Commission Regulation (EU) No 814/2013 of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for water heaters and hot water storage tanks (Text with EEA relevance)

COMMISSION REGULATION (EU) No 814/2013

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(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products[(1)] and in particular Article 15(1) thereof,

After consulting the Ecodesign Consultation Forum,

Whereas:

(1) Under Directive 2009/125/EC ecodesign requirements should be set by the Commission for energy-related products representing significant volumes of sales and trade, having a significant environmental impact and presenting significant potential for improvement through design in terms of their environmental impact, without entailing excessive costs.

(2) Article 16(2)(a) of Directive 2009/125/EC provides that, in accordance with the procedure referred to in Article 19(3) and the criteria set out in Article 15(2), and after consulting the Ecodesign Consultation Forum, the Commission should, as appropriate, introduce implementing measures for products offering a high potential for cost-effective reduction of greenhouse gas emissions, such as for water heating equipment.

(3) The Commission has carried out a preparatory study on the technical, environmental and economic aspects of water heaters and hot water storage tanks typically used in the domestic and commercial sector. The study was devised together with stakeholders and interested parties from the Union and third countries, and the results have been made publicly available.

(4) The environmental aspects of water heaters that have been identified as significant for the purposes of this Regulation are energy consumption in the use phase and (for heat pump water heaters) sound power levels. In addition, for water heaters using fossil fuels, emissions of nitrogen oxides, carbon monoxide and hydrocarbons are also identified as significant environmental aspects. The significant environmental aspect of hot water storage tanks is energy consumption due to their standing losses.

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(5) It is not appropriate to set ecodesign requirements for emissions of carbon monoxide and hydrocarbons as no suitable European measurement methods are as yet available. With a view to developing such measurement methods, the Commission mandated the European standardisation organisations to consider ecodesign requirements for those emissions during the review of this Regulation. National provisions for ecodesign requirements on emissions of carbon monoxides and hydrocarbons of water heaters may be maintained until the corresponding Union ecodesign requirements enter into force. The provisions of Directive 2009/142/EC of the European Parliament and of the Council of 30 November 2009 relating to appliances burning gaseous fuels[(2)], which limit the combustion products of appliances burning gaseous fuels in relation to health and safety, are not affected.

(6) The preparatory study shows that requirements regarding the other ecodesign parameters referred to in Annex I, Part 1 to Directive 2009/125/EC are not necessary in the case of water heaters and hot water storage tanks. In particular, greenhouse gas emissions related to refrigerants used in heat pump water heaters for heating today's European building stock are not identified as significant. The appropriateness of setting ecodesign requirements for these greenhouse gas emissions will be reassessed when reviewing this Regulation.

(7) The scope of this Regulation should be limited to water heaters which are dedicated to providing hot drinking and sanitary water.

(8) Water heaters that are designed for using gaseous or liquid fuels predominantly (more than 50 %) produced from biomass have specific technical characteristics which require further technical, economic and environmental analyses. Depending on the outcome of the analyses, ecodesign requirements for those water heaters should be set at a later stage, if appropriate.

(9) Annual energy consumption related to water heaters and hot water storage tanks was estimated to have been 2 156 PJ (51 Mtoe) in the Union in 2005, corresponding to 124 Mt CO_2 emissions. Unless specific measures are taken, annual energy consumption is expected to be 2 243 PJ in 2020. Annual emissions of nitrogen oxides related to water heaters and hot water storage tanks were estimated to have been 559 kt SO_x equivalent in the Union in 2005. Unless specific measures are taken, annual emissions are expected to be 603 kt SO_x equivalent in 2020. The preparatory study shows that the use-phase energy consumption and the nitrogen oxides emissions of water heaters can be significantly reduced.

(10) The energy consumption of water heaters and hot water storage tanks can be reduced by applying existing cost-effective non-proprietary technologies which lead to a reduction in the combined costs of purchasing and operating these products.

(11) The combined effect of the ecodesign requirements set out in this Regulation and the Commission Delegated Regulation (EU) No 812/2013 of 18 February 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of water heaters, hot water storage tanks and packages of water heater and solar device[(3)] is expected to result by 2020 in estimated annual energy

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savings of about 450 PJ (11 Mtoe), corresponding to around 26 Mt CO_2 emissions, and a reduction in annual nitrogen oxides emissions of some 130 kt SO_x equivalent, compared to what would happen if no measures were taken.

(12) Ecodesign requirements should harmonise energy consumption, sound power level and nitrogen oxides emission requirements for water heaters, and requirements for standing losses of hot water storage tanks throughout the Union, thus helping to make the internal market operate better and to improve the environmental performance of these products.

(13) The ecodesign requirements should not affect the functionality or affordability of water heaters or hot water storage tanks from the end-user's perspective and should not negatively affect health, safety or the environment.

(14) The ecodesign requirements should be introduced gradually to give manufacturers a sufficient timeframe to redesign their products subject to this Regulation. The timing should be such that cost impact for manufacturers, in particular for small and medium-sized enterprises, is taken into account, while ensuring timely achievement of the objectives of this Regulation.

(15) Product parameters should be measured and calculated using reliable, accurate and reproducible methods which take into account recognised state-of-the-art measurement and calculation methods, including, where available, harmonised standards adopted by the European standardisation organisations under a request from the Commission, in accordance with the procedures laid down in the Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation[(4)].

