PAY AS YOU THROW, RECYCLING STRATEGIES, AND TOXICS IN PACKAGING

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NH DES Training

Athena Lee Bradley
Northeast Recycling Council
www.nerc.org

PAY AS YOU THROW - PAYT

AKA

Unit-Based Pricing,
Variable Rate Pricing,
User Pay, or SMART
(Save Money and
Reduce Trash)

OVERVIEW

- Incorporates : “polluter pays principle” & “shared responsibility”
  - ✓ Waste generators are charged for their waste generation
- Its up to the individual to recycle/compost

OPTIMAL PAYT SYSTEM:
MEASURES THE AMOUNT OF INDIVIDUAL WASTE COLLECTED & CHARGES THE WASTE PRODUCER A FEE EQUAL TO THE COST OF GENERATION

GARBAGE AS A UTILITY

- Trash as “sacred ground” for “free” collection or a single “all you can dispose of” rate
- Waste vs. electricity use, sewer usage, etc.
- Few would contemplate paying for electricity or water use out of property taxes or even paying a flat rate for “all you can use” electricity or water

IMPACT OF "FREE OR FLAT RATE GARBAGE"

- Relatively low rate of recycling
- Impact on municipal/town budgets
- Amounts to an unfair tax subsidy

IMPACT, cont.

- No “price signal”
  - ✓ Generators don’t know the actual costs of disposal
  - ✓ Generators usually pay little attention to the quantity of waste produced
- No incentive to reduce, reuse, recycle, or compost

BENEFITS OF PAY AS YOU THROW

- Gives residents control of disposal costs
- "Fairer system"
  - ✓ Disposal as a utility
  - ✓ Generators charged for the service they use
- Reduces disposal costs for communities
  - ✓ Communities can structure the program to be cost- neutral, with revenues off-setting costs, so trash services are no longer a cost in a town's budget

PAYT BENEFITS, cont.

- Preserves tax revenue for other uses
- Allows for expansion of services, new equipment purchases, new staff
- Reduces or eliminates need to raise taxes or fees due to waste disposal

PAYT BENEFITS, cont.

- Waste reduction, increased diversion, improved environmental quality
  - ✓ On average, results in a 20-45% decrease in waste generation
  - ✓ Doubling of recycling rates

PAYT BENEFITS, cont.

- Preserves shrinking landfill space & forestalls need for more capacity
- Systems are flexible
  - ✓Can be structured to fit local governments, haulers, customer needs
- Incentive-based
  - ✓Towns maximize waste reduction and increase recycling by the most effective means available

CONS OF PAYT

- Opposition to Change
  - ✓ Outreach & education of residents
  - ✓ Requires residents to be aware of guidelines, how the system works, & their responsibilities

CONS OF PAYT, cont.

- Winners and Losers
  - ✓ Large families & residents on fixed incomes
  - ✓ Low income and/or elderly PAYT program discounts
- Need adequate funding for supervision, billing, enforcement, outreach, & education

CONS OF PAYT, cont.

- Dumping and Collection of Unmarked MSW
  - ✓ Illegal dumping – roadside or in commercial dumpsters
  - ✓ Typically is limited or is short-term
  - ✓ Have regulations, monitoring programs, and enforcement in place prior to implementing PAYT
- Rental units & apartments

PAYT AROUND THE COUNTRY

- Only two states mandate PAYT: Vermont & Minnesota
- 7,100 communities in the US
  - ✓Massachusetts - 59%+
  - ✓Iowa - 56%+
  - ✓California - 50%
  - ✓New York State - 42%

PAYT IMPLEMENTATION

- Measure waste by weight or volume
- Volume-based models use a range of "units" for identifying how charges will be levied
  - ✓ Bags, tags, containers RFID

DESIGN VARIABILITY

- "Full-unit pricing"
  - ✓Users pay for all the garbage they dispose
- "Partial-unit pricing"
  - ✓No charge for disposal of set base amount
  - ✓Additional bags or containers paid for by the resident

DESIGN VARIABILITY, cont.

