



## National report on the situation of VET regarding green jobs in Germany



### What is the situation on vocational education in partner countries about the green jobs?

*A ½ page info about your general VET system.*

The vocational training system is based upon several fundamental social decisions:

- \* there is broad consensus to provide all school-leavers vocational training;
- \* to achieve this goal, a strategic concept was agreed with companies to implement a cooperative training system (dual system);
- \* in this cooperative model for vocational training the public sector (government, schools) accepts the private sectors as equal partners;
- \* this cooperative system is legally supported by the vocational training law which sets out the respective roles of the actors.

Initial vocational training is provided for nationally recognised professions with common national standards and provides the professional competences required for the transition to the labour market. Continuing vocational training is playing an increasingly important role in the context of lifelong learning in order to continually enhance the professional capabilities of the individual. The State has only minor regulatory and organisational responsibilities.

The system is described as dual because training is carried out in two places of learning – in companies and in vocational schools. It normally lasts three years. (In addition to training occupations requiring only two years' training, there are also statutory regulations facilitating a reduction in the training period with enterprises' agreement, e.g. for trainees with the Abitur).

The aim of training in the dual system is to provide, in a well-ordered training programme, broadly based basic vocational training and the qualifications and competences required to practise an occupation as a skilled worker in a changing world of work. Successful completion of the programme entitles the trainee to practise an occupation as a qualified skilled worker in one of the 330 currently recognised training occupations (Data from 01.08.2014).

At the start of vocational training full-time compulsory education must be fulfilled. There are no further requirements for access to training in the dual system; it is generally open for all. Training takes place on the basis of a private-law vocational training contract between a training enterprise and the young people. The young people are trained in the enterprise for three to four days a week and in the vocational school for up to two days a week.

The enterprises pay the costs of the in-company training and pay the trainee remuneration for training that is regulated by an agreement between the parties. The amount of the remuneration increases with every year of training, and averages about one third of the starting pay for a trained skilled worker.

The professional competences in the occupation to be acquired in in-company training are specified in a training directive and put in concrete form by the training enterprise in an individual training plan. For the teaching in the vocational school, a framework curriculum, harmonised with the training directives, is drawn up for every recognised training occupation.

Source: Vocational education and training in Germany, Short description

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CEDEFOP European Centre for the Development of Vocational Training, 2007, Panorama series; 138

Ute Hippach-Schneider, Martina Krause, Christian Woll

Luxembourg: Office for Official Publications of the European Communities, 2007



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*What are the measures taken in your country's VET strategy for energy efficiency? (Which skills reidentification, change in moduls, Etc.) (We mean what do the authorities in your country do in your VET system for green skills) (Changes in legislation) ( max 1-2 pages)*

*What is the strategy in your country on green skills education ( What do the authorities plan to do on this subject?) (Strategy documnets etc.) (max 1 page)*

„Greenskills“, seen as „environmental education about sustainable development in vocational further training“, respect ecological concerns in terms of political, economic and private aspects. From now on, they are crucial for all branches. It is important to implement a sustainable development, and thus, the concept of the community of states, and to put it into practice. From that perspective, environmental protection is a growth market, and its protection technology can not be used sustainably without trained personnel. There is a transition from the environmental protection focused on after-care to the integrated one. But in the course of that transition, the qualification requirements for the qualified workers increase.

The German educational system offers the following qualifications:

- Vocational education (integration of environmental education into the now existing courses of education, special forms / modules or independent environmental professions)
- Further training (specific rules for further training, additional qualification in the environmental field, independent and continuing training occupations)
- Universities of Applied Sciences (shall not be topic of this concern)

In vocational training, environmental competence is relevant as integrated part of the vocational action skills. It is also a fundamental element of the training regulations and the curriculum framework. Environmental competence is a separate topic during the training for occupations that are specialized whether in the industrial-technical field, or in the commercial-administrative one. Generally, you can find the environmental protection under § 4 („Ausbildungsberufsbild“) of the German regulations. Here you can get some information about the skills and the knowledge you can gain during the training. Environmental protection is part of the training from the first to the last training year.

Legal provision and environmentally responsible behaviour (we call it „green behaviour“), is being taught in the vocational training. (e.g. construction plant operators: noise protection, prevention of water pollution, proper disposal of used oil, air pollution control). This refers to general principles. Depending on each vocation and its relevance, topics like energy efficiency are being taught (e.g. the production process). Special forms or modules that are linked to the promotion of key qualifications can be found in curricula with job related topics.

