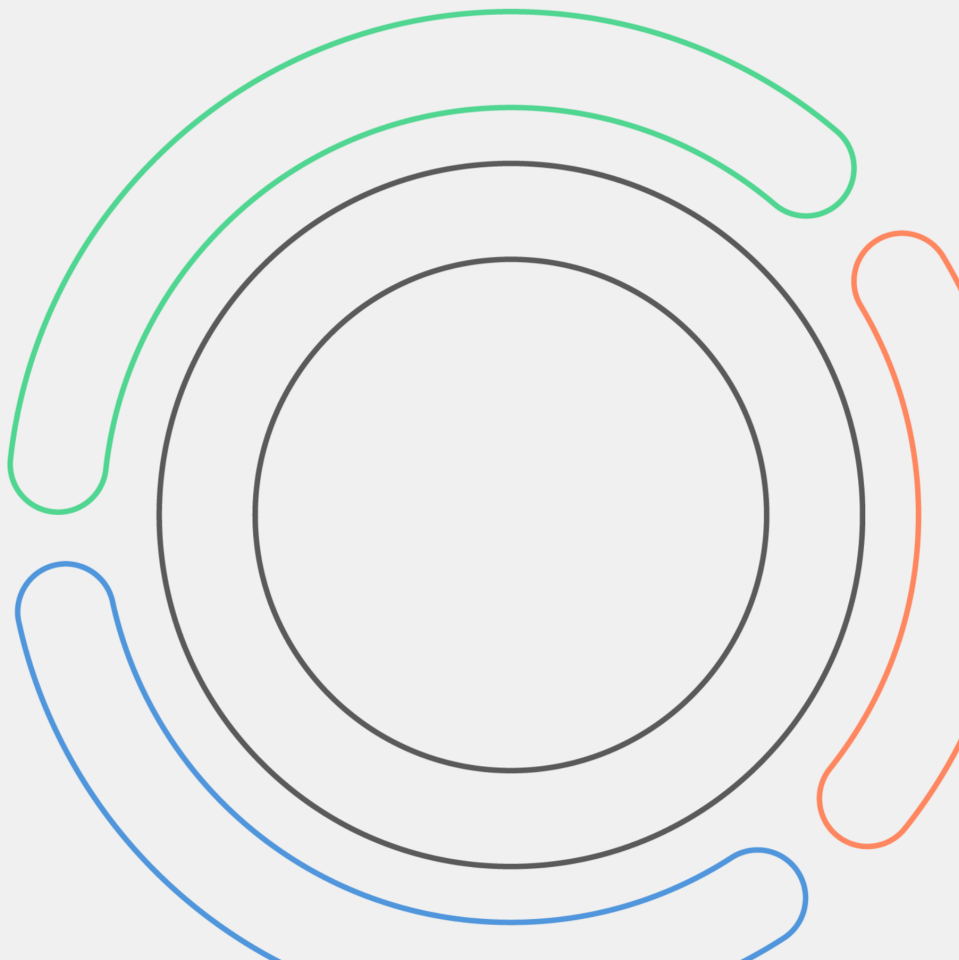


Z 5 Multi-Site Certification

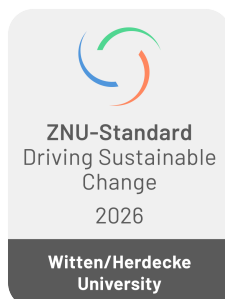
ZNU-Standard Driving Sustainable Change 2026

Kesta Ludemann, Christian Geßner,
Axel Kölle, Maïke Dilly

As of 20/03/2026 | Rev. 3.0



The ZNU - Centre for Sustainable Leadership is the standard provider / programme owner of the ZNU-Standard Driving Sustainable Change.



This document is to be used together with the current versions of the ZNU-Standard Driving Sustainable Change (in short: ZNU-Standard) Z 1 to Z 4 and Z 6 to Z 9. The German version serves as the original reference document. The documents including all their parts are protected by copyright. Any use or dissemination is not permitted without the consent of the standard issuer - the ZNU - Centre for Sustainable Leadership at the University Witten/Herdecke. This applies in particular to reproductions, translations and microfilming.