- "Variable-rate pricing"
  - ✓ Residents choose to rent a container or purchase bags
  - ✓ Price corresponds to the volume

ECONOMIC, ORGANIZATIONAL AND TECHNOLOGICAL ISSUES HAVE TO BE INTEGRATED IN AN EFFICIENT PAYT MODEL DESIGN

BAG SYSTEMS

- Imprinted trash bags
  - ✓Varying sizes 20-35 gallon bags
- Price covers bag cost & part or all of the cost of hauling/disposal
- Drop-off or curbside collection
- Avoids need for billing


HUMBOLDT
SANITATION
NO RECYCLABLES
HUMBOLDT
SANITATION
NO RECYCLABLES


CITY of
Waterville
MAINE
Pay-As-You-Throw (PAYT) Program
15-Gallon
Small Bag
USE THIS BAG FOR TRASH ONLY
No yard waste • No recyclables
No construction debris • No hazardous waste
Please securely close and tie each bag before disposal.
For more information about PAYT or additional bags, visit
www.wastezero.com/waterville
or call 866-325-8322.
Please report bag quality issues to WasteZero at 1-800-866-3954.
Warning
WasteZero™
Made in USA

NEW PAYT BAG RETAILER

STICKERS

- Stickers are purchased to affix on specific sized bags or containers
- Price of sticker covers the cost of the sticker & part or all of the cost of hauling and disposal
- Applicable for curbside collection or drop-off
- Avoids need for billing


TRASH TAG
All trash must be in a bag with a tag or it will not be picked up
Maximum weight: 30 pounds
Recycling will reduce your need for trash tags
SOLID WASTE MANAGEMENT DIVISION
SWMD
No. 000001

PER BAG PUNCH CARDS

- Residents purchase punch cards
- Price is based on the number of dots or bags offered on the card
- Drop-off facility operators punch the dots for each bag disposed
- Not appropriate for curbside collection
- Avoids need for billing

CARTS OR CANS

- Increasing charge for larger containers or collection of multiple containers of same size
- Haulers may charge flat fee per cart to defray embedded hauling cost, but must add unit-based disposal charge per container
- Used primarily for curbside collection
- Requires billing system


Waste Wise
35 Gallon
65 Gallon
95 Gallon

OLYMPIA, WASHINGTON

- **20-gallon:** $20.82 w/recycling|$20.82 w/o
- **35-gallon:** $35.96 w/recycling|$45.10 w/o
- **65-gallon:** $49.10 w/recycling|$61.54 w/o
- **95-gallon:** $85.08 w/recycling|$106.60 w/o

HYBRID

- Residents receive a smaller limited volume of service for flat fee or “no cost”
- Additional containers or bags incur a cost
- Allows for phase in of PAYT into existing town or municipal system

WEIGHT-BASED SYSTEMS

- Containers, bags, or vehicles are weighed
- Charged on weight of trash disposed
- Drop-off or curbside programs
- Requires billing or direct payment to drop-off center operators

IMPLEMENTATION STEPS

- Prepare & adopt an ordinance that requires residents to use the system & makes any other form of disposal illegal
  - ✓ Include an ordinance setting forth the rates to be charged for collection/disposal services
  - ✓ Adopt an ordinance requiring all haulers & facilities in the jurisdiction to utilize a PAYT system

IMPLEMENTATION STEPS, cont.

- Estimate the total amount of waste that will be generated once PAYT is fully established
- Decide the system: bags, stickers, containers, hybrid

IMPLEMENTATION STEPS, cont.

- Identify additional collection services to be offered – e.g., bulky item collection
- Consider whether or not recycling, composting & other waste reduction programs should be started or enhanced

IMPLEMENTATION STEPS, cont.

- Consider implementing special procedures for residents of multi-family residences
- Consideration of special procedures for elderly &low-income households

IMPLEMENTATION STEPS, cont.

- Estimate both system start-up & ongoing costs
- Develop a preliminary PAYT pricing rate structure

PRICING OF UNIT-BASED SYSTEM

- Per unit fee should cover the cost of disposal for that unit of solid waste
  - ✓Equipment, curbside collection, hauling to landfill, disposal tip fee
- Include any solid waste district/municipal surcharge and state franchise fee

PRICING, cont.

