



KINGDOM OF BELGIUM – Belgian Debt Agency

New Green OLO Framework

Safe, Liquid & Green
by Nature

- With OLO 86, the Kingdom of Belgium was among the first sovereign green bond issuers.
- The planned issuance of a new Green OLO in 2022 now marks a perfect moment to review and update the existing framework with market developments observed since 2018:
 - **EU Taxonomy**
 - Updates to the **ICMA Green Bond Principles**
 - EU works towards an **EU Green Bond Standard**.
- In the Kingdom of Belgium's updated Green OLO Framework:
 - The definitions of the **use of proceeds** are aligned (where possible) with the **EU Taxonomy substantial contribution criteria**.
 - For clean transportation, **activities 6.1 and 6.14** (which represent the bulk of the expenditures), are fully aligned with the **EU Taxonomy, including the minimum safeguards and DNSH verifications**. The alignment has been validated by Moody's ESG in its SPO.
 - There is a more robust **process for selecting and evaluating** eligible expenditures.
 - There will be an annual **reporting on allocation and impacts**.
- This presentation discusses (1) Belgian Environmental policies, (2) the New Green OLO Framework and provides an update on (3) the Belgian economy and on (4) Public finances and the Belgian Debt management strategy.



1. Belgian Environmental Policies



Global Level: Environmental Challenges Overview

Three challenges are at the heart of the Kingdom of Belgium's environmental policies.

Climate Change	Biodiversity Conservation	Preservation of Natural Resources
<ul style="list-style-type: none"> Total global GHG emissions: On the rise during the period 2010-2019: now 54% higher than in 1990⁽¹⁾. Global temperature rise: Evaluated at +2.7% by the end of the century. In order to keep global warming below 1.5°C this century (as per the Paris Agreement), the world needs to halve annual GHG emissions in the next 8 years⁽²⁾. Human-induced climate change: Extreme changes observed across the globe due to human influences (heatwaves, heavy precipitation, droughts tropical cyclones) have strengthened since the Fifth Assessment Report in 2014⁽³⁾. 	<ul style="list-style-type: none"> Over the last 50 years, biodiversity losses occurred more rapidly than during all previous periods of human history. Without new policies, 1 in 10 animals and plants could be extinct by 2050. Threats to biodiversity are manifold: <ul style="list-style-type: none"> land-use change (e.g. agriculture, forestry, infrastructure development) fragmentation of natural habitats invasion of alien species overexploitation and overconsumption (e.g. fishing) pollution (e.g. fertilizers, pesticide...) climate change. 	<ul style="list-style-type: none"> The unsustainable use of resources has triggered critical scarcities and caused climate change, loss of biodiversity and widespread environmental degradation. In the EU alone, around 600 million tons of waste materials are lost, which could be recycled or reused. Globally, around 4.5 million premature deaths are attributed annually to outdoor air pollution.

(1) IPCC AR6 report on Mitigation of Climate Change (2022)

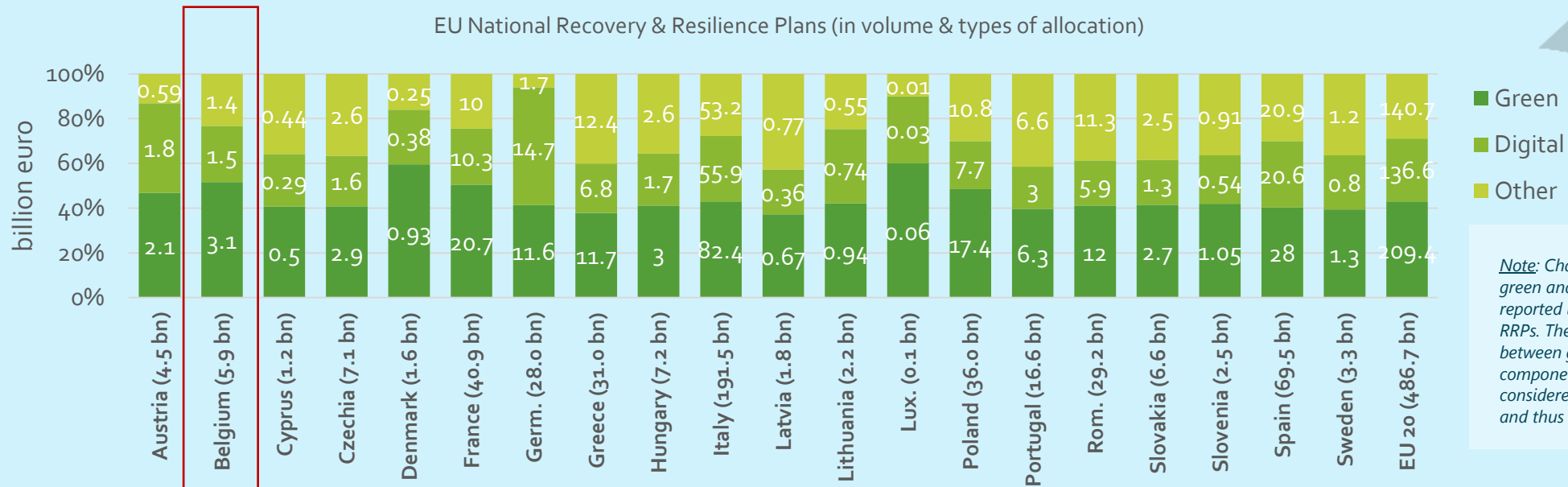
(2) UNEP Gap report (2021)

(3) IPCC AR6 on The Physical Science Basis (2021)

EU Level: New Response to the Challenges

EU Green Deal, Climate Law, Fit for 55, NECP, RRP.

- December 2019: first release of the **EU Green Deal**, one of its main objectives got cast into the **European Climate Law**. Europe should become the first climate neutral continent by 2050, whereas an intermediate target has been set for 2030: at least -55% GHG reductions by 2030.
- 2030 target: resulting in the **Fit for 55 package**, being a set of proposals to revise and update EU legislation and to put in place new initiatives with the aim of ensuring that EU policies are in line with the 2030 goal. The new target necessitates, next to the mandatory 2024 update, an increase in the ambition of the **National Energy and Climate Plan (NECP)**.
 - In Belgium:
 - New federal climate governance process in place since 2021 with a half yearly monitoring.
 - NECP revision: public consultation and series of roundtables to be held in Autumn 2022 (goal: strengthening and complementing the currently implemented measures).
- EU pandemic Recovery & Resilience Plans (Next Generation)



Note: Chart based on the green and digital components reported in EU Member-States RRP. There is some overlap between green and digital components that cannot be considered for most countries and thus disregarded for all.

National Level: New Dimension to the Challenges

Socio-economic impacts of climate change in Belgium.

