LogistEC partners:

AEBIOM
Belgium

Acciona Energía
Spain

Averinox
Netherlands

Biotrans
Spain

Biopoplar
Spain

Bourgogne Pellets
France

CENER
Spain

CFN
Denmark

CIEMAT
Spain

CRL
UK

ECN
Netherlands

FCBA
France

INRA Transfert
France

INRA
France

MHG Systems
Finland

MRBB
Norway

Nobili
Italy

PIMOT
Poland

Riso DTU
Denmark

RRes
UK

SGB
UK

SINTEF
Norway

SSSA
Italy

LogistEC Demonstration Sites:

Triticale, sorghum and poplar cultivation
Spain

Miscanthus to supply a pellet plant
France

Torrefaction pre-treatment
The Netherlands

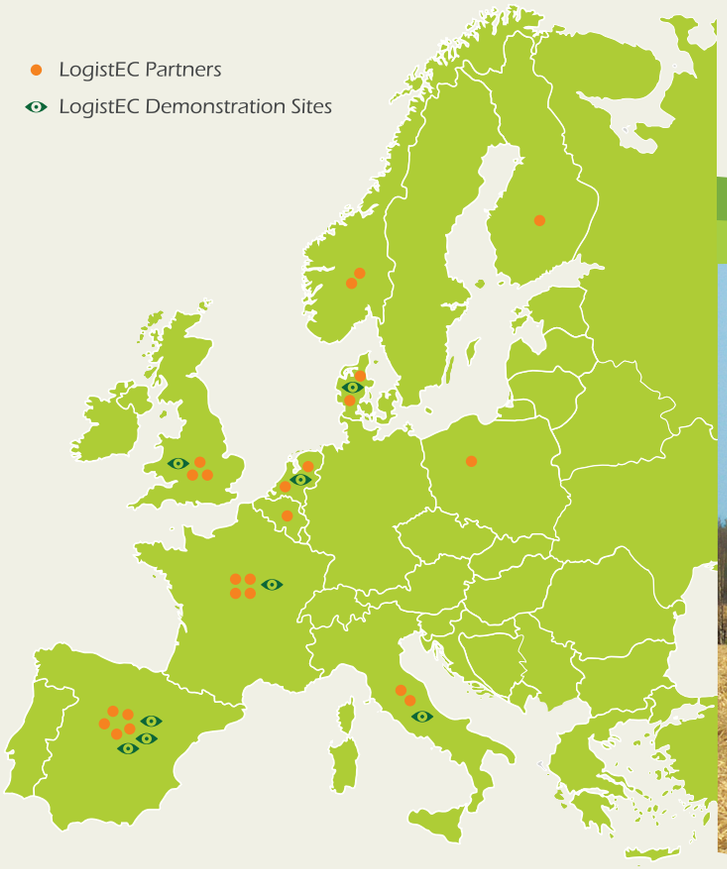
Torrefaction pre-treatment and briquetting
Denmark

Power from grassy crops and poplar
Spain

Energy grass harvester
Italy

Willow harvester
UK

Storage of torrefied feedstock
Spain



LOGISTEC
Logistics for Energy Crops Biomass

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Logistics for Energy Crops Biomass

The LogistEC project supported by FP7 aims to develop new or improved technologies of the biomass logistics chains. Cost-efficient, environmental-friendly and socially sustainable biomass supply chains are needed to achieve the 2020 EU RES targets that might be impeded by the potential scarcity of lignocellulosic biomass from agriculture. The project covers all types of lignocellulosic crops: annual and multi-annual crops, perennial grasses, and short-rotation coppice.

Photo credits: VAPO

www.logistecproject.eu

LogistEC - sustainable biomass supply chains in terms of environmental, economic and social impacts.

The project focuses on improvement of all biomass value chain components and assesses the sustainability in terms of environmental, economic and social impacts. Innovative techniques for crop management, biomass harvesting, storage and transport provide a possibility to increase biomass supply whilst keeping costs down and minimizing adverse environmental impacts.

Timeline: the project is running from September 2012 until the end of February 2016 with a budget of 3.5M€ for its activities.

Target groups: feedstock producers, biomass project developers, rural communities, farming industries, supply chain, retail, logistics and transport companies, end-users of biomass, NGOs and consumer associations, policy makers, and scientists.

Stakeholder platform: a virtual stakeholder platform will be created in order to follow the most recent project achievements, developments and to provide a possibility to get involved in project activities and to transfer the know-how on the ground.

Optimizing bioenergy supply chains

The barriers for optimal use of supply chains include scattered and bulky nature of biomass, high moisture content, unsuitable for lignocellulosic crops harvesting equipment, biomass deterioration during storage and transport etc. Therefore, by employing specific meta-analysis, laboratory tests, field trials, ecosystem modelling and mechanical engineering, the project will deliver recommendations for optimal technologies as well as new equipments and systems.

The recommendations will be based on the project partners' work on the following:

Crop management

Innovative crop management practices such as intercropping or multifunctional land use and recycling of process residues and other waste streams will be developed in order to maintain soil quality, reduce environmental impacts and increase economic profitability.

Agricultural machinery

Existing harvesting equipment is not sufficiently adapted to harvest lignocellulosic crops such as grasses or short-rotation woody crops. Development of improved agricultural machinery would ensure cost efficient biomass harvesting and handling and lower environmental impacts.

New pre-treatment technologies

In order to optimise biomass production, there is a need to have feedstock of consistent quality, particle size and moisture content. This can partially be done via conventional densification (pelletisation, briquetting); however the aim is also to develop pre-treatment technologies to improve biomass properties prior to densification and transport (hydrophobicity, grindability, mildew) so that it can be handled in existing transport, handling and storage equipment.

Multi-criteria assessment

The implementation of innovative techniques at different steps of the supply chain will not lead to an improved supply chain if the system is not envisaged as a whole. Therefore, the project will employ multi-criteria assessment to optimize all steps of the supply-chain (feedstock types, cultivation sites, crop management, harvesting and pre-treatment technologies, transport and storage).

Decision Support System tool

A Decision Support System will be used for the optimization of biomass supply chains in a spatially explicit manner taking into account environmental, economic and social sustainability criteria and regulatory framework thus facilitating the supply of lignocellulosic biomass for bioenergy. It will also help to explore various scenarios.

Demonstration

The developed system will be tested in bio-energy and bio-materials projects all across Europe. Improved logistics will be demonstrated at a pilot and industrial scales in 2 regions (Eastern France and Southern Spain) for existing bio-energy and bio-materials value chains. All technology developments will be carried out with industrial partners in order to speed up their transfer to the market.