- May be priced to cover all or part of collection/processing of recyclables and/or organics diversion
- Price could also cover staffing costs
  - ✓Transfer station attendant
  - ✓ Hauler employees
  - ✓ Other municipal waste employees

PRICING, cont.

- Alternatively flat fee charged to residents or property taxes may cover employee & equipment costs relating to solid waste management

EDUCATION/PROMOTION

- Elected officials & the public
- NOT an added cost – just changes the way residents pay for waste services
- Transparency
  - ✓ Benefits
  - ✓ Garbage as a utility
- Create understanding through education & persuasion

EDUCATION/PROMOTION, cont.

- Users must be made aware of:
  - ✓Collection schedules
  - ✓Rates
  - ✓Billing cycles
  - ✓Penalties for noncompliance
  - ✓Locations for purchasing bags or tags/stickers or distribution of carts

EDUCATION/PROMOTION, cont.

- Methods
  - ✓ Press releases, PSA's, newsletters, direct mailings, flyers, utility bill inserts, public speaking engagements
  - ✓ Door hangers, cart hangers
  - ✓ Social Media: YouTube, Twitter, Facebook
  - ✓ News articles
  - ✓ Public Meetings

COMMUNICATING THE TRANSITION

Address Public Perception:

- ✓ That the fee or bag cost is a tax
- ✓ Adverse effects on low-income households
- ✓ Increases illegal dumping
- ✓ Higher administration costs

- Rebut opposition misrepresentations
- Direct engagement


OF THE PEOPLE FOR THE PEOPLE BY THE PEOPLE
PAYT
TAKING OUR
NO MORE FLANAGAN'S SHENANIGANS
NO PAYT

BUILDING PUBLIC SUPPORT

- Sell the program to Decision Makers
  - ✓ Briefing documents that analyze costs; address potential concerns
  - ✓ Develop program options that allow choice

BUILDING PUBLIC SUPPORT, cont.

- Gather public input
- Educate the public—address concerns, misperceptions
- Provide program specifics
- Explain the costs that go into the fee systems

BUYING/DISTRIBUTING CONTAINERS & BAGS

- Decide - type, size, design of bags, stickers, or containers
- Contact vendors for price quotes & other pertinent information
- If bags or tags/stickers are selected, arrange with local retailers & government offices for distribution

BUYING AND DISTRIBUTING, cont.

- If cans are selected, plan & implement a delivery system, locate place for storing excess cans
- Consideration for can repair/maintenance
- Starting or expanding recycling programs

ADMINISTRATION

- Train existing staff/hiring new employees
- Set up a new billing system, if necessary
- Arrange for ongoing sales of bags, stickers, containers
- Process for handling customer questions & complaints

START-UP COSTS

- Media/public education campaigns
- Educate/train collection/administrative staff
- Purchase of bags, stickers, or containers
- Purchase collection vehicles, equipment
  - ✓ If needed
- Billing software

ONGOING COSTS

- Salaries/benefits of employees
- Landfill tipping fees
- Replacement containers/bags, stickers
- Fuel, vehicle maintenance, utilities
- Public outreach

MONITORING/EVALUATING

- Participation & waste reduction rates
- Cost & revenue data analyses
- Customer surveys
- Analyzing problems & issues

PAYT "ADD-ONS"

- Establish full cost accounting &enterprise funds
- Complementary programs
  - ✓ Christmas tree, food waste composting
  - ✓ Special recycling events, HHW programs
- Employ qualified personnel to enforce anti-litter & illegal dumping laws

PAYT IN NEW HAMPSHIRE

- 26% of residents live in PAYT communities
- Piermont (Population 709)
  - ✓ Trash disposed was cut in half
  - ✓ Recycling doubled – from ~ 50 tons a year before PAYT to 98 tons in 2013
  - ✓ Fees collected from bag sales, combined with the income generated from recyclables, typically covers all of the cost to operate the transfer station, including labor and disposal
- Tilton (Population 3,500)

PAYT IN NEW HAMPSHIRE, cont.