Some of the occupations that require a training are:

- Anlagenmechanikern *Plant mechanic* (use of energy- and resources based on sustainability, regenerative energy sources)
- Bürokaufmann/Bürokauffrau *office management assistant* (evaluation of rational use of raw materials and energy)
- Chemielaborant *Chemical laboratory technician* (rational use of the sources of energy)
- Dachdecker/Dachdeckerin *Roofer* (different opportunities to use regenerative energies on the roof)
- Fachkraft Agrarservice *Agricultural services specialist* (regenerative energies)
- Fachkraft Gastgewerbe *Specialist in the hospitality services industry* (compliance with the regulations about labour safety and environmental protection; economical use of raw materials, energy and water)
- Forstwirt/Forstwartin *Forest manager* (the energy demand at work)

Sometimes, ecological demands for professional groups and for the training of these groups change a bit. Those changes will be realized and taken into account, when it comes to a successful revision of



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the occupations that require a training. In the following examples, some reorganizations were made (with respect to energy and energy efficiency):

- 2014 Zweiradmechatroniker/in *Bike mechanic* (part of the modernization, with respect to the technical development, is among other things: the introduction of alternative propulsion solutions like the hybrid and electric vehicles)
- 2013 Klempner/in *Tinsmith* (Modernization, because of increased demands in the sector of energy efficiency)
- 2012 Schornsteinfeger/in *Chimney sweep* (acceptance of the new regulations, modernization with respect to the customer advising competences in the sector of energy efficiency)

Qualification offers for the environmental sector: further training

„Green skills“ are a really important segment of the labour market. Most of all, this affects branches in the sector of energy and handcraft, where you can achieve high employment effects by using knowledge and special abilities as well as skills in the sector of environment and sustainability. In general, the introduction of environmental management systems only has low qualification effects. One of those effects is the specific qualification. Within an enterprise, there has to be compliance with the regulations of the product certification or the certification of sub-processes, depending on the UMS of the EMAS, DIN 9000 etc. Standardized and content adapted elements and support instruments are available, like industry guidelines and an adapted UM-manual that complies with the system guidelines. Irrespective of that, you can find further offers in the qualification and advisory brochures of the environmental centres or in the particular competence centre. There you can get additional qualifications with certificates; for example in the sector of energy efficiency: specialist in renewable energies, energy manager for industrial and public buildings (with additional qualification: “BAFA”-advisor and experts in the sector of energy efficiency), energy advisors with additional qualification in the sector of middle class energy consulting, specialist in energy management “EnMF”, representative of energy management “EnMB”, technical energy manager, peak equalization – the alternative systems for SME, cost reduction by the use of energy management systems – ISO 50001 etc. It is possible that they stand in the context mentioned above with environmental management systems (further education that is certified, UMS).

Sources:

- Leitfaden zur Erarbeitung von Ausbildungsordnungen - BIBB)
- Umweltschutz in der beruflichen Bildung Heft 75 - BIBB
- <http://berufenet.arbeitsagentur.de>
- TÜV Nord/ TÜV Süd
- Regelheft für die Eintragung als Energie- Experte für das Förderprogramm des Bundes BMWi, BAFA, KfW, dena



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*Transnational mobility of professions in your country from other European countries. Your country's legislations, regulations. (max 1 page)*

### Citizens of the EU, Iceland, Liechtenstein, Norway and Switzerland

As citizens of the EU with the right to freedom of movement, you have unrestricted access to the German labour market. You do not need a visa or a residence permit either to enter or work in Germany. The same applies if you come from Iceland, Liechtenstein, Norway or Switzerland. Except: Citizens of Croatia

The qualifications obtained in a foreign country are often not comparable with German qualifications, or are called something else. For German companies it is accordingly difficult to assess, whether the applicant is sufficiently qualified for the job. For many qualifications, it is helpful to have them recognised. For others, it is an actual requirement for being able to work in Germany. It really depends on the profession:

“Regulated” professions: Germans and foreign nationals are only allowed to work in these professions if they have a very precise qualification. This applies to professions such as doctors and lawyers. It also applies to masters of manual trades if they work as independent contractors. If you want to work in one of these regulated professions, you need to have your professional qualification recognised in Germany.

“Not regulated professions”: Most professions are not regulated. If you are going to work as a business manager, IT specialist or baker, for example, you will not need to have your qualifications recognised. However, it may still make sense to have the qualifications recognised – even in cases of partial equivalence. Because companies know when applying what the candidate knows.

