

# Sustainable development in VET

<b>POLICY DEVELOPMENT</b>	<b>PRACTICAL MEASURE/INITIATIVE</b>	 GERMANY
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## Timeline



**ID number 28128**

## Background

The challenges for sustainable development, as defined by the 17 Sustainable development goals (SDG) of the United Nations agenda 2030, are addressed by vocational education and training (VET) in Target 4, high-quality education. VET for sustainable development has a key role to play in shaping this social change. Sustainable, future-oriented VET contributes, among other things, to its attractiveness, to securing skilled labour, to economic development and to combating the climate change.

## Objectives

The aim of the measure is to develop sustainability-relevant skills of apprentices and training personnel and to disseminate knowledge on how to design sustainable in-company learning places.

## Description

In 2015, the Federal Institute for VET (BIBB) started 12 pilot projects in VET aiming to ensure a sustainable development (*Berufsbildung für nachhaltige Entwicklung BBNE*). With the EUR 12 million budget, the projects intend to develop vocational competences in sustainability. Until 2021, they will be experimenting and evaluating relevant curriculum concepts, digital teaching, learning materials and examination questions for initial and continuing VET. These projects will lead – amongst others – to recommendations for organising sustainable VET and related didactic guidance. Emphasis is put on a strong partnership between businesses, scientific support and the responsible authorities.

- 2015 Pilot
- 2016 Pilot
- 2017 Pilot
- 2018 Pilot

## 2019 Pilot

In 2019, the BBNE pilot projects on sustainable competences in commercial occupations and on the design of sustainable in-company learning locations were successfully completed. Their results and products are available. The pilot projects on sustainable competences in the food trade and industry will run until 2021. Accompanying projects also address the management level of SMEs.

On behalf of the Federal Ministry of Education and Research (BMBF), BIBB developed indicators in the area of VET for sustainable development aiming to systematically and continuously record the implementation, development and implementation problems of sustainable development in VET (*Indikatoren Berufsbildung für nachhaltige Entwicklung*, iBBNE) from January 2019 to the end of 2021. Findings from practical experience, existing research and indicator reports will be taken into account. The first conference took place in September 2019.

## 2020 Pilot

In 2020, a transfer programme for training staff (2020-22) follows the VET for sustainable development BBNE programme. The initiative includes the development of advanced qualifications for trainers and teaching staff to integrate sustainability-related content in all VET courses. The funding call (budget: EUR 2.8 million) was published by BMBF in spring 2020. Consortia (experienced partners of the BBNE pilot projects) were selected in summer 2020 with seven collaborative transfer projects, which started in November 2020 for 2 years. One example is the BBNE sustainability project ANLIN (Apprenticeship promotes sustainable places of learning in industry), which now has a successor: the transfer project ANLIN2 (Trainers and apprentices become sustainability experts).

There were also several new publications published (also in EN, ES and FR) in different formats on the BBNE projects in different sectors (trade and commerce, food trades).

In November 2020, the sustainability navigator for the skilled crafts sector of the project HANDWERKhochN – strengthening sustainability in skilled crafts businesses, of the Central Office for Continuing Education in the Skilled Crafts (funded by the BMBF) was launched. The browser application is a digital management tool that significantly supports business owners and managers from the skilled crafts sector in aligning their business sustainably and creating a sustainability report according to the internationally recognised criteria of the German sustainability code (DNK).

In July 2020, BIBB published its final report *Competence requirements for sustainability in VET in the context of digitalisation*.

With the results of the pilot projects and research on sustainability in VET (BBNE), BIBB contributes to anchor sustainability in VET. Competence requirements that are identical in all dual training occupations are integrated into all 326 training regulations as standard occupational profile items. In 2020, the standard occupational profile items 'environmental protection and sustainability' and 'digitalised world of work' have been added and will be part of any new or updated training regulation from 1 August 2021.

## 2021 Implementation

In 2021, the iBBnE project which started in 2019, was completed.

Furthermore, BIBB published guidelines in 2021 that offer a scientifically based and practical concept with numerous explanations, tasks, tips and checklists to support trainers in structurally integrating the guiding idea of sustainability into vocational training in commercial VET. In particular, it shows which competences apprentices in commerce need to be able to work in a sustainability-oriented way in their profession.

In February 2021, the anthology *Vocational education and training for sustainable development* was published. It presents the final results and findings on the promotion

of occupation-specific, sustainability-related competences and the design of sustainable learning venues in 23 contributions, based on the 2015-19 pilot projects: On the way from project to structure.

Following the *National Hydrogen Strategy*, BMBF/BIBB started in October 2021 a 3-year research project on the development of qualification and skill requirements in relation to hydrogen technology (H2PRO), from the production of green hydrogen to its transport and storage, as well as its use in the steel and chemical industries, mobility and logistics sectors and heat supply.

## 2022 Implementation

In 2022, the transfer programme for training staff (2020-22) following the VET for sustainable development BBNE programme (2015-2021) was completed.

