

# The Magic of Waste-to-Energy

Brought to you by:  
**The York County Solid Waste Authority**

Our Mission:  
Facilitate Responsible Management of Municipal Solid Waste

[www.ycswa.com](http://www.ycswa.com)

# How many pounds of garbage does one person in York County make in one day?



?

?

?



# Those 2.32 pounds really add up!

X 450,000



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More than  
1 million Lbs. of:







Where does your garbage go?





A Dump or Landfill?





The York County Resource Recovery Center



Before entering the facility, trucks stop at the SCALE HOUSE to check in, then drive onto a large scale to be weighed.





## The Scale House





## The Tipping Floor







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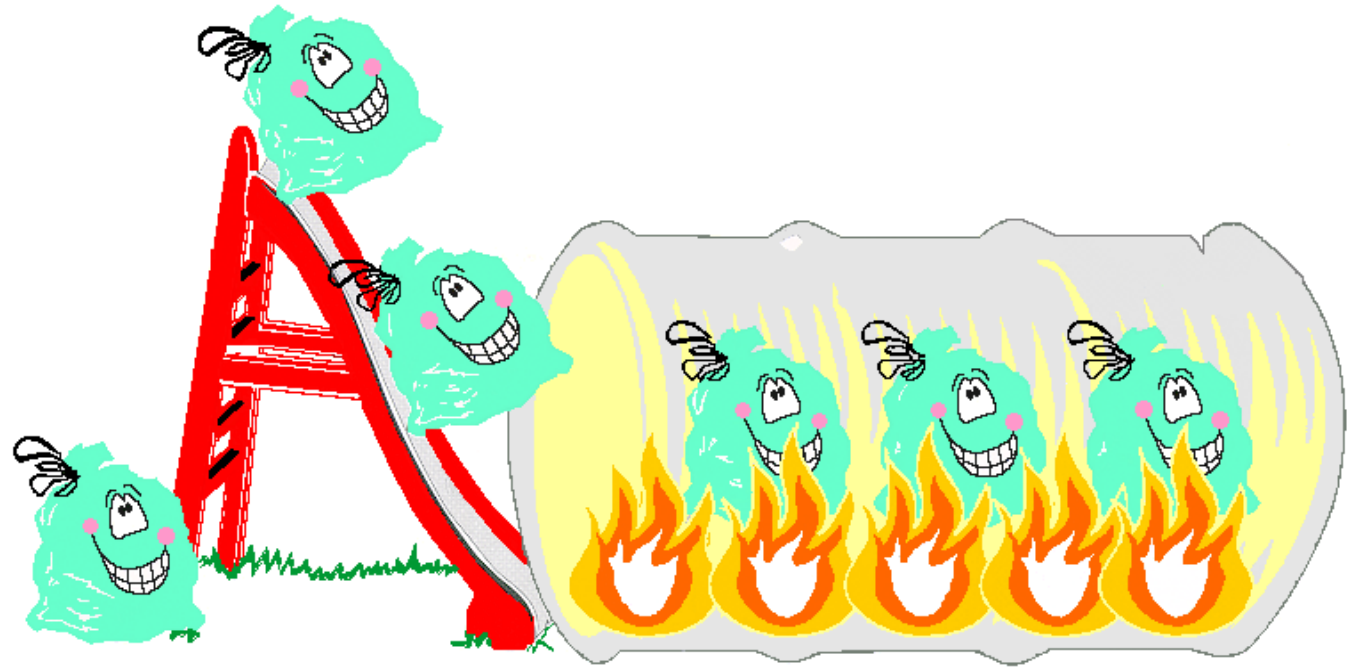
The Waste  
Storage Pit

