EnBW

Green Bond Impact Report

2023

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EnBW Green Bond Impact Report 2023

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

INTEGRATED REPORTING
Now part of IFRS Foundation

International Integrated Reporting Council (IIRC) ↗

VALUE REPORTING FOUNDATION

Value Reporting Foundation ↗

THE GLOBAL COMPACT
Global Compact Network Germany

Global Compact Network Germany ↗

Sustainable Finance

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_2 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 totalling €5 bn as of 31 December 2023. This equates to over 44% of our total outstanding corporate bonds (as of 31 December 2023). 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 be allocated exclusively to projects in the following categories:

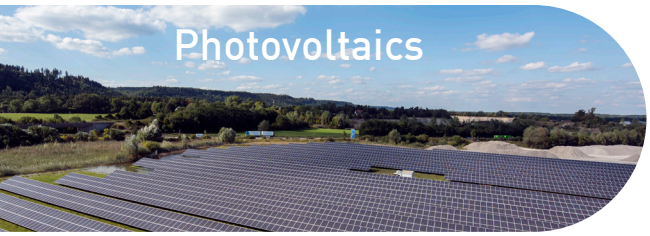
- Renewable energies (onshore and offshore wind, photovoltaics)
- Electricity grids (expansion of distribution grids)
- Energy-efficiency (such as smart meters)
- Clean transportation (such as e-mobility infrastructure/charging stations)

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	60.25 (NC 5,25)	1.125	100,000	XS2035564975
Green, Subordinated	Baa3 / BBB-	500	498.25	05.08. 2019	60 (NC8)	1.625	100,000	XS2035564629
Green, Subordinated	Baa3 / BBB-	500	494.75	22.06. 2020	60 (NC6)	1.875	100,000	XS2196328608
Green, Subordinated	Baa3 / BBB-	500	498.25	24.08. 2021	60 (NC7)	1.375	100,000	XS2381272207
Green, Senior	Baa1 / A-	500	497.13	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
Green, Senior	Baa1 / A-	650	647.24	23.11. 2023	6.5	3.850	1,000	XS2722717472
Green, Senior	Baa1 / A-	850	845.32	23.11. 2023	10.5	4.300	1,000	XS2722717555

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

€761 m
proceeds from the Green Bonds

726 MW
total output

560 MW
of which attributable to the bonds

543,579 t
CO_2 avoided attributable to the bonds

56
green-financed projects

Offshore wind

€1,820 m
proceeds from the Green Bonds

7,439 MW
total output

2,959 MW
of which attributable to the bonds

748,301 t
CO_2 avoided attributable to the bonds

5
green-financed projects

Photovoltaics

€401 m
proceeds from the Green Bonds

948 MW
total output

635 MW
of which attributable to the bonds

208,836 t
CO_2 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_2 avoided attributable to the bonds

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 %)[1]
connected renewables capacity

10.16 TWh (+15.7 %)[1]
renewable power fed in

1 Compared to the previous year

EnBW Green Financing Framework

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

PDF download ↗

We published our Green Financing Framework in October 2018. 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[1] 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 Regulation.

For further information on the EU taxonomy, please see our

Website ↗

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 fulfils the requirements of the July 2021[2] Proposal for a Regulation on European Green Bonds. This enables us to issue bonds under the EU Green Bond Standard in the future.

1 Green bonds, green loans, green project financing, etc.
2 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 ↗

Contribution 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[2]
Renewable energy	Offshore wind energy generation	• Expansion of renewable energies (RE): RE installed output in GW and generation capacity accounted for by RE in % • Climate protection: CO_2 intensity in g/kWh	• Clean and affordable energy • Climate protection	4.3 Electricity generation from wind power (NACE: D.35.11)
	Onshore wind energy generation	• Expansion of renewable energies (RE): RE installed output in GW and generation capacity accounted for by RE in % • Climate protection: CO_2 intensity in g/kWh	• Clean and affordable energy • Climate protection	4.3 Electricity generation from wind power (NACE: D.35.11)
	Solar (PV) energy generation	• Expansion of renewable energies (RE): RE installed output in GW and generation capacity accounted for by RE in % • Climate protection: CO_2 intensity in g/kWh	• Clean and affordable energy • Climate protection	4.1 Electricity generation using solar photovoltaic technology (NACE: D.35.11)
Electricity networks	Electricity distribution infrastructure	• Supply reliability: SAIDI[3] Electricity in min./year	• Clean and affordable energy • Industry, innovation and infrastructure	4.9 Transmission and distribution of Electricity (NACE: D.35.12, D.35.13)
Energy efficiency	Smart meters		• Industry, innovation and infrastructure • Climate protection	7.5 Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings (NACE: D.35.13)
Clean transportation	E-mobility charging stations		• Industry, innovation and infrastructure • Sustainable cities and communities	6.15 Infrastructure enabling low-carbon road transport and public transport (NACE: D.35.12, D25.13, F.42.21)

