

# Green Bond Impact Report



2023 – update

# Content

## EnBW Green Bond Impact Report 2023 - update

- 03 The EnBW Green Bonds
- 05 Sustainable projects
- 06 EnBW Green Financing Framework
- 08 External Review
- 09 Allocation Reporting
- 11 Impact Reporting
- 15 Bonds issued after the reporting date

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



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



Value Reporting Foundation [↗](#)



Global Compact Network Germany [↗](#)



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

# The EnBW Green Bonds: Investing in the future of energy

For further information about our green bonds, please see our

[Website ↗](#)

**Our Strategy 2025 has been adjusted to reflect the 2030 perspective. As an integrated energy supply company, our focus is on the expansion of renewables, the network infrastructure and smart infrastructure for customers. Gross investments within the timeframe of 2024 to 2030 are planned to amount to €40 bn.**

**Simultaneously, our investment efforts contribute to our aim of reducing our CO<sub>2</sub> 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 have added an SBTi-approved reduction target for indirect emissions in scope 3. To cover our financing requirements we will be using retained cash flows and further rely on Green Financing Instruments.**

We issued our first green bond in the capital market in October 2018 and have issued green bonds totaling ~€8.3bn until 30 November 2024. The currently outstanding green bond volume of ~€7.8bn equates to ~54% of our total outstanding corporate bonds (as of 30 November 2024). The proceeds from EnBW's green bond issuances are used to finance climate-friendly, EU Taxonomy-aligned projects. Based on our Green Financing Framework, proceeds from our green bonds must be allocated exclusively to projects in the following categories:

## Renewable energy

- Solar (PV) energy generation
- Offshore/onshore wind energy generation
- Hydropower energy generation
- Electricity distribution & transmission infrastructure
- Smart meters

## Clean transportation

- E-mobility charging infrastructure

## 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	496.4	31.10.2018	15	1.875	1,000	XS1901055472
Green, hybrid <sup>1</sup>	Baa3 / BBB-	500	498.3	05.08.2019	60 (NC5.25)	1.125	100,000	XS2035564975
Green, hybrid	Baa3 / BBB-	500	498.3	05.08.2019	60 (NC8)	1.625	100,000	XS2035564629
Green, hybrid	Baa3 / BBB-	500	494.8	22.06.2020	60 (NC6)	1.875	100,000	XS2196328608
Green, hybrid	Baa3 / BBB-	500	498.3	24.08.2021	60 (NC7)	1.375	100,000	XS2381272207
Green, senior	Baa1 / A-	500	497.1	22.11.2022	4	3.625	1,000	XS2558395351
Green, senior	Baa1 / A-	500	498.8	22.11.2022	7	4.049	1,000	XS2558395278
Green, senior	Baa1 / A-	650	647.2	23.11.2023	6.5	3.850	1,000	XS2722717472
Green, senior	Baa1 / A-	850	845.3	23.11.2023	10.5	4.300	1,000	XS2722717555

## Bonds issued after the reporting date

Bond type	Rating (Moody's/S&P)	Issue size (€m)	Net issue proceeds (€m)	Issue date	Term (years)	Coupon (% p.a.)	Denomination (€)	ISIN
Green, hybrid	Baa3 / BBB-	500	498.3	23.01.2024	60 (NC6)	5.250	100,000	XS2751678272
Green, senior	Baa1 / A-	650	645.7	22.07.2024	7	3.500	1,000	XS2862984510
Green, senior	Baa1 / A-	550	548.4	22.07.2024	12	4.000	1,000	XS2862984601
Green, senior	Baa1 / A-	350 A\$m	349.1	23.10.2024	5	5.302	10,000 A\$	AU3CB0315083
Green, senior	Baa1 / A-	650 A\$m	648.4	23.10.2024	10	6.048	10,000 A\$	AU3CB0315091
Green, senior	Baa1 / A-	1,000	995.1	20.11.2024	11	3.750	1,000	XS2942479044

The allocation and impact data shown on the following pages are as of the reporting date 31 December 2023. Data for bonds issued after the reporting date will be provided with Impact Report 2024. As such, these bonds are labelled as “not allocated”.

## 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 finance our electricity distribution grids and are driving forward the charging infrastructure for electric mobility via green bonds.