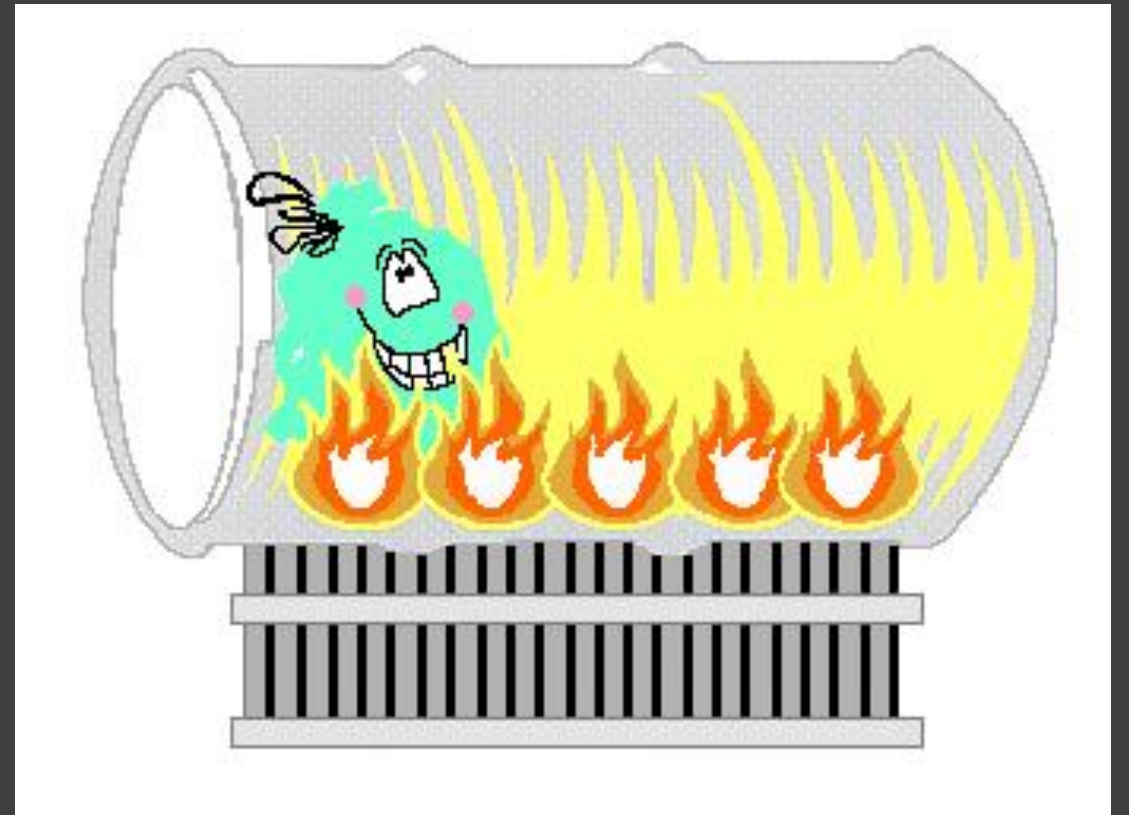
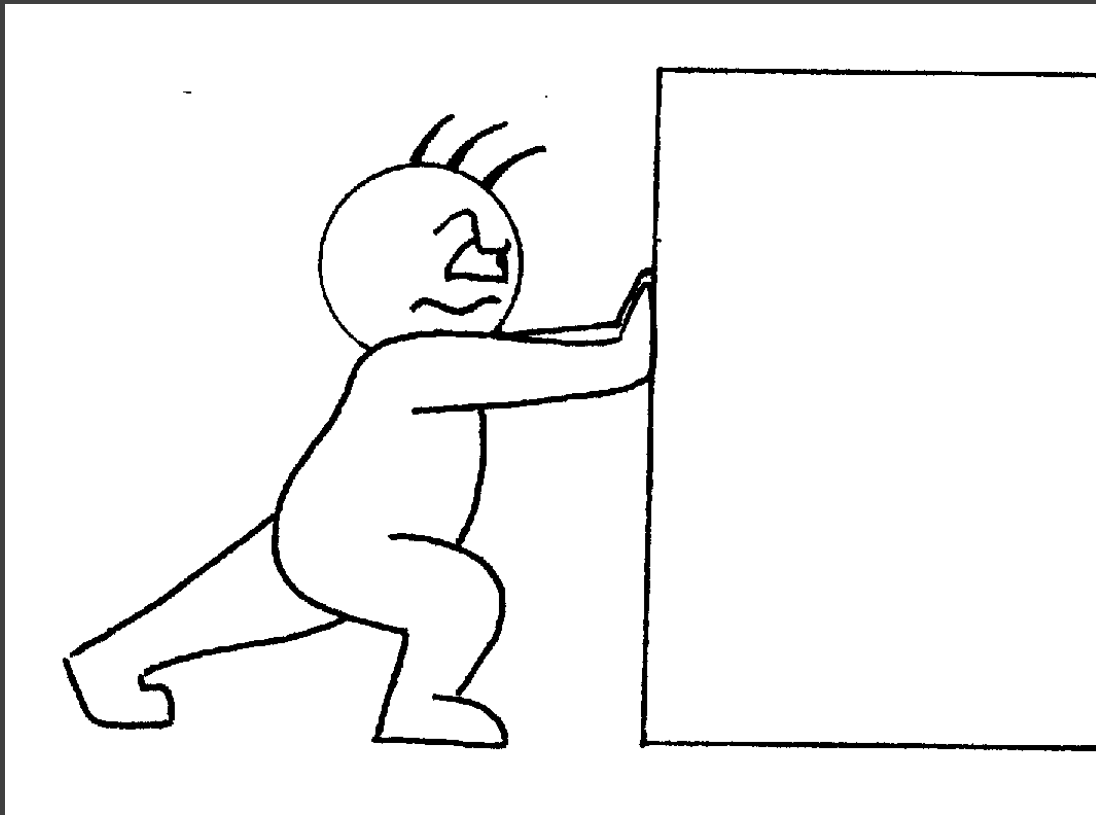


The Grapple Cranes



FEED CHUTES act like giant slides to deliver waste to COMBUSTION UNITS where it will be burned in an