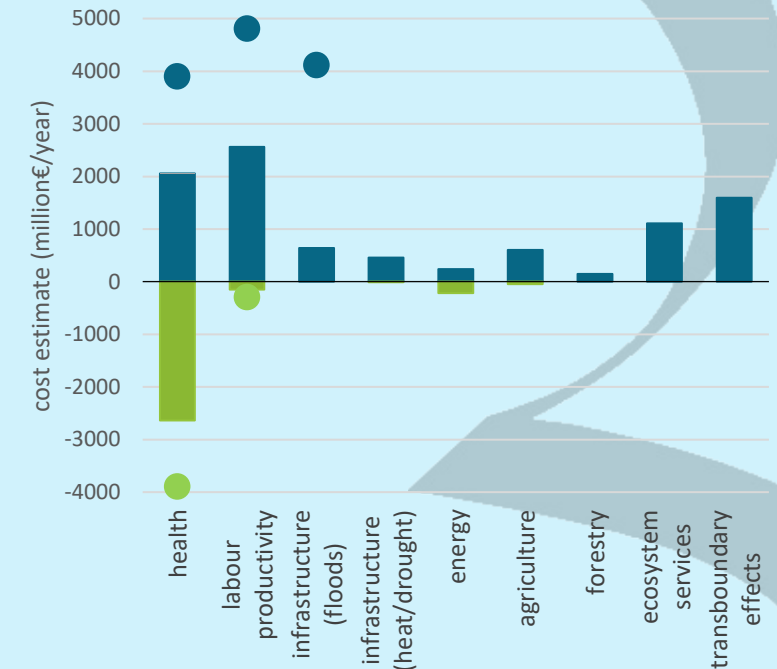
In Belgium:

- Climate change is expected to induce **hotter and dryer summers** and **milder and wetter winters**.
- Heatwaves, flooding** and **drought** appear to constitute the main share of climate hazard.
- The **large proportion of urban areas** exacerbate the adverse effects of heating (urban heat island effect) and flooding (impermeable surfaces), which **increases vulnerability**.
It is expected that groups within society that already today exhibit vulnerability (people with poor health, low income, or inadequate housing), are often also the most vulnerable to climate change effects.
- The **total costs** of climate change amounts to nearly 9.5 billion€/year ($\pm 2\%$ GDP 2018). The **gains** reach 3 billion€/year ($\pm 0.65\%$ GDP 2018).

<https://climat.be/doc/seclim-be-2020-finalreport.pdf>

Flooding in the Vesdervalley, Wallonia (July 2021):

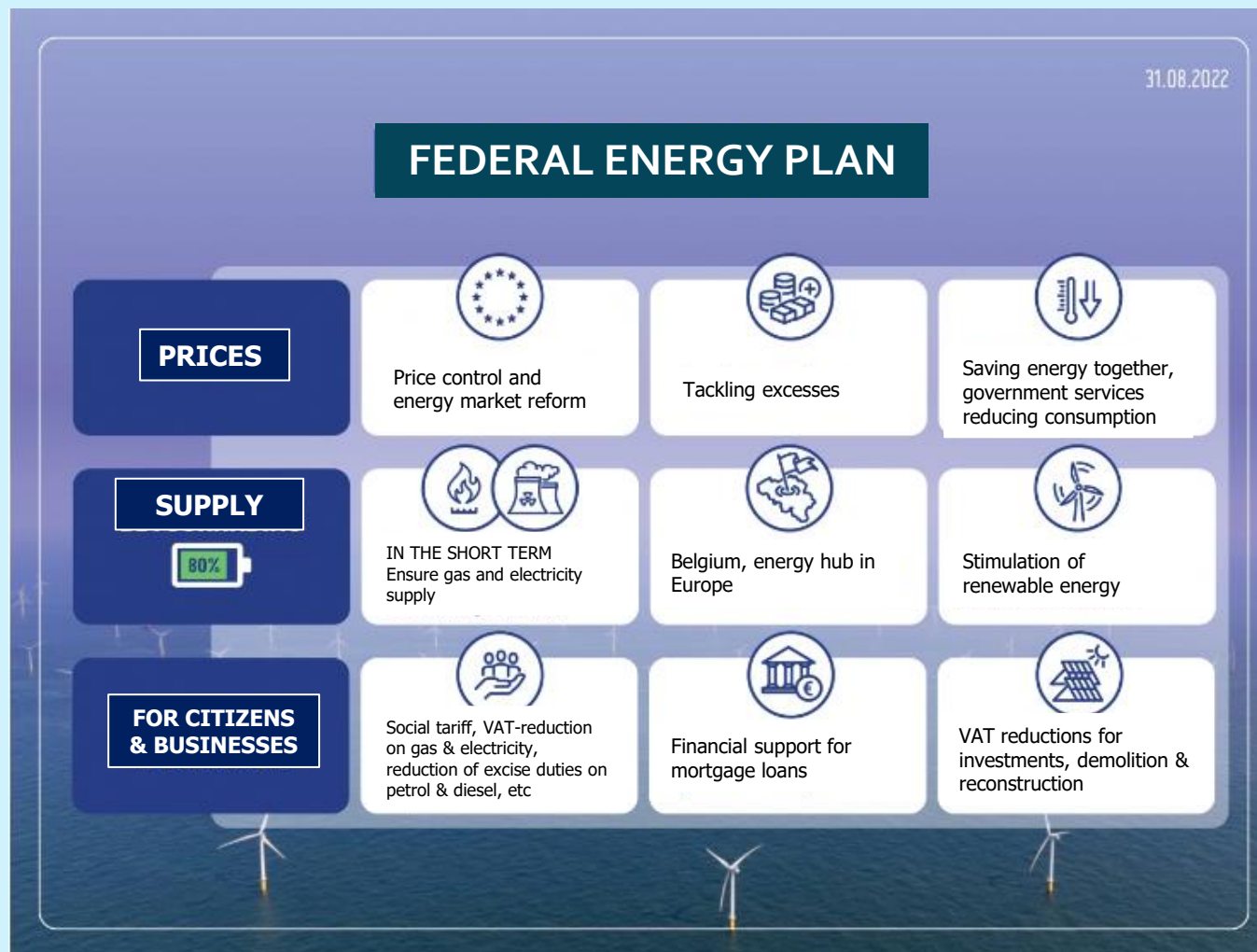
The atmosphere can store more water vapour at higher temperatures and thus cause heavy precipitation. Heavy rainstorms, like the one in Wallonia will become 14x more frequent in Europe by the end of century.



Estimated economic costs (blue) and gains (green) of climate change per sector, as compared to present-day conditions, considering climate scenario RCP8.5 and the year 2050 (stacks) and 2100 (dots). The numbers contained in this figures represent average values of the cost ranges provided at the end of Section 6. Note that the health costs only pertains to the impacts of heat and cold.

National Response to the energy crisis

A Federal crisis plan for the soaring energy prices.