Process of the application:

Step 1: Clarify responsibility. Which authority or chamber is responsible for the application? That depends on the profession and where you work. For example, for certain professions, the chambers of trade and industry (Industrie- und Handelskammern, IHK) or trade corporations (Handwerkskammern, HWK) are responsible.

Step 2: Contacting and advice. The authority will send all necessary forms to fill in and defines the German reference profession together with the applicant. Furthermore the applicant receives information about the needed documents for application.

Step 3: Preparing the application documents. Clarify with the authority, which documents need to be translated and afterwards fill in the application forms and send everything to the responsible authority. It will compare the foreign professional qualification with the German reference profession. At the same time, it will check whether there are any major differences. Professional experience the applicant has acquired can also be taken into account.

Step 4: Receive notification. Once the application has been processed, you will receive an official notification. It contains whether the foreign professional qualification is equivalent or similar to the German qualification. If the authority has not found any equivalence, and if the application concerns a regulated profession, then the applicant will be informed of concrete measures he can take to compensate the differences. In the case of professions that are not regulated, the notification will state the qualifications that do exist, as well as the differences between the professional qualification and the German reference qualification; this will help the applicant and potential employers to properly assess the qualification.

Further information: [www.anererkennung-in-Deutschland.de](http://www.anererkennung-in-Deutschland.de).

**The Welcome to Germany portal of the Qualified Professionals Initiative is the responsibility of:**

Federal Ministry for Economic Affairs and Energy

Public Relations

Internet: [www.bmwi.de](http://www.bmwi.de)



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*What are the most related occupations in your country on green skills. What kind of education is given to these trainees?*

The following compilation of green skill occupations is mainly based on the findings listed above as well as findings presented in the document "Berufsbildung für die grüne Wirtschaft", 2013 by the Federal Ministry for Economic Affairs and Energy and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) ([http://www.bibb.de/dokumente/pdf/Berufsbildung\\_gruene\\_Wirtschaft\\_GlobalesPartnertreffen\\_Leipzig.pdf](http://www.bibb.de/dokumente/pdf/Berufsbildung_gruene_Wirtschaft_GlobalesPartnertreffen_Leipzig.pdf)).

Name of The Occupation	
<b>Production technologist</b>	Occupation classification: Berufsklassifikation nach KldB 2010 - <b>27302</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>Ordinance on Initial Vocational Education and Training in the Occupation of Production technologist (m/f) of 06/16/2008 (Federal Law Gazette, Part I, p 1034) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 15.02.2008), (Federal Gazette, No 124a of 19.08.2008)</li> <li>3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/produktionstechnologe_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/produktionstechnologe_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 122 days (upward tendency) <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	Level of the certificate (national or international) ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
Implementations on continuous training (Training of workers)	There are no legislative or regulatory requirements regulating the continuous training of the environmental engineers. The continuous training is organised by the companies or the specialists themselves, depending on their working status (labour contract or free lancer)



