



NORD/LB Green Bonds

Impact and Allocation Reporting as of 30th September 2023



Introduction

Climate change is one of the most important challenges of our time. The world's greatest environmental and social consequences of global change, such as population growth, energy security, biodiversity loss and inadequate access to drinking water and food, are all closely linked to climate change. The transition to a lower-carbon economy is crucial in this regard. With the signing of the Paris Agreement, the global community agreed to limit the global temperature rise in this century to well below 2 degrees Celsius above the pre-industrial level.

With the adoption of the 17 Sustainable Development Goals (SDGs) of the United Nations, the world has set itself a global framework with a common direction and measures to solve the global challenges until 2030. Banks' operations, products and services have an impact on the environment and society. The financial sector has an important role to play in the transition to a lower-carbon economy. Banks have a social, environmental and economic responsibility to understand and manage these issues as part of their business. Norddeutsche Landesbank - Girozentrale - (hereinafter referred to as "NORD/LB") accepts these given environmental conditions and the expectations placed on it in its role as a commercial bank. NORD/LB wants to make its contribution so that the climate targets of the German government can be achieved. As a bank and institution under public law, NORD/LB bears a particular responsibility for economic development and social cohesion. For this reason, NORD/LB is determined to support its customers in preparing for success in an increasingly carbon-constrained world.

NORD/LB is an official member of the International Capital Markets Association (ICMA) and follows the Green Bond Principles (GBP). NORD/LB assigned ISS ESG to review the implementation of the Green Bond Principles and the sustainability of the Bank's overall Green Bond Programme.

1/ NORD/LB's green activities and its Green Bond Programme



NORD/LB welcomes the actions taken by the European Union to create with help of the EU Taxonomy and the EU Green Bond Standard a common European standard. Data transparency, quality and comparability as well as the sustainability performance of bonds and issuers will improve in the medium term. Nevertheless, the implementation will be a challenge. Extensive data know-how is required for successful implementation, especially for the selection criteria and the “Do no significant harm”- requirements. NORD/LB has been actively addressing these challenges. An important point is the dialogue with the customers.








NORD/LB has understood that its sustainability performance can only be improved together with its stakeholders. Therefore, the bank deals intensively with all aspects of new regulations and shares its knowledge with its customers. The aim is to offer Taxonomy-compliant products and thus to continuously improve the quality of the own Green Bond Programme.

NORD/LB has the possibility to issue green senior and subordinated bonds (bearer or registered), green covered bonds (“Grüner Pfandbrief”), green Schuldscheine, green deposits as well as green commercial paper. These funds are used exclusively to finance energy-efficient (i.e. green) buildings, such as new buildings, replacements of old buildings, project developments, certified portfolio financing and renovation work to improve a building’s energy efficiency. In 2022, NORD/LB’s Green Bond Framework was updated to also include renewable energies, i.e. solar photovoltaic, wind onshore & offshore as well as battery storage.



2/ NORD/LB's Green Bond Framework

- NORD/LB's Green Bond Framework was updated in 2022 to include the asset class Renewable Energy
- The updated framework continues to comply with ICMA's Green Bond Principles (2021)
- Already four green mortgage covered bonds ("Grüner Pfandbrief") issued 2017, 2018, 2021 and 2022, each with a volume of EUR 500 million (benchmark)
- Roughly EUR 800 million issued in green senior preferred bonds (incl. 2023 senior preferred of EUR 500 million) and green deposits
- NORD/LB aims at establishing and expanding a loyal, sustainable/green investor base
- The Framework features a Second Party Opinion (SPO) from ISS ESG
- Outlook: NORD/LB aims to continue to develop its framework in the future by including further asset classes