The ZNU strives to use gender-appropriate language in order to avoid discrimination and exclusion. Where possible, we use gender-neutral terms. However, in technically related cases, gender-specific forms may occur. Nevertheless, we would like to emphasise that we include and recognise all genders.

ZNU - Centre for Sustainable Leadership
Witten/Herdecke University
Alfred-Herrhausen-Straße 50
D-58448 Witten

Phone: +49 2302 926-545,
E-Mail: znu@uni-wh.de,
Website: www.znu-standard.com

Publication: 20/03/2026

Content

General Information and Requirements	4
Z 5-1.0 General	5
Z 5-1.1 Requirements for Multi-Site Certification	7
Planning, Sampling and Assessment Effort	8
Z 5-2.1 Procedure and Planning	9
Z 5-2.2 Sampling: Selection of Sites	9
Z 5-2.2.a Determination of the Sample Using the Root Formula	10
Z 5-2.2.b Alternative Method for Multi-Site Assessment	11
Z 5-2.2.c Consideration of Non-Permanently Staffed, Automated Sites	11
Z 5-2.3 Assessment Effort	13
Z 5-2.4 ZNU-Standard Fees	14
Execution, Evaluation and Assessment Report	15
Z 5-3.1 Execution and Evaluation	16
Z 5-3.2 Assessment Report	16
Z 5-3.3 Additions and Withdrawals of Sites	16
Certificates and Handling of Deviations	18
Z 5-4.1 Certificates	19
Z 5-4.2 Validity of the Certificate and Hearing Procedure	20

Z 5-1

General Information and Requirements

Z 5-1.0 General

Multi-site certification in accordance with the ZNU-Standard Driving Sustainable Change is possible for all companies¹ with more than one site that have a central administration for controlling the integration processes towards more sustainable business operations, are contractually linked and also fulfil the requirements set out below.

Whether a company is suitable for multi-site certification is decided following a preliminary document review and/or a pre-assessment of the headquarters by an approved certification body, and is documented accordingly.

In principle, the ZNU-Standard is assessed in accordance with DIN EN ISO/IEC 17065 (cf. in particular also Z 4 and Z 7). If the requirements for sample-based assessment in the context of multi-site certification are fulfilled (cf. Z 5-1.1), this must be carried out in accordance with DIN EN ISO/IEC 17021-1 incl. IAF MD 1.

With regard to planning and assessment effort calculation, specific features relating to multi-site certification compared to Z 4 (selection of sites according to a sampling procedure) must be taken into account, which are set out in Z 5-2.

When carrying out the assessment, the procedure described in Z 4 applies, including the assessment methods described (cf. Z 4-1.1) and the minimum evidence per site.² Special features relating to execution and evaluation within the multi-site procedure and regarding the preparation of the assessment report are set out in Z 5-3.

The supplementary regulations regarding certificates as well as the handling of additions and withdrawals of sites are governed by Z 5-4.

The following explanations serve as additional guidance for companies.

A multi-site certification may only be carried out under the following conditions and regulations, which relate in particular to the different types of sites.

Sites can be classified as follows:^{3,4}

- **Headquarters:** The central administration that is responsible for the management system and the implementation of the integration processes towards more sustainable business operations, controls, enforces and monitors these. If the headquarters combines administrative and operational functions, it is considered a dual-function site.
- **Permanent site:** The company's business activities are carried out at the site throughout the year. There is a site management, an on-site contact person for sustainability and permanent on-site employees, regardless of the employment relationship they have with the site.

¹The ZNU Standard applies to manufacturing companies, service providers and other organisations such as associations, universities, public authorities, etc. For the sake of clarity, the term 'companies' is used as a collective term.