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Name of The Occupation	
<b>Plant mechanic for sanitary, heating and air conditioning systems</b>	Occupation classification: Berufsklassifikation nach KldB 2010 - <b>34212</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>• Ordinance on Initial Vocational Education and Training in the Occupation of Plant mechanic for sanitary, heating and air conditioning systems (m/f) of 06/24/2003 (Federal Law Gazette, Part I, p 1012) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 16.05.2003), (Federal Gazette, No 3a of 07.01.2004)</li> <li>• 3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/anlagenmechaniker_sani_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/anlagenmechaniker_sani_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 110 days (upward tendency) <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
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Name of The Occupation	
<b>Electronics technician – specialising in energy and building technology</b>	Occupation classification: Berufsklassifikation nach KldB 2010 - <b>26212</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>Ordinance on Initial Vocational Education and Training in the Occupation of Electronics technician – specialising in energy and building technology of 07/25/2008 (Federal Law Gazette, Part I, p 1413) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 16.05.2003), (Federal Gazette, No 10a of 16.01.2004)</li> <li>3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/elektroniker_fr_energietechnik_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/elektroniker_fr_energietechnik_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 111 days (upward tendency) <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
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Name of The Occupation	
<b>Industrial machanic</b>	Occupation classification: Berufsklassifikation nach KldB 2010 - <b>26212</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>Ordinance on Vocational Education and Training in the industrial metal occupations of 07/23/2007 (Federal Law Gazette, Part I, p 1599) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 25.03.2004), (Federal Gazette, No 243a of 22.12.2004)</li> <li>3,5 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/industriemechaniker_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/industriemechaniker_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 110 days (upward tendency) <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
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Name of The Occupation	
<b>Mechatronics fitter</b>	Occupation classification: Berufsklassifikation nach KldB 2010 - <b>26112</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>Ordinance on Initial Vocational Education and Training in the Occupation of Mechatronics fitter of 07/21/2011 (Federal Law Gazette, Part I, p 1516) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 30.01.1998), (Federal Gazette, No 168a of 09.09.1998)</li> <li>3,5 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/mechatroniker2011_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/mechatroniker2011_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
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Name of The Occupation	
<b>Mechanic in plastics and rubber processing – specialized in fibre composite technology</b>	Occupation classification: Berufsklassifikation nach KldB 2010 - <b>22102</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>Ordinance on Initial Vocational Education and Training in the Occupation of Mechanic in plastics and rubber processing – specialised in fibre composite technology of 05/21/2012 (Federal Law Gazette, Part I, p 1168) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 22.03.2012)</li> <li>3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/verfahrensmechaniker_kunststoff_kautschuktechnik_fr_faserverbund_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/verfahrensmechaniker_kunststoff_kautschuktechnik_fr_faserverbund_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 110 days (upward tendency) <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
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Name of The Occupation	
<b>Sewage engineering technician</b>	Occupation classification: Berufsklassifikation nach KldB 2010 - <b>34312</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>• Ordinance on Initial Vocational Education and Training in the Occupation of Sewage engineering technician of 06/17/2002 (Federal Law Gazette, Part I, p 2335) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 14.05.2002), (Federal Gazette, No 204a of 31.10.2002)</li> <li>• 3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_abwassertechnik_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_abwassertechnik_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 110 days (upward tendency) <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
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Name of The Occupation	
<b>Recycling and waste management technician – specializing in waste removal and treatment</b>	Occupation classification: Berufsklassifikation nach KldB 2010 – <b>34332</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>• Ordinance on Initial Vocational Education and Training in the Occupation of Recycling and waste management technician – specialising in waste removal and treatment of 06/17/2002 (Federal Law Gazette, Part I, p 2335) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 14.05.2002), (Federal Gazette, No 204a of 31.10.2002)</li> <li>• 3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_kreislauf_und_abfallwirtschaft_sp_abfallbeseitigung_und_behandlung_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_kreislauf_und_abfallwirtschaft_sp_abfallbeseitigung_und_behandlung_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 79 days <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
Implementations on continuous training (Training of workers)	There are no legislative or regulatory requirements regulating the continuous training of the environmental engineers. The continuous training is organised by the companies or the specialists themselves, depending on their working status (labour contract or free lancer)



## National report on the situation of VET regarding green jobs in Germany



Name of The Occupation	
<b>Pipe, sewer and industrial service technician – specializing in industrial service</b>	Occupation classification: Berufsklassifikation nach KldB 2010 – <b>34312</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>Ordinance on Initial Vocational Education and Training in the Occupation of Pipe, sewer and industrial service technician – specialising in industrial service of 06/17/2002 (Federal Law Gazette, Part I, p 2335) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 14.05.2002), (Federal Gazette, No 204a of 31.10.2002)</li> <li>3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_rohr_kanal_und_industrieservice_sp_industrieservice_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_rohr_kanal_und_industrieservice_sp_industrieservice_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 79 days <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
Implementations on continuous training (Training of workers)	There are no legislative or regulatory requirements regulating the continuous training of the environmental engineers. The continuous training is organised by the companies or the specialists themselves, depending on their working status (labour contract or free lancer)



## National report on the situation of VET regarding green jobs in Germany



Name of The Occupation	
<b>Water supply engineering technician</b>	Occupation classification: Berufsklassifikation nach KldB 2010 – <b>34312</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>Ordinance on Initial Vocational Education and Training in the Occupation of Water supply engineering technician of 06/17/2002 (Federal Law Gazette, Part I, p 2335) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 14.05.2002), (Federal Gazette, No 204a of 31.10.2002)</li> <li>3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_wasserversorgungstechnik_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_wasserversorgungstechnik_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 79 days <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
Implementations on continuous training (Training of workers)	There are no legislative or regulatory requirements regulating the continuous training of the environmental engineers. The continuous training is organised by the companies or the specialists themselves, depending on their working status (labour contract or free lancer)



