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Kingdom of Denmark

Investor Presentation

Opening of the New Green Danish Government Bond

Twin Green Bond 10Y - DGB 2.25 per cent 15 November 2033 G

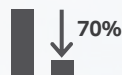


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Kingdom of Denmark (AAA) Twin Green Bond 10Y - DGB 2.25 per cent 15 November 2033 G

Denmark's Global Climate Action Strategy

*"Denmark shall be a green **frontrunner in global climate action** that inspires and encourages the rest of the world"*



Emission reductions by 2030



Climate neutrality by 2050

...by investing in cheap green power and strengthening the focus on adaptation and sustainable development:



Green energy



E-fuel



Green heavy transport

Best in class



1st place ([link](#))



1st place ([link](#))



3rd place ([link](#))

EARTH.ORG

2nd place ([link](#))

Kingdom of Denmark Green Bond Framework

The framework is intended to support the overarching climate goals and promote the continued development of the green financial markets. Under the framework, the use of proceeds is directed towards the two highest emitting sectors that have the highest compliance with the eligibility criteria:

Renewable energy

Support schemes for further development of the green energy transition



Clean transportation

Support the electrification of the Danish transport sector



Highest market standard



[The Green Bond Framework](#) is largely aligned with the **EU Taxonomy** and has sought to align with key elements of the proposed regulation on an EU GBS.

Aligned with the ICMA GBP.



Assessment of EU Taxonomy TSC alignment, including DNSH criteria.

Highest green rating

Dark green rating – the highest climate and environmental accreditation.



CICERO
Dark Green

Transparency



[Eligible expenditures](#) have a clear link to the government's Budget Act.



Yearly **impact** and **allocation report** with external review.

Kingdom of Denmark – an AAA-rated issuer with strong fundamentals and fixed exchange rate regime since 1982



AAA

Kingdom of Denmark

AAA-rated since 1986

Long track record of sound macroeconomic, fiscal and financial stability management, reform-orientated policies and low government debt

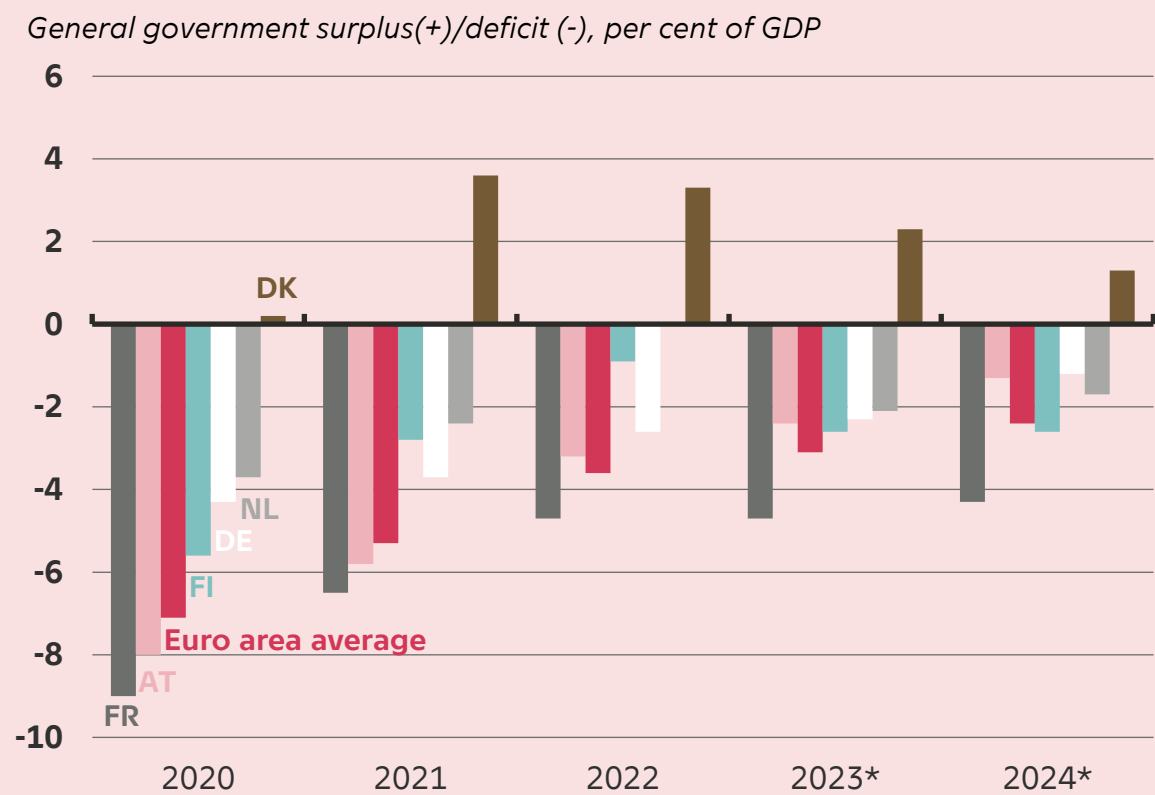
Fixed exchange rate regime vis-a-vis the euro

Monetary policy is used solely to maintain the currency peg – whereas fiscal policy is used to stimulate or contract the economy

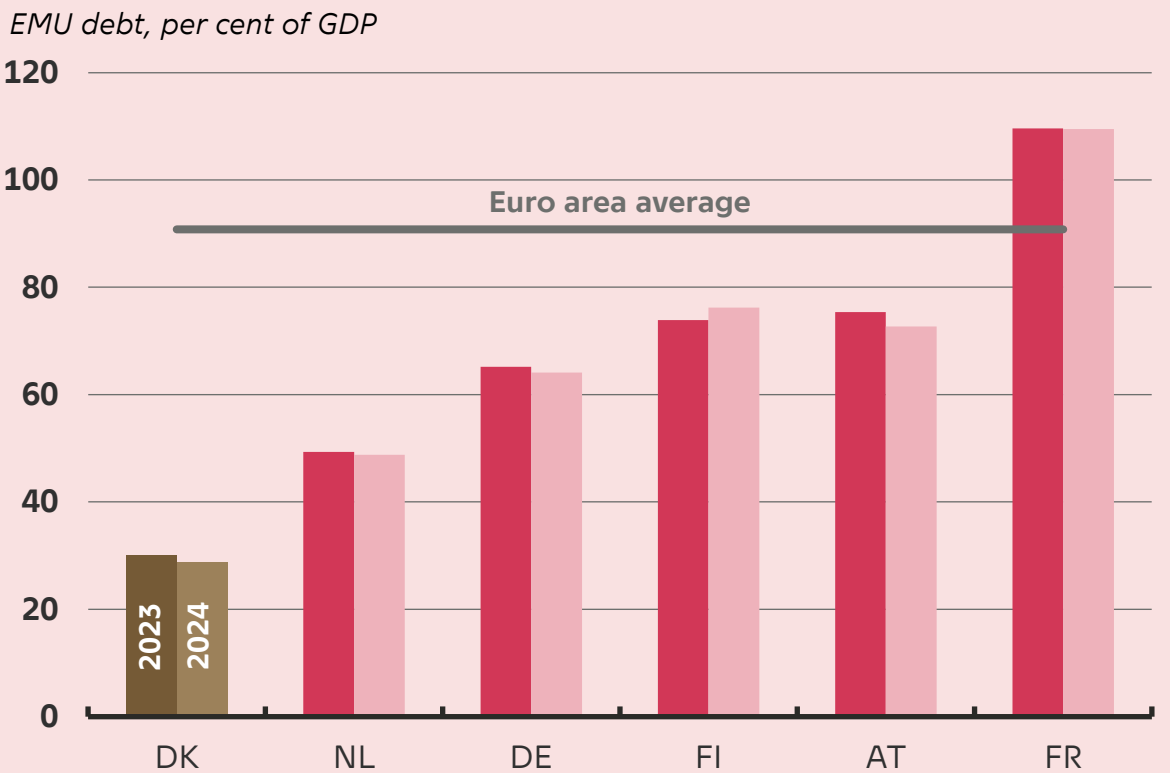
- Policy rates follow euro area policy rates closely
- Quantitative easing has not been used to stimulate the economy
- Very **high fiscal discipline** imposed by the peg has implied sound public finances and low debt

Denmark has strong public finances and a long track record of fiscal discipline

General government surplus...



... and low debt level compared to EU peers



Source: Eurostat and European Commission Economic Forecast, winter 2023.
Note: * Estimate based on the European Commission's Economic Forecast, winter 2023. General government comprises central government, state government, local government and social security funds.