² cf. Z 4 Appendix 3.1 for initial and re-certification; Z 4 Appendix 3.2 for surveillance assessments

³ Based on IAF MD 1, clause 2

⁴ In the case of services, see IAF MD 1, clause 3.1.2

- **Seasonal site:** The company's business activities are carried out seasonally at the site (e.g. seasonal cultivation of fruit / vegetables). There is a site management, an on-site contact person for sustainability and on-site employees, regardless of the employment relationship they have with the site.
- **Non-permanently staffed and / or automated site:** The company's business activities are only partially, temporarily and / or completely automated at the site. There is no site management and no permanently assigned employees. The site is therefore assigned to and controlled by another site. Non-permanently staffed sites are not evaluated as separate sites when calculating assessment effort but are considered separately (cf. Z 5-2.2.c). Non-permanently staffed sites can be shown on the certificate at the request of the company, but do not count as separate sites; they are to be assigned to the site from which they are controlled.
- **Micro site:** Sites with fewer than 10 employees. For micro sites, the obligation of an on-site contact person for sustainability does not apply. This obligation can be assumed by a contact person at another site.
- **Virtual site:** Sites where a company performs work or services in an online environment that allows the company to execute processes independently of physical locations. Virtual sites do not necessarily require a contact person for sustainability and can be controlled from the headquarters. The scope of a virtual site is limited to the activities carried out in the digital space (e.g. sales in the context of an online shop) and does not include the physical follow-up activities (e.g. packaging and shipping). A virtual site is considered as a single site for the calculation of the assessment effort.

General conditions that an organisation must fulfil in order to qualify as a multi-site organisation: ⁵

A company with multiple sites does not need to be a single legal entity; however, all sites must have a legal or contractual relationship with the company's headquarters. The following criteria must also be fulfilled:

- The corporate purpose of the headquarters is identical to the corporate purpose of all sites to be included in the certification, and there is essentially a homogeneity of products / services.
- The right to direct the sites lies with the headquarters (e.g. on the basis of majority voting rights or contractual arrangements).
- There is a central management system that is responsible for the implementation of the integration processes towards more sustainable business operations, controls, enforces and monitors them (cf. Z 5-1).

⁵ Based on IAF MD 1, clause 3.3.1 and the official communication on the inadmissibility of 'matrix certifications' by the DAkkS dated 10.05.2019

The ZNU as standard setter reserves the right to develop individual multi-site solutions for the further development and testing of innovative procedures in the sense of the continuous improvement of the certification system, and to pilot them as part of the regular certification procedures. This primarily concerns companies that wish to integrate sites with partial activities or temporary or seasonal activities.

Z 5-1.1 Requirements for Multi-Site Certification⁶

1. There is a central management system that defines, controls, enforces and monitors the implementation of the ZNU-Standard requirements for each site included in the certification, including the central administration, with the central administration bearing responsibility for this.
2. The company must demonstrate that it collects, analyses and, where appropriate, communicates essential data from all sites, including the central administration.
3. There is at least one qualified central contact person for sustainability, as well as at least one qualified contact person for sustainability at each permanent or seasonal site. Non-permanent or virtual sites as well as micro sites require a contact person at the location from which they are managed (headquarters or other site).
4. There is a philosophy or values applicable to the entire company.
5. Emanating from the central administration,
 - at least one internal assessment for compliance with the ZNU-Standard requirements is demonstrably carried out annually at each site included in the certification (internal assessment programme incl. internal assessment report),
 - as part of the assessment of sustainability performance, the suitability, appropriateness and effectiveness of the systematic improvement is reviewed at least once a year. This can be carried out and recorded separately for each site and must also be set out in a centralised document (annual report 'driving sustainable change') that takes into account all sites included in the certification,
 - early detection is carried out / updated at least once a year for the entire company and for each site at planned intervals,
 - on the basis of early detection, it is identified which sites pose an increased risk to the action fields of sustainability, and
 - the achievement of the targets of the headquarters as well as of the sites is reviewed annually.

Fulfilment of the requirements shall be demonstrated by the company to the assessor or the certification body.

⁶ Based on IAF MD 1, clause 5

Z 5-2

Planning, Sampling and Assessment Effort

Z 5-2.1 Procedure and Planning

In principle, the ZNU-Standard Driving Sustainable Change applies to all activities of a company. If a company wishes to include several sites in the scope, it must clearly present the boundaries and applicability of the ZNU-Standard requirements. Individual processes of a site must not be excluded; however, the scope does not have to include all sites of the company. On the assessment plan and report, checklist(s) as well as on the certificate, it must be clearly indicated which sites fall within the scope of the certification or which sites (and thus individual processes, if applicable) are excluded.