Addressing Global Environmental Challenges

Five Green Sectors significantly contribute to tackling global environmental challenges.

Targets by Global Environmental Challenges

Climate Change

2020 Federal Government Agreement commitments:

- Reducing GHG emissions by 55% by 2030.
- Making Belgium climate neutral by 2050.
- Achieving a climate neutral government faster than 2040.

Biodiversity

- EU-wide target of 30% of land and 30% of the sea in the EU protected by 2030.
- Improving the academic knowledge on biodiversity.
- Making biodiversity-friendly production, public infrastructure and consumption pattern.

Natural Resources

- EU max. exposure to outdoor PM 2.5 of 18 $\mu\text{g}/\text{m}^3$ by 2020.
- Supporting the circular economy: EU target of recycling 65% of municipal waste and 75% of packaging waste by 2030.

Targets by Green Sectors

Clean Transportation

- Phase-out fossil fuel cars: decarbonisation of company cars from 2026.
- Promotion of clean transportation (Fed. Government ambitions to double quantities of goods transported by rail), rail public mass transportation, bicycles, etc.) and decrease of transport demand.
- Uptake of renewable fuels in aviation and shipping.

Energy Efficiency (including green buildings)

- Scenarios show a required complete decarbonisation of real estate in Belgium by 2050.
- EU Directive: renovation rate of 3%/year of public buildings > 250m².
- Energy Efficiency Directive: -9% (2020) -> REPowerEU potential decrease -13%.

Renewable Energy

- Aiming for 100% renewable electricity by 2050 with an intermediate target of 40% by 2030.
- Fed. Government foresees 4GW installed Offshore capacity by 2030 and examines the potential for doubling this.
- EU renewable energy target of at least 40% of final energy consumption in the EU as a whole by 2030, REPowerEU potential increase to 45%.

Circular Economy (Including Waste and Water Management)

- Recycling municipal waste: target 50% y 2020 and 65% by 2030.
- Landfill reduction: 10% by 2030.

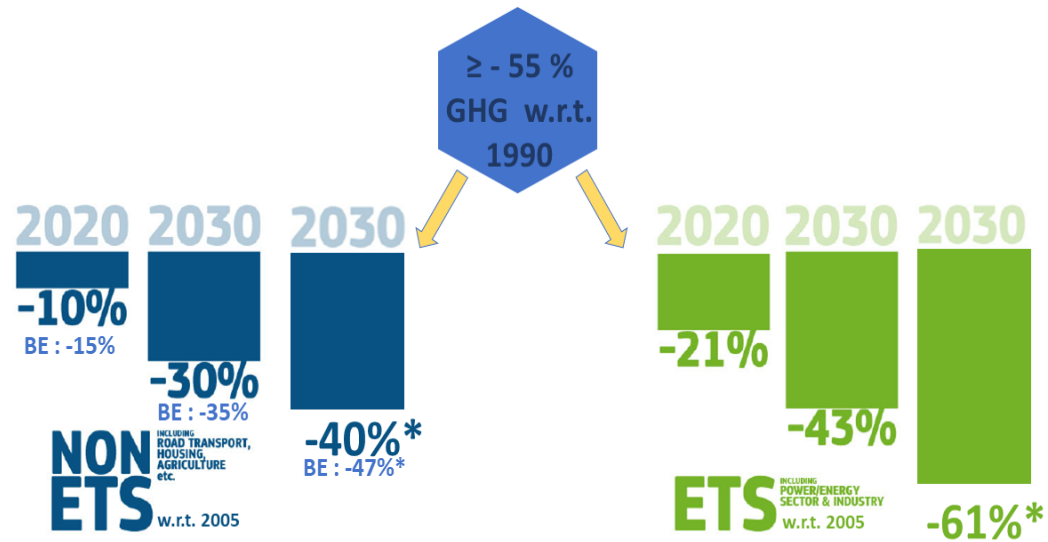
Living Resources and Land Use

- Designation of 30% of land + 30% of sea as protected area by 2030 (EU-wide).
- Development of nature restoration plans with clear targets.

Climate Change: Belgian Key Commitments

Federal Government ambitions for Belgium: reducing GHG emissions by 55% by 2030 and achieving climate neutrality by 2050.

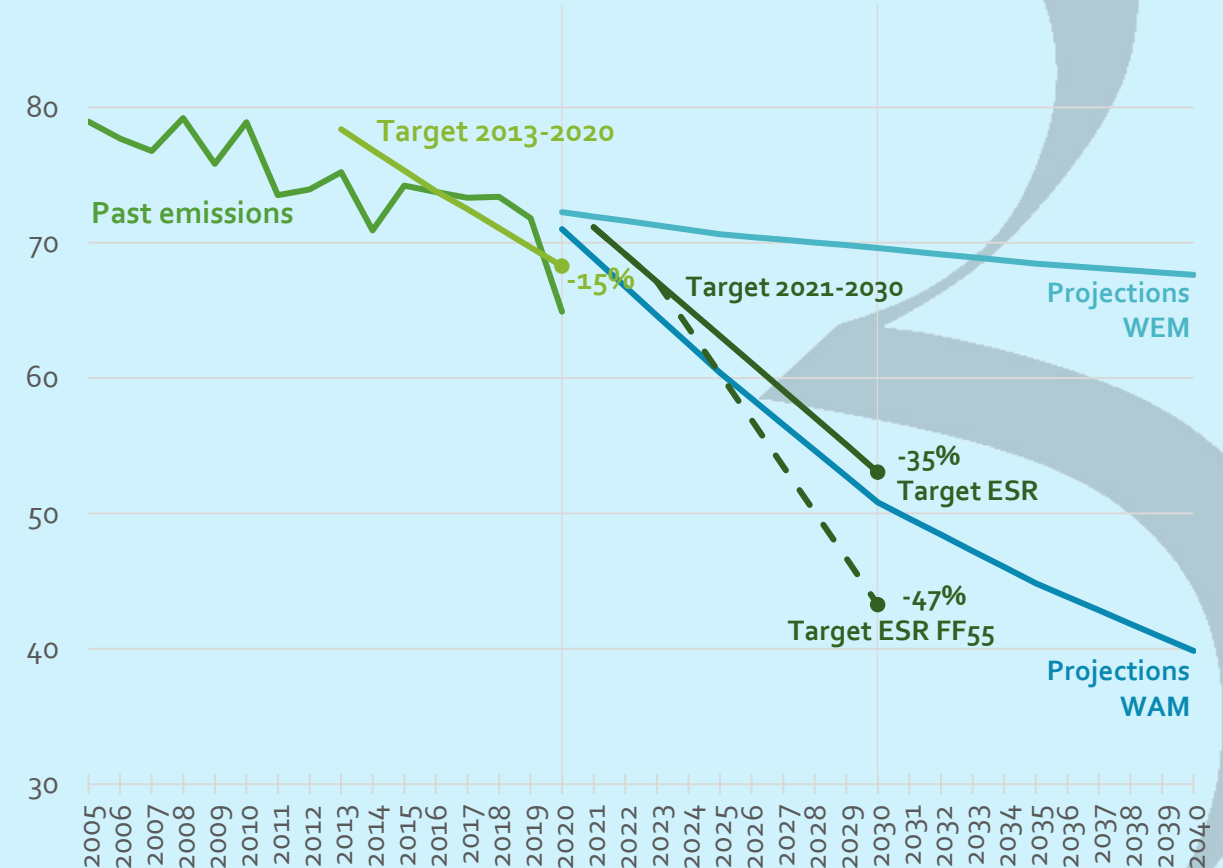
Belgium's target within the EU: (2020 & 2030)