Kingdom of Denmark's climate action and role in the green transition

Denmark has set ambitious goals for its own greenhouse gas emissions



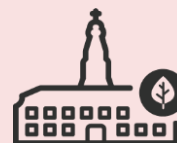
International climate commitments

Paris Agreement

Limiting the global temperature rise to
1.5 °C
compared to pre-industrial levels

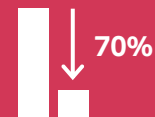
EU Green Deal

Reduction of greenhouse gas emissions by
55%
in 2030 compared to 1990 levels



National climate targets

Danish Climate Act



Emission reductions by
2030



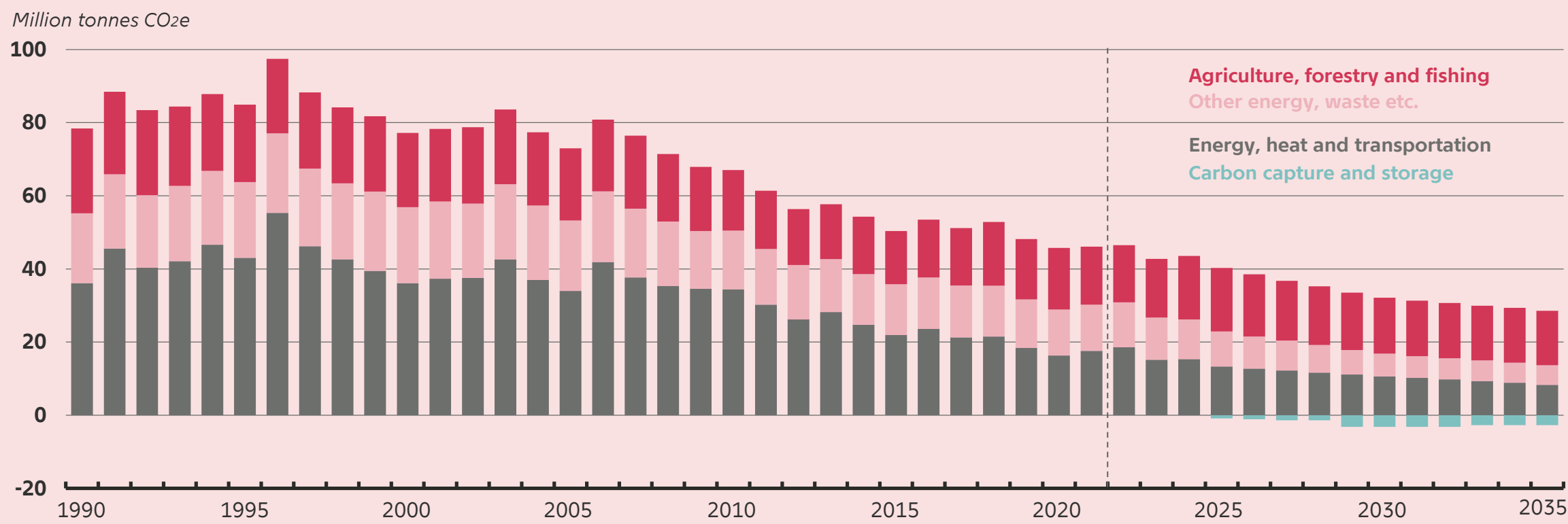
Climate neutrality by
2050

This deadline is supported by a concrete policy roadmap consisting of 24 initiatives, which forms part of the government's climate programme



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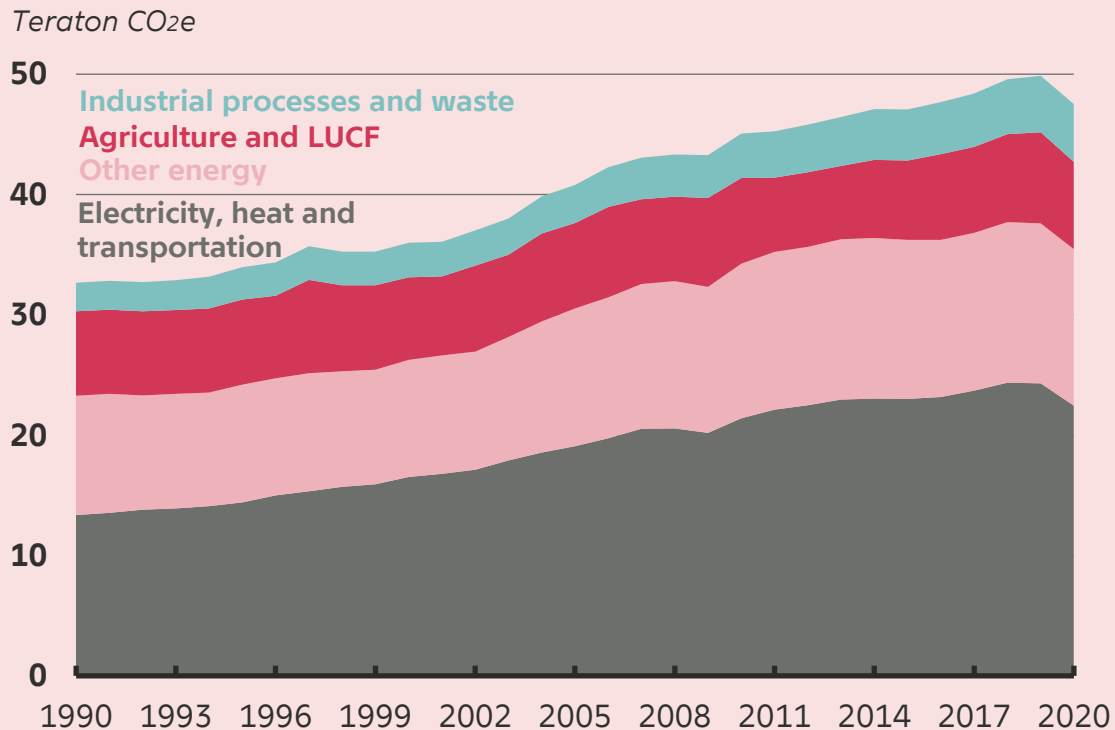
Greenhouse gas emissions have already been reduced by 41 per cent, compared to 1990 levels



Note: The chart covers all greenhouse gas emissions, measured in CO₂ equivalents. The years 2022-2035 are based on a “frozen policy” simulation.
Source: Denmark’s Climate Status and Outlook 2023, The Danish Energy Agency.

The best mark Denmark can leave on the climate is to enable other countries to transition

Denmark's emissions are invisible on a global scale, amounting to <0.1 per cent...



Note: The chart covers all greenhouse gas emissions, measured in CO₂ equivalents.
Source: Macrobond.

...yet Denmark can contribute to global abatement by developing green solutions

Global emissions continue growing due to a lack of:

- Marketable renewable energy sources
- Security of supply from weather-dependent renewable energy sources
- Electrification of air, sea and heavy-duty road transportation

DENMARK HAS DEVELOPED A STRATEGY:
POWER-TO-X

Denmark's Power-to-X strategy will develop e-fuels from excess solar and wind energy



Renewable energy

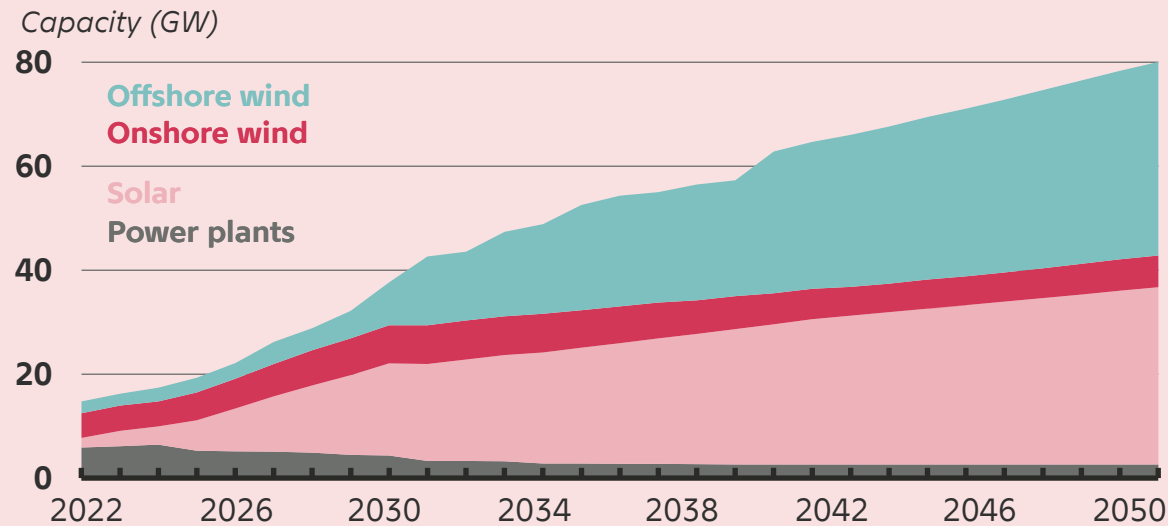


E-fuels



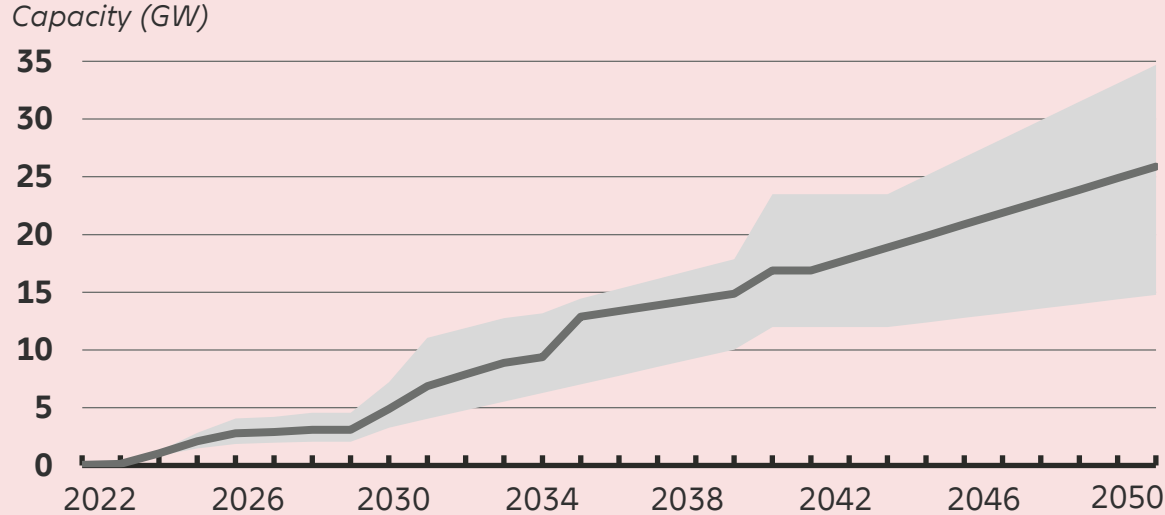
Green heavy transport

Low-cost solar and wind electricity is set to expand in the coming years



Note: The simulation is based on the long-term political climate goals for Denmark.
Source: Analytical Assumptions for Energinet 2022, The Danish Energy Agency.

Power-to-X technologies convert electricity into hydrogen and other e-fuels



Note: The simulation is based on the long-term political climate goals for Denmark.
Source: Analytical Assumptions for Energinet 2022, The Danish Energy Agency.

Kingdom of Denmark's Green Bond Framework and green issuance strategy

The Kingdom of Denmark's Green Bond Framework is intended to support the government's overarching climate goals



Motivation

The Green Bond Framework financially **supports climate sub-goals** within the energy and transport sector...

...**promotes the continued development of the green financial markets**...

...and adds critical mass with a high-quality **dark green** and **AAA-rated** green bond.

Follows the highest market standards








To support regulation that **enhances transparency**, which is essential for further growth of the green financial markets.

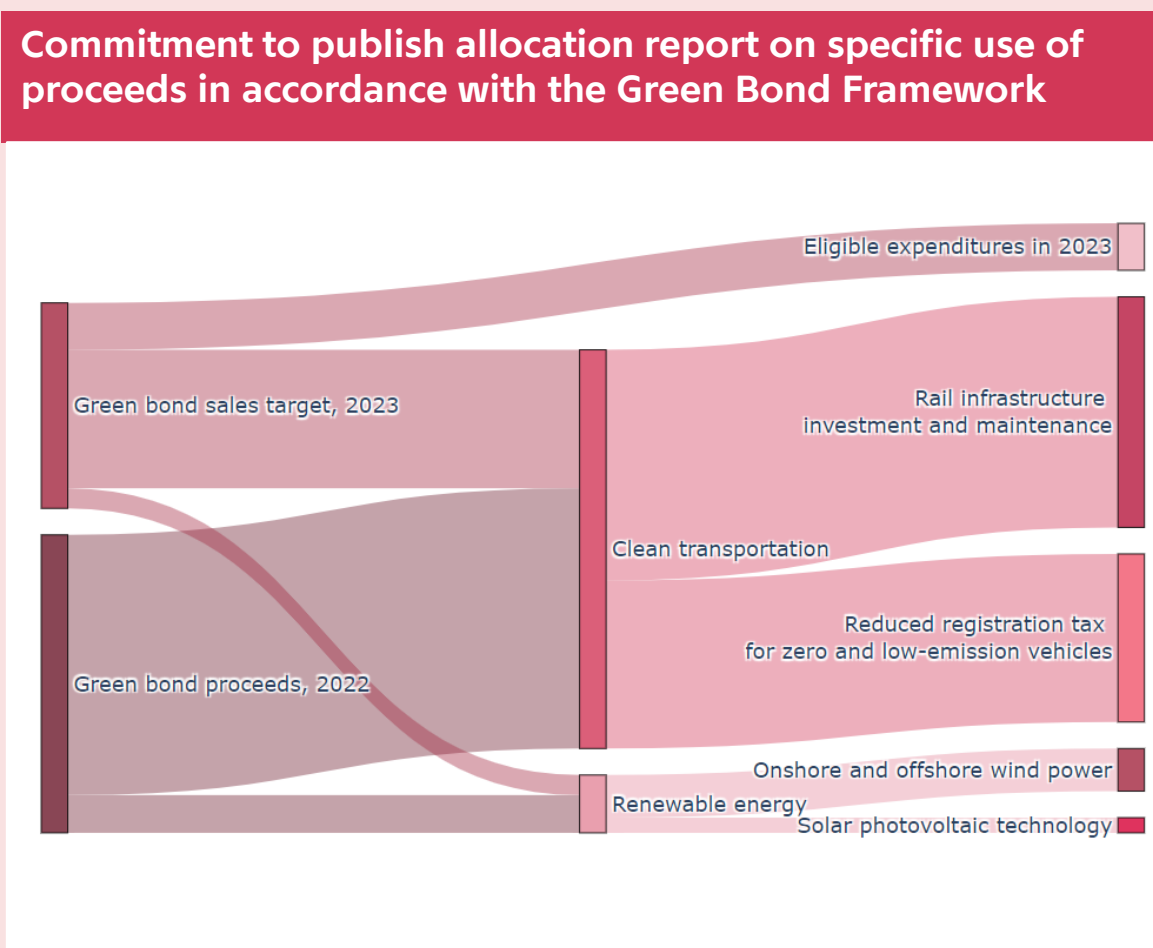
To establish a **best practice framework** which is at the forefront of regulation and can serve as guidance for other issuers in the market.

- ✓ **Dark green rating** of the framework, which is **largely aligned with EU Taxonomy**
- ✓ Assessment of **EU Taxonomy technical screening criteria alignment**, including **Do No Significant Harm criteria**
- ✓ Expenditures have a **clear link** to the government's Budget Act, overseen by the Inter-Ministerial Working Group that **ensures a strong governance structure**
- ✓ Yearly **allocation and impact reporting**



Maximizing impact: Use of proceeds is directed towards highest emitting sectors

Eligible Green Categories	EU Environmental Objective	Eligible Green Expenditures	UN Sustainable Development Goals
 Renewable Energy	Climate Change Mitigation	<ul style="list-style-type: none"> Subsidies for electricity generation from solar PV. Subsidies for electricity generation from onshore and offshore wind farms. Tax exemption for electricity generation from solar PV for self-consumption. 	 
 Clean Transportation	Climate Change Mitigation	<ul style="list-style-type: none"> Maintenance and renovation of the rail infrastructure. Rail infrastructure investment projects, including electrification. Tax exemption for zero and low emission vehicles. 	  



