SustainaWeekly

Sharply lower GHG emissions in Q1 2022 in the Netherlands

- **Economics Theme: Greenhouse gas (GHG) emissions decreased year-on-year in the first quarter of 2022, partly due to high gas prices, higher average temperatures and more sustainability measures. In almost all sectors, GHG emissions decreased in the first quarter of 2022 compared to 2021, except in the mobility sector where the increase in emissions remains stable.**

- **ESG Bonds: DSTA reopened its inaugural green bond, which is fully aligned with the updated EU Taxonomy on the 14 June. There was strong investor demand for the green DSL with final book size of almost EUR 14bn. Almost one-fifth of the deal went to dedicated green investors.**

- **Company & Sector news: The mobility sector in the Netherlands is responsible of 18% of total greenhouse gas emissions. Road transport is emitting around 85% of GHG emissions of mobility. Cars are the biggest emitter of road transport. Even though cars will do the heavy lifting in reducing emissions, the mobility sector needs to reduce another 5.6 megaton greenhouse gasses to meet the target of the new government for 2030.**

- **ESG in figures: In a regular section of our weekly, we present a chart book on some of the key indicators for ESG financing and the energy transition.**

In this edition of the SustainaWeekly, we start by the latest emission data from the Netherlands. Annualised greenhouse gas emissions decreased in Q1 2022. The Netherlands has a low share in total greenhouse gas emissions but a relatively high CO2 emission intensity. We go on to the reopening of the green Dutch State Loan which was a success. Meanwhile, we look into the emissions for the mobility sector in the Netherlands. Cars are the biggest emitter of road transport and will also do the heavy lifting in reducing greenhouse gas emissions. But the other categories in the mobility sector also need to reduce emissions to meet the government target.

Enjoy the read and, as always, let us know if you have any feedback!

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Higher costs for gas and less heating demand reduced Dutch greenhouse gas emissions in the second quarter of 2022

Casper Burgering – Economic Transition Economist | casper.burgering@nl.abnamro.com

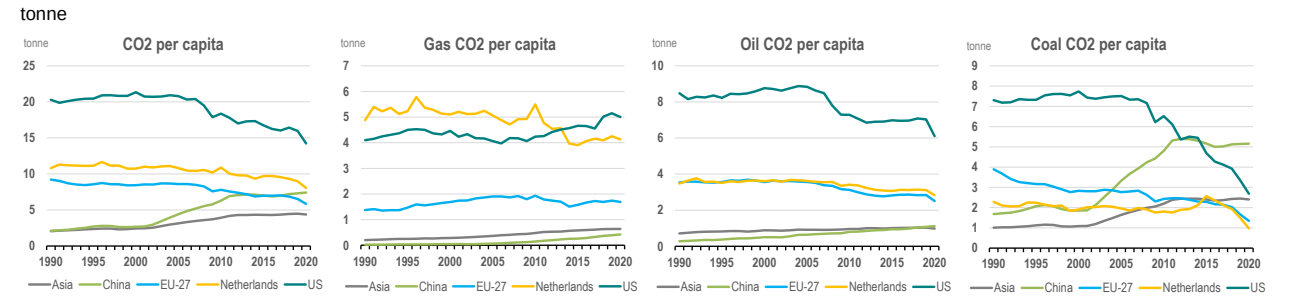
- **Despite its low share in total greenhouse gas emissions, the Netherlands has a relatively high CO2 emission intensity**
- **Dutch per capita CO2 emissions in the period 1990-2020 are on average over 30% higher than the EU average**
- **Greenhouse gas emissions fell year-on-year in the first quarter of 2022, partly due to high gas prices, an average higher temperature and more sustainability measures**
- **Annualised greenhouse gas emissions decreased in the first quarter of 2022 in almost all sectors, except for the mobility sector where the level of growth in emissions remains stable**

High Dutch CO2 emission intensity

At the beginning of March this year, the International Energy Agency (IEA) reported that energy-related CO2 emissions increased by more than 2 billion tonnes (or 6%) in 2021, to 36.3 billion tonnes. It was the largest annual increase ever in absolute terms. According to the first provisional emission figures of the UN Intergovernmental Panel on Climate Change (IPCC), CO2 emissions in the Netherlands increased by 2.1% in 2021. This is still well below the global average of 6%, but after almost six years of emission reductions, it is a disappointing change in trend.

All countries - large and small - must play their part in the emission reduction process towards 2050. This includes the Netherlands, even with its modest share of 0.5% in global emissions. But despite this low share, the Netherlands has a relatively high CO2 emission intensity. For example, its CO2 emissions per capita in the period 1990-2020 are on average more than 30% higher than the EU average. After the financial crisis of 2008-2009, CO2 per capita did fall slightly, but the difference with the EU average has continued to increase since then.