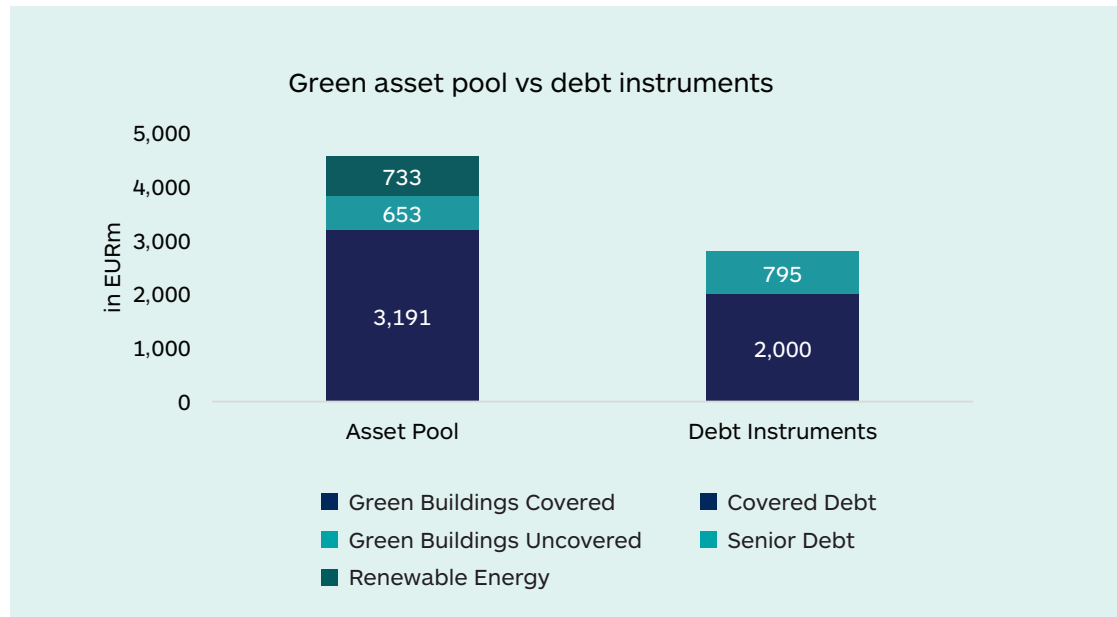
Assets	EU Taxonomy	UN SDG ¹
Solar PV (photovoltaic)	4.1. - Electricity generation using solar photovoltaic technology	 
Wind (on- and offshore)	4.3. - Electricity generation from wind power	 
Battery Storage	4.10. - Storage of electricity	 
Green Buildings	7.7. - Acquisition and ownership of buildings	

¹ United Nations Sustainable Development Goals (UN SDG)



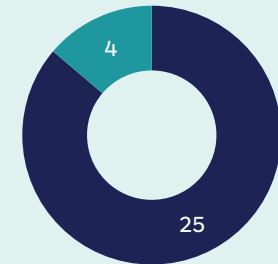
3/ Green asset pool and debt instruments

- Total volume of green asset pool as of 30th September 2023: EUR 4,577 million¹
 - Green Buildings: EUR 3,844 million
 - Renewable Energy: EUR 733 million
- Total volume of green debt instruments outstanding as of 30th September 2023: EUR 2,795 million
 - 29 issuances: 5 benchmarks, 24 private placements
 - Mortgage covered bonds, senior preferred, deposits



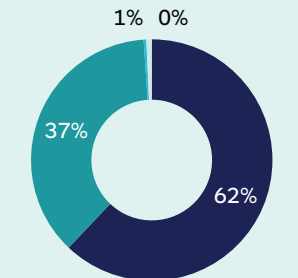
¹ At least 16% of assets are aligned with EU taxonomy

Green debt instruments by type (number)