enclosed, controlled environment.





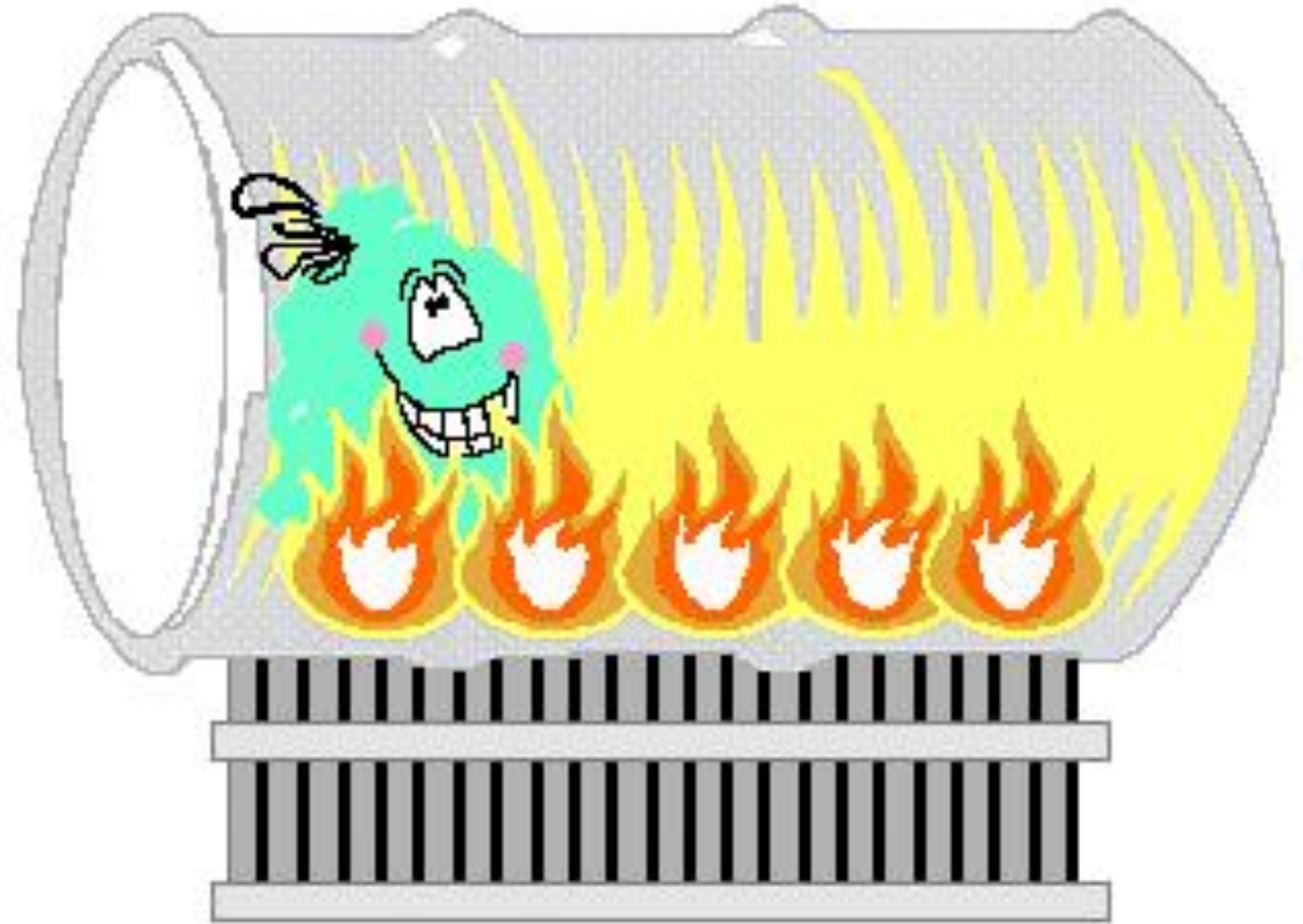
Hydraulic RAM FEEDERS work like strong arms to push the garbage that has come down the feed chute into the combustion unit.





