



# A Smarter, Solar Powered Trash Can

Reducing trash collection frequency with off-grid, solar-powered trash compactors that alert disposal companies when full

## INNOVATION

Trash compactors powered by solar cells have 5x more capacity than non-compacting trash cans. Sensors measure remaining capacity and send text messages to let the system know when they are full.

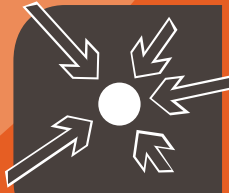
## SUSTAINABILITY

Solar cells enable the compactor to operate with no carbon footprint. Unnecessary trips by garbage trucks to empty half-full cans are eliminated, creating a more efficient trash removal process.

## RESULTS

Municipalities that formerly emptied garbage cans daily now empty BigBelly trash cans once a week, leading to fewer trips by garbage trucks and decreasing fuel use and emissions by 80%.

The city of Philadelphia had an immediate cash flow savings of \$1 million in the first year and an estimated \$10 million in 10 years.



## DRIVERS

### LEADER'S VISION:

Jim Poss developed the concept for BigBelly Solar by combining his experience in electric vehicle engineering and enthusiasm for finding greener solutions to traditional problems

### TACKLE THE ELEPHANT:

US garbage trucks consume over one billion gallons of diesel each year and averages two mpg, making them some of the most expensive, fuel-intensive and inefficient vehicles to operate on a per unit basis

### URBANIZATION:

Higher population densities lead to increases in trash which can overwhelm the ability of traditional trash collection systems to operate efficiently and to ensure trash is collected when required



## BARRIERS

### WORKER RESISTANCE:

Workers in the waste management industry were initially concerned with a new trash compaction system that would require fewer trips for garbage trucks and less work for them

### MISLEADING DATA:

An environmental website incorrectly asserted that the firm's trash compactors would reduce oxygen for landfill-based micro-organisms, thereby increasing trash decomposing time in landfills

### CONFUSED PUBLIC:

When BigBelly was initially installed in selected cities, some people either had no idea what it was or mistook it for a package delivery company's drop box



## ENABLERS

### LOCAL SUPPORT:

Densely populated neighborhoods concerned about growing litter problems have helped push for the installation of these trash compactors to reduce the time that trash cans remain full

### EDUCATION:

Initial claims of the website were refuted both by the website itself and BigBelly by citing EPA articles that the technology does not inhibit sorting, recycling or decomposing in landfills

### RECOGNIZABLE DESIGN:

The company created a new design for the trash can that would make it more attractive and included explicit, standardized signage to make the purpose of the compactor more obvious



## IMPACT

### CITY BUDGETS:

Tim McCarthy of Boston Public Works said, "City time and money saved can now be allotted to other projects, such as filling potholes and fixing sidewalks"

### INTERNAL:

The company has been growing at 400% annually since its inception; it is poised for continued growth with its wireless system

### CITY PRESENCE:

Big Belly compactors are now present in 46 states including Boston, Seattle, Chicago, Philadelphia and New York and 30 countries, contributing to their waste-and energy-reduction strategies



## WHAT'S NEXT?

After successfully demonstrating the consumer version of the product for parks and cities, BigBelly is working on a larger-scale version of its trash compactor for industrial use.