Denmark will continue to issue in the new green bond into 2024

Planned issuance under the Green Bond Framework

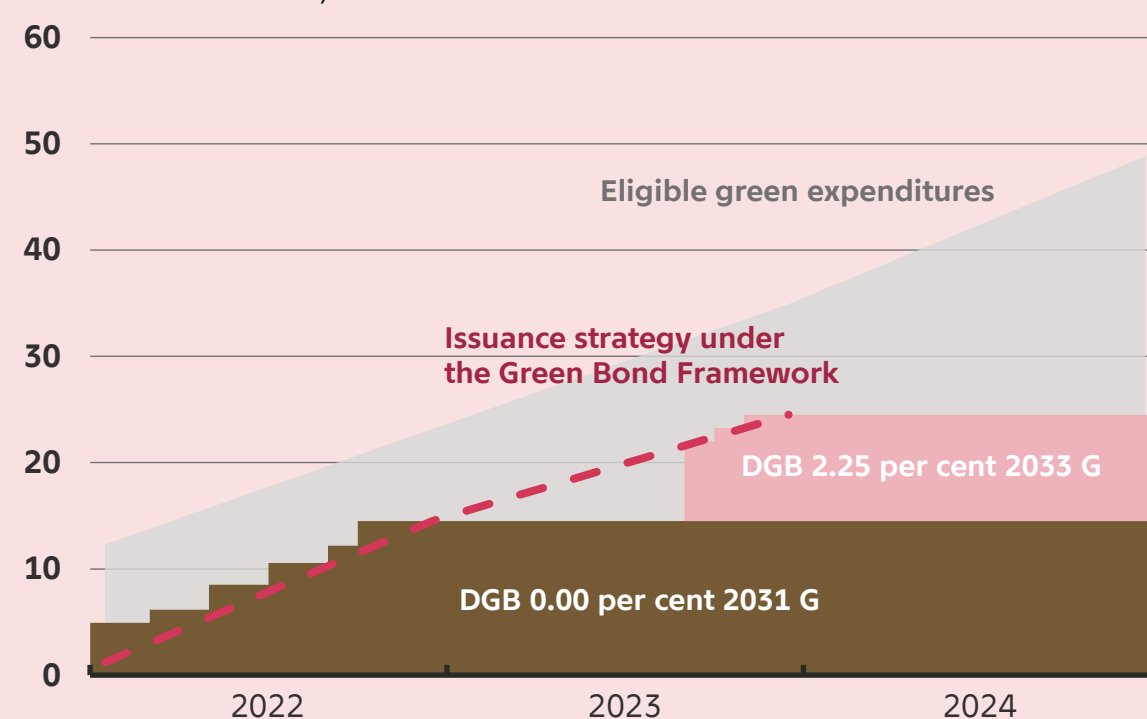
Total sales target of green bonds amounts to **maximum kr. 10 billion** at market value in 2023.

Benchmark size will be issued at the opening syndication. The remaining issuance volume will be issued via the auction programme.

The 2024 budget proposal includes an estimated **kr. 14 billion additional eligible green expenditures**

This will bring the total outstanding amount under the framework to **kr. 25 billion by 2023**

Accumulated issuance, kr. billion



Source: Danmarks Nationalbank.

Transaction preview: Kingdom of Denmark (AAA) Twin Green Bond 10Y - DGB 2.25 per cent 15 November 2033 G

Key transaction facts

Issuer:	Kingdom of Denmark
Issuer ratings:	AAA/AAA/Aaa, stable (S&P, Fitch, Moody's)
Format:	Green 10-y, Benchmark
Second Party Opinion:	Dark green (Cicero)
Opening:	Via syndication
Sale at opening:	Benchmark size
Nominal twin bond:	10-y DGB 2.25'2033 (ISIN DK0009924532)
Maturity:	15 November 2033
Denomination:	Danish kroner
Coupon:	2.25 per cent, annual
ISIN:	DK0009924615
Listing:	Nasdaq Copenhagen
Law:	Danish law

Joint lead managers

Danske Bank, J.P. Morgan, Nordea, SEB

Co-leads

BNP Paribas, HSBC, Morgan Stanley, Nykredit

Twin bond concept provides clear benefits

Enhanced liquidity

Investors can, at any time, **switch the 10-year green twin bond** to the corresponding and **more liquid** conventional 10-year twin bond **one-to-one**.

Investors will not be able to switch the conventional twin bond to the corresponding green twin bond.

Enhanced price transparency

The corresponding conventional twin bond acts as a clear reference.

The green twin bond provides enhanced value from:

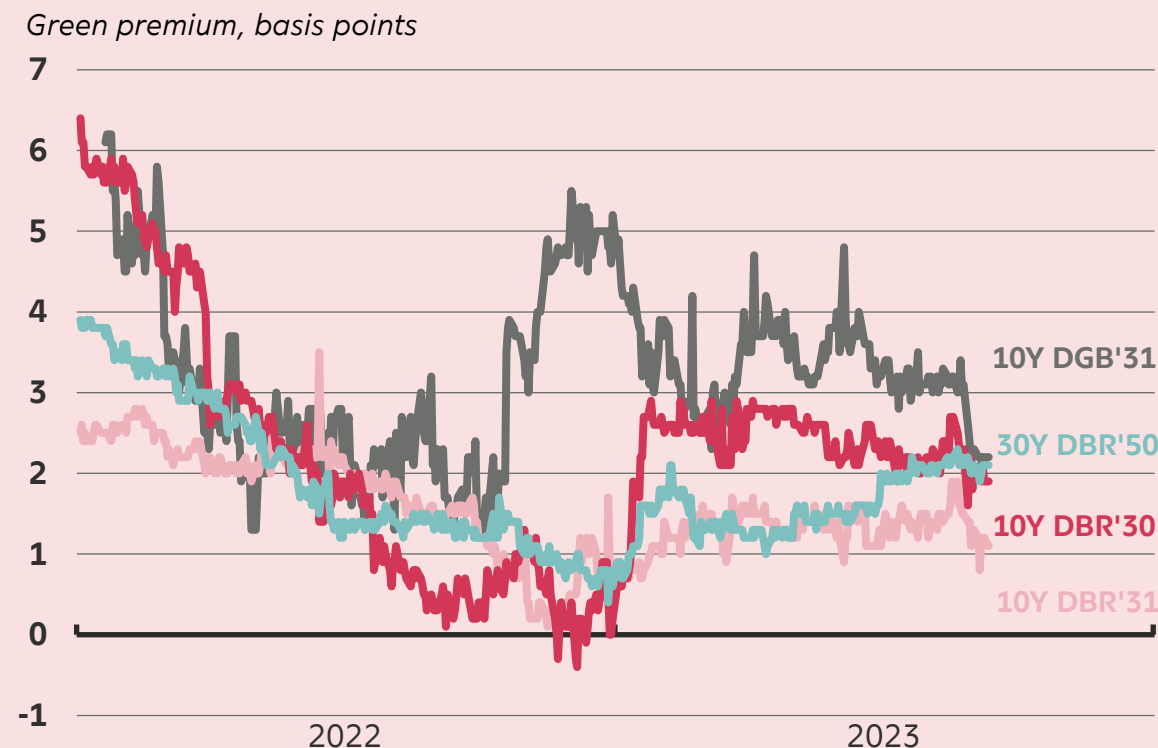
- Green spending commitment
- Commitment to provide transparent reporting on the use of proceeds and on the environmental benefits.



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Opening of our inaugural green bond in January 2022 was met with overwhelming demand

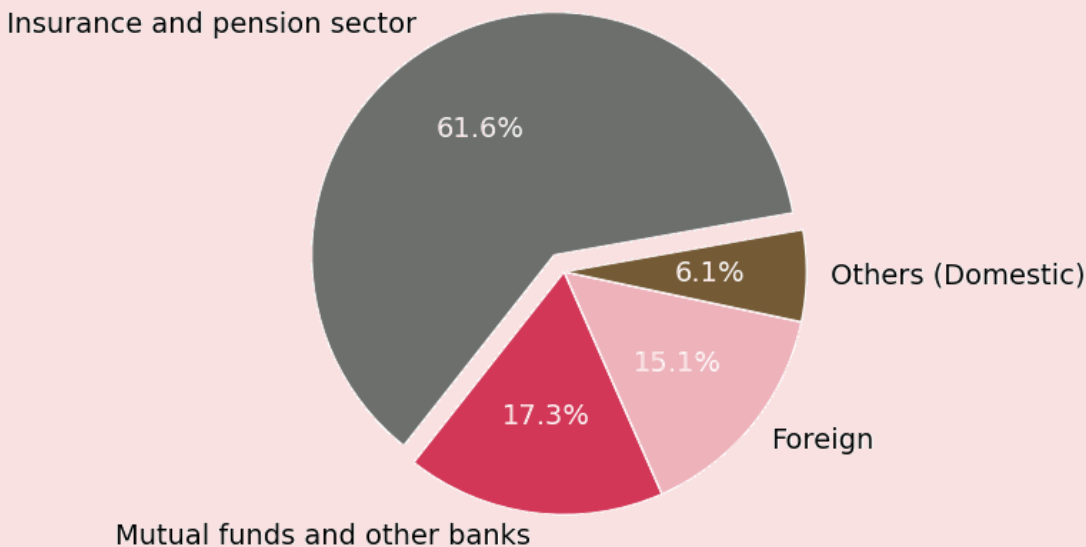
Investors' willingness to pay a green premium on green Danish government bonds remains high



Source: Bloomberg.

