



Putting Bulky Waste to Rest: Mattress Recycling Efforts in Connecticut

IABFLO Annual Meeting

Austin TX

March 31, 2011

Mattresses are Fun!



- **CT DEP – General Permit for Certain Recycling Facilities**
- **Best Management Practices for Mattress & Upholstered Furniture Reuse and Recycling Industries (CT Council Against Bed Bugs)**
- **Mattress Stewardship Initiative – CT Product Stewardship Council and the Product Stewardship Institute**

Bulky Waste

A photograph showing two men standing outdoors in a wooded area, holding a large, white, rectangular object that appears to be a mattress or a large piece of furniture. The man on the left is wearing a blue jacket and a cap, while the man on the right is wearing a black jacket and blue pants. The background consists of bare trees and a dark sky.

**Legal definition in
Regulations of CT State Agencies
vs. EPA and common usage**



CT State Solid Waste Management Plan

- Amended in December 2006
 - Objective 4 (Management of Special Wastes and Other Types of Solid Waste) – includes oversized MSW
 - Priorities
 - Maximize reuse and recycling
 - Improve markets for products
 - Create resources and provide assistance
 - Waste-based business development

Current Conditions and Practices

- **Landfilling**
 - Only 1 active MSW landfill remains open with limited capacity (to commercial haulers).
 - 24 active landfills for Oversized MSW (all but 1 municipally owned)
- **Incineration** – Resources Recovery Facilities (RRF) or Waste-to-Energy (WTE) Plants
 - 6 RRFs or WTEs accept Oversized MSW
- **Volume Reduction Plants** – C&D processing
 - 20 processing facilities - not intended but mattresses and other upholstered furniture do end up there
- **Not a designated recyclable** or hazardous material



Zero Waste

Thinking of the Waste Stream as an Asset

Resources

*come from Oregon, Washington, California, Idaho,
Alaska, Massachusetts, Illinois, Ohio, the United
Kingdom, and Belgium*



Creates economic development
opportunities for us



Finding Creative Ways to Fund Vital Services

- Creating Jobs and Training opportunities
- Creating funding sources for charitable works



St. Vincent de Paul of Oregon

- Glass household products
- Tumbled glass
- Mattress recycling
- Mattress re-manufacturing
- Fire starters
- Dog beds
- And more...



SVDP Visits

Municipal Transfer Station in CT



- CT Town contracted with the CT Resource Recovery Authority facility
- Unable to feed mattresses into hopper whole
- Towns must keep mattresses separate from other bulky or oversized MSW

Newspaper Headlines

Disposing Of A Mattress Will Cost \$45 For Bulk Pickup In West Hartford

March 07, 2010 | By BILL LEUKHARDT

WEST HARTFORD — — Starting July 1, anyone who tosses out a mattress for bulk pickup will be **charged \$45** to cover the cost of separating metal from the discarded bedding before it can be disposed.

The new charges, on the agenda of Tuesday's town council meeting, is required by the Connecticut Resources Recovery Authority, the regional trash agency that handles trash from West Hartford and more than 100 other municipalities.

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Town Mattress Disposal Policy to Change July 1

Posted on: Wednesday, June 23rd, 2010

Comments: [View Comments](#)

From a town press release:

Effective July 1, 2010, the curbside disposal cost for **mattresses and box springs will be \$45 per item.**

A resident wishing to dispose of one mattress and one box spring would **need to purchase 2 permits at a cost of \$90.00.** The charge is the result of increased charges to the town from the regional trash authority, CRRRA and the need to offset the Town's costs for bulky and metal collection which currently run about **\$26,000 per month.**



St. Vincent de Paul of Oregon

- Free technical assistance
- Non-profit, pref. with social service agenda
- Looking to be more financially sustainable
- Interested in job-business development

Solid Waste Permitting

- **To Permit or Not to Permit**
– that was a question



How Many Mattresses Are Generated?



- Est. 10% of the population buys a new mattress every year.
- Assumption is that this is equal to the number of mattresses that are to be disposed.
- However, you need to factor in that about 50% of those mattresses are given as a hand-me-down, donated to a non-profit shelter or illegally dumped never making it into the disposal stream.

