It takes a village…

to manage organics.
Or,

How Troy Compost came to be.

Abby Lublin, MCR/Community Organizer
Chair, Citizens Working Group on Composting
Prepared for CSC Webinar – Climate Smart Waste Management
May 9, 2013
About Troy, NY

• Population of 50,000+
• One of three cities that form the Capital Region
• Includes three colleges/universities and two hospitals
• In 19th C. was the second largest producer of iron
• Was at the forefront of manufacturing (iron, steel, textiles), women’s education, engineering, social justice (first women’s labor union, Underground Railroad), and brothels.
• Largest employers: RPI and NYS
• Steady decline with evidence of dilapidation and disinvestment since peak in early 20th C.
NYS Solid Waste Content

- Organics: 25%
- Paper: 29%
- Glass: 3%
- Plastics: 14%
- Metals: 5%
- Other: 13%
- Textiles: 6%
- Wood: 4%

Source: DEC: Beyond Waste, 2010
Troy’s Solid Waste

- Composted/Mulch: 0.4%
- Recycled: 6.3%
- Landfilled: 93.3%

Note: This is household waste. C&D and industrial recycling brings recycling rate closer to 20%
## The City of Troy's MSW Stream: Content, Diversion, and Cost

<table>
<thead>
<tr>
<th>Recyclable</th>
<th>Content of Average NYS Waste Stream</th>
<th>NYS Average Diversion Rate</th>
<th>Troy Recovery (end use by %)</th>
<th>Est. total quantity in Troy's waste stream (tons per year)</th>
<th>Potential Savings: diversion ($60/ton) *tipping fees only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>55%</td>
<td>24%</td>
<td><strong>6.3%</strong> (residential) <strong>15-20%</strong> (overall w/C&amp;D)</td>
<td>10,455</td>
<td>$555,321</td>
</tr>
<tr>
<td>Compostable</td>
<td>27%</td>
<td>N/A</td>
<td>0.4% (yard waste)</td>
<td>5,133</td>
<td>$303,457</td>
</tr>
<tr>
<td>Other (Landfill/Combustion)</td>
<td>18%</td>
<td>76%</td>
<td><strong>93%</strong></td>
<td>3,421</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Sources:
- Gerard J. Wagner (Division of Materials Management, NYS-DEC) email to Abby Lublin based on 2010 Annual Reports, January 2012.
Troy’s Advantages

- Distinctive architecture and central downtown with local businesses
- Urban density at livable, affordable scale
- Expansive, accessible waterfront; river and canal access
- Brownfield-designated areas ripe for remediation and repurpose
- Proximity to farmland
- Popularity of gardening and urban agriculture
- Large presence of artists and other creative class residents
- Balance of “old” and “new” residents (college town)
- Grit and relentless hustle: nothing to lose!
Once, there was a bright, eager RPI student who chaired the Student Sustainability Taskforce on campus.

Frustrated by administrative obstacles, Anasha reached out beyond the campus walls to engage with larger community, specifically Transition Troy*.

*Transition Troy is a collaboration of residents building community resilience in the face of peak oil, climate change and economic crisis.
Meanwhile…

Composting was afoot in small pockets throughout Troy:

- in *backyards*

- at various *gardens* including those owned and managed by Capital District Community Gardens, such as the Produce Project - a youth-powered farm

- vermicomposting in *kitchens* and *classrooms*

- in *research labs* at RPI where students and faculty develop sustainable technologies
Together, organized a conference at RPI in October 2011 called:

Large-Scale, Food-Grade Composting in Troy:
a conference on channeling Troy's food waste toward local food production

Jackie Baldwin, RPI’s Executive Chef
And a funny thing happened…

80 People attended. Mostly from Troy. (Or, .16% of Troy’s population)

Including…

Every candidate from all parties running for City Council or Mayor.
City Code

Chapter 234. RECYCLING

§ 234-8. Citizens advisory board. At the discretion of the Mayor, an advisory board shall be appointed to review and work with the City administration on current and future recycling issues and programs.