Note: The green premium is calculated as the yield on the conventional twin bond less the yield on the green bond. Last observation 8 September 2023

Inaugural green bond had strong demand from the domestic insurance and pension companies



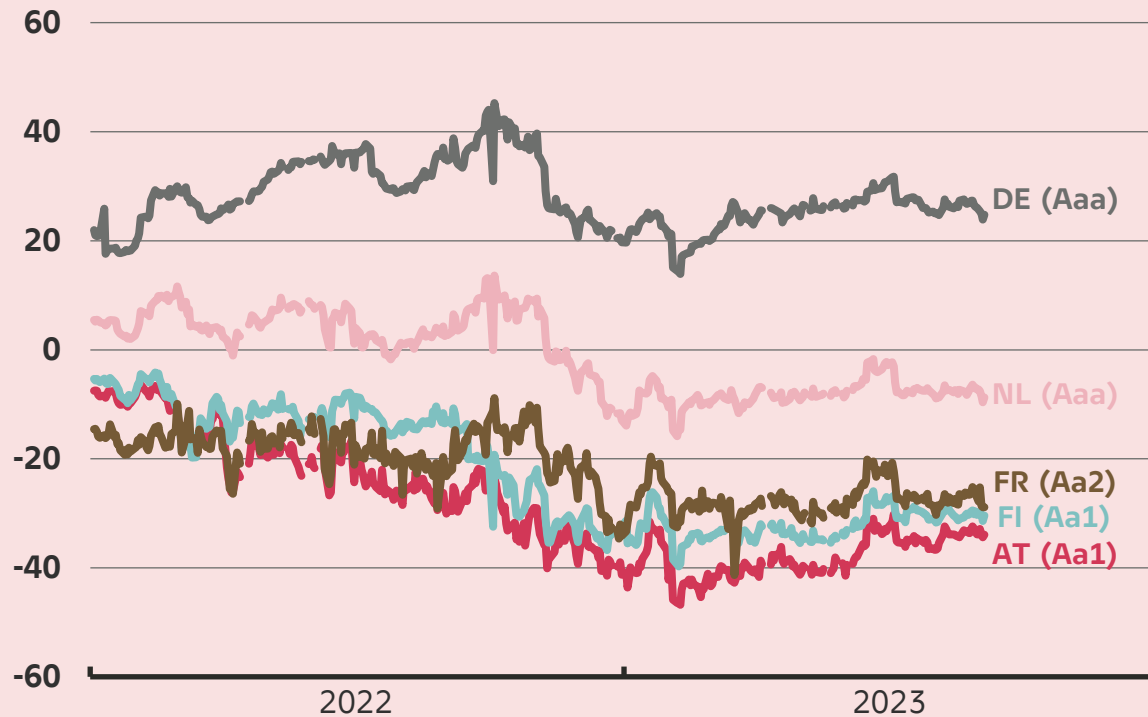
Source: Danmarks Nationalbank.

Note: The chart shows ownership shares of the inaugural green bond (DGB G 0.00 per cent 2031) at the end of July 2023. Details may not add up because of rounding.

Danish government bonds offer diversification and a yield pick-up compared to Germany

10-year bonds offers an attractive yield pick-up to Germany in addition to diversification...

Yield pick-up to peers, basis points



Source: Nordea Analytics.

Note: The 10-year tenor par yield spreads are used. Last observation 8 September 2023. Ratings are based on Moody's.



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...with the possibility to gain a further yield pick-up via the EURDKK FX hedging for EUR-based investors

Annualised value, basis points



Source: Bloomberg.

Note: FX forward is converted to a basis point p.a. yield compared to the spot rate of EURDKK at 3M FX forward. Last observation 8 September 2023.

Economic outlook and general funding strategy for the Kingdom of Denmark

Strong economic fundamentals

The Danish economy is well equipped in uncertain times

Digitalised economy that provide basis for a relatively efficient and responsible policy response

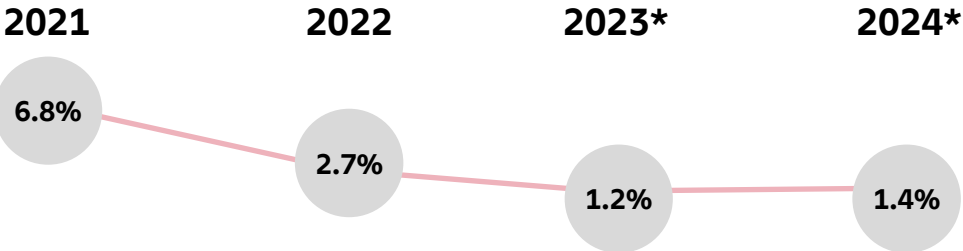
A flexible labour market and low unemployment

Less cyclically sensitive exports than neighbouring countries

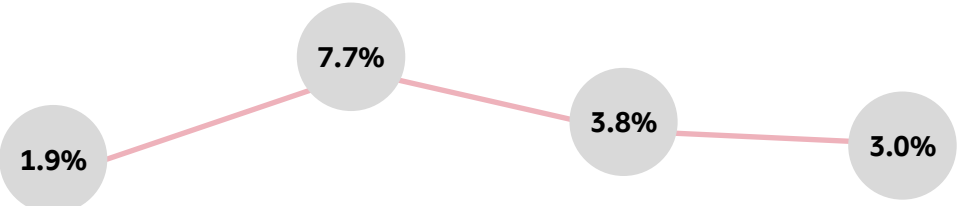
A creditor nation with large current account surplus



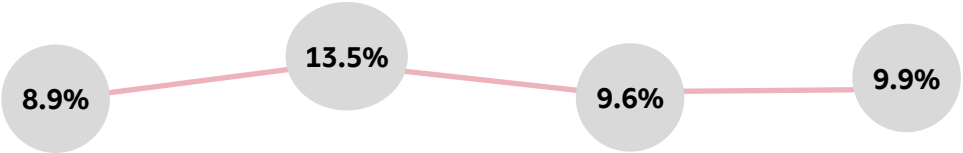
GDP growth



Inflation



Current account surplus, per cent of GDP



Source: Estimate based on the Ministry of Finance, Economic Survey, August 2023.

Kingdom of Denmark – Issuance Strategy 2023

Key strategic pointers for 2023

The target for **bond issuance in 2023 is set at kr. 65 billion** (approx. 2.5 per cent of GDP).

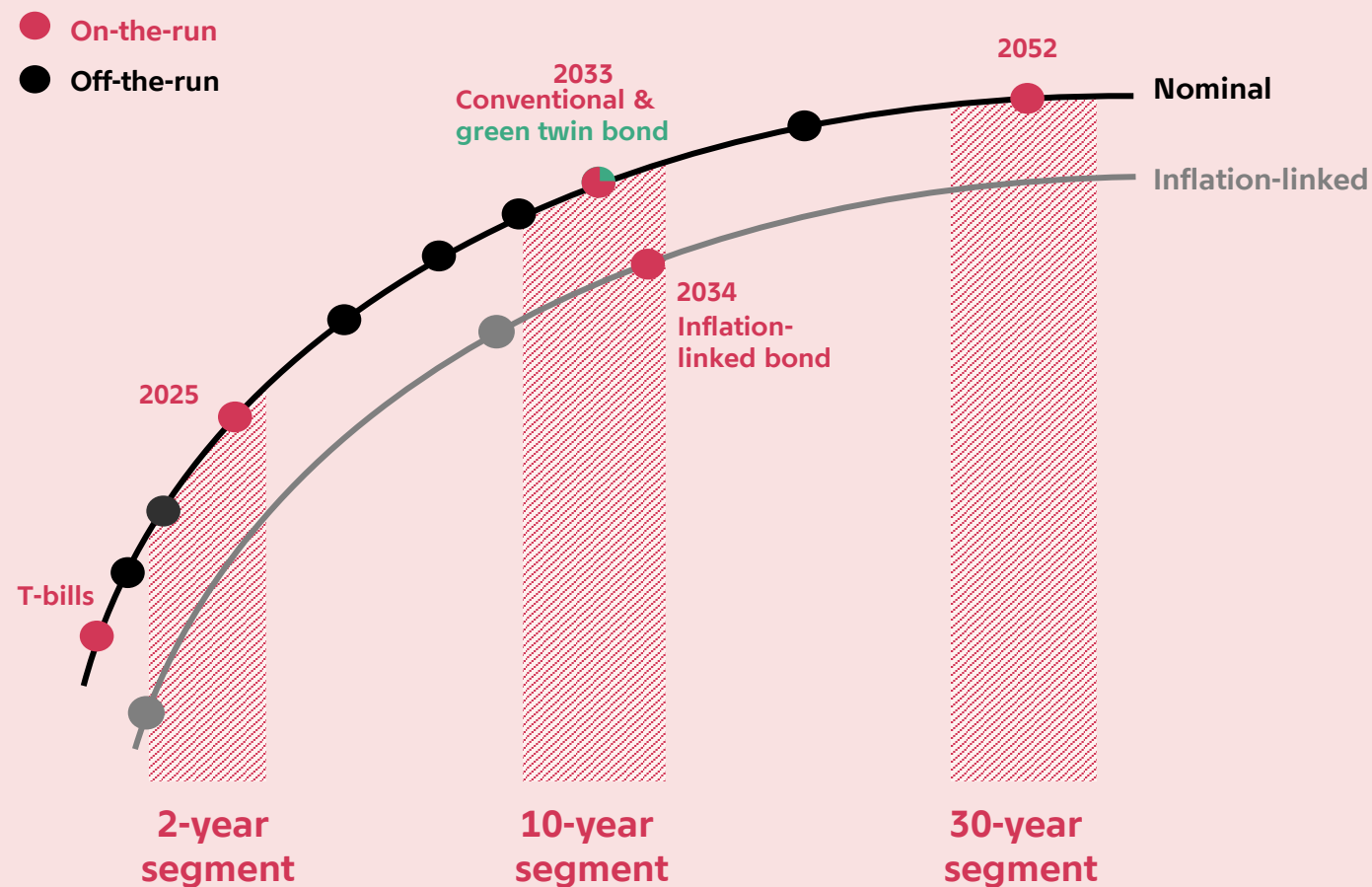
The Kingdom of Denmark has planned issuance of **additional kr. 10 billion under the Green Bond Framework** in the 2nd half of 2023.

