

## Changing the Way New Mexico Values Trash



Green Waste Solutions

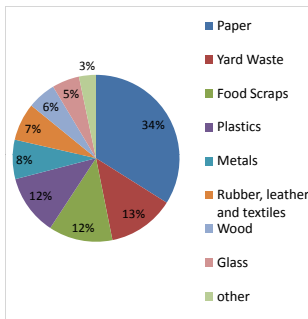
1

## Questions

- How do you cover the cost of waste?
  - Flat Tax (all households pay the same)
  - Tax (each house is assessed by the value of the home)
  - Flat Fee
- Is the current cost of waste covered 100% or is there a shortfall in the budget?
- Do you currently have curbside or are you thinking of starting curbside?
- Do you currently use
  - bags with manual collection
  - wheeled carts with semi automated collection
- Are you interested in
  - A municipal program
  - Hauler program [contracted by municipality]
  - Hauler program [contracted by resident]

2

## New Mexico Waste Characterization



- 1,644,798 tons landfilled (2010)
- About 1/2 the material buried in landfills comes from packaging
- Most packaging is easily recyclable
- 49% of waste in New Mexico landfills comes from home
- New Mexico waste disposal cost based on an average tip cost of \$31.29 \$51,500,000 (2010)

Based on USEPA Franklin Associates 2009 metrics

3

## Recycling creates jobs



- Recycling creates **JOBS**: Recycling is a 240 Billion Dollar Industry in the US (waste industry is about 50 billion)
- NC recycling study shows that for every 100 jobs created in recycling only 13 are lost in waste management
- State of SC recycling industry sector has been growing over 12% per year for the last 5 years. All other industry sectors have been down or flat during the same period

4

## Commodities have environmental and economic value



\$27.73/ton to 113.17/ton

Recycling paper saves 40% energy



\$1,180/ton loose mixed

Recycling aluminum saves 85% energy



\$340/ton to 560/ton loose mixed

Recycling plastic saves 70% energy

New Mexico buried \$283 million in commodity materials (2010)

5

## Reducing waste reduces GHG emissions

Approximately 1/3 of green house gasses come from the waste lifecycle



Energy



Transportation

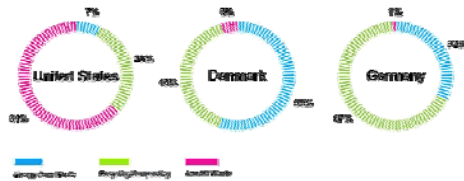


Solid Waste

Global Warming & Garbage???

## The United States compared to Europe

### What a Contrast!



7

## WHAT IS PAYT?

8

## PAYT is S-M-A-R-T

- Save
- Money
- And
- Reduce
- Trash



PAYT is long-proven to be the most cost effective, environmentally sustainable MSW program that EPA can promote. While other initiatives may have positive benefits, PAYT is the single best way to prevent waste and reduce green house gases while generating an equitable revenue stream for MSW departments."

SOURCE Office of Solid Waste US EPA 2008

9

## Do You Have A S-M-A-R-T Waste Reduction Program?

- Utility
- Unit Based Pricing (UBP)
- Equitable
- "Financially incentivizes people to make the right choice" *Jared Bloomenfeld, Director of Environment San Francisco Fortune Magazine 2/10/07*

## HOW DO WE KNOW PAYT WORKS?

11

## Important to compare Apples to Apples

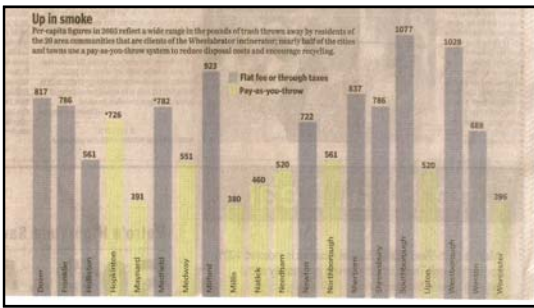
- Mattapoisette MA 53% recycling rate
  - Large yards – yard debris from landscapers included as residential recycling
- North Attleboro MA 35%
  - Small yards yard debris from landscapers included under commercial recycling



Formula for per capita  
 Total residential tonnage [only]  
 / Total residents associated with its production

12

### Up in smoke Boston Globe 2007



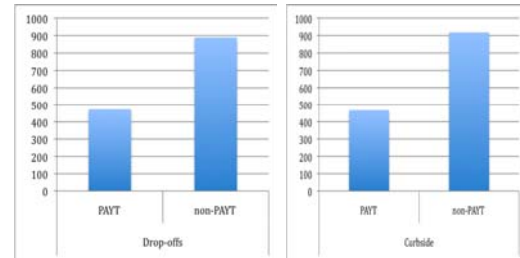
Municipalities generate 45% less waste in PAYT communities