Said advisory board members shall be appointed by, and serve at the pleasure of, the Mayor and shall receive no financial compensation for their work. Advisory board members shall be residents of the City and shall not hold public office within the City administration. The advisory board shall consist of a minimum of five and a maximum of nine members. The advisory board shall have a Chair who shall preside at all meetings. Meetings of the advisory board shall be scheduled by the Chair in conjunction with the Mayor or his/her designated representative.
…worked together to draft a resolution for the formation of the CWG-C.

In March, 2012 the resolution is discussed and passed through the Council’s Technology and Sustainability Committee, chaired by

The T&S Committee passed the CWG-C resolution and placed it on the agenda for approval at the full City Council meeting in April.
Resolution Passed!

- Council unanimously established a “Citizens Working Group on Composting”

- Applicants interviewed and selected. Three women, two men. Three decades represented.

- Began meeting immediately.
CWG-C’s Task

The CWG-C had six months to write a report that:

• Summarized Troy’s **current state** of organic materials management

• Presented **benefits** to municipal-scale composting and increased recycling, including potential financial savings

• Outlined **available technologies** and **best practices** for municipal-scale composting

• Identified **funding opportunities** for investment and infrastructure

• Made **recommendations** for next steps and longer term goals for a municipal system
Current System - Problems

• **Inversion of economic incentives**: Residents pay to recycle (added fee), while unaware of disposal costs.

• **Low participation**. At 10-18% of solid waste stream, Troy’s recycling rate is one of the lowest in the region, and well-below average for NYS.

• **Widespread confusion** as to what and how to recycle. Single stream began Oct. 2010; slight increase in participation.

• **Lost financial savings**. Troy saves $15,000 for every 1% increase in the recycling rate.

(Based on 2008 MSW Recycling #s. Before Troy’s single-stream system.)

Source: NYSDEC. *Beyond Waste*. 2010
One Size Does **Not** Fit All

**Diverse population**
- age, living arrangements
- urban, rural
- ownership, length of residency

**Range of Participation**
- different waste volume and needs: institutions, residences, businesses

**Centralized and De-centralized System**
- system design: not reliant on one system or company for organics management = more resilience
Recommendations

See full report: http://troycompost.wikispaces.com

- Amendments to City Code
- Education and Enforcement
- Recycling Coordination
- Building a Facility or Partnering with Farms
- Neighborhood-Scale Composting
- Funding Opportunities
- Citywide Collection
Post-Report Organizing

CWG-C submitted report and gave presentation in Jan. 2013

• CWG-C folded into larger Troy Compost

• Each recommendation area (7) = a committee

• Committees meet, report to larger
Accomplishments

• Tabling at events, increasing volunteer base
• Presentations in classrooms
• Weekly collection of food scraps at Farmers Market
• Distribution of city’s blue bins with updated “how to” guides
• Tour of Recycling Facility at Port of Albany
• Consultations for backyard composting
• CDCG as partner: open hours for food scrap collection
• Compost is part of planning, neighborhood, etc. conversations
• DPW = willing partner to collect data
• Interest in MCR training
• Community groups w/land establishing piles for neighborhood systems
Mary Alice collects survey information from Troy residents and shares updated recycling information before distributing a blue bin.

Marie shares information about food scrap collection at two CDCG gardens in South Troy.
Next?

• Facility committee to do more site visits, create business plan/RFP for city LDC
• In meantime, partner w/farms & yard waste facilities
• Expand Troy’s yard waste facility (permitting)
• Incentivize participation for businesses (right-sizing and collective bins, renegotiated hauling contracts, BID as facilitator)
• Train neighborhood leaders for maintaining shared bins
• Bin sale for residents
• Trainings for food service at institutions
• Branding recycling/composting as sexy and cool!
• Continue to build on this civic engagement!
Contact Information

CWG-C Site and Report
http://troycompost.wikispaces.com
requires a wikispaces account and permission