In 2022, the planning of the new funding programme 'Training Cluster 4.0 in the Lignite Regions' started, aiming to support structural changes in the three lignite regions through establishing six sector-specific training clusters. The training clusters are sector-specific collaborations between companies, trade unions, training providers and other local actors. Parts of in-company training can be carried out in such a cluster. In this way, they will help companies and young people to find each other in training occupations that are necessary for structural change as well as in bottleneck occupations and ensure that in-company training in the districts becomes more digital and sustainable. In addition, the clusters will provide more young people in the regions affected by structural change career prospects and thereby avoid their migration. The implementation of the programme will start in 2023.

## 2023 Implementation

To follow up the BBNE funding programmes, the education ministry BMBF published a new funding guideline in 2023: the Sustainable at work – future-oriented training funding programme NIB (with ESF Plus co-financing). The funding period ends in 2027 with a total funding budget of approx. EUR 43 million. A centre set up at BIBB on behalf of BMBF promotes the transfer of results and networking with VET initiatives and stakeholders.

The NIB funding programme aims to implement the results of previous funding and connect them more closely with existing VET programmes. Building on the results of funding in recent years, such as pilot projects carried out, the programme is intended to support the implementation of the new standard vocational training position 'Environmental protection and sustainability' in training practice, focus on the sustainability potential of other sectors and professions, shape the sustainable transformation through vocational training and make vocational training more attractive through sustainability. A total of three funding guidelines are planned. The first funding phase (2024-26) focusses on projects strengthening professional competences of training staff in sustainability and establishing BBNE offers in more VET institutions.

To support the national monitoring and reporting on the anchoring of education for sustainable development in VET (BBNE), the BIBB company panel on qualification and skills development is examining sustainability's role in training and the extent to which companies trained their instructors on sustainability.. The duration of this project is from 2022-2026 with a funding volume of approx. EUR 108 000. Between March 2023 and February 2024, around 3 400 companies from all sectors and company size categories took part in the survey. Initial results are presented in the BIBB data report 2024.

Several BIBB projects on green skills anticipation were supporting the modernisation of training regulations and qualifications. For example, the H2PRO research project was investigating which qualification needs of skilled workers will arise through the use of green hydrogen. Three factsheets with sectoral analyses (1. hydrogen production, 2. chemical and refining industry, 3. mobility sector) have been published in 2023. A factsheet with sectoral analysis on heat supply sector is to be published in 2024.

The funding programme Training cluster 4.0 in the Lignite Regions aims to overcome the challenges of structural change in the German lignite mining regions in the course of the phase-out of coal-fired power generation, by creating career prospects for young people on site, based on a modern initial VET. After it was published in 2022 by the Federal Ministry for Economic Affairs and Climate Action (BMWK), companies and other VET actors could apply until December 2023. BMWK and VDI/VDE Innovation + Technik, a leading service provider for issues related to innovation and technology which supports the implementation of this funding programme, published a factsheet in October 2023.

### 2024 Implementation

Since June 2024, three training clusters selected by the BMWK funding programme 'Training cluster 4.0 in the lignite regions' have been working in associations of up to 40 companies to modernise and better promote training in Saxony, Brandenburg and Saxony-Anhalt. At the same time, they are aligning training with digitalisation and the economic transformation of the regions towards sustainability. The projects will be funded for a period of three and a half years with up to EUR 1.2 million per cluster. The clusters primarily network small, micro and medium-sized companies as well as other partners in vocational training. Start-ups are also target companies of the initiative.

The first NIB funding guideline published in 2023 and focusing primarily on the qualification of training personnel has selected 21 implementation projects, which started in 2024 with a Kick-Off meeting on 10 September. The funded projects directly involve 56 organisations from vocational training practice and research as well as over 150 associated practice and strategy partners. Their common goal is to train a total of 12 000 skilled workers (who work as in-company trainer) from different sectors and professions in sustainability-related skills. To this end, they implement customised analogue and digital Train-the-Trainer courses, which are often modular in structure - from low-threshold taster courses to comprehensive certificate courses.

In November 2024, BIBB published the report 'Sustainability in companies and in VET: evaluations from the BIBB company panel on qualification and skills development'.

### 2025 Implementation

Published early 2025, the final report of the project 'Skills for climate adaptation - The role of VET' carried out by BIBB on behalf of the German Environment Agency (UBA) showed how VET can contribute to the implementation of climate adaptation measures by imparting vocational competences.

The second NIB funding guideline published end of 2024 by the Federal education ministry (from May 2025: BMBFSFJ) aims to support companies in meeting the challenges of socio-ecological change through innovative vocational training solutions. The NIB transformation projects started at the end of 2025.

The 21 selected implementation projects of the first NIB funding guideline met at BIBB in May 2025 (80 participants). The trainer portal Leando presented interviews with eight of these NIB implementation projects on its sustainability page in September 2025.

More than 90 participants took part of the symposium 'H2PRO: Hydrogen meets vocational training practice' on 17 and 18 June 2025, a joint event organised by BIBB and BTZ Osnabrück, funded by the Federal education ministry, to exchange on the teaching of skills related to hydrogen using concrete examples.