Ram Feeders

The Resource  
Recovery Center has 3  
**COMBUSTION**  
**UNITS** that each  
measure 47 feet long  
and 13 feet in  
diameter!



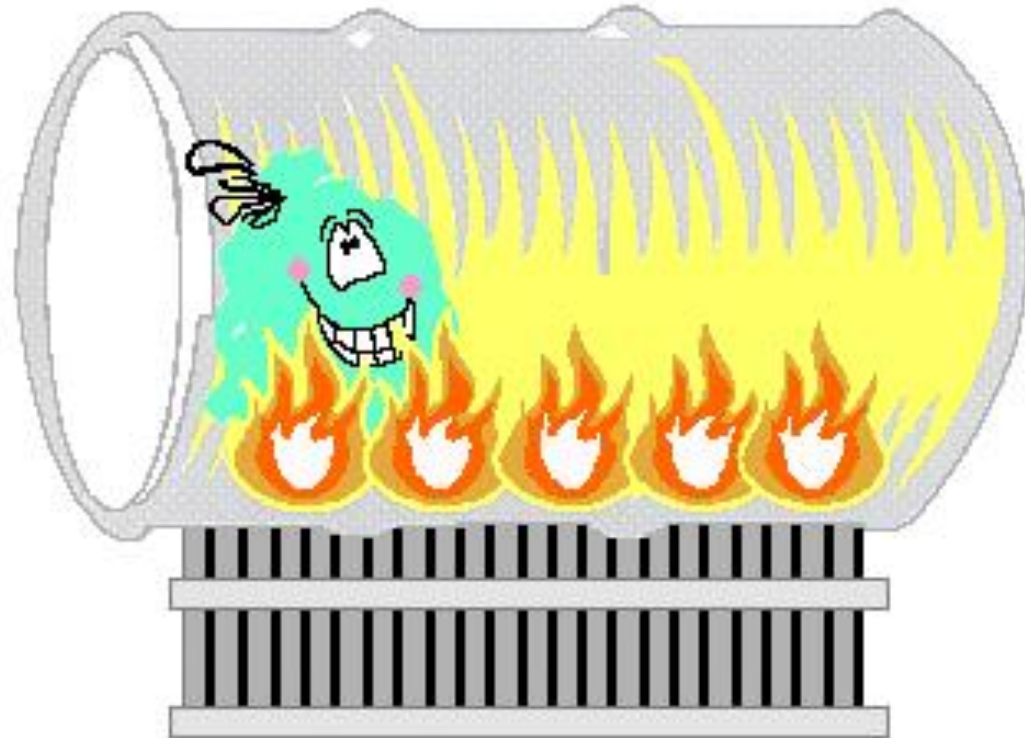




Combustion Unit

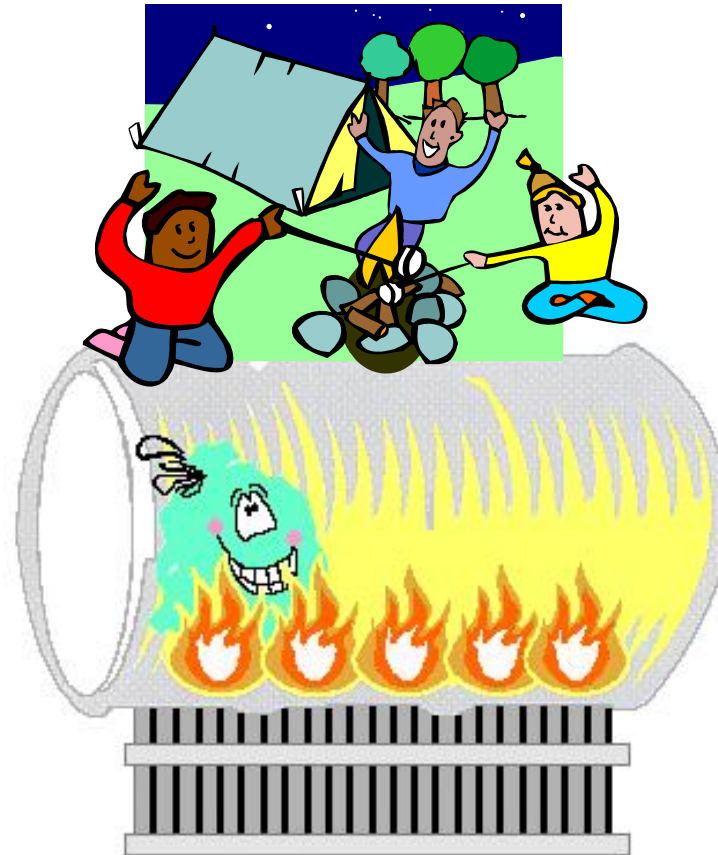


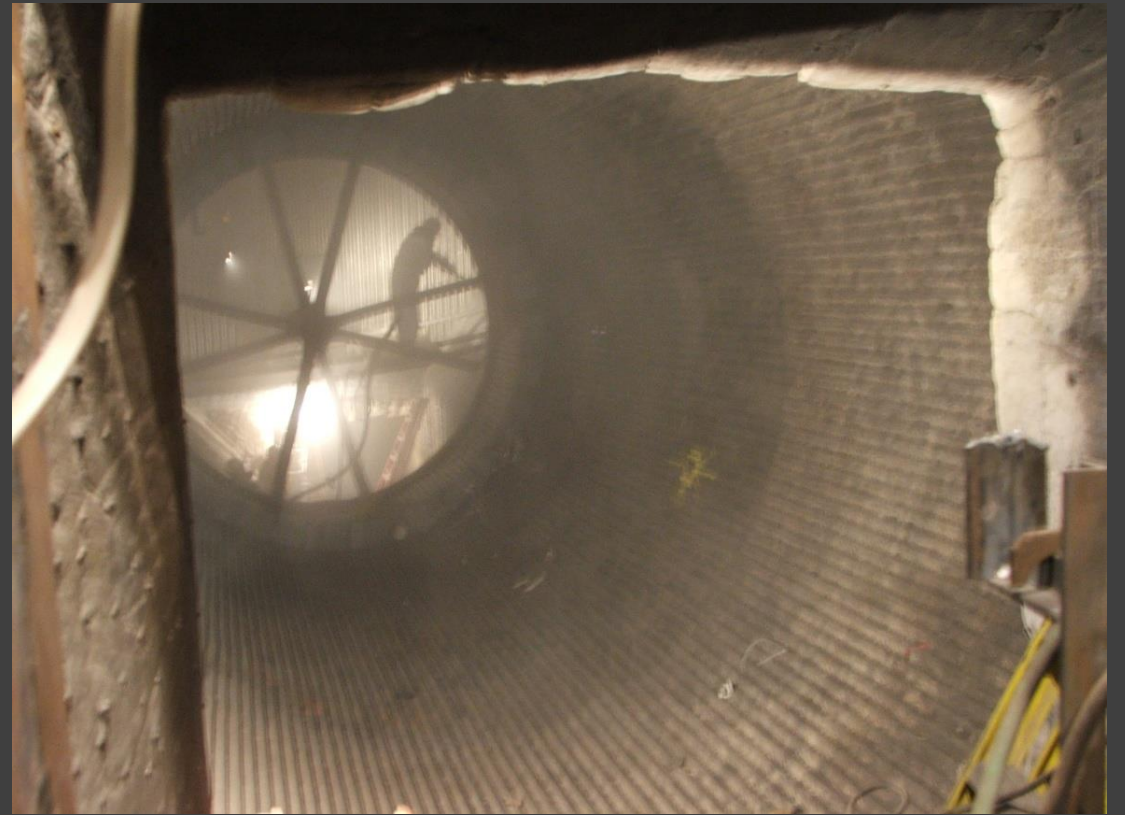
The combustion units must be kept at a HIGH, CONSISTENT TEMPERATURE to ensure all the garbage is completely burned, and to help control emissions.





To ensure that all the garbage burns completely and evenly, the inside of each combustion unit **ROTATES** very slowly (like toasting marshmallows).