Emission reduction targets for BE according to the (* proposed) Effort Sharing Regulation

* new 2030 targets according to the European Commission's proposals of July 2021, (which are currently being negotiated at EU-level)

GHG EMISSION TRENDS (non-ETS) In MT CO₂-eq.



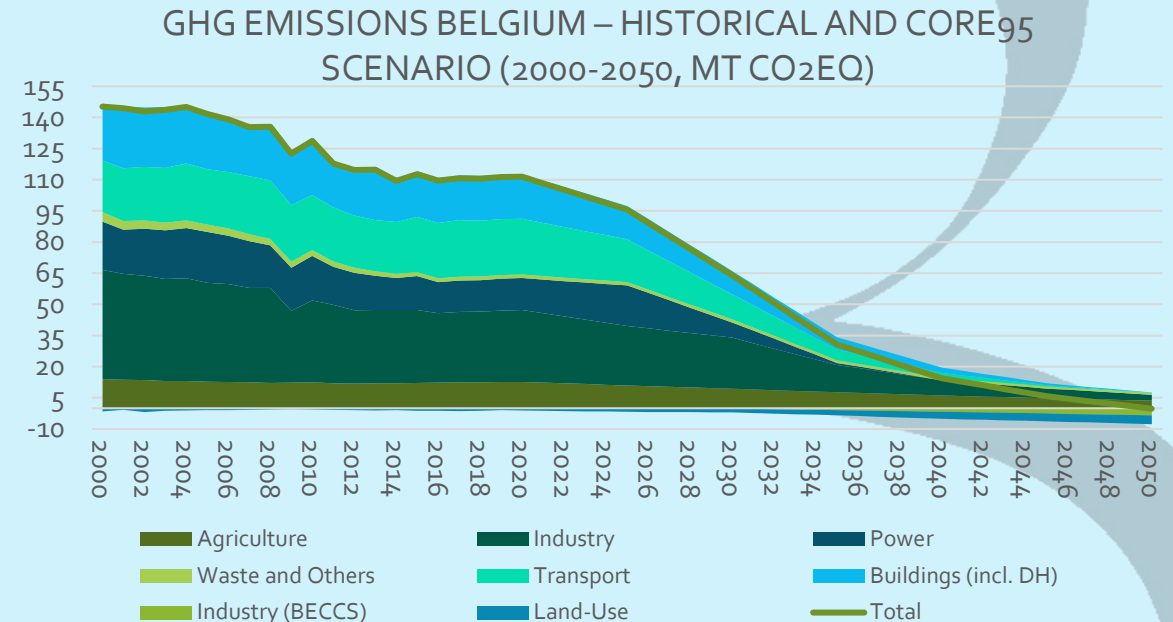
Climate Change: Belgium towards climate neutrality

Key actions and scenarios for reaching climate neutrality by 2050.

Key Belgian actions for climate & energy:

- Investment in railway infrastructure
- Investments related to electricity transmission grids, including interconnections
- Supports schemes for wind-, solar-, and biomass energy production
- Expenditures related to the Federal State's intervention in annual public transport pass for private sector employees
- Ecodesign and F-gas norms
- Development of Belgian climate adaptation scenarios
- Promotion of offshore wind electricity production
- Fiscal expenditure to support energy efficiency.

Macroeconomic impact of a balanced low-carbon scenario on Belgium's GDP and GHG emissions:



<https://climat.be/doc/climate-neutral-belgium-by-2050-report.pdf>

Recent scenario analysis shows that reaching climate neutrality in Belgium by 2050 is technically feasible, even though it is particularly challenging and requires systemic changes.

Biodiversity: Belgian Strategy

Belgium has enacted a strong legal architecture for biodiversity preservation and conservation.

Belgium building on the international scene:

- Post 2020 Global Biodiversity Framework (COP15 December): worldwide goals and targets for biodiversity.
- Be international champion: Blue Leader, High Ambition Coalition, Amsterdam Declarations Partnership, ...

Belgium building on the EU:

- European Biodiversity Strategy:
 - "30 by 30".
 - Legally binding EU nature restoration targets.
 - Reversing the decline in pollinators.
 - Reduction of chemical pesticides use by 50%.
- Mainstreaming of biodiversity in the EU Budget: 7.5% of annual spending for biodiversity objectives in 2024, and 10% in 2026 and 2027.

By 2050 all of the world's ecosystems are restored, resilient and adequately protected.

Key Belgian actions for biodiversity conservation:

- National Biodiversity strategy.
- #BeBiodiversity Strategy.
- BiodiversiScape: Federal project: aims to render federal infrastructure & purchase processes more biodiversity-friendly. Federal government leading by example vis-à-vis the private sector.
- Belgian Biodiversity Platform (information and communications hub on biodiversity science and research).
- Combating (illegal) deforestation in the supply chain of Belgian companies.
- Ambitious reduction plans for pesticides.



Preservation of Natural Resources: Belgian Strategy

Current Belgian plans and actions on circular economy and air pollution.

Aims:

- **Preserving resources + create opportunities** boosting the economy, contributing to innovation, new business models, growth and jobs creation.
- **Maintaining the value of products and materials** as long as possible in the economic system (closing the loop) through: (1) a longer use of products, (2) reuse (of products and components); (3) higher and better recycling.
- Reducing the **negative health impacts** of air pollution by 50%.
- Complying with the **EU directive** on air pollution (NEC Directive (2016/2284) and the Directive on the limitation of emissions from medium combustion plants (2016/2284).

Federal Circular Economy Action Plan: 25 measures a.o.:

- Repairability index
- New circular services, including products as a service
- Ban on single use plastics
- Recycling
- CAMBIUM project
- Creation of an intra-Belgian platform of Circular Economy to enhance and streamline cooperation between the federal and regional governments.