CO2 emissions-intensity by country



Source: Our World in Data, ABN AMRO Group Economics

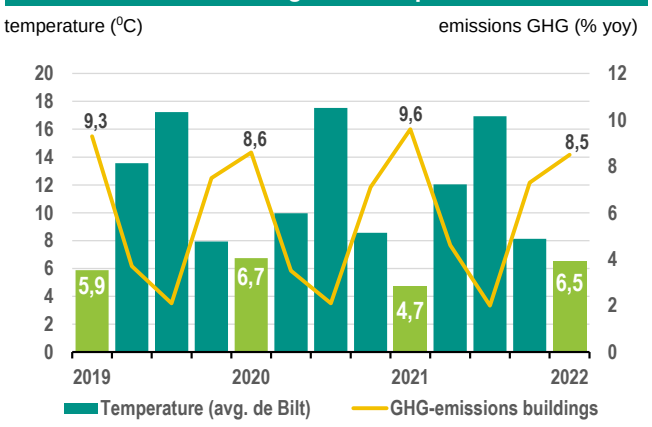
In 2020, the Netherlands emitted about 8.06 tonnes of CO2 per capita. This amount of GHG emission per Dutch citizen is higher than the GHG emission per capita in Asia. The IPCC's preliminary emission figures show that the Netherlands has emitted 167.8 billion kilograms of CO2 equivalents in 2021, of which 141.5 billion kilograms will be CO2. This converts to 8.1 tonnes of CO2 per person. A slight increase of 0.5% compared to 2020.

Among the more specific energy-related CO2 emissions, the high CO2 per capita related to gas is particularly striking in the Netherlands. This was considerably higher than the gas CO2 per capita in the US until 2013 and far exceeds the EU average. In the case of oil and coal-related CO2 per capita emissions, the Netherlands scores equal to or just below the EU average over the past five years. In these two indicators, two countries stand out. The US has particularly high per capita CO2 emissions related to oil and had the same in coal. But since the financial crisis of 2008-2009, the coal emission intensity in the US has decreased more sharply, while the rise and economic development of China has increased the coal emission intensity significantly.

Less emissions, more economic activity

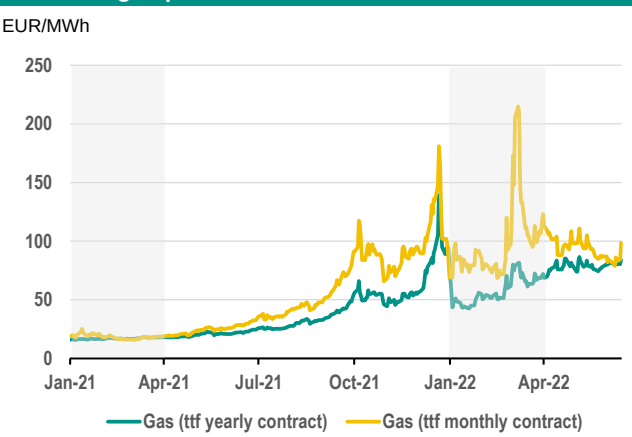
Last week, Statistics Netherlands (CBS) reported an 11% year-on-year decrease in greenhouse gas emissions in the first quarter of 2022. This is in spite of a stronger increase in economic activity, which normally goes hand in hand with higher emissions. The reason for the decrease is said to be mainly due to lower natural gas consumption, partly due to high natural gas prices and the relatively warmer weather in the first quarter of 2022 compared to the same period last year.

GHG emissions buildings and temperature



Source: CBS, KNMI, ABN AMRO Group Economics

Trends in gas prices



Source: Refinitiv, ABN AMRO Group Economics

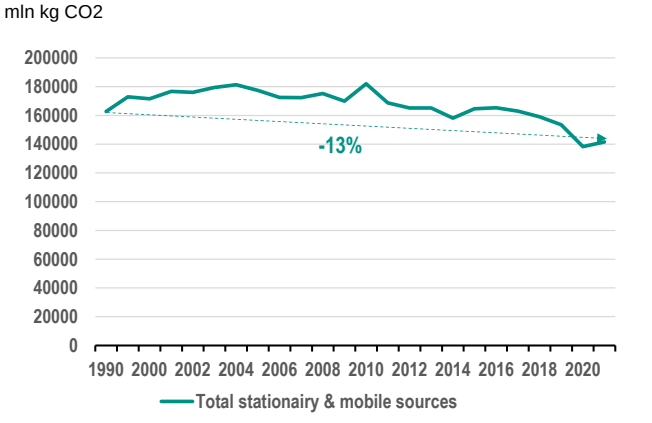
The correlation between temperature and greenhouse gas emissions in the built environment is high. The need for heating in the built environment is higher as the temperature is lower. The average temperature in De Bilt (Dutch benchmark temperature location) was almost 2 degrees Celsius higher in the first quarter of 2022 compared to the first quarter of 2021. And compared to the same period in 2020 at a similar level, with a similar increase in emissions.

Gas prices have risen considerably on an annual basis. Compared to 2021, TTF gas prices for monthly and annual contracts increased by a factor of 3 to 5 in the first quarter of 2022. High gas prices are an incentive for many companies to reduce their gas consumption and to implement more efficiency measures and become more sustainable.

