

EU-Project (FP7):

Advanced Testing Methods for Better Real Life Performance of Biomass Room Heating Appliances (“BeReal”)

Project duration: Oct. 2013 – Sept. 2016

Biomass room heating appliances are amongst the most common heating devices as primary or secondary heat source in Europe and the most relevant renewable energy technology in the heating sector today and in the short to medium term future. The stock of concerned appliances is approximately 55 million units and the annual sales are almost 1.85 million units corresponding to a direct turn-over of 2.6 billion € in the mostly SME-structured business field.

The changing thermal quality of the buildings poses technical challenges and novel market opportunities. Increasing environmental concerns due to the contribution of wood smoke to total PM concentration in ambient air pose a vital threat to the use and further diffusion of biomass room heaters in Europe.

Existing test standards have supported technology development tremendously in the past decades. Due to today’s changing and more demanding requirements, however, there is the obvious need for refined testing procedures and an improved assessment of the performance in order to differentiate between poor and excellent products. Such a differentiation should also take into account various operating conditions as they are found in real life installations.

Offering such information to customers will create substantial competitive advantages to innovative SMEs providing high quality products and may provide a reliable guideline for future standards or regulations.

The key objectives of BeReal therefore are:

- **Development of advanced testing methods** for biomass room heating appliances (e.g. pellets stoves, firewood stoves and inset appliances) in order **to better reflect real life operation**
- **Development of a centralized standardized evaluation tool for quality assurance purposes**
- **Validation of the methods** at an early stage of development
- **Proof of real life impact** of advanced products by field test demonstration
- **Proof of reliability and reproducibility of testing methods and evaluation tools** through a Round Robin test
- **Development and introduction of a quality label** based on the novel testing methods

Above objectives aim to increase the competitiveness of European SMEs and to build up know-how and business networks. These objectives will be accompanied by dissemination activities addressing all involved stakeholders, i.e. general public (end users/customers), standardization bodies, SME-members of participating SME-Associations and notified bodies. The particular measures include training activities for the latter two groups. The introduction of the quality label mostly addresses end users and the general public.

The consortium consists of 4 national and 1 European SME-AGs, 4 SME participants (3 stove manufacturers and 1 component supplier) and 5 suitably selected RTDs of high international reputation in the field of method development and industry-driven, applied R&D.

SME-AGs will be actively supported by their members. 3 participants are notified bodies, several participants are involved in the concerned national and international standardization groups, amongst others the convenor of CEN TC295-WG 5 "Test methods" and the chairman of CEN TC46.

Additional stakeholders (public bodies, customer right protection groups, and complementary industry) are involved in the Advisory Committee. So are a US testing house and a US bioenergy retailer organization, to potentially open additional market opportunities beyond the borders of the European Union.

Work programme and consortium of BeReal are tailored to allow an efficient uptake of project results, herewith creating a substantially favourable framework for the future economic success of innovative EU SMEs.

Funding:

This research has received funding from the European Union's Seventh Framework Programme managed by REA-Research Executive Agency <http://ec.europa.eu/research/rea> (FP7/2007-2013) under grant agreement n° 606605.

The partners:

Technologie und Förderzentrum (TFZ) (*Coordinator*)
TEBAB Teknikforetagens Branschgrupper I Sverige AB
HKI Industrieverband e.V. (HKI)
Austrian Kachelofen (tile stove) Association (KOV)
European Fireplace Association (EFA)
Bioenergy 2020+ GmbH (BE2020) (*Scientific coordinator*)
Danish Technological Institute (DTI)
University of Applied Forest Sciences (HFR)
SP Sveriges Tekniska Forskningsinstitut (SP)
ATech d.o.o. (ATech)
Interfocos BV (Interfocos)
Stûv s.a. (STUV)
HWAM A/S
AIEL - Associazione Italiana Energie Agroforestali

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A web page is currently under preparation