- Somersworth (Population 11,766) – started PAYT in 1992
- Concord (Population 42,904) – started PAYT in 2009. In the Program's First 5 Years:
  - ✓43% decrease in solid waste tonnage
  - ✓60% recycling rate (up from 13% before PAYT)
- Manchester (Population 110,506)

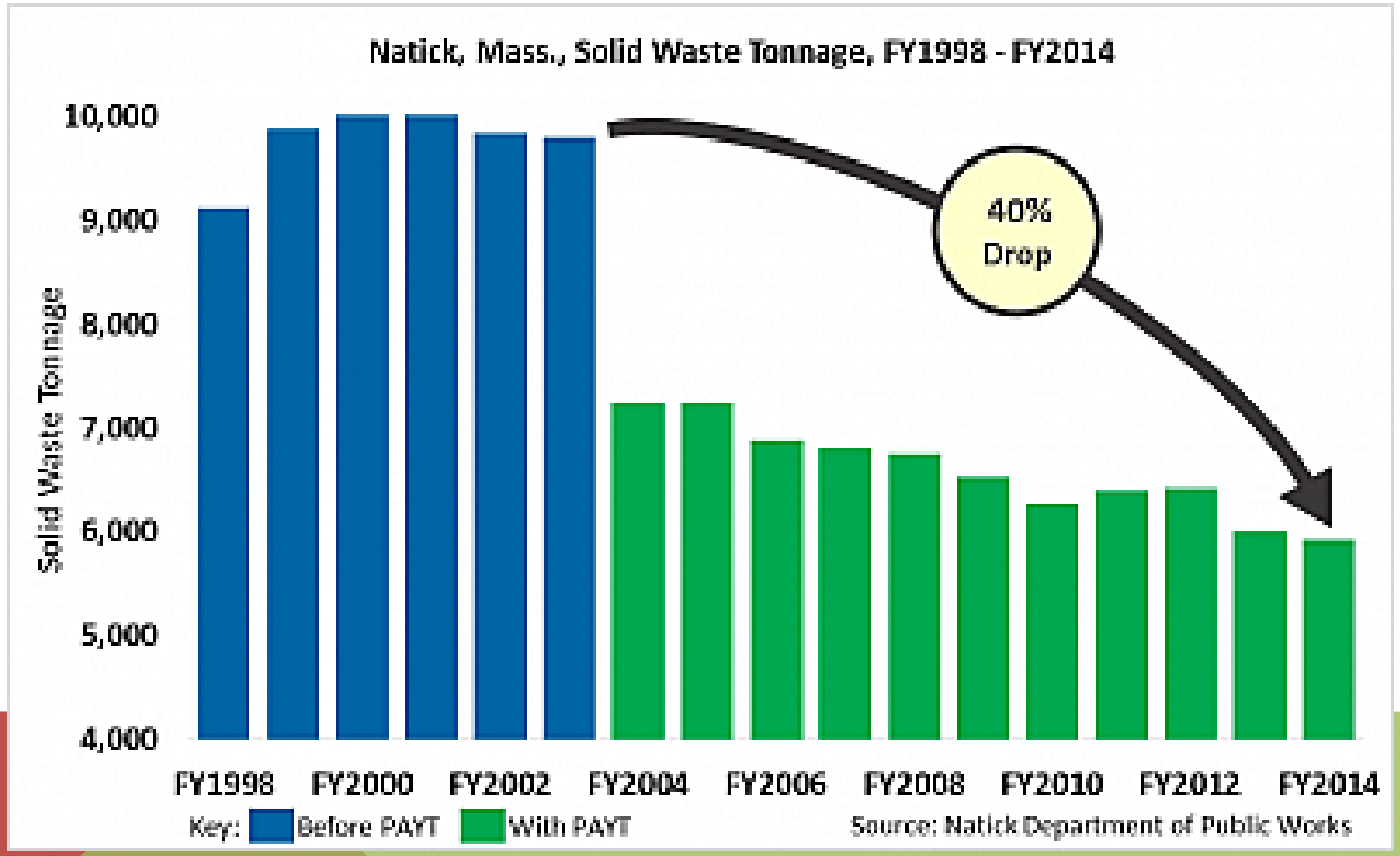
PAYT SUCCESS STORIES

- Boulder, Colorado implemented its first PAYT program in 2011 and realized a 33% increase in recycling & 25% reduction in garbage costs
- San Jose & Seattle successfully included multifamily buildings in their PAYT programs & offer reduced-rate services for low-income households

PAYT SUCCESS STORIES, cont.