To maintain the government's **strong access to foreign funding markets**, a yearly issuance in the EMTN programme is expected.

Borrowing requirement	Kr. billion
Net financing requirement	-14
Net purchase of social housing bonds	18
Redemption of bonds etc.	87
Redemptions, short-term debt	16
Financing requirement	107
<hr/>	
Strategy for financing	
Issuance of government bonds	65
Sale of T-bills and CP	35
Sale of EMTN	12
Government account	-5
Financing	107

Note: Based on the Ministry of Finance's Economic Survey, August 2023.

Issuances are concentrated in core maturity segments



Nominal curve until 30-year

- Issuance concentrated in 2-year and 10-year benchmark bonds
- New 10-year bond opened every 2nd year
- Regular issuance in 30-year bonds
- T-bill programme

Green twin bond launched this year

- Follows the twin bond principle introduced by Germany
- Dark green rating and largely aligned with the EU Taxonomy

Inflation-linked programme

- Expected new opening every 4th year. Target of outstanding volume in the programme of kr. 40-60 billion
- Linked to the Danish consumer price index (CPI)

Danish government bonds have many attractive characteristics



Liquid benchmark series

The 2-year and 10-year nominal bonds are built to a liquid benchmark size. Target for the 10-year bond is minimum kr. 75 billion (EUR 10 billion).

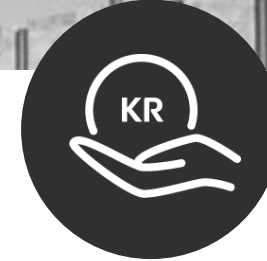
Market liquidity is supported through switch auctions and regular buy-backs in the secondary market.



Substitution to euro core

Danish government bonds offers an attractive diversification to core euro countries due to the high yield correlation.

Recently, the FX hedge also offers an attractive yield enhancement for euro investors.



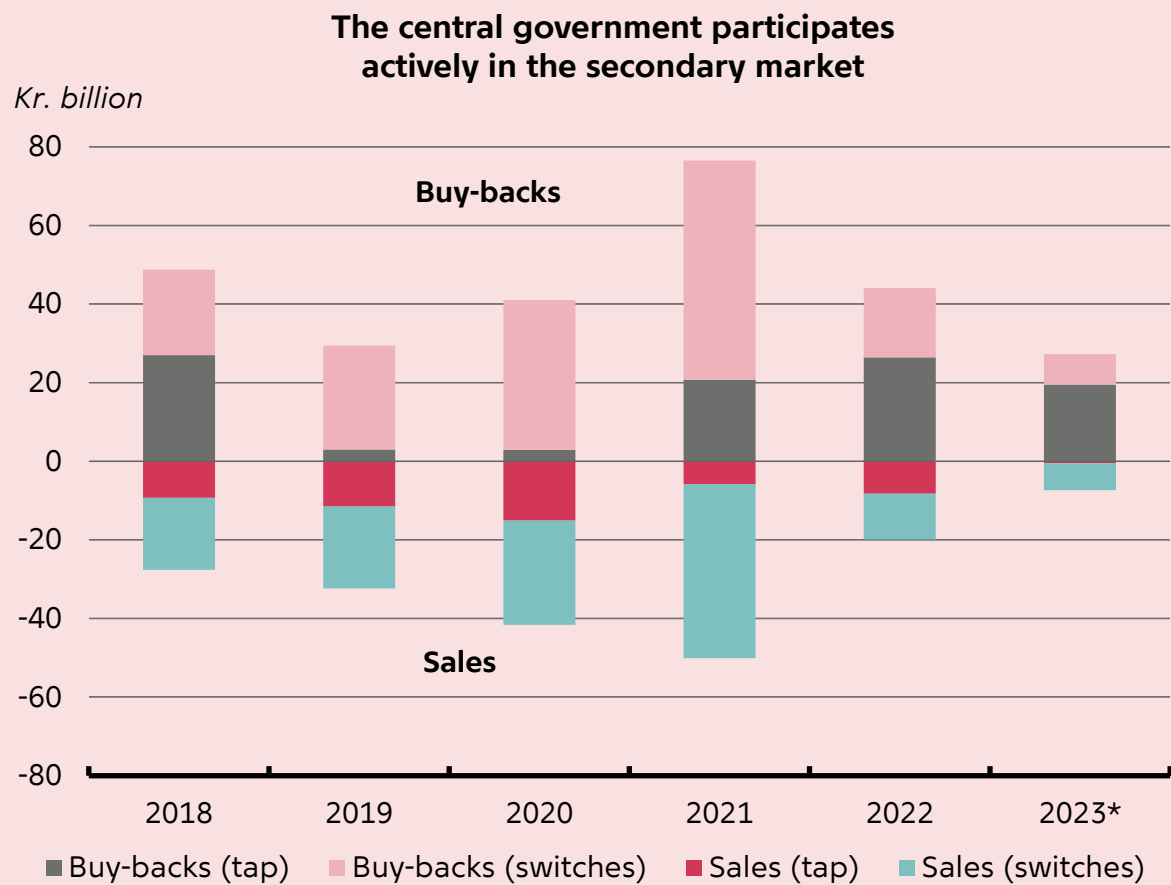
Broadly accepted as collateral

Danish government bonds are broadly accepted as collateral. For example, they can be posted as IM at both LCH and Eurex Clearing.

In addition to the usual haircuts, LCH applies a 0.1 per cent currency haircut if DKK bonds are posted against euro exposure.

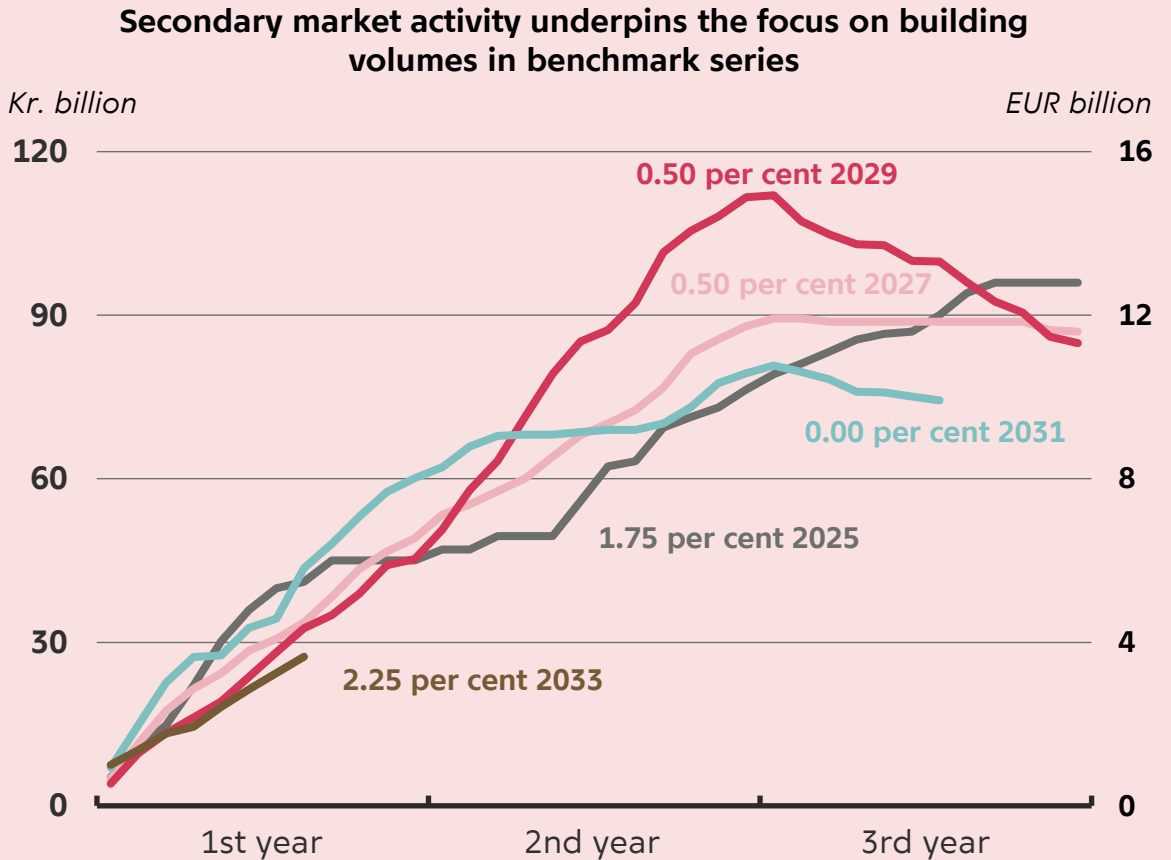
Liquidity in the conventional Danish government bonds

The central government supports liquidity in secondary market



Source: Danmarks Nationalbank.

