Ecodesign
Supplier guideline

Local Space Heaters

Local space heaters (LSH) are subject to ecodesign and energy labelling requirements. The ecodesign regulation was revised in 2024, introducing new provisions that apply from the 1st of July 2025, except for the rules on circumvention, which have been applicable since the 9th of May 2024.

Ecodesign

The ecodesign regulation sets minimum requirements for e.g. energy efficiency, resource efficiency concerning spare parts and for information requirements. Non-compliant products must not be placed on the EU market.

This guideline offers an overview of the updated ecodesign regulation and presents a comparison between the requirements of the old and the new regulations for local space heaters (in this guideline named "LSH").

- The old ecodesign regulation (EU) 2015/1188.
- The new ecodesign regulation (EU) 2024/1103.

Further details on the requirements are available on the Compliance Services project website.

Comparison in brief

The new regulation includes among others the following changes compared to the old regulation:

- A broader scope,
- Changed minimum requirements,
- A lower conversion coefficient (CC) for electricity,
- New calculation methods,
- New information requirements,
- Low power modes requirements,
- New emission requirements for nitrogen oxides,
- Requirements for control accuracy and control to setpoint deviation,
- Requirements aimed at protecting consumers (circumvention and software updates),
- Requirements ensuring better reparability of products (e.g. spare parts) and recyclability.

Please note that the energy labelling regulation (EU) 2015/1186 is still in place without an end date. There are no changes to these requirements.

Scope of the old and the new regulation

In both regulations, only heaters using electricity, or gaseous or liquid fuels are included. Biomass LSH are covered by the ecodesign regulation (EU) 2015/1185.

The old ecodesign regulation (EU) 2015/1188 laid down requirements for placing on the market and putting into service:

- Domestic LSH with a nominal heat output of 50 kW or less and
- Commercial LSH with a nominal heat output of the product or of a single segment heat output of 120 kW or less.

Increased scope in the new ecodesign regulation (EU) 2024/1103

The scope of the new regulation is broader than that of the old regulation (EU) 2015/1188:

- The **maximum nominal heat output** of the product or a single tube segment heat output for commercial LSH has been increased to **300 kW**.
- Onlycooking appliances have been exempted from the scope.
- LSH placed on the market without control are now included in the scope and requirements for separate related controls have been introduced.
- Slave heaters are now in scope.

Both the old and new regulation apply to:

- **Domestic heaters**
  - Open fronted LSH and open to chimney LSH,
  - Closed fronted open combustion LSH,
  - Balanced flue LSH,
  - Electric LSH (fixed and portable),
  - Electric storage LSH,
  - Electric underfloor LSH,
  - Electric visibly glowing radiant LSH (fixed and portable),
  - Towel rails,[1]
  - Flueless heaters.
- **Commercial LSH**
  - Luminous LSH,
  - Tube LSH.

[1] Explicitly mentioned only in (EU) 2024/1103. However, towel rails were also covered by (EU) 2015/1188 where they were considered as electric fixed LSH.

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Neither the old nor the new regulation applies to:

- LSH using a vapour compression or sorption cycle for the generation of heat driven by electric compressors or fuel,
- LSH that are specified for outdoor use only,
- LSH for which the direct output is less than 6 % of the combined direct and indirect heat output at nominal heat output – for example, boilers with a heat loss to its surrounding environment of not more than 6 % of the rated heat output (such products are regulated under (EU) 813/2013),
- Air heating products,
- Sauna stoves.

Ecodesign requirements

From when do the new requirements apply?

The new ecodesign regulation for LSH (EU) 2024/1103 entered into force on the 9th of May 2024.

The requirements apply from the 1st of July 2025, except for Article 6 about Circumvention which has already been applicable since the 9th of May 2024.

LSH placed on the market after the applicability dates must comply with the respective requirements of the new regulation. LSH placed on the market before the 1st of July 2025 must still comply with regulation (EU) 2015/1188.

Please note that on the 19th of April 2024 a corrigendum to the regulation (EU) 2024/1103 has been implemented. Please find the consolidated text here.

Comparison of the old and new ecodesign regulations

Seasonal Space Heating Energy Efficiency requirements (η_s)

'Seasonal space heating energy efficiency', η_s, is the ratio between the annual space heating demand, which is supplied by an LSH and the annual energy consumption required to meet this demand, expressed in %.

