

Workshop Mobilizing sustainable biomass chains for the Dutch context (BioMob)

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Summary discussions team 5

Team composition:

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Discussions:

Some starting points:

- Biomass demand in the Netherlands could increase up to 1000 PJ (equivalent to 50 million tonnes of biomass), while domestic production potential is only around 200 PJ. This means that imports of biomass will play an important role in NL. Mind that NL is a major hub in the EU – Dutch harbours are central points for bunkering and tanking, and chemical industry is also producing for global markets. Dutch industries have always been oriented to international trade.
- We need smarter ways of using agriculture. Measures are needed to improve conditions in agriculture to produce food & biobased resources. In West Europe already high yields are achieved. However, many regions in the world have poor yields in agriculture ('yield gap'), and rural areas are unattractive for young people, resulting in high migration to cities, and land abandonment. This is a trend that needs to be reversed (rural development).
- Increased focus on nutrient recycling in agriculture (closed circle). **Soil is the basis for sustainable agriculture.** Biochar, as a byproduct of other biobased products/energy carriers, can be fed back to the soils to increase fertility and soil carbon storage.
- A typical refinery in the Netherlands - producing biofuel, biobased products and biochar as byproduct – would need a supply of around 600 kT biomass per year. Pretreatment to transportable/tradable commodities is best done upstream, at sourcing level. It is important for investors to secure supply lines (e.g. with 10 year contracts). However, farmers don't like to commit to multi-annual contracts. In terms of the volumes required, it is best that there are intermediate organisations that connect the biomass producers and the industry that processes the biomass.
- Primary biomass producers should not just be considered as passive suppliers of biomass at the lowest possible cost; they should have an active stake in the supply chain and their requirements / business case should be taken seriously.

Central question: *can the Netherlands help achieve sustainable agriculture and rural development at global scale through the stimulation of biomass markets?*

This means using energy demand to create more sustainable regions. It would imply that bioenergy contributes to achieving the UN Sustainable Development Goals. So the ambition level is to contribute to

- sustainable agriculture (incl. nutrient recycling),
- rural development,
- reduce climate impact through the transition to low-carbon energy and products, and increase carbon storage in soils
- provide supply security for biobased initiatives,
- and efficient conversion and use of biomass.

Requirements at local level:

- To provide knowledge and skills to farmers, foresters, local developers/investors
- Include primary producers in the business case
- Improve food security, improve soil quality, maintain biodiversity
- Improve local energy security

Biomass hubs in bioregions

Regional biomass hubs could provide access to biomass, in regions where the potential to sustainably produce crops/biomass exceeds local demand for food, energy, ...

The hubs also have a societal function, to contribute to the **landscaping** at regional level and revitalise the rural area. This could be through a **cooperative structure**, with involvement of local farmers/foresters/investors, with local policy support (as a way to contribute to rural development).

- Providing education/training, advice and knowledge transfer to farmers e.g. in terms of use of nutrients, maintaining soil fertility, double cropping, revitalising marginal lands, ... and to foresters for sustainable forest management.
- Access to machinery (harvesting, ...) on lease base.
- Collection point for different types of biomass, with focus on residues and lignocellulose biomass (*connection with food supply lines depends on local situation*)
- Production of energy from biomass for the region.
- Pretreatment of biomass to tradable/transportable commodities.
- Connection with international players seeking for contractible biomass.
- Bring back biochar to the region (by-product in NL refinery). Based on carbon credits, this can provide a source of income for local farmers. **Carbon credits related to fixing carbon in the soil are an important precondition for the biochar part.**
- Profits of the biomass hub feed back into the region / to its cooperative members.

The principle of the biomass hub is based on **reciprocity, trust and transparency**.

Start with pilots, in NL and East/Central Europe, later also in other regions of the world.

List of stakeholders & indicative business case: see slides.