Key actions:

- Promote **sustainable consumption and production modes** (including waste reduction and recycling) (e.g. tax expenditures for reusable packaging).
- Studies and support of pilot projects towards **new (circular) business models** like '**products as a service**'.
- Laws, studies and pilot projects to develop **resource efficiency criteria** in order to promote reparability (**repairability index law**), refurbishment, reuse of components in products, recycling,...
- **Product norms** aimed at improving **air quality** (e.g. for biomass as heating fuel and heating units, more strictly regulated than required by the EU).
- Different actions in agriculture, transport decarbonization, buildings etc. (**synergies with climate and energy policies**).



Organisation of Environmental Policies in Belgium

Federal and Regional Administrations exercise complementary responsibilities.

	Clean Transport	Energy Efficiency	Renewable Energy	Circular Economy	Living Resources and Land Use
Federal State	<ul style="list-style-type: none"> Infrastructure investments (national railways, federal buildings) Rail operator financing 	<ul style="list-style-type: none"> Product standards (Eco-design, Eco-labelling) 	<ul style="list-style-type: none"> Supply and storage infrastructures Solar panels on government buildings 	<ul style="list-style-type: none"> Product standards (Eco-design, Eco-labelling) Studies and support for pilot projects 	<ul style="list-style-type: none"> Investments for conservation of marine environment and for protection of endangered wild species due to international trade
Regions	BE4MOVE ⁽¹⁾ <ul style="list-style-type: none"> Waterways, port infrastructure Public transport and school transport Taxation on vehicles 	CONCERE/ENOVER ⁽²⁾ , CCPIE/CCIM ⁽³⁾ , CNC/NKC ⁽⁴⁾ <ul style="list-style-type: none"> Investments in public building retrofitting Support to household's investments in energy efficiency 	<ul style="list-style-type: none"> Investments in renewable energy production Distribution and location transmission of electricity Electricity distribution prices 	<ul style="list-style-type: none"> Investments for production and distribution of water Infrastructure for waste management and recycling 	<ul style="list-style-type: none"> Investments for protection of air and soil, and protection and conservation of nature Support to organic agriculture
	<ul style="list-style-type: none"> Air pollution management and control 				

(1) intra-Belgian consultation platform that unites the administrations responsible for mobility and transport

(2) Concertation sur l'énergie Etat-Régions / Energieoverleg tussen de staat en de gewesten

(3) Comité de Concertation sur la Politique Internationale de l'Environnement / Coördinatiecomité Internationaal Milieubeleid

(4) Commission Nationale Climat / Nationale Klimaatcommissie

Sustainable Finance: EU and Belgian Initiatives

Current EU and Belgian structure on sustainable finance.

EU	Belgium
<p>2007: EIB as a pioneer Green Bond.</p> <p>2018: Action Plan on Financing Sustainable Growth:</p> <ul style="list-style-type: none"> • Taxonomy regulation • Sustainable Finance Disclosure Regulation • Corporate Social Responsibility Directive • EU Green Bond Standard. 	<ul style="list-style-type: none"> • Green OLO 2018 (and 2022). • Febelfin, now CLA: Towards Sustainability Label • Belgian sustainable finance strategy, building on EU legislation (and funded by the EU). <p>Focus on 2 pillars:</p> <ul style="list-style-type: none"> • Making the financial sector more sustainable. • Making the government as an investor more sustainable. <p>-> Engagement and divestment.</p>
	<p>Federal green financial instrument(s):</p> <ul style="list-style-type: none"> • Green OLO 86 • New green OLO 2022.

2. Green OLO



Issuance of Green OLOs

Rationale for issuing green bonds.

Three major reasons:

Support the development of sustainable finance.

Through green bond issuance, the Kingdom of Belgium wants to support and be a part of the development of sustainable finance, both at EU level and within Belgium itself.

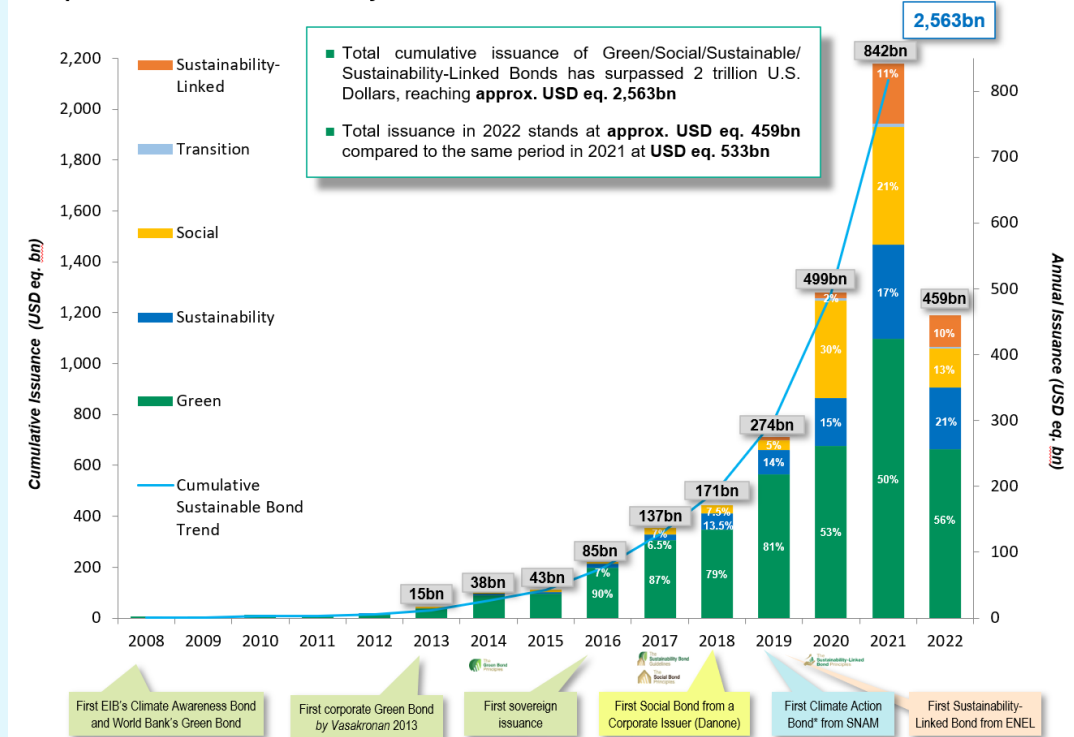
Tap into a strong and growing market.

Green bond issuance continues to meet very strong demand. Sovereign green bonds can provide liquidity to this part of the market.

Diversification.