1 Our green activities also have a positive impact on other EnBW top non-financial performance indicators such as our reputation index, CO_2 intensity and our customer satisfaction index.
2 Classification based on the Draft Delegated Act Annex I dated 4 June 2021 (including appendices). The project needs to fulfil the definition, metrics, and thresholds of the applicable Substantial Contribution, the Do No Significant Harm criteria and minimum safeguards requirements.
3 System Average Interruption Duration Index, specifies the average length of supply interruption in the electricity distribution grid experienced annually by each connected customer. SAIDI electricity includes all unscheduled interruptions to supply that last more than three minutes for the end consumer. The definition and calculation of this performance indicator is based on the guidelines issued by the Network Technology / Network Operation Forum (FNN) of the VDE (German Association for Electrical, Electronic & Information Technologies).

External Review

For external review, we have obtained both a Second Party Opinion from ISS Corporate and CBI certification for all of our green bonds.

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

PDF download ↗

Direct download:
ISS Corporate Verification Report for
Pre-Issuance Certification 2023
(PDF, 549 KB)

PDF download ↗

ISS Corporate Second Party Opinion
ISS Corporate 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 to the Green Bond Principles, the green bonds were reviewed with regard to the fulfilment of the project categories of the EU taxonomy (based on the Delegated Act of the EU Taxonomy for Climate Action June 2023). This involved checking whether the proposed project categories fulfil the minimum safeguards requirements as set out in the EU Taxonomy Delegated Act for Climate Action and the technical screening criteria (including the significant contribution to climate change mitigation principle and the Do No Significant Harm principle) of the EU taxonomy. In addition, ISS Corporate confirmed the good sustainability quality of the bonds and also our above-average sustainability performance as the issuer (ISS Corporate Prime Status).

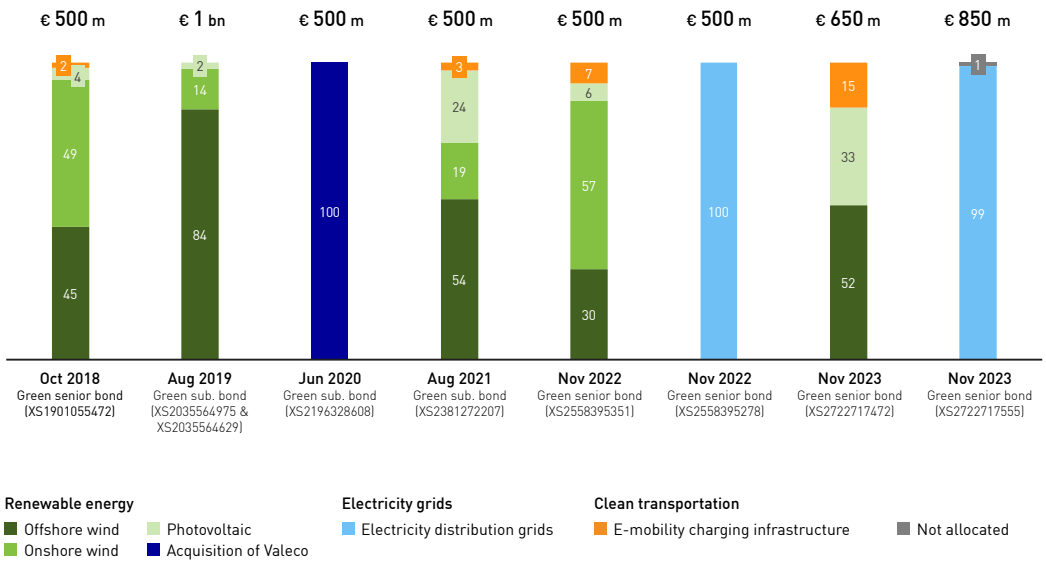
Climate Bonds Initiative certification
Our Green Bonds are also certified based on the high standards of the Climate Bonds Initiative (CBI). The Climate Bonds Initiative (CBI) is an international organisation that works to mobilise the bond market for climate change solutions. These feature detailed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

