



Biosyngas production from torrefied hay

COUNTRY

Estonia

PROJECT PROMOTER

BRM TB Llc

FUNDING

RDP funding, EUR 136 716

Private funds EUR 40 140

RDP MEASURE

M16 – Cooperation (EIP-AGRI)

DURATION

2015 – on-going

CONTRIBUTION TO

- generating environmental benefits
- mitigating climate change
- increasing efficiency of biomass resource use
- creating value through improved production methods or processing technology
- scaling up a pilot project to commercial scale

KEYWORDS

Added value, biomass, bio-energy, innovation, diversification, cooperation

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The initiative

Tens of thousands of tons of hay are wasted in Estonia every year. This EIP-AGRI project was set up in order to exploit this unused resource. The project aims to test the process of hay torrefaction in Super Heated Steam (SHS) and develop a technology for the conversion of low-quality hay into solid feedstock for bioenergy and chemical, or agricultural use. The project will offer farmers the option of adding value to hay and diversifying their production.

The project is partly financed by the Estonian Agricultural Registers and Information Board (ARIB). The main technological advisor and expert is BRM TB Llc. Testing and developing the technology for hay torrefaction and the separation of volatile by-products is carried out by Fraunhofer IGB. Torrefied hay gasification and analysis is conducted by the Lithuanian Energy Institute. Finally, the analyses and tests to improve the solid fraction of biomass after the hay torrefaction is carried out by Estonian University of Life Sciences.

The first stage of the project was successful and proved the potential of the idea in the laboratory. The project partners are now planning to start the next phase of the technology's development. New research institutes, engineering companies and experts will join from other EU countries to help oversee the development of the technology for volatiles separation testing and the designs for a pilot plant.

Environmental sustainability

Through this project, a commercial technology for agricultural SMEs will be developed based on the idea of using local raw materials, minimising the transportation of water and adding value to low-quality raw materials.

The project will create non-traditional agricultural professions in rural areas.

Lessons learnt & recommendations

It is difficult to find long-term private funding for projects and public funding may involve political risks.

RESULTS

- ✓ The project is not yet finished, but there is great potential for environmental and economic benefits.
- ✓ 19 individuals are directly employed in/by the initiative and 30 are indirectly employed (e.g. in spin-offs of the initiative, suppliers, transport).