An additional argument could be that the installation of solar panels and heat pumps, as well as more insulation measures, gained traction in the first quarter of this year and thus also contributed to a decrease in emissions. However, this is more difficult to substantiate with the current figures.

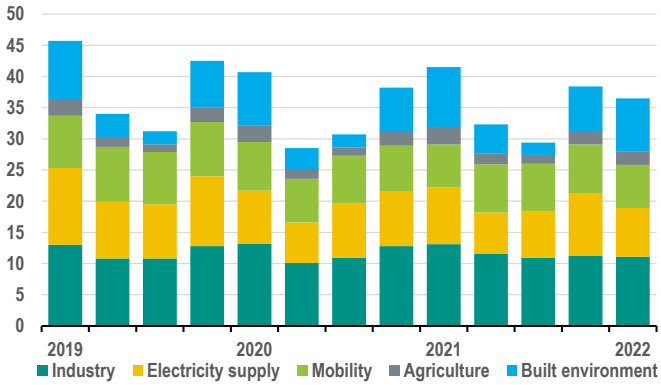
Since 1990, the Netherlands has emitted 13% less CO2. However, the downward trend in CO2 emissions started late. From 2010 onwards - after the financial crisis of 2008-2009 - emissions decreased slightly more on an annual basis. But the cumulative reduction between 2010 and 2020 is not enough. The pace is still too slow and unsatisfactory to meet the emission reduction targets of 2030 and 2050.

Trend CO2 emissions stationary & mobile sources



Source: CBS, ABN AMRO Group Economics

GHG emissions by sector



Source: CBS, ABN AMRO Group Economics

As previously stated, much more natural gas was consumed in built environment at the beginning of 2021 compared to the first quarter of 2022, mainly due to the relatively cold weather. As a result, gas consumption increased more sharply and greenhouse gas emissions in the built environment grew by 10%. In the first quarter of 2022, emissions increased by 8.5% on an annual basis. Annualised greenhouse gas emissions in agriculture were also higher in 2021. There, greenhouse gas emissions increased by 0.5 billion kilograms to 26.7 billion kilograms, an increase of 1.9%. In the first quarter of 2022, emissions increased by 2.2% year-on-year, an improvement compared to 2021 when emissions rose by 2.8% in the first quarter.

In industry and the mobility sector, emissions remained almost stable in 2021, while in the electricity sector emissions increased slightly by almost 2%. In the first quarter of 2022, growth in industry and in the power sector was at a lower level compared to 2021, while emissions in the mobility sector continued to grow at an unchanged similar pace to 2021. The sharp increase in oil and gas prices due to the war in Ukraine caused companies to pay more attention to energy efficiency in order to reduce costs. It had the additional effect of reducing emissions.

Future emissions

The government has set ambitious targets to reduce greenhouse gas emissions more quickly. By 2030, the government wants to achieve a CO2 reduction of 49% of the 1990 level. But in the recent Coalition Agreement, it was agreed that the government aims for 60% compared to the 1990 level. For the years after 2030, the government has also set targets. In 2035, greenhouse gas emissions must be 70% lower than the 1990 level and in 2040 they must be 80%. Eventually, emission reductions must be completed by 2050, by which time greenhouse gas emissions should ideally be 95% or close to 100% of the 1990 level.

Increased public and private sustainable investments combined with accelerated deployment of clean energy technologies will accelerate the reduction of greenhouse gas emissions. The Dutch government has made considerable funds available for this purpose, with just under €7 billion in the budget and another €35 billion in the coalition agreement. In addition, Dutch utility companies also have substantial investment plans for the coming years. However, there are still some obstacles to overcome, such as a shortage of skilled labour and the scarcity and higher cost of the materials needed to roll out transition technologies on a large scale.

Dutch State successfully increased green footprint

Jolien van den Ende - Senior Rates Strategist | jolien.van.den.ende@nl.abnamro.com

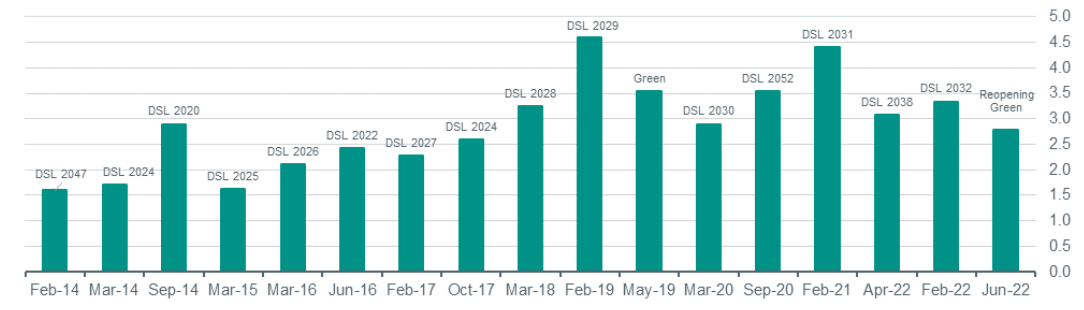
- **DSTA reopened its inaugural green bond, which is fully aligned with the updated EU Taxonomy on the 14 June**
- **There was strong investor demand for the green DSL with final book size of almost EUR 14bn**
- **The deal was allocated at a cut-off spread of +37bp over the reference Bund**
- **The outright yield of the green DSL was 2.154%, which makes the green DSL one of the highest yielding bonds on the Dutch curve**
- **Almost one-fifth of the deal went to dedicated green investors**
- **The investor type was well diversified and the same holds for the geographical distribution, whereby the majority went to asset and fund managers and pension funds and insurers**
- **This likely reflects the long-dated tenor as well as the green characteristics given that more and more institutional investors pay special attention to sustainability in their portfolios**

