

REPORT REVIEW

Landesbank Baden-Württemberg Green Bond Allocation and Impact Reporting

17 April 2025

VERIFICATION PARAMETERS

Type(s) of reporting	<ul style="list-style-type: none">Green Bond Allocation and Impact
Relevant standard(s)	<ul style="list-style-type: none">Harmonised Framework for Impact Reporting, ICMA, June 2024Landesbank Baden-Württemberg's Green Bond Allocation and Impact Reporting (as of March 31, 2025)
Scope of verification	<ul style="list-style-type: none">Landesbank Baden-Württemberg's Green Bond Framework (as of March 28, 2022)Bond Identification: see Appendix
Lifecycle	<ul style="list-style-type: none">Post-issuance verification
Validity	<ul style="list-style-type: none">As long as no changes are undertaken by the Issuer to its Green Bond Allocation and Impact Reporting (as of March 31, 2025)

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SCOPE OF WORK

Landesbank Baden-Württemberg (“the Issuer” or “LBBW”) commissioned ISS-Corporate to provide a Report Review on its Green Bond Allocation and Impact Reporting by assessing:

1. The alignment of LBBW’s Green Bond Allocation and Impact Reporting (as of March 31, 2025) with the commitments set forth in its Green Bond Framework (as of March 28, 2022).¹
2. LBBW’s Green Bond Allocation and Impact Reporting, benchmarked against the Harmonised Framework for Impact Reporting (HFIR), updated June 2024, as administered by the International Capital Market Association (ICMA).
3. The disclosure of proceeds allocation and soundness of reporting indicators — whether the impact metrics align with best market practices and are relevant to the green bond issued.

LBBW OVERVIEW

Landesbank Baden-Württemberg is a public bank providing all kinds of financial services to retail and corporate clients, savings banks, institutional clients and high-net-worth clients. The company was founded on Jan. 1, 1999, and is headquartered in Stuttgart, Germany.

¹ The Framework was assessed as aligned with the Green Bond Principles as of March 28, 2022.

ASSESSMENT SUMMARY

REVIEW SECTION	SUMMARY	EVALUATION
Part I Alignment with the Issuer's commitments set forth in the Framework	<p>LBBW's Green Bond Allocation and Impact Reporting fulfills the commitments outlined in its Green Bond Framework.</p>	Aligned
Part II Alignment with the Harmonised Framework for Impact Reporting	<p>The Green Bond Allocation and Impact Reporting aligns with the HFIR. The Issuer adheres to core principles and applicable recommendations.</p> <p>The Issuer reports annually, illustrating environmental impacts, providing transparency on ESG risk management, and transparency on the currency used. The Issuer has also disclosed the approach to impact reporting, sector-specific core indicators, and calculation methodology, consistent with HFIR recommendations.</p>	Aligned
Part III Disclosure of proceeds allocation and soundness of reporting indicators	<p>The allocation of the bond's proceeds has been disclosed, with a detailed breakdown across different eligible project categories as proposed in the Framework.²</p> <p>LBBW's Green Bond Allocation and Impact Reporting employs an appropriate methodology to report the impact generated, providing comprehensive disclosure on data sourcing, calculation methodologies and granularity, reflecting best market practices.</p>	Positive

² The assessment is based on the information provided in the Issuer's report. The Issuer is responsible for the preparation of the report, including the application of methods and procedures designed to ensure that the subject matter is free from material misstatement.

REPORT REVIEW ASSESSMENT

PART I: ALIGNMENT WITH COMMITMENTS SET FORTH IN THE GREEN BOND FRAMEWORK³

The following table evaluates the Green Bond Allocation and Impact Reporting against the commitments outlined in LBBW’s Framework, which are based on the core requirements of the Green Bond Principles and best market practices.

GREEN BOND PRINCIPLES	OPINION	ALIGNMENT WITH COMMITMENT
<p>Process for project evaluation and selection</p>	<p>LBBW confirms adherence to the process for project evaluation and selection described in its Green Bond Framework. The Issuer applied the eligibility criteria outlined in the Framework to determine project alignment with defined categories.</p> <p>ESG risks associated with these project categories are identified and managed appropriately, as defined in the Framework.</p>	<p>✓</p>
<p>Management of proceeds</p>	<p>The Issuer confirms adherence to the management of proceeds described in its Green Bond Framework.</p> <p>One hundred percent of collected proceeds have been allocated to eligible projects, with no exceptions. These proceeds are tracked appropriately and attested to through a formal internal process. Furthermore, the Issuer maintains no temporary investment instruments, as all proceeds have been fully allocated.</p>	<p>✓</p>
<p>Reporting</p>	<p>The report aligns with the initial commitments outlined in LBBW’s Green Bond Framework.</p> <p><i>Further analysis of this section is available in Part III.</i></p>	<p>✓</p>

³ LBBW’s Green Bond Framework was assessed as aligned with the Green Bond Principles (as of June 2021) as of March 28, 2022.