The calculation of η_s has changed:

- Under the old regulation (EU) 2015/1188, the consumption of electricity must be multiplied by a conversion coefficient (CC) of 2,5.
- In the new regulation (EU) 2024/1103 CC is reduced to 1,9.

Due to the different calculation approach lower values for seasonal space heating energy efficiency requirements (η_s) for gaseous fuel LSH and liquid fuel LSH were introduced in the new regulation (EU) 2024/1103.

Please find calculation examples on the Compliance Services website here.

'Conversion coefficient' (CC), (EU) 2024/1103, Annex II (29)

*'Conversion coefficient' (CC) means the default coefficient for primary energy per kWh electricity referred to in Directive **2012/27/EU**: The value is CC = 1,9.*

*The reduction of the Primary Energy Factor from 2,5 to 1,9 reflects the increased share of renewable energy, declining fossil fuel use and higher efficiency in electricity generation and distribution across the EU, making electricity a cleaner and more efficient energy carrier. This update ensures more accurate accounting of primary energy consumption and supports the EU's energy efficiency and climate goals. See more in Regulation **(EU) 2023/807**.*

Control features and low power modes

The new regulation (EU) 2024/1103 requires the following control features to further increase energy efficiency:

- Electric storage LSH shall be equipped with electronic heat charge control with room and/or outdoor temperature feedback and fan-assisted heat output.
- Towel rails with a nominal heat output equal to or below 60 W (which do not have a minimum efficiency requirement) shall only be operable through a working time limitation with a maximum pre-set period of 6 hours.

The new requirements for low power modes are:
LSH with controls, and separate related controls, shall meet the following requirements:

- Shall have an off-mode or a standby mode or both.
- Max. power consumption:
  - Off-mode (P_o): 0,5 W, from May 9th, 2027: 0,3 W
  - Standby mode (P_{sm}): 0,5 W
  - Standby mode incl. display of information or status: 1 W
  - Standby mode providing connection to the network and networked standby (i.e. LSH can resume a function by a remotely initiated trigger from a network connection): 2 W
  - Standby mode with wireless communication between the heat generator and control or by powerline carrier: 3 W
  - If existent: I_{dle} mode (P_{idle}) (average over 1 hour):
    - 1 W
    - If idle mode depends on the input from a network connection to automatically provide heat to the room: 3 W.

Comparing the regulation text and formulas

The seasonal space heating efficiency η_s is calculated differently for
- Gaseous and liquid fuel domestic LSH,
- Electric (domestic) LSH,
- (Gaseous or liquid fuel) commercial LSH.

The calculation uses LSH-type dependent correction factors F(1) to F(5).

η_s is reduced by
- **F(1)** (commercial LSH) options for the heat output:
  - Single stage LSH: 5%
  - Two stage: 2,5 to 5%, depending on stage power relation
  - Modulating: 0 to 5%, depending on lowest power

  (In regulation (EU) 2015/1188 F(1) also accounted for a positive contribution to ηS of electric storage LSH due to adjusted contributions for options for heat storage and output.)
- **F(4)** auxiliary electricity consumption
- **F(5)** energy consumption of a permanent pilot flame

ηs is increased by controls of indoor heating comfort (e.g. thermostats, start or distance control, self-learning, etc.)
- **F(2)**: Mutually exclusive values, i.e. cannot be added (0 to 0,19)
- **F(3)**: Values can be added to each other (up to 0,04)

Moreover, the following two parameters are used for calculations:
- $\eta_{s,on}$ is the seasonal space heating energy efficiency in active mode, expressed in %,
- CC is the conversion coefficient for electricity (2,5 for (EU) 2015/1188 and 1,9 for (EU) 2024/1103).

A comparison table outlining the regulatory text and formulas from the old and the new regulation is available on the Compliance Services website here.

Requirements for emissions

Emissions of nitrogen oxides (NO_x) from liquid and gaseous fuel LSH at full load shall not exceed the following values:

Product	Max. value of emissions of NO_x in mg/kWh_{input} based on GCV	
	Old regulation (EU) 2015/1188	New regulation (EU) 2024/1103
All non-electric non-commercial LSH	130*	120
Commercial LSH	200	180

* Please refer to the regulation for the definitions of products.