Allocation Reporting

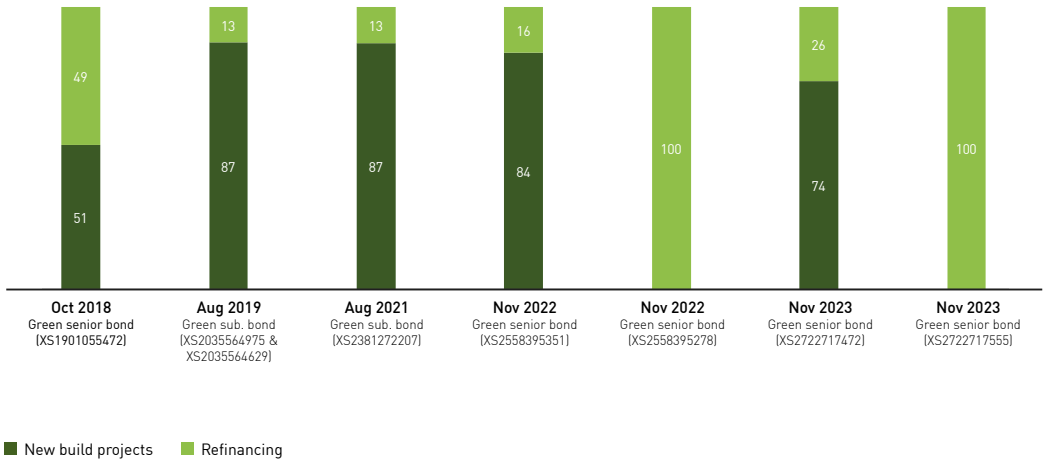
Direct download: Tables for Impact Report and Allocation Report 2023 (.xls, 69 KB)

.xls download ↗

Allocation of EnBWs green bond proceeds (in ~%)



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



As of 31 December 2023

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Overview of green bonds fund allocation

		Investments attributable to the bond (€m, per category)[1]	Installed capacity (MW)[1]	Generation capacity attributable to the bonds (MW)[1]
Green senior bond October 2018 (XS1901055472)		**496.4**	**900.3**	**235.4**
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	-	-
Green subordinated bonds August 2019 (XS2035564975 & XS2035564629)		**996.5**	**1,019.9**	**436.9**
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
Green subordinated bond June 2020 (XS2196328608)		**494.8**	**936.5**	**741.4**
Total onshore wind	Refinancing of the acquisition of Groupe Valeco in 2019	494.8	806.3	621.9
Total solar / PV			130.2	119.5
Green subordinated bond August 2021 (XS2381272207)		**498.3**	**3,627.6**	**821.9**
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	-	-
Green senior bond November 2022 (XS2558395351)		**497.1**	**6,209.0**	**1,388.7**
Total offshore wind		151.1	5,900.0	1,154.7
Total onshore wind		282.6	258.5	191.3
Total solar / PV		28.6	50.5	42.7
Expansion of charging infrastructure		34.8	-	-
Green bonds November 2023 (XS2722717472)		**647.2**	**7,635.2**	**1,271.9**
Total offshore wind		336.4	7,321.9	979.2
Total solar / PV		212.2	313.3	292.7
Expansion of charging infrastructure		98.6	-	-

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

As of 31 December 2023
1 Rounded figures

Impact Reporting

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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 in 2023)	CO_2 avoidance factor (gCO_2eq/kWh)[2]	Emissions avoided attributable to the bonds (tCO_2eq)	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
Total	**496.4**	**235.4**	**593,382**		**450,623**	**679,315**

Impact Reporting Green Subordinated Bonds August 2019 (XS2035564975 & 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	-[3]	-
Solar (PV)	18.5	34.7	31,828	690	21,961
Total	**996.5**	**436.9**	**1,125,996**		**681,740**

Impact Reporting Green Subordinated Bond August 2021 (XS2381272207)

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

1 Rounded figures
2 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
3 Avoided emissions not calculated. In Sweden, the energy generated from renewables and low-CO_2 generation (nuclear energy) is at over 90%. It is assumed that additional renewables do not contribute to additional CO_2 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.