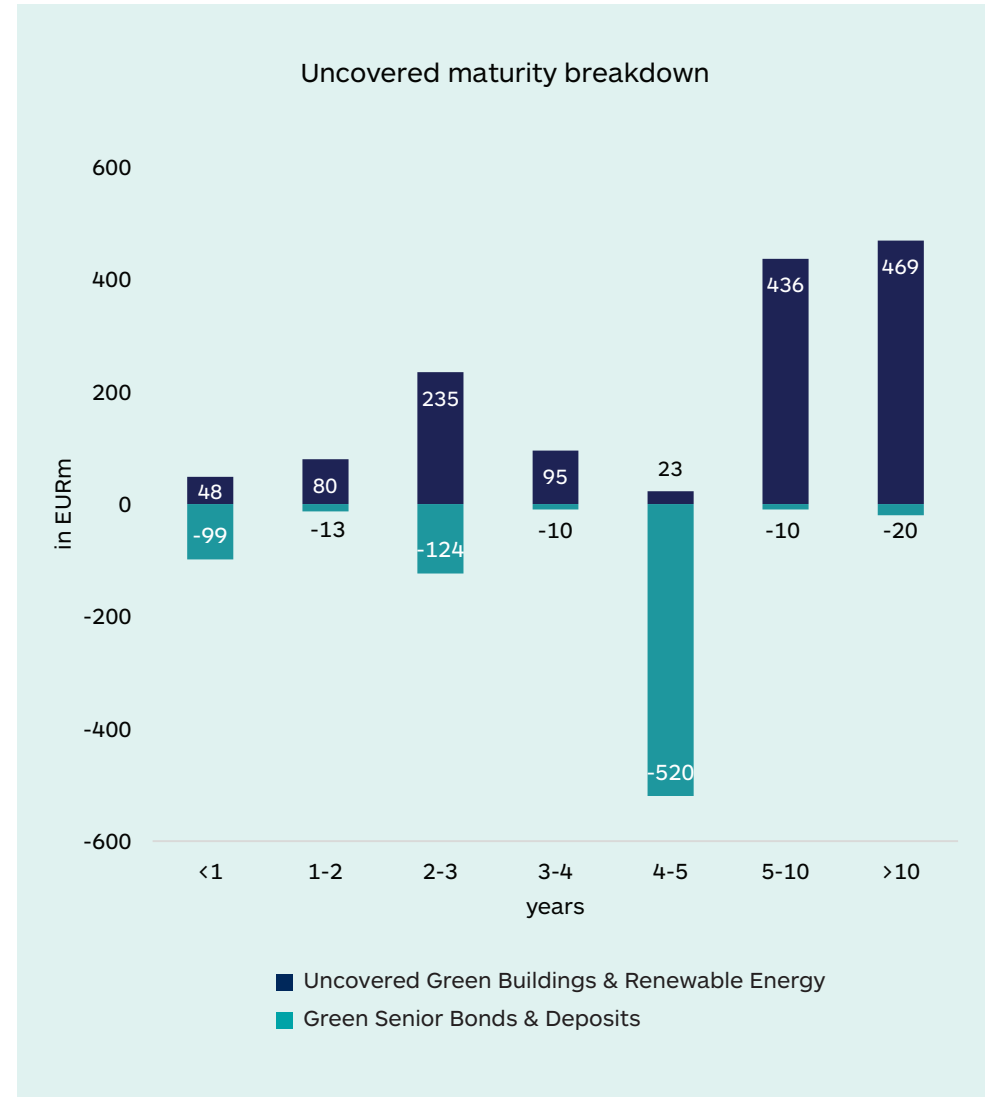
■ Senior Debt ■ Covered Debt

Green debt instruments by tenor (in years)



■ <3 ■ 3-7 ■ 7-10 ■ > 10

Green asset pool and debt instruments



4/ Green benchmark bonds at a glance

Issuer	NORD/LB				
ISIN	DE000DHY4887	DE000DHY4994	DE000NLB3UX1	DE000NLB3Z75	DE000NLB4RS5
Issue date	23.11.2017	10.09.2018	23.09.2021	20.09.2022	11.07.2023
Maturity	23.11.2023	10.12.2024	23.09.2026	20.09.2027	11.07.2028
Notional amount	EUR500m	EUR500m	EUR500m	EUR500m	EUR500m
Payment rank	Covered	Covered	Covered	Covered	Sr Preferred
Coupon	0.125%	0.25%	0.01%	2.25%	4.875%



5/ **NORD/LB** outstanding green debt instruments at a glance

ISIN	Outstanding Volume	Asset Class	Maturity
DE000NLB3Z75	500,000,000 €	Mortgage Covered Bond	20.09.2027
DE000NLB3UX1	500,000,000 €	Mortgage Covered Bond	23.09.2026
DE000DHY4994	500,000,000 €	Mortgage Covered Bond	10.12.2024
DE000DHY4887	500,000,000 €	Mortgage Covered Bond	23.11.2023
DE000DHY5058	5,000,000 €	Senior Preferred	01.08.2039
DE000DHY5249	20,000,000 €	Senior Preferred	21.07.2028
DE000NLB4RS5	500,000,000 €	Senior Preferred	11.07.2028
DE000DHY5181	10,000,000 €	Senior Preferred	03.08.2027
DE000DHY5041	5,300,000 €	Senior Preferred	30.07.2026
DE000DHY5082	14,500,000 €	Senior Preferred	26.05.2026
DE000DHY4895	50,000,000 €	Senior Preferred	30.01.2026
DE000DHY5256	10,000,000 €	Senior Preferred	28.01.2026
DE000DHY5157	10,000,000 €	Senior Preferred	15.07.2025
DE000DHY5173	25,000,000 €	Senior Preferred	29.07.2024
DE000DHY5165	8,500,000 €	Senior Preferred	23.07.2024
DE000DHY5140	10,000,000 €	Senior Preferred	10.07.2024
DE000DHY5207	10,000,000 €	Senior Preferred	20.02.2024
DE000DHY5199	20,000,000 €	Senior Preferred	02.02.2024
	31,500,000 €	Registered Bonds (unsecured) / promissory notes	various
	65,500,000 €	Deposits	various
Total	2,795,300,000 €		



6/ Green Loan Portfolio – Green Buildings

“Our customers - served under the brand Deutsche Hypo - are already intensively engaged with the latest requirements for Green Buildings. NORDB/LB has done a great job to continuously expand its knowledge. Sustainability is an integral part of our business strategy and of our employees daily doing. Our goal is to expand our know-how and sustainability behavior with our clients.”