### Onshore wind



#### Onshore wind

**€764 m**  
proceeds from the Green Bonds

**726 MW**  
total output

**564 MW**  
of which attributable to the bonds

**542,144 t**  
CO<sub>2</sub> avoided attributable to the bonds

**56**  
green-financed projects



#### Offshore wind

**€1,820 m**  
proceeds from the Green Bonds

**7,439 MW**  
total output

**2,979 MW**  
of which attributable to the bonds

**739,508 t**  
CO<sub>2</sub> avoided attributable to the bonds

**5**  
green-financed projects

### Offshore wind

### Photovoltaics



#### Photovoltaics

**€398 m**  
proceeds from the Green Bonds

**948 MW**  
total output

**632 MW**  
of which attributable to the bonds

**206,198 t**  
CO<sub>2</sub> avoided attributable to the bonds

**46**  
green-financed projects



#### Valeco acquisition

**€495 m**  
proceeds from the Green Bonds

**936 MW**  
total output

**741 MW**  
of which attributable to the bonds

**67,722 t**  
CO<sub>2</sub> avoided attributable to the bonds

### Acquisition of Valeco

### Charging infrastructure for electric mobility



#### Charging

**€154 m**  
proceeds from the Green Bonds

**745**  
green-financed charging locations

**3,545,813**  
charges



#### Electricity grids

**€1,335 m**  
proceeds from the Green Bonds

**6,391**  
individual projects and investments

**6,347.95 (+10%)<sup>1</sup>**  
connected renewables capacity

**10.16 TWh (+15.7%)<sup>1</sup>**  
renewable power fed in

### Electricity grids

<sup>1</sup> Compared to the previous year.  
Note: Data for bonds issued after the reporting date will be provided with Impact Report 2024.

# EnBW Green Financing Framework

Direct download:  
Green Financing Framework  
(PDF, eng., 494 KB)

[PDF download ↗](#)

**Our Green Financing Framework was first published in October 2018 and has been regularly updated since then, most recently in July 2024. Proceeds are only allocated to projects that are EU Taxonomy aligned. Second party opinion provider ISS Corporate has confirmed that the EnBW Green Financing Framework is in accordance with the Green Bond Principles.**

The Green Financing Framework governs the use of Green Financing<sup>1</sup> instruments within the EnBW Group. We have established a clear decision-making process for project evaluation and selection:

- 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, the corporate controlling department and on case-by-case basis, with 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 Projects can only be taken unanimously.
- The Committee is responsible for selecting expenditures that positively contribute to the EU environmental objective of climate change mitigation in accordance with the EU Taxonomy.

## 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 Regulation.

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.

For further information on the EU Taxonomy, please see our

[Website ↗](#)

<sup>1</sup> Green bonds, green loans, green project financing, etc.

## Contribution of eligible project categories to the EU Taxonomy for environmentally sustainable economic activities and the United Nations Sustainable Development Goals (SDGs)

Eligible Green Activity	Project category	Contribution to the UN SDGs	EU Taxonomy
Renewable energy	Solar (PV) energy generation	 	4.1 Electricity generation using solar photovoltaic technology  (NACE: D35.1.1)
	Offshore/Onshore wind energy generation	 	4.3 Electricity generation from wind power  (NACE: D35.1.1)
	Hydropower energy generation	 	4.5 Electricity generation from hydropower  (NACE: D35.1.1)
	Electricity distribution and transmission infrastructure <sup>1</sup>	 	4.9 Transmission and distribution of electricity  (NACE: D35.1.2, D35.1.3)
	Smart meters	 	7.5 Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings  (NACE: D35.1.3)
Clean transportation	E-mobility charging infrastructure	 	6.15 Infrastructure enabling low-carbon road transport and public transport  (NACE: D35.1.2, D35.1.3, F42.2.1)

## External Review

Our Green Financing issuance is backed by two layers of external reviews to ensure maximum transparency and certainty for investors.

Direct download:  
Second Party Opinion from  
ISS Corporate (PDF, 715 KB)

[PDF download ↗](#)

For further information about the  
layers of external review,  
please see our

[Website ↗](#)

### Layer one – Second Party Opinion



- **ISS Corporate Second Party Opinion**

The independent sustainability agency ISS-Corporate issued a second party opinion confirming compliance with the ICMA and LMA principles, the company's sustainability strategy and the positive contribution of the financed projects to the UN SDGs and the EU Taxonomy.

