

Standardization in research and innovation projects

Success story: **energy**

2ndVegOil

Demonstration of 2nd Generation Vegetable Oil Fuels in Advanced Engines (2ndVegOil) was a 3-year FP7 (7th European Research Framework Programme) research project, which focused on the research, development and demonstration of a 'second generation' of vegetable oil-based fuels for use in advanced engines, particularly in the agricultural sector. The project finished in 2011, having demonstrated the viability and suitability of cleaned vegetable oils for use in advanced diesel engines. This resulted in a new European pre-standard for pure plant oil, which will meet the needs of the next generation of vegetable-oil based fuels.

www.2ndvegoil.eu

THE PROJECT

The use of pure vegetable oil as diesel engine fuel offers a solution: to move away from petroleum-based fuels to more diverse and renewable energy sources. The production can be done with small production units, requiring low energy input, resulting in small energy losses. This may potentially generate income in rural economies. Optimized plant oil offers a solution towards alternative fuels for tractors, buses and off-road vehicles.

The 2ndVegOil project consortium brought together the skills and knowledge of large and small industries, academia, public agencies, agricultural organizations and standardization bodies, in order to develop new engine concepts, fuels and lubricants. These were subjected to comprehensive 'in the field' testing and demonstration activities in four European countries.

STANDARDS: A SOLUTION FOR MARKET UPTAKE

The establishment of a new standard on requirements for pure plant oil represented a precondition for the market uptake of second-generation oils and associated engines, machinery and other technology. Therefore, within its short time-scale, 2ndVegOil developed a CEN Workshop Agreement (CWA)*. The CWA on "Fuels and biofuels - Pure plant oil fuel for diesel engine concepts - Requirements and test methods" specifies the necessary properties to achieve smooth deployment of this fuel in diesel engines.

This new pre-standard was developed in just over a year and a half, and drew heavily on the information, data and experiences from the R&D activities of the 2ndVegOil project.

* CEN is the European Committee for Standardization. A CWA is a type of European pre-standard

 The CWA has paved the way for series production of a pure plant oil fuelled tractor and other heavy-duty machinery. 

Professor Pickel, 2ndVegOil Coordinator

HOW WAS THE STANDARD DEVELOPED?

Project partners, as well as representatives from a wider community of manufacturers, users and researchers provided inputs to the Workshop and content of the specification. NEN, the Dutch national standardization body, also participated in the project and led its standardization work-package, thus providing an important link to existing CEN committees. This supplied the knowledge, experience and contacts necessary to ensure smooth progress through the Workshop process.

IMMEDIATE BENEFIT

Standardization was a key dissemination activity for the project, and is seen as fundamental for the potential long-term use and impact of project results. Professor Pickel, 2ndVegOil coordinator, while initially concerned about venturing into the world of standardization, is now clear that it was “a good experience” and “one of the highlights of the project”.

LONG-TERM IMPACT

The new CWA is now available to any interested stakeholder, for use on a voluntary basis.

It will enable the wide diffusion of the plant oil fuel technology. “The standard is a key enabler for the technology, and without it the technology would be worthless” says Professor Pickel, 2ndVegOil Coordinator.

Some of the main producers of heavy-duty engines (Mann, Deutz, John Deere, etc.), which are a key market, have already shown interest in the specification. The 2ndVegOil partners expect the CWA to support the deployment of plant oil fuel.

The CWA will then provide a stepping-stone for a revised specification or for other European, or possibly, international standards.



Developing the CWA was a learning experience for all partners, but it helped to focus the questions that needed to be answered through the project and to clarify aspects of the research and development work that was running concurrently to the production of the specification. I would recommend using a CWA to others in a similar situation.



Professor Pickel, 2ndVegOil Coordinator

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Every project is different. The CEN-CENELEC Research Helpdesk can provide you with advice on how to include standardization in your project. Please feel free to contact us!

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