Interreg
North-West Europe
EUROPEAN UNION

BioBase4SME

European Regional Development Fund

© Biobased Innovations Garden Rusthoeve

Bioeconomy Factsheet The Netherlands

July 2018

This factsheet gives an overview of the Dutch bioeconomy innovation technology system. It includes the key government interventions, research institutes, networks and finance instruments in The Netherlands.

BIOECONOMY GOVERNANCE

The Netherlands' key government bodies are the:

- Ministry of Infrastructure and Water Management
- Ministry of Economic Affairs and Climate Policy
- Ministry of Agriculture, Nature and Food Quality
- The Netherlands Enterprise Agency (Rijksdienst voor Ondernemend Nederland, RVO)

Biobased bench © Millvision

BIOECONOMY STRATEGIES AND ROADMAPS

- The Government Vision on the biobased economy in the energy transition (2007).
- Framework on the Biobased Economy (2012) is a mid- and long-term vision and strategy for the biobased economy).
- Green Growth: from biomass to business (2012) served as a 'business plan' for the transition to a Dutch Biobased Economy.
- Green Growth: for a strong, sustainable economy (2013).
- Monitoring Biobased Economy in Netherlands (2017) (from 2010-2016).
- Sustainable biomass and bioenergy in the Netherlands (2016) provides an overview of the biomass flows in the Dutch biobased economy over the year 2015.
- A Circular Economy in the Netherlands by 2050 has an interim target of reduction in the use of primary raw materials by 50% by 2030.
- "The Transition Agenda" is a program of five roadmaps on construction, plastics, the production industry, biomass and food, and consumer goods, leading them to become circular by 2050.

LEGISLATION

In 2013, the **Climate Agenda** set out Dutch commitments to reduce greenhouse gas emissions by 80-95% by 2050 (compared with 1990) and highlighted the need to reinforce action on climate mitigation and adaptation.

The Energy Agreement for Sustainable Growth (Energieakkoord) (2013) contains ten key pillars for sustainable growth including to increase the share of renewable energy.

Energy Reports are published every four years to set energy and climate policies. The most recent (2015) report focuses on the period beyond 2023 (after the Energy Agreement) on how to achieve a CO2 neutral energy supply system by 2050.

The Netherlands operates the government supported, market based, **SDE+ incentive scheme** (Encouraging Sustainable Energy Production) which is a feed-in tariff scheme where producers receive financial compensation for the renewable energy they generate.

UNIVERSITY CENTRES AND RESEARCH

Research organisations, such as:

- Energy Research Centre the Netherlands (ECN), part of TNO

Universities, such as:

- Wageningen University & Research
- Aachen-Maastricht Institute for Biobased Materials (AMIBM), part of Maastricht University)

Research clusters, such as:

- Carbohydrate Competence Centre (CCC)
- Biotech Campus Delft, at the Delft University of Technology campus and the DSM Delft site
- The Centre of Expertise Biobased Economy (CoE BBE), a cooperation between Avans University of Applied Sciences and HZ University of Applied Sciences

NETWORKS AND CLUSTERS INDUSTRY ASSOCIATIONS

- **TKI Biobased Economy** (TKI in Topsector Chemie)
- **Biobased Delta** (Provinces North-Brabant, South Holland and Zeeland)
- **Greenlincs** (Northern Provinces)
- **Dutch Biorefinery Cluster**
- **BioEnergy Cluster East Netherlands (BEON)**
- **kiEMT** (Gelderland and Overijssel)
- **Green Chemistry Campus** is a business accelerator for biobased innovations
- **Biobrug**
- **Rotterdam Biomass Commodities Network Foundation (RBCN)**
- **BE-Basic (Biobased Ecologically Balanced Sustainable Industrial Chemistry – BE-BIC)**
- **Flagship Iso-butanol Platform Rotterdam (IBPR)**
- **Pyrolysis Cluster Moerdijk** a cluster of different parties in the value chain for pyrolysis of different feedstock

FINANCIERS

The **Dutch Government** supports companies that develop innovative products through tax benefits, innovation credit and grants in agri-food, life-science and health, energy and chemicals sectors.

National Organisation for Scientific Research (NWO) funds top researchers.

Netherlands Enterprise Agency (RVO).

Top Consortiums for Knowledge and Innovation (TKI) look for ways to get innovative products or services onto the market. The **TKI Biobased Economy (TKI-BBE)** helps fund innovation projects on biorefineries and conversion technologies.

The **Future Fund** makes €5 million available annually for innovative SMEs and research.

SME Innovation Scheme for Top Sectors (MIT) (MKB-innovatiestimulering Regio en Topsectoren) is in place to assist the efforts of SMEs through R&D partnership studies, knowledge vouchers, innovation performance contracts, feasibility studies and support from research institutes and large corporations.

Innovation Fund for SMEs (MKB+) (Innovatiefonds MKB+) helps SMEs transform their ideas into profitable new products.

The **Growth Facility Scheme** makes it easier for SMEs to raise capital.

INDUSTRY STAKEHOLDERS

Several of the biggest chemicals companies highly active in the bioeconomy are based in the Netherlands, particularly **DSM**, which makes chemicals for food, feed, pharma and personal care as well as materials, and **AkzoNobel**, which makes coatings and speciality chemicals. Other companies include **Corbion**, which makes lactic acid, food and biochemicals, **Avantium**, which produces furanics in a pilot plant for the polyester PEF. There are also several biomaterials companies like **Synbra**, which produce PLA foam.

Some of the major companies within the Dutch economy are also active in the bioeconomy such as Shell, which produces biofuels from sugar cane, and Unilever, which is moving towards a circular economy.

The Dutch agri-food sector is also a key player in the bioeconomy. **Royal Cosun** is a key player making sugar, starch and a range of biobased products. Plant breeding companies like Rijk Zwaan also take part in bioeconomy projects.

With a high population density as well as high-intensity farming and industry, waste and wastewater management is a major driver of the bioeconomy. HoSt provides biogas and biomass plants, while **BTG BioLiquids** provides pyrolysis technologies.

OPEN ACCESS PILOT PLANTS

The **Biopolymer Application Center (part of CoE BBE)**, specialising in biopolymers, compounding, injection moulding, etc.

BE-BASIC's Bioprocess Pilot Facility in Delft, for new sustainable production processes.

Natural Fiber Application Center, which has a pilot process using different fibres to make new kinds of paper. They are also able to treat fibres and use them in compounding.

BIOBASE4SME

BioBase4SME is a strong network of leading bio-economy experts. The project offers innovation support services to North-West European SMEs and start-ups active in the bio-economy.

The project supports SMEs on their way to getting industrial proof of concept and a realistic business plan. Both are essential to convince any type of investor or client.

This factsheet was produced by the BioBase4SME partners, more factsheets and information on the project can be found here: **http://www.nweurope.eu/BioBase4SME**

BioBase4SME is co-funded 60% by the Interreg North-West Europe Programme. Interreg NWE fosters transnational cooperation to make Northwest Europe a key economic player and an attractive place to work and live, with high levels of innovation, sustainability and cohesion.

BioBase4SME partners are:

BioBase4SME is additionally co-funded by: