

Green Bond Impact Report

2022

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**We are involved in a variety of initiatives
relating to corporate social responsibility (CSR) and sustainability:**



International Integrated
Reporting Council (IIRC) [↗](#)



Task Force on Climate-related
Financial Disclosures [↗](#)



Global Compact
Network Germany [↗](#)



Sustainable Finance Committee
of the German Federal Government [↗](#)



Value Reporting Foundation [↗](#)

The EnBW Green Bonds: Investing in the future of energy

For further about our green bonds,
please see our

[Website ↗](#)

In line with our strategy of developing into a sustainable and innovative infrastructure partner, we are investing increasingly in climate-friendly growth projects. Therefore, we plan to invest a total of around €14 bn between 2021 and 2025, 80% of which will be spent on growth projects (focusing on grid expansion, expansion of renewables and further development of our smart infrastructure for customers).

In addition, we aim to reduce our CO₂ emissions in Scopes 1 and 2 by 2035 in line with the 1.5° pathway of the Paris Climate Agreement and neutralize remaining emissions via recognized offset projects. Moreover, we added an SBTi approved reduction target for indirect emissions in scope 3

We issued our first green bond on the capital market in October 2018 and have since issued green bonds totalling €3.5 bn. This equates to over 43% of our total outstanding corporate bonds (as of December 2022). Green bonds are issued exclusively to fund climate-friendly projects. All EnBW green bonds have met the criteria for certification by the Climate Bonds Standard Board on behalf of the Climate Bonds Initiative. Based on our Green Financing Framework, proceeds from our green bonds must go exclusively to projects in the following categories that are eligible for support:

- These include renewables (onshore and offshore wind, photovoltaics)
- Electricity grids (expansion of distribution grids)
- Energy-efficiency (such as smart meters)
- Clean transportation (such as e-mobility infrastructure/charging stations)

Key data on EnBW Green Bonds

Bond type	Rating (Moody's/ S&P)	Issue size (€m)	Net issue proceeds (€m)	Issue date	Term (years)	Coupon (% p.a.)	Denomination (€)	ISIN
Green, Senior	Baa1 / A-	500	496.42	31.10. 2018	15	1.875	1,000	XS1901055472
Green, Subordinated	Baa3 / BBB-	500	498.25	05.08. 2019	60	1.625	100,000	XS2035564629
Green, Subordinated	Baa3 / BBB-	500	498.25	05.08. 2019	60.25	1.125	100,000	XS2035564975
Green, Subordinated	Baa3 / BBB-	500	494.75	22.06. 2020	60	1.875	100,000	XS2196328608
Green, Subordinated	Baa3 / BBB-	500	498.25	24.08. 2021	60	1.375	100,000	XS2381272207
Green, Senior	Baa1 / A-	500	498.75	22.11. 2022	4	3.625	1,000	XS2558395351
Green, Senior	Baa1 / A-	500	498.75	22.11. 2022	7	4.049	1,000	XS2558395278

Sustainable projects with sustainable finance

We invest the proceeds from our green bonds in expanding renewables. These include onshore wind, offshore wind and photovoltaics. In addition, we are driving forward the charging infrastructure for electric mobility. In 2022, for the first time, we also financed our electricity distribution grids via green bonds.

Onshore wind



Onshore wind

€782 m
proceeds from the Green Bonds

669 MW
total output

583 MW
of which attributable to the bonds

461,212 t
CO₂ avoided attributable to the bonds

52
green-financed projects



Offshore wind

€1,483 m
proceeds from the Green Bonds

3,589 MW
total output

3,270 MW
of which attributable to the bonds

822,742 t
CO₂ avoided attributable to the bonds

5
green-financed projects

Offshore wind

Photovoltaics



Photovoltaics

€169 m
proceeds from the Green Bonds

624 MW
total output

315 MW
of which attributable to the bonds

199,307 t
CO₂ avoided attributable to the bonds

22
green-financed projects



Valeco

€495 m
proceeds from the Green Bonds

516 MW
total output

343 MW
of which attributable to the bonds

33,689 t
CO₂ avoided attributable to the bonds

Acquisition of Valeco

Charging infrastructure for electric mobility



Charging

€55 m
proceeds from the Green Bonds

1,096
green-financed charging points

1,425,486
charges



Electricity grids

€499 m
proceeds from the Green Bonds

5,338
individual projects and investments

5,791 (+6 %)¹
connected renewables capacity

9.08 TWh (+8 %)¹
renewable power fed in

Electricity grids

¹ Compared to the previous year

Electricity distribution grids

In November 2022, EnBW successfully issued two green bond issues with issue sizes of €500 m each for a total transaction volume of €1 bn.

