



Hennepin County Energy Recovery Center

Located in downtown Minneapolis, Hennepin Energy Recovery Center (HERC) uses waste to create energy. HERC uses the latest technologies to reduce environmental and taxpayer costs

How is waste converted to energy at HERC?

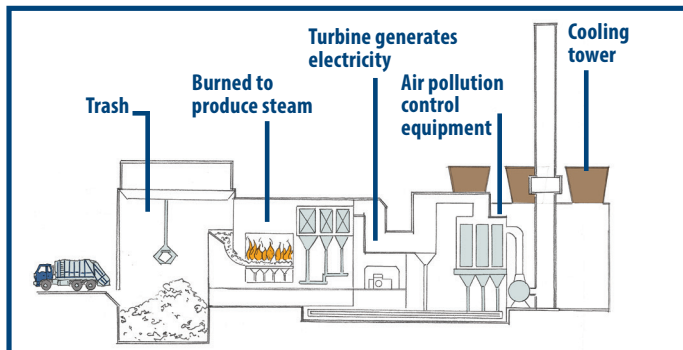
Garbage trucks deliver waste from Minneapolis and surrounding communities to HERC. The waste is pushed into the waste pit with a loader. A crane picks the waste up from the pit and feeds it to the boilers. Operators look for and pull out hazardous and problematic wastes, such as appliances, televisions and bulky items, so they can be disposed of properly.

The waste is burned in boilers lined with water-filled tubes. The heat of combustion converts the water in the tubes to steam that turns a turbine to generate electricity. HERC produces enough electricity to power 25,000 homes. The electricity is sold to Xcel Energy.

A portion of the steam produced is extracted after going through the second stage of the turbine and sent to the steam line. This steam provides heating and cooling to the downtown Minneapolis district energy system and Target Field.

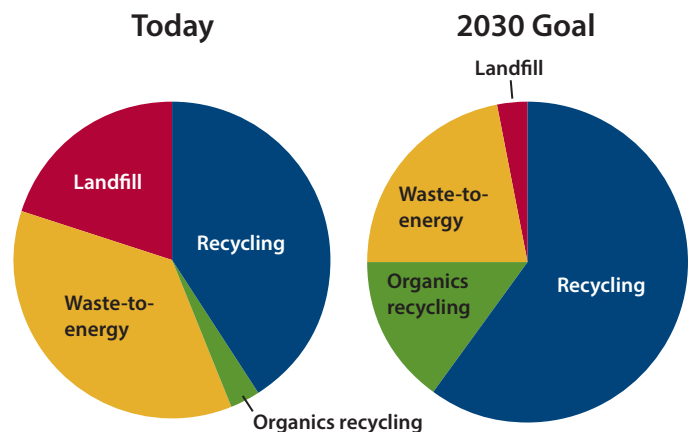
The steam is then condensed back to water and circulated to the boiler, completing a closed-loop system. Air emissions are cleaned and treated so that emissions are consistently below the Minnesota Pollution Control Agency permitted levels.

The combustion process reduces the volume of waste by 90 percent. The material remaining after combustion is non-hazardous ash. The ash is screened to recycle metals and then sent to a landfill. HERC recovers more than 11,000 tons of scrap metal each year, which is more than double the amount of metal collected in curbside recycling programs in the county.

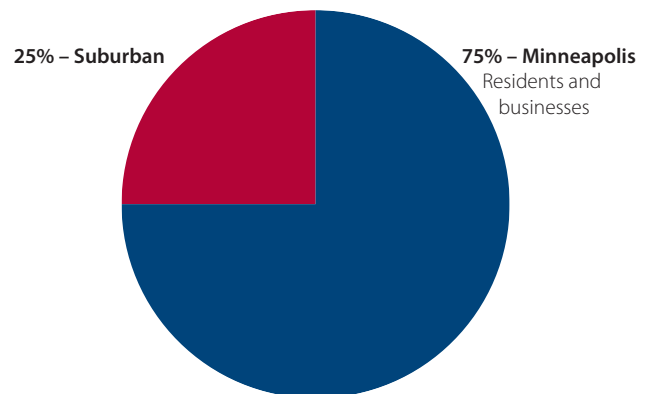


How we manage our waste

Hennepin County residents and businesses generate more than one million tons of waste each year. Add up all this waste and its enough to fill Target Field more than 11 times. Processing waste for energy at HERC is just one part of the county's integrated waste management system that emphasizes waste prevention, reuse, recycling and composting.





