

Non-paper on the background of the development of the Commission proposal on the distinction between energy recovery and disposal of waste in municipal incinerators

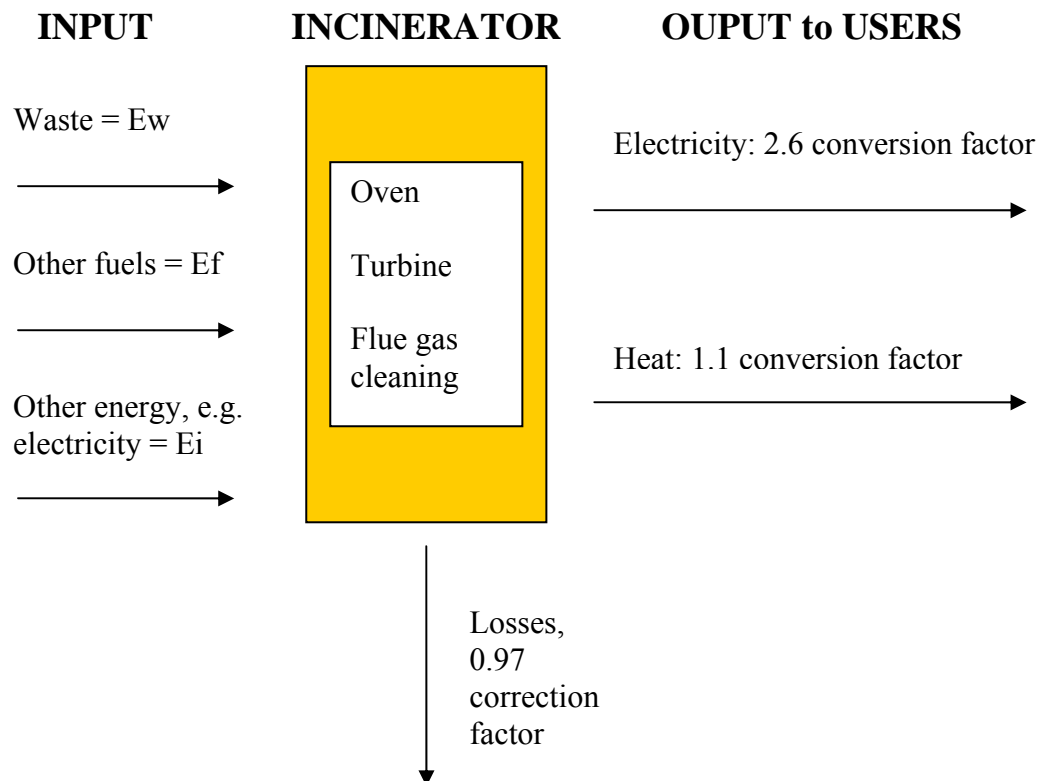
The Commission has prepared this non-paper to give additional background on its proposal.

1. The Council and the European Parliament have on several occasions called for a clarification of the recovery and disposal definitions. This is essential for recycling and recovery targets and waste shipment decisions under EU legislation. The 6EAP calls on the Commission to develop adequate criteria for the further elaboration of Annexes IIA and IIB of the Waste Framework Directive.
2. Distinguishing the municipal incinerators that are recovery installations from those that are disposal installations has been a central issue in the discussions on the definitions for many years. These discussions have shown that such a distinction is necessary and that it must be based on sufficiently specific criteria.
3. Over the years three criteria have been considered in various contexts (technical adaptation committee, court cases, general policy debate) of which two have been discarded by the Commission:
 - a. The energy content of the processed waste, i.e. the calorific value, was the first criterion considered, inter alia in the Technical Adaptation Committee of the Waste Framework Directive. This criterion was criticised because municipal waste has a calorific value similar to some commonly used fuel;
 - b. The second criterion, proposed by the European Court of Justice, is the principal objective of the incinerator. This is a subjective criterion and would require additional complex specifications.
4. The remaining criterion is the energy efficiency of the plant. This criterion was selected as the best criterion because (1) energy efficiency relates directly to the degree of the energy recovery from the waste and (2) as the Waste Incineration Directive 2000/76/EC limits polluting emissions (e.g. dioxins and heavy metals) energy efficiency determines the life cycle environmental outcome of incinerators.
5. The working group that was involved in the preparation of the BREF on waste incineration¹ developed a method to calculate the energy efficiency of municipal incinerators². This method is reflected in the energy efficiency factor and calculation formula proposed by the Commission. This method is based on two basic ideas:
 - a. The energy efficiency factor (E_p) must measure the energy produced from the waste. It must take into account that incinerators also use other energy than that contained in the waste (E_w). Therefore corrections are necessary for the use of other fuels (E_f e.g. oil) or for energy imported (E_i e.g. electricity);

¹ The working group comprised representatives of the Member States, the concerned industry sectors and environmental NGOs.

² See annex 10.4 to the BREF on waste incineration "Energy calculation methodology and example calculation", pp. 626-638, available at <http://eippcb.jrc.es/pages/FActivities.htm>.

- b. The energy efficiency factor (E_p) must measure the energy made available to users³ and compare heat to electricity. To get one unit of electricity to users one needs 2.6 units of heat at the incinerator level; to get one unit of heat to users one needs 1.1 units of heat at the incinerator level.
6. In summary, the formula calculates the energy output divided by the energy input. It corrects the result (1) to avoid counting energy produced from other fuels than waste, (2) for normal energy losses, and (3) for the purpose of comparing the electricity and heat delivered to users. The energy flows taken into consideration can be represented as follows:



7. The thresholds must take geographical conditions into account. This is why they should be based on highly efficient incinerators producing electricity and not on incinerators producing heat or both heat and power. The latter would lead to higher thresholds that are likely to be difficult to comply with in southern EU where demand for heat is low.
8. Therefore, the Commission has proposed that incinerators with an energy efficiency factor equal or above 0.6 would be classified as recovery installations. To take into account technological progress and to foster innovation the Commission also proposed that this threshold would be raised in 2009 to 0.65.
9. The available information on the impacts of the Commissions proposal is summarised in the letter from Commissioner Stavros Dimas to the European Parliament available at http://ec.europa.eu/environment/waste/pdf/energy_recovery.pdf.

³ Use of electricity for the flue gas cleaning system is considered as being made available to users – otherwise the threshold would have an inhibiting effect on strengthening the air polluting standards beyond the levels set by the Waste Incineration Directive.

Annex: Commission proposal contained in Annex II to COM (2005) 667 final

"This includes incineration facilities dedicated to the processing of municipal solid waste only where their energy efficiency is equal to or above:

- 0.60 for installations in operation and permitted in accordance with applicable Community legislation before 1 January 2009,
- 0.65 for installations permitted after 31 December 2008,

using the following formula:

$$\text{Energy efficiency} = (E_p - (E_f + E_i)) / (0.97 \times (E_w + E_f))$$

In which:

E_p means annual energy produced as heat or electricity. It is calculated with energy in the form of electricity being multiplied by 2.6 and heat produced for commercial use multiplied by 1.1 (GJ/year)

E_f means annual energy input to the system from fuels contributing to the production of steam (GJ/year)

E_w means annual energy contained in the treated waste calculated using the lower net calorific value of the waste (GJ/year)

E_i means annual energy imported excluding E_w and E_f (GJ/year)"