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Name of The Occupation	
<b>Water management specialist</b>	Occupation classification: Berufsklassifikation nach KldB 2010 – <b>31142</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>• Ordinance on Initial Vocational Education and Training in the Occupation of Water management specialist of 07/21/2000 (Federal Law Gazette, Part I, p 1148) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 07.06.2000), (Federal Gazette, No 207a of 04.11.2000)</li> <li>• 3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_wasserwirtschaft_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/fachkraft_fuer_wasserwirtschaft_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 79 days <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
Implementations on continuous training (Training of workers)	There are no legislative or regulatory requirements regulating the continuous training of the environmental engineers. The continuous training is organised by the companies or the specialists themselves, depending on their working status (labour contract or free lancer)



## National report on the situation of VET regarding green jobs in Germany



Name of The Occupation	
<b>Plant mechanic</b>	Occupation classification: Berufsklassifikation nach KldB 2010 – <b>34342</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>• Ordinance on Vocational Education and Training in the industrial metal occupations of 07/23/2007 (Federal Law Gazette, Part I, p 1599) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 25.03.2004), (Federal Gazette, No 243a of 22.12.2004)</li> <li>• 3,5 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/anlagenmechaniker_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/anlagenmechaniker_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 110 days <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
Implementations on continuous training (Training of workers)	There are no legislative or regulatory requirements regulating the continuous training of the environmental engineers. The continuous training is organised by the companies or the specialists themselves, depending on their working status (labour contract or free lancer)





## National report on the situation of VET regarding green jobs in Germany



Name of The Occupation	
<b>Chemical laboratory technician</b>	Occupation classification: Berufsklassifikation nach KldB 2010 – <b>41322</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>Ordinance on Vocational Education and Training in the chemical laboratory sector, biology and lacquer and varnish technology of 06/25/2009 (Federal Law Gazette, Part I, p 1600) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 13.01.2000), (Federal Gazette, No 149a of 10.08.2000)</li> <li>3,5 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/chemielaborant_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/chemielaborant_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 110 days <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
Implementations on continuous training (Training of workers)	There are no legislative or regulatory requirements regulating the continuous training of the environmental engineers. The continuous training is organised by the companies or the specialists themselves, depending on their working status (labour contract or free lancer)



## National report on the situation of VET regarding green jobs in Germany



Name of The Occupation	
<b>Roofer – specializing in roof, wall and waterproofing technology</b>	Occupation classification: Berufsklassifikation nach KldB 2010 – <b>32142</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>• Ordinance on Initial Vocational Education and Training in the Occupation of Roofer – specialising in roof, wall and waterproofing technology of 05/13/1998 (Federal Law Gazette, Part I, p 918) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 27.03.1998), (Federal Gazette, No 223a of 26.11.1998)</li> <li>• 3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/dachdecker_fr_dach_wand_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/dachdecker_fr_dach_wand_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 110 days <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
Implementations on continuous training (Training of workers)	There are no legislative or regulatory requirements regulating the continuous training of the environmental engineers. The continuous training is organised by the companies or the specialists themselves, depending on their working status (labour contract or free lancer)



## National report on the situation of VET regarding green jobs in Germany



Name of The Occupation	
<b>Chimney sweep</b>	Occupation classification: Berufsklassifikation nach KldB 2010 – <b>42212</b>
Graduate Needed? And entry level qualifications to VET? How many years training?	<ul style="list-style-type: none"> <li>• Ordinance on Initial Vocational Education and Training in the Occupation of Chimney sweep of 06/20/2012 (Federal Law Gazette, Part I, p 1430) Resolution of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany, KMK, of 26.01.2012)</li> <li>• 3 years of education/training</li> </ul>
Info about the skill's link to green economy	Profile of skills and competencies: <a href="http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/schornsteinfeger2012_e.pdf">http://www.bibb.de/tools/berufesuche/index.php/certificate_supplement/en/schornsteinfeger2012_e.pdf</a>
Is their training sufficient in your VET system (Quality of education)	Only to some extent and also continuous training is needed to upgrade their knowledge and skills according to the new technological developments
Is the number of graduates enough or there is a lack of labour	times of vacancy until the staffing of jobs is above 80 days <a href="http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel">http://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/178757/fachkraeftemangel</a>
Skills level	ISCED 3B German Qualifications Framework (DQR) level 4 (alignment is preliminary pursuant to "German Qualifications Framework for Lifelong Learning" - German EQF - Referencing report of 15 November 2012). Published by: Federal Ministry of Education and Research (BMBF), Berlin and Bonn; Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (Conference of the Ministers of Education and Cultural Affairs - KMK), Berlin)
Implementations on continuous training (Training of workers)	There are no legislative or regulatory requirements regulating the continuous training of the environmental engineers. The continuous training is organised by the companies or the specialists themselves, depending on their working status (labour contract or free lancer)