Before the start of the certification process, in order to prepare the offer, all sites to be included in the scope of the desired company certificate must be defined and the following information submitted to the certification body:

- Total turnover of the company
- Scope: presentation of which processes are located at the headquarters and list of sites incl. addresses and the processes located there
- Description of the function / characteristics of the individual sites within the multi-site certification incl. the legal form (own limited liability company, subcontractor, branch, etc.)
- Number of employees at the individual sites and at headquarters, as well as number of temporary and contract employees

For the sites assessed within the multi-site certification, the provisions of Z 4-1.1 and Z 4-2.1 apply, in particular for initial certification also the two-stage procedure in accordance with DIN EN ISO/IEC 17021-1 and IAF MD 1, clause 7.5 and clause 7.6.

The number and selection of sites included in the sample is explained in more detail in Z 5-2.2. The scheduling of the assessment dates for the individual sites included in the sample is the responsibility of the certification body in consultation with the company. In general, the certification body is required to assess all sites of a company included in the sample, starting with the headquarters, in a timely manner. In any case, the deadlines for the individual assessments must be adhered to (cf. Z 4-3.2).

Z 5-2.2 Sampling: Selection of Sites

If the requirements set out in Z 5-1 are fulfilled, a multi-site certification can be carried out on the basis of a sample of sites in accordance with DIN EN ISO/IEC 17021-1.⁷ The calculation of the sample using this procedure in accordance with IAF MD 1 is described in more detail below.

⁷ In accordance with IAF MD 1, clause 6.1

Z 5-2.2.a Determination of the Sample Using the Root Formula

In accordance with IAF MD 1, clause 6.1.1.1, it is possible to sample from multiple sites if these sites carry out very similar processes or activities. The sample is then determined using the so-called root formula.

The minimum number of sites to be assessed in a multi-site procedure (Z) is calculated in accordance with IAF MD 1, clause 6.1.3 using the formula:

$$Z = \sqrt{n} \text{ (for initial certification),}$$

$$Z = 0,6 \times \sqrt{n} \text{ (in the case of a surveillance assessment) or}$$

$$Z = 0,8 \times \sqrt{n} \text{ (for re-certification)}^8$$

'n' corresponds to the total number of sites excluding the headquarters. The resulting value is always rounded up to the next whole number.⁹ The headquarters is assessed every year.¹⁰ Otherwise, the above-mentioned criteria apply.

Example: Assessment effort calculations for a company with 1 headquarters and 10 sites:

Initial Certification: $\sqrt{10} = 3,16 \sim 4$ sites plus headquarters

Surveillance: $0,6 \times \sqrt{10} = 1,89 \sim 2$ sites plus headquarters

Re-certification: $0,8 \times \sqrt{10} = 2,53 \sim 3$ sites plus headquarters

Distribution of the minimum number of sites to be assessed in the sampling procedure

Certification	Surveillance	Re-Certification
$\sqrt{n}$ + Headquarters	$0,6 \times \sqrt{n}$ + Headquarters	$0,8 \times \sqrt{n}$ + Headquarters

Table 1 (Z 5-2): Distribution and minimum number of sites assessed annually in the sampling procedure, own representation

It is up to the certification body to change the scope and frequency of the sample assessments in accordance with the above-mentioned regulations and to document this in a comprehensible manner.¹¹ If the organisation has a hierarchical system of branches (e.g. a main branch (headquarters), national offices, regional offices, local branches), the sampling procedure defined above for initial certification is applied at each level.¹²

⁸ In order to apply the calculation $0,8 \times \sqrt{n}$ for the scope of the sample, an effective management system must be in place; otherwise the scope of the sample must be the same as for an initial certification (cf. IAF MD 1, clause 6.1.3.3)

⁹ cf. IAF MD 1, clause 6.1.3.3

¹⁰ cf. IAF MD 1, clause 6.1.3.4

¹¹ cf. IAF MD 1, clause 6.1.3.5 and clause 6.1.3.7

¹² In accordance with IAF MD 1, clause 6.1.3.6

Z 5-2.2.b Alternative Method for Multi-Site Assessment

For a multi-site organisation for which the sampling procedure described above is not suitable, an alternative procedure in accordance with IAF MD 1, clause 6.2 must be applied.