Note: The chart shows secondary market activity in 2023 till the end of August 2023.

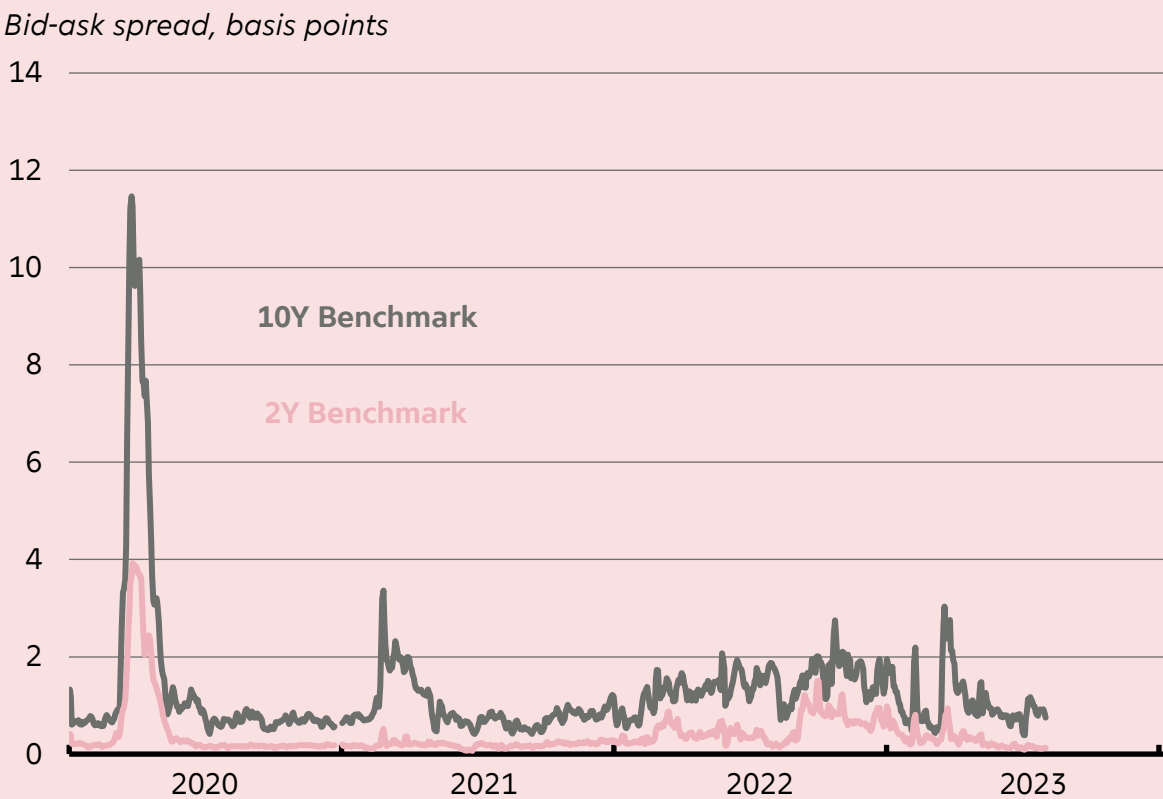


Source: Danmarks Nationalbank

Note: The chart shows the past nominal build up of DGB 10-year benchmark series within the first three years of issuance.

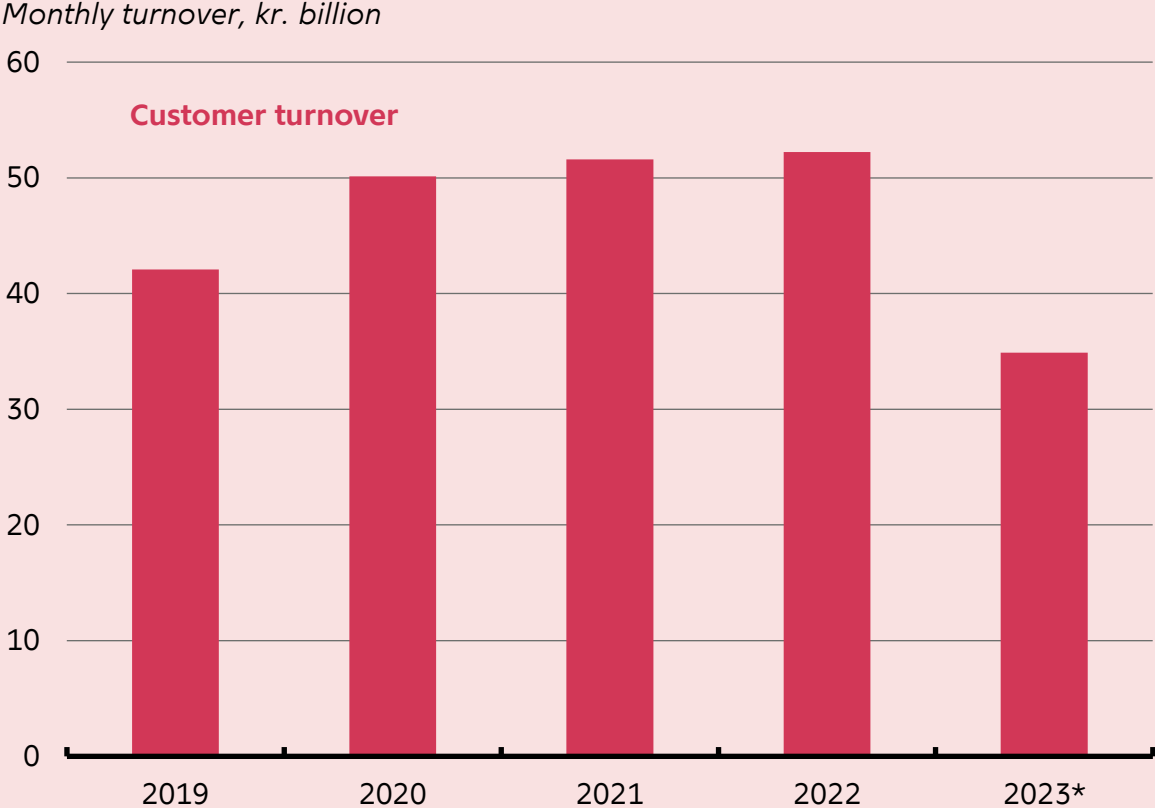
Low bid-ask spreads and stable turnover during volatile times

Inter-dealer spreads have increased, but remain modest...



Source: MTS Denmark.

