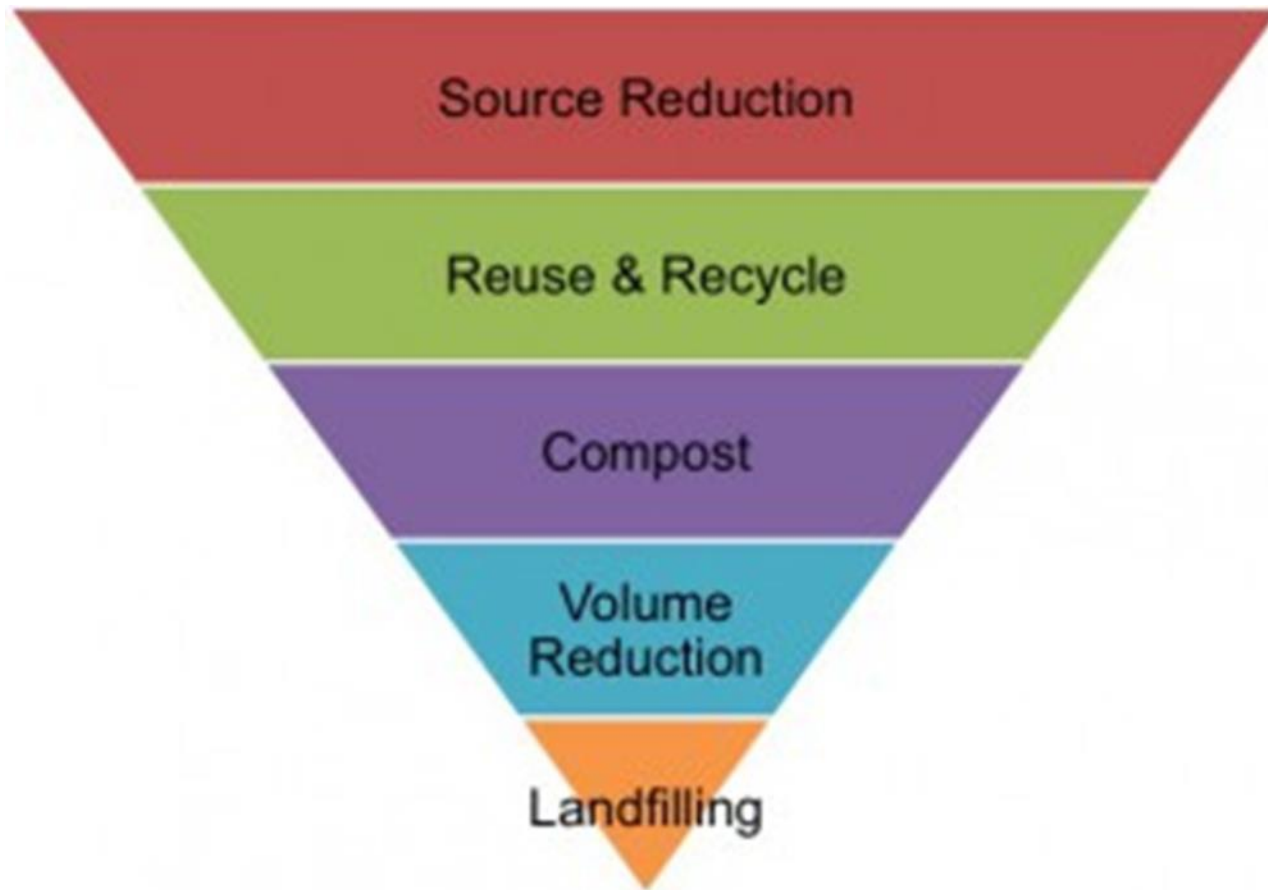


Hazardous Waste Management

Lecture 6

Waste Hierarchy



Reduce / Waste Minimization

- The best way to deal with trash is to not have any!
- Reducing the amount of trash you have to throw out actually prevents waste from piling up in the first place.
- To reduce your waste, avoid unnecessary packaging and items designed to be used only once.

Reduce the need for 'single use' plastic bags by bringing your own bags when you shop, and use a travel mug when you buy coffee.

Choose durable, reusable products to make less trash.



Reuse

- Reusing items can save energy and money, and prolong the item's useful life.
- Extend the life of items you buy by reusing them.
 - For example, reuse containers and jars, and donate still usable household goods and clothing to charity.



Recycle

- Every day we use products made from recycled materials.
- Take your glass, cans, newspapers, milk jugs and other acceptable recyclable items to your local transfer station, drop off location or place out for curbside collection so that they can be turned into new products like fleece jackets,
- Frisbees, paper products, and soda cans. Recycling saves money, energy, and the environment.
- 36.76% of Maine's municipal solid waste was recycled in 2015.