In this case, all sites must be assessed during initial certification and re-certification. During surveillance assessments, 30 % of all sites (plus the headquarters), rounded up to the next whole number, must be assessed in a calendar year. It must be ensured that the sites assessed during the first and second surveillance assessments differ. As in the procedure described above, the headquarters must be assessed at every assessment and is not considered part of the sites in the sampling process.

The methods set out in Z 5-2.2.a and Z 5-2.2.b can be used alternatively or in combination.¹³

Z 5-2.2.c Consideration of Non-Permanently Staffed, Automated Sites

The determination of the sample for non-permanently staffed, automated sites is carried out by the certification body taking into account an individual risk assessment; these sites can be included in the scope of the multi-site certification in this way. The sample size may be determined using Table 2 below. The sample is determined per area of application (e.g. pumping station, sewage treatment plant, etc.).

Non-permanently staffed and / or automated sites do not count as separate sites in the context of the assessment effort calculation, but are to be assigned to the site from which they are managed. The assessment effort for non-permanently staffed and / or automated sites is to be determined on a risk basis. Table 2 shows the minimum effort.

The assessment effort for non-permanently staffed and / or automated sites must be sufficient to ensure an effective assessment of the ZNU-Standard requirements (cf. Z 4-1.3 and Z 5-2.3).¹⁴

Non-permanently staffed sites can be shown on the certificate at the request of the company, but do not count as separate sites (see above). The distinction must be clearly marked on the certificate.

¹³ In accordance with IAF MD 1, clause 6.3

¹⁴ The determination of the assessment effort must be sufficiently documented and must not contradict the corresponding mandatory IAF MD documents.

Non-permanently staffed and/or automated sites to be assessed

Total number of non-permanently staffed, automated sites	1-20	21 - 50	51 and above
Minimum number of sites to be assessed	1	2	4
Minimum effort per site	1 hr. additional for initial and re-certification 0.5 hrs. additional for surveillance assessments		

Table 2 (Z 5-2): Number and minimum effort for non-permanently staffed and/or automated sites depending on the total number, own representation

Z 5-2.3 Assessment Effort

To calculate the assessment effort for an assessment within a multi-site certification, the experience-based standard-specific calculation basis from Z 4-1.3 is to be used.¹⁵ The ZNU provides a calculation tool for calculating the effort, which must be used by all approved certification bodies.

The effort is calculated separately for each site and for the headquarters. In the case of a dual function, the number of employees in the central administration (excluding the employees in production) is used as the basis when assessing the headquarters – without the attached production site. When the headquarters is assessed simultaneously with an attached site, the total number of employees of the central administration plus the site is used as the basis for calculating the effort.

The actual assessment effort in person-days depends, among other things, on the structure and complexity of the processes in the company. Reasons for reductions or increases must be documented in writing (e.g. based on a risk analysis that justifies, for example, a transfer of assessment time between different sites) and must be conclusively comprehensible to third parties.

Overall, the reduction of assessment time within a multi-site certification must not exceed 30 %.¹⁶ A reduction of a maximum of 50 % can be made per site, provided the rules in accordance with IAF MD 1, clause 7.3 are fulfilled. In accordance with IAF MD 1, clause 7.3.3, a maximum of 20 % is permissible as a reduction for the individual management system processes carried out by the headquarters and any centralised processes (e.g. purchasing). All reductions must be individually justified and documented taking into account the corresponding mandatory IAF MD documents and the requirements of Z 4-1.3.

At the discretion of the certification body, the assessment effort may be increased per site in the case of a multi-site certification on the basis of the circumstances (e.g. number of sites, complex structures in the group of companies) (cf. Z 4-1.3). The regulations regarding additions and withdrawals of sites are described in Z 5-3.3.

The minimum effort for the central administration or sites with central functions is 1.5 person-days for initial certification, 1 person-day for surveillance assessments and 1 person-day for re-certification. For micro sites, a minimum effort of 1 person-day applies for initial certification, 0.5 person-days for surveillance assessments and 1 person-day for re-certification.¹⁷

For sites without central functions, the minimum effort is 1 person-day, regardless of the type of assessment. Exceptions apply to micro sites, in which case the minimum effort is 0.5 person-days.