Troy Compost
troycompost@gmail.com

Abby Lublin
abblub@gmail.com
The City of Watervliet

Watervliet Organic Waste Program

WOW
Introduction: The City of Watervliet

- Population of 10,254 Residents
- 2,448 Residential Sites
- 370 Commercial Sites
- 1350 Pupil School District

DRIVING RECYCLABLES UP/WASTE DOWN
Introduction: The City of Watervliet

- Adopted US Conf of Mayors/NYS DEC Climate Smart Pledge
- US EPA Green Power Partner
- Completed Climate Action Plan and GHG Inventory for municipal operations
- Renewables: (3) Solar Projects = 100 kW; growing to 6.25 MW hydroelectric
- Established Watervliet Sustainability Working Group as part of Local Development Corp.
WOW Pilot Program

- Made possible by grant from Horizon Milling/Cargill Corporation
- On January 27, 2012 a 6-month Pilot Program was launched
- Participating residents were given materials to participate in the program
  - Outside Bin
  - Inside Bin (Kitchen Catcher)
  - Compostable Liners
  - Rules - Only Organic Waste (Essentially Food Waste)
  - Schedule - Pickup bi-weekly on Friday
The WOW Kit – Easy as 1-2-3-4

1. Put compostable bag in inside bin
2. Fill bag with organic waste
3. Remove bag, tie and place in outside bin
4. Outside bin collected bi-weekly
WOW Program - Process

- Organic waste was collected bi-weekly and weighed – tracked number of bags, bag weight, total weight.
- Brought to Albany County Sewer District’s Anaerobic Digester
  - Partnership with Albany County Sewer District, Spectrum Bio-Energy and NYSERDA.
- Collected 6,730 lbs of organic waste during the 6-month period
Goal: Demonstrate the effectiveness of using AD systems for wastewater bio solids, food waste, and fats, oils and grease (FOG) management to produce biogas

<table>
<thead>
<tr>
<th>Type of Waste (lbs/day)</th>
<th>Biogas</th>
<th>Digestate</th>
<th>Percent solids</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Load Date</strong></td>
<td><strong>Sludge</strong></td>
<td><strong>Food</strong></td>
<td><strong>Bakery</strong></td>
</tr>
<tr>
<td>2/27–3/2</td>
<td>498</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3/5–3/9</td>
<td>373</td>
<td>62</td>
<td>66</td>
</tr>
<tr>
<td>3/12–3/16</td>
<td>381</td>
<td>0</td>
<td>124</td>
</tr>
<tr>
<td>3/19–3/23</td>
<td>375</td>
<td>122</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>CH₄ generation (m³/yr)</th>
<th>Electricity (kWh/yr)</th>
<th>Homes powered</th>
<th>Homes heated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sludge</td>
<td>8,420</td>
<td>16,618</td>
<td>1.48</td>
<td>1.65</td>
</tr>
<tr>
<td>Sludge + Food/Bakery</td>
<td>14,107</td>
<td>28,094</td>
<td>2.50</td>
<td>2.79</td>
</tr>
<tr>
<td>Sludge + Bakery</td>
<td>20,495</td>
<td>40,340</td>
<td>3.59</td>
<td>4.01</td>
</tr>
<tr>
<td>Sludge + Food</td>
<td>11,618</td>
<td>23,051</td>
<td>2.05</td>
<td>2.29</td>
</tr>
</tbody>
</table>

Duration of operation is 52 weeks per year. Electricity was calculated assuming a 35% generator efficiency.
**WOW Program: Actual vs. Potential**

**WOW - (bi-weekly pick up)**

Pilot program 10 week results - 51 participants  
City Wide Participation projected at 75%  
Per ton tipping fee $51

<table>
<thead>
<tr>
<th>Pilot participants for 10 wks</th>
<th>Total Lbs.</th>
<th>Average Wkly Lbs. Collected</th>
<th>Average Wkly Lbs per household</th>
<th>Projected Total Tons</th>
<th>Projected Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>5765</td>
<td>113.04</td>
<td>11.30</td>
<td>2.88</td>
<td>$147.01</td>
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</table>