Strong demand for the green Dutch State Loan 2040

On the 14th of June, the Dutch State reopened its inaugural green DSL for an amount of EUR 4.98bn, which is at the upper bound of the target range of EUR 4 to 5bn. The green DSL was the first-ever AAA rated green sovereign bond when it was launched in 2019. Before the reopening the DSTA has updated its Green Bond Framework, which is now fully aligned with the new EU Taxonomy. For more information on the Green Bond Framework see: **ABN AMRO The ESG Strategist - Dutch government first to be fully compliant with EU Taxonomy**. Monday afternoon the DSTA announced the initial spread guidance at +34bp to +38bp. Before the book opened at Tuesday morning they revised and confirmed the spread guidance at +35 to +39bp over the reference bond, the DBR 4.75 04 July 2040. After the opening of the book, orders came in quickly and within 10 minutes investors had already placed orders worth over EUR 6bn.

In the end, the book closed within 2.5 hours, with a total book size of almost EUR 14bn. The DSTA allocated EUR 4.98bn to investors at the cut-off spread of +37bp over the reference Bund, implying a bid-to-cover ratio of 2.78. Compared to previous DDAs, the bid-to-cover ratio was around the average of the past 8 years as shown in the graph below.

Bid-to-cover ratio of the green DSL in line with previous DDA's



Source: ABN AMRO Group Economics, Bloomberg

Green DSL priced at around secondary market

The issuer set the cut-off spread at +37bp over the reference bond, which translated in a final yield of 2.154%. The yield on the green DSL is in line with where the bond is quoted in the secondary market. In addition, the bond provides one of the highest yields on the Dutch curve, given the inversion at the long-end of the secondary curve.

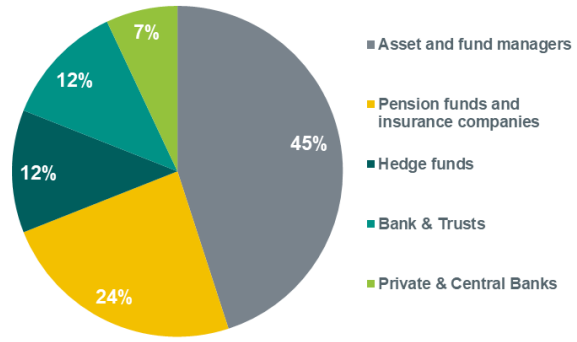
Well diversified investor base, whereby one-fifth went to dedicated green investors

The deal statistics show that the investor base was well diversified with one-fifth of the deal allocated to so-called "dedicated green real money" investors. Additionally, so-called non-green "real money" investors were allocated almost half of the deal with the remainder allocated to "other" investors. This is based on the allocation method whereby at the cut-off spread 85% of the bids from "dedicated green real money", 75% of the bids of non- green "real money" investors and 18.5% of bids from "other" investors were granted. Interesting to note is that the DSTA has made use of the green investor rule, allowing the DSTA to allocate a larger amount (10%) to dedicated green investors at the cut-off spread. It turned out, that the DSTA increased the allocated amount to dedicated

green investors from EUR 1bn to EUR 1.1bn. Hence, the DSTA has prioritised dedicated green real money investors over real money investors.

Investor type well diversified…

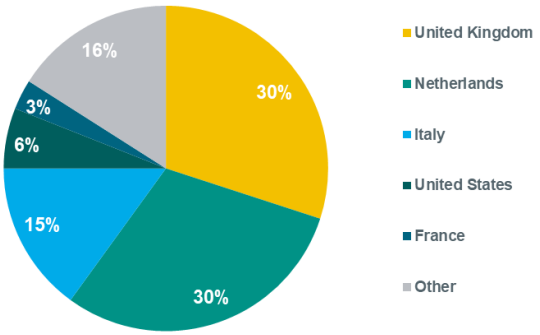
Percentage (%)



Source: ABN AMRO Group Economics, DSTA

… as well as the geographical distribution in the green deal

Percentage (%)



Source: ABN AMRO Group Economics, DSTA

A further break-down by investor type showed that 45% of the deal went to asset and fund managers. In addition, 24% was allocated to pension funds and insurance companies. This likely reflects the long-dated tenor as well as the green characteristics given that more and more institutional investors pay special attention to sustainability in their portfolios. Meanwhile, 12% was allocated to both hedge funds and bank & trusts, while 7% went to private & central banks as shown in the pie chart above on the previous page. The breakdown by region revealed that 30% went to both Dutch investors and UK investors, 15% to Italy, 6% to the US, 3% to France and the remainder to other investors.

Dutch Direct Auction Details

Issuer	The State of the Netherlands
Ratings (M/F/S)	Aaa/ AAA/ AAA
Coupon	0.50%
Maturity	15 January 2040
ISIN	NL0013552060
Cut-off spread	+37 bp
Reference bond	DBR 4.75 4 July 2040
Yield	2.154%
Issuance price	EUR 76.00
Amount issued	EUR 4,982mn
Total book size	EUR 13,874mn
Bid-to-cover	2.78
Settlement	16 June 2022
Law	Dutch Law, CACs
Listing	Euronext Amsterdam
Structuring advisor	ABN

Source: ABN AMRO Group Economics, DSTA

Reducing emissions of road mobility in the Netherlands

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- **The mobility sector in the Netherlands is responsible of 18% of total greenhouse gas emissions**
- **Road transport is emitting around 85% of GHG emissions of mobility**
- **Cars are the biggest emitter of road transport**
- **Even though cars will do the heavy lifting in reducing emissions, the mobility sector needs to reduce another 5.6 megaton greenhouse gasses to meet the target of the new government for 2030**

Introduction

In 2021 the mobility sector was responsible for 30.8 Megaton of greenhouse gas (GHG) emissions including 30.1 megaton CO2 emissions. This was 18% of the total greenhouse gas emissions and 21% of the total CO2 emissions in 2021. Road transport is the biggest emitter. It is responsible for around 85% of the total emissions. Passenger cars emit around half of the total of mobility. To bring down greenhouse gas emissions the mobility sector needs to emit less.

All new passenger cars zero emissions in 2030

The Netherlands has set a policy that every new car to be sold from 2030 onwards has to be a zero-emission car. This can be battery electric car or a fuel cell electric car. At the end of April 2022 the car fleet was around 8.85 million passenger cars and around 440,000 new passenger cars are sold annually (average 2005-2021), but that amount dropped substantially in 2020 and 2021 because of the chip supply problems. The fleet of battery electric cars is 268,000 passenger cars and 514 fuel cell electric cars at the end of April 2022 (RVO). In 2030 the amount of zero-emission new passenger cars should be equal to the now total sold new passenger cars of around 440,000. To get there, the share of battery electric passenger cars needs to rise substantially from 20% in 2021 (RVO) to 100% in 2030 – in just 9 years. There is still chip shortage, and this could dampen the sale of new passenger cars including battery electric in 2022. But then the amount and percentage of new battery electric car sold will probably rise substantially.

Currently a fleet of 8.85 million passenger cars are responsible for roughly 15.4 megaton greenhouse gas emissions. In 2030 the fleet of cars that emit greenhouse gasses is expected to be 6 million passenger cars. The total greenhouse gas emissions of these 6 million passenger cars will likely be around 11 Megaton. So, by introducing the measure that all new passenger cars in 2030 have to be zero-emission cars, greenhouse gas emission will probably drop from 15.4 megaton to 11 megaton or a reduction of 4.4 megaton. The Prinsjesdag budget included extra measures to stimulate electric vehicles and vans. The Coalition Agreement included green measures for personal transport and the way of travel. Sustainable urban logistics and freight traffic are also supported, the rollout of charging infrastructure is accelerated and blending of sustainable biofuels will be encouraged. Moreover, it increases taxes on air travel. In 2030 the government will also introduce pay for use for all cars.

Other subcategories need to reduce GHG emissions as well to meet the 2030 targets

The target for the mobility sector of the old Climate agreement was 25 megaton greenhouse gas emissions by 2030. In addition, the Coalition Agreement sets an extra 3-4 megaton reduction CO2 for 2030. So, the total greenhouse gas emissions for the mobility sector should be around 21 megatons by 2030. From current level the mobility sector needs to emit 10 megatons less greenhouse gas emissions by 2030. However, the regulation that in 2030 all new passenger cars should be zero-emission cars will only result in a reduction of around 4.4 megaton greenhouse gas emissions. Even though cars will do the heavy lifting in reducing emissions, the mobility sector needs to reduce another 5.6 megaton greenhouse gasses to meet the target of the new government.