PART II: ASSESSMENT AGAINST THE HARMONISED FRAMEWORK FOR IMPACT REPORTING

Reporting is a core component of the Green Bond Principles, and transparency is particularly valuable in communicating the expected and/or achieved impact of projects through annual reporting. Green bond issuers are required to report on both the use of green bond proceeds and environmental impacts at least annually until full allocation or bond maturity. The HFIR has been chosen as the benchmark for this analysis as it represents the most widely adopted standard.

The table below evaluates LBBW’s Green Bond Allocation and Impact Reporting against the HFIR.

CORE PRINCIPLES		
HFIR	GREEN BOND ALLOCATION AND IMPACT REPORTING	ASSESSMENT
Report on an annual basis	As reporting is a core component of the Green Bond Principles, LBBW reported within one year of issuance and subsequently within one year of the previous report. The report will be available on LBBW’s website .	✓
Formal internal process to allocate proceeds	All proceeds allocated to green projects as of the Green Bond Allocation and Impact Reporting date have been allocated only to projects meeting the Framework’s eligibility criteria.	✓
Transparency on the currency	Allocated proceeds have been reported in different currencies (Swiss francs, U.S. dollars and British pounds) and converted to euros.	✓
ESG risk management	The Issuer has an ESG risk management framework in place, overseen by its board of managing directors. This framework utilizes evolving tools to manage risks, including establishing internal controls and ensuring adequate risk capacity. The Issuer employs checklists to assess ESG risks, supporting risk management and mitigation efforts. Furthermore, the Issuer has identified no negative effects associated with these projects.	✓

<p>Illustrate the expected environmental impacts or outcomes</p>	<p>The impact report details the expected environmental impacts resulting from projects funded by green bond proceeds.</p> <p>Further information is available in Part III.</p>	<p>✓</p>
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RECOMMENDATIONS

HFIR	GREEN BOND ALLOCATION AND IMPACT REPORTING	ASSESSMENT
<p>Report at project or portfolio level</p>	<p>Reporting was conducted on a green bond portfolio basis, whereby proceeds from all of LBBW's outstanding green bonds funded a portfolio of eligible projects.</p>	<p>✓</p>
<p>Define and disclose period and process for including/removing projects in the report</p>	<p>All proceeds have been allocated to green assets. Only project financing disbursed and confirmed as eligible up to Dec. 31, 2024, is included in the Green Bond Allocation and Impact Reporting.</p> <p>The Issuer transparently reports on the process for adding and removing projects from the reported portfolio. Utilizing a portfolio approach, projects may be added or removed throughout the year due to redemptions or new financings. The process is overseen by the ESG Bond Committee.</p>	<p>✓</p>
<p>Signed amount and amount of green bond proceeds allocated to eligible disbursements</p>	<p>LBBW reports the total signed amount, and the amount of green bond proceeds allocated to eligible disbursements.</p> <p>Total signed amount: EUR 8,876,814,486.</p> <p>Total allocated amount: EUR 7,617,375,903 (EUR 6,455,792,247 from bond proceeds and EUR 1,161,583,656.31 from cumulative retail and private placements).</p>	<p>✓</p>
<p>Approach to impact reporting</p>	<p>The Issuer reports on the overall impact of each project, as well as its share of total portfolio financing.</p>	<p>✓</p>