¹⁵ Due to our many years of experience and close practical relevance (cf. Z 9) as well as the process nature of the ZNU-Standard (cf. Z 4), the appendices of IAF MD 5 are not used as base values. Otherwise, the calculation of assessment effort is to be carried out in accordance with the rules of IAF MD 1, clause 7.3.

¹⁶ cf. IAF MD 1, clause 7.3.1

¹⁷ cf. Z 4-1.4

The assessment time must be sufficient, regardless of the composition of the organisation, to ensure an effective assessment of the ZNU-Standard requirements.

Z 5-2.4 ZNU-Standard Fees

In addition to the assessment effort incurred by the certification bodies / assessors for carrying out the assessment, the ZNU has an ongoing expense for updating, further developing and administering the ZNU-Standard Driving Sustainable Change. This is covered by the ZNU-Standard fees and settled with the companies via the certification bodies.

The ZNU-Standard fees for a multi-site certification are based on the annual net turnover, analogously to a single-site certification, and are structured as follows:

ZNU-Standard Fees for Multi-Site Certifications

Annual net turnover from multiple sites combined	Certification / Re-certification	Surveillance
below € 2 million	100,- €	70,- €
€ 2 to 10 million	500,- €	350,- €
€ 10 to 50 million	1,000,- €	700,- €
€ 50 to 500 million	3,000,- €	2,100,- €
above € 500 million	5,000,- €	3,500,- €

Table 3 (Z 5-2.4): ZNU-Standard fees for multi-site certifications per annual net turnover, own representation

Z 5-3

Execution, Evaluation and Assessment Report

Z 5-3.1 Execution and Evaluation

Before the first on-site assessment in the context of the multi-site procedure, the certification body carries out a remote ¹⁸ pre-assessment ¹⁹ at the company's headquarters in order to assess the certifiability of the multi-site organisation (Stage 1). It is checked whether the key processes for greater sustainability are already implemented and whether the company has applied the ZNU-Standard requirements to its activities and is ready for Stage 2 (on-site assessment).

Regardless of whether it is an initial certification, surveillance or re-certification, the headquarters must be assessed every year, as well as at least the corresponding number of sites determined in Z 5-2.

Regarding the minimum requirements and evidence to be assessed (cf. Z 4-2.1.a), Z 4 Appendix 3.1 applies for initial and re-certification and Z 4 Appendix 3.2 for surveillance assessments. The specific requirements for a multi-site organisation (cf. Z 5-1.1) must be assessed annually at the headquarters for all sites included in the certification. ²⁰ The assessment of the central administration must ensure that the control of processes by the headquarters is functioning and that existing deviations are or have been remedied by corrective measures (on site) at the respective site.

The assessment of requirements within a multi-site certification is carried out analogously to Z 4-2.1.b; the handling of deviations and the corresponding action plan is carried out analogously to Z 4-2.3.

Z 5-3.2 Assessment Report

After successful assessment of the multi-site organisation, the final assessment report for ZNU-Standard certification is sent to the company by the certification body. The regulations on assessment reports for multi-site certifications are to be implemented in accordance with Z 4-2.4.

A separate assessment report can be prepared for each site at the request of the company; however, this is only valid in conjunction with the main assessment report and a note to this effect must be visible on the site assessment reports. The main assessment report must indicate which findings are attributable to which site.

Z 5-3.3 Additions and Withdrawals of Sites

In principle, the company is required by the certification contract to inform the certification body immediately of any changes regarding the sites within the multi-site certification (e.g. seasonal sites). In addition, an updated list is provided by the company when planning the assessment.

¹⁸ For the prerequisites and requirements for a remote assessment, cf. Z 4-2.2 Remote Regulations.

¹⁹ The assessment in the context of initial certification is carried out in Stage 1 and Stage 2, in accordance with DIN EN ISO/IEC 17021-1, clause 9.3.1.1.

²⁰ It must be ensured that all processes included in the certification scope are verified, i.e. also for the sites not assessed in the annual sample, the specific requirements stated under Z 5-1.1 must be representatively verified for all sites at the headquarters.