### Layer two – Assurance



- **Climate Bonds Initiative certification**

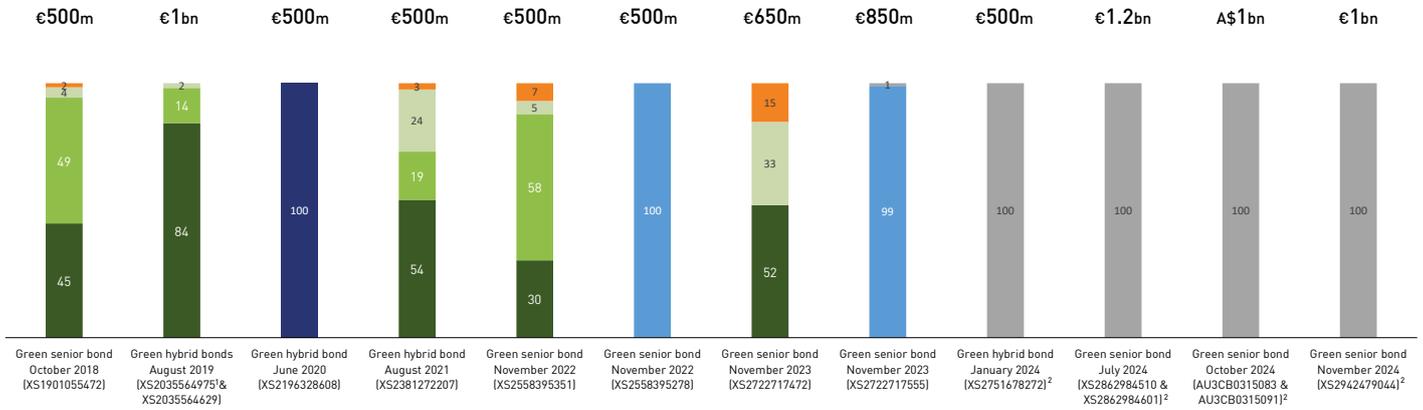
All green bonds issued until January 2024 are certified by the Climate Bonds Initiative (CBI). The Climate Bonds Initiative (CBI) is an international organization that works to mobilize the bond market for climate change solutions. These feature detailed sector-specific criteria for qualification as green bonds.

- **Limited Assurance**

Starting with the green bond issued in July 2024, we will request on an annual basis, starting one year after issuance and until maturity (or until full allocation), a limited assurance report of the allocation of the proceeds to the Eligible Green Projects provided by an independent external verifier.

## Allocation Reporting

### Allocation of EnBW's green bond proceeds (in ~%)



Direct download: Tables for Impact Report and Allocation Report 2023 (.xls, 40 KB)

