



Danish Energy Agency

Project description, Solid Fuel Local Space Heaters

As a part of the ongoing revision of the ecodesign requirements for solid fuel space heaters (2015/1185), a review of the used test standard is required as well as analyzing the technical measures in solid fuel local space heaters (SFLSH).

For the purpose of establishing a common technical foundation for the revision of ecodesign requirements for SFSH, Nordsyn can initiate a project addressing both 1) adjustments and improvements to the test standard EN 16510 and 2) an analysis of the technical measures of SFSH.

Background and project framework

Modification and improvement of test standard

In the current situation there exists several substantial flexibilities in the test standard, EN16510. Allowing too much flexibility in the way solid fuel space heaters (SFSH) are tested leads to a lack of repeatable and reproducible test results. This issue creates difficult circumstances for having functioning regulation and uncertain conditions for the industry. Therefore, reproducibility and repeatability should be the main criteria for adjusting the test standard EN16510.

A revised and improved test standard should take into account the level of alignment with the test standard used under the Construction Products Regulation (CPR). Since manufacturers are already required to have their solid fuel space heaters tested for safety aspects, the use of a similar test standard within the Ecodesign Regulation is therefore preferred.

Furthermore, data indicates that real-life emissions from solid fuel space heaters are significantly higher than the emissions declared for Ecodesign compliance. A revised and improved test standard should therefore aim to reduce the disproportionate gap between laboratory test performance and actual real-life operation. However, this project acknowledges that a certain discrepancy between test results and real-life performance will always exist to some extent in the case of solid fuel space heaters.

Technical measures

As part of the revision of ecodesign requirements an analysis of the technical possibilities in SFSH is necessary. This relates to 1) automatic combustion control, 2) catalyst and 3) electrostatic precipitator (ESP).

An analysis of the technical measures (automatic combustion control, catalyst and ESP) shall include 1) an assessment of whether or not the technical measure is implemented as part of the product or outside the product in the product system, 2)

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cost estimation for adding the technical measure, 3) practical feasibility for the user and 4) assessment of the effect on emissions and energy efficiency.

Project elements

For the purpose of establishing a common technical foundation for the revision of ecodesign requirements for SFSH, Nordsyn can initiate a project addressing both 1) potential adjustments and improvements to the test standard EN 16510 and 2) the technical measures of SFSH.

The project will consist of desktop study, with two main elements:

1. Project I: Modification and improvements of test standard, EN16510
 - a. Technical assessment of existing relevant test parameters, measurements methods and test conditions.
 - b. Suggestions for modified and improved version of EN16510 test standard
 - c. Assessment of practical feasibility and cost estimation for manufactures
 - d. Estimation (cautious) of the potentially achieved tolerance percentage
2. Project II: Analysis of technical measures, respectively 1) automatic combustion control, 2) catalyst and 3) ESP
 - a. Assessment of whether or not the technical measure is implemented as part of the product or outside the product in the product system
 - b. Cost estimation for adding technical measure
 - c. Practical feasibility for the user
 - d. Assessment of the effect on emissions and energy efficiency

There is already extensive research and a number of studies that the projects will build upon, which the consultants are expected to be familiar with.

Process, deadline and project team

Project 1

Technological Institute (DTI) will formulate a draft on project 1 and will have the primary responsibility for project 1, Suggestions for modification and improvements of test standard EN16510. The draft will be submitted to RISE and SINTEF for comments and inputs within a mutually agreed timeline.

The Danish Energy Agency is responsible for communication and for agreeing on a deadline with DTI.

Project 2



SINTEF will formulate a draft on project 2 and will have the primary responsibility for project 2, Analysis of technical measures, respectively 1) automatic combustion control, 2) catalyst and 3) ESP. The draft will be submitted to Technological Institute and Rise for comments and inputs within a mutually agreed timeline.

NVE is responsible for communication and for agreeing on a deadline with SINTEF.

Output

The output of the projects will be 1) a concise presentation for the Nordsyn-group and 2) a written report, followed by a Nordsyn Workshop on the subject

It is acknowledged that different consultancy environments may arrive at varying analyses and conclusions. The document is primarily intended to serve as an informative basis for the individual countries' ongoing work with regulation and consultations with the EU commission.

Deadline

For the purpose of utilizing the contributions of the project in the revision of ecodesign requirements of SFSH, the proposed deadline for submitting a final report is September 10.

Project team

Technical experts from Danish Technological Institute, Rise and SINTEF will author the project.

Budget

Project 1: 60 hours

- 40 hours allocated to project lead
- 10 hours allocated to each project participant

Project 2: 60 hours

- 40 hours allocated to project lead
- 10 hours allocated to each project participant