Reduction GHG emissions in mobility in the Netherlands

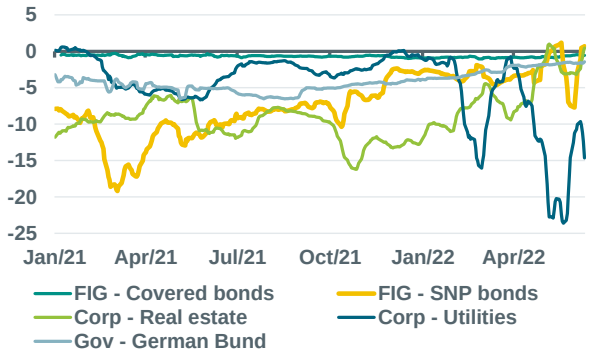
	Emissions GHG in %	Reduction GHG 2030 Mton
Cars	50%	-5.0
Heavy duty	20%	-2.0
Light duty	12%	-1.2
Busses	3%	-0.3
Contruction traffic, mobile tools & machinery	11%	-1.1
Shipping NL & fishery	4%	-0.4
Mobility total	**100%**	**-10.0**

Source: Klimaat- en Energieverkenning 2021, ABN AMRO Group Economics

ESG in figures

ABN AMRO Secondary Greenium Indicator

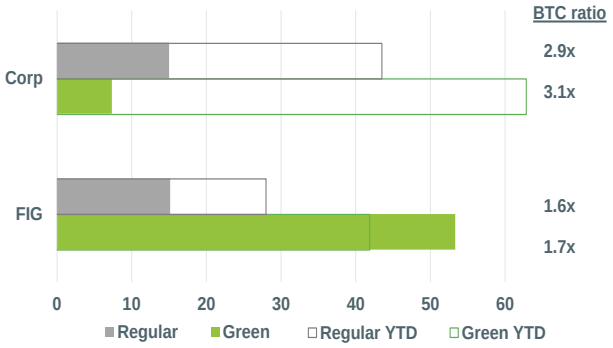
Delta (green I-spread – regular I-spread)



Note: Secondary Greenium indicator for Corp and FIG considers at least five pairs of bonds from the same issuer and same maturity year (except for Corp real estate, where only 3 pairs were identified). German Bund takes into account the 2030s and 2031s green and regular bonds. Delta refers to the 5-day moving average between green and regular I-spread. Source: Bloomberg, ABN AMRO Group Economics

ABN AMRO Weekly Primary Greenium Indicator

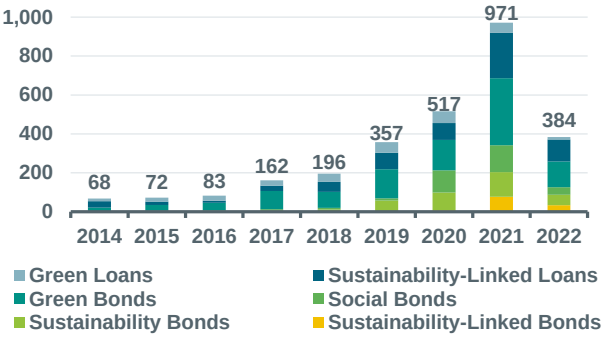
NIP in bps



Note: Data until 08-06-22. BTC = Bid-to-cover orderbook ratio. Source: Bloomberg, ABN AMRO Group Economics.

Sustainable debt market overview

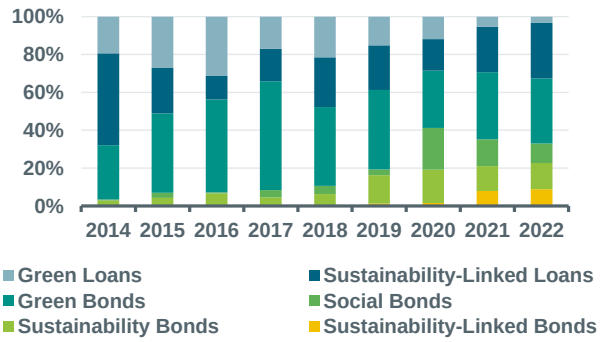
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Breakdown of sustainable debt by type