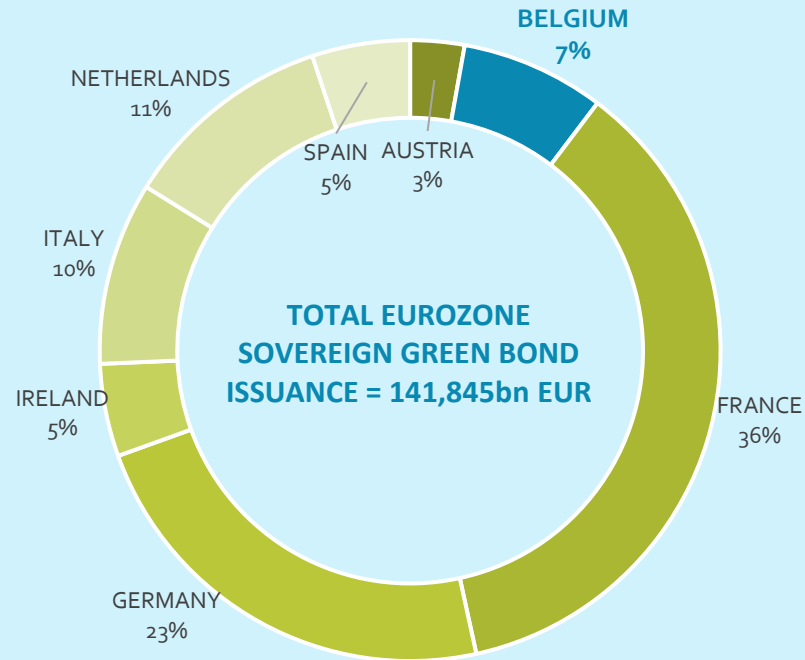
Access to this growing part of the market allows for a degree of diversification in the Kingdom's financing plans.

Exponential Evolution of Primary Sustainable Issuance that has now crossed the USD 2.5trn mark

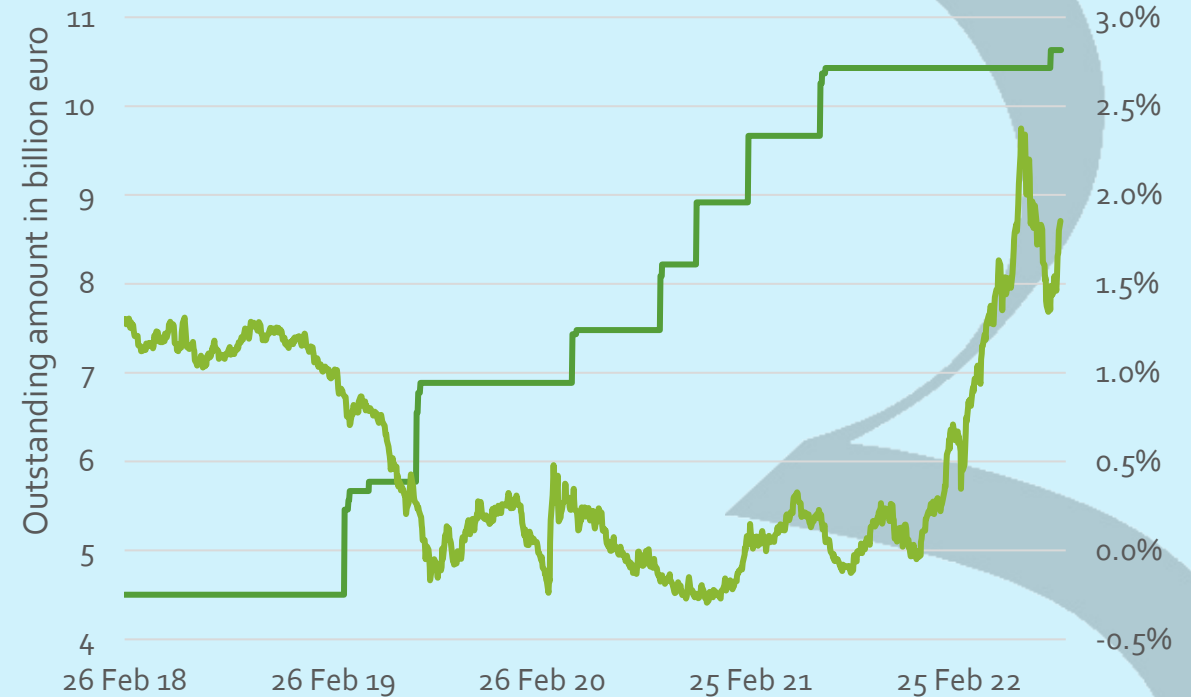


OLO86: Issuance

Belgium's inaugural green OLO is a success.



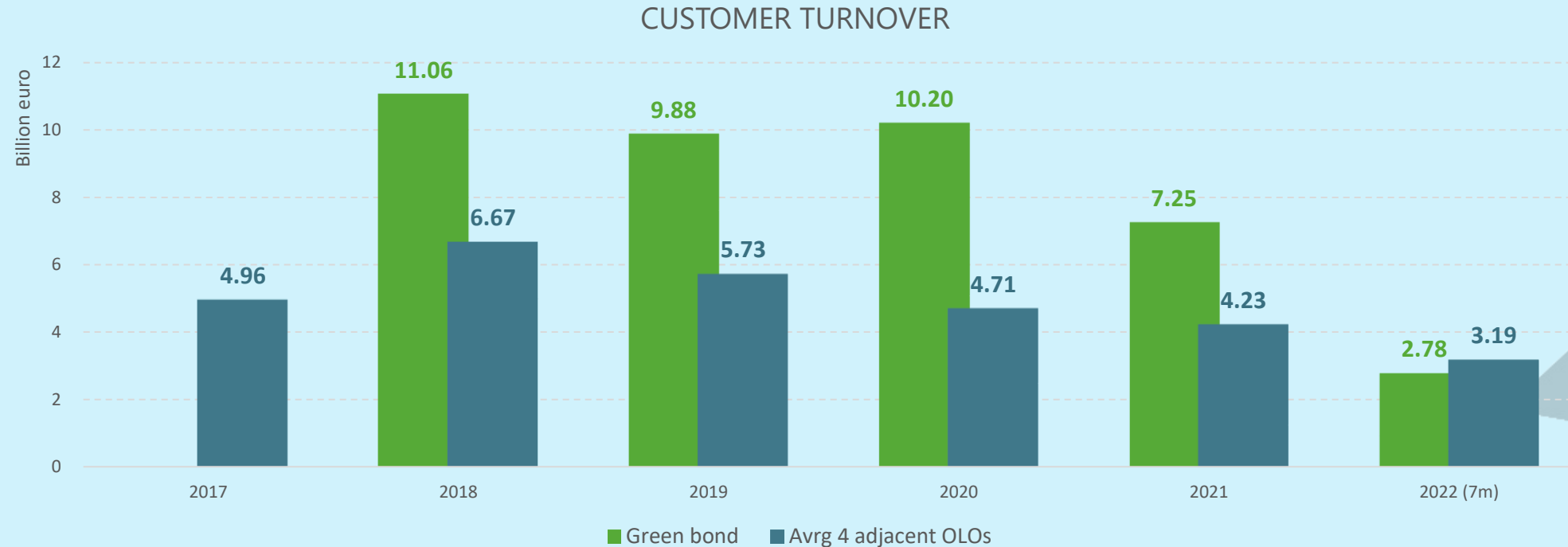
- One of the first, and at the time one of the largest, sovereign issuers of the Eurozone.
- « Safe, Liquid & Green».
- Allocation has been reported annually since the first green issuance in 2018.
- A first impact report was published in the year after the launch of the first green OLO.



