PRE-ISSUANCE CLIMATE BONDS CERTIFICATION

Verification Report for Pre-Issuance Certification
for the Green Bond Issued by Energie Baden-Württemberg AG (EnBW)

SCOPE

Energie Baden-Württemberg AG (EnBW) commissioned ISS-Corporate to compile a Verifier's Report for Pre-Issuance Certification of its Green Bond by the Climate Bonds Initiative (CBI). The Climate Bonds Certification process includes verifying whether the provisions of the Climate Bonds Standard issued by the CBI are met and obtaining evidence to support the verification.

CRITERIA

Relevant CBI standards for this Climate Bonds Certification:

- Climate Bonds Standard (Version 4.0)
- Wind Sector Eligibility Criteria (Version 1.3)
- Solar Sector Eligibility Criteria (Version 2.3)
- Marine Renewable Energy Criteria (Version 1.2)
- Low Carbon Transport (Version 2.2)
- Electrical Grids and Storage Eligibility Criteria (March 2022)

ISSUER'S RESPONSIBILITY

EnBW's responsibility was to provide information and documentation on:

- Selection of nominated projects & assets
- Technical aspects of projects & assets
- Internal processes & controls
- Proposed reporting

ISS-CORPORATE'S VERIFICATION PROCESS

Since 2014, ISS Group, of which ISS-Corporate is part, 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 Pre-Issuance Verification of the Green Bond issued by EnBW has been conducted based on the Climate Bonds Standard V.4.0, and limited assurance procedures based on common market practices and voluntary guidelines, in accordance with relevant assurance standards such as the International Standard on Assurance Engagements, other than Audits or Reviews of Historical Financial Information (ISAE 3000).

The approach to assess whether the Issuer's Green Bond meets the criteria of the Climate Bonds Standard V.4.0. is as follows:

- The Issuer provided an overview over the assets to be included in the Green Bond asset pool and the relevant processes and documentation regarding the proceeds (e.g., use of proceeds, management of proceeds).
- The Issuer filled in a questionnaire that covers all criteria of the Climate Bonds Standard V.4.0.
- The Issuer provided background documents that elaborate further on the information mentioned in the questionnaire.
- An assessment of the CBI criteria has been carried out using the questionnaire and background documents. In case any answers were unclear, the Issuer has been contacted for more details and clarification.

The engagement with EnBW took place from September to November 2023.

ISS-CORPORATE'S BUSINESS PRACTICES

ISS-Corporate has 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.

RESTRICTION ON DISTRIBUTION AND USE OF REPORT

This Verification Report for Climate Bonds Certification including all documentation provided alongside is intended for the use of EnBW and the Climate Bonds Standard Board. The present document may be published by EnBW, CBI, and ISS-Corporate. CBI and ISS-Corporate agree to publish the report with the consent of EnBW.

OPINION

Based on the limited assurance procedures conducted and evidence obtained, nothing has come to our attention that causes us to believe that, in all material respects the Issuer's 2023 Green Bond Program is not in conformance with the Climate Bonds Standard's Pre-Issuance Requirements.

MARIJA KRAMER
ISS-Corporate
Rockville, MD, 14 November 2023

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About ISS-Corporate

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.

We assess alignment with external principles (e.g., the ICMA Green / Social Bond Principles), analyse the sustainability quality of the assets and review the sustainability performance of the issuer themselves. Following these three steps, we draw up an independent SPO so that investors are as well informed as possible about the quality of the bond / loan from a sustainability perspective.

Learn more: https://www.iss-corporate.com/solutions/sustainable-finance/bond-issuers/

For more information on SPO services, please contact: SPOsales@iss-corporate.com

ANNEX/ES

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ANNEX 1: DETAILED FINDINGS

1. UTILISATION OF PROCEEDS

	REQUIREMENT	FACTUAL FINDINGS	ANALYSIS AGAINST REQUIREMENTS
1.1	Documentation of nominated projects & assets assessed as eligible.	The list of nominated projects and assets include: ▪ 4 onshore wind farms, 17 solar farms in Germany and 7 solar farms in France ▪ 3 offshore wind farms (thereof 2 in the UK and 1 in Germany) ▪ E-mobility charging infrastructure at multiple locations across Germany ▪ Electricity grids infrastructure at multiple locations in Southwest Germany	✓
1.2	Net Proceeds are smaller than the Issuer's investment exposure to the Nominated Projects & Assets.	EnBW's internal reporting prevents allocations which are larger than EnBW's equity investment. The bond amount will be determined at the issuance date. If it were higher than the reported EUR 2 billion of green assets, proceeds would be allocated to investments over the coming 24 months. EnBW's exposure to the identified eligible project portfolio, which has not yet been allocated to by previous green bonds, is over EUR 2000 million.	✓
1.3	No duplicate nomination of Projects & Assets to multiple Certified Climate Bonds or labelled instruments.	3 Wind Offshore (UK), 11 Wind Onshore (Germany), 4 PV (Germany) and 523 charging stations and electricity grids have been nominated for the 2022 CBI certified bond. The projects "Mona", "Morgen" and "Moven" were included in the 2021 and the 2022 CBI certified bond. However, as the projects are under development, they consume new capex every year to finance another portion of the project. EnBW's internal guidelines for allocation of funds prevent double-counting and ensure maximum transparency. In EnBW's Green Bond Impact Reporting, it is made transparent to the investors, what amount	✓

		of which bond is allocated to which eligible project. This factor is reflected in the transparent handling management of the project list.	

2. PROCESS FOR EVALUATION AND SELECTION OF PROJECTS AND ASSETS

	REQUIREMENT	FACTUAL FINDINGS	ANALYSIS AGAINST REQUIREMENTS
2.1and 2.2	Decision making process established, documented, and maintained to determine the eligibility of the Nominated Projects and Assets, which includes without limitation:	See below from 2.2.i to 2.2.vi	
2.2.i	Statement on the climate-related objectives of the Bond	The Green Bond Framework supports EnBW´s targets which were validated by the independent Science Based Targets Initiative (SBTi) as in line with the 1,5° pathway of the Paris Agreement and other national and international target settings for climate change mitigation and the transition to a low-carbon sustainable economy. EnBW commits to reduce scope 1 and 2 GHG emissions 87.4% per MWh by 2035 from a 2018 base year, equivalent to an 83% absolute reduction. EnBW commits to reduce scope 1 and scope 3 category 3 GHG emissions from all sold electricity 87.4% per MWh by 2035 from a 2018 base year. EnBW commits to reduce absolute scope 3 GHG emissions from use of sold products 42.5 % by 2035 from a 2018 base year. EnBW commits to reduce absolute scope 3 GHG emissions from corresponding fuel and energy related activities 42.5 % by 2035 from a 2018 base year.	✓
2.2.ii	Climate-related objectives of the Bond in the context of the Issuer's	The green bond(s) issuance will support projects which contribute to the Company's 2025 renewable energy generation targets and the 2027 CO_2 emission reduction targets, which are	✓

	environmental strategy and policies	connected to EnBW's goal to benet zero by 2035. For that EnBW will reduce their GHG emissions by around 50% by 2027 and by around 70% in 2030. From 2035 on, EnBW will offset any non-reducible, residual GHG emissions by supporting climate change mitigation projects that are carried out according to the highest standards. Further information is stated in the Framework.	
2.2.iii	Issuer's rationale for issuing the Bond	The green bond(s) will support EnBW's renewable energy, electricity distribution and e-mobility projects which are areas of focus for the Company's growth and new investments.	✓
2.2.iv	Process to determine eligibility of Nominated Projects & Assets	EnBW has a two-step approach: - The capex-intensive growth projects of EnBW are aligned with EnBW's sustainability approach as well as national and international environmental and social standards. - To ensure eligibility for green financing, EnBW has set up a Green Financing Committee, with representatives from the corporate finance department, the corporate sustainability department and representatives from business units. The decisions on the selection of eligible Green Assets are taken unanimously. The Committee is responsible for verifying compliance of all projects with the eligibility criteria (as per EnBW's Green Financing Framework). Typical exclusion filters include material controversies and major concerns about environmental impacts, e.g., based on the "Do No Significant Harm"-classification of the EU taxonomy. The eligibility criteria also include the CBI Sector Criteria requirements.	✓
2.2.v	Related eligibility criteria to identify and manage potentially material ESG risks associated with the Nominated Projects & Assets	See 2.2.iv. Furthermore, all of EnBW's categories are aligned to the EU Taxonomy. Within the Do No Significant Harm Criteria, EnBW manages ESG risks associated with the Nominated Projects and Assets. The projects are screened within EnBW against the following sector criteria: ▪ Wind Sector Eligibility Criteria (Version 1.3)	✓

		▪ Solar Sector Eligibility Criteria (Version 2.3) ▪ Marine Renewable Energy Criteria (Version 1.2) ▪ Low Carbon Transport (Version 2.2 ▪ Electrical Grids and Storage Eligibility Criteria (March 2022)	
2.2.vi	Green standards or certifications referenced in the selection of Nominated Projects & Assets	EU Taxonomy 2021 Delegated Act	✓

3. MANAGEMENT OF PROCEEDS

	REQUIREMENT	FACTUAL FINDINGS	ANALYSIS AGAINST REQUIREMENTS
3.1	Systems, policies, and processes around the management of Net Proceeds include:	See below from 3.1.i to 3.1.iii	
3.1.i	Process around management of the net proceeds	EnBW's internal accounting system allows to track and control at any time the amount of funds that have been allocated to an individual project. EnBW has set up a register and has put internal systems in place to track the outstanding Proceeds of Green Financing Instruments internally.	✓
3.1.ii	Management of unallocated Net Proceeds	The Group Treasury will be requested to ensure an amount equivalent to the unallocated amount as reported by the Green Financing Committee, which will only be held in cash or in short-term bank deposits within EnBW's core banking group.	✓
3.1.iii	Earmarking process used to manage allocation of proceeds and estimate of the share of the Net Proceeds	EnBW's internal accounting system allows to track and control the amount of funds that have been allocated to a specific project as well as the eligible capex for such projects, at any point in time. In addition, a frequent analysis is conducted jointly with the relevant business	✓

	being used for financing and refinancing	units in order to identify new eligible capex, to flag projects which were used for previous green bond issuances, and to validate the information in the register mentioned above. The entire process is monitored on an ongoing basis and approved annually by the Green Financing Committee. This provides a transparent view on the eligible projects and the allocated proceeds while ensuring that no double-counting can occur. The relative proportion of financing and refinancing will be published in the annual Green Bond Impact Reporting.	
3.2	Where proceeds require to be ring-fenced, they must be credited to designated bank accounts. Issuer must track and monitor all payments from designated bank accounts.	EnBW does not have proceeds that are required to be ring-fenced.	-

4. REPORTING PRIOR TO ISSUANCE

	REQUIREMENT	FACTUAL FINDINGS	ANALYSIS AGAINST REQUIREMENTS
4.1	Issuer prepares Green Finance Framework and makes it publicly available. The Green Finance Framework must be provided to the Climate Bonds Standard Secretariat.	EnBW makes the Framework publicly available on their website before the issuance of a new bond and provides it to the Climate Bonds Standard Secretariat.	✓

4.2	Issuer's Framework should include without limitations:	See below from 4.2.i to 4.2.v	
4.2.i	Confirmation that bonds issued under the Framework are aligned with the Climate Bonds Standard and other standards	The Framework mentions EnBW's intention for its green bonds and loans to be aligned with the Green Bond Principles (as of June 2021 with June 2022 Appendix 1) and the Green Loan Principles (as of February 2023), as well as the Climate Bonds Standard. EnBW also intends to align bonds issued under the Framework with the proposed EU Green Bond Standard and the EU Taxonomy, on a best-effort basis.	✓
4.2.ii	Summary of the use of proceeds and their contribution to the goals of the Paris Climate Agreement	The Framework includes details of the expected use of proceeds as well as how they contribute to the goals of the Paris Climate Agreement.	✓
4.2.iii	Description of the decision-making process	The Framework includes a description of the decision-making process, as outlined in 2.1.4.	✓
4.2.iv	Description of the processes for managing the proceeds	The Framework includes a description of the managing of proceeds process, as outlined in 2.3.	✓
4.2.v	Description of the processes for reporting and external review or verification	The Framework includes a description of the reporting and external review process, as outlined in 2.4 and 2.5.	✓
4.3	Issuer's Framework should further include:	See below from 4.3.i to 4.3.v	
4.3.i	Description of the relevant Sector Eligibility Criteria and any additional impact metrics	EnBW seeks to have each bond certified by the Climate Bonds Initiative (CBI). Compliance with the relevant CBI Sector Eligibility Criteria is therefore ensured (i.e., wind energy, solar energy, marine renewable energy, and low carbon transport)	✓

4.3.ii	Summary on the approach used to manage unallocated net proceeds	The Framework mentions that unallocated proceeds will be placed as cash or bank deposit or other form of available current financial assets.	✓

4.3.iii	Intended approach to provide Update Reports to reaffirm conformance with the Climate Bonds Standard while the Bond remains outstanding	The Framework includes details of their (annual until maturity) Reporting, which will include the following information:
		
		▪ Use of the Green Financing proceeds:
		  ▪ List of projects with some individual information
		  ▪ Total funds allocation (with breakdown per type of project and breakdown of the allocation of proceeds between new financing and refinancing)
		  ▪ The amount of unallocated proceeds
		
		▪ Benefits in terms of sustainability (impact reporting with quantitative impact indicators)
		
		The reporting will be available on: https://www.enbw.com/company/investors/bonds/ #green_bonds
			✓

4.3.iv	List of proposed Nominated Projects & Assets associated with the Bond and the investment areas, as provided in Clause 9.1, into which the Nominated Projects & Assets fall	The Framework includes the following list of eligible categories: ▪ Onshore wind energy generation ▪ Offshore wind energy generation ▪ Solar photovoltaic energy generation ▪ Electricity distribution grids ▪ E-vehicle charging stations	✓
4.3.v	An estimate of the proportion of financing and refinancing, and the expected look-back period for refinancing	The Framework mentions a maximum look-back period for refinancing of 36 months. For the upcoming bond(s) it is estimated that around 80% of the proceeds will be used for the financing of new projects. The refinancing proportion is in the annual impact reporting. For example, the 2022 report mentions that for the green bonds issued in 2022 one Green Bond	✓

		refinanced 100% projects already in operation, while another Green Bond was allocated to 79% of new projects.	
4.4	Disclosure of as much information as possible with respect to Nominated projects and assets	EnBW reports on the nominated projects and assets. Some information such as CAPEX for some project categories are reported on a project category level and not on an individual asset level to not hand out sensitive information that might be of disadvantage in public tender processes.	✓
4.5	Disclosure Documentation shall include:	See below from 4.5.i to 4.5.v	
4.5.i	Investment areas, of the Nominated Projects & Assets	The Framework includes information about the investment areas and eligible categories in the Nominated Projects and Assets.	✓
4.5.ii	Temporary investment instruments for unallocated Net Proceeds	The Framework mentions that unallocated proceeds will be placed as cash, bank deposit or other form of available current financial assets.	✓
4.5.iii	Verifier's engaged by the Issuer for the mandatory verification engagements	The Framework mentions that ISS-Corporate will provide verification reports on each of EnBW's green bonds, to be submitted for Climate Bonds Certification.	✓

4.5.iv	Intended approach providing Update Reports to reaffirm conformance with the Climate Bonds Standard while the Bond remains outstanding, including the location of the published documents	The Framework includes detail of their (annual until maturity) Reporting, which will include the following information:
		▪ Use of the Green Financing proceeds:
		  ▪ List of projects with some individual information
		  ▪ Total funds allocation (with breakdown per type of project and breakdown of the allocation of proceeds between new financing and refinancing)
		  ▪ The amount of unallocated proceeds
		▪ Benefits in terms of sustainability (impact reporting with quantitative impact indicators)
			✓

		The reporting will be available on: https://www.enbw.com/company/investors/bonds/ #green_bonds	
4.5.v	CBI Disclaimer provided in the Certification Agreement	The EnBW Green Financing Framework includes the CBI disclaimer provided in the Certification Agreement.	✓

ANNEX 2: DETAILED FINDINGS LOW CARBON TRANSPORT (ELECTRIC VEHICLE CHARGING STATIONS)

✓	**The Green Bond(s) Asset Pool complies with the Low Carbon Transport Criteria of the Climate Bonds Initiative.**
✓	All dedicated electric vehicle charging stations are eligible for Climate Bonds Certification. EnBW confirms that all charging points are used to provide retails customers with the opportunity to charge electric vehicles.

ANNEX 3: DETAILED FINDINGS SOLAR POWER

✓	**The Green Bond**(s) **Asset Pool complies with the Solar Criteria of the Climate Bonds Initiative.**
✓	The Issuer has confirmed that the solar farms do not include any fossil fuel generation and 100% of the electricity generated is from solar energy. Therefore, all assets are eligible for Climate Bonds Certification.

ANNEX 4: DETAILED FINDINGS WIND POWER (ONSHORE)

✓	**The Green Bond**(s) **Asset Pool complies with the Wind Criteria of the Climate Bonds Initiative.**
✓	All onshore wind farms are eligible for Climate Bonds Certification.

ANNEX 5: DETAILED FINDINGS WIND POWER (OFFSHORE)

5.1 Mitigation Component

	REQUIREMENT	FACTUAL FINDINGS	ASSESSMENT
1.1	The asset is 100% dedicated to renewable energy	Yes	✓
2.1	Any fossil fuel back up in place is limited to: Powering monitoring, operating and maintenance equipment in the event of no renewable power in the system / Powering resilience or protection measures in the event of no renewable power in the system / Restart capability	Emergency generators will probably be available on the Offshore Substation as well as on the onshore substation. Any fossil fuel back up in place is not designated nor designed to generate electricity but rather for restart capabilities or ensuring the operation on the site. “He Dreiht” is equipped with a power backup system which consists of a battery pack in the nacelle. This is charged from the grid in normal operation, and from the idle-mode power backup solution during grid outage.	✓

5.2 Adaptation and Resilience Component

	REQUIREMENT	FACTUAL FINDINGS	ASSESSMENT
1.1	Processes are in place to assess key risks to the assets from a changing climate and its impact on marine conditions	For “Mona” and “Morgan” offshore wind projects: The possible effects of climate change on the assets are considered in the EIA, which also includes an assessment of the impact on marine conditions. For the "He Dreiht" project, a designated climate risk and impact on marine conditions assessment has recently been conducted by an external service provider on EnBW’s behalf. For the onshore assets, the risks are	✓

		considered in the onshore Flood Risk Assessment of the EIA. For "Morven" offshore wind project: The effects of climate change and the impact on marine conditions will be considered in the onshore / offshore Climate Change and Circular Economy chapters of the relevant onshore / offshore EIA. A Scoping Report for the array has been submitted in July 2023.	
2.1	Processes are in place to assess improvements and impacts the assets have on the resilience of other stakeholders	Stakeholder engagement is an essential part of the consenting and grid connection process as well as the supply chain engagement. The process is described in the Development Consent Order, the Environmental Impact Assessment and the Preliminary Environmental Information Report.	✓
3.1	An adaptation plan has been designed and is being implemented to address the risks identified in the assessments outlined above	The EIA has provided an assessment of the potential environmental impacts associated with the construction, operation and maintenance, and decommissioning phases of the project. An iterative approach to assessment will be adopted, whereby a specific impact is initially assessed, and if this is deemed to be a significant adverse effect in EIA terms, changes are made (where practicable) to relevant project parameters or design in order to avoid, reduce or offset the magnitude of that impact. The assessment is then repeated until either the effect has been reduced to a level that is not significant in EIA terms, or no further changes may be made to the project design parameters to reduce the magnitude of the impact. For the projects, the EIA is accompanied by an Environmental Management and Monitoring Plan which will include all project mitigation / monitoring measures and commitments made within the EIA.	✓

3.2	Inspections are carried out regularly and there is a maintenance regime for future inspections	EnBW has long-term experience in operating offshore installations. Joint expertise and track records will provide for a future operation and maintenance (O&M) set up to safeguard the safe, profitable, and long-term operation of the assets in the Irish Sea and the North Sea. The 3 projects located in the UK are still in a very early development stage. The "He Dreiht" project requires a regime for inspections/maintenance work based on regulations by authorities as well as a certain monitoring/inspection approach which is required by the turbine/foundation manufacturers. The manufacturers take over the first year of maintainance. EnBW confirms that the same applies to the projects in the UK ("Mona", "Morgan" and "Morven"), however it is too early for such documents to be produced as an operations and maintenance plan has only to be submitted 4 months prior to commissioning.	✓
4.1	Issuer is involved in stakeholder engagement and collaboration	Stakeholder engagement is an essential part of the consenting and grid connection process as well as the supply chain engagement. The process is included in the Development Consent Order, the Environmental Impact Assessment and the Preliminary Environmental Information Report.	✓
5.1	The assets or projects do not put at risk endangered species or habitat or unduly impact ecosystem services. Where there are possible negative impacts to habitats, mitigation measures are implemented to offset the negative impacts.	Within the framework of the Plan-Level Habitats Resources Assessment (HRA) and the Project-Level HRA, the environmental compatibility of the projects "Mona", "Morgan" and "Morven" is assessed. Appropriate mitigation measures will be implemented to mitigate risks to endangered species or habitats. These may include shifting the construction period or reducing underwater noise during the foundation piling. The Environmental Impact Assessment (EIA) will provide more information for the project "He Dreiht" about species and habitats in the area. Once this information has been gathered, an assessment of impacts on species and	✓

		habitats will be done. Necessary mitigation measures will be implemented to avoid any significant impacts.	
5.2	Waste is responsibly dealt with, including appropriate disposal of construction waste and oil-based lubricants, including recycling options where possible	For "Mona" and "Morgan" the EIA will be accompanied by an Environmental Management and Monitoring Plan, which will include a Waste Management Plan. For "Morven" the EIA will be accompanied by draft management plans, which will include a Waste Management Plan. For "He Dreiht" EnBW will have an EIA which will by German Law address waste management and Marine Pollution.	✓
5.3	Issuer has recognized and listed the potential risks for accidental site contamination either from leakage of hydraulic fluid or from wreckage / debris on the seabed	For "Mona" and "Morgan", mitigation measurements will consider the waste management concept as well as in the HSSE (Health, Safety, Security and Environment) strategic plan. For "Morven" and "He Dreiht" the EIA will be accompanied by draft management plans, which will include an Environmental Management Plan and a Marine Pollution and Contingency Plan which will cover waste. All site-specific surveys will comply with Risk Assessment Method Statements (RAMS).	✓
5.4	Decommissioning of the plant is planned in a way that considers environmental impacts	The Project Design Envelope (PDE) should include details of the proposed decommissioning strategy. This will inform the assessment of the decommissioning phase effects in the EIA. For the "Mona", "Morven" and "Morgan" projects, the submission of a decommissioning program is likely to be a condition of the planning consent, with reference to the requirements of the UK Energy Act 2004. For "He Dreiht" In line with a clear requirement by German regulations, EnBW has recognised the need for decommissioning and budgeted the corresponding cost in the Financial Model.	✓

5.5	Issuer has plans and processes in place to effectively manage and minimize conflict with other users of marine and coastal place	The relevant stakeholders will be identified, and a stakeholder management strategy will be enacted to minimize potential conflicts. For example, for the "Mona", "Morgan" and "Morven" projects, the Company is continuously discussing with shipping and navigation operators about any necessary route changes to avoid the offshore wind turbines. With respect to Commercial Fisheries, there was another round of engagement in autumn 2023. For "He Dreiht" EnBW has implemented features and plans that will avoid collision.	✓

ANNEX 6: DETAILED FINDINGS FOR GRID AND STORAGE INFRASTRUCTURE

Mitigation Component

✓	**The Green Bond(s) Asset Pool complies with the Grids and Storage Criteria of the Climate Bonds Initiative.**
✓	The net bond(s) proceeds will be allocated to projects or investment measures relating to EnBW's Distribution system infrastructure that transports electricity at a range of voltages across interconnected or distribution systems. These projects and measures include: ▪ direct connections between renewable energy and the distribution grid ▪ equipment that falls within the assets and activities listed under 3.2 of the Criteria Parts of the infrastructure for which over 67% of newly connected generation capacity in the system has emissions of below 100g CO_2e/kWh measured on a PCF basis over a rolling 5-year period, as confirmed by EnBW's auditor. In the past 5 years, over 95% of newly connected generation capacity to the specific grid has been related to renewable energies as defined by the German government, and therefore meets the threshold requirement. The most recent data show that 98,1% of the newly connected generation capacity to the specific grid has been related to renewable energies. EnBW also expects that in the near future, this will continue to be the case.

Adaptation and Resilience Component

	ITEM	FACTUAL FINDINGS	ASSESSMENT
1	Clear boundaries and critical interdependencies between the infrastructure and the system it operates within are identified	See below 1.1 to 1.2	N/A
1.1	Boundaries of the infrastructure are defined using (1) a listing of all infrastructure and assets and activities associated with the use of the bond proceeds, (2) a map of their location, and (3) identification of the expected	EnBW shared a listing of all infrastructure and assets and activities associated with the use of the bond proceeds. A total of 6391 projects and investment measures are included here. A map of the grid area can be found here as "Netze BW	✓

	operational life of the activity, asset or project	GmbH". The expected operational life of the activity varies between 15 years (for components such as batteries) to 100 years (for components such as cables).	
1.2	Critical interdependencies between the infrastructure and the system within which it operates are identified. Identification of these interdependencies should consider the potential for adverse impacts arising from, but not limited to: (1) the effects of supply disruption or interruption on dependent electricity users or populations; (2) exacerbation of wildfires; (3) relationships of the asset/project to nearby flood zones; (4) reduction in pollinating insects and birds; (5) reduction in biodiversity or High Conservation Value 10 habitat; (6) damage or reduction in value of neighboring property due to boundary structures at risk of falling during storm events; (7) fire and other practices that affect air quality; (8) appropriation of land or economic assets from nearby vulnerable groups;	EnBW's operations counters risks using, among other things, an environmental management system (EMS) certified according to DIN EN ISO 14001, which has been established at key subsidiaries with a corresponding profile. EIA or a relatively comparable assessment is required for the approval for constructing and operating electricity grids in Germany and Europe. EIA is carried out in line with EU and German legal requirements. Legal and environmental documents are provided to the local authorities for grid activities that do not have a mandatory EIA requirement. The topics listed are part of the EIA. EnBW partly goes beyond legal requirements. E.g. the Company uses bird warning markers on individual installations in the 110 kV line. For the "System Average Interruption Duration Index" (SAIDI) all grids, the ones included in the green bond and future projects are included in the calculation. In 2022, EnBW's SAIDI stood at 16.6 min/year. The Company states that risks also exist due to external circumstances, such as physical risk, e.g., extreme weather conditions. The Company counters these risks using comprehensive organizational and procedural measures to reduce their impact. It ensures that the risks posed by crisis and emergency situations are	✓

		mitigated quickly, effectively and with a coordinated approach through regular crisis management exercises and other measures.	
2	An assessment has been undertaken to identify the key physical climate hazards to which the infrastructure will be exposed and vulnerable to over its operating life	See below 2.1	N/A

2.1	Key physical climate risks and indicators of these risks are identified in line with the following guidelines:
	
	▪ Risks are identified based on (a) a range of climate hazards, and (b) information about risks in the current local context, including reference to any previously identified relevant hazard zones, e.g., flood zones.
	▪ In order to be confident that assets and activities are robust and flexible in the face of climate change uncertainties, it is essential that the climate risks being assessed and addressed cover those that are of greatest relevance to T&D grids and electrical energy storage. The physical characteristics of climate change that must be considered in the risk assessment include:
	▪ Temperature rise
	
	  ▪ High temperatures can impact on the electrical rating of assets, reducing transmission capacity and potentially reducing the ability of the network to meet demand.
	  ▪ Increasing temperatures can also result in extension of
		EnBW uses a standardized risk map across the group to identify and classify risks (including risks in the context of climate change). The exposure of all its activities to climate risks is assessed annually in an internal process as part of the EU-Taxonomy alignment. For each activity the relevant climate risks are identified and evaluated.
		
		EnBW's climate projections and assessment of impacts analysis is based on Representative Concentration Pathway (RCP) 2.6 and 8.5 scenarios. These climate risks have been clustered into the categories of temperature, wind, water, and ground.
		
		It provides short term scenarios which is up to 3 years for both RCP 2.6 and 8.5 and long-term scenario, above 3 years for RCP 2.6 and 10 to 30 years for RCP 8.5.
		
		To be prepared for any damages to electricity grid assets, the assets are evaluated concerning their statics and exposure (type and location). The assets are then rated and clustered into different categories concerning their resilience and stability.
			✓

	overhead lines, which reduces the clearance above trees. ▪ Increased temperatures may also result in changes to the load on assets, due to increased cooling demands (higher summer peak demands) and less winter heating (reduced winter peak). ▪ Increased heavy rainfall ▪ Heavy rainfall can result in flash pluvial flooding, which could significantly impact electrical assets, particularly ground mounted assets. ▪ Sea-level rises ▪ Potential for flooding of coastal infrastructure and assets at risk from storm surge events. ▪ Increased lightning ▪ Lightning strikes have potential to cause transient outages due to power surges. ▪ Increased winds / gales ▪ Strong winds can cause damage to overhead transmission and distribution lines and supporting infrastructure (pylons and poles). ▪ Up-rooting of trees and vegetation can also have an impact on power lines.		

	▪ Increased snow, sleet, ice, freezing fog
	
	  ▪ Ice and snow accretion can make overhead power lines vulnerable to high winds.
	  ▪ Snow and ice can also impede access to sites for repairs in the event of a fault.
	
	▪ Increased coastal / river erosion
	
	  ▪ Risk to assets in coastal or riverbank locations.
	
	▪ Wildfires
	
	  ▪ Wildfires present a risk to electricity infrastructure in affected areas and can significantly inhibit access to repair damaged infrastructure.
	  ▪ Electricity infrastructure can also be a cause of wildfires. For example, contact between transmission lines and dry vegetation has potential to start fires.
	
	▪ Landslides / ground movement
	
	  ▪ Potential risk to both underground and above ground infrastructure from ground movement.
	  ▪ Potential for access to be impeded for repairs.
	
	Include, for example:
	
	  ▪ Availability of telecommunications for control systems and operational / field		

	staff communications when dealing with extreme weather events, where the telecommunications rely on third party providers and infrastructure. ▪ Flood risk and resilience will likely have interdependencies with local and national agencies, for example related to local flood defences, coastal flood risk management, shoreline management plans etc. Optional guidance for carrying out risk assessments: ▪ Users should apply climate scenarios based on representative concentration pathway (RCP) 4.5 and 8.5 or similar / equivalent to ensure consideration for worst case scenario. ▪ A broad range of models can be used to generate climate scenarios. ▪ Time horizons for assessing climate risk in agriculture can be based on annual seasonal forecasts and every ten years for the lifetime of the assets and projects. Where accurate assessments of climate variability for specific locations are not possible, use worst-case scenarios. ▪ Risks can be characterised by the associated annual probability of failure or annual costs of loss or damage. ▪ For risk assessment, the TCFD The Use of Scenario Analysis in		

	Disclosure of Climate-Related Risks and Opportunities is recommended.		
3	The measures that have or will be taken to address those risks, mitigate them to a level such that the infrastructure is suitable to climate change conditions over its operational life.	See below	N/A
3.1	That might be adopted as part of regulations (e.g., codes and standards). This list is not exhaustive and bond issuers should fully assess the mitigation measures that are relevant to the climate risks and impacts identified in the risk assessment. Temperature ▪ Design standards that maintain equipment rating over its lifetime performance in the face of all potential ranges of temperature rise ▪ Manage vegetation under power lines to ensure adequate clearance is maintained ▪ Assess changing demand profile (milder winters, increased summer cooling) over equipment lifetime Rainfall ▪ Design for resilience to pluvial flooding ▪ Assessment of site drainage requirements ▪ Impact of restricted access to sites / lines due to flooding Increased lightning ▪ Design of electrical equipment to withstand lightning impulses,	EnBW confirmed that for all electricity grid projects and measures allocated, relevant mitigation measures are assessed according to the risk s identified .The risk management process requires measures to be taken and implemented to avoid or reduce identified physical and transition risks. For identified risks, adaptation plans have been and are being developed by internal experts. EnBW has developed an internal screening of the activity categories for any climate risks in the short-term (next 3 years) or long-term (10-30 years) perspective. The different mitigation measures are also clustered into the categories of temperature, wind, water, ground and then evaluated for each activity.	✓

	including shielding and surge suppression devices ▪ Redundancy Increased winds / gales ▪ Design to withstand extreme winds ▪ Cut vegetation regularly to safe distance to reduce risk from up-rooting ▪ Invest in storm and hurricane forecasting tools ▪ Consider placing cables underground ▪ Redundancy Increased snow, sleet, ice, freezing fog ▪ Design equipment for ice loading ▪ Suitable vehicles for access to sites in heavy snow / icy conditions Increased flooding ▪ Flood risk assessment and planning. ▪ Site ground installations outside of potentially affected zones ▪ Ensure flood defence systems and coastal management plans are adequate Increased coastal / river erosion ▪ Shoreline management plans / coastal erosion assessment Wildfires ▪ Management of vegetation around electricity infrastructure to ensure adequate clearance Landslides / ground movement		

	▪ The potential for ground movement and landslides should be taken into account when assessing sites for installing grid infrastructure General risk mitigation measures ▪ Business continuity plans ▪ System restoration plans ▪ Black start ▪ Islanded operation / microgrids ▪ System security standards		
3.2	Risk reduction measures must be tolerant to a range of climate hazards and not lock-in conditions that could result in maladaptation	The risks of the Issuer's business activities are monitored and evaluated annually. Risk reduction measures are defined specifically, depending on the respective risk category, the time horizon of the risk impact and the materiality of the risk. The reporting, as well as the underlying risk management process is being continuously developed in order to take into account increased risks due to e.g. climate change and to avoid additional boundaries and lock-in situations."	✓
4	The infrastructure enhances the climate resilience of the defined system it operates within, as indicated by the boundaries of and critical interdependencies with that system as identified in item 1 in this checklist.	See below	N/A
4.1	Issuers are to assess the climate resilience benefits of system focused assets and activities and demonstrate they are 'fit for purpose', in the sense that they enhance climate resilience at a systemic level, with the flexibility to take into account the uncertainty around future climate change impacts. The assessment is conducted according to the principle of best available	EnBW uses regular risk assessments and mitigation measures as mentioned in 2.1. for already existing assets. For new assets, the local environmental conditions as well as potential climate risks (e.g., flooding) are considered in the planning process.	✓

	evidence during the investment period taking into account the infrastructure's boundaries and critical interdependencies as defined in Criteria 1. 'Fit for purpose' is defined as measures that mitigate the following effects: (1) the effects of supply disruption or interruption on dependent electricity users or populations; (2) exacerbation of wildfires; (3) relationships of the asset / project to nearby flood zones; (4) reduction in pollinating insects and birds; (5) reduction in biodiversity or High Conservation Value 12 habitat; (6) damage or reduction in value of neighbouring property due to boundary structures at risk of falling during storm events; (7) fire and other practices that affect air quality; (8) appropriation of land or economic assets from nearby vulnerable groups;	The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities, are consistent with local, sectoral, regional, or national adaptation strategies and plans; and consider the use of nature-based solutions or rely on blue or green infrastructure to the extent possible. EnBW's activities are in line with the national and European nature protection laws. Since 1999, there are special regulations for the protection of birds on electricity towers. These law protection measures are regularly checked and if needed updated. Additional to the bird protection laws, EnBW also uses warning tools for birds on 110kv power lines. Components that contain oil are monitored and any potential pollution is professionally cleaned. In water protective areas, EnBW only uses special biological oils that decompose faster. This approach is agreed on by the ministry of environment of the state Baden-Württemberg.	
5	The issuance is required to demonstrate that there will be ongoing monitoring and evaluation of the relevance of the risks and resilience measures and related adjustments to those measures will be taken as needed.	See below	N/A
5.1	Indicators for risks identified under item 2 in this checklist are provided	The risks of the Issuer's business activities are monitored and evaluated on a regular basis and published in the "report on	✓

		opportunities and risks" in its annual report. This reporting is going to be further expanded in the future. For electricity grids the physical climate risks mainly focus on the resistance of the grid to high temperature rises, extreme weather conditions e.g., storms and floods. High temperatures could potentially harm the grid materials and worsen the grids capacity to transport electricity. Storms or floods could endanger electricity poles. The risks are categorized as either short-term risks (next 3 years) or long-term risks (10-30 years). The analysis is based on Representative Concentration Pathway (RCP) scenarios. The different risks are clustered into the categories temperature, wind, water, ground and then evaluated for each activity. The risks are then prioritized: Short-term risks in the lower RCP scenarios are prioritized as urgent and mitigation measures are developed by internal experts. The risk categorization is updated annually as part of the general risk management process. For the risks identified under item 2, EnBW provided information to consider and measure the applicable risks (notably temperature rise, increased heavy rainfall, increased lightning, winds, and snow).	
5.2	Indicators for risk mitigation measures identified under item 3 in this checklist are provided	Risk mitigation measures are defined specifically, depending on the respective risk category (temperature, flooding, wind, etc.), the time horizon of the risk impact (acute vs. chronic) and the materiality of the risk. The identified risks are categorized as either short-term risks	✓

		(next 3 years) or long-term risks (10-30 years) based on the Representative Concentration Pathway (RCP) scenarios. In addition, the different risks are clustered into the categories temperature, wind, water, ground and then evaluated for each activity. The risks are then prioritized: Short-term risks in the lower RCP scenarios are prioritized as urgent and mitigation measures are developed by internal experts. The risk categorization is updated annually. For example, the mitigation measure for the impacts of higher temperatures includes the regular adaptation of financial forecasts to consider possible higher costs for repairs or lower revenues. To be prepared for any damages to electricity grid assets, the assets are evaluated concerning their statics and exposure (type and location). The assets are then rated and clustered into different categories concerning their resilience and stability.	
5.3	Indicators for “fit for purpose” resilience benefit measures identified under item 4 in this checklist are provided	The risks of the Issuer's business activities are monitored and evaluated on a regular basis and published in the "report on opportunities and Risks" in its annual report. This reporting, as well as the underlying risk management process is being continuously developed in order to take account of the increased risks due to climate change, among other things. For specific information on the "fit for purpose" aspects (e.g. 4) reduction in pollinating insects and birds und (5) reduction in biodiversity or High Conservation Value 12 habitat), please see item 4.1.).	✓

5.4	Issuers have a viable plan to annually monitor (a) climate risks linked to the infrastructure, (b) climate resilience performance, (c) appropriateness of climate resilience measure(s) and to adjust as necessary to address evolving climate risks	The Issuer regularly monitors the described risks and measures. Due to the upcoming changes in the EU laws concerning non-financial reporting (CSRD and EFRAG standards), it is currently preparing a project to optimize its climate risk management. The project with the involvement of the risk department, accounting, sustainability department and further relevant internal departments aims at optimizing its internal processes and further developing its non-financial reporting on climate risk issues.	✓
5.5	Where electricity supply has been interrupted, the number of customer interruptions and customer minutes lost (i.e., aggregate duration of supply interruptions) should be measured and reported, together with the cause of the interruption. Any actions taken to reduce the risk of further impacts should also be recorded.	EnBW records all unscheduled interruptions to supply at its distribution grid operators for gas and electricity as one of its key performance indicators already since 2014. This data flows into the "System Average Interruption Duration Index" (SAIDI). It states the average duration of supply interruptions per end consumer in minutes per year. This KPI is published in the issuer's Annual Report. In 2022 the SAIDI was 17 min/year.	✓