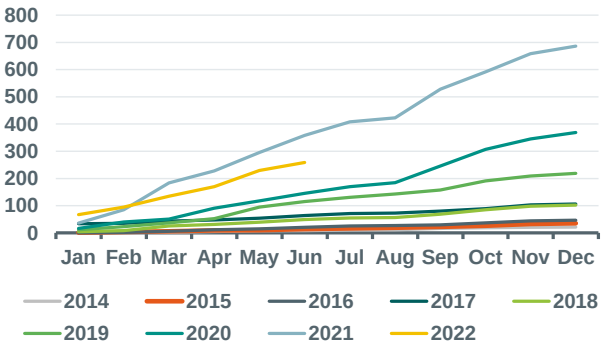
% of total



Source: Bloomberg, ABN AMRO Group Economics

YTD ESG bond issuance

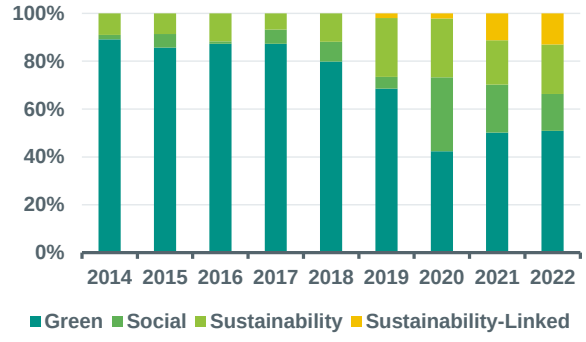
EUR bn



Source: Bloomberg, ABN AMRO Group Economics

Breakdown of ESG bond issuance by type

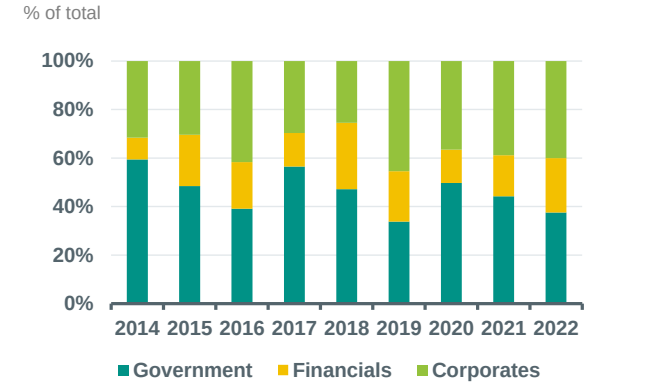
% of total



Source: Bloomberg, ABN AMRO Group Economics

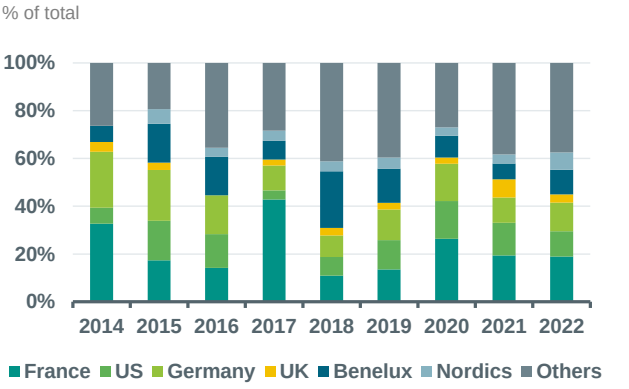
Figures hereby presented take into account only issuances larger than EUR 250m and in the following currencies: EUR, USD and GBP.

Breakdown of ESG bond issuance by sector



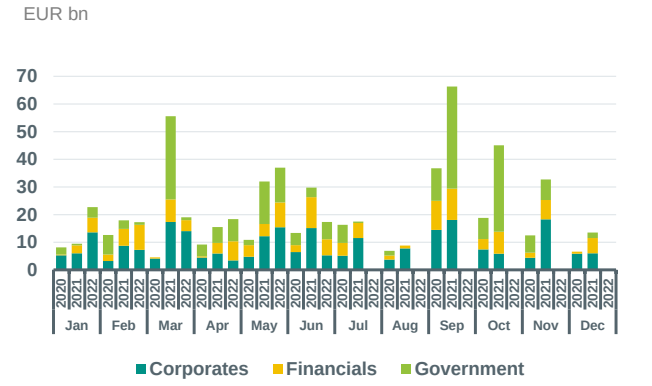
Source: Bloomberg, ABN AMRO Group Economics

Breakdown of ESG bond issuance by country



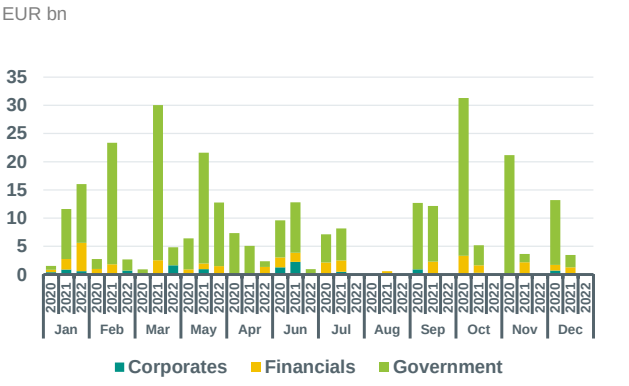
Source: Bloomberg, ABN AMRO Group Economics

Monthly Green Bonds issuance by sector



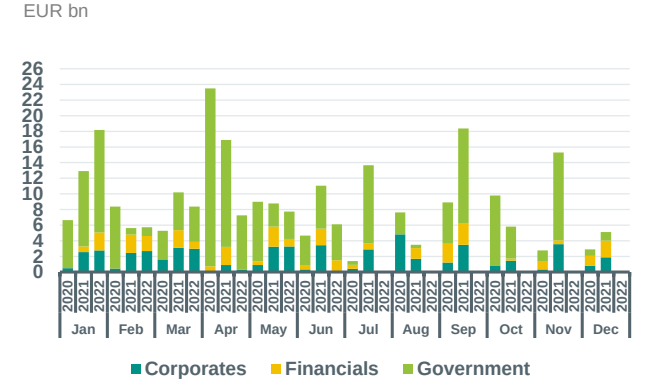
Source: Bloomberg, ABN AMRO Group Economics

