Inventarisation Biomass Vloethemveld

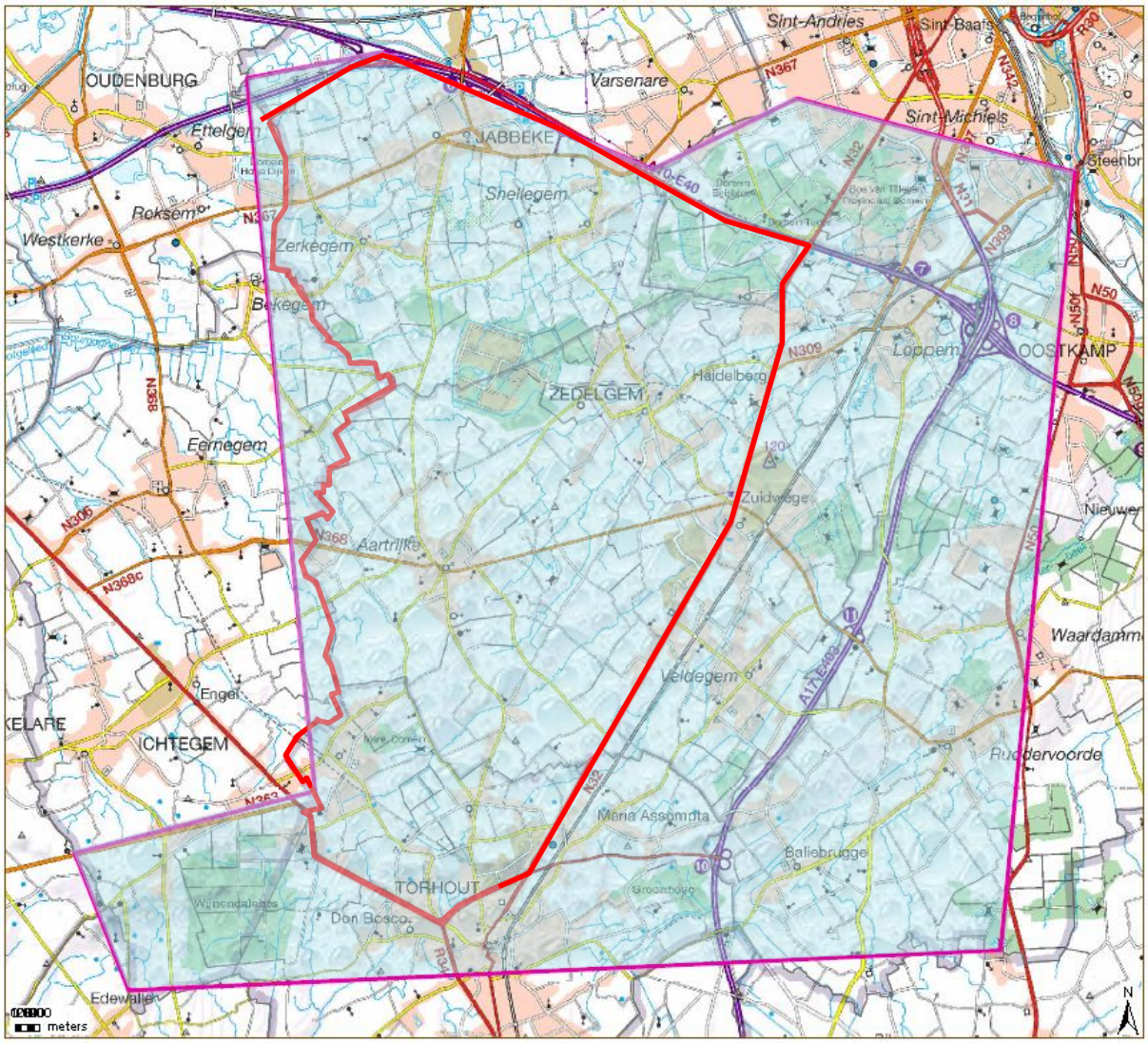
Summary of the report of Inagro

Introduction

The Flemisch Land Agency wants to discover the posibilities to set up local biomass chains for valorisation of biomass from nature and landscape management in the area of the land development project Moubeek-Vloethemveld.

Within the framework of the Interreg IVA Clusterproject Carelands a research assignment was given to INAGRO to investigate the potential supply and demand for local biomass and the potential for local chains in the area of the land development project.