<p>Report on at least a limited number of sector-specific core indicators</p>	<p>To facilitate comparison and benchmarking of project results, LBBW reports on sector-specific core indicators.</p> <p>Renewable Energy:</p> <ul style="list-style-type: none"> ▪ LBBW attributed production (MW) ▪ LBBW attributed capacity (MW) ▪ LBBW attributed avoided emissions (tCO₂e/year) ▪ Total avoided emissions per EUR (tCO₂e/million EUR) ▪ Total avoided emissions per production (kgCO₂e/MWh) <p>Green Buildings:</p> <ul style="list-style-type: none"> ▪ Annual final energy savings (MWh/year) ▪ Annual CO₂ emissions avoidance (tCO₂/year) ▪ Avoided annual CO₂ emissions per million EUR invested (tCO₂/million EUR) 	<p>✓</p>
<p>Disclose own methodologies, where there is no single commonly used standard</p>	<p>Renewable Energy:</p> <p>LBBW recorded annual energy generation for each asset in the given year using actual production figures or P50 estimates, commonly accepted in statistical modeling for energy generation evaluation of renewable energy assets. Generally, LBBW reported actual energy generation data.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Avoided emissions (tCO₂e)</p> $= \sum_{i=1}^n (\text{Generation (MWh)}_i \times \text{Grid Operating Margin Carbon Intensity (tCO}_2\text{e /MWh)})$ </div> <p>Green Buildings:</p> <p>The final energy savings are calculated by comparing the top 15% of performers with national building stock benchmarks for the Green Building category. Additionally, the attribution</p>	<p>✓</p>

	<p>factor (%) is calculated by dividing the outstanding deal amount (EUR) by the total project value (EUR).</p> <p>Further information is available in Part III.</p>	
Disclosure of the conversion approach	The Issuer elects to convert units reported for individual projects using a standard conversion factor and includes appropriate disclosure of the conversion approach in the report. For energy-efficient real estate, CO ₂ emissions avoidance is determined by multiplying final energy savings by the carbon emissions intensity.	✓
Projects with partial eligibility	All projects are 100% eligible for financing.	N/A
Use (and disclosure) of the attribution approach	The impact achieved by each financed project is attributed to a single type of intervention.	N/A
Ex-post verification of specific projects	The Issuer confirms that there is no ex-post verification of its projects.	N/A
Report the estimated lifetime results and/or project's economic life (in years)	To illustrate the project's impact over its lifetime, the Issuer reports on its economic life (in years). The average portfolio lifetimes for the Renewable Energy and Green Building categories are 14.7 and 3.8 years, respectively.	✓

OPINION

LBBW adheres to the HFIR's core principles and key recommendations. The Issuer provides transparency regarding the level and frequency of expected reporting, consistent with best practices. The Issuer reports annually, illustrating environmental impacts, providing transparency on ESG risk management, and transparency on the currency used. The Issuer has also disclosed its approach to impact reporting, sector-specific core indicators, and calculation methodology, in accordance with HFIR recommendations.

PART III: DISCLOSURE OF PROCEEDS ALLOCATION AND SOUNDNESS OF THE IMPACT REPORTING INDICATORS

Use of proceeds allocation

Use of proceeds allocation reporting contextualizes impacts by presenting the number of investments allocated to each use of proceeds category.

Allocation reporting occurred within one year of issuance, after full allocation of the proceeds.

The total eligible green project portfolio was EUR 8,876,814,486. EUR 7,617,375,903 was raised through the Issuer's green bonds, including retail and private placements, and 100% of the proceeds were allocated to eligible green expenditures in 2024. Compared to LBBW's 2024 Allocation and Impact Reporting, LBBW has issued two additional bonds:

- DE000LB39BG3, issued on Feb. 9, 2024, with a maturity date of Nov. 9, 2026 (EUR 1,500,000,000)
- CH1321481496, issued on Feb. 8, 2024, with a maturity date of Feb. 8, 2029 (EUR 169,995,750.11)

Proceeds allocated to eligible projects/assets

The allocation of proceeds is broken down at the project category level. The Issuer has provided information regarding the type of projects included in the portfolio.

The allocation reporting section of LBBW's Green Bond Allocation and Impact Reporting aligns with best market practices by providing information on:

- The total amount of green funding proceeds (in EUR)
- The percentage of net proceeds allocated to the eligible green project portfolio
- The total amount of eligible green projects (in EUR), with a breakdown per project category
- The total amount of new financing in the eligible portfolio, with a breakdown per Renewable Energy portfolio and Green Buildings portfolio

Output, outcome and impact reporting indicators

The table below presents an independent assessment of the Issuer’s report and disclosure on the output, outcome and/or impact of projects/assets using indicators.

