

Triple E Eligibility Criteria

Category: Heating and Electricity Provision

Technology: Biomass Boilers

Biomass Boilers provide an efficient, automatic method of generating hot water, steam or other heat-transporting fluids, using carbon-neutral biomass as the fuel source. The biomass boiler is considered as incorporating ancillary equipment such as control systems, fuel-feed system, fans and grit arrestors.

Eligibility criteria

To be included on the Triple E product register*, a biomass boiler must meet *all* the requirements set out below.

Note: *Supporting documentation that clearly demonstrates Triple E compliance according to the conditions below will be required as part of the Triple E checking process. Detailed information on the types of documents accepted can be found in the separate Supporting Documentation guidelines.*

*Also known as the specified list as per the Finance Act

No.	Condition
1.	All equipment and/or components must be CE-marked as required by the specific EU directive(s).
2.	Must be a minimum size of 50kW
3.	Appropriate operating and maintenance manuals must be available for the end-user as part of the main contract of sale in order to maximise the achievement of potential efficiency improvements.
4.	Must be equipped for automatic operation without the need for permanent supervision. This shall include: <ul style="list-style-type: none"> • Automatic start-up and shut-down • Ability to operate in slumber mode and to restart when the heating load demands • Automatic fuel loading commensurate with the heat/steam demand • Automatic ash removal • Automatic control of the burning rate commensurate with the heat demand
5.	Must incorporate a system to automatically prevent burn-back through the fuel-feed system.

6.	<p>Must incorporate a fault-monitoring system which should be capable of communicating remotely a fault.</p> <p>The parameters to be monitored shall include:</p> <ul style="list-style-type: none"> • Fuel shortage or blockage • Boiler shut-down • Boiler hot water/thermal fluid outlet temperature or steam pressure • Flue gas temperature
7.	To facilitate automatic tube cleaning, the boiler must incorporate a mechanical or pneumatic system for heat exchanger cleaning on the gas side.
8.	Must incorporate an automatic system to 'trim' the combustion air commensurate with the oxygen content of the flue gases so as to minimise 'stack' losses caused by excess air.
9.	Must incorporate a system to prevent over-heating of the water within the boiler in the event of a mains electricity failure.
10.	Efficiency and certified dust-emission levels, both measured in accordance with a recognised European standard, must achieve the minimum and maximum limits listed in Table 1 when burning wood pellets or wood chips.

Table 1. Thermal efficiency and emissions

Boiler rating	Thermal efficiency¹		Dust emission²
	Chips	Pellets	
50 -150 kW	≥ 85%	90%	≤ 150
>150 – 500 kW	≥ 86%	91%	≤ 130
> 500 kW	≥ 87%	92%	≤ 120

¹ The efficiencies shall be measured on a 'net' calorific value basis.

² On an mg/Nm³ 13 Vol.-%O₂ basis.

-----End of Triple Eligibility criteria -----

Please see next section for guidance on:

- 1. Technical details required in product submission**
- 2. Supporting documentation required**

Guidance on product details and supporting documentation

The following information is not part of the official criteria document published within the relevant statutory Instrument; it has been added here for guidance purposes only in order to provide assistance with the submission of product details and the provision of the required supporting documentation.

Note: All information contained within this guidance document is subject to change without notice

Technical information required in product submission

The following are the specific technical values required as part of the product submission for this technology:

Boiler Rating (kW)

The rated heat power output in kW of the product is required as a value for the product submission. It must be entered as whole number only (do not include kW symbol). There should also be no spaces or full stops after the number submitted.

Thermal Efficiency (%)

The efficiency (%) of the product is required as a value for the product submission. It must be entered as number only without units or % sign. There should also be no spaces or full stops after the number submitted. The figure must comply with the criteria requirements for minimum efficiency values detailed in Table 1.

Dust Emission (mg/Nm³)

The dust emission (mg/Nm³) of the product is required as a value for the product submission. It must be entered as number only without units. There should also be no spaces or full stops after the number submitted. The figure must comply with the criteria requirements for minimum efficiency values detailed in Table 1.

Supporting documentation required

Described below is the list of documents that are accepted as proof of compliance for the specific Biomass Boilers condition.

Note: This information will only be requested AFTER you submit your product's basic details online

Important Notes to Product Providers

Please ensure that you read the "Important Notes to Product Providers" section at the end of this document prior to submitting documentation.

No.	Condition	Supporting Documentation Requirement
1.	All equipment and/or components must be CE-marked as required by the specific EU directive(s).	<p>Official and published manufacturer's technical data sheet or brochure that demonstrates CE marking compliance</p> <p>OR</p> <p>A copy of an official signed declaration on headed paper that confirms CE marking compliance.</p> <p>Official declarations should explicitly state the product for which CE marking is being confirmed (i.e. do not provide a letter simply stating general compliance with the relevant Triple E condition).</p> <p>Where a document is used to demonstrate conformance for a number of products or range of products, it should clearly specify each individual product covered by that document.</p>
2.	Must be a minimum size of 50kW	Official and published manufacturer's technical data sheet or brochure that demonstrates proof of compliance with the requirements of the condition.
3.	Appropriate operating and maintenance manuals must be available for the end-user as part of the main contract of sale in order to maximise the achievement of potential efficiency improvements.	<p>A copy of an official signed declaration on headed paper which confirms that the appropriate operating and maintenance manuals are provided. Where applicable, information on the availability of technical documentation to download online should be given.</p> <p>NB: A signed declaration is required to comply with this condition in all cases. Submitting copies of user manuals is not sufficient and not required by this condition.</p>