Population of CT = 3,518,288 (July 2009)

$3,518,288 \times 10\% = \text{est. } 352,000 \text{ mattresses}$

$352,000 \text{ mattresses} \times 50\% = \text{est. } 176,000 \text{ mattresses}$

Est. 176,000 mattresses available for recycling, every year



Solid Waste Permitting

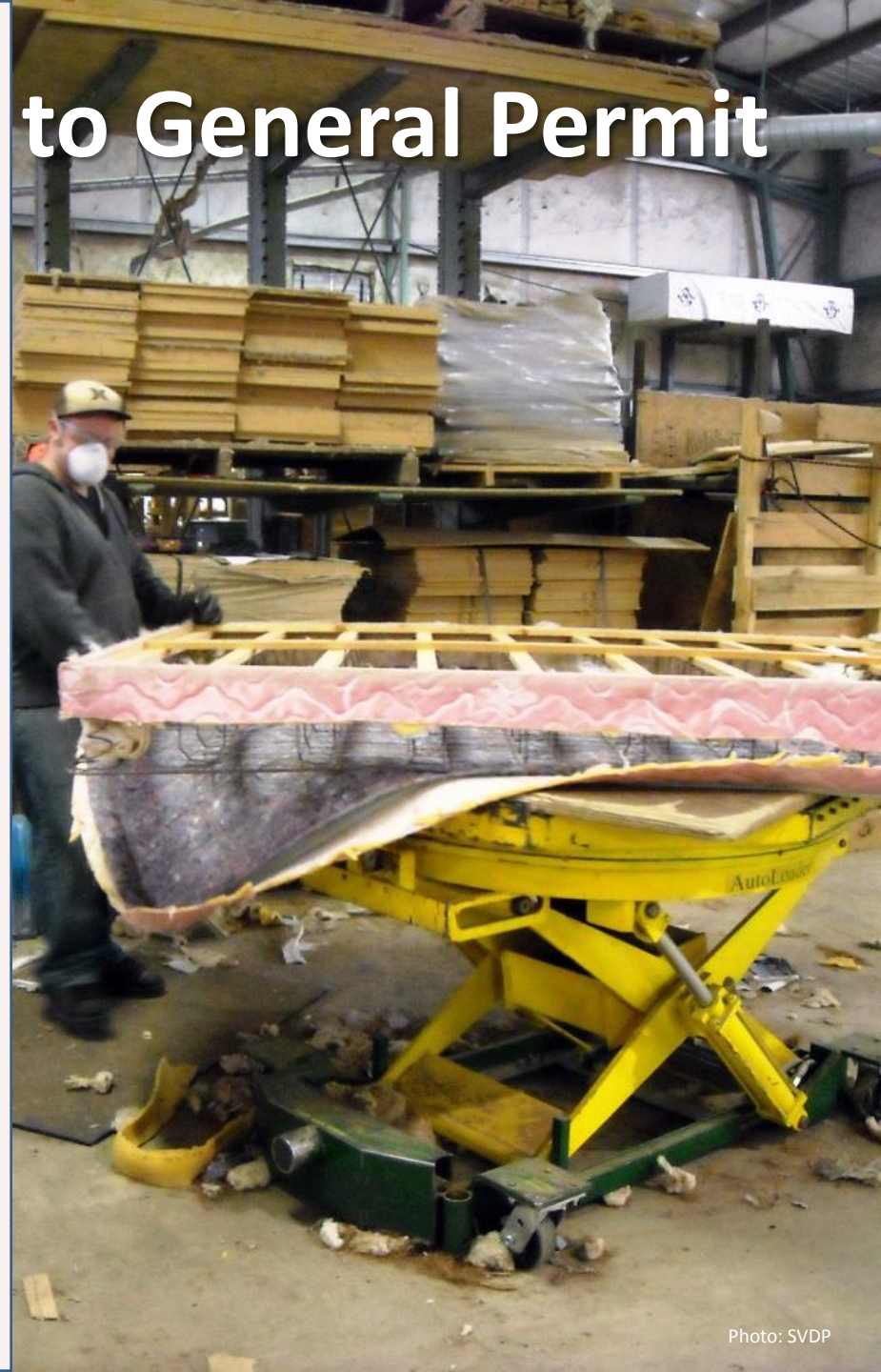
Mattresses added to
General Permit for
Certain Recycling
Facilities

- Single Item Recycling
Facility
 - Up to 100 tons of
recyclables are
accepted per day
(*equals 3200
mattresses/day*)
 - \$500 registration fee
 - Good for 5 years

Adding Mattresses to General Permit

- We work in weight and/or volume – not pieces
 - 61.5 lbs/mattress
- We needed to know how much product was moving through facility
- Each mattress/box spring is made up of...
 - Metal = 23.9%
 - Wood = 42.9%
 - Textiles = 8.6%
 - Urethane foam 7.8%
 - Cotton batting 3.4%
 - Fiberfill = 2.0%
 - Paper = 1.4%
 - Other = 10% (non-recyclable)

Source: Arthur R. Boone (1994) Couches and Mattresses: The Next Recoverables? *Resource Recycling*.