Additional sites can be added to an existing certificate as a result of a surveillance assessment, a re-certification or in the context of an extension assessment.²¹ After a positive evaluation, the sites are included in the subsequent surveillance assessments or re-certification in the existing total population of the multi-site certification.

For additions of new sites, the provisions of the current type of assessment in accordance with Z 4 and Z 5-2.3 apply with regard to the effort and regulations (including remote regulations).

²¹ In accordance with IAF MD 1, clause 6.1.4 and 6.2.3

Z 5-4

Certificates and Handling of Deviations



Centre for Sustainable
Leadership
University Witten/Herdecke

Z 5-4.1 Certificates

After assessment and a positive decision by the certification committee of the certification body, a single certificate is issued bearing the name and address of the company's headquarters. On the first page of the certificate, it must be evident that this is a multi-site certification. A list of all sites (name and address) included in the certification shall be provided in the form of an annex to the certificate. Only sites covered by the certification are to be listed on the certificate.

A reference to this annex must be visible on the certificate. In the event that not all sites of a company are certified, this must be clearly indicated on the certificate.

A sub-certificate (site certificate) can be issued for each site if desired. This is only valid in conjunction with the company certificate (a note to this effect must be visible on the sub-certificate).

For successful certification, it is a prerequisite that the ZNU-Standard requirements are fulfilled at all certified sites. If this is not the case for a site within the multi-site certification, the certificate including all sub-certificates is not issued or is withdrawn from the entire company.

In addition to these conditions for the certificate, which must be observed separately, the general rules for the certificate apply – see Z 4 'Your Path to Certification' (e.g. the multi-site certificate is also valid for 3 years).

Successful certification by independent third parties in accordance with the ZNU-Standard Driving Sustainable Change ensures the following: the company has implemented a holistic learning and development process 'driving sustainable change', is making measurable progress in its key sustainability topics at the site(s) and along the value chains, and is thus making a committed, ongoing contribution to sustainable transformation in the economy and society.

To clearly understand the significance of the certificate, the following minimum requirements must be evident on a multi-site certificate:

1. Logo, name and address of the certification body
2. Logo, name and version number of the ZNU-Standard Driving Sustainable Change
3. Logo of the accreditation body (in accordance with the rules of the accreditation body) and associated accreditation number, if the certification body is accredited
4. Name and address of the certified company; logo if desired
5. Scope of the certification: the company's sites including all activities / processes / services carried out there
6. Reference to multi-site certification and / or the annex in which the individual sites are named and addressed (number of certified sites)²²
7. Date of initial certification and date of last assessment
8. Certificate validity period
9. Place, date of certificate issuance and signature of certification body

²² Temporary, seasonal or non-permanently staffed sites must be identified as such on the annex.

Z 5-4.2 Validity of the Certificate and Hearing Procedure

If a site within the multi-site certification has a deviation (grade D) or receives a K.O., the certification of the entire company is suspended. In this case, it must always be checked whether the identified deviations affect the overall integrity of the sustainability processes of all sites included in the certification. The company can submit appropriate corrective measures in the action plan and have them approved by the certification body in order to obtain a (continuation of the) certification. If deviations (at individual sites) have not been resolved by appropriate corrective measures and accepted by the certification body, the certificate of the entire company will be withdrawn or not issued. Exclusion of individual sites to circumvent deviations is not permissible. If a follow-up assessment is necessary at a site, only those areas in which deviations occurred will be reviewed during this follow-up assessment. The usual deadlines and regulations on validity apply (cf. Z 4-3.2 and Z 4-3.4).



Contact

If you have any questions or suggestions –
feel free to get in touch with us!

ZNU – Centre for Sustainable Leadership
Witten/Herdecke University
Alfred-Herrhausen-Str. 50
D-58448 Witten

Web: www.uni-wh.de/znu
www.znu-standard.com

Tel.: + 49 2302 926-545

Mail: znu@uni-wh.de

Copyright

All ideas, recommendations, suggestions, sub-concepts, names, communication suggestions, etc. listed in this concept are the intellectual property of the ZNU of Witten/Herdecke University and are protected by copyright. Any use is only permitted with the written authorisation of the ZNU