

Drive Toward Zero Waste

Zero Waste or Zero Landfill? Many businesses and municipalities have defined recycling goals that aim for “zero”, but perspectives differ on exactly what zero means. Some promote a Zero Landfill approach which doesn’t necessarily maximize diversion through reuse, recycling, or other forms of recovery. Others support a more ambitious Zero Waste concept that envisions the elimination of all waste. To better understand the distinctions between Zero Waste and Zero Landfill, it helps to de-bunk a few myths:

Myth 1

Waste-to-Energy is Better for the Climate

Most people don’t realize that greenhouse gas (or carbon) emission rates vary tremendously among disposal sites, and it’s simply not possible to say that one type of facility is always better than the other. Figure 2 shows that, in the northeastern U.S., the average landfill emits less greenhouse gas than the average waste-to-energy facility, and that emissions from Casella landfills are lower still.

Myth 2

EPA Ranks Waste-to-Energy above Landfilling

The EPA used to advocate a waste hierarchy that ranked waste-to-energy incineration above landfilling. This dates back to the late 1980s when landfill gas collection was uncommon, and few landfills captured landfill gas for energy. In 2012, based on modern operating practices and data, EPA revised its waste hierarchy to the one shown in Figure 3¹. The hierarchy no longer places waste-to-energy above landfilling, but instead lists “Energy Recovery” above “Treatment & Disposal”. In this manner, a landfill with energy recovery is ranked in the same tier as an incinerator with energy recovery.

Myth 3

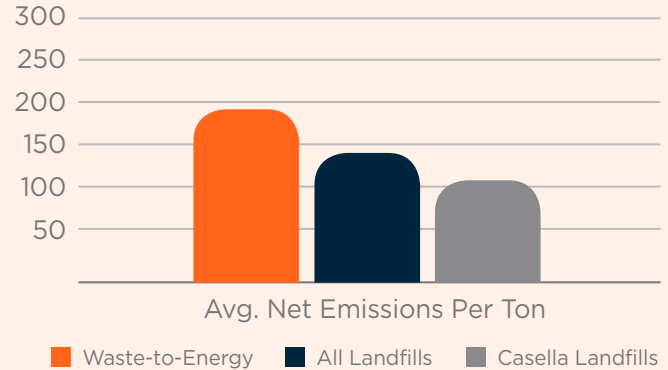
Waste-to-Energy is a type of Recycling

EPA’s waste hierarchy reminds us that source reduction and recycling should always be our highest priorities. Facilities that pursue Zero Landfill through incineration can undermine recycling and related diversion opportunities. For example, Waste-to-Energy facilities have no incentive to find solutions for hard-to-recycle plastics, because plastic is a key ingredient in incineration power production. But plastic is a petroleum-based product; when combusted for energy, it is a fossil fuel. From a climate perspective, there is no question: true recycling means getting those carbon molecules into new products, not combusting them to raise carbon dioxide concentrations in our atmosphere.

Zero Waste challenges us to keep working until all of the materials we manage are out of the disposal stream. As a society, we could settle for Zero Landfill, but if we’re serious about protecting the climate, closing resource loops, and achieving true sustainability, we have to set the higher standard: Zero Waste.

2012 Greenhouse Gas Emission Rates from Large Disposal Facilities in the Northeast

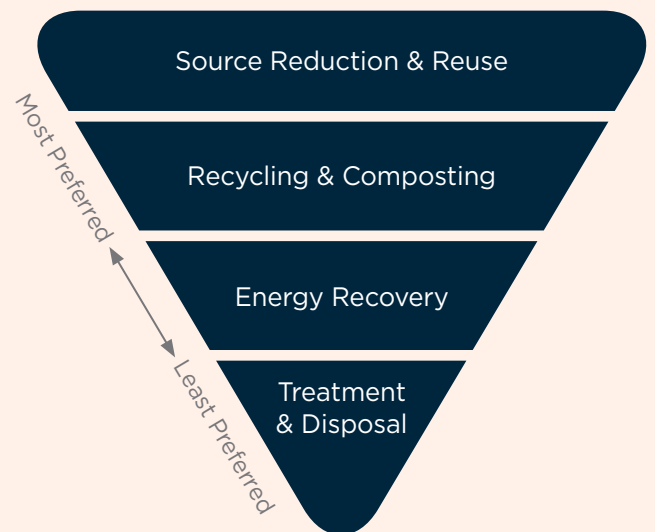
(kgCO₂ per ton waste disposed)



EPA data show that, in the northeast, incinerators emit more greenhouse gas per ton than landfills do, even after accounting for energy production.

(Figure 2)

U.S. EPA Waste Management Hierarchy



EPA updated their waste management hierarchy to clarify that waste-to-energy incineration is not ranked above landfill gas to energy.

(Figure 3)

¹ Accessed most recently on July 10, 2014 at <http://www.epa.gov/waste/nonhaz/municipal/hierarchy.htm>