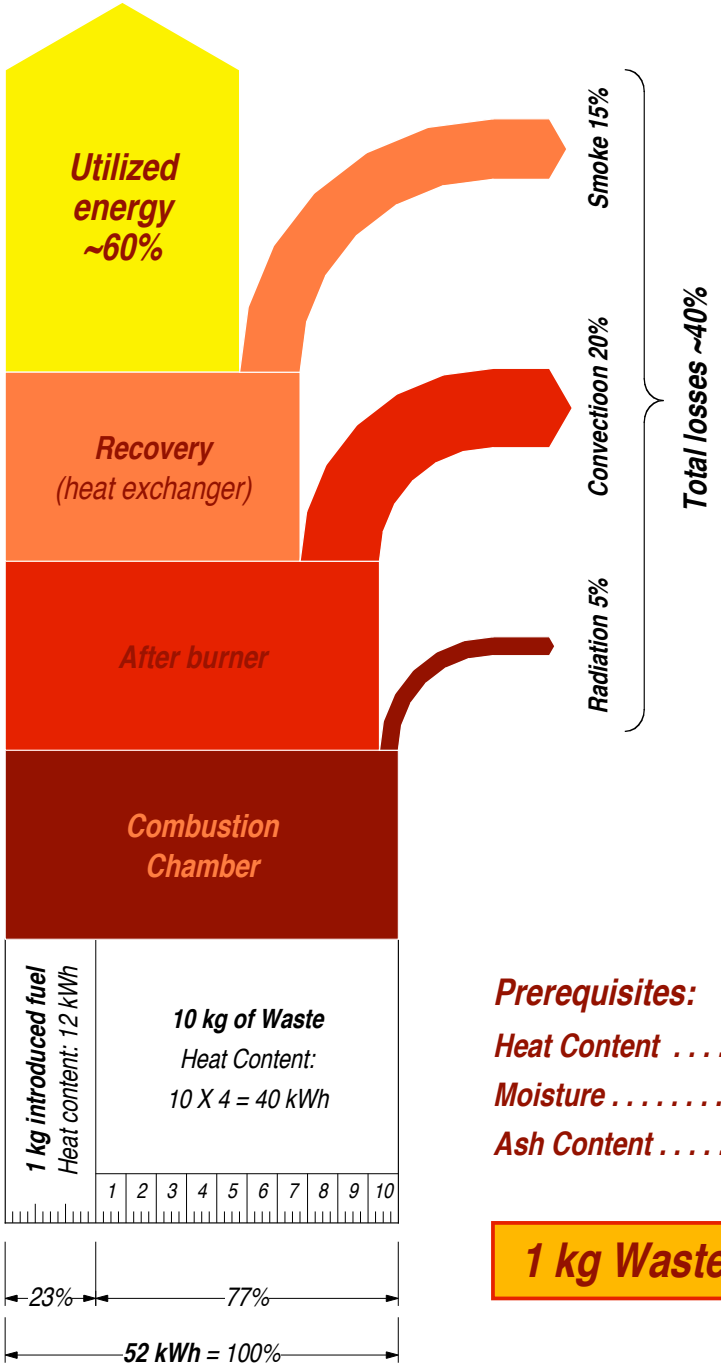
Energy recovered in Waste Incinerators



Prerequisites:

Heat Content . . . . . 4 kWh/kg

Moisture . . . . . 20 %

Ash Content . . . . . 10 %

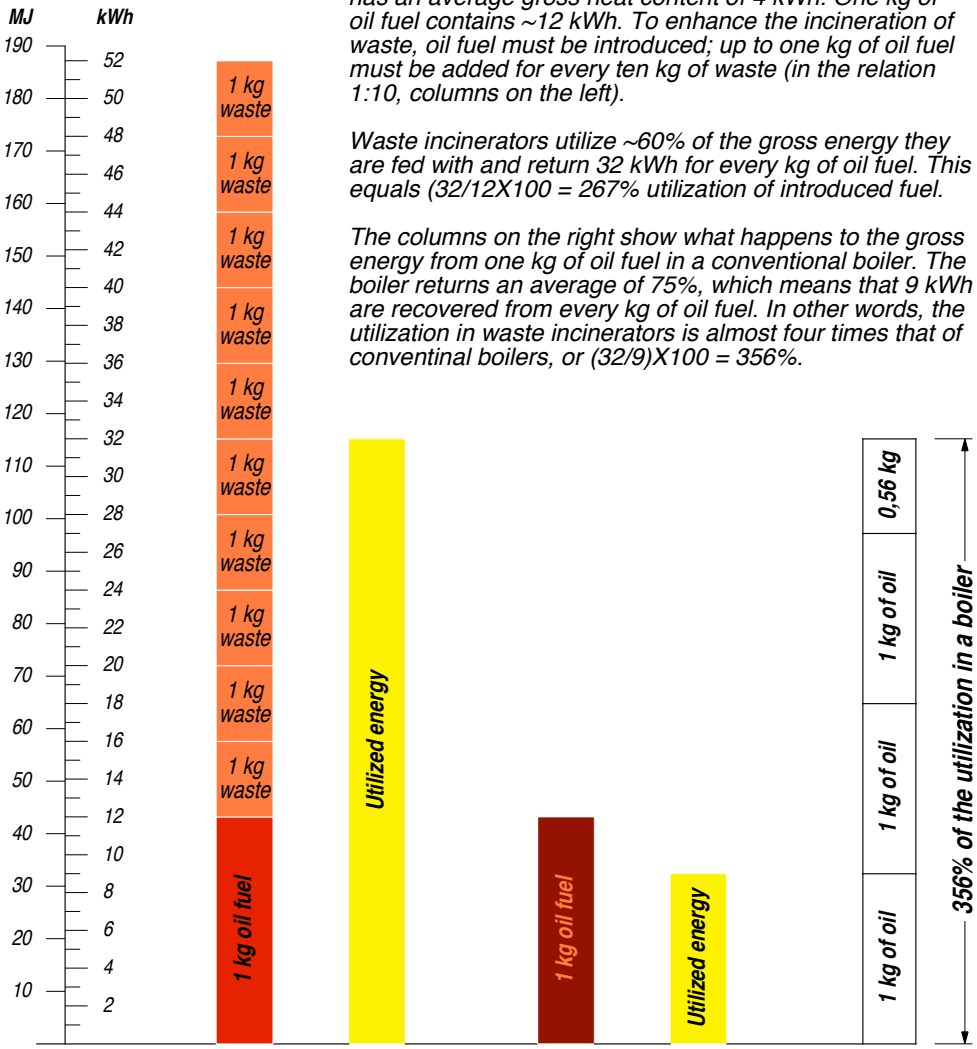
1 kg Waste = 3,2 kWh

*The diagram far left shows that the energy recovered in waste incinerators equals 32/10 = **3,2 kWh/kilogram**.*

One kilogram of 'standard' waste from modern societies has an average gross heat content of 4 kWh. One kg of oil fuel contains ~12 kWh. To enhance the incineration of waste, oil fuel must be introduced; up to one kg of oil fuel must be added for every ten kg of waste (in the relation 1:10, columns on the left).

Waste incinerators utilize ~60% of the gross energy they are fed with and return 32 kWh for every kg of oil fuel. This equals (32/12X100 = 267% utilization of introduced fuel.

The columns on the right show what happens to the gross energy from one kg of oil fuel in a conventional boiler. The boiler returns an average of 75%, which means that 9 kWh are recovered from every kg of oil fuel. In other words, the utilization in waste incinerators is almost four times that of conventinal boilers, or (32/9)X100 = 356%.



Waste Incinerators
267% utilization of introduced fuel

Conventional Boilers
75% utilization of introduced fuel

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