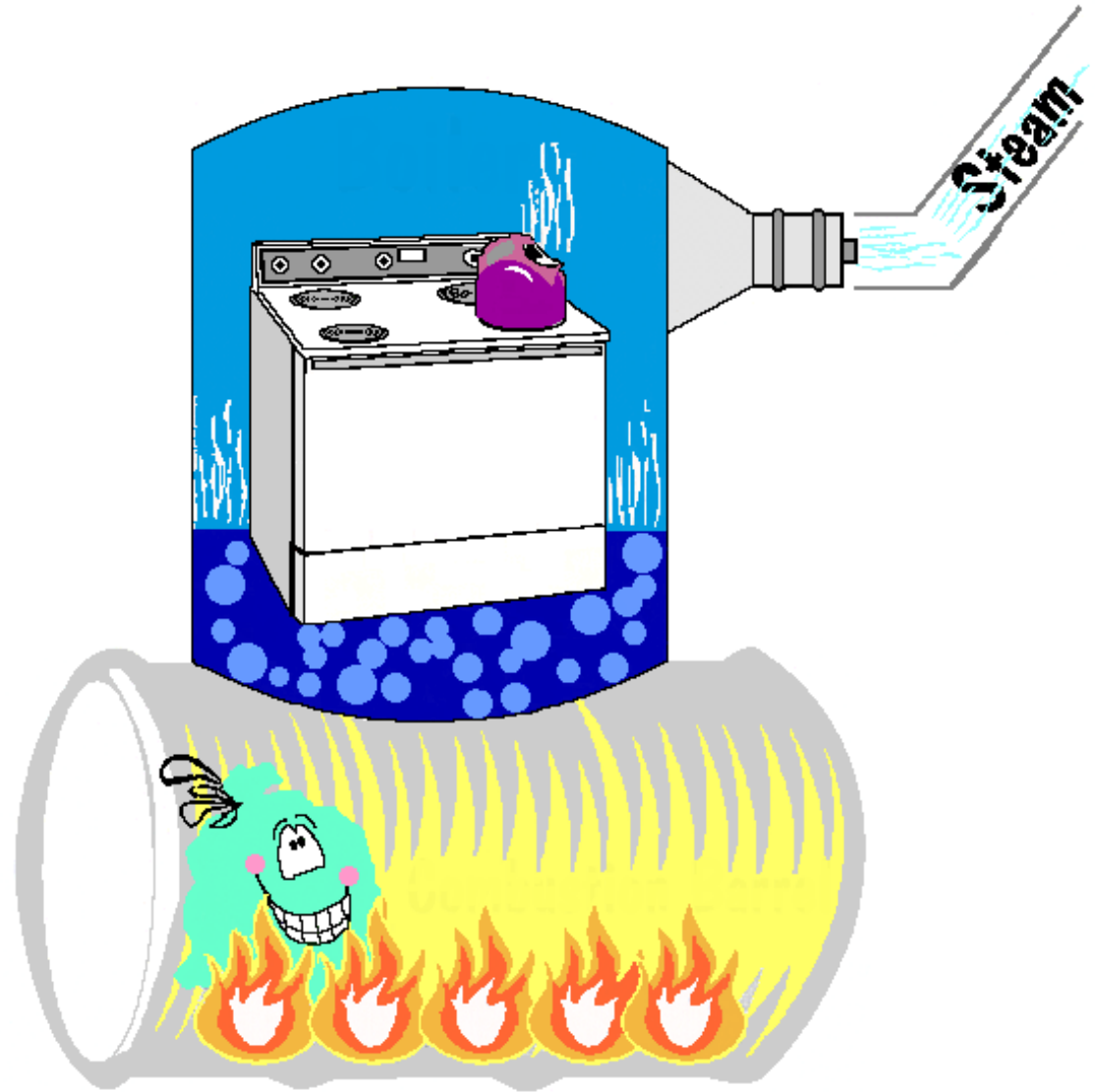


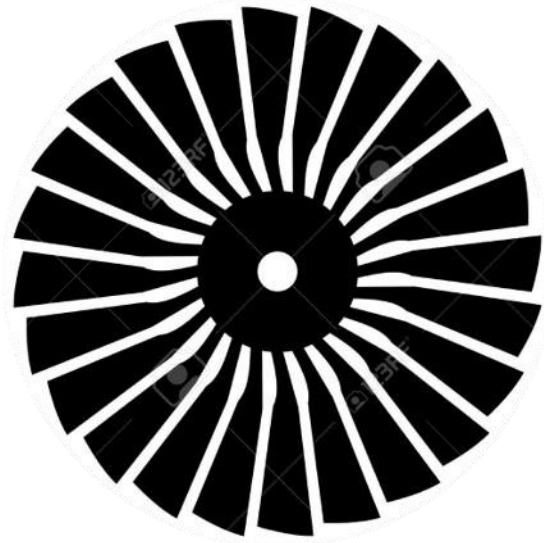


Inside of Combustion Units



The burning garbage  
heats water in BOILERS  
the same way a stove  
heats water in a teakettle.



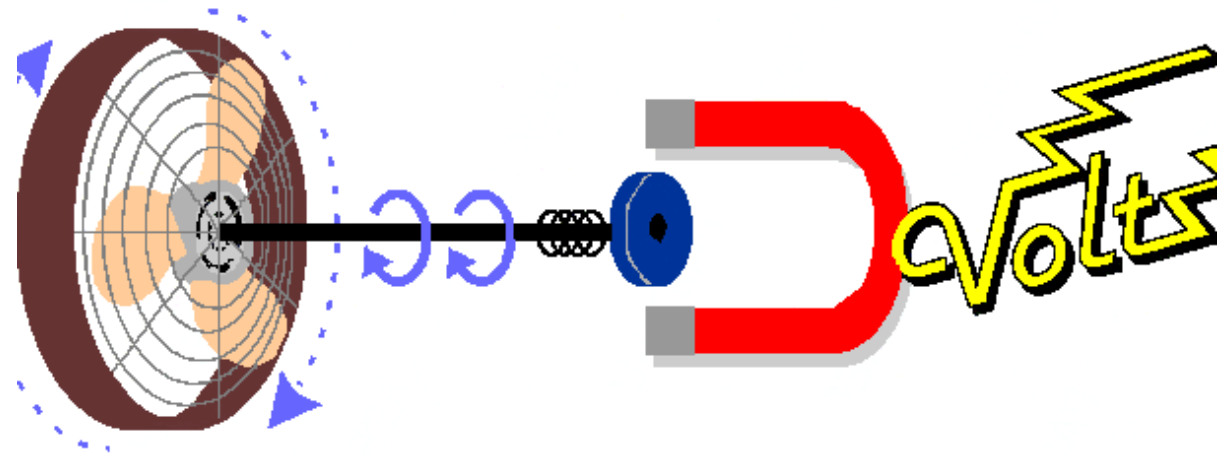


Steam produced in the boiler is used to operate a turbine which has blades that turn like a fan.





The fan inside the turbine is connected to a metal shaft. As the fan turns, the metal shaft rotates and an **ELECTRICAL CHARGE** is created in the **GENERATOR**.