For both regulations, NO_x is the sum of NO and NO_2, expressed in nitrogen dioxide. For (EU) 2024/1103, there is an additional requirement that space heating efficiency and NO_x have to be measured at once.

Product information requirements

The **instruction manuals** for installers and users, and **free access websites** of suppliers shall contain:
- Any specific precautions to be taken when the LSH is assembled, installed or maintained, and information relevant to disassembly, recycling and/or disposal at end-of-life.
- Technical parameters in both regulations shall be measured and calculated in accordance with the respective Annex III and show the significant figures as indicated in the respective tables in Annex II.
- A comparison table outlining product information requirements from the old and the new regulation is available on the Compliance Services website here.

For domestic LSH, the content is mostly unchanged, but the following parameters are new:
- Low power mode consumptions (off, idle, networked standby mode) and indication of presence of a standby mode with display of information or status,
- The seasonal space heating efficiency in %,
- Indication of presence of self-learning functionality and control accuracy,
- Please note that the number of decimals has increased for various parameters.

Moreover:
- For domestic gas and liquid fuel LSH the flue gas temperature and the combustion air temperature shall be measured for the minimum total flue duct pipe length declared by the manufacturer in the installation manual but not more than 1,5 meters (sum of vertical and horizontal pipe length). If no declaration is available, the measurement shall be performed with a total pipe length of 1,5 meters.
- For electric LSH only, the section on auxiliary energy consumption and on electric storage LSH have been omitted.

The differences between the tables for LSH placed on the market without control compared to the table for LSH with control (for all domestic LSH) are:
- There is a remark at the top “This product needs a control to comply with the mandatory ecodesign requirements set out in Regulation (EU) 2024/1103”.
- The sections on power consumption in low power modes and Efficiency (NCV = net calorific value) are omitted.
- The section on control functions refers to the functions that need to be present in a separately purchased control (clearly not to the ones present in the product). A room temperature control cannot be selected in this section.

The following information requirements need to be considered for both old and new regulation ((EU) 2024/1103 (Annex II. 4)):
The instruction manual for installers and users, free access websites of suppliers and the product packaging shall incorporate the following product information clearly visible and legible in local language(s) depending on where the product is marketed.

For LSH, flueless LSH and open to chimney LSH: *"This product is not suitable for primary heating purposes."*

and

For electric portable LSH and electric visibly glowing radiant portable LSH: *"This product is only suitable for well insulated spaces or occasional use."*

- Must be on the cover page of the instruction manual for users.
- Must be displayed together with the other characteristics of the product on the free-access websites of manufacturers.
- Must be placed in a prominent position on the packaging.

Please note, that the old regulation states that the prominent position on the packaging must be displayed to the end user prior to purchase.

Please note, that the new regulation states that:
(3) For **separate related controls**, the instruction manuals for installers and users free access websites of suppliers and the product packaging shall incorporate the following product information clearly visible and legible in local language(s) depending on where the product is marketed: *"This control has the following control functions: **Insert here the list of control function codes** according to Table 7, Annex II."*
(4) The instructions manuals for installers and users, the free access websites of suppliers, and the product packaging may contain additional information about the characteristics of the product that may be useful to installers and users, including information about the compatibility of heaters and controls to fulfil the requirements on seasonal space heating energy efficiency and low power modes.

Technical documentation

The technical documentation shall contain all elements that are explained above in the section on product information, with the following differences:

- All values have to be the declared values (Please see here).
- A list of equivalent models has to be present.
- Table 7 (control function codes) does not need to be included.

Resource efficiency requirements (NEW REQUIREMENTS)

The Commission's Circular Economy Action Plan and the Ecodesign and Energy Labelling Working Plan 2022–2024 underline the importance of using the ecodesign framework to support the move to a more resource efficient and circular economy.

Therefore, the new regulation lays down appropriate circularity-related requirements ensuring that products are effectively repaired thanks to the availability of a range of spare parts, setting a maximum delivery time for spare parts and specifying what repair and maintenance information is to be given to professional repairers and end-users.

These new requirements are only regulated through the new regulation (EU) 2024/1103, and therefore apply for products placed on the market from the 1st of July 2025 and are concerning:

- **Availability of spare parts,**
- **Maximum delivery time of spare parts,**
- **Access to repair and maintenance information,**
- **Requirements for dismantling for material recovery and** recycling while avoiding pollution.