Monthly Social Bonds issuance by sector



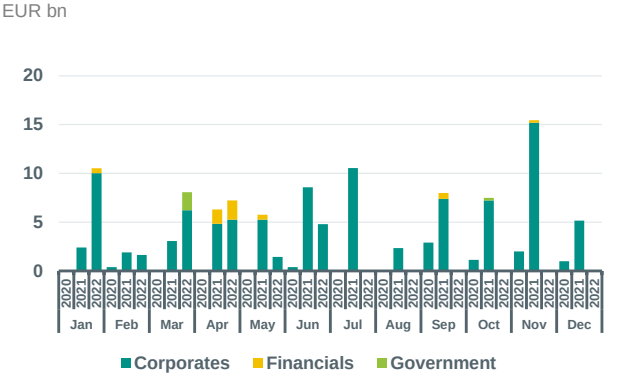
Source: Bloomberg, ABN AMRO Group Economics

Monthly Sustainability Bonds issuance by sector



Source: Bloomberg, ABN AMRO Group Economics

Monthly Sust.-Linked Bonds issuance by sector



Source: Bloomberg, ABN AMRO Group Economics

Figures hereby presented take into account only issuances larger than EUR 250m and in the following currencies: EUR, USD and GBP.

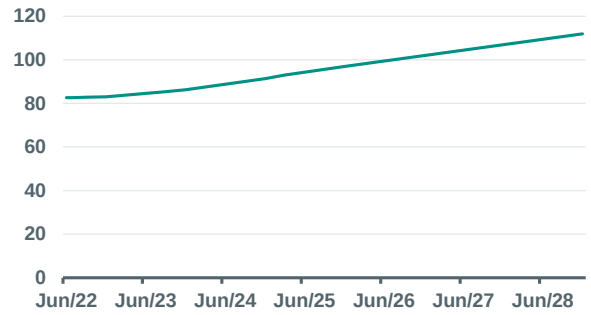
Carbon contract current prices (EU Allowance)

EUR/MT

Source: Bloomberg, ABN AMRO Group Economics

Carbon contract future prices (EU Allowance)

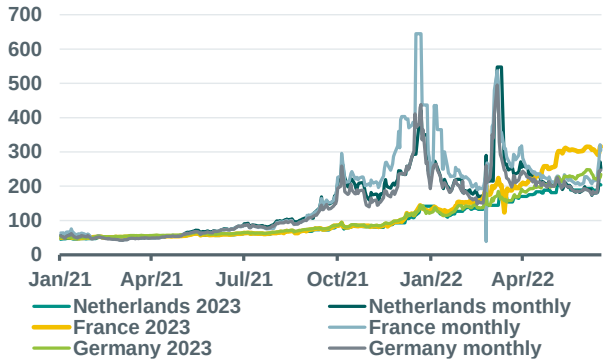
EUR/MT



Source: Bloomberg, ABN AMRO Group Economics

Electricity power prices (monthly & cal+1 contracts)

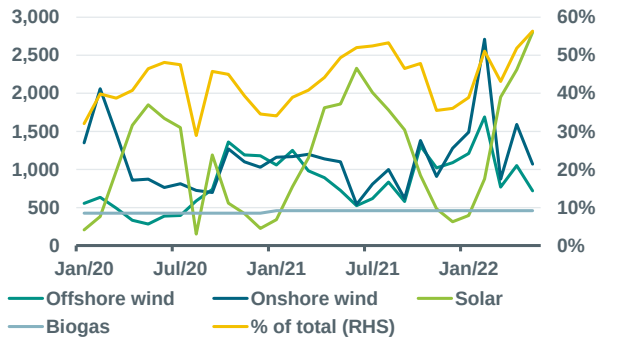
EUR/MWh



Source: Bloomberg, ABN AMRO Group Economics. Note: 2023 contracts refer to cal+1

Electricity generation from renewable sources (NL)

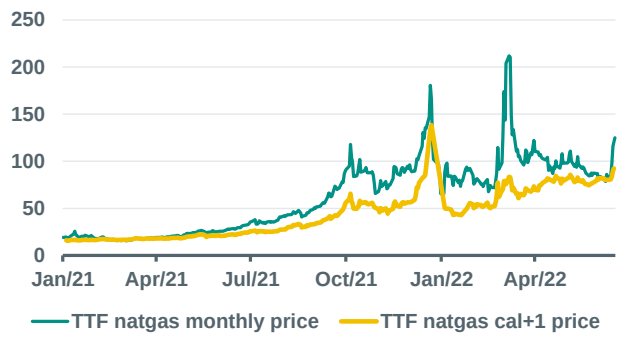
GW % of total



Source: Energieopwek (Klimaat-akkoord), ABN AMRO Group Economics

TTF Natgas prices

EUR/MWh



Source: Bloomberg, ABN AMRO Group Economics

Transition Commodities Price Index

Index (Jan. 2018=100)

Note: Average price trend of 'transition' commodities, such as: corn, sugar, aluminium, copper, nickel, zinc, cobalt, lead, lithium, manganese, gallium, indium, tellurium, steel, steel scrap, chromium, vanadium, molybdenum, silver and titanium. Source: Refinitiv, ABN AMRO Group Economics

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