**Renewable energy**

- Offshore wind
- Onshore wind
- Photovoltaic
- Acquisition of Valeco

**Electricity grids**

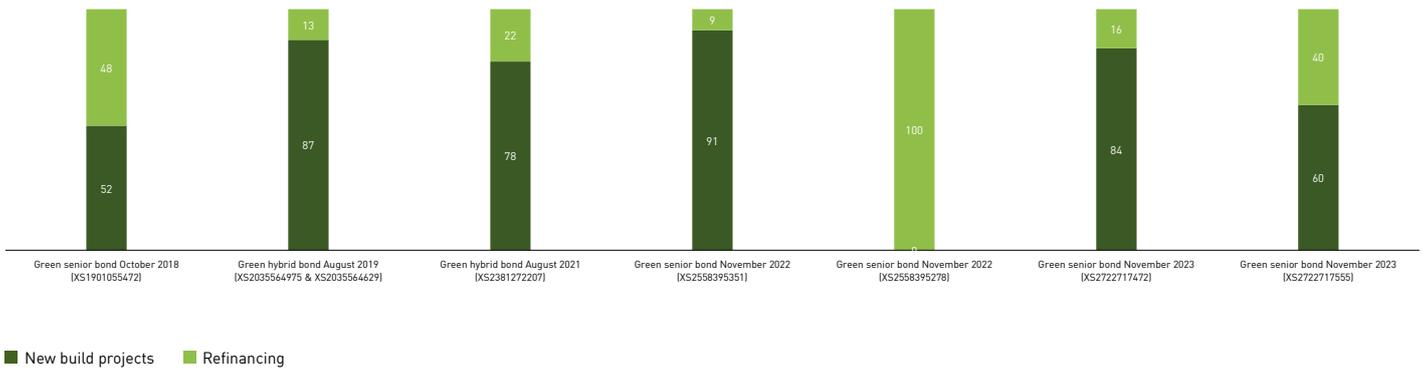
- Electricity distribution grids

**Clean transportation**

- E-mobility charging infrastructure
- Not allocated

[.xls download ↗](#)

### Share of proceeds used for new build projects or for refinancing existing projects (in %)



1 Green hybrid bond issued in 2019 with ISIN XS2035564975 (€500m) called and repaid on 5 November 2024.  
 2 Bonds issued after the reporting date, allocation and impact data will be provided with Impact Report 2024. As of 31 December 2023.

## Overview of green bonds fund allocation

Direct download: Tables for Impact Report and Allocation Report 2023 (.xls, 69 KB)

[.xls download ↗](#)

	Investments attributable to the bond (€m, per category) <sup>1</sup>	Installed capacity (MW) <sup>1</sup>	Generation capacity attributable to the bonds (MW) <sup>1</sup>
<b>Green senior bond October 2018</b>			
<b>(XS1901055472)</b>	<b>496.4</b>	<b>900.3</b>	<b>235.4</b>
Total offshore wind	222.8	639.5	66.5
Total onshore wind	245.3	204.5	141.0
Total solar / PV	20.2	56.4	27.8
Expansion of charging infrastructure	8.1	-	-
<b>Green hybrid bonds August 2019</b>			
<b>(XS2035564975<sup>2</sup> &amp; XS2035564629)</b>	<b>996.5</b>	<b>1,019.9</b>	<b>436.9</b>
Total offshore wind	839.7	639.5	250.1
Total onshore wind	138.3	201.5	152.0
Total solar / PV	18.5	178.9	34.7
<b>Green hybrid bond June 2020</b>			
<b>(XS2196328608)</b>	<b>494.8</b>	<b>936.5</b>	<b>741.4</b>
Total onshore wind	494.8	806.3	621.9
Total solar / PV		130.2	119.5
<b>Green hybrid bond August 2021</b>			
<b>(XS2381272207)</b>	<b>498.3</b>	<b>3,627.6</b>	<b>821.9</b>
Total offshore wind	269.8	3,000.0	508.8
Total onshore wind	94.3	108.5	76.0
Total solar / PV	121.6	519.1	237.1
Expansion of charging infrastructure	12.5	-	-
<b>Green senior bond November 2022</b>			
<b>(XS2558395351)</b>	<b>497.1</b>	<b>6,202.5</b>	<b>1,388.6</b>
Total offshore wind	151.1	5,900.0	1,154.7
Total onshore wind	285.9	258.5	194.5
Total solar / PV	25.3	44.0	39.4
Expansion of charging infrastructure	34.8	-	-
<b>Green bonds November 2023</b>			
<b>(XS2722717472)</b>	<b>647.2</b>	<b>7,107.6</b>	<b>1,291.6</b>
Total offshore wind	336.5	6,800.0	999.0
Total solar / PV	212.2	307.6	292.6
Expansion of charging infrastructure	98.6	-	-

	Investments attributable to the bond (€m) <sup>1</sup>	Number of projects or investment measures attributable to the bond
<b>Green senior bond November 2022</b>		
<b>(XS2558395278)</b>	<b>498.8</b>	<b>6,391</b>
Electricity distribution grids Germany	498.8	6,391
<b>Green senior bond November 2023</b>		
<b>(XS2722717555)</b>	<b>845.3</b>	<b>6,391</b>
Electricity distribution grids Germany	836.0	6,391
Not allocated	9.3	

As of 31 December 2023.

<sup>1</sup> Rounded figures.

<sup>2</sup> Green hybrid bond issued in 2019 with ISIN XS2035564975 [€500m] called and repaid on 5 November 2024.

