Waste incinerator plant: apply for R1 status

How to calculate the incinerator’s energy efficiency factor?

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Your plant must have R1 status if you want to import Refuse Derived Fuel (RDF) from UK.

Check if the incinerator is eligible

To qualify as an R1 recovery operation the waste incinerator must:

* have or will have an environmental permit for a waste incineration installation
* be capable of incinerating mixed municipal solid waste, including refuse derived fuel or solid recovered fuel incinerators if the fuel’s been made from mixed municipal solid waste
* not be a co-incinerator

Municipal waste incinerators (MWI) designed to burn municipal waste but which accept commercial and industrial waste are also eligible.

Calculate the energy efficiency

You must calculate the energy efficiency factor of the incinerator. This is known as the R1 value. Calculate the R1 value using the method in the European Commission’s Guidance (Guidelines R1 EEF).

If your incineration plant will generate electricity using a standard Rankine cycle steam power plant system, you can use the R1 efficiency formula spreadsheet to do the calculation. If you’re not sure if the spreadsheet is suitable for your process, contact your local Environment Agency for advice.

Energy efficiency results

The minimum R1 values are:

* 0.60 for MWI permitted and in operation before 1 January 2009
* 0.65 for MWI permitted and in operation after 31 December 2008
* 0.60 for ASR

If the first R1 value you calculate is below the minimum, you can apply a climate correction factor (CCF). This may help increase the R1 value for plants in warmer parts of the UK where it’s harder to be efficient than in colder parts.

Calculate your CCF

You must follow the instructions in the “*Annex of European Commission Directive (EU) 2015/1127*”.

You can enter the CCF value into the R1 spreadsheet which will then calculate the final R1 value automatically. Or you can multiply the R1 value you’ve calculated with the CCF yourself.

Apply for R1 status

Before you make an application you can have a pre-application discussion with your local Environment Agency installations team. This will help you understand what you need to include in your application.

You must submit:

* the R1 value, either in a completed R1 spreadsheet, or alternative calculation method agreed with the Environment Agency if your incinerator doesn’t use a standard Rankine cycle steam power plant system
* clear concise evidence for each figure
* a Sankey diagram (or equivalent) showing the boundary of the system you’re doing the calculation for
* Applicable fees

The UK Environment Agency will assess the data you submit and confirm if you meet R1 status.

Application fee

When you apply for:

* R1 status at the same time as you apply for your environmental permit: no charge
* the first time before or after commissioning: £2,000
* revalidation after plant commissioning, annual submission and 5-year reassessment stages: £1,000

The UK Environment Agency will ask you for an additional fee if the submission is:

* so complex it needs a consultant to help assess your submission
* of such poor quality the Environment Agency needs to do additional work