

Press release

Leipzig, 02.12.2020

DBFZ successfully demonstrates type testing with newly developed non-woody biomass test fuels within the scope of the 1st BImSchV

Together with the company A.P. Bioenergietechnik and a notified testing body, DBFZ was able to demonstrate for the first time in an official measurement campaign that the emission thresholds of the 1st BImSchV are fully complied with for the combustion of cereal straw and grains. The process demonstrated for the German market can also serve as a basis for similar applications in other EU countries.

In order to achieve the challenging climate protection goals and to utilize the potential of biogenic raw materials for heating purposes, biomass boilers can be operated with fuels of the group No. 8 which are specified under section 3 (1) of the 1st BImSchV. This group includes, in particular, cereal straw and grains as well as hay. It is to be expected that fuels of this group have significantly more problematic combustion characteristics than stem wood and that considerable emissions may result if an unsuitable combustion technology is used. However, the lack of suitable, approved test fuels and uncertainties about their performance during type testing prevented the approval of the biomass boilers < 100 kW in which agricultural residues can be used. The aim of the work carried out at the DBFZ was therefore (i) to show a possible way for the production of dedicated test fuels, (ii) to demonstrate that the combustion of the test fuels would actually cause significantly higher emissions than typical agricultural fuels available on the market and that the test fuel concept is thus feasible, and (iii) to prove that the emission thresholds of the 1st BImSchV can be met under type test conditions.

Based on the German funded project "Investigations on the design and possible simplification of the approval process for boilers and fuels according to § 3 para. 1 No. 8 of the 1st BImSchV" (FNR, funding number 22403112), the DBFZ, in co-operation with the company Maschinenfabrik Gustav Eirich GmbH & Co KG and Futtermittel- und Dienstleistungs-GmbH Sonnewalde, was able to successfully produce the type test fuels in sufficient quantity. The type test was successfully carried out with the test fuels and an ÖKOTHERM® biomass boiler C1L together with the industrial partner A.P. Bioenergietechnik and the notified body ILK Dresden. Ten years after the amendment of the 1st BImSchV has been in force, it was successfully demonstrated that the emission thresholds of the 1st BImSchV can be fully complied with. For this, a combination of an innovative combustion technology with suitable secondary emission reduction measures is necessary. Further detailed information on this topic can be found in the journal „Müll und Abfall“ (issue 07/2020, <https://doi.org/10.37307/j.1863-9763.2020.07.06>).

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The results and experiences will be incorporated into the ongoing project "MoBiFuels - Analysis and elimination of market barriers of technically modified bioenergy carriers" (PTJ, funding number O3KB136). In this project, the approval of fuels according to § 3 para. 1 no. 13 of the 1st BImSchV (using the example of pellets made out of washed foliage) is again demonstrated with an ÖKOTHERM® biomass boiler until the end of 2021.



ÖKOTHERM® biomass boiler C1L (Source: A.P. Bioenergietechnik GmbH)

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