



* Let's Talk Trash! *

Have you ever had to drag your garbage bin to the curb for the trash truck to collect? Ever wondered where all that trash goes? Many people think, "The dump!" but for over 30 years, Spokane has been doing something different with its waste.

Our trash is pretty unpleasant—dirty diapers, spoiled food, broken mattresses, and even hazardous chemicals. Nobody wants that waste piling up in backyards, parks, or streets, so we rely on landfills. Landfills are areas, often far from homes, where trash is piled onto the land.

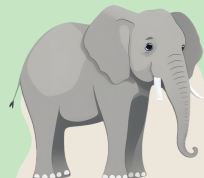


For many years, Spokane used five different landfills, but over time, they filled up. Trash doesn't just disappear, and when it gets wet, it turns into a gross sludge called leachate.

This sludge began seeping into the ground and polluting our groundwater—our main source of water in Spokane. This raised concerns, and the decision was made to stop using landfills. So, what happens to all that trash now?

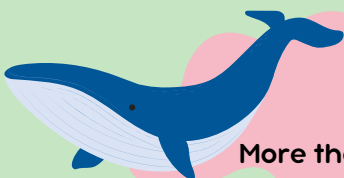
Wait, we burn how much trash?

Every day, Spokane's Waste to Energy burns 800 tons of trash. Wow! What else equals 800 tons?



More than 100
elephants

More than 5
Statue of
Liberties



More than 7
Blue Whales



Since the 1970s, technology has existed to burn trash instead of dumping it in landfills. This process takes place in a Waste-to-Energy (WTE) facility. Spokane

built its own WTE, which has been operating 24/7 since 1991. But how does a WTE work, and what kind of energy does burning trash produce? Let's explore those questions and find out!



Did you know?

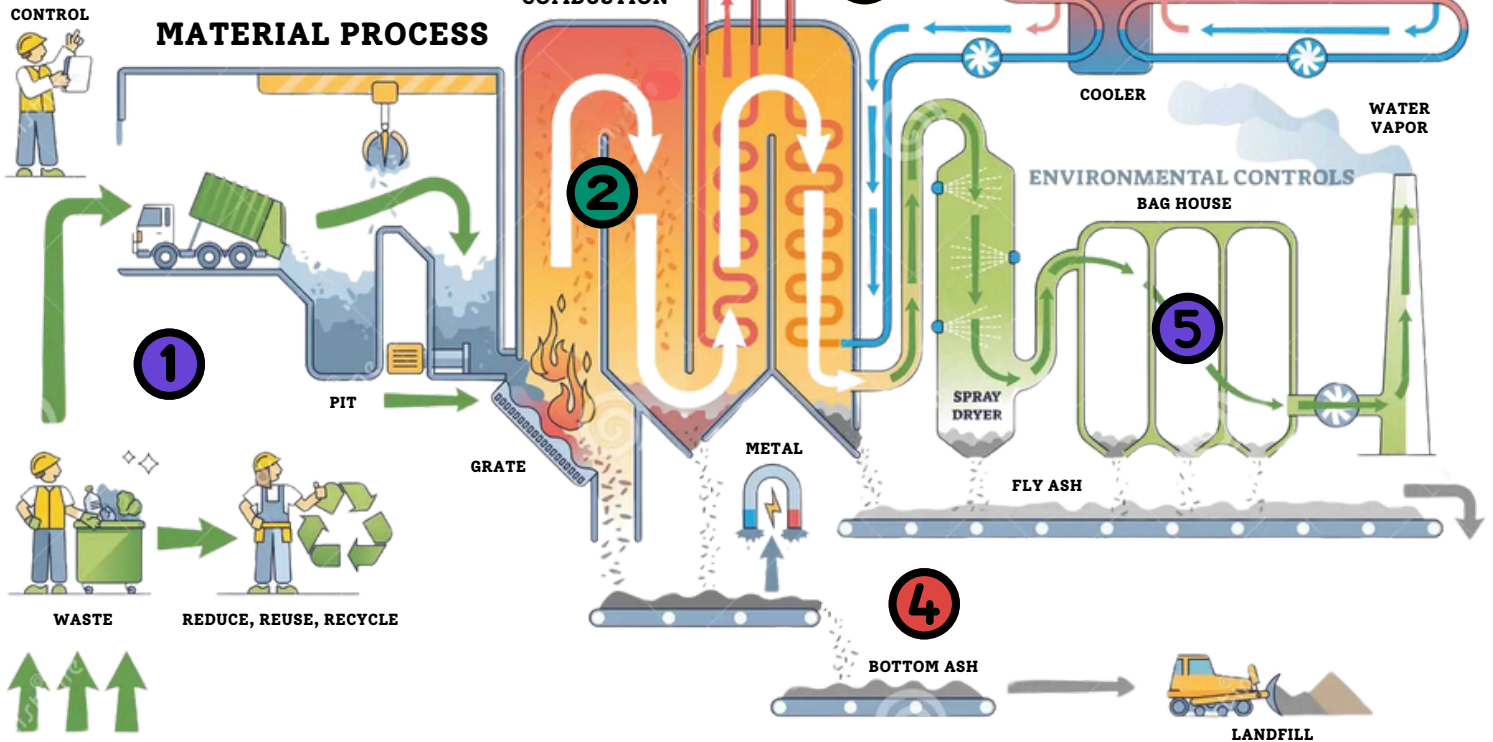
There is a 90% reduction in the volume of trash once it goes into the boiler



The flames can get to 2,500 degrees Fahrenheit



Enough electricity is generated to power 13,000 homes and businesses



- 1** Trash gets dumped onto the Tipping Floor and pushed into the Pit. The Claw grabs trash and loads it into the Hopper which feeds into the Boiler. (That's where the flames are kept!)
- 2** The flames burn up the trash and also heat up 20,000 gallons of water that are in steel pipes lining the walls of the Boiler. The water turns to steam from the heat of burning trash.
- 3** The steam turns a piece of equipment called a Turbine and generates electricity. That is where the Waste (trash) to Energy (electricity) name comes from!
- 4** Ash that comes out of the boiler is treated so it isn't dangerous and is sent to a landfill.
- 5** The gases and particulates from burning trash are captured and treated. Water vapor goes up the stack and is released into the air.



Think About It

Landfills vs. Waste to Energy? Both ways have good and bad sides, but which is better?

Landfill

- ✓ Cheaper and easier to manage
- ✓ Do not need a lot of special equipment
- ✓ Can hold a lot of trash for a long time
- ✓ Can capture the methane gas produced by the trash and make energy with it
- ✗ The trash will always be there, even if the landfill isn't being used
- ✗ Dangerous materials like leachate and methane gas are produced

Waste to Energy

- ✓ Burns trash to make electricity
- ✓ Uses its power to stop landfills from getting too full
- ✓ The energy that is made powers homes and buildings
- ✓ Much better for the environment because it produces much less harmful gases
- ✗ Very expensive to build and maintain
- ✗ Can only manage so much daily trash

Envirokids is a collaborative effort among multiple environmentally focused agencies in the Spokane region working to provide locally relevant educational resources to teachers and families.