(16) In accordance with Article 8(2) of Directive 2009/125/EC, this Regulation specifies which conformity assessment procedures apply.

(17) To facilitate compliance checks, manufacturers should provide information in the technical documentation referred to in Annexes IV and V to Directive 2009/125/EC in so far as that information relates to the requirements laid down in this Regulation.

(18) To further limit the environmental impact of water heaters and hot water storage tanks, manufacturers should provide information on disassembly, recycling and/or disposal.

(19) In addition to the legally binding requirements laid down in this Regulation, indicative benchmarks for best available technologies should be identified to ensure that information on the life-cycle environmental performance of water heaters and hot water storage tanks is widely available and easily accessible.

(20) The measures provided for in this Regulation are in accordance with the opinion of the Committee established by Article 19(1) of Directive 2009/125/EC,

HAS ADOPTED THIS REGULATION:

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Article 1

Subject matter and scope

1 This Regulation establishes ecodesign requirements for the placing on the market and/or putting into service of water heaters with a rated heat output ≤ 400 kW and hot water storage tanks with a storage volume ≤ 2 000 litres, including those integrated in packages of water heater and solar device as defined in Article 2 of Delegated Regulation (EU) No 812/2013.

2 This Regulation shall not apply to:

a water heaters specifically designed for using gaseous or liquid fuels predominantly produced from biomass;

b water heaters using solid fuels;

c water heaters within the scope of Directive 2010/75/EU of the European Parliament and of the Council[(5)];

d combination heaters as defined in Article 2 of Commission Regulation (EU) No 813/2013[(6)];

e water heaters which do not meet at least the load profile with the smallest reference energy, as specified in Annex III, Table 1;

f water heaters designed for making hot drinks and/or food only;

g heat generators designed for water heaters and water heater housings to be equipped with such heat generators placed on the market before 1 January 2018 to replace identical heat generators and identical water heater housings. The replacement product or its packaging shall clearly indicate the water heater for which it is intended.

Article 2

Definitions

In addition to the definitions set out in Article 2 of Directive 2009/125/EC, the following definitions shall apply for the purposes of this Regulation:

(1) ‘water heater’ means a device that

(a) is connected to an external supply of drinking or sanitary water;

(b) generates and transfers heat to deliver drinking or sanitary hot water at given temperature levels, quantities and flow rates during given intervals; and

(c) is equipped with one or more heat generators;

(2) ‘heat generator’ means the part of a water heater that generates the heat using one or more of the following processes:

(a) combustion of fossil fuels and/or biomass fuels;

(b) use of the Joule effect in electric resistance heating elements;

(c) capture of ambient heat from an air source, water source or ground source, and/or waste heat;

whereby a heat generator designed for a water heater and a water heater housing to be equipped with such a heat generator shall be also considered a water heater;

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(3) 'water heater housing' means the part of a water heater designed to have a heat generator fitted;

(4) 'rated heat output' means the declared heat output of the water heater when providing water heating at standard rating conditions, expressed in kW;

(5) 'storage volume' (V) means the rated volume of a hot water storage tank or a storage water heater, expressed in litres;

(6) 'standard rating conditions' means the operating conditions of water heaters for establishing the rated heat output, water heating energy efficiency, sound power level and nitrogen oxide emissions, and of hot water storage tanks for establishing the standing loss;

(7) 'biomass' means the biodegradable fraction of products, waste and residues from biological origin from agriculture (including vegetal and animal substances), forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste;

(8) 'biomass fuel' means a gaseous or liquid fuel produced from biomass;

(9) 'fossil fuel' means a gaseous or liquid fuel of fossil origin;

(10) 'conventional water heater' means a water heater that generates heat using the combustion of fossil and/or biomass fuels and/or the Joule effect in electric resistance heating elements;

(11) 'heat pump water heater' means a water heater using ambient heat from an air source, water source or ground source, and/or waste heat for heat generation;

(12) 'solar water heater' means a water heater equipped with one or more solar collectors, solar hot water storage tanks, heat generators and possibly pumps in the collector loop and other parts; a solar water heater is placed on the market as one unit;

(13) 'hot water storage tank' means a vessel for storing hot water for water and/or space heating purposes, including any additives, which is not equipped with any heat generator except possibly one or more back-up immersion heaters;

(14) 'back-up immersion heater' means a Joule effect electric resistance heater that is part of a hot water storage tank and generates heat only when the external heat source is disrupted (including during maintenance periods) or out of order, or that is part of a solar hot water storage tank and provides heat when the solar heat source is not sufficient to satisfy required comfort levels;

(15) 'water heating energy efficiency' (η_{wh}) means the ratio between the useful energy provided by a water heater and the energy required for its generation, expressed in %;

(16) 'sound power level' (L_{WA}) means the A-weighted sound power level, indoors and/or outdoors, expressed in dB;

(17) 'standing loss' (S) means the heating power dissipated from a hot water storage tank at given water and ambient temperatures, expressed in W;

(18) 'conversion coefficient' (CC) means a coefficient reflecting the estimated 40 % average EU generation efficiency referred to in Directive 2012/27/EU of the European Parliament and of the Council[7]; the value of the conversion coefficient is $CC = 2{,}5$.

For the purposes of Annexes II to VI, additional definitions are set out in Annex I.