

# From data to action: understanding multifamily waste



## A PARTNERSHIP WITH GLOBAL GREEN

Enevo partnered with Global Green to pilot our sensor technology in reducing waste in multifamily residences. This pilot provided an opportunity to see if we could improve information in the multifamily sector where data is in scarce supply.

For this pilot, two multi-family buildings located in the City of Santa Monica were equipped with remote sensors on each of the 3 waste streams, recycling, trash, and organics. One participant was a national Real Estate Investment Trust (REIT) and the other is a Southern California affordable housing nonprofit. The sensors were installed and collecting data for twelve weeks. By tracking fill rate and collection frequency data, sensors can help to:

- Inform when waste pickup is optimal
- Track the volume of waste in each bin over time
- Ensure waste is picked up only when the bins are full

An Enevo sensor installed on a 2 yard container.



## THE RESULTS

**The data from our sensors reveals waste collection most often occurs when bins are less than 50% full.** Sensors can help identify necessary changes to improve waste hauling efficiency and collect bins closer to full. In addition, sensor data impacts the waste cycle itself by incentivizing waste reduction. Sensors assess recycling participation rates and can potentially help improve waste management decisions per property. A further benefit is Enevo sensor data is also compatible with the EPA's portfolio manager - the energy, water, and waste reporting platform used by thousands of multi-family operators nationwide.

After just 12 weeks of pilot data, Global Green was able to make two recommendations for each property: reduce collection frequency and reduce bin size. Below is a breakdown of cost savings for each action.

### Action

Reduce waste collection by 1 or 2 days per week

### Monthly cost savings/property

**\$1,370\***

### Action

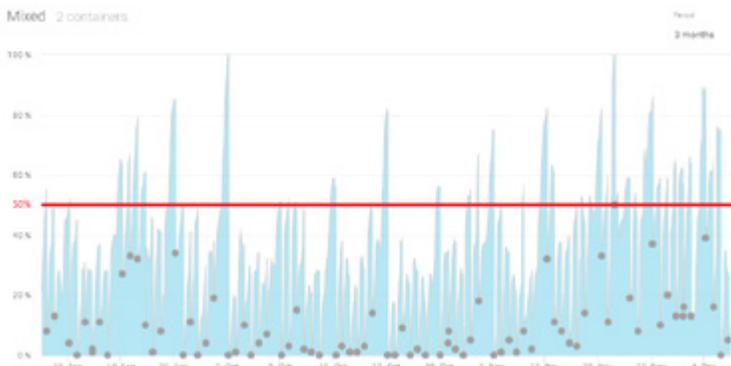
Reduce bin size

### Annual cost savings/property

**\$10,400\*\***

\*Assumes one reduced pick-up per week using the City of Santa Monica's current rate structure. Then cost savings are between \$685 and \$1,370 depending on baseline pick-up frequency.

\*\*First, this option needs to be carefully considered to make sure that enough bin "space" is left to prevent overfilling. Secondly, once "peak demand" is determined then cost reduction measures can be considered and implemented. For example, if the collection cost of 2 cubic yards bins costs \$650, and the collection of 1.5 cubic yards bins costs \$550, then there is potential to reduce costs by \$100 per collection. Further, if this bin were collected twice per week for one year, this is a cost savings of \$10,400 per year.



This graph illustrates data provided by the sensors and the related software that shows containers fill level over time for the mixed waste (landfill) stream at one of the pilot buildings. The graph displays container fill rate over the entire 3-month pilot period.