Figure 1: project area land development project Moubeek-Vloetemveld (red) and the research area (purple)



Inventarisation suply

Questionnaire

A questionnaire was send out to management organisations, active in the area (see table 1). The scope of the questionnaire was to get a first sight on amounts, types and current processing of biomass from nature and landscape management in the area.

Table 1. Questioned organisations with indication what kind of biomass (grass or wood) they produce.

	Answer	Grass	Wood
Agentschap Natuur en Bos	X	X	No data
Groendienst provincie west-Vlaanderen	X	X	X
Stad Torhout	X	X	
Gemeente Jabbeke	X	X	
Stad Brugge	X	X	X
Gemeente Oostkamp	X	X	X
Gemeente Zedelgem	X	X	X
Natuurpunt	X	X	X
Regionaal landschap Houtland	X	X	
Bosgroep Houtland	X	X	X
Agrobeheergroep	X		
Waterwegen en Zeekanaal	X		
Agentschap wegen en Verkeer			
Provinciaal Opleidingscentrum voor Veiligheidsdiensten			
Jan Bouckaert (private eigenaar)			

Amounts

Table 2 gives an overview of the reported amounts.

Table 2. overview of the reported amounts.

Type biomass	reported amounts in the project area (ton/year)
Nature grass	1201
Road sides (grass)	1339
lawns	30
Round wood	3240
Thinnings and coppice	299
Branch wood and top	127
Prune	78
Short rotation coppice	20

Potential

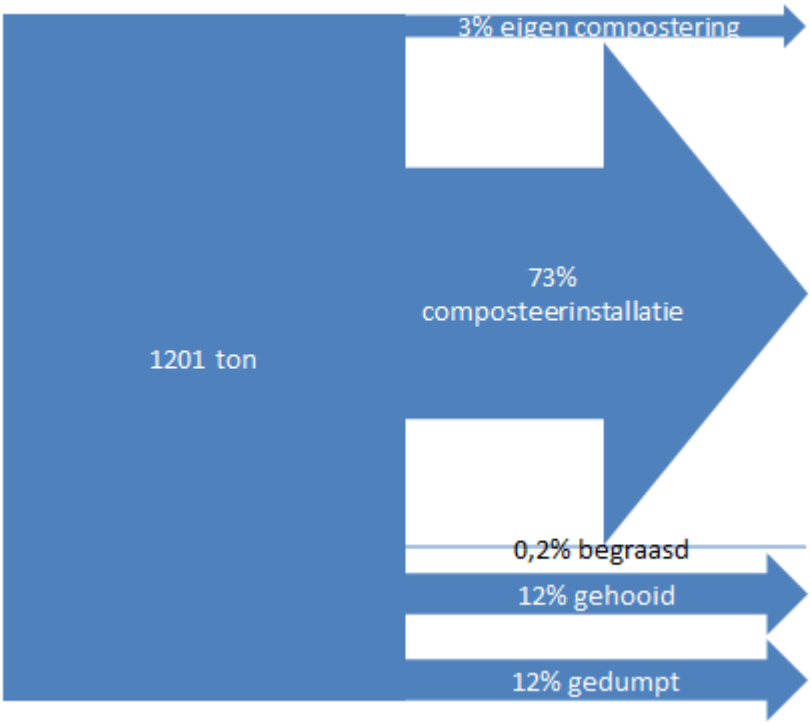
The answers from the managers in the area indicate that biomass is already highly valorised. Only grass clippings from road sides are not fully valorised, but this type of biomass is seen as quite problematic for valorisation. Round wood is sold to specialised companies and is used as construction or timber wood. Energetic valorisation is undesirable. In theory the Thinnings and

branch wood and top could be used for energetic valorisation. Nowadays these fractions go the often to volunteers as fire wood or they remain in the forest as dead material.

Destination

Figure 3 shows the current destinations of nature grass in the area: 73 % goes to a composting installation, 3% own composting; 0,2 % grazing, 12% is hayed and 12% is dumped. Beside the 73% that goes to composting the other amounts is often the summary of scattered and small amounts throughout the area.

Figure 3. current destinations of nature grass in the area.



All grass from roadsides goes to composting installations. Currently (because of the gate fees) this is a high cost for management organisations. Still composting is cheaper and easier (less conditions toward the material) than digestion.

Most forest managers use professional contractors for the management. In most case the wood is sold ‘on stem’ (whole tree). Branch wood and top is often not economic profitable for valorisation (small and scattered amounts) and stays in the forest. Thinings of smaller plots are often done by volunteers who keep the wood as fire wood as reward.