Note: Data for bonds issued after the reporting date will be provided with Impact Report 2024.

## Impact Reporting

Direct download: Tables for Impact Report and Allocation Report 2023 (.xls, 69 KB)

[.xls download](#) <sup>7</sup>

### Impact Reporting green senior bond October 2018 (XS1901055472)

Project category	Investment attributable to the bonds €m (per category) <sup>1</sup>	Generating capacity attributable to the bonds (MW) <sup>1</sup>	Generation attributable to the bonds (MWh in 2023)	CO <sub>2</sub> avoidance factor (gCO <sub>2</sub> eq/kWh) <sup>2</sup>	Emissions avoided attributable to the bonds (tCO <sub>2</sub> eq)	Number of charges
 Offshore wind	222.8	66.5	201,586	771	155,423	
 Onshore wind	245.3	141.0	365,598	758	277,123	
 Solar (PV)	20.2	27.8	26,199	690	18,077	
 Expansion of fast charging infrastructure	8.1					679,315
<b>Total</b>	<b>496.4</b>	<b>235.4</b>	<b>593,382</b>		<b>450,623</b>	<b>679,315</b>

### Impact Reporting green hybrid bonds August 2019 (XS2035564975<sup>5</sup> & XS2035564629)

 Offshore wind	839.7	250.1	757,569	771	584,086	
 Onshore wind	75.1	44.5	99,859	758	75,693	
 Onshore wind	63.2	107.5	236,740	- <sup>3</sup>	-	
 Solar (PV)	18.5	34.7	31,828	690	21,961	
<b>Total</b>	<b>996.5</b>	<b>436.9</b>	<b>1,125,996</b>		<b>681,740</b>	

### Impact Reporting green hybrid bond August 2021 (XS2381272207)

 Offshore wind	269.8	508.8 <sup>4</sup>				
 Onshore wind	77.7	63.4	124,248	758	94,180	
 Onshore wind	16.6	12.6	30,330	- <sup>3</sup>	-	
 Solar (PV)	121.6	237.1	193,848	690	133,755	
 Expansion of fast charging infrastructure	12.5					698,123
<b>Total</b>	<b>498.3</b>	<b>821.9</b>	<b>348,426</b>		<b>227,935</b>	<b>698,123</b>

<sup>1</sup> Rounded figures.

<sup>2</sup> Source: Germany: Federal Environmental Agency publication "Climate Change 49/2023 - Emissionsbilanz erneuerbarer Energieträger, Bestimmung der vermiedenen Emissionen im Jahr 2022", as of December 2023; France: Own calculation Source: "RTE - 2022 Electricity Review";

UK: Avoided emissions assume that green electricity generated from offshore wind replaces an equal quantity of electricity generation from fossil fuels; Source: "Britain's Electricity Explained: 2023 Review" as of 9 January 2024.

<sup>3</sup> Avoided emissions not calculated. In Sweden, the energy generated from renewables and low-CO<sub>2</sub> generation (nuclear energy) is at over 90%. It is assumed that additional renewables do not contribute to additional CO<sub>2</sub> avoidance.

Source: International Energy Agency - Energy Policies of IEA countries - Sweden 2019 Review.

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

<sup>5</sup> Green hybrid bond issued in 2019 with ISIN XS2035564975 (€500m) called and repaid on 5 November 2024.

## Impact Reporting

Direct download: Tables for Impact Report and Allocation Report 2023  
[.xls, 69 KB]

[.xls download ↗](#)

### 📄 Impact Reporting green senior bond November 2022 (XS2558395351)

Project category	Investment attributable to the bond €m (per category) <sup>1</sup>	Generating capacity attributable to the bond (MW) <sup>1</sup>	Generation attributable to the bond (MWh in 2023)	CO <sub>2</sub> avoidance factor (gCO <sub>2</sub> eq/kWh) <sup>2</sup>	Emissions avoided attributable to the bond (tCO <sub>2</sub> eq)	Number of charges
 Offshore wind	151.1	1,154.7 <sup>3</sup>				
 Onshore wind	285.9	194.5	125,525	758	95,148	
 Solar (PV)	25.3	39.4	13,362	690	9,220	
 Expansion of fast charging infrastructure	34.8					1,175,215
<b>Total</b>	<b>497.1</b>	<b>1,388.6</b>	<b>138,887</b>		<b>104,368</b>	<b>1,175,215</b>

### 📄 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 <sup>1</sup>	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	6,391.0	6,347.95 (+10%)	10.16 (+15.7%)

<sup>1</sup> Rounded figures.

