIONS



- Low current demand for compost – especially for ag uses
 - Pursue grants for cost-sharing; cooperative purchasing, targeted demos
 - Market development case studies including partnerships, food hubs vs. mono-cropping, other
 - Use DOT / non-ag compost applications during low farm demand
 - Create financial incentives for ag use relative to other fertilizers
 - Develop in-depth data tracking / reporting initiative for industry at state level

STRONG RESULTS & MULTIPLIERS

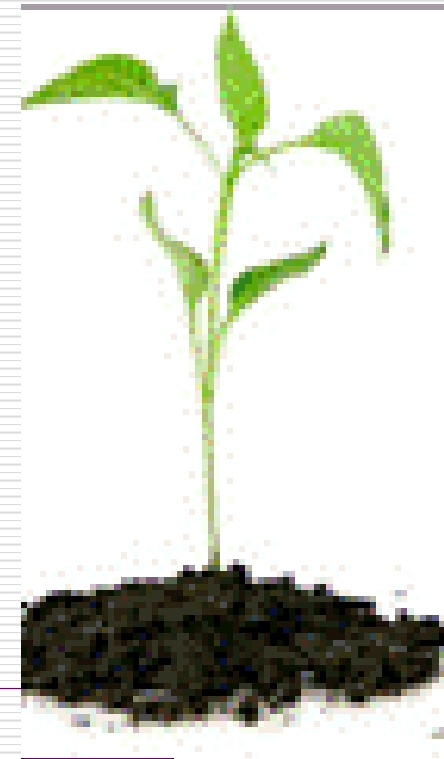


- Composting in Illinois...
 - Employs more than existing landfilling per-ton (5x)
 - Generates more tax revenue (\$2.5-5/ton)
 - Creates businesses & jobs (1biz & 18 empl/12K tons)
 - Higher economic multiplier than LF (2.1 v.1.1)
- Because transporting compost long distance is expensive, two new industries emerging:
 - Urban food scraps processors
 - Rural compost spreaders
 - Opportunities for in-state mfg, locally sustained jobs, higher revenues that remain in-state

OTHER POSITIVE EFFECTS



- GHG reduction
- CO2 reduction from soil
- Soil conservation / fertility / disease control
- Groundwater quality / runoff mitigation
- Decreased fertilizer usage
- Increased soil productivity
- Brownfield improvement



CONCLUSIONS

- Job creation, economic growth, favorable multipliers statewide
 - Additional co-benefits
- Full circle
- Key barriers that need addressing
 - Permitting
 - Compost demand
- Additional evidence / case for diversion

QUESTIONS? THANK YOU!



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Thanks for filling out surveys that help support analyses like these!

National: www.garbageandrecyclingsurveys.com

VERMONT 5-YEAR PLAN

Figure 5.1: Vermont Legislation Five Year Plan

<p>Year 1:</p> <ul style="list-style-type: none">• Transfer stations and drop-offs must accept recyclables at no fee• Food scrap generators of 104 TPY must divert material to any certified facility within 20 miles <p>Year 2:</p> <ul style="list-style-type: none">• PAYT statewide (volume or weight)• Recyclables banned from landfill• Transfer stations/drop-offs must accept leaf and yard debris• Haulers must offer residential recycling at no extra charge (embedded)• Public buildings must provide recycling containers adjacent to solid waste containers (except restrooms)• Food scrap generators of 52 TPY must divert material to any certified facility within 20 miles.	<p>Year 3:</p> <ul style="list-style-type: none">• Leaf, yard and clean wood waste banned from landfill• Haulers must offer leaf and yard debris collection• Food scrap generator threshold at 26 TPY. <p>Year 4:</p> <ul style="list-style-type: none">• Transfer stations and drop-offs must accept food scraps• Haulers must offer food scrap collection• Food scrap generator threshold to 18 TPY <p>Year 5:</p> <ul style="list-style-type: none">• Food scraps banned from landfill.
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Note legislation requires all transfer stations in state to accept recyclables from residents for free but may charge for commercial recyclables (including from haulers), and implement other requirements, even though there is a mix of both public and private transfer stations.