The supplier (i.e. the manufacturer, importer, or authorised representative) of the LSH is responsible for meeting all requirements set out in this section.

Availability of spare parts

For all models, for which units are placed on the market from the 1st of July 2025 (i.e. the requirements also apply to models that have been placed on the market already before this date, if they are continued to be placed on the market from this date onwards), for electric LSH at least the spare parts, as shown in the table below, shall be made available to professional repairers (empty fields mean that there is no requirement).

Additionally, remote controls must be available to professional repairers and also to end users for all LSH. (Remotes are the only spare part to be available also for end users and also the only spare part for non-electric LSH.)

From two years after placing the first unit on the market (remote controls and software from 1st of July 2025 in any case) until 10 years after placing the last unit of the model on the market, suppliers have to make available:

- Spare parts (see next page): Delivery within 10 working days after having received the order.
- List of spare parts and procedure for ordering them on a free access website.
- Indicative pre-tax prices at least in Euros and of fasteners and tools.
- For LSH using software: Software and firmware updates free of charge.

Spare parts must be replaceable with commonly available tools without damaging the LSH.

Access to repair and maintenance information

Electric LSH

During the period of availability of spare parts, the supplier shall provide access to the appliance repair and maintenance information to professional repairers in the following conditions:

- Their website shall indicate the process for professional repairers to request access to information; to accept such a request, the suppliers may only require the professional repairer to demonstrate that he:
  - Has the technical competence to repair LSH and complies with the applicable regulations for repairers of LSH in the Member States where it operates. Reference to an official registration system as a professional repairer, where such system exists in the Member States concerned, shall be accepted as proof;
  - Is covered by insurance covering liabilities resulting from its activity regardless of whether this is required by the Member State;

Table: List of spare parts to be available to professional repairers under the new regulation; additionally, for all LSH the remote control needs to be available to professional repairers and end users

	Electric portable LSH and electric visibly glowing radiant portable LSH	Electric fixed LSH, towel rails and electric underfloor LSH	Electric storage LSH	Electric visibly glowing radiant LSH except portable products
Control	Yes	Yes	Yes	Yes
Ambient thermostat	Only for electric portable LSH	Yes		
Motor for heaters equipped with a fan	Only for electric portable LSH			
Printed circuit boards	Yes	Yes	Yes	Yes
Display or status indicators	Yes	Yes	Yes	Yes
Impellers	Yes	Yes	Yes	Yes
Control sensors	Yes	Yes	Yes	Yes
Buttons and switches	Yes	Yes	Yes	Yes
Floor sensor		Only for electric portable LSH		
Remote control sensors	Yes	Yes	Yes	Yes
Repair kit for heating cables		Only for electric underfloor LSH		
Fixation brackets, if needed		Yes	Yes	Yes
Heating elements			Yes	Yes
Safety switches			Yes	
Connection cables			Yes	Yes
Housing for mechanical parts			Yes	
Fans			Yes	

- The supplier
  - Shall accept or refuse the registration within 5 working days from the date of request;
  - May charge reasonable and proportionate fees for access to the repair and maintenance information or for receiving regular updates. A fee is reasonable if it does not discourage access. The main criterion for being reasonable is that the fee must take into account the extent to which the professional repairer uses the information;
- Once registered, a professional repairer shall have access, within one working day after the request was accepted, to the requested repair and maintenance information. The information may be provided for an equivalent local space heater model or local space heater model of the same family.
- The repair and maintenance information shall include:
  - The unequivocal local space heater identification,
  - A disassembly map or exploded view,
  - Technical manual of instructions for repair,
  - List of necessary repair and test equipment,
  - Component and diagnosis information,
  - Wiring and connection diagrams,
  - Diagnostic fault and error codes,
  - Instructions for installation of relevant software and firmware including reset software,
  - Information on how to access data records of reported failure incidents stored on the LSH,
  - Electronic board diagrams.

Electric LSH

Without prejudice to intellectual property rights, third parties shall be allowed to use and publish unaltered repair and maintenance information initially published (please see the table on page 5 and enumeration on repair and maintenance information just above) once the supplier terminates access to that information after the end of the period of mandatory access to this information.

Requirements for dismantling for material recovery and recycling while avoiding pollution

The supplier shall ensure that LSH are designed in such a way that the materials and components referred to in Annex VII to Directive 2012/19/EU can be removed from the appliance with the use of commonly available tools.