Frank Schrader, Global Head of Deutsche Hypo - NORDB/LB Real Estate Finance



voco-The Hague Kneuterdijk

Asset class: hotel

Location: The Hague, Netherlands

Certificate: BREEAM In-Use (Excellent)



Varso Place

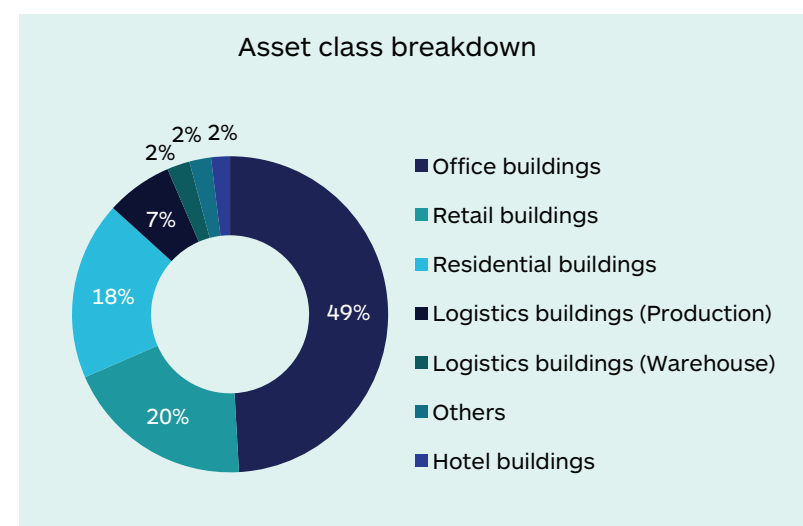
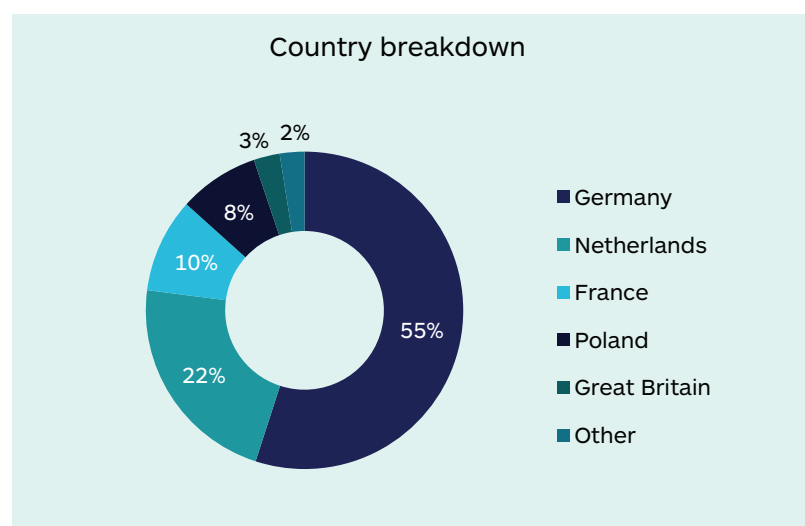
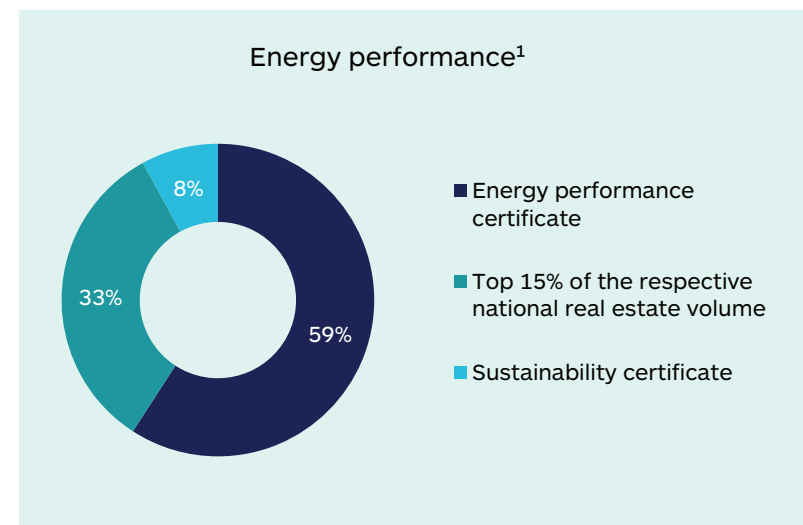
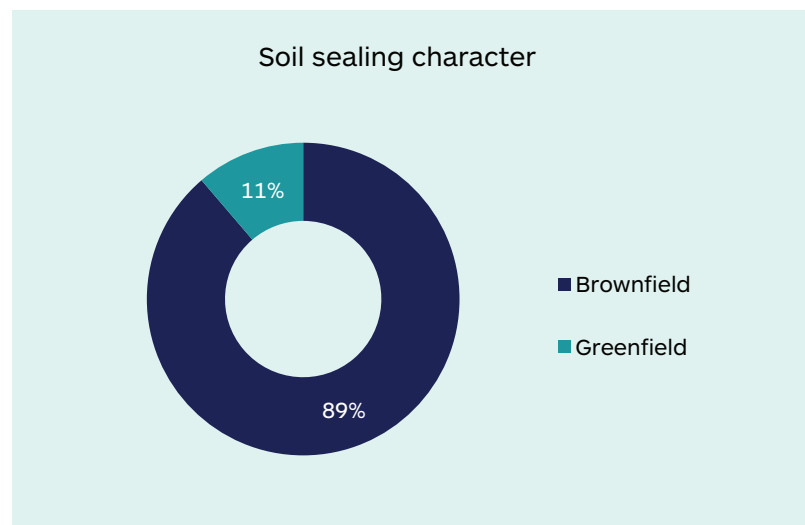
Asset class: mixed use