ELEMENT	ASSESSMENT
<p>Relevance</p>	<p>The impact indicators chosen by the Issuer for this bond are as follows:</p> <p>Renewable Energy:</p> <ul style="list-style-type: none"> ▪ LBBW attributed production (MW) ▪ LBBW attributed capacity (MW) ▪ LBBW attributed annual avoided emissions (tCO₂e/year) ▪ Total avoided emissions per EUR (tCO₂e/million EUR) ▪ Total avoided emissions per production (kgCO₂e/MWh) <p>Green Buildings:</p> <ul style="list-style-type: none"> ▪ Annual CO₂ emission avoidance (tCO₂/year) ▪ Annual final energy savings (MWh/year) ▪ Avoided annual CO₂ emissions per million EUR invested (tCO₂/million EUR) <p>These indicators are quantitative and material to the use of proceeds categories financed through these bonds and align with the HFIR’s suggested impact reporting metrics for Renewable Energy and Green Building projects. This approach reflects best market practices.</p>
<p>Data sourcing and methodologies of quantitative assessment</p>	<p>The Issuer uses internationally recognized impact indicators relevant to each use of proceeds category, aligning with the core indicators proposed by the HFIR.</p> <ul style="list-style-type: none"> ▪ Renewable Energy: Data is processed by Carbon Trust and reviewed by the Issuer. LBBW reports on the environmental impact of projects it finances or co-finances through its green bonds, based where possible on actual asset performance. Where actual performance data is unavailable, estimated performance is used. Reporting includes both green indicators and resulting emissions reductions or avoidance, reflecting the net benefit of the asset during its operational period. Renewable Energy projects encompass both wind and solar, and LBBW records annual energy generation for each asset

ELEMENT	ASSESSMENT
	<p>using actual production figures or P50 estimates,⁴ with actual data reported in most instances. For its analysis, Carbon Trust considered the Partnership for Carbon Accounting Financials methodologies, specifically regarding attribution, to adjust avoided emissions based on LBBW’s share of financing (as the Issuer does not always finance entire projects). Projects are further broken down by country to identify regions with the most cost-effective emission avoidance, expressed in tCO₂e/year and total outstanding investment in million EUR.</p> <ul style="list-style-type: none"> Green Buildings: Data is processed by Drees & Sommer and reviewed by the Issuer. Final energy savings (in MWh/year) are calculated by determining the difference between the top 15% and national building stock benchmarks. Annual emission avoidance (in tCO₂/year) is then calculated by multiplying final energy savings with the carbon emissions intensity. Finally, annual avoided emissions per million EUR invested (in tCO₂/million EUR) are determined by dividing annual avoided emissions by the signed amount.
<p>Baseline selection</p>	<p>The impact data is compared with relevant baselines:</p> <ul style="list-style-type: none"> For Renewable Energy, to calculate baseline emissions — the emissions from electricity generation had the Renewable Energy project not taken place — electricity generation data was multiplied by a consolidated country-specific electricity emission factor: <div style="background-color: #f0f0f0; padding: 10px; margin: 10px 0;"> <p><i>Avoided emissions (tCO₂e)</i></p> $= \sum_{i=1}^n (\text{Generation (MWh)}_i \times \text{Grid Operating Margin Carbon Intensity (tCO}_2\text{e /MWh)})$ </div> <ul style="list-style-type: none"> For Green Buildings, the final energy savings of the energy-efficient real estate portfolio are calculated using the difference between the top 15% and national building stock benchmarks. In this regard, the report aligns with the recommendation of the HFIR.

⁴ P50 estimates, utilized in statistical modelling of energy generation, are employed in the evaluation of renewable energy assets.

ELEMENT	ASSESSMENT
Scale and granularity	The impact data is presented at the use of proceeds category level for the indicators.

High-level mapping of the impact indicators with the U.N. Sustainable Development Goals

Based on the project categories financed and refinanced by the bonds, as disclosed in the Issuer’s Green Bond Allocation and Impact Reporting, the impact indicators adopted by LBBW for its green bonds can be mapped to the following SDGs, according to ISS ESG’s SDG Solutions Assessment, a proprietary methodology designed to assess the impact of an Issuer’s products or services on the U.N. SDGs.