<table>
<thead>
<tr>
<th>Pilot participants for remainder of yr (16 wks) *</th>
<th>Total Lbs.</th>
<th>Average Wkly Lbs. Collected</th>
<th>Average Wkly Lbs per household</th>
<th>Projected Total Tons</th>
<th>Projected Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>9224</td>
<td>180.86</td>
<td>11.30</td>
<td>4.61</td>
<td>$235.21</td>
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</table>

<table>
<thead>
<tr>
<th>City Wide Participation **</th>
<th>Total Lbs.</th>
<th>Average Wkly Lbs. Collected</th>
<th>Average Wkly Lbs per household</th>
<th>Projected Total Tons</th>
<th>Projected Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>3750</td>
<td>1,102,132</td>
<td>293.90</td>
<td>11.30</td>
<td>551.07</td>
<td>$28,104.38</td>
</tr>
</tbody>
</table>

**actual figures**  
* projected figures for the remainder of the year  
**Household projections based on 5000 units in the City
MAIN ISSUE: Warm Weather Caused Accelerated “Reaction” at residence

Design, Size and Location of Compost Site

Getting Waste Out of Compostable Bags to Facilitate Compost/Digestion

Residents Using Plastic Bags as Liner vs. Compostable Bags

Attractiveness of Outside Bins leads to Bins Being Stolen
WOW Program: Going Forward

1. Roll out City wide, 75% of Watervliet Residents Participation
   o Recruit 50 residents per quarter

2. Reduce Community GHG Inventory

3. Reduce Tipping Fees/Increase Landfill Life
   o 75% participation = $30+ K/yr in tipping fees

4. Anaerobic Digestion
   o Working with partners to develop/build system
   o Generate NG for heat and/or power City vehicles

5. Engage businesses and Watervliet City School District

6. Work/Share with Other Communities
Current Disposal: Compost

Residential Separation

Municipal Pick Up

Yield Compost

Mix With Other Organics
Future Disposal: Anaerobic Digestion
WOW Program: In The News

Watervliet starts organic waste program

Watervliet — With a unique organic waste program currently in a trial stage, the city of Watervliet is expecting to decrease the amount of solid garbage sent to the landfill which will help curb the environmental and city costs.

The program, nicknamed WOW (Waste Optimized Waste), is for residents. About 35 participating residents, mostly city employees, are participating in the service. The city would like to include a total of 50 households in the trial program to work and not any services in the way before rolling it out to the residents.

Mayor Mike Manning said the program is working well and has already reduced the amount of garbage going into the landfill. About 25 percent of the city's annual garbage costs, or $100,000, is expected to be saved.

The program, Manning said, will continue to expand. The program started with an initial price of $35 per household and expanded to $40 per household for the next few weeks.

The program, Manning said, is a great way to help the environment and reduce waste. The city is exploring ways to expand the program to other residents.

WOW — The program is expected to continue for the next few weeks and to be expanded to other residents.

Watervliet to implement WOW city-wide

Watervliet — The mayor of Watervliet is considering expanding the WOW program city-wide to include all residents. The program, which started in a trial stage, has already reduced the amount of garbage going into the landfill.

Mayor Mike Manning said the program is working well and has already reduced the amount of garbage going into the landfill. About 25 percent of the city's annual garbage costs, or $100,000, is expected to be saved.

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WOW — The program is expected to continue for the next few weeks and to be expanded to other residents.
WOW Program: Global Recognition

- Delegates from Kosovo and India took informational tours
- Both delegations were impressed with hopes to bring some form of the WOW program back to their countries
Thank You
Questions?
Climate Smart Communities
Webinar

E-Mail Addresses

• Mark Lowery
  mdlowery@gw.dec.state.ny.us
• Kim Farrow
  kxfarrow@gw.dec.state.ny.us
• Climate Change Office
  climatechange@gw.dec.state.ny.us
Climate Smart Communities Webinar

Website Address

http://www.dec.ny.gov/energy/50845.html