Location: Warsaw, Poland

Certificate: BREEAM (Outstanding), WELL (Gold)

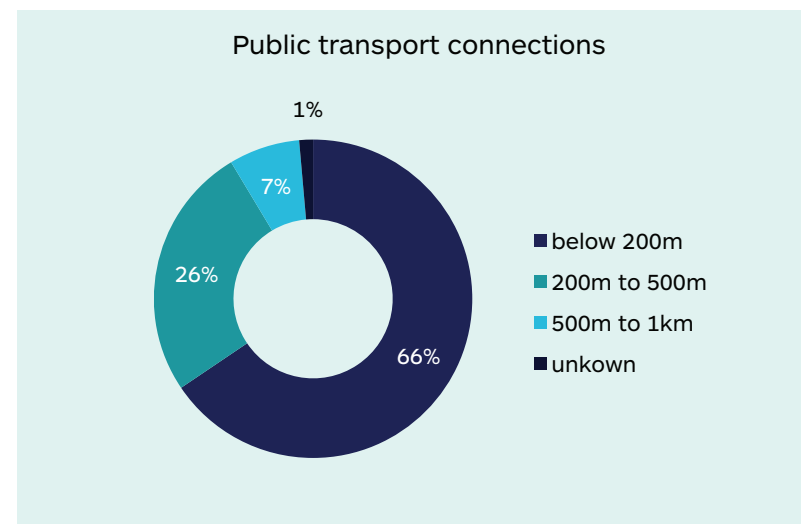
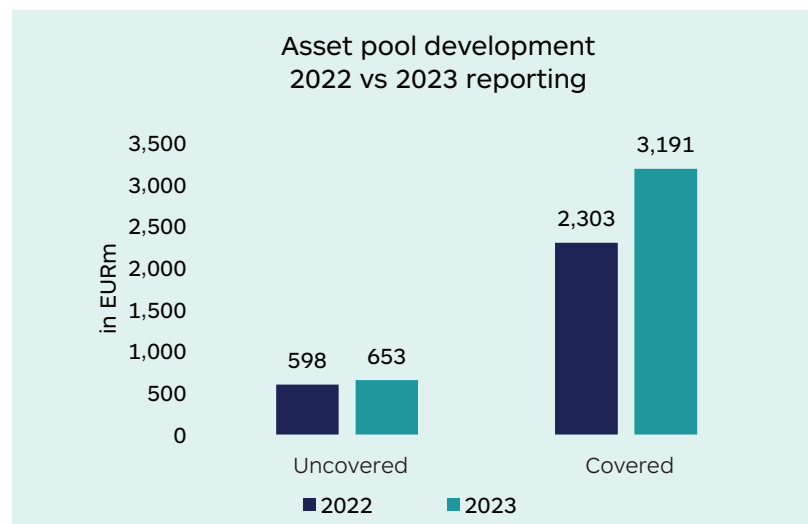


Green Loan Portfolio – Green Buildings



¹Energy performance certificate (EPC): min. level A, Sustainability certificate: BREEAM: Very Good or better, LEED: Gold or better, HQE: Very Good or better, DGNB: Gold or better

Green Loan Portfolio – Green Buildings



New financing vs. refinancing

	Total		Refinancing		New financing	
	Outstanding amount (EURm)	Buildings (number)	Outstanding amount (EURm)	Buildings (number)	Outstanding amount (EURm)	Buildings (number)
Portfolio as of 2022 reporting	2,900	228	2,745	213	155	15
Out	-408	-28	-367	-23	-41	-5
In	1,352	76	1,249	71	103	5
Portfolio as of 2023 reporting	3,844	276	3,627	261	217	15



Impact Reporting - Green Buildings

	Number of loans	Eligible amount (EURm)	Share of total project financing (%)	Average portfolio lifetime (years)	Savings per EURm financing in tCO₂/ (EURm *p.a.)	Annual energy saving of the portfolio (MWh p.a.)	Annual GHG emissions avoided (tCO₂)
Real Estate	276	3,843	65	4.01	10.68	134,520	41,062

Methodology

For the calculation of the CO₂ impact, NORD/LB only takes into account Green Buildings that are identified by an energy certificate with energy consumption information. In principle, NORD/LB calculates the energy saved by a Green Building by forming the difference between the energy demand or consumption and the selected benchmark. The current benchmarks are the average energy consumption values per asset class and target market.¹ The use of proceeds is described in the currently valid version of NORD/LB's Green Bond Framework².