Compost

- Composting is nature's way of recycling organics.
- When you compost, you convert vegetable scraps, leaves, grass clippings and other materials into a nutrient rich soil material.
- You can use finished compost in your garden and around shrubs or other plants to help them grow.
- Composting also reduces the amount of materials that need to be disposed of, reducing those related costs.



Processing and Beneficial Use

- Processing reduces the volume of materials to be landfilled and can create products such as fuel oils and steam for electricity generation.
- Beneficial use means the reuse of solid waste as a substitute for raw material in manufacturing, as construction material or fill, as a fuel, or as an agronomic soil amendment.

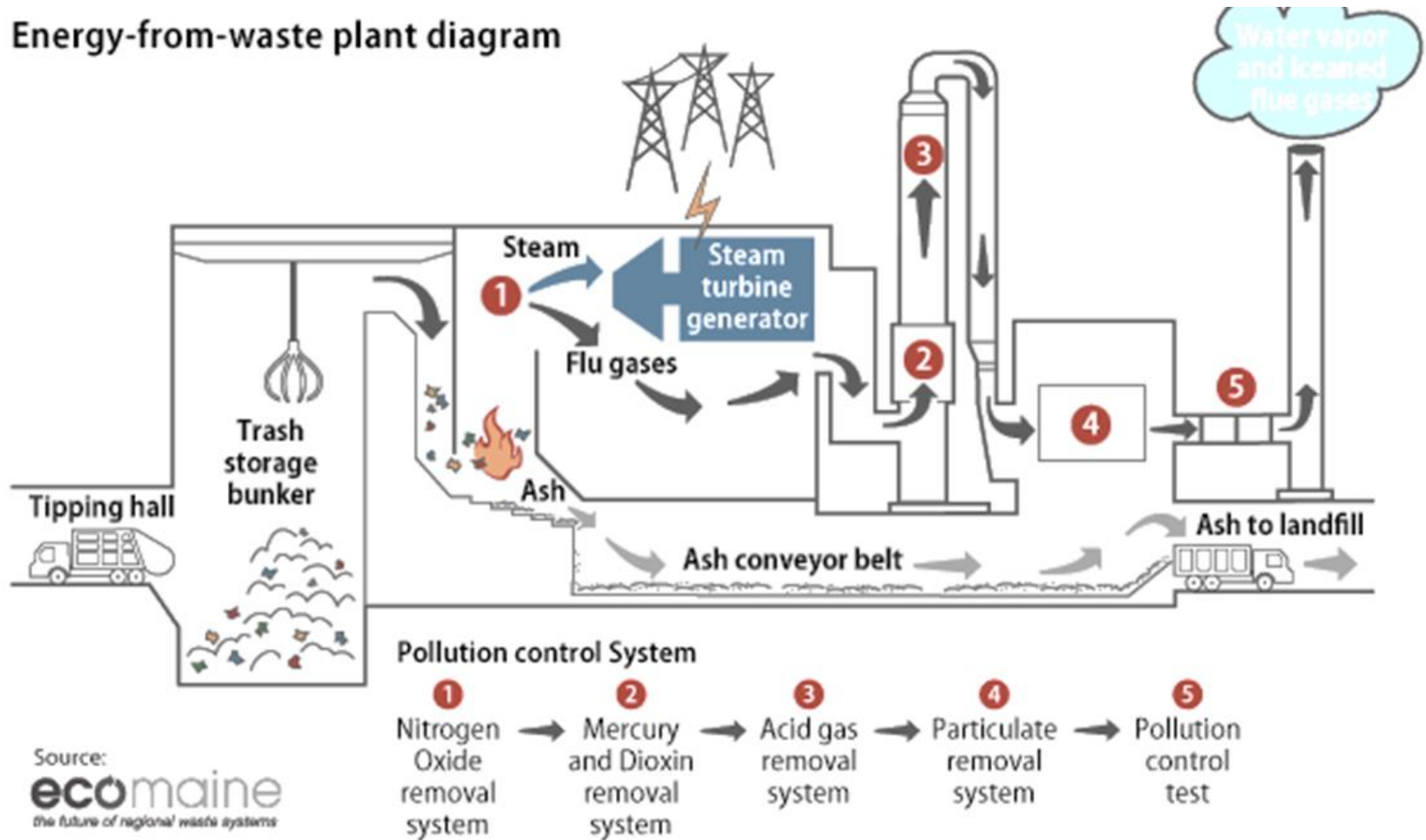


Waste-To-Energy

- Waste-to-Energy facilities accept our solid waste and combust it at very high temperatures, producing heat that is used to convert water into steam. The steam is used to run turbines that generate electricity.
- Scrubbers, filters, and other pollution control equipment reduce pollutants released during the incineration process. Ash and other residues from this process are landfilled.
- Over 27% of Maine's municipal solid waste was combusted in 2015.