Requirements for General Permit

- Operation & Management Plan (O&MP)
- Site Plan

General Permit Conditions for Mattress Recycling

Shall ensure that all mattresses are inspected for human bed bugs and bed bug eggs within 48 hours of receipt at the facility and prior to placement at the storage facility.



What if CT becomes the Mattress Recycling Capital of the World?

- General Permits – limit quantity
- Individual Permits -



Recycling Means Business!

DEP working with CT Department of Economic & Community Development, CT Economic Resource Center and SMART Start, CLIC, and others...

- Adding waste-based businesses to the 'green job' agenda



Photo: Mattress Recycling in Canada



Photo: SVDP



Photo: SVDP



Photo: SVDP

Assistance for Recycling Businesses

- Pre-Application Meeting
- Working with
 - CT Dept of Econ Dev
 - SMART Start-CT Licensing Information Center (CLIC)
 - CT Economic Resource Center
- “Recycling Means Business” – on-line resources center to help new or expanding businesses in the reuse and recycling industries.





Who Is Applying to Recycle Mattresses?

- Non-profit building material reuse center - **withdrawn**
- Partnership – economic development group, re-entry community (working with SVDP)
- Private for profit business – looking to expand waste hauling activities

A New Integrated Approach to the War on Bed Bugs

Bedbug.com Staff Writer

January 7th, 2010

Bed Bugs Becoming A National Epidemic

The Huffington Post | Hunter Stuart

Posted: 07-21-10 02:20 PM



What About Bed Bugs?

CT Council Against Bed Bugs (CCABB)

- Housing – tenant-landlord issues
- Pesticide application – regulations, training and certification requirements for professional pesticide applicators (PPA)