The supplier shall fulfil the obligations laid down in Article 15(1) of Directive 2012/19/EU.

How to prepare your documents for market surveillance

Market surveillance authorities (MSAs) verify whether products on the EU market comply (among others) with the ecodesign and energy labelling requirements. As far as the documentation is not available in the European Product Registry for Energy Labelling (EPREL), you have to make it available within 10 working days.

EPREL
The European Product Registry for Energy Labelling, EPREL, is a database, where all products covered by the energy labelling regulations have to be registered. Learn more about EPREL here.

MSAs will check the documentation and can enforce non-conformities. An MSA can demand an amendment of documentation, apply fines, remove products from the EU market, etc.

To verify the declared values, the MSA can also perform physical tests.

You as a supplier are obliged to collaborate with the authorities by providing needed information and undertaking corrective action if needed.

Product testing usually comprises two steps (although depending on national practice and the product category or even on the product):

- **Single test:** One unit of a specific model is first selected for the test.
- **Triple test:** Three more units are tested in case the results of the single-test determined values exceed the tolerances (i.e. for compliance verification only the average of the three triple test results is relevant).

Details can be found in the specific annex "Verification procedure for market surveillance purposes" of the respective ecodesign or energy labelling regulation.

Some MSAs only conduct the triple test if the supplier disputes the results of the single test, while others always perform triple tests if there is an issue in the single test. This variation arises from differences in national practice or different interpretations of European legislation.

In case of non-compliance, the MSA can require that products must not be sold on the EU market anymore. If only the declared values are outside the tolerance but within the minimum requirements and for other pure documentation issues, a change of documentation (and potentially the energy label) should suffice, but this is competence of the MSA to decide. Additionally, fines might be applied.

Whether you as a supplier are required to bear the costs of purchasing products and the tests, depends on the national legislation.

The inspection procedures are the same for ecodesign and energy labelling regulations.

Typical mistakes observed by market surveillance

We have compiled the findings from previous market surveillance actions, where similar mistakes have been frequently detected:

- No entry in EPREL,
- When an entry in EPREL, missing values for major technical parameters,
- Major errors in the Declaration of Conformity (DoC):
  - Ecodesign regulation not referenced; supplier name and address missing; model and brand name unclear,
  - Minor errors such as measurement standard not mentioned, DoC issued after product placed on market etc.,
- Not meeting the ecodesign performance requirements based on technical documentation (electric heaters placed on the market without controls; emissions not reported (oil); missing information so not able to calculate performance),
- Provision of online energy label and product information sheet was very poor – none of the websites were fully compliant for all the heaters listed.

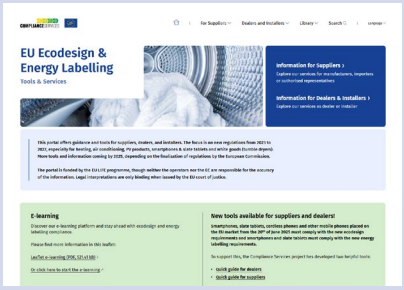
Compliance Services

At your disposal to help you properly implement the ecodesign and energy labelling legislation

Contact

- Project coordinator: AEA – Austrian Energy Agency
- Web portal: **www.product-compliance-services.eu**
- E-mail: **project@product-compliance-services.eu**
- ServiceDesk: **www.product-compliance-services.eu/compliance-service-desk-steps**
- LinkedIn: **www.linkedin.com/company/product-compliance-services/**

www.product-compliance-services.eu



This portal offers guidance and tools for suppliers, dealers, and installers. The focus is on new regulations from 2023 to 2027, especially for heating, air conditioning, PV products, smartphones, slate tablets, and white goods. More tools and information will come, depending on the finalisation of regulations. Product specific topics include detailed explanations of new and changed requirements and their timeline.

Topics of interest for suppliers include: Products in scope / Basic requirements / What to document / How to register in EPREL / Importing products / Placing your products on the market / Preparation for market surveillance, etc.

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SOLARPOWER EUROPE

ENVIRONMENTAL COALITION ON STANDARDS

National organisations

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Agence de l'environnement et de la maitrise de l'energie
France

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Denmark

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The Energy Efficiency Center z.u.
Czechia

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WWW.PRODUCT-COMPLIANCE-SERVICES.EU