<sup>2</sup> Source: Germany: Federal Environmental Agency publication „Climate Change 49/2023 - Emissionsbilanz erneuerbarer Energieträger, Bestimmung der vermiedenen Emissionen im Jahr 2022“, as of December 2023;

France: Own calculation Source: "RTE - 2022 Electricity Review"; UK: Avoided emissions assume that green electricity generated from offshore wind replaces an equal quantity of electricity generation from fossil fuels; Source: "Britain's Electricity Explained: 2023 Review" as of 9 January 2024.

<sup>3</sup> Allocated share of generation capacity for information. Value is not representative as the project is still in the design phase.

## Impact Reporting

Direct download: Tables for Impact Report and Allocation Report 2023  
[.xls, 69 KB]

[.xls download ↗](#)

### 📄 Impact Reporting green senior bond November 2023 (XS2722717472)

Project category	Investment attributable to the bond €m (per category) <sup>1</sup>	Generating capacity attributable to the bond (MW) <sup>1</sup>	Generation attributable to the bond (MWh in 2023)	CO <sub>2</sub> avoidance factor (gCO <sub>2</sub> eq/kWh) <sup>2</sup>	Emissions avoided attributable to the bond (tCO <sub>2</sub> eq)	Number of charges
 Offshore wind	234.1	840.2 <sup>4</sup>				
 Offshore wind	102.4	158.8 <sup>4</sup>				
 Solar (PV)	178.1	254.3	30,615	690	21,124	
 Solar (PV)	34.0	38.3	45,761	45	2,059	
 Expansion of fast charging infrastructure	98.6					993,160
<b>Total</b>	<b>647.2</b>	<b>1,291.6</b>	<b>76,376</b>		<b>23,184</b>	<b>993,160</b>

### 📄 Impact Reporting green senior bond November 2023 (XS2722717555)

The proceeds from the bond were used to refinance individual projects and investment measures in the electricity distribution network of NetzeBW GmbH between 2021 and 2023. 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 <sup>1</sup>	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	836.0	6,391.0	6,347.95 (+10%)	10.16 (+15.7%)
Not allocated <sup>5</sup>	9.3			
	<b>845.3</b>			

<sup>1</sup> Rounded figures.

<sup>2</sup> Source: Germany: Federal Environmental Agency publication „Climate Change 49/2023 - Emissionsbilanz erneuerbarer Energieträger, Bestimmung der vermiedenen Emissionen im Jahr 2022“, as of December 2023;

France: Own calculation Source: "RTE - 2022 Electricity Review"; UK: Avoided emissions assume that green electricity generated from offshore wind replaces an equal quantity of electricity generation from fossil fuels; Source: "Britain's Electricity Explained: 2023 Review" as of 9 January 2024.

<sup>3</sup> No calculation of avoided emissions. In Sweden, the energy generated from renewables and low-CO<sub>2</sub> generation (nuclear energy) is at over 90%. It is assumed that additional renewables do not contribute to additional CO<sub>2</sub> avoidance.;

Source: International Energy Agency - Energy Policies of IEA countries - Sweden 2019 Review.

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

<sup>5</sup> Pending full allocation, any unallocated Green Financing net proceeds will be invested, managed or held by EnBW on a temporary basis, at its own discretion, in line with its general liquidity guidelines, e.g. in the form of cash, bank deposits, other form of available current financial assets or other cash management purposes, including to repay existing debt. An amount equivalent to the Proceeds will be fully allocated within 24 months after the issuance date of each Green Financing Instrument.