Waste-to Energy

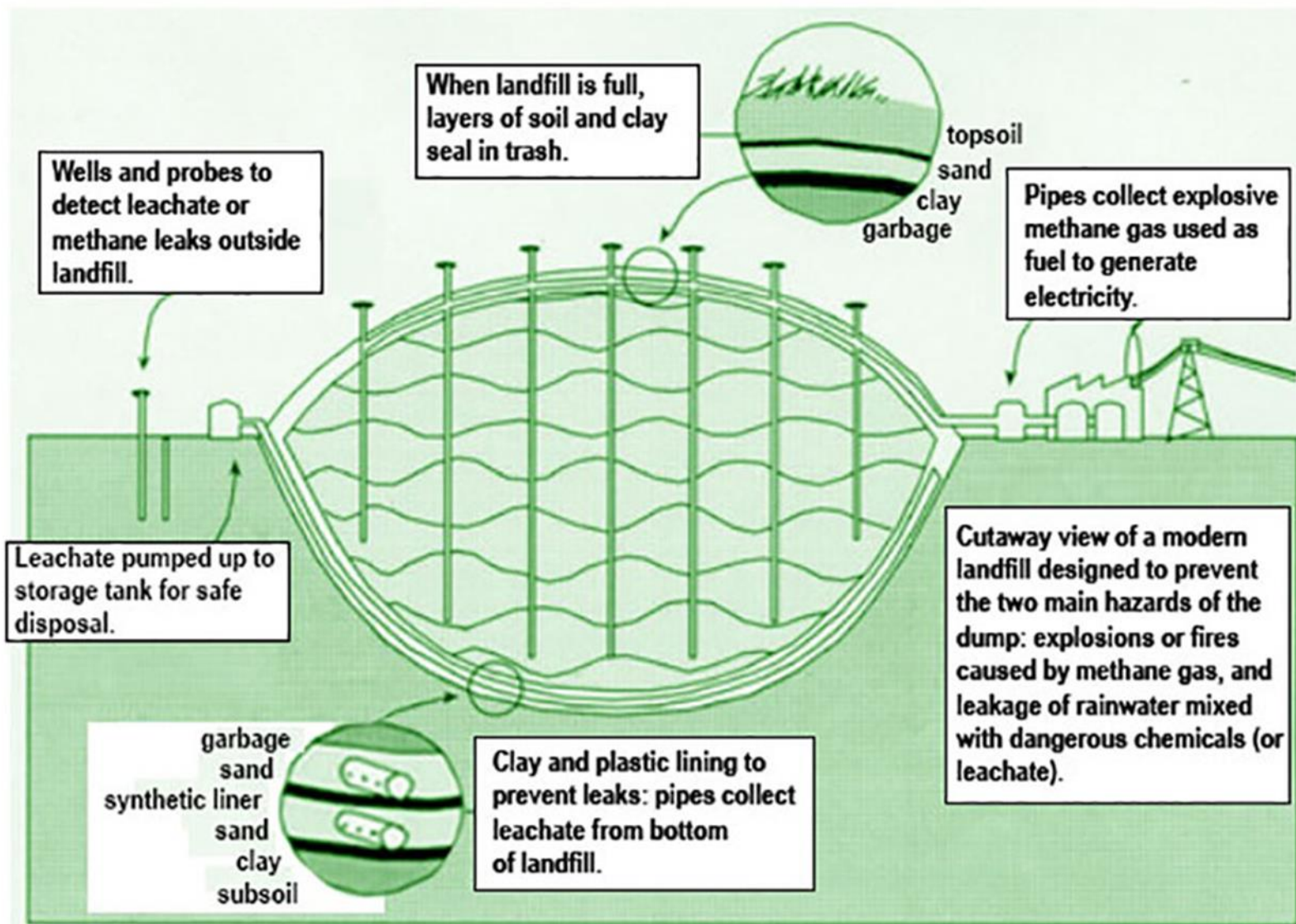
Energy-from-waste plant diagram



Landfill

- Today's landfills are very different from the old ones where people just dumped their garbage in an open area.
- Landfills are constructed and operated to strict environmental standards, including liners to protect groundwater.
- Within this hierarchy, landfilling waste is the lowest priority of the solid waste management options.





Additional Type Hazardous Properties

- **Infectious or Medical** Waste – i.e. human tissue from surgery, used bandages and needles, microbiological materials, etc.
- **Radioactive** – Nuclear power plants have waste that produce radiation which destroys living organisms. Decay half life extends its activity for thousands of years.
- Hazardous **Materials Transportation** Act) Requires proper labeling and transport of all hazardous materials and waste