IMPACT INDICATORS	SUSTAINABLE DEVELOPMENT GOALS
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Renewable Energy Assets

- Annual final energy savings (MWh/year)
- LBBW attributed production (MW)
- LBBW attributed capacity
- LBBW attributed avoided emissions (tCO₂e/year)
- Total avoided emissions per production (kgCO₂e/MWh)



Green Buildings

- Annual final energy savings (MWh/year)
- Annual CO₂ emissions avoidance (tCO₂/year)
- Avoided annual CO₂ emissions per million EUR invested (tCO₂/million EUR)



OPINION

The allocation of bond proceeds has been disclosed, with a detailed breakdown across different eligible project categories as proposed in the Framework. The Green Bond Allocation and Impact Reporting utilizes an appropriate methodology to report impact generated, providing comprehensive disclosure on data sourcing, calculation methodologies and granularity, reflecting best market practices. Furthermore, the impact indicators used align with best market practices using the HFIR’s recommended metrics.

ANNEX 1: Methodology

Review of the post-issuance reports

The ISS-Corporate Report Review provides an assessment of labeled transactions reporting against international standards using ISS-Corporate's proprietary [methodology](#).

High-level mapping to the SDGs

The 17 Sustainable Development Goals (SDGs) were endorsed in September 2015 by the United Nations and provide a benchmark for key opportunities and challenges toward a more sustainable future. Using a proprietary methodology based on ICMA's Green, Social and Sustainability Bonds: A High-Level Mapping to the Sustainable Development Goals, the extent the Issuer's reporting and project categories contribute to related SDGs is identified.

ANNEX 2: Quality management processes

ISSUER'S RESPONSIBILITY

The Issuer's responsibility was to provide information and documentation on:

- Green Bond Allocation and Impact Reporting
- Green Bond Framework
- Proceeds allocation
- Reporting impact indicators
- Methodologies and assumptions for data gathering and calculation
- ESG risk management

ISS-CORPORATE'S VERIFICATION PROCESS

Since 2014, ISS Group, which ISS-Corporate is part of, has built up a reputation as a highly reputed thought leader in the green and social bond market and has become one of the first CBI-approved verifiers.

This independent Report Review has been conducted by following ICMA's Guidelines for Green, Social, Sustainability and Sustainability-Linked Bonds External Reviews, and its methodology, considering, when relevant, the ISAE 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information.

The engagement with Landesbank Baden-Württemberg took place from March to April 2025.

ISS-CORPORATE'S BUSINESS PRACTICES

ISS-Corporate conducted this verification in strict compliance with the ISS Group Code of Ethics, which lays out detailed requirements in integrity, transparency, professional competence and due care, professional behavior and objectivity for the ISS business and team members. It is designed to ensure that the verification is conducted independently and without any conflicts of interest with other parts of the ISS Group.

APPENDIX: Bond identification

ISIN	START DATE	MATURITY DATE	VOLUME (EUR)
DE000LB39BG3	Feb 9, 2024	Nov 9, 2026	1,500,000,000
CH1321481496	Feb 8, 2024	Feb 8, 2029	169,995,750.11
DE000LB38937	Nov 29, 2023	Nov 28, 2025	500,000,000
CH1294486332	Oct 4, 2023	Oct 4, 2028	159,371,015.72
DE000LB387B4	Jun 27, 2023	Sep 27, 2027	500,000,000
DE000LB2ZV93	Jul 28, 2022	Feb 28, 2028	1,000,000,000
DE000LB2ZTL3	Feb 24, 2022	Feb 24, 2025	721,917,413
DE000LB2V7C3	Jul 21, 2021	Jul 21, 2028	500,000,000
DE000LB2CU83	Oct 8, 2020	Dec 8, 2025	301,502,689.4
DE000LB2CQX3	Feb 3, 2020	Feb 3, 2025	603,005,378.81
DE000LB2CLH7	Jul 29, 2019	Jul 29, 2026	500,000,000

About this Report Review

Companies turn to ISS-Corporate for expertise in designing and managing governance, compensation, sustainability and cyber risk programs that align with company goals, reduce risk and manage the needs of a diverse shareholder base by delivering best-in-class data, tools and advisory services.

ISS-Corporate assesses the alignment of the Issuer's report with external principles (e.g., the Green/Social Bond Principles), assesses the alignment of the Issuer's report against the commitments in the respective Framework, and analyzes the disclosure of proceeds allocation, data source and calculation methodologies of the reporting indicators against best market practices. Following these guidelines, we draw up an independent Report Review so investors are as well-informed as possible about the proceeds allocation and the impact of the sustainable finance instrument(s).

Please visit ISS-Corporate's [website](#) to learn more about our services for bond issuers.

For information on Report Review services, please contact SPOsales@iss-corporate.com.

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