- Issued through syndication in 2018 for 4.5 bn.
- More than doubled since through auctions, currently 10.6 bn.
- Could still be tapped under the new framework in the future.

OLO86: Turnover

A significantly higher turnover for the OLO 86 compared to its non-green peers (excluding 10-year benchmark bonds).



- The Green OLO has been traded very actively and was more liquid than surrounding OLOs.
- The bid-offer spreads of the OLO86 have most of the time been tighter than those of the 4 nearest OLOs, especially in 2022.

Environmental Objectives

The Kingdom of Belgium has adopted a new Green OLO Framework.

Federal eligible expenditures project will contribute to achieving the following Environmental Objectives defined in the EU Taxonomy:

- Climate change **mitigation**
- Climate change **adaptation**
- Transition to a **circular economy**
- **Pollution** prevention and control
- Protection and restoration of **biodiversity and ecosystems**
- Sustainable use and protection of **water and marine resources**.

As well as substantially contribute to achieving the following United Nations Sustainable Development Goals - ICMA Green Bond principles:



Key changes in the new green OLO Framework

The framework has evolved along the lines of the best practices observed in the market.

Use of proceeds

Description

Eligibility criteria aligned with the EU taxonomy substantial contribution criteria (Climate Change Mitigation) where possible:

- Clean Transportation
- Energy efficiency
- Renewable Energy (hydropower is now excluded).

The eligibility criteria of two sub-categories of the Clean Transportation category are aligned to the TSC of the EU Taxonomy. This alignment has been assessed by the SPO.

Timeframe

Eligible expenditures of current year and up to two years prior in order to take into account longer reporting cycles for some of the expenditures.

Process for expenditure evaluation and selection

Process

- More formalized
- Greater responsibilities for FPS / Agencies in screening and validating expenditures.

Reporting

Annual report

Annual combined allocation and impact report.



Process for Project Evaluation and Selection and Management of Proceeds

Validation and acceptance process for potential green eligible expenditures at Federal Government level.



- **Screening** by the Inter-Ministerial Working Group of the potential eligible green expenditures.
- **Follow up meetings** with the different Federal Public Service (FPS) to evaluate current green eligible expenditure projects and confirm previous years expenditures.

- **Validation & monitoring** by the FPS of the eligible green expenditures.

- **Providing the most recent budgetary and technical information** by public agencies and public operators on the eligible green expenditures.

- **Combined allocation and impact reporting** on the final eligible expenditures.

Use of proceeds

- Screening and validation of expenditures alignment with the framework
- Scope: budget expenditures, fiscal expenditures and investments by Agencies

Reporting

- Belgium will submit an annual report on green OLOs to investors, combining an allocation report and an environmental impact report in a single document. This report will be published until the full allocation of the green OLOs' proceeds, or in the event that some initial estimates need to be refined.
- FPS Health – DG Environment will coordinate the environmental impact assessment with a dedicated taskforce.
- The impact part of the report will be prepared with the assistance of an external expert and, on a best effort basis, be align with the project approach described in ICMA's Handbook on a Harmonised Framework for Impact reporting.
- The environmental impact report will also disclose the calculation methodologies and assumptions used for the environmental indicators in its impact reporting

Eligible expenditures under the new framework

Expenditures expected to be concentrated in Clean Transportation. Additional screening will assure compliance with updated framework.

	Expenditures	Green Sector	(Expected) allocations	
			%	%
			2017-2021	2022
Federal Budget Expenditures	SUBSIDIES TO THE SNCB (BELGIAN RAILWAY EXPLOITATION)	Clean Transportation	29%	17%
	SUBSIDIES TO THE SNCB (INVESTMENT PROGRAMME)	Clean Transportation	16%	24%
	SUBSIDIES TO INFRABEL (OPERATION)	Clean Transportation	0%	14%
	SUBSIDIES TO INFRABEL (INVESTMENT PROGRAMME)	Clean Transportation	33%	32%
	FEDERAL SUPPORT FOR OFFSHORE WINDFARMS	Renewable Energy	7%	0%
	CONTRIBUTIONS TO DEVELOPMENT COOPERATION	Living Resources and Land Use	2%	3%
Fiscal Expenditures	TAX EXEMPTIONS AND DEDUCTIONS TO PROMOTE CLEAN TRANSPORTATION	Clean Transportation	8%	5%
	INCREASED TAX DEDUCTIONS FOR GREEN INVESTMENTS	Energy Efficiency	2%	1%
	REDUCED PACKAGE CHARGE FOR USING INDIVIDUAL REUSABLE DRINK PACKAGES	Circular Economy	2%	1%
Government Agencies	GREEN INVESTMENTS BY THE SFPI-FPIM	Living Resources and Land Use Energy Efficiency Circular Economy	1%	1%
	GREEN INVESTMENTS BY BIO INVEST	Energy Efficiency	1%	1%

- Relying on detailed management information systems within the agencies.
- A potentially broader and growing role for the SFPIM in the future.
- Subsidies to offshore windfarms no longer funded by green OLO due to changes in legislation.

New Green OLO Framework: Second Party Opinion

Moody's ESG has reviewed and opined on the New Green OLO Framework.

- **Moody's ESG** has delivered a second party opinion on the updated Green OLO Framework (published on [Belgian Debt Agency website](#)).
- Moody's ESG also assessed **2 economic activities** (6.1: Passenger Interurban Rail Transport and 6.14: Infrastructure for Rail Transport) **of 1 Eligible Category** (Clean Transportation) and found that they followed the EU Taxonomy criteria:
 - Making a substantial contribution to the Climate Change Mitigation objective: based on the selection criteria for the expenditures (excluding non-electrified rail transportation).
 - Do No Significant Harm criteria: based on analysis applicable national and regional regulations and of the procedures and action plans of the rail companies SNCB and Infrabel.
 - Minimum safeguards: based on the location of the activities in Belgium and the social regulation framework.

The initial focus will be in priority on the Do No Significant Harm criteria for these two economic activities as they represent the vast majority of the Eligible Green Expenditures.

The Kingdom intends to gradually extend the Do No Significant Harm analysis to additional categories and economic activities on a best-efforts basis and as required going forward.