# The Turbine Generator







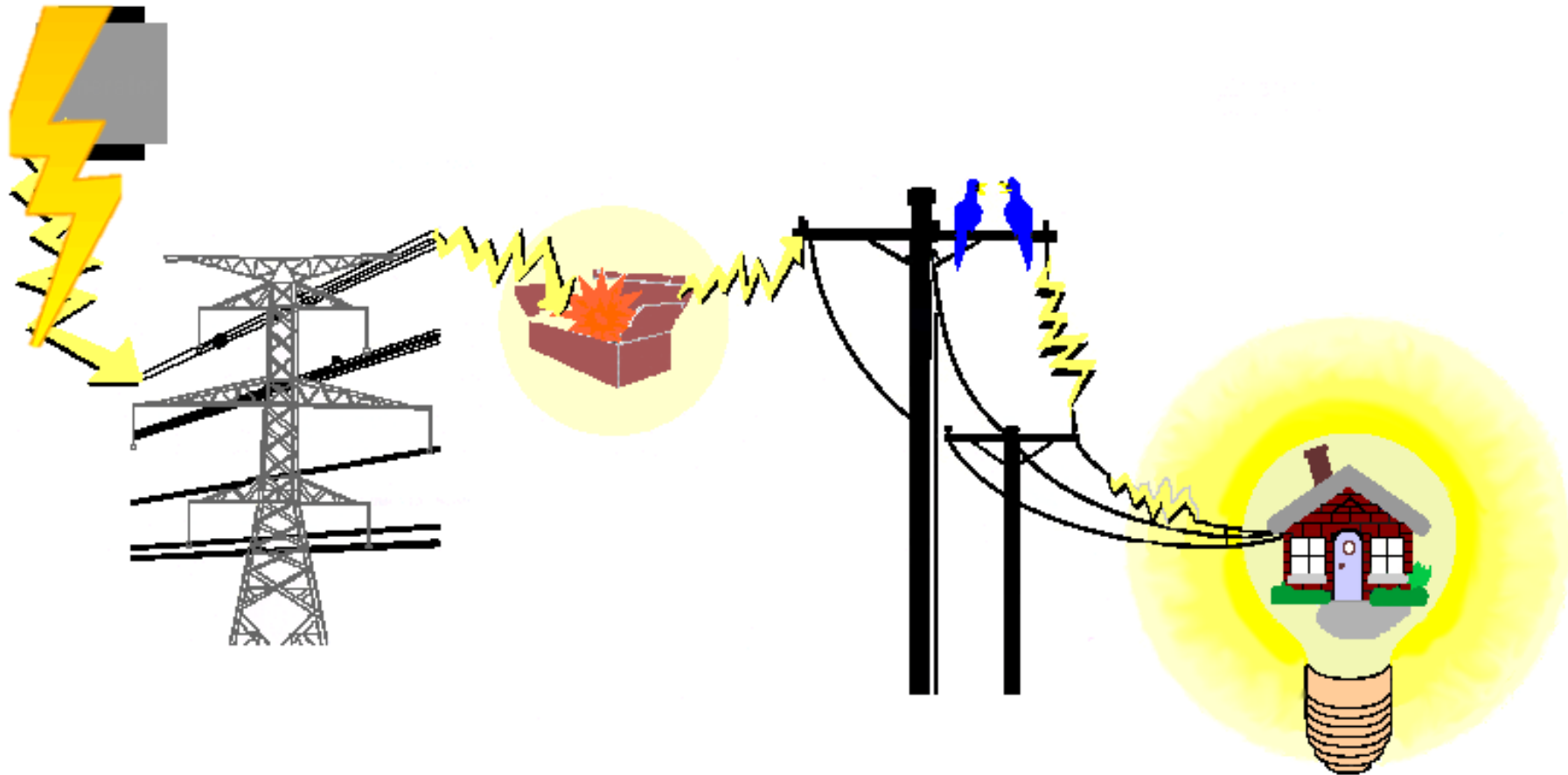


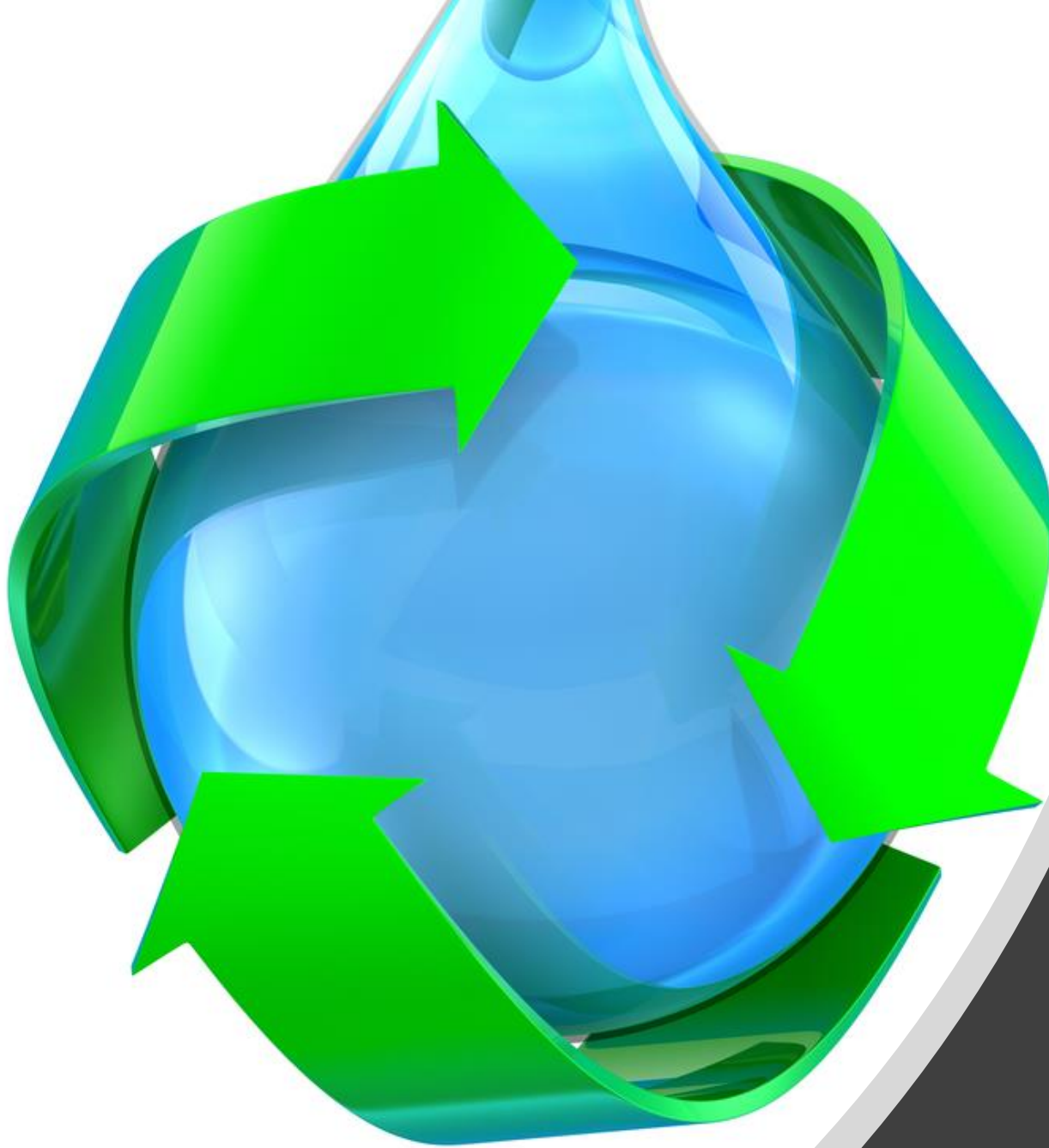
# The Switchyard





The York County Resource Recovery Center produces enough electricity to power 20,000 HOMES!