Due to the availability of data in the target market Germany, the average energy consumption value of office buildings is used as a benchmark for all other commercial real estate asset classes. For residential buildings and hotels, however, there is a separate average energy consumption value and thus a separate benchmark for each.

Identification is country-specific on the basis of final or primary energy demand. The required data, including the average primary energy demand and the country-specific CO₂ intensity (emission factor), will be provided by Drees & Sommer. Drees & Sommer will update this data regularly. This will ensure that the Use of Proceeds are always in line with current market standards.

The energy saved by a building in kWh/m² p.a. compared to the respective benchmark is then multiplied by an emission factor that is specific to each target market and takes into account the amount of CO₂ needed to produce one kilowatt hour of energy. Then the annual CO₂ savings per square meter are multiplied by the total floor space of the building to determine the total emissions savings of the building per year. As it may be the case that NORD/LB only finances part of a building, the total emission savings of the green building are set in relation to the share of the initial financing volume of NORD/LB. In this way, only the emission savings to be offset against its share of financing are allocated to NORD/LB.

Calculation³

Germany

- a) Saving CO₂ per m² p.a. = Benchmark⁴ - (final energy demand heat building + final energy demand electricity building) * CO₂ intensity
- b) Annual GHG emissions avoided (in tCO₂) = Result from a) * Institute share * m²

All other countries

- a) Saving CO₂ per m² p.a. = Benchmark - (primary energy demand building or final energy demand building) * CO₂ intensity
- b) Annual GHG emissions avoided (in tCO₂) = Result from a) * Institute share * m²

¹ The benchmark values are provided by Drees & Sommer. Drees & Sommer is a leading European consulting, planning and project management company with a focus on real estate and infrastructure.

² https://www.nordlb.com/fileadmin/redaktion/Nachhaltigkeit/GreenBanking/NORDLB_Green_Bond_Framework_2022_June_2022.pdf

³ Calculation is based on internal data collected

⁴ Benchmark in kWh per m² p.a. , Energy consumption in kWh per m² p.a. , CO₂ intensity in kg CO₂ per kWh



7/ Green Loan Portfolio – Renewable Energy

“NORD/LB is a leading bank financing green and sustainable projects internationally with one of the biggest portfolios of renewable energy projects globally. The bank has entered this sector as a pioneer more than 25 years ago and offers a wide range of structuring and financing solutions. Our colleagues have a deep knowledge of the renewable energy sector in Europa, the Americas & Asia and are fully committed to support the transformation of the energy sector to achieve the ambitious goals necessary in our fight against global warming.”

