

Twentse Bouwboeren: setting up biobased production chain in the east of the Netherlands

Twentse Bouwboeren works to establish a fair, regional, renewable chain for reuse and biobased building materials from fiber crops. By doing so, we offer a perspective for agricultural areas with a social task to enable the agricultural transition. In addition, this circular value chain offers opportunities for making the construction sector more sustainable and can permanently store CO2 in fields and the built environment. With this, this initiative gives substance to the new agricultural agreement around the theme 'Biobased building materials and CO2 sequestration' and possibly 'Organic conversion program'. We strive for a future-proof business community and a climate robust and sustainable rural area in Twente. The cultivation, processing and application of fiber crops forms the common thread in this chain and brings the various sectors (construction sector, processing industry and agricultural entrepreneurs) together. Twentse Bouwboeren does this together with its partners:



The chain does not yet exist and will not develop by itself. To make the chain work, a temporary program team is needed to drive and accelerate the transition and connect chain partners in Twente, identify bottlenecks and eliminate them as much as possible. To achieve these goals, the Twentse Bouwboeren project was started. A visual representation of the chain is shown in the image below:



What have we done so far:

The core team of Twentse Bouwboeren started in March 2023 with an exploratory phase. This phase was driven by a group of initiators; Rabobank, De Land Bouwers, Pioneering Foundation, Waterboard Vechtstromen and TAUW Foundation, and guided from Building Balance. Funding for the first phase was provided by Rabobank, Innovatiefonds Vechtstromen and TAUW Foundation. The exploratory phase included meeting with interested stakeholders from all sectors involved to explore feasibility in Twente and shape the chains. This phase will be completed in November 2023 resulting in;

- 3 chain meetings (attendance each time more than 65 frontrunners) where connections were made between farmers, processors, construction, municipalities and province, water board, housing cooperatives, land management organizations;
- 6 in-depth meetings for farmers, estate owners, business advisors where knowledge was shared and inspiration was gained;
- met with over 100 potential chain partners, whom we offered inspiration from good examples;

- signed declaration of intent dated Sept. 25, '23 by more than 30 companies and organizations (see Appendix D to get a picture of diversity of companies and organizations). New organizations can still join;
- business case worked out in outline for one production chain (blow-in insulation);
- perspective on transition compensation from Overijssel province for farmers who start working with fiber crops (from 2024);
- a program for disseminating and sharing knowledge with policymakers, stakeholders and a wider public for fall 2023 (New Energy Day, Congress Naturally, Agricultural Meeting, symposium Choices for the Future, symposium The Land Builders, etc.);
- communication tools; logo, fact sheets, website, LinkedIn, flyer, 4 articles and 2 videos in media.

The energy during the meetings was noticeable and attendance has been higher than expected time after time. Feedback has been positive and the will to continue developing is there among all stakeholders.

What lies ahead:

It is now important to move from exploring to implementing; doing!

The transition requires careful and systematic guidance to bring the sectors into a new way of working in confidence. The momentum for this transition is optimal because both sectors from whom change is expected are currently facing enormous challenges. As a result, there is urgency and willingness for change on both sides.

In December 2023, we started the next phase in this transition. In the follow-up phase, we will develop several upscalable, bio-based production chains in Twente. In the first year, we will continue the process initiated with the exploration phase. Both dairy farmers and arable farmers are using the cropping plan to prepare for the cultivation of various fiber crops in 2024. Then biobased, reusable building materials are developed and processing is put in pilot form (for new construction or renovation). Building contractors will start using biobased materials in new construction, renovation and preservation of homes. After the first year, we evaluate the approach and results and, where necessary, rewrite the activity plan for the following year. Cultivation, processing and application will be scaled up each year, allowing volumes to scale and pilots to move to small-scale applications. This program lasts approximately 4 years with the goal that chain partners take steps toward scaling up to independently running, profitable chains. After this phase, an autonomous market will emerge that will continue to develop and grow.

This project has positive impact on de SDG's:

SDG 6: by minimizing the use of pesticides en chemical fertilizer there is a positive effect on (ground)water quality (Framework Directive Water - KRW)

SDG 7: the residue of the production process by industry can be used as renewable biofuel. This means there is no waste for the production of biobased materials; all the residues of the material (for example rooting of non-fiber leaves) can be used as renewable biofuel or as 'green manure' to fertilize the soil in a sustainable way.

SDG 8: the use of biobased building materials have a favorable effect on inhouse living climate

SDG 9: the use of biobased materials reduces the use of traditional building materials (f.e. stone, concrete and steel) with a much less favorable CO2 footprint;

SDG 11: sustainable (re)building reduces the CO2 footprint

SDG 12: produce circular building materials that enable sustainable reuse / set up sustainable production patterns by setting up a biobased supply chain

SDG 13: Reducing CO2 emissions by reducing the consumption of traditional building materials (with high CO2 emissions) through biobased materials that capture CO2 for a long period of time.