The COOLING  
TOWERS recycle some  
of the water in our  
leftover steam.

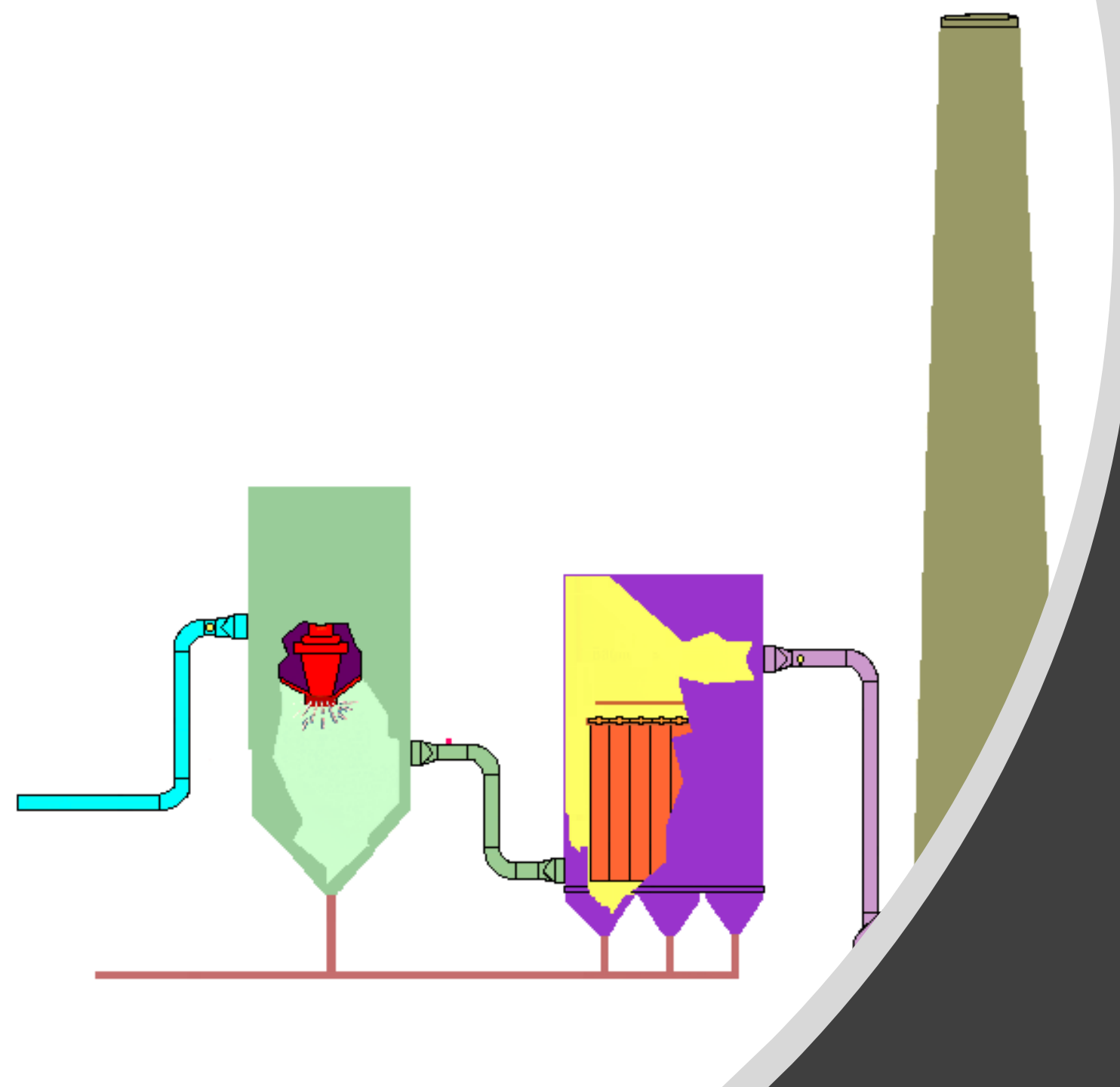


# Cooling Towers



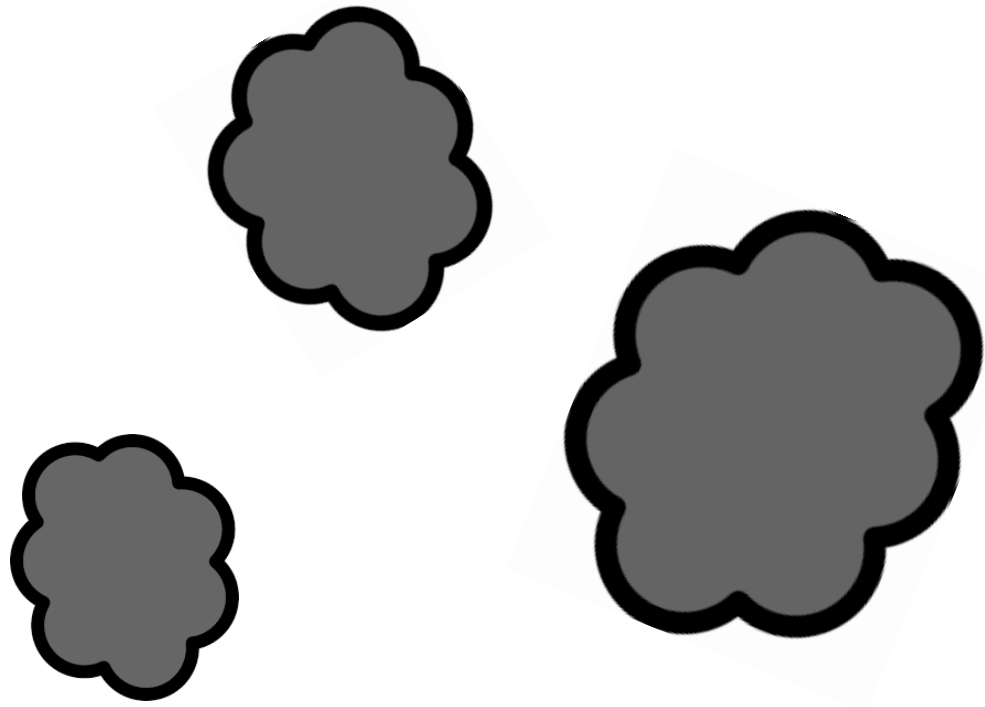


The Control Room



AIR POLLUTION  
CONTROL is managed  
in a two-part system.



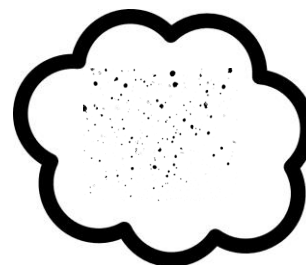
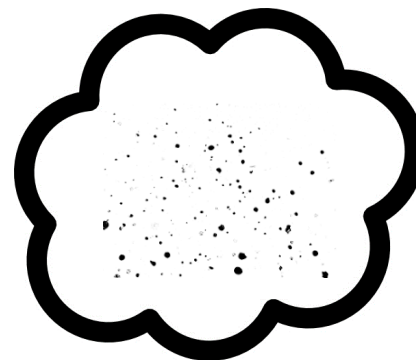
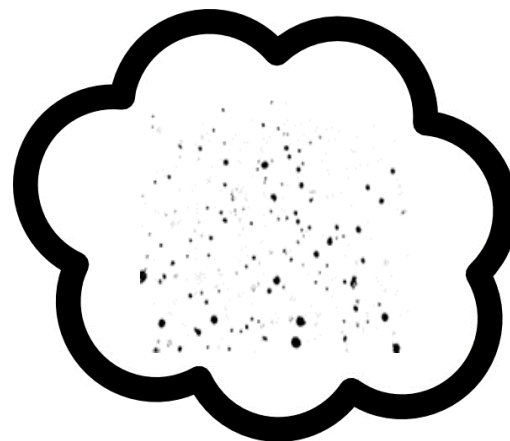


To the Dry Scrubber !



Part 1 is a SCRUBBER that cleans combustion gases from the air.

# Combustion Gases





The baghouse works like a giant vacuum cleaner- it pulls the air with the dirty particles and captures them.



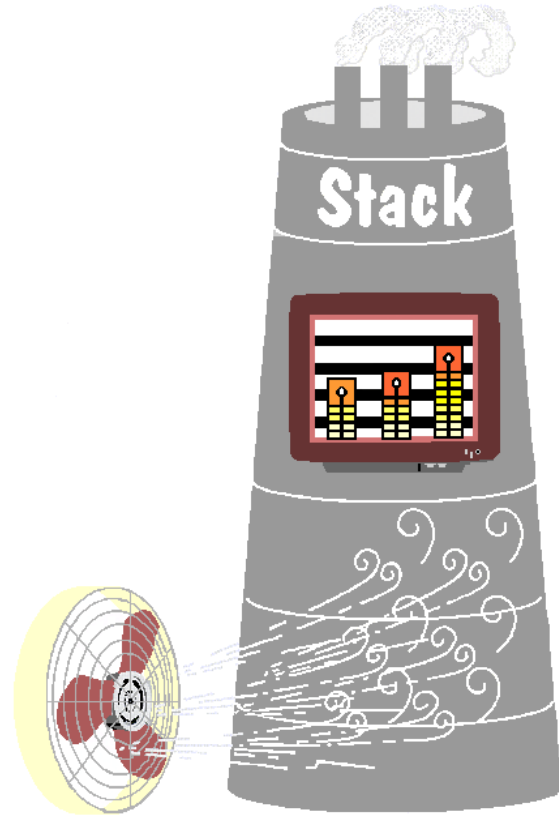




The Baghouse

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A fan pulls the clean air up and out of the STACK. Sensors in the stack check the air 24-hours a day to be sure the Resource Recovery Center meets strict AIR POLLUTION CONTROL REGULATIONS.







