

# Thermonator

Thermal extermination so that we can all sleep better



Because every Child Deserves a Bed



# The Wish Project Goods Bank

10,000 sq ft warehouse in  
Dorchester, MA

Provide free furniture, clothing  
and baby gear to 30,000  
people/year



# Our Problem



A shortage of used mattresses to give to our local poor families. This is a national problem.



# Hotel Remodels

Higher quality than home mattresses

Large quantities 100-200 at one time

Full, Queen and King sized



Colleges and Military Bases for Twin sized



# Donating is appealing to hotels

## Disposal is Expensive

**Recycling: \$9,000** cost for lot of  
10 mattresses

60 pieces x \$25/piece to recycle

**Landfill: ~\$5,000**

**Trucking: \$600** in trucking fees

Trucking is a tax write off

1 hotel = 180 mattresses

2 truckloads (90 mattress sets/truck)

\$300 x 2 trucks



# Expensive Problem is Our Solution

6.3 million hotel mattresses      4.2 million hotel rooms with 1.5  
beds per room according to the American Hotel & Lodging Associations (AH&LA)

2 million dorm beds + military base beds?



# Obstacles to Reusing Mattresses?

Perceived Vs. Real

No legal issues

Ethical imperative not to make lives worse  
for our clients

To provide them in good condition

# Perceived Problem: Bed bugs

Are commonly found

Many clients are coming to us because of infestations

Bedbugs do not cause disease

They are hard to kill compared to other pests

Best treatment is heat





Real Problem: The poor already have high rates of illness, asthma and allergies

Dust mites cause allergic reactions

Cockroaches get inside appliances and small crevices

Lice are pervasive

Mice, and spiders and other bugs cause disease directly or indirectly



# Thermal Vs. Chemical Remediation

**Heat is faster for large scale treatment**

2 tons of goods in 4 hours

**Heat is safer:** No residual chemicals

**Effective:** Heat kills all stages of bugs at once. Chemicals only kill adults, not eggs



# How hot? How long?

120 degrees F for 4 hours to kill adults and the eggs of bedbugs, roaches and dust mites



# The Mattress Sterilization Project

Funded by the MA DEP  
to help reduce  
mattresses that go into landfills

Based on design of Lori Schmiede of  
Caritas Furniture Bank in VA

Scaled up 24' truck to a 45' trailer  
version



# Mobile: Hotels or Colleges



hire semi/tractor drivers to move it when needed  
(Easy: We have been doing this for many years with other trailers)



# Heat In:

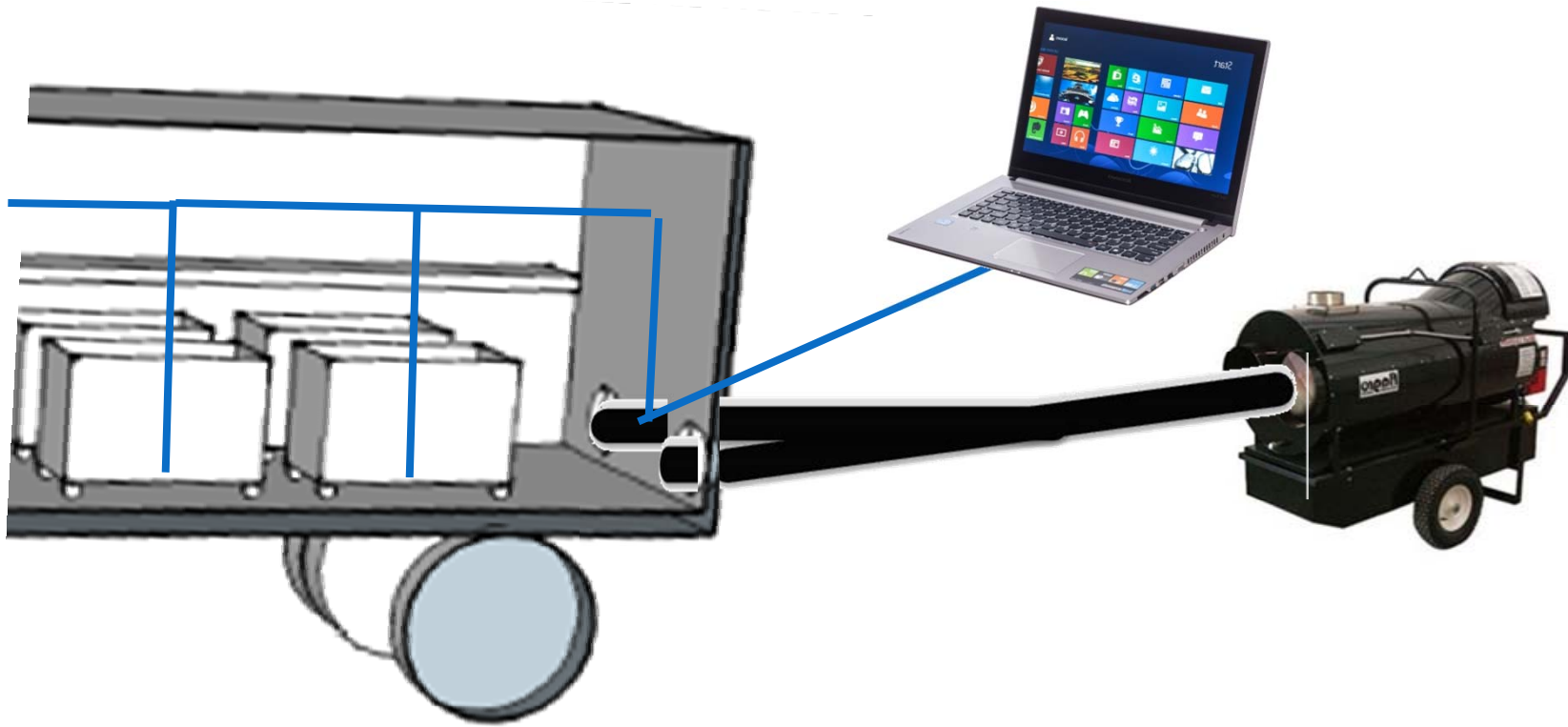
Propane or Natural Gas  
40,000 BTU heater



# Heat Out: Vents In the Front of Truck



Thermocouples monitor  
the heating process to ensure that all  
items reach and sustain temperature







Drive through will be great in  
winter (for donors)





Large Scale Sterilization: 1 cycle =  
10 Full sized mattress sets or 40 Couches or  
80 chairs  
2 Tons per cycle



# Goal: Certified Pest Free Goods to Clients

Currently, we reject any items with visible signs of bugs. They do not even go in the truck.

Once treated, we mark furniture and keep it segregated from untreated



Thanks to....



**MassDEP**

---

Commonwealth of Massachusetts  
Department of Environmental Protection

Helping the homeless and the environment,  
one mattress at a time

The logo for Thermonator features the word "Thermonator" in a bold, black, sans-serif font. To the left of the text is a red, curved, swoosh-like graphic element. Below the text are three horizontal, wavy red lines that sweep from left to right, creating a sense of motion or heat.

# Thermonator

Thermal extermination so that we can all sleep better