

Typical American Ref-Fuel Waste-to-Energy Facility



1. Collection trucks enter the site at a computer-controlled weigh station and are directed to an enclosed tipping hall.
2. Waste from collection vehicles is unloaded directly into the refuse bunker.
3. The overhead refuse crane mixes the waste and transfers it from the bunker and drops it into the waste charging hopper.
4. The charging hopper holds a ready supply of waste for charging the grate system.
5. The ram feeder pushes the solid waste onto the uppermost roller of the Duessel-dorf Roller Grate.
6. The constant rotation of the set of rollers tumbles and distributes the waste evenly along the downward slope of the roller grate to promote thorough combustion. The speed of the rollers, the quantity of combustion air provided and the speed of the ram feeder are individually controlled to maintain optimum furnace conditions.
7. After combustion of the solid waste on the roller grate, the remaining ash falls off the final roller into the water-filled ash quench trough.

8. A conveyor carries the ash to further processing for ferrous and other materials recovery (optional) and then to the ash storage area. A front-end loader is used to remove and load the ash into trucks in an enclosed building.
9. The control room houses the computerized central monitoring and control network for the facility.

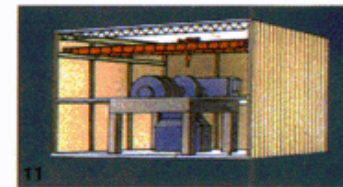
Additional materials recovery and pollution abatement subsystems may be incorporated in the facility as required.

10. The heat generated by burning the waste produces steam in the waterwall boiler.
11. Approximately 10 percent of the energy produced by the turbine generator is used to operate the plant and the balance is sold to the energy customer.

12. After cooling in the boiler, combustion gases pass through a scrubber for the removal of acid gases.
13. The air flow then continues through a particulate collection system.
14. The cleansed gases are then dispersed to the atmosphere through the stack.



Materials Recovery & Ash Handling Systems



Turbine - Generator