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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 in 2023)	CO_2 avoidance factor (gCO_2eq/kWh)[2]	Emissions avoided attributable to the bond (tCO_2eq)	Number of charges
Offshore wind	151.1	1,154.7[4]				
Onshore wind	282.6	191.3	127,418	758	96,583	
Solar (PV)	28.6	42.7	17,092	690	11,793	
Expansion of fast charging infrastructure	34.8					1,175,215
Total	**497.1**	**1,388.7**	**144,509**		**108,376**	**1,175,215**

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	6,391.0	6,347.95 (+10%)	10.16 (+15.7%)

1 Rounded figures
2 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
3 Avoided emissions not calculated. In Sweden, the energy generated from renewables and low-CO_2 generation (nuclear energy) is at over 90%. It is assumed that additional renewables do not contribute to additional CO_2 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.

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Impact Reporting Green Senior Bond November 2023 (XS2722717472)

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 in 2023)	CO_2 avoidance factor (gCO_2eq/kWh)[2]	Emissions avoided attributable to the bond (tCO_2eq)	Number of charges
Offshore wind	221.6	816.6[4]				
Onshore wind	114.9	162.6	11,404	771	8,792	
Solar (PV)	178.2	254.4	30,710	690	21,190	
Solar (PV)	34.0	38.3	45,761	45	2,059	
Expansion of fast charging infrastructure	98.6					993,160
Total	**647.2**	**1,271.9**	**87,875**		**32,042**	**993,160**

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 from 2022 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[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	836.0	6,391.0	6,347.95 (+10%)	10.16 (+15.7%)
Not allocated[5]	9.3			
	845.3			

1 Rounded figures
2 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
3 Avoided emissions not calculated. In Sweden, the energy generated from renewables and low-CO_2 generation (nuclear energy) is at over 90%. It is assumed that additional renewables do not contribute to additional CO_2 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.
5 Proceeds not yet allocated will be used according to the EnBW Green Financing Framework. EnBW is holding unallocated proceeds in any form of cash, bank deposit or other form of available current financial assets. They will be allocated to eligible projects within 2 years from issuance date.

Impact Reporting

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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 in 2023)	CO_2 avoidance factor (gCO_2eq/kWh)[2]	Emissions avoided attributable to the bond (tCO_2eq)
Onshore wind	494.8	621.9	745,307	82	61,115
Solar (PV)		119.5	146,826	45	6,607
Total	**494.8**	**741.4**	**892,132**		**67,722**

Overview of avoided CO_2 emissions

Green Bonds	Emissions avoided attributable to the bonds (tCO_2eq)
Senior Bond October 2018 (XS1901055472)	450,623
Subordinated Bonds August 2019 (XS2035564975 & XS2035564629)	681,740
Subordinated Bond June 2020 (XS2196328608)	67,722
Subordinated Bond August 2021 (XS2381272207)	227,935
Senior Bond November 2022 (XS2558395351)	108,376
Senior Bond November 2023 (XS2722717472)	32,042
Total	**1,568,439**

Calculation of CO_2 avoidance factor for France[3]

It is assumed that renewable energy generation in France substitutes conventional generation. Accordingly, the conventional generation data is combined with the corresponding CO_2 emission factors to calculate the specific CO_2-equivalent (CO_2eq) for power generation in France.
The CO_2 avoidance factor is calculated for renewables for each generation category by deducting from the resulting specific CO_2eq for power generation the lifecycle specific CO_2eq for each renewables category.

Specific CO_2eq for conventional energy generation in France − CO_2eq lifecycle renewable energy generation = **CO_2-avoidance factor**

1 Rounded figures
2 Sources: Own calculation
3 Sources: RTE - 2022 Electricity Review
CO_2-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).

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