The proceeds from the seven-year bond (XS2558395278) will be used for the first time for the expansion of the electricity distribution grids. These are a precondition for the expansion of renewables and the success of the energy transition. Grid development in the German state of Baden-Württemberg is the responsibility of Netze BW GmbH, a subsidiary of EnBW AG. Netze BW has already been officially recognized since 2021 as a climate-neutral distribution network operator by the internationally recognized certification company GUTcert. In addition, the electricity grid activities within the EnBW Group have already been reported as sustainable in accordance with the EU Taxonomy since 2020. This means that investments in grid development are also fully recognised by the EU as green economic activities. In order to be classified as taxonomy-aligned activities, the development and operation of electricity grids must meet certain technical screening criteria.

“The expansion and technical upgrading of energy grids are key building blocks in the success of the energy transition,” said Christoph Müller, Managing Director of Netze BW. “Recognizing them as green economic activities is therefore only logical, because the power grid of the future will need huge investment in the years ahead. The energy transition needs infrastructure.” The green bond was confirmed to comply with both the Green Bond Principles and the high standards of the Climate Bonds Initiative (CBI).



EnBW Green Financing Framework

Direct download:
Green Bond Framework
(PDF, eng., 645 KB)

PDF-Download ↗

We published our Green Financing Framework in October 2018. Proceeds are only allocated to projects that are EU taxonomy aligned. Sustainability rating agency ISS ESG has confirmed that the EnBW Green Financing Framework is in accordance with the Green Bond Principles. In 2022, we added electricity grids as a new category in our Framework.

The Green Financing Framework governs the use of Green Financing¹ instruments within the EnBW Group. We have elected a two-step approach to ensure a diligent project evaluation and selection process. This approach is likewise integrated into the Green Financing Framework:

- To ensure eligibility for green financing, we have set up a Green Financing Committee with representatives from the corporate finance department, the corporate sustainability department and, on a case by case basis, representatives from business units. Projects to be allocated with proceeds from Green Financing can be submitted by the business units or are chosen by the Green Financing Committee directly. The final decision on the selection of eligible Green Assets can only be taken unanimously.
- The Committee is responsible for verifying compliance of all projects with the eligibility criteria specified in the Green Financing Framework. Typical exclusion filters include but are not limited to material controversies and concerns about impacts on environment.

In addition, selection criteria have been defined for prioritising projects. A prioritisation mechanism is used to assess the extent to which projects meet the selection criteria.

EU taxonomy

The project categories specified in the Framework correspond to the classification system for environmentally sustainable economic activities and the technical screening criteria for the environmental objective of climate change mitigation under the EU Taxonomy Directive.²

Projects financed or refinanced under the Framework are selected, among other criteria, on the basis of compliance with the relevant metrics, thresholds and 'do no significant harm' criteria under the EU Taxonomy.

EU Green Bond Standard

Our current Green Financing Framework conforms with the July 2021³ Proposal for a Regulation on European Green Bonds. This enables us where applicable to use the EU Green Bond label in future green bond issues.

For further information on the EU Taxonomy, please see our

Website ↗

¹ Green bonds, green loans, green project financing, etc.













² As amended 4 June 2021

³ Proposal for a regulation of the European Parliament and of the Council on European green bonds of 6 July 2021 (2021/0191 (COD))

For further information about our ESG performance indicators, please see our

[Website](#) ↗

Correspondence of eligible project categories to our non-financial key performance indicators, the United Nations Sustainable Development Goals (SDGs) and the EU Taxonomy

Eligible green activities	Project category	Contribution to the EnBW key performance indicators ¹	Contribution to the UN SDGs	Contribution to the EU Taxonomy
Renewable energy	Offshore wind energy generation	<ul style="list-style-type: none"> Expansion of renewable energies (RE): RE installed output in GW and generation capacity accounted for by RE in % Climate protection: CO₂ intensity in g/kWh 	 <ul style="list-style-type: none"> Clean and affordable energy  <ul style="list-style-type: none"> Climate protection 	4.3 Electricity generation from wind power
	Onshore wind energy generation	<ul style="list-style-type: none"> Expansion of renewable energies (RE): RE installed output in GW and generation capacity accounted for by RE in % Climate protection: CO₂ intensity in g/kWh 	 <ul style="list-style-type: none"> Clean and affordable energy  <ul style="list-style-type: none"> Climate protection 	4.3 Electricity generation from wind power
	Solar (PV) energy generation	<ul style="list-style-type: none"> Expansion of renewable energies (RE): RE installed output in GW and generation capacity accounted for by RE in % Climate protection: CO₂ intensity in g/kWh 	 <ul style="list-style-type: none"> Clean and affordable energy  <ul style="list-style-type: none"> Climate protection 	4.1 Electricity generation using solar photovoltaic technology
Electricity networks	Electricity distribution infrastructure	<ul style="list-style-type: none"> Supply reliability: SAIDI² Electricity in min./year 	 <ul style="list-style-type: none"> Clean and affordable energy  <ul style="list-style-type: none"> Industry, innovation and infrastructure 	4.9 Transmission and distribution of Electricity
Energy efficiency	Smart meters		 <ul style="list-style-type: none"> Industry, innovation and infrastructure 	7.5 Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings
			 <ul style="list-style-type: none"> Climate protection 	
Clean transportation	E-mobility charging stations		 <ul style="list-style-type: none"> Industry, innovation and infrastructure 	6.15 Infrastructure enabling low-carbon road transport and public transport
			 <ul style="list-style-type: none"> Sustainable cities and communities 	7.4 Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)

¹ Our green activities also have a positive impact on EnBW's non-financial key performance indicators, such as the reputation index and the customer satisfaction index.

² System Average Interruption Duration Index, specifies the average length of supply interruption in the electricity distribution grid experienced annually by each connected customer.

Good independent assessments

For independent assessments, we have obtained both a Second Party Opinion from ISS ESG and CBI certification for all of our green bonds.

Direct download:
Second Party Opinion from
ISS ESG (PDF, 1.05 MB)

[PDF download ↗](#)

Direct download:
ISS ESG Verification Report for
Pre-Issuance Certification 2022
(PDF, 1MB)

[PDF download ↗](#)



ISS ESG Second Party Opinion

ISS ESG, a rating agency internationally specialising in sustainability, has confirmed that all EnBW Green Bonds issued to date comply with the Green Bond Principles on the basis of International Capital Market Association (ICMA) criteria. In addition, ISS ESG confirmed the good sustainability quality of the bonds and also our above-average sustainability performance as the issuer (ISS ESG Prime Status).



Climate Bonds Initiative certification





Our Green Bonds also are certified to the high standards of the Climate Bonds Initiative (CBI). The Climate Bonds Initiative (CBI) is an international organisation that works to mobilise the bond market for climate change solutions. These feature detailed sector-specific criteria for qualification as green bonds.

Impact Reporting





Our detailed allocation of funds is provided in the online version of our Impact Report.

[Website ↗](#)






📄 Impact Reporting Green Senior Bond October 2018 (XS1901055472)

Project category	Investment attributable to the bonds €m (per category) ¹	Generating capacity attributable to the bonds (MW) ¹	Generation attributable to the bonds (MWh 2022)	CO ₂ avoidance factor (gCO ₂ eq/kWh) ²	Emissions avoided attributable to the bonds (tCO ₂ eq)	Number of charges
 Offshore wind	222.8	67.4	225,282	766	172,566	
 Onshore wind	245.3	151.2	314,001	753	236,442	
 Solar (PV)	20.2	28.3	32,475	684	22,213	
 Expansion of fast charging infrastructure	8.1					287,255
Total	496.4	246.9	571,758		431,221	287,255

📄 Impact Reporting Green Subordinated Bonds August 2019 (XS2035564975 & XS2035564629)

 Offshore wind	839.7	253.1	848,794	766	650,176	
 Onshore wind				753	70,268	
 Onshore wind	138.3	149.9	352,898	– ³	–	
 Solar (PV)	18.5	34.8	33,042	684	2,600	
Total	996.5	437.7	1,234,734		743,044	

📄 Impact Reporting Green Subordinated Bond August 2021 (XS2381272207)

 Offshore wind	269.8	1,140.3 ⁴	351	351	–	
 Onshore wind				753	68,252	
 Onshore wind	96.1	76.0	126,738	– ³	–	
 Solar (PV)	121.6	236.9	208,677	684	142,735	
 Expansion of fast charging infrastructure	12.5					420,498
Total	498.3	1,453.2	335,415		210,987	420,498

¹ Rounded figures

² Source: Germany: Federal Environmental Agency publication „Climate Change 43/2022 – Emissionsbilanz erneuerbarer Energieträger, Bestimmung der vermiedenen Emissionen im Jahr 2021“, as of December 2022;

France: Own calculation; Source: RTE-Electricity-Report 2021;

UK: Avoided emissions assume that green electricity generated from offshore wind replaces an equal quantity of electricity generation from fossil fuels; Source: UK Government fuel-mix-disclosure-data, last updated 02.August 2022 [disclosure period 01.04.2021 – 31.03.2022]

³ No calculation of avoided emissions. In Sweden, the energy generated from renewables and low-CO₂ generation (nuclear energy) is at over 90%.

It is assumed that additional renewables do not contribute to additional CO₂ avoidance.; Source: International Energy Agency -

Energy Policies of IEA countries – Sweden 2019 Review





⁴ Allocated share of generation capacity for information. Value is not representative as the project is still in the design phase.

Impact Reporting

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[Website ↗](#)

🏠 Impact Reporting Green Senior Bond November 2022 (XS2558395351)

Project category	Investment attributable to the bond €m (per category) ¹	Generating capacity attributable to the bond (MW) ¹	Generation attributable to the bond (MWh. 2022)	CO ₂ avoidance factor (gCO ₂ eq/kWh) ²	Emissions avoided attributable to the bond (tCO ₂ eq)	Number of charges
 Offshore wind	151.1	1,809.7 ⁴	-	351	-	
 Onshore wind	304.5	205.7	114,442	753	86,175	
 Solar (PV)	8.4	14.6	17,191	684	11,759	
 Expansion of fast charging infrastructure	34.8					717,733
Total	498.8	2,030.0	131,633		97,934	717,733

🏠 Impact Reporting Green Senior Bond November 2022 (XS2558395278)

The proceeds from the bond were used to refinance individual projects and investment measures in the electricity distribution network of NetzeBW GmbH from 2020 and 2021. Netze BW GmbH is a subsidiary of EnBW AG and is responsible for the expansion of the electricity distribution networks in Baden-Württemberg.

Project category	Investment attributable to the bond €m ¹	Number of projects or investment measures attributable to the bond	Connected renewables generation capacity connected to the distribution grid in MW (%-change vs. previous year)	Electricity fed into the distribution grid from renewable energies in TWh (%-change vs. previous year)
 Electricity distribution infrastructure	498.8	5,338	5,791 (+6%)	9.08 (+8%)

¹ Rounded figures

² Source: Germany: Federal Environmental Agency publication „Climate Change 43/2022 - Emissionsbilanz erneuerbarer Energieträger, Bestimmung der vermiedenen Emissionen im Jahr 2021“, as of December 2022; France: Own calculation; Source: RTE-Electricity-Report 2021;

UK: Avoided emissions assume that green electricity generated from offshore wind replaces an equal quantity of electricity generation from fossil fuels; Source: UK Government fuel-mix-disclosure-data, last updated 02.August 2022 [disclosure period 01.04.2021 - 31.03.2022]

³ No calculation of avoided emissions. In Sweden, the energy generated from renewables and low-CO₂ generation (nuclear energy) is at over 90%.

It is assumed that additional renewables do not contribute to additional CO₂ avoidance.; Source: International Energy Agency - Energy Policies of IEA countries - Sweden 2019 Review

⁴ Allocated share of generation capacity for information. Value is not representative as the project is still in the design phase.

Impact Reporting

📄 Impact Reporting Green Subordinated Bond June 2020 (XS2196328608)

The proceeds from the bond were used to refinance the acquisition of Groupe Valeco in 2019. Groupe Valeco is a French wind and PV project developer building and operating wind and solar farms.

Project category	Investment attributable to the bond €m (per category) ¹	Generating capacity attributable to the bond (MW) ¹	Generation attributable to the bond (MWh, 2022)	CO ₂ avoidance factor (gCO ₂ eq/kWh) ²	Emissions avoided attributable to the bond (tCO ₂ eq)
🇫🇷 Onshore wind	494.8	264.3	568,547	55	31,270
🇫🇷 Solar (PV)		78.4	134,403	18	2,419
Total	494.8	342.7	702,950		33,689

Overview of avoided CO₂ emissions

	Emissions avoided attributable to the bonds (tCO ₂ eq)
Green Bonds	
Senior Bond October 2018 (XS1901055472)	431,297
Subordinated Bonds August 2019 (XS2035564975 & XS2035564629)	743,044
Subordinated Bond June 2020 (XS2196328608)	33,689
Subordinated Bond August 2021 (XS2381272207)	210,987
Senior Bond November 2022 (XS2558395351)	97,934
Total	1,516,951

Calculation of CO₂ avoidance factor for France³

It is assumed that renewable energy generation in France substitutes conventional generation. Accordingly, the conventional generation data is combined with the corresponding CO₂ emission factors to calculate the specific CO₂-equivalent (CO₂eq) for power generation in France.

The CO₂ avoidance factor is calculated for renewables for each generation category by deducting from the resulting specific CO₂eq for power generation the lifecycle specific CO₂eq for each renewables category.

$$\begin{array}{ccccc} \text{Specific CO}_2\text{eq} & & & & \\ \text{for conventional} & & & & \\ \text{energy generation} & - & \text{CO}_2\text{eq} & = & \text{CO}_2\text{-} \\ \text{in France} & & \text{lifecycle renewable} & & \text{avoidance} \\ & & \text{energy generation} & & \text{factor} \end{array}$$

¹ Rounded figures

² Sources: Own calculation

³ Sources:

Electricity generation of France: RTE-Electricity-Report 2021

CO₂-emission factors:

1) IPCC WGIII Contribution AR5 2014, Climate Change 2014 Mitigation of Climate Change.

2) IPCC 2011 Special Report on renewable energy sources and climate change mitigation (SRREN).

Publication date: 27 March 2023

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