BioGov.net
Governance & Upskilling for a Stronger Bioeconomy

Adult education in The Netherlands (Southwest Netherlands)

The way forward

Technical specifications document

This document presents findings on opportunities for advancement in the bioeconomy sector in the Netherlands, highlighting the needs for skills, existing education, gaps and needs in promoting education. It also includes 3 relevant case studies collected from the country.

Opportunities for Advancement

Green Chemistry

Focus on the projects in the networks of the CBG2020 programme which concentrate on replacing bitumen with bio-based raw materials; adaption of new applications of sugar and other carbohydrates; support for the initiatives such as the Green Chemistry Campus – a hotspot where innovative companies, governments and knowledge institutes cooperate.

Bio-based Industry & Economy

The provinces of North Brabant and Zeeland support the transition towards a bio-based sustainable economy, aiming to make the Netherlands a recognized centre of bioeconomy/biobased development in Europe; utilization of bio-based resources and energy; focus on bio-based construction, bio-based chemical building blocks, and bio-based products.

Innovative Entrepreneurship and Research

Utilization of advanced education and research at higher education and research institutes; support for start-ups; focus on practice-oriented research.

Marine Bioeconomy

Incorporation of marine resources in the bioeconomy value chain; focus on marine bio-based specialities (algae etc.).

Needs for Skills

On educational/academic level

The need to combine disciplines; the need to transform classic business economics courses to more system-thinking oriented ones; sharpening students' transversal competencies, esp. communication skills and sense of responsibility.

On private sector level

The need for advanced applied research in the field as well as production operators.

On governmental level

Better organized and less fragmented governmental activities in bioeconomy.

Existing Education

Higher education:

There is a well-established governance, based on existing policies/strategic documents in (adult) education (in circular) bioeconomy, and on the wider topic of sustainability; there is a good-functioning collabor ation and connection of educational actors of different education types and levels. There are two types of higher education in the country – research-oriented and applied – oriented:

- Practice-oriented education is offered by universities of applied sciences.
- Research-oriented education is traditionally offered by research universities.
- Centres of Expertise play an important role in the practice-oriented research of universities of applied sciences.
- Dual – education system – at both VET-level and Bachelors level, in selected studies students can combine learning and studying.
- Online education – Massive Open Online Courses (MOOC) are free large-scale online courses that are available for all; Small Private Online Courses (SPOC) are online academic course for a limited group; there are also commercial providers of courses.

Vocational training:

It is common for larger companies to organize their own education, specifically focussed on their own needs (specific tasks and culture); life-long learning is an important aspect supported by the Dutch government at national, regional and local levels; existence of a broad spectrum of high-quality initiatives and organisations in the fields of life-long learning initiatives; there are many existing initiatives targeted for marginalised groups.

Gaps & Needs in Promoting Education

On educational/ academic level

No dedicated research on bioeconomy education available; the need to harmonize policies/governance mechanisms throughout all educational levels.

On governmental level

There is a national strategy on bioeconomy but there are no data on implementation levels of this strategy; bioeconomy is not fully aligned with the socioeconomic priorities of the country; fragmentation of activities and priorities; lack of a concrete national plan aiming to identify and then to integrate the marginalized groups.

On training level

The need to set up a unified certification scheme valid through EU for VET and life-long learning (LLL).

On private sector level

The need for better use of regional innovation hubs; the need to create hybrid learning and development environments.

On societal level

Many benefits of the transition to bioeconomy are not visible or tangible for most citizens; the focus is mainly stimulated by transnational policies.

3 Case Studies

Case Study 1

Bioeconomy education, training and retraining in Entrepreneurial Education | Blue City Circular Challenges Rotterdam

Purpose: Supporting companies and organisations that want to make their operations more circular. The Circular Challenges take place at BlueCity, located in a former 12,000 m2 autotropical swimming oasis in Rotterdam. BlueCity is an international hub of the circular economy, a national platform for circular entrepreneurs, and a very visible local accelerator that empowers circular entrepreneurs and inspires citizens.

Case Study 2

Using art to communicate messages, inspire people and raise their interest and awareness | Bio-based Pop-up and Grow Store Southwest Netherlands

Purpose: Supporting awareness raising, business development, training and education. The innovation potential, rather than consumption, took takes centre stage in the Bio-based Pop-up and Grow Store organised in Bergen op Zoom. A central element was a temporary exhibition of bio-based products (both quotidian and design products). Public awareness raising of the prospects that bio-based industries (chemical and agro) offer in terms of jobs, investments, sustainability, and a prospective future.

Case Study 3

Using art to communicate messages, inspire people and raise their interest and awareness | Bio-based Bridge Eindhoven Netherlands (the cities of Eindhoven, Almere and Bergen op Zoom)

Purpose: Showcasing the properties and possibilities of new materials. The world's first bridge made of 100% biomaterials (biocomposites) was constructed on the campus of TU Eindhoven. Materials used in the pedestrian bio-based bridge included poly lactic acid (PLA), flaxes, cork, hemp and flax fibres, and a bio-based epoxy resin. The EU-funded project Smart Circular Bridge is carried out by a partnership of research universities, AVANS university of applied sciences, seven companies and three municipalities.

Consortium

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