- Athens, Georgia phased in PAYT over 18-months
  - ✓ Allowed for slow changes of waste collection payments- simultaneous decreasing taxes & increasing a charge that appeared initially on residents' municipal water bill
- San Jose, California conducted extensive public surveys & engagement through the program design phase
  - ✓ Less than a year after program launch, 80% of residents were satisfied with it; 90% after 3 years

PAYT SUCCESS STORIES, cont.



PAYT SUCCESS STORIES, cont.

- Worcester, MA - $94.5 million financial impact
  - ✓ $46.8 million in revenue, $26.3 million in operational savings & $21.4 million in disposal savings (1993 and 2014)
- An EPA study focusing on New England found a 49 percent reduction in the amount of waste generated in 228 PAYT communities

RECYCLING SOLUTIONS

ENSURE EASY ACCESS TO RECYCLING

- Curbside
- Convenient Drop-off locations
  - ✓ Located in places typically frequented
  - ✓ Within a reasonable travel distance
  - ✓ Sites accept multiple items
- Special collections

EASY ACCESS, cont.

- Consistent/sufficient funding for recycling
- All residents have the opportunity to recycle & compost at home, work, school, special events, & public places

EASY ACCESS, cont.

- Recycling (& composting) services are at least as convenient as disposal
- Easy access to information & programs about waste reduction, reuse, recycling, & composting

INCENTIVES

- Incentives & policies that reward & foster reduction, reuse, & diversion over disposal
- Incentives & policies that reward & foster the use of less toxic materials in products/services & promote proper disposal

INCENTIVES, cont

- Make financial sense
  - ✓PAYT
  - ✓Higher trash disposal fees
  - ✓Lower or no recycling/organics collection fees

OLYMPIA, WASHINGTON

INCENTIVES, cont.

- Coupons & Prizes
  - ✓Work with businesses to offer prizes or discounts to recognize “outstanding” recycling
  - ✓“Get your hands Green” – Green rewards, Be Green recognition, etc.
  - ✓ RecycleBank

DROP OFF LOCATIONS OR EVENTS

- Reuse, Exchange, or Swap
  - ✓ “Sheds” or events
- Repair cafés
- HHW Collection Sites/Events
  - ✓ HHW or paint swaps
- Batteries, fluorescent bulbs, electronics drop-offs

Reuse or Swap Sheds


WHEN IN DOUBT, DON'T THROW OUT
SUNDAY FEB 24
11am TO 3pm
BRING IT TO THE
REPAIR CAFE

DROP OFFS OR EVENTS, cont.

- Textiles reuse/recycling
- Paper shredding
- Hard to recycle collections
- Bulky plastics recycling/swaps


Recycle
Donate
DROP AREA
DROP AREA
support your local community
clothing shoes linens


TEXTILES
TEXTILE SHED


Clothing and Shoes ONLY
Textile Recycling
Textile Recycling
Textile Recy
Phoenix Fibers


clothing and shoe donations
Recycling Program

Toy Exchange or Toy Swap

Recycle Your Reusables

RECYCLING BINS IN PUBLIC SPACES

- Makes recycling more visible
- Sets an example
- Leverage existing core services to cover costs
- *Always* place next to trash receptacles
- Empty to prevent overflow

Image Cr.: Broken Sidewalk


LANDFILL
YERBA BUENA GARDENS
RECYCLE
YERBA BUENA GARDENS
COMPOST
YERBA BUENA GARDENS

BETTER COMMUNICATION

- Communicate with the public
  - ✓ Goals, benefits, program updates, changes, metrics of success
- Communicate elected officials
  - ✓ Statistics, benefits, success, invite input, appreciate outreach & program endorsements

COMMUNICATION, Cont.

- Reinforce Recycle Right or Recycling IQ training
  - ✓ Curbside Value Partnership
  - ✓ Massachusetts
- Promote buy recycled
  - ✓ Helps improve markets
  - ✓ Shows what collected materials are made into

COMMUNICATION, Cont.

- Use simple, direct language
  - ✓ Bullet & bold important information
  - ✓ Images
- Use a standardized recycling guide
  - ✓ Include a list of acceptable materials, how to recycle right, recycling tips
  - ✓ Provide contact information for missed pick-ups; bulky item pick-up, etc.

COMMUNICATION TOOLS

- Make your website effective!
  - ✓ Link directly from the municipal home page
  - ✓ Clear, accurate, & concise information
  - ✓ Make sure it is updated regularly!
- Targeted radio, TV commercials
  - ✓ Get a YouTube channel & use it for “how to” videos

COMMUNICATION TOOLS, cont.

- Use social media: Facebook, Twitter, Instagram
  - ✓ Update regularly
  - ✓ Use effectively for announcements, program updates, etc.
- Use community newspapers & newsletters
  - ✓ Announce program success, updates, etc.
- Form a citizens solid waste/sustainability advisory committee

CONSIDER PSYCHOLOGY & BRANDING

- Biggest barriers to recycling:
  - ✓ Convenience, confusion about recycling rules; potential “yuck factor"
- Use positive motivations
  - ✓ Avoiding unnecessary waste, economic benefits, community/social benefits
- Keep rules simple
- Ask for a concrete commitment or action

TARGET NON-RECYCLERS

- Target messages to specific communities
- Talk with haulers
  - ✓Which areas recycle less? Have greater contamination?
- Leverage community leaders to spread the word
- Use public space to advertise
- Know the objections or barriers to recycling
  - ✓ Know how to address them!

TARGET SCHOOLS

- Establish or expand school recycling
- Start school food scrap composting
- Promote special collections
  - ✓ Batteries, cell phones, locker clean-outs, HHW events/lab chemical clean-outs

TARGET SCHOOLS

ENGAGE NEW HOMEOWNERS

- Distribute “welcome packets” with solid waste & recycling program specifics
  - ✓ The community’s recycling & diversion goals, programs, recycling guidelines, etc.
  - ✓ Food waste/organics collection or home composting information
  - ✓ Tips for reducing hazardous materials & proper disposal

EVENT RECYCLING & COMPOSTING

- Provide free bins
- Provide “how to” information
- Provide technical assistance
- Why?
  - ✓ Serves as a great education tool
  - ✓ Reaches a wide & diverse audience
  - ✓ Makes recycling & composting more visible


MAKE GARDENS NOT GARBAGE.
RECYCLE


TRASH
FOOD SCRAPS
• Meat, bones & fats
• Soup & liquids
• Milk, cheese & yogurt
• Nuts, eggs & shells
• Baked goods, bread & pasta
• Vegetables, fruit, peels & cores
----- All food & plant waste -----
RECYCLING
22nd Annual
Garlic & Herb
FESTIVAL

REVITALIZE YOUR RECYCLING GOAL

- Goals provide targets to strive for
- Make the goal visible
  - ✓ Website, social media
- Announce the current recycling rate, goal rate, target date for achieving the goal
- Provide ongoing feedback on progress

MANAGE MATERIALS

- Explain why not everything is recyclable
  - ✓ Nonrecyclable packaging may make more environmental sense—lower weight, less shipping/transportation costs
- Changing material landscape – promote reduction & reuse
- Add food waste & organics composting

ADDRESS MULTI-FAMILY RESIDENTS

- Provide curbside recycling to multi-family housing on the same routes as single-family collection
- Address PAYT issues
- Promotion – target schools, children
  - ✓ Fun, easy to understand signage
  - ✓ Use images

EXPAND CURBSIDE RECYCLING

- Provide curbside recycling for communities with medium to high densities
- Provide curbside recycling carts to increase the volume of recyclables collected
  - ✓ Serves to elevate the importance of recycling as compared to waste disposal

TOXICS IN PACKAGING CLEARINGHOUSE

TOXICS IN PACKAGING

AND, WHY WE SHOULD CARE

WHY SHOULD YOU CARE?