Inventarisation demand

Grass

Composting is the standard way of processing if the clippings can’t be used as feed or soil cover. The gate fee is around 25 to 35 euro per ton. The height of the fee is caused by the oversupply of green material towards the brown material.

An alternative could be anaerobic digestion. In the area there is one installation for anaerobic digestion: Bio-Electric bvba in Beernem (2,461 MW). They don't have any experience with digestion of grass. Grass from road sides will not be accepted, because of risk of damage through litter. Nature grass could be accepted if it is fresh, cut in small bits, free of litter and in minimum amounts of 20-30 ton.

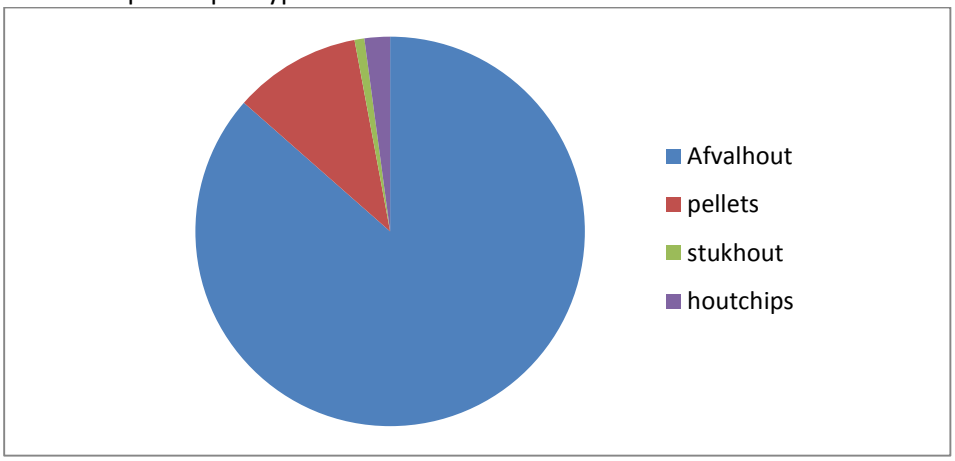
Wood

Following potential demanders for wood were questioned:

Table 6. contacted companies / private persons

Name	Type of company	power (kW)
Kris Deguffroy	farmer	850
Philip Vermeulen	farmer	2 x 130
Bart Casier	private person	30
Johan Martens	private person	20
Piet Coysman	farmer	1200
Alex Allemeersch	farmer	3000
Tijl Waelput (Hoeve de Hagepoorter)	Holiday centre	100
Jan Vandevelde (Groencentrum)	Garden centre	300
Ludo Roets (Laraflor bvba)	Salesshops flowers	150
Cortvriendt -Vanacker	Woodworker	30?
Filip De Leyn (Meubar)	Woodworker	?
Luc Neyens (De vrolijke aardbei)	farmer	200
Total		**± 6140**

*Installed power per type of fuel:



86% is powered by waste wood. Only 2% is powered by clean wood or woodchips.

*Average actual price per type of fuel:

Type of fuel	price/ton (in euros)
Waste wood	40
Pellets	150
Clean wood	/
Dried wood chips	70

The big difference in price between waste wood and wood chips make that owners will not switch easily tot wood chips. On the other hand owners who use pellets will not soon switch to woodchips, because they prefer the quality and bigger security of pellets.

The owners of installations were not interested in harvesting their own woodchips due to various reasons: lack of time and machinery, too high costs.

Promising chains

Grass

In total 1339 ton grass form roadsides is reported. This is now all composted. Pre-dry digestion (before composting) could add extra value to the biomass, but such an installation is not available in the neighbourhood. Processing towards the wet digestion installation in the area is very difficult because of the many conditions.

For nature grass the wet digester in Beernem could be an option. The organisation with the biggest amounts in the area (ANB) has although still a contract for 2 more years with the current processing. In the future a setup of a pilot project could although be investigated.

Similar pilots however show that composting is always cheaper than digestion, with fewer conditions towards the material to be delivered.

Wood

In general quite some wood is available within the area, but almost all of it is valorised at the moment. Some fractions (branch wood, top, thinnings) could be transferred to green energy, but the amounts are too small and scattered to be economic profitable or it is desired that they stay in the wood.

In general can be concluded that the potential for setting up local biomass chains is rather low.

2 Mers Seas Zeeën
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