13

### PAYT: an incentive to Reduce Reuse and Recycle

Drop-offs 114 communities

Curbside 115 communities

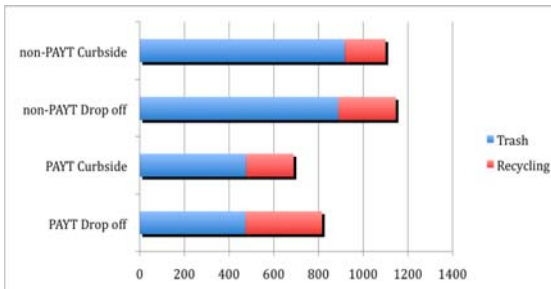


New England Case Study [2010 GWS and ICF]

14

### 33% source reduction in PAYT communities

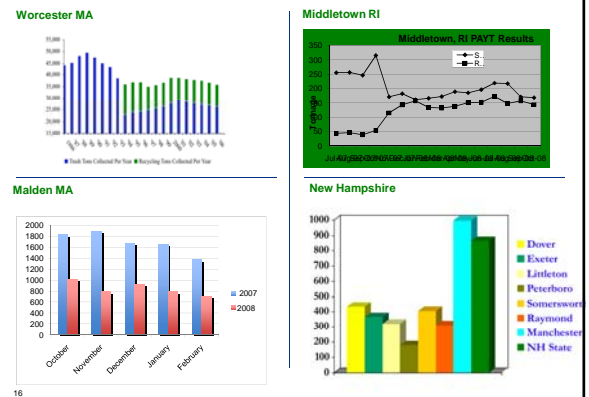
Overall generation (per capita waste + per capita commodity recycling)



New England Case Study, [2010 GWS and ICF]

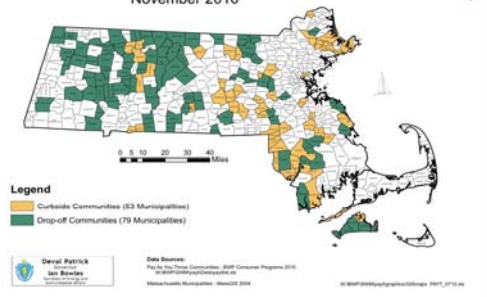
15

### Immediate sustainable change



16

### Municipal Solid Waste Pay-As-You-Throw Communities in Massachusetts November 2010



17

### Towns with transfer stations

Municipality	Contact	Population
Duxbury, MA	Chris Smythe 781-934-1100. Ext. 130	1,476
Scituate, MA	Al Bangert 781-545-8731	5,250
Needham, MA	Mario Araya 781-801-6835	29,128
Wayland, MA	George Russell 508-742-5984	13,503
Rockport, MA	Joe Parisi 978-546-3525	5,565
Dartmouth, MA	Michele Defranco 508-999-0740 Ext. 208	34,420
South Berwick, ME	Gary Boucher 603-978-1669	7,146

18

## HOW DO WE GET STARTED?

19

## PAYT is very customizable for curbside

- Rate Structures
  - Two-tiered Program
  - Proportional / Linear
- Design Styles
  - Bags
  - Tags
  - Mechanized Containers
  - Hybrid
  - Combination

20

## Proportional / Linear Rate Structure

- San Francisco
- Population 750,000
- 75% diversion rate
- All costs are built into the container
- Billion quarterly or annually
- Pricing based on the trash can
- Recycling and compost cans available in any size with not additional cost
- Can also be achieved through a drop off program with a bag



21

## Proportional Variable Structure vs. Linear Structure

- | Variable  | Linear – San Francisco   |
|---|--|
| • increments not equal  | • Equal increments   |
| • Based on real cost of logistics (collection cost per stop is the same no matter what size is picked up) | • Based on the assumption that 100% of users choose the smallest container |
| • 32 gallon \$20 per month  | • 32 gallon \$25 per month   |
| • 64 gallon \$24 per month  | • 64 gallon \$50 per month   |
| • 96 gallon \$28 per month  | • 96 gallon \$75 per month.  |

22

## Two-tiered Rate Structure

- Worcester MA
- Population 165,000
- 60% diversion rate
- Part of the cost is in the tax base
  - (fixed costs)
- Part of the cost is in a unit based
  - bag cost (tip cost)
- Can be achieved as an overflow
- Can be achieved curbside or drop off



23

## Curbside Two-tiered – Bags / Tags

- Residents pay as they go for what they use.
- Creating a two-tiered rate (reducing the tax or fee by the tipping expense (only) or creating a bag charge to cover a current budget short fall)
- In manual and semi-automated systems, bags are an **easy, cost-effective way to get started.**
- Bags could also be used with fully automated collection using 96-gallon containers. Installing a camera on the truck to monitor bag compliance during pick up is a less expensive option than the expense of new, smaller containers

○ Sample simplified cost structure:

Average cost per ton disposal	\$40.00
Average cost per pound [cost per ton divided by 2000 lbs]	\$0.02
Average cost per bag [manufactured and distributed to muni office or direct to retail location]	\$0.25
Total suggested bag cost [based on 23 lb weight] 33-gallon bag	\$0.71

24

### Curbside Two-tiered- Containers

- Two-tiered container structure could be developed by reducing the tax or fee to the household or determining a cost to cover the current budget shortfall.
- The container cost should be based on the assumption that all or most homes would choose the **smallest container size of 32 gallons**.
- In semi-automated and fully-automated collection systems, changing container sizes as part of a PAYT program is **initially more costly, but over a 10-year period containers are a more cost effective option than the bag approach**.
- A container system can be achieved using a proportional or two-tiered rate.

Sample simplified cost structure:

	32-Gallon	64-Gallon	96-Gallon
Container cost amortized over 4 years	10	15	20
Estimated annual cost per container of trash	36.5	73	109.5
Sub total	46.5	88	129.5
Round up to cover replacement or damaged carts, billing, collections and cart inventory	50	100	150

### Curbside – Two-tiered Combination [Containers + Bags]

- Current collection Automated or Semi- automated using 96 gallon carts
- Instead of purchasing new containers – bags could be using in conjunction with the carts
- Cameras can be placed on trucks to monitor compliance or attendants can monitor with semi-automated collection
- Great opportunity for haulers.
  - Use the monthly fee to cover all fixed costs
  - use the bag cost to cover the cost off the trash itself
    - Bag fee could be collected by hauler or directly by municipality
    - Bag fee could also be used to cover upgraded recycling

27

### Curbside – Two-tiered - Hybrid

- All households receive **one 32-gallon trash container or bag** for no fee or charge.
- There is **no rate structure change**.
- All residents are required to purchase a special color **overflow bag for additional trash**
- All households receive a larger container for recycling – if applicable. Generally, municipalities will use the old waste receptacles for recycling by simply adding a sticker. Using a small trash container creates an automatic shift in waste and recycling tonnages.
- Municipalities that are ready to **purchase new containers or are switching from dual stream to single stream recycling** have an opportunity to use an overflow program.
- The municipality is able to use the savings from reduced waste within the department for other services such as education.

26

### PAYT the perfect time to add or expand Recycling

- Yard waste
- Brush
- Electronics
- Swap Shop
- Glass
- Hazardous Waste
- Goodwill – boys



Review rates and include programs that will allow further diversion from residents.  
 •Expansion of services – Residents feel they are getting something new  
 •Allow maximum reduction – Residents see more opportunity to save

28

### Be creative break the barriers

**Low income and high renter population**

- One free container
- Waste limit
- Free bags
- Life line rate

**Illegal dumping**

- Duke University study shows minimal dumping
- Follow - no additional cost for enforcement
- New England study confirms minimal dumping – helps to have strict enforcement the first weeks

**Other excuses**

- Political fear of change
- Our community is too small
- Our community is a Drop off

**Residents want the right to choose**



'Kicking the Cans' July 29, 2008

Should people who throw out more trash pay higher disposal bills?

84% - YES 16% - NO

29

**SMART BET**  
Saving Money and Reducing Trash Benefit Evaluation Tool

1. **General Information**  
 City:  State:   
 Year of data:  City population affected by SMART:

2. **Disposal Data**  
 Current residential disposal:  tons per year  
 Landfill/combustion tip fee:  per ton  
 Waste Disposal Breakdown (tons):  
 Landfill:  Disposal Practice (%):   
 Distance to landfill:  miles  
 Waste-to-energy (WTE):  Distance to WTE facility:  miles  
 Current residential combined recycling and composting:  tons per year  
 Recycling cost:  per ton

3. **Waste Stream Composition**  
 Current disposal stream composition by weight (%):  

Misc	9%
Glass	7%
Plastic	20%
Paper	26%
Wood	9%
Food Scraps	31%
Yard Trimming	8%
<b>Total</b>	<b>100%</b>

 Current combined recycling and compost stream composition by weight (%):  

Misc	9%
Glass	3%
Plastic	2%
Paper	56%
Wood	2%
Food Scraps	13%
Yard Trimming	2%
<b>Total</b>	<b>100%</b>

## SMART BET [benefit evaluation tool]

SMART BET	
Saving Money and Reducing Trash Benefit Evaluation Tool	
Results for Stamford, Connecticut for 2009	
<b>Results</b>	
Estimated cost savings from implementing SMART	\$12,434,615*
Estimated GHG savings from implementing SMART	798,466 year*
(compared to current disposal practice)	
Equivalent to annual emissions from	146,238 passenger vehicles*

\* Positive number indicates cost savings or GHG savings; negative number indicates increased cost or GHG emissions.

31

**Green Waste Solutions**

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32