

Property	Standen	Location	Biomass Boiler System	Version	2.0 (Issue)
Author	Dee Nunn Adapted by Gemma Hardy	Owner	Dee Nunn	Date	23/07/2025
Document purpose: Review of quality and sustainability of fuels used in biomass boilers and impact on air quality for the National Trust. July 2025: Update for specific reference to Standen House Biomass system.					

1. Fuel Quality & Sustainability

Where woodpellets are used, NT has a framework agreement and purchases EN Plus A1 quality wood fuel pellets ensuring the highest quality of fuel available. EN Plus A1 wood pellet fuel has the lowest moisture content of any wood fuel at <10% and generates less particulates than wood chip fuel. EN Plus A1 pellets are also subject to the strictest qualifying criteria for sulphur, chlorine and nitrogen content versus other wood fuels, reducing potential for particulates.

The chosen pellet provider via the NT framework for Standen House will be Balcas. Balcas have provided the following statement:

'Balcas sources its fuel from 100% virgin wood residues from sawmills within 50-mile radius of Invergordon production plant and 100% virgin roundwood processed at the production site.

Our wood pellets have the lowest Green House Gas (GHG) emissions score of any product available in the UK. The criteria to qualify for the UK Biomass Suppliers List (BSL) requires a GHG score of 38 or lower, our pellets have a score of just 6.

A risk analysis report by independent organisation Preferred by Nature (formerly NEPcon) in to all timber products from all countries, scored UK processed timber products (including pellets) at 100/100, where a score of 100 = zero risk in terms of illegitimate forestry activity, unregulated wood harvesting, sustainability, corruption, bribery, modern slavery, etc. In contrast, for example, products from Russia are scored at 6/100 (very high risk).

As a result of this report, the UK's BSL authorities are conducting a review of all pellet suppliers' licences where their product is from a country with a score of less than 100/100 in the NEPcon report. This will also include a review of the GHG scores for these products and may result in a more robust criteria to qualify for the BSL.

Furthermore, the energy used for production is generated on-site, powered by co-products from Balcas' saw-milling activities.



At Balcas Energy, we produce high-quality ENplus A1 certified pellets. These certifications guarantee efficiency, sustainability and cleanliness, ensuring our fuel meets the highest industry requirements'

Should there be future issues with Balcas' reliance of supply or quality of pellet, the NT pellet framework allows properties to move to an alternative supplier, who is held to the same quality requirements. This is regularly reviewed by the NT's contract management team with to ensure quality and service remain at a high standard. The NT reserve the right to withdraw/change suppliers on the framework at any time.

With regards to Standen House, written confirmation will be sought from Mid Sussex Council should the NT need to change supplier to ensure fuel quality is maintained at a sufficiently high level.

2. Air Quality

Whilst it is not possible to avoid emissions from biomass boilers altogether, the Trust ensure quality equipment and fuel are selected to minimise these impacts. Biomass boilers installed under the National Trust's Renewable Energy Investment Programme must meet Ofgem's [Air Quality requirements](#). Emissions of particulate matter (PM) must not exceed 30 grams per Gigajoule net heat output and emissions of oxides of Nitrogen (NOx) must not exceed 150 grams per Gigajoule net heat output. The average biomass boiler emissions installed falls well below these limits e.g. a typical boiler installed as part of our REI programme is the [ETA Hack 130kW boilers](#) which emits 13grams per Gigajoule of PM and 64grams per Gigajoule of NOx.

Burning any fuel, not just biomass, will result in some emissions of PM and NOx. We are generally replacing aging oil heating systems when installing a biomass heating system as many of our properties are off the gas grid. A new oil boiler could emit as much NOx as 33grams per Gigajoule and whilst this is slightly lower than the emissions from biomass boilers, our biomass systems generally replace much older oil boilers which are likely to have much worse NOx emissions. Oil poses an additional pollution risk from spillage and is a finite resource which emits carbon dioxide. Whilst burning wood emits carbon dioxide, the BSL standards and our own practises ensure that more trees are planted to offset this. The forthcoming fuel quality standards from BSL will no doubt improve this further.