In 2025, the Central office for further education in the skilled crafts (ZWH) continued to run its portal Sustainable Skilled Crafts, providing for example an updated list of 72 chambers of skilled crafts offering guidance on the topic or 24 videos with examples of good practice.

The funding programme Training Cluster 4.0 in the lignite mining regions held its first annual conference on 1 April 2025 in Cottbus (see video). There are three regional

clusters – an up-to-date cluster map is provided by the Federal ministry of economic affairs (BMWE) on its 2025 project website.

## **Bodies responsible**

- Federal Ministry for Education, Family Affairs, Senior Citizens, Women and Youth (BMBFSFJ) (since 2025)
- Federal Ministry of Education and Research (BMBF) (until 2025)
- Federal Institute for Vocational Education and Training (BIBB)
- Federal Ministry of Economic Affairs and Energy (BMWE) (since 2025)
- Federal Ministry of Economic Affairs and Climate Action (BMWK) (until 2025)
- Central Office for Further Education in Skilled Crafts (ZWH e.V.)

## **Target group**

### **Learners**

Young people (15-29 years old)

### **Education professionals**

Teachers  
Trainers

### **Entities providing VET**

Companies  
Small and medium-sized enterprises (SMEs)

## **Thematic categories**

### **Governance of VET and lifelong learning**

Coordinating VET and other policies

### **Modernising VET offer and delivery**

Modernising VET standards, curricula, programmes and training courses

Developing and updating learning resources and materials

Acquiring key competences

Integrating green transition and sustainability in VET curricula and programmes

Reinforcing work-based learning, including apprenticeships

### **Teachers, trainers and school leaders competences**

Systematic approaches to and opportunities for initial and continuous professional development of school leaders, teachers and trainers

Supporting teachers and trainers for green transition and sustainability

### **Supporting lifelong learning culture and increasing participation**

Promotion strategies and campaigns for VET and lifelong learning

## **European priorities in VET**

### **VET Recommendation**

VET agile in adapting to labour market challenges

VET as a driver for innovation and growth preparing for digital and green transitions and occupations in high demand

VET as an attractive choice based on modern and digitalised provision of training and skills

### **Osnabrück Declaration**

Establishing a new lifelong learning culture - relevance of continuing VET and digitalisation

Sustainability - a green link in VET

## **Subsystem**

IVET CVET

## **Further reading**

[NIB funding programme \(2023-27\)](#)

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[NIB selected implementation projects \(2024\)](#)

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[2024 Report 'Sustainability in companies and in vocational education and training: Evaluations from the BIBB company panel on qualification and skills development'](#)

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[Research project H2PRO on skill requirements in hydrogen technology](#)

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[Project Training cluster 4.0 in the Lignite Regions \(2024\)](#)

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[Information on BBNE funding programme \(BIBB\)](#)

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[BBNE transfer programme for training personnel \(2020-22\)](#)

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[Indicators for VET on sustainable development](#)

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[The sustainability navigator for the skilled crafts sector](#)

## **Related policy developments**

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### **2025 Implementation**

#### **Supporting SMEs to provide future-proof VET**

Under the umbrella initiative, VET 4.0, the Federal Ministry of Education and Research (BMBF) initiated a special funding line (Initial and continuing vocational training in the economy 4.0 - Support structures for SMEs in the adaptation process of in-company training) within the JOBSTARTER plus

 GERMANY

**Type of development**

Practical  
measure/Initiative

**Subsystem**

IVET CVET

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**2025 Implementation**

**Qualifying trainers for the future world of VET**

Since 2015, BIBB has funded eighteen 'VET for sustainable development' projects (BBNE). They experimented and evaluated relevant curriculum concepts, digital teaching, learning materials and examination questions on green skills for initial and continuing VET, e.g.

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**Type of development**

Practical  
measure/Initiative

**Subsystem**

CVET

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**2022 Completed**

**VET 4.0 project: effects of digital innovation on vocational training**

The Federal Ministry of Education and Research (BMBF), in cooperation with the Federal Institute for VET (BIBB), started the initiative VET 4.0 for the period from February 2016 to April 2018. The initiative is based on three pillars.

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**Type of development**

Practical  
measure/Initiative

**Subsystem**

IVET CVET

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**2025 Implementation**

**National Skills Strategy**

In November 2018, the Federal Ministry of Labour and Social Affairs (BMAS) and the Federal Ministry of Education and Research (BMBF) launched a committee to develop a National continuing education strategy (*Nationale Weiterbildungsstrategie*).

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**Type of development**

Strategy/Action  
plan

**Subsystem**

CVET

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**2025 Implementation**

**Modernising VET qualifications**

The regulated qualifications of apprenticeships and advanced training occupations are based on examinations with nationwide uniform examination regulations.

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**Type of development**

Regulation/Legislation

**Subsystem**

IVET CVET

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“ ... ” **Cite as**

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<https://www.cedefop.europa.eu/en/tools/timeline-vet-policies-europe/search/28128>