- Toxics in packaging can leach into people & the environment
- Can be present in leachate when packaging is landfilled or in emissions when incinerated
- Ends up in waterways through littering

THE ISSUE

- Chemical compounds - Perfluoroalkyl and polyfluoroalky substances (PFAS)
- High Persistence
- Connection to potential health effects
- Disposable food serviceware projected to increase 3.9% annually

THE ISSUE, cont.

- Fluorinated compounds in disposable food serviceware
- 130 products tested – 58% were fluorinated
- Used to impart water-and grease-resistance to single-use products

NO OR LOW-FLUORINE

- Bamboo
- Clay-coated paper or paperboard
- Clear PLA
- Paper-lined with PLA
- Paper with unknown coatings
- Uncoated paper

FLUORINATED

- All molded fiber products
- Typically, does not contain visible liner, instead fluorinated compounds are mixed into molded fiber slurry

PHTHALATES AND BISPHENOLS

- Present in nearly every type of food packaging
- Bisphenols &certain phthalates are endocrine disruptors
- Phthalates have adverse effects on reproductive systems; birth defects; other disorders

POLYVINYL CHLORIDE (PVC)

- Is common in food packaging
  - ✓ Shrink wrap & other plastic packaging
- PVC is a known carcinogen

STYRENE

- Polystyrene- rigid and foam –
  - ✓ Effects the central nervous system, presents an increased risk of leukemia & lymphoma, is a potential carcinogen, & is linked to other disorders
- 100% of Americans tested have styrene in their bodies

ALTERNATIVES

- Reusable food serviceware
- Non-fluorinated, Non-polystyrene disposables
- Recyclable containers
- Certified compostable serviceware

NEW HAMPSHIRE & TOXICS REDUCTION

- Regulations phasing out lead, cadmium, mercury, and hexavalent chromium in packaging adopted 1996, utilizing Model Toxics in Packaging legislation

MODEL TOXICS IN PACKAGING LAW

- Prohibits intentional introduction of any amount of the four regulated metals
- Limits incidental presence of the four metals to 100 ppm (0.01%) total concentration
- Applies to finished packaging & each individual packaging component

MODEL, CONT.

- Limited exemptions available
  - ✓ e.g., recycled content, certain reusable packaging
- Model approved by CONEG Governors Jan. 3, 1990
- Enacted in Maine April 17 & New Hampshire April 19, 1990

HOW DO THE LAWS WORK?

- Creates supply chain responsibility
- Producer companies self-certify based on:
  - ✓ Analytic tests
  - ✓ Supplier certification

HOW THE LAWS WORK, cont.

- Provide Certificate of Compliance to customers (downstream producers) & states on request
- Most laws provide state with authority to levy monetary penalties against packaging and product producers and distributors

SUCCESS STORIES

- Lead foil wine bottle wrappers
  - ✓ Not addressed by FDA as food contact issue
- Major manufacturer: cadmium pigment in yellow plastic container

SUCCESS STORIES, cont.

- Lead solder in non-food cans
  - ✓Such as in paint
- Electronics & batteries in product packaging & displays
- Lead & cadmium in flexible plastic film