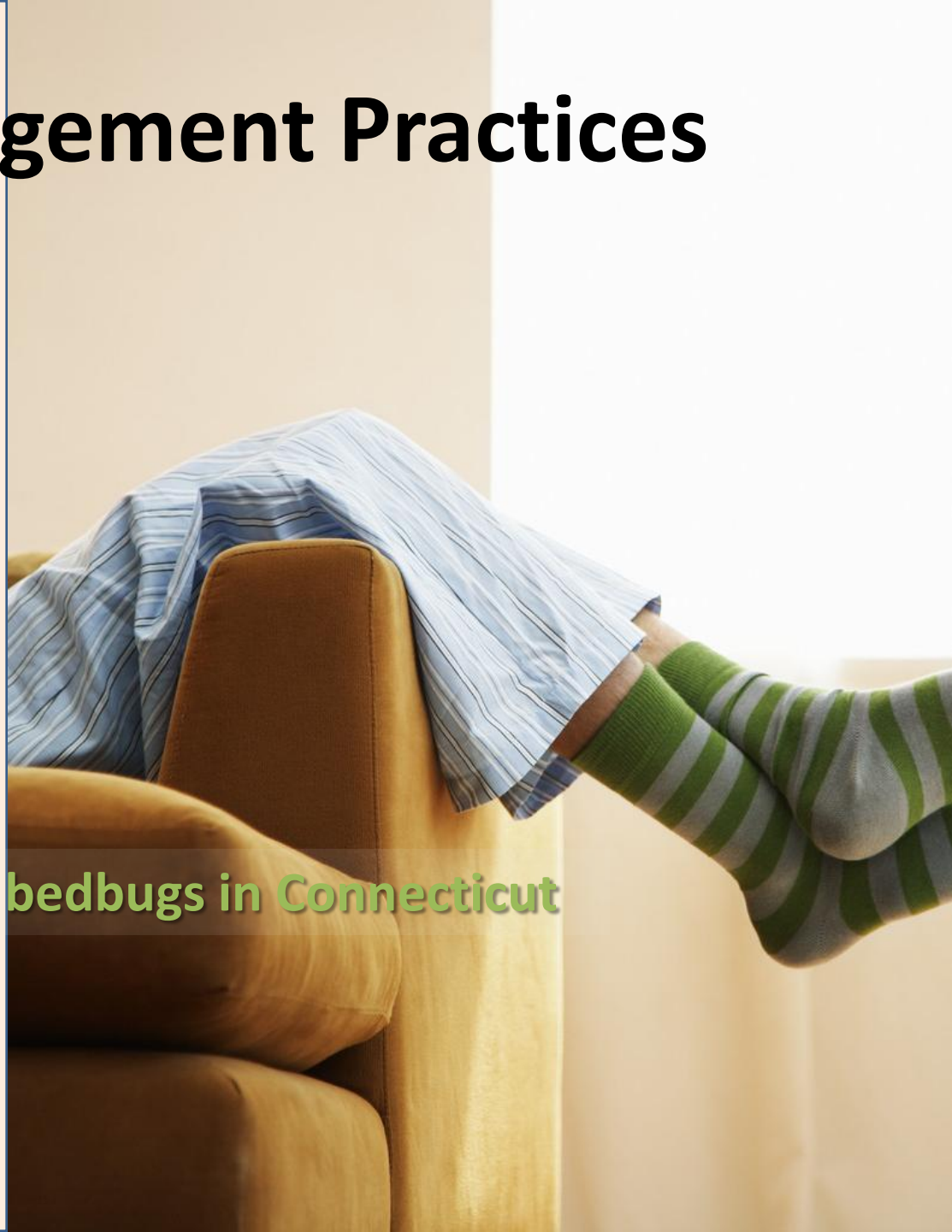


- ❖ Introduced to mattress recycling and disposal
- ❖ Introduced to mattress resale and remanufacturing

Best Management Practices

- Document to help...
 - mattress recyclers
 - thrift stores and consignment shops
 - mattress remanufacturers

....prevent spread of bedbugs in Connecticut





An entomologist,
a government
enforcement
agent, a pesticide
licensing official
and a recycler all
walk into a bar...

Words, Concepts and Finding Shared Meaning

- Chemical vs. physical “treatments”
- Reuse vs. Recycling vs. Remanufacturing vs. Renovating...

HIGHLIGHTS OF THE DIFFERENT SECTIONS of the BMP document

- Bed Bug Action Plan
 - Suggest Recycling Applicants include in their Operations & Management Plan
- Attend training forum
 - CAES is developing program for the reuse and recycling industries
 - Learning how to identify
 - Employee safety
- What to do in the case of an infestation
- Resources



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Extended Producer Responsibility

Extended Producer Responsibility (EPR), a central tenet of product stewardship, is a policy approach in which the producer's responsibility for their product extends to the post-consumer management of that product and its packaging.

Product Stewardship

Product stewardship is a policy that ensures that all those involved in the lifecycle of a product share responsibility for reducing its health and environmental impacts, with producers bearing primary financial responsibility.



CT Product Stewardship Council

- Partner with Product Stewardship Institute (PSI)
- Recent and upcoming efforts in CT
 - Electronic Waste
 - Legislation passed in July 2007
 - Regulations accepted 2010
 - Included a Ban of electronics from trash as of January 1, 2011.
 - Paint
 - Legislation proposed 2010 (didn't pass)
 - Legislation proposed 2011
 - Mattresses
 - Legislation, shooting for 2012
- State legislation with a national impact



CT DEP Survey for Used Mattress Management

- Want to understand WHO manages mattresses.
- Want to understand the costs associated with handling and disposal.
- Looking for better data on number of mattresses disposed.

CT DEP Survey for Used Mattress Management

PRELIM Results... as of 3/29/11

- 74 responses (some dupes)
- 70 municipalities provide disposal
- 43 accept at the municipal transfer station for a fee; 17 without a fee
- 17 munis separate mattresses from other Oversized MSW
- How much does it cost?
 - \$15-\$30 each (15)
 - More than \$75/ton (15)
 - Unknown (15)
 - \$1-\$15 (11)
 - \$0 (8)
 - \$50-\$75/ton (6)



Mattress Stewardship Initiative

- Est. 40 million mattresses and box springs sold in US annually.
- Costly for many local governments and institutions to manage.
- Most disposed of in landfills or incinerators, where their bulk makes them difficult to handle and expensive to manage.
- Small percentage are recycled annually.