## Impact Reporting

Direct download: Tables for Impact Report and Allocation Report 2023 (.xls, 69 KB)

[.xls download ↗](#)

### 📄 Impact Reporting green hybrid 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) <sup>1</sup>	Generating capacity attributable to the bond (MW) <sup>1</sup>	Generation attributable to the bond (MWh in 2023)	CO <sub>2</sub> avoidance factor (gCO <sub>2</sub> eq/kWh) <sup>2</sup>	Emissions avoided attributable to the bond (tCO <sub>2</sub> eq)
 Onshore wind	494.8	621.9	745,307	82	61,115
 Solar (PV)		119.5	146,826	45	6,607
<b>Total</b>	<b>494.8</b>	<b>741.4</b>	<b>892,132</b>		<b>67,722</b>

### Overview of avoided CO<sub>2</sub> emissions

Emissions avoided attributable to the bonds  
(tCO<sub>2</sub>eq)

#### Green Bonds

Senior bond October 2018 (XS1901055472)	450,623
Hybrid bonds August 2019 (XS2035564975 <sup>4</sup> & XS2035564629)	681,740
Hybrid bond June 2020 (XS2196328608)	67,722
Hybrid bond August 2021 (XS2381272207)	227,935
Senior bond November 2022 (XS2558395351)	104,368
Senior bond November 2023 (XS2722717472)	23,184
<b>Total</b>	<b>1,555,572</b>

### Calculation of CO<sub>2</sub> avoidance factor for France<sup>3</sup>

It is assumed that renewable energy generation in France substitutes conventional generation. Accordingly, the conventional generation data is combined with the corresponding CO<sub>2</sub> emission factors to calculate the specific CO<sub>2</sub>-equivalent (CO<sub>2</sub>eq) for power generation in France.

The CO<sub>2</sub> avoidance factor is calculated for renewables for each generation category by deducting from the resulting specific CO<sub>2</sub>eq for power generation the lifecycle specific CO<sub>2</sub>eq for each renewables category.

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

1 Rounded figures.

2 Sources: Own calculation.

3 Sources: RTE - 2022 Electricity Review

CO<sub>2</sub>-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).

4 Green hybrid bond issued in 2019 with ISIN XS2035564975 (€500m) called and repaid on 5 November 2024.

## Bonds issued after the reporting date

### 📄 Green hybrid bond January 2024 (XS2751678272)

Project category	Investment attributable to the bond €m (per category) <sup>1</sup>
Not allocated <sup>3</sup>	498.3
<b>Total</b>	<b>498.3</b>

### 📄 Green senior bond October 2024 (AU3CB0315083 & AU3CB0315091)

Project category	Investment attributable to the bond A\$m (per category) <sup>1</sup>	Investment attributable to the bond €m (per category) <sup>2</sup>
Not allocated <sup>3</sup>	997.5	615.1
<b>Total</b>		<b>615.1</b>

### 📄 Green senior bond July 2024 (XS2862984510 & XS2862984601)

Project category	Investment attributable to the bond €m (per category) <sup>1</sup>
Not allocated <sup>3</sup>	1,194.0
<b>Total</b>	<b>1,194.0</b>

### 📄 Green senior bond November 2024 (XS2942479044)

Project category	Investment attributable to the bond €m (per category) <sup>1</sup>
Not allocated <sup>3</sup>	995.1
<b>Total</b>	<b>995.1</b>

<sup>1</sup> Rounded figures.

<sup>2</sup> A\$m amounts converted into € as of the issuance date 24 October 2024.

<sup>3</sup> Pending full allocation, any unallocated Green Financing net proceeds will be invested, managed or held by EnBW on a temporary basis, at its own discretion, in line with its general liquidity guidelines, e.g. in the form of cash, bank deposits, other form of available current financial assets or other cash management purposes, including to repay existing debt. An amount equivalent to the Proceeds will be fully allocated within 24 months after the issuance date of each Green Financing Instrument.

Publication date: 16.12.2024

## Contacts



**Lenka Zikmundova**  
Head of Investor Relations  
[investor.relations@enbw.com](mailto:investor.relations@enbw.com) ✉



**Dr. Lothar Rieth**  
Head of Sustainability  
[nachhaltigkeit@enbw.com](mailto:nachhaltigkeit@enbw.com) ✉

**EnBW Energie Baden-Wuerttemberg AG**  
Durlacher Allee 93  
76131 Karlsruhe, Germany  
Phone: +49 721 63-00  
[www.enbw.com/company](http://www.enbw.com/company)