Heiko Ludwig, Global Head Structured Finance & General Manager London Branch



Dunbeg Wind Farm

United Kingdom

42 MW total installed capacity



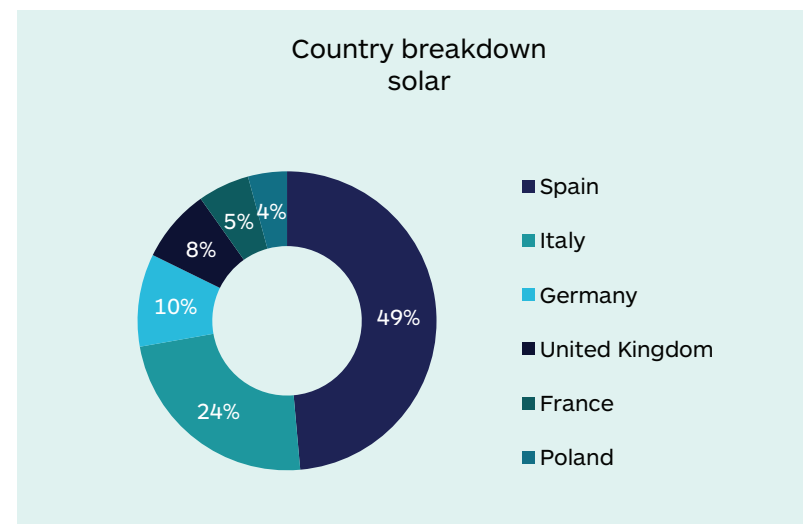
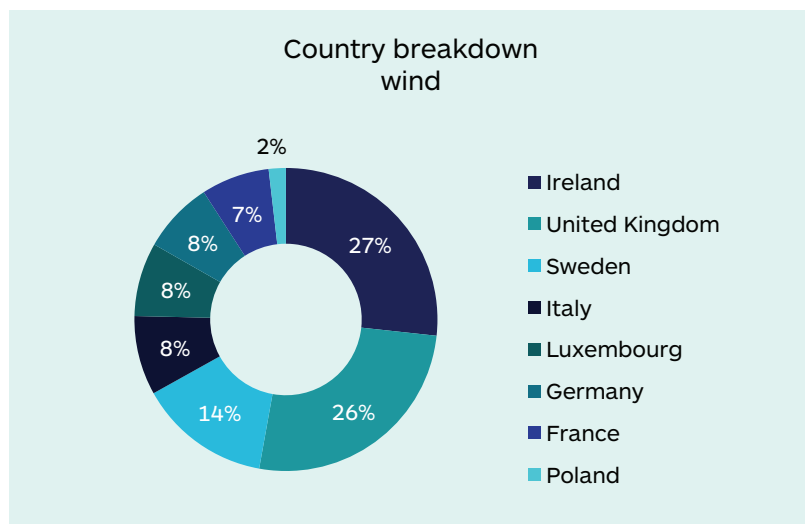
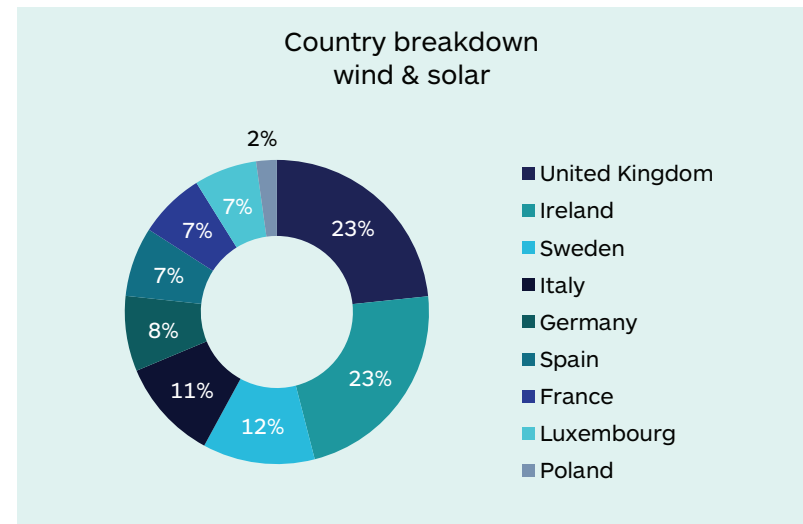
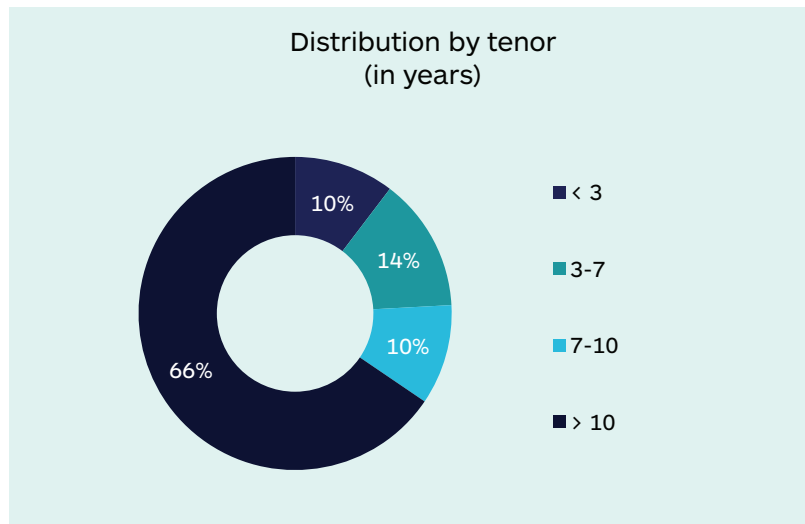
SERRALONGA ENERGIA S.R.L