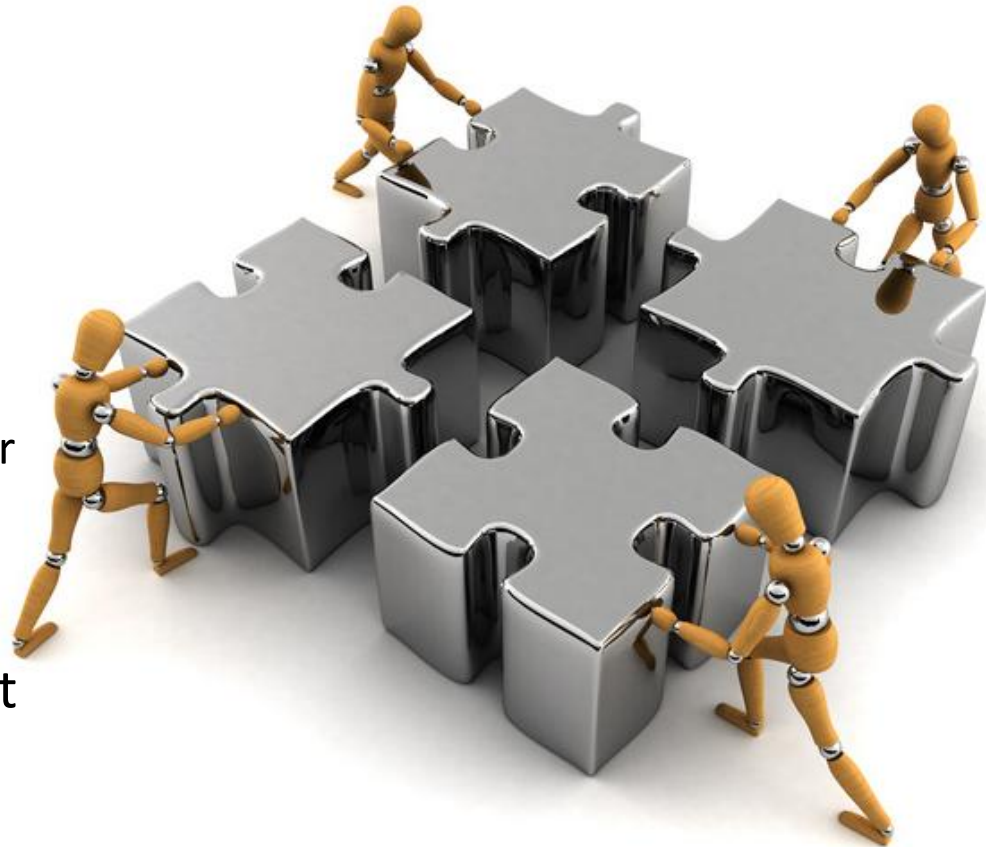


Mattress Stewardship Initiative

- CT DEP, City of Hartford and other local governments
- PSI coordinating the national Mattress Stewardship Initiative
- Initiative includes representatives from the mattress industry, state and local government agencies, recyclers, and other key stakeholders. PSI has developed a briefing document that will prepare participants for a [National Mattress Stewardship Meeting](#) to be held on **April 11** in Hartford, CT.
- Following the meeting, PSI will convene stakeholders on workgroup calls to begin implementation of selected strategies.

How EPR works with businesses

- Mandates manufacturer pays for proper disposal
 - Much will be passed onto the consumer
- Legislation or regulations can require certain disposal practices
 - reuse/recycling over landfills or incineration
- Recyclers would be ensured payment
- The financial payments can act as an incentive for increased competition which could lead to smaller companies pushed out or bought out



Where we are now...

- Mattress Recycling in General Permit
 - Two Pre-Application meetings – 1 applicant has withdrawn
 - Expecting another pre-application soon
 - First Recycling Business hopes to be operational, Summer 2011
 - Bed Bug BMP document in FINAL DRAFT stage
 - Product Stewardship Institute – National stakeholders meeting – Mon, April 11, 2011
 - Results of Used Mattress Survey results to be analyzed
- 

Questions?

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Source Reduction & Recycling

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www.ct.gov/dep/recycle