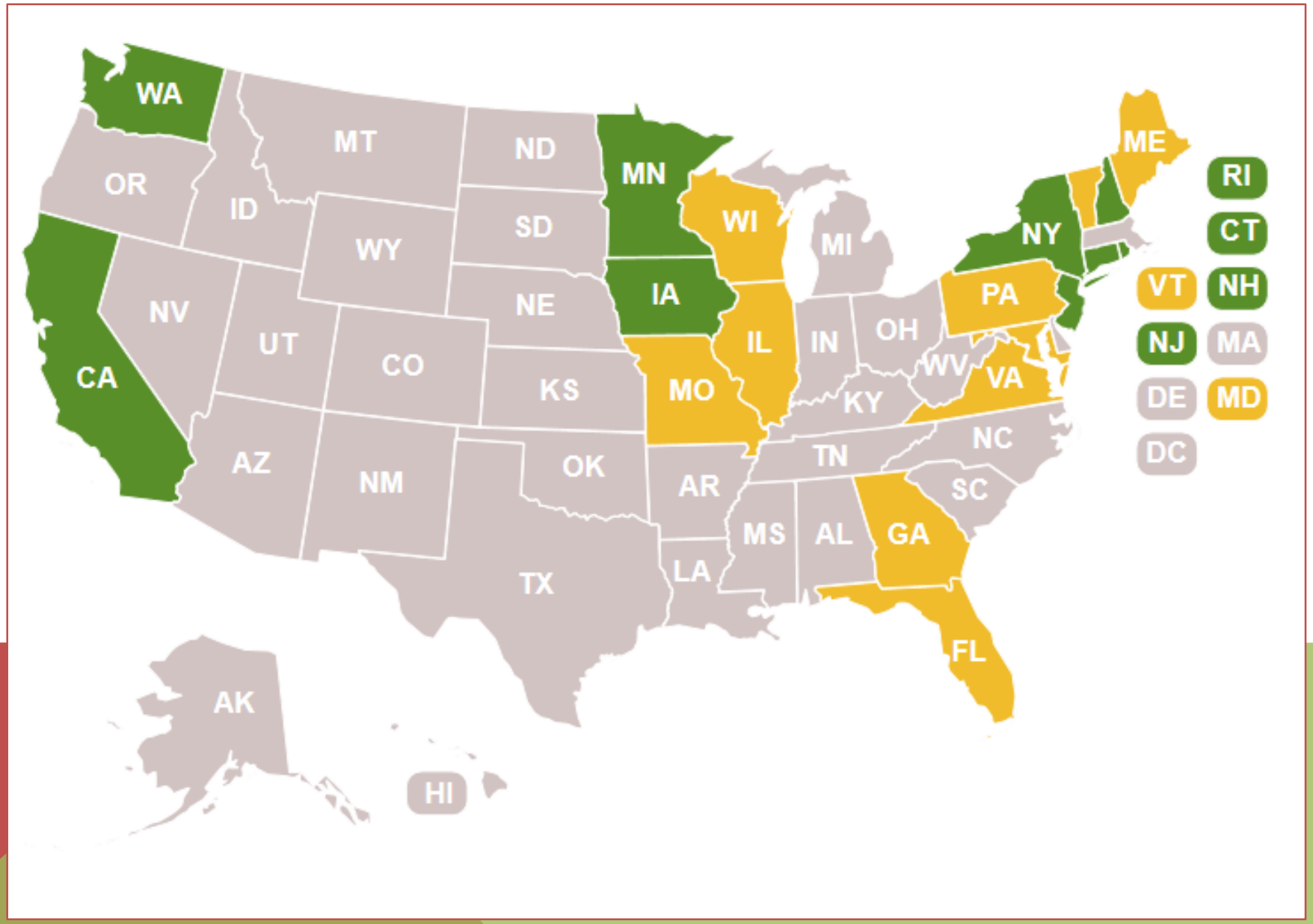
TOXICS IN PACKAGING CLEARINGHOUSE

- TPCH maintains/updates the Model Toxics in Packaging Legislation
  - ✓ www.toxicsinpackaging.org
- Coordinates implementation of state legislation, based on the Model, on behalf of its member states

TPCH, Cont.

- Single point of contact for companies (saving them time), with the goal of promoting consistency across states
- Packaging screening projects
- New Hampshire is member

members/non-members/no law



NERC CAN HELP

We're experts in

- Waste reduction & recycling
- Recycling program design & implementation
- Food scraps/Organics management
- Green procurement
- C&D reuse & recycling
- Electronics recycling
- School reuse, recycling & composting
- Textile recycling programs
- Multi-stakeholder dialogues & negotiations
- & More!

Fee for Service
makes NERC's expertise available at a reasonable price with outstanding results

Athena Lee Bradley
athena@nerc.org
802.254.3636
www.nerc.org