# The Stack

# #1 BIG THING TO REMEMBER:

Garbage is reduced to a smaller pile of ash. Reducing garbage to ash SAVES 13 acres of LAND per year!



## #2 “BIG THING” TO REMEMBER:

Materials such as glass, metals and sand are removed from the ash and recycled.

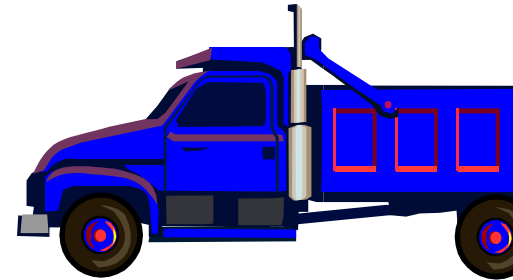




Every 100 trucks of TRASH



are REDUCED to...



Just 10 Trucks of ASH!

## #3 “BIG THING” TO REMEMBER:

After the metals, glass, sand and aggregates are removed, the ash remaining is used as DAILY COVER at a landfill instead of soil.



## #4 “BIG THING” TO REMEMBER:

The electricity produced by using garbage as a fuel reduces the need to use FOSSIL FUELS to produce power.





#5 “BIG THING”  
TO  
REMEMBER:

For every ton of trash processed using waste-to-energy technology, one ton of GREENHOUSE GASES are avoided.



That is the magic of Waste-to-Energy !