Italy

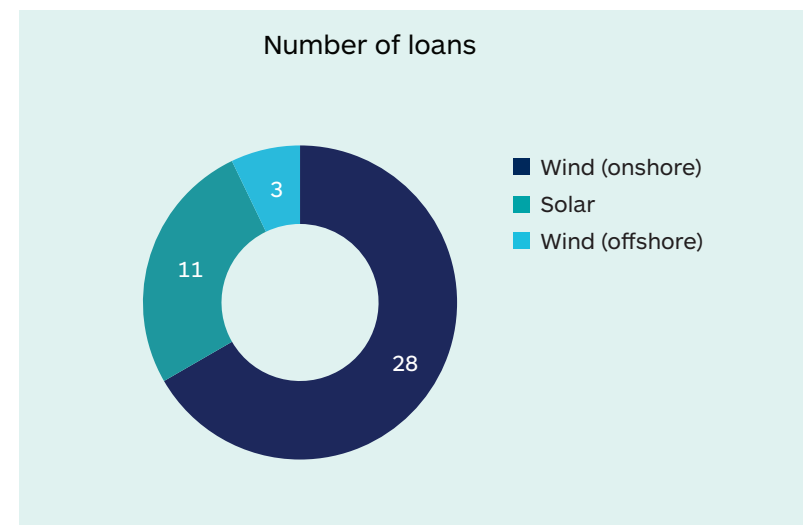
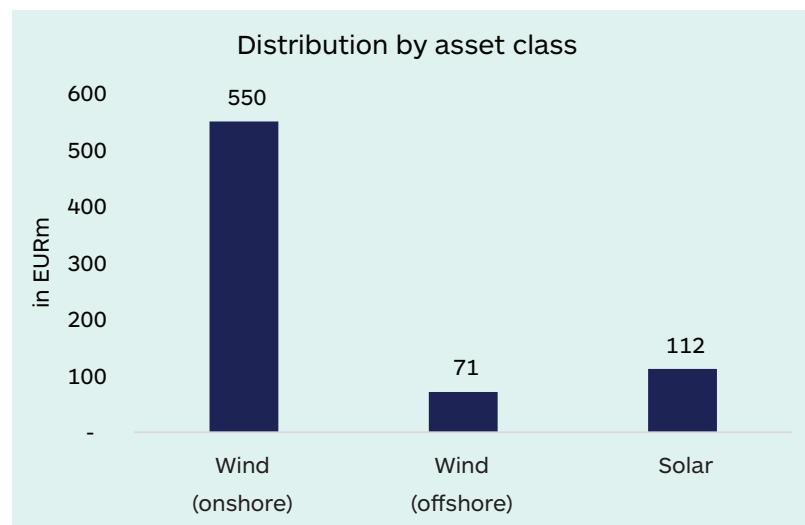
50.5 MW total installed capacity



Green Loan Portfolio – Renewable Energy



Green Loan Portfolio – Renewable Energy



New financing vs. refinancing

	Total		Refinancing		New financing	
	Outstanding amount (EURm)	Projects (number)	Outstanding amount (EURm)	Projects (number)	Outstanding amount (EURm)	Projects (number)
Portfolio as of 2022 reporting	-	-	-	-	-	-
Out	-	-	-	-	-	-
In	733	42	636	33	97	9
Portfolio as of 2023 reporting	733	42	636	33	97	9



Impact Reporting – Renewable Energy

	Number of loans	Eligible amount (EURm)	Share of total project financing (%)	Average portfolio lifetime (years)	Total installed capacity (MW)	Annual electricity production (MWh)	Annual GHG emissions avoided (tCO₂)
Wind	31	622	27	9.6	1,373	3,607,826	1,145,776
Solar	11	112	32	12.5	220	417,571	172,652
Total	42	733	28	10.1	1,593	4,025,397	1,318,428

Methodology

The aim of the impact reporting is to show the amount of CO₂ savings directly related to NORD/LB's green asset pool. The savings result from comparing the amount of energy generated from wind turbines or photovoltaic systems (MWh/year) to the national amount of CO₂ emitted per amount of energy generated (kg/MWh). With regards to CO₂ savings, only the share of the total financing of the respective investment plan/project that is directly attributable to NORD/LB is taken into account (as a percentage of the total financing). In addition, the loan documentation also regulates the use of funds, which specifies exactly for which financing purpose the respective equity and debt capital is to be used. The regulation of the source and use of funds thus forms an essential basis for the realization of the investment plan/project and serves as a starting point for determining the respective equity and debt capital ratios of all credit institutions involved.

Therefore, for all future impact reporting, the initially determined split (NORD/LB share in the total financing of the investment plan/project) will be used to determine the CO₂ savings.

The decisive factor for CO₂ savings is the efficiency of the respective wind turbine or photovoltaic system. The initial forecast for energy production is usually made by yield assessors in such a way that there is a 50% probability that its value will be exceeded (P50 = expected value of the statistical distribution). This expected value is given in megawatt hours (MWh) and forms the initial value within the impact calculation.

Calculation¹

- a) Annual electricity production = NORD/LB's initial financing share in % * annual expected energy production in MWh
- b) Annual GHG emissions avoided = a) * operating grid emission factor² in tCO₂/MWh

¹ Calculation is based on internal data collected

² IFI TWG - List of methodologies | UNFCCC | Operating Margin Grid Emission Factor, gCO₂/kWh (including for use in PCAF GHG accounting)



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Imprint

Norddeutsche Landesbank
– Girozentrale –
Friedrichswall 10
30159 Hanover
Tel: +49 (0) 511 361-0
kundenservice@nordlb.de
www.nordlb.com