



A Step by Step Guide to Energy Labelling of Gaseous Fuel Local Space Heaters (Part 1)

What do the new regulations require?

The “Energy Related Products” (ErP) Regulations require that:

- From the 1st January 2018 local space heating appliances (oil and gas) must be sold with a printed label which shows heat output and Energy Efficiency Index (EEI), and provide a product fiche with the product also. Electronic versions of the label and fiche must also be made available to dealers. Technical documentation should also be available to national audit authorities upon request. The efficiency of gas products in the regulation is calculated in a different way to the European (EN) or British Standards (BS). Any appliance (which is not a boiler space heater) that provides heat to water will also need to have the heat output to water on the label. In addition to the above, any promotional information must include reference to the Energy Efficiency Class (A-G).
- Furthermore from the 1st January 2022 the Ecodesign requirements for maximum NO_x emissions come into force and must be met.

This article tries to provide some guidance on steps required to be taken by solid fuel local space-heating appliance manufacturers.

Which appliance types are included?

All gaseous fuel local space heaters (gas fires) with a nominal heat output of 50kW or less, including Inset Live Fuel Effect (ILFE) appliances, Live Fuel Effect (LFE), Decorative Fuel Effect (DFE) appliances and Independent Gas Fired Convection Heaters (freestanding stoves). The regulations include appliances installed in workshops, and decorative appliances. Some exceptions exist – for example: external appliances, sauna heaters, air heaters and products where the direct heat output is low – but the majority of gaseous fuel local space heaters, will be required to comply with the Regulations:

Commission Delegated Regulation (EU) 2015/1186 – energy labelling of local space heaters

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Which Standards do the Regulations refer to?

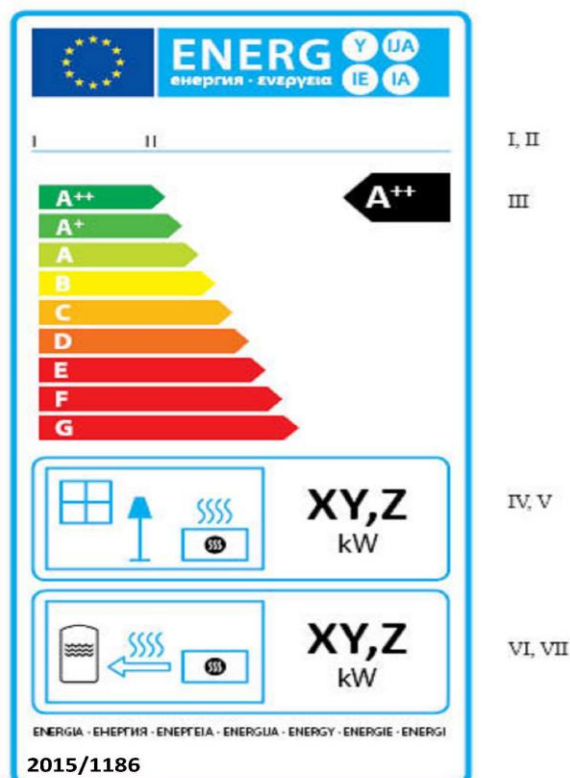
The regulations set out limits, which should be measured using harmonised EN standards as published in the Official Journal of the EU. In the absence of such harmonised standards, measurements and calculations must be obtained using recognised standards. The harmonised EN standard is always the preferred route, followed by a recognised national standard (e.g. BS, DIN). Alternatively, procedures published by a United Kingdom Accreditation Service (UKAS) approved Notified Body under the Gas Appliance Directive 2009/142/EC (soon to be replaced by Gas Appliance Regulation (EU) 2016/426), if no appropriate standard exists.

The regulation references harmonised standards which are currently available, but will eventually be revised to include an annex which makes specific reference to the regulation.

What information is required on the Energy label?

Annex III of regulation 2015/1186 gives a standard design for the label (shown below), but the information required to be shown is:

- I. Supplier's name or trade mark
- II. Supplier's model identifier
- III. The energy efficiency class (indicated by the arrow)
- IV. The symbol for direct heat output
- V. The direct heat output in kW, rounded to the nearest one decimal place
- VI. For local space heaters with heat transfer to a fluid, the symbol for indirect heat output
- VII. For local space heaters with heat transfer to a fluid, the indirect heat output in kW, rounded to the nearest one decimal place





Do I have to apply for a separate label and product fiches for each of my appliances?

Each label contains the model identifier so will be applicable to that product. The product fiche may cover a number of appliances supplied by the same supplier. The product fiche shall be included in the product brochure and can take the form of a copy of the label with the following additional information clearly provided:

- The energy efficiency index class
- The useful energy efficiency at nominal heat output (and reduced output if applicable)
- Any specific precautions to be taken when the appliance is assembled, installed or maintained

How should gaseous fuel local space heating appliances be tested?

Appliances should be tested according to the appropriate harmonised European standard (EN) referenced in the regulation, National Standard (BS) or using an alternative method published by a Notified Body.

The calculation of energy efficiency differs to the methods used in standards, and takes into account auxiliary electrical usage while the appliance is in operation and the positive effect of controls (such as thermostats) which might be fitted to the appliance to control indoor heating comfort.

The procedure for calculating the Seasonal space heating energy efficiency to allow identification of Energy Efficiency Index (*EEI*) of local space heaters is:

$$EEI = (\eta_{s,on} \cdot BLF) - 10 \% + F(2) + F(3) - F(4) - F(5)$$

Where:

- $\eta_{s,on}$ is the seasonal space heating energy efficiency in active mode, expressed in %, calculated as set out in point 4(b),
- *BLF* is the biomass label factor, which is 1.45 for biomass local space heaters and 1 for fossil fuel local space heaters,
- *F*(2) is a correction factor accounting for a positive contribution to the energy efficiency index due to adjusted contributions of controls of indoor heating comfort, the values of which are mutually exclusive, cannot be added on top of each other, expressed in %,
- *F*(3) is a correction factor accounting for a positive contribution to the energy efficiency index due to adjusted contributions of controls for indoor heating comfort the values of which can be added on top of each other, expressed in %;
- *F*(4) is a correction factor accounting for a negative contribution to the energy efficiency index by auxiliary electricity consumption, expressed in %;
- *F*(5) is a correction factor accounting for a negative contribution to the energy efficiency index by energy consumption of a permanent pilot flame, expressed in %.

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Kiwa Gastec can assist with these calculations for you provided you have the CE test report for your appliance, which includes efficiency measurement data.

Responsibilities of dealers

Dealers will have to ensure that:

- Each heater sold bears the label on the outside front of the appliance which is clearly visible.
- Any advertisement or promotional material should make reference to the energy efficiency class of that model.
- Where the product is not displayed such that the end user cannot see the product displayed, or via the internet, certain core information will be required as per Annex VI and VII of 2015/1186.
- Any technical promotional material concerning a specific model which describes specific technical parameters shall include reference to its Energy Efficiency Class (EEI).

How will be ErP be Policed?

Enforcement of the new regulations will be carried out by national Market Surveillance Authorities (MSA's), which in the UK is the National Measurement and Regulation Office (NMRO), through product testing and market surveillance. Installers or manufacturers identified as non-compliant could face legal action and criminal prosecution.

Fines for misreporting the energy efficiency rating can be unlimited, but will be closely related to the diligence that can be demonstrated in producing the efficiency measurements. Experience in other product sectors has shown the severity of enforcement sanctions.

Where to get advice on ErP compliance and how to get the Ecolabel?

There are many sources of information on the topic – The European Union (EU) Energy Efficient Products website, Department of Energy and Climate Change (DECC) website, HETAS and the Stove Industry Alliance (SIA), but Kiwa Gastec has vast experience testing a variety of gas appliances. We are a United Kingdom Accreditation Service (UKAS) accredited test laboratory (No. 0692) for product testing under the Gas Appliance Directive 2009/142/EC (soon to be replaced by Gas Appliance Regulation (EU) 2016/426), and we would be delighted offer any assistance that you might require to help you to calculate Energy Efficiency Index (EEI), populate product fiches and generate energy labels.

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For example:

1. Contact Kiwa Gastec to discuss your requirements with one of our engineers.
2. Send us the CE test report, which includes efficiency measurement data for your appliance.
3. We will calculate the Energy Efficiency Index (EEI) for your appliances
4. We will ensure that you have collected sufficient supporting evidence to produce product fiches and labels.
5. Armed with the Energy Efficiency Index (EEI) and product fiches for you appliances, you can use the European Union (EU) Energy Efficient Products website to create your label and print it off.

Once I have produced my label is there anything else I have to do?

Yes. By 2022, in addition to the product fiches and label, The Ecodesign Regulations defines a maximum limit for emission of nitrogen oxides (NO_x) of 130 mg/kWh_{input} (Gross Calorific Value (GCV)) - more on this in our Step by Step Guide to ErP and gaseous fuel local space heaters (Part 2). If further testing is required to comply with the Ecodesign regulation, we anticipate that most appliances can be tested quite quickly, however, we would advise these measurements form part of routine testing in your product development plans.

To get advice on meeting the ErP regulations for your gas appliances or to discuss testing requirements, please call us on 01242 677877 or email gastecenquiries@kiwa.co.uk