SecureChain
sustainable biomass energy

Pilot Project Factsheet

Funded by the European Commission Horizon 2020 grant agreement no. 646457
01/04/2015 – 31/07/2018

Biomass mobilisation through landscape element maintenance in Twente

Project partners

bruins & kwast
biomass management

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7472 DB Goor
The Netherlands
www.bruinsenkwast.nl

Eelerwoude
kleurt het landelijk gebied

Mossendamsdwarsweg 3
7472 DB Goor
The Netherlands
www.eelerwoude.nl

GEMEENTE WIERDEN

Pouliestraat 3
7642 EB Wierden
The Netherlands
www.wierden.nl

Pilot project concept

The essence of the project was the selection of the optimal method of maintenance of landscape elements (hedgerows, single-line tree stands, small forests as well as parks and avenues), focusing on Twente. Due to the loss of traditional functions many hedgerows have disappeared and maintenance of remaining ones has been widely neglected in the last decades (see pictures).

With better methods and organisation of the landscape maintenance, costs are expected to come down. Also, proper maintenance will mean that the bushes around the trees can be revitalised, leading to improved biodiversity and a higher quality of the landscape on the one hand (see right-hand picture) and increased biomass mobilisation on the other hand.

Partners

Bruins & Kwast Biomass Management – the pilot project coordinator - is a manufacturer and supplier of secondary (bio-) fuels and raw materials, originating mainly from fresh wood and high-calorific waste streams. Both the fuel and the raw materials are sold across the Benelux, Germany and Poland. Other project partners are a landscape maintenance consulting company (Eelerwoude), a municipality (Wierden), and a landscape management organisation (Landschap Overijssel). These organisations share a vision about the importance of proper landscape element maintenance.

Activities

Activities centred on two main issues 1. To investigate the biomass availability that proper maintenance can yield. 2. Determine the ecological advantages of proper maintenance of landscape elements and other ecosystem services. In addition, the financial implications were determined via an exploitation calculation.

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Landschap Overijssel

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7722 KW Dalfsen
The Netherlands
www.landschapoverijssel.nl

SecureChain Project Partner

btg biomass technology group

Josink Esweg 34
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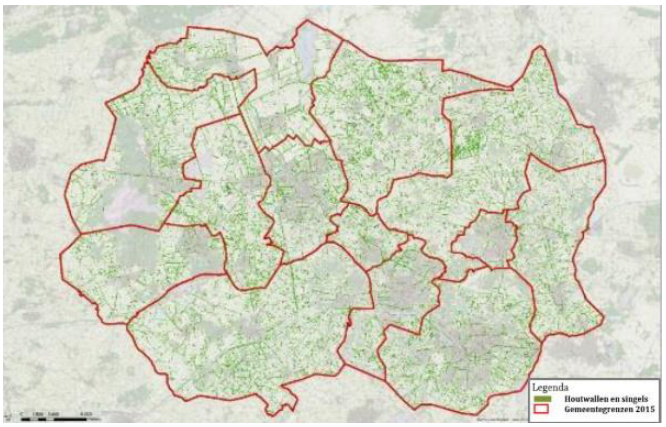
www.btgworld.com

BOKU

University of Natural Resources and Life Sciences
Institute of Waste Management
Muthgasse 107
1109 Vienna, Austria
www.wau.boku.ac.at/abf

Results

The project has yielded an accurate insight in the quantity of hedgerows in Twente. Using satellite images, the total length of the hedgerows in Twente was determined to be roughly 4,000 km (see picture to the right). By comparing this information with the known number of hedgerows that are maintained, it was determined that 80% of all hedgerows in Twente are not properly maintained.



Taking up proper maintenance in Twente would lead to a one-off additional biomass availability of more than 200,000 ton, followed by a sustainable supply of 14,000 tons of biomass per year.

Besides the biomass that can be mobilised through regular maintenance, there are many other advantages. By revitalising the bushes in the hedgerow, local biodiversity increases. Furthermore, a properly maintained hedgerow can act as a dust filter, helps in reducing heat stress and has a positive role in soil fertility and water management. Hedgerows are also of historical value, and are important for an attractive landscape for tourists.

Results of the exploitation calculation showed that costs are higher than the revenues from the sale of biomass. However, if the management is administered by a municipality, or carried out by a collective it is expected that costs can be lowered, so that maintenance can be carried out break-even.

Follow-up

The results of the pilot project have been presented to Groene Metropool Twente. This is a cooperation of several municipalities that aim to develop and improve the countryside in Twente. The presentation was received positively, and as a result a follow-up pilot project is now being developed. The goal of this new project is on the one hand to demonstrate the opportunities of collective maintenance and on the other hand to show the ecological effects of proper maintenance of landscape elements.