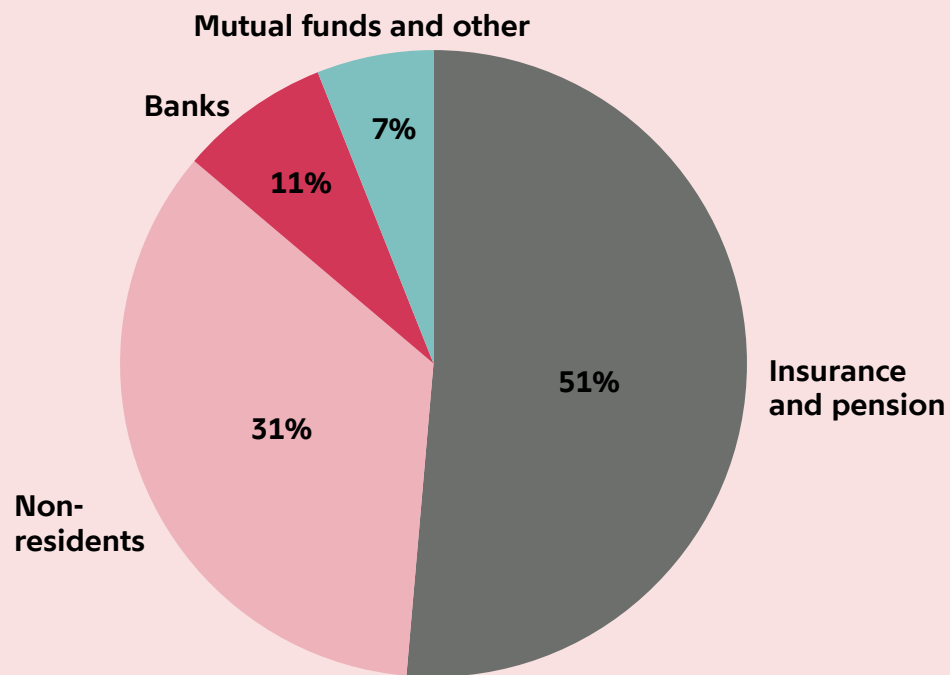
...and the turnover has remained stable through a volatile period



Source: HRF data from the primary dealers in Danish government bonds.
Note: The chart shows turnover with customers. Data for 2023 till the end of July 2023.

Danish government bonds have a large domestic investor base

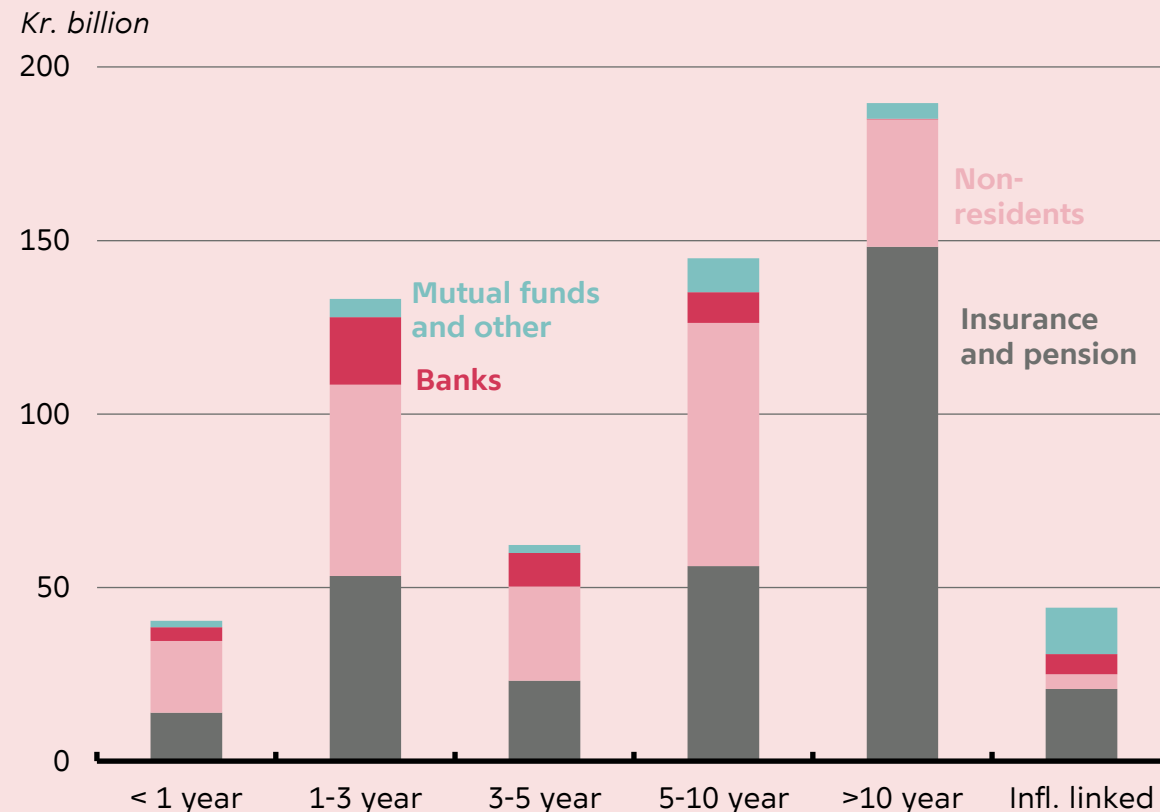
...where the Danish insurance and pension sector owns the largest share



Source: Danmarks Nationalbank

Note: The chart shows ownership shares of the Danish government bonds at the end of July 2023.

...and foreign investors and domestic banks are more active in the shorter tenors



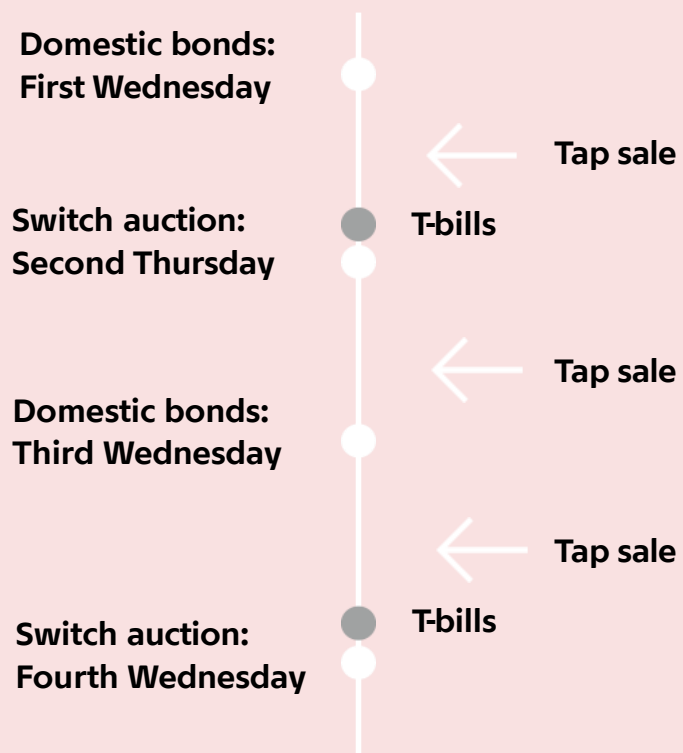
Source: Danmarks Nationalbank

Note: The chart shows ownership shares of the Danish government bonds at the end of July 2023.

Other information

How to buy DKK-denominated government securities?

Regular auctions of government bonds



Auctions

Issuance method: Auctions supplemented with tap sale directly in the secondary market.

Bond auctions: Bi-weekly auction. Investors can participate via primary dealers.

T-bill auctions: Twice a month.

Switch auctions: Bi-weekly auction. Offers the possibility to exchange existing securities to new on-the-run securities at market prices.

Domestic bonds

Official listing: Nasdaq Copenhagen

Governing law: Danish Law

Clearing: VP Securities, Euroclear and Clearstream (All primary dealers provide custody services)

Settlement: Standard is T+2

Trading on: Main trading platforms

Inter-dealer: MTS Denmark and NEX Brokertec

Dealer-to-customer: Bloomberg, BondVision and TradeWeb

Eligible as collateral: LCH and Eurex Clearing

Primary dealers in Danish government securities

Government bonds

BNP Paribas
Danske Bank
HSBC
J.P. Morgan
Morgan Stanley
Nordea
Nykredit Bank
SEB

Treasury bills

Danske Bank
Nordea
Nykredit Bank
SEB

ECP programme

Bank of America Merrill
Lynch International
Barclays Bank
UBS
Citigroup
ING Bank
Rabobank

USCP programme

Bank of America Merrill
Lynch International
Barclays Bank
Citigroup
J. P. Morgan
Goldman Sachs & Co.

Contact information

Principal Treasury Manager

Simon Hajaj Ruby Harmat
+ 45 3363 6168
skh@nationalbanken.dk

Head of Monetary Policy Implementation and Government Debt

Kristine Rasmussen
+ 45 3363 6117
krr@nationalbanken.dk

Strategy, Funding and Investor Relations Debt Management Office

Grp_BM_Statsgaeld@nationalbanken.dk
www.governmentdebt.dk

Danmarks Nationalbank

Langelinie Allé 47
DK-2100 Copenhagen Ø



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Where to find information on Danish government securities

General information at <http://www.governmentdebt.dk>.

Here you can also find:

- [Auction calendar](#) with preliminary auction dates for the next three months.
- Auction [results](#).
- All DMO transactions on a daily basis, including [issuances](#) and [buy-backs](#).
- [Liquidity forecast](#) of government payments. On the second last banking day of each month, Danmarks Nationalbank publishes its liquidity projection providing an overview of the expected changes in the DKK liquidity over the coming two months.
- The central government [borrowing strategy](#). The strategy for the coming year is announced in December and is updated in June each year.
- [Terms](#) for the central government's securities lending facility.