No.	Condition	Supporting Documentation Requirement
4.	<p>The plant shall be equipped for automatic operation without the need for permanent supervision. This shall include:</p> <ul style="list-style-type: none"> • Automatic start-up and shut-down • Ability to operate in slumber mode and to restart when the heating load demands • Automatic fuel loading commensurate with the heat/steam demand • Automatic ash removal • Automatic control of the burning rate commensurate with the heat demand 	Official and published manufacturer's technical data sheet or brochure that demonstrates proof of compliance with the requirements of the condition.
5.	The plant shall incorporate a system to automatically prevent burn-back through the fuel-feed system.	Official and published manufacturer's technical data sheet or brochure that demonstrates proof of compliance with the requirements of the condition.
6.	<p>The plant shall incorporate a fault-monitoring system which should be capable of communicating remotely a fault.</p> <p>The parameters to be monitored shall include:</p> <ul style="list-style-type: none"> • Fuel shortage or blockage • Boiler shut-down • Boiler hot water/thermal fluid outlet temperature or steam pressure • Flue gas temperature 	Official and published manufacturer's technical data sheet or brochure that demonstrates proof of compliance with the requirements of the condition.

No.	Condition	Supporting Documentation Requirement
7.	To facilitate automatic tube cleaning, the boiler shall incorporate a mechanical or pneumatic system for heat exchanger cleaning on the gas side.	Official and published manufacturer's technical data sheet or brochure that demonstrates proof of compliance with the requirements of the condition.
8.	Boilers shall incorporate an automatic system to 'trim' the combustion air commensurate with the oxygen content of the flue gases so as to minimise 'stack' losses caused by excess air.	Official and published manufacturer's technical data sheet or brochure that demonstrates proof of compliance with the requirements of the condition.
9.	The boiler shall incorporate a system to prevent overheating of the water within the boiler in the event of a mains electricity failure.	Official and published manufacturer's technical data sheet or brochure that demonstrates proof of compliance with the requirements of the condition.
10.	The boiler efficiency and certified dust-emission levels, both measured in accordance with a recognised European standard, must achieve the minimum and maximum limits listed in Table 1 when burning wood pellets or wood chips.	<p>Evidence of official testing by manufacturer or independent test lab carried out according to a recognised European standard verifying that the unit achieves the stated efficiency and dust emission levels.</p> <p>Test reports should be of the format described in the 'Important Notes to Product Providers' section of this document.</p>

Important notes for product providers

General

There should be a clear link between the product submitted and all supporting documentation. This will typically take the form of a *product code* or *product name* that can be cross-referenced between the submitted product and the relevant supporting documentation.

If product codes/names have been changed since publication of the supporting documentation, then you must provide official evidence of this with the supporting documentation supplied.

If there is any deviation from these requirements, the supporting documentation will not be considered adequate for the purposes of demonstrating compliance with the criteria conditions. This will in turn delay the submission and/or result in the product not being considered eligible.

Where the Triple E criteria or help documentation makes reference to compliance with appropriate rather than specific standards, the onus is on the product provider to ensure that the supporting documentation supplied references recognised standards that apply to the submitted product, i.e. the product must be covered under the scope of a recognised standard.

If it is subsequently found that any product submitted does not meet the performance or specification criteria, it will cease to be considered eligible for the Triple E.

Note: When supplying the supporting documentation through the online process, you must ensure, when demonstrating compliance with the relevant condition, that the correct page number(s) of the document is referenced. When referencing more than one page number, add an explanatory note.

Test report

A test report must include an outline of the complete test, including:

- √ Introduction
- √ Details on test conditions
- √ The specific model details of the product tested
- √ The steps taken in the test
- √ The results
- √ Graphical representations
- √ Conclusion

All documents should be on headed paper and the document should be officially signed off. **All documentation must be in English**, or include adequate translation.

Certification

Where certificates are provided, all tests must be carried out by an organisation that is accredited by a national accreditation body, recognised via the European Cooperation for Accreditation (preferred) or the International Accreditation Forum. **All documentation must be in English**, or include adequate translation.

Scientific equivalence

Some Triple E criteria conditions allow for scientifically equivalent tests and/or standards to be used.

If a product has not been designed, manufactured or tested to the specific standard named, then documentation relating to an equivalent internationally recognised standard may be used, where the phrase '*or scientific equivalent*' is included in the Triple E condition or help documentation.

In such applications, the onus is on the product submitter to demonstrate satisfactory equivalence of the standards. Submissions which reference such supporting documentation may take longer to process. If the product provider does not provide satisfactory evidence of equivalence, then the product will not be considered eligible for the Triple E. **All documentation must be in English**, or include adequate translation.

Note: Where specific standards are cited in a condition or in the Triple E help documentation, then documentation demonstrating that the relevant products have been designed, manufactured or tested to these specific standards is preferred. Scientific equivalence is considered the exception rather than the norm.

Representative testing

Where test information is required for a range of technically similar products (e.g. configurations of one base product), then – in exceptional instances – a form of representative testing may be used once *agreed in advance* with SEAI.

Such testing is where only representative products are tested from a technically similar group or range of products. Representative testing may form an acceptable basis for supporting documentation if:

- A clear correlation can be demonstrated between the tested product and a technically similar non-tested product
- and*
- Such a correlation clearly demonstrates the compliance of the non-tested product

Note: Where representative testing is used for a group or range of products, if the tested or representative product is removed from the list of eligible products then all related products are also removed.