Where does the waste processed at HERC come from?



HERC is environmentally preferable to landfills

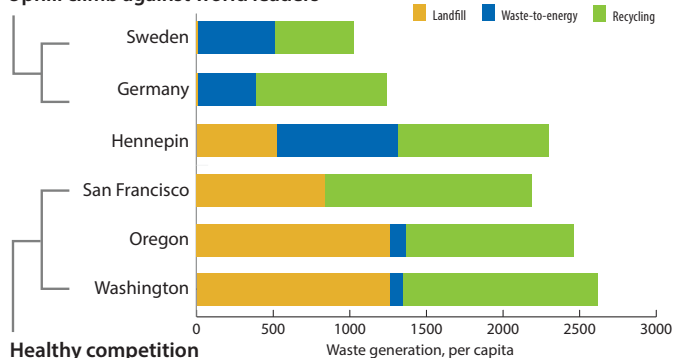
About 45 percent of the waste generated in the county is recycled or composted. The remaining trash can either be buried in the ground or burned for energy. HERC is better for the environment than landfills.

HERC	Landfills
	
Fewer environmental impacts	Greater environmental impacts
Air pollution control system to capture pollutants. This equipment is monitored 24/7.	The pollution control measures are buried - it could take years to detect and find a leak in a liner.
Waste is processed close to where it is produced, minimizing transportation of waste and associated truck emissions.	Waste continues to decompose, producing methane and organic compounds. This makes landfills an environmental and health risk for decades.
A ton of waste processed at HERC creates electricity to run a house for 21 days, plus steam to heat Target Field and downtown Minneapolis.	A ton of waste buried in a landfill creates electricity to run a house for 3 days.
Fewer greenhouse gas emissions.	More greenhouse gas emissions from methane.
11,000 tons of scrap metal recycled.	No scrap metal recycled.
45 high-wage jobs to operate HERC.	18 lower-wage jobs to operate landfill.

Waste management performance compared to others

Hennepin County is similar to U.S. leaders in waste generation and recycling, but lags behind global leaders in Europe.

Uphill climb against world leaders



Healthy competition among regional leaders

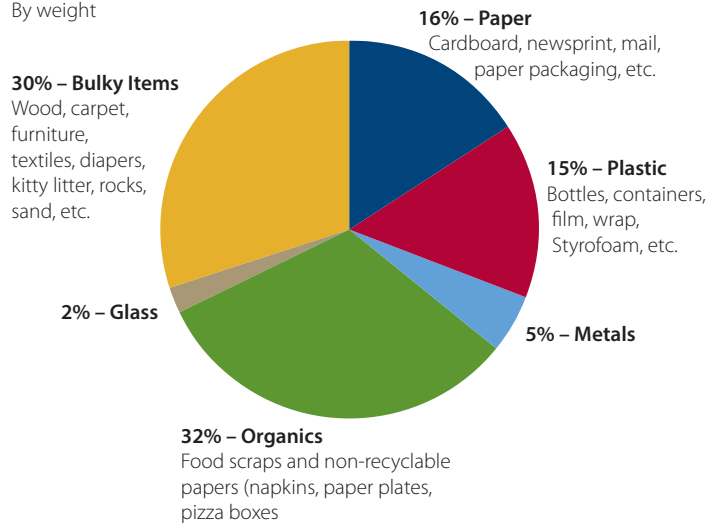
Sources: European Environment Agency, Hennepin Cty, Oregon DEQ, Washington DOE, Covanta Energy

Getting to zero waste

We all have a responsibility - individuals, businesses and government - to prevent waste and recycle everything we can. We are making progress towards the goal of zero waste as waste generation per capita is decreasing and recycling rates are increasing. The county is committed to making recycling as convenient as possible and expanding opportunities to compost. We offer grants, educational materials and professional staff assistance to improve recycling at businesses, schools, apartment buildings, events and public spaces.

What is in the trash?

By weight



Sources: Hennepin County Waste Composition Studies at Hennepin Energy Recovery Center and Brooklyn Park Transfer Station.

Additional resources

Take a virtual tour of HERC by watching a five minute video on how HERC generates energy from garbage, available online at www.hennepin.us/HERC.

Learn about resources to improve recycling at home, businesses, schools, apartment buildings and events at www.hennepin.us/recycling.



Hennepin County
Environmental Services

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www.hennepin.us/HERC