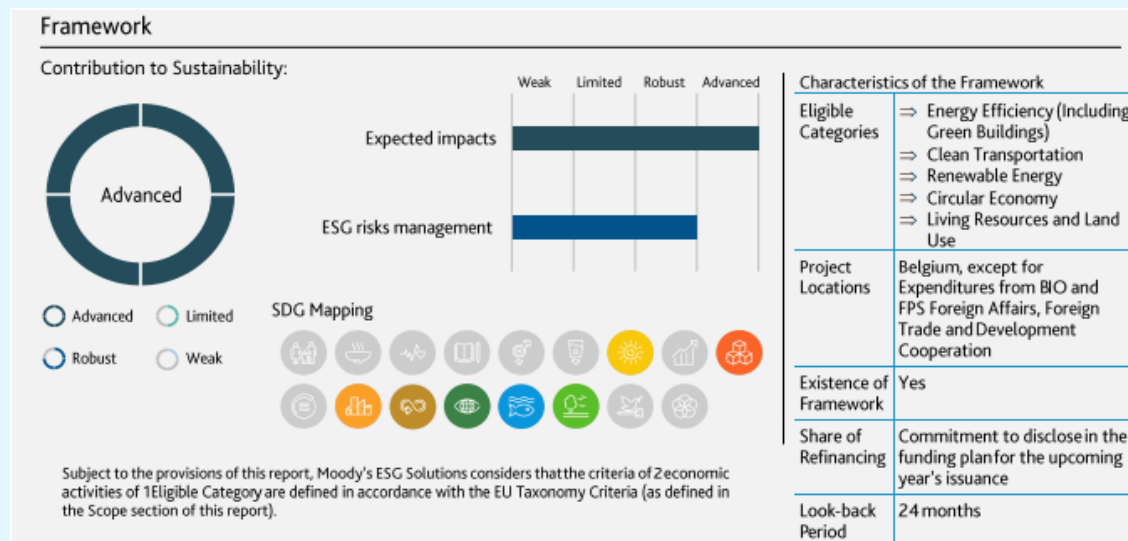
New Green OLO Framework: Second Party Opinion

Moody's ESG SPO: detailed scoring of the KOB.

- Full alignment with the 4 components of ICMA's Green Bond Principles 2021 with 3 of the pillars achieving best market practice.
- Advanced contribution to sustainability issues.
- 2 activities assessed to be in accordance with the EU taxonomy.

- Use of proceeds
- Evaluation and selection of eligible projects
- Management of proceeds
- Reporting

Not Aligned	Partially Aligned	Aligned	Best Practices
Not Aligned	Partially Aligned	Aligned	Best Practices
Not Aligned	Partially Aligned	Aligned	Best Practices
Not Aligned	Partially Aligned	Aligned	Best Practices



3. The Belgian Economy

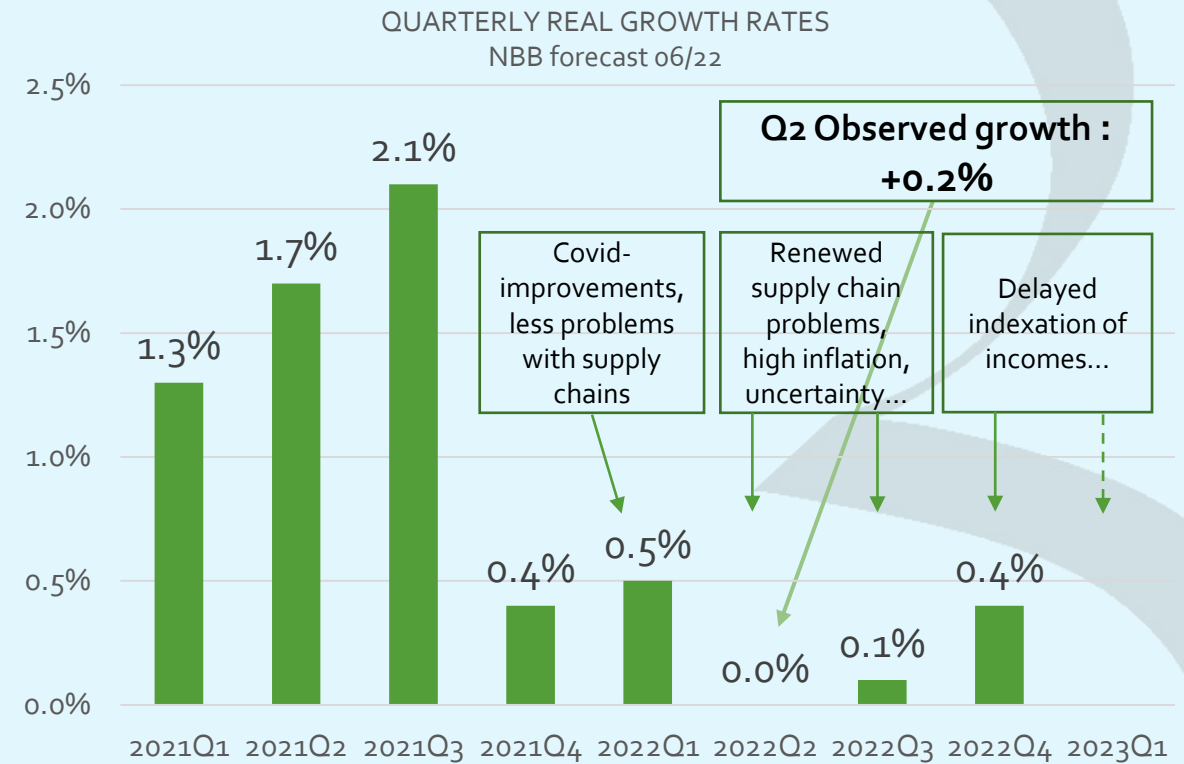


Belgium's Economic Growth

The 2022 GDP growth is forecast at 2.4% / 2.6%, mainly due to the significant carry-over effect from the strong 2021 growth.

	2020	2021	2022 forecast	
			NBB o6/22	FPB ⁽¹⁾ o6/22
GDP-growth y/y	-5.7%	+6.2%	+2.4%	+2.6%
Private consumption y/y	-8.2%	+6.4%	+3.7%	+3.9%
Public consumption y/y	+0.2%	+4.4%	+2.1%	+3.0%
Investment (capital) y/y	-6.2%	+7.8%	+1.5%	+1.3%
Net export contribution	+0.4%	+0.5%	-0.2%	-0.6%
Savings ratio	20.2%	15.5%	13.5%	
Euro area growth rate	-6.4%	5.3%	2.7% ⁽²⁾	2.7% ⁽²⁾
<i>Difference Belgium – EA</i>	<i>0.7%</i>	<i>0.9%</i>	<i>-0.3%</i>	<i>-0.1%</i>

(1) : Federal Planning Bureau, (2) : EC Spring forecast (2022)



In 2021, Belgium's GDP per capita in PPS-terms stood at **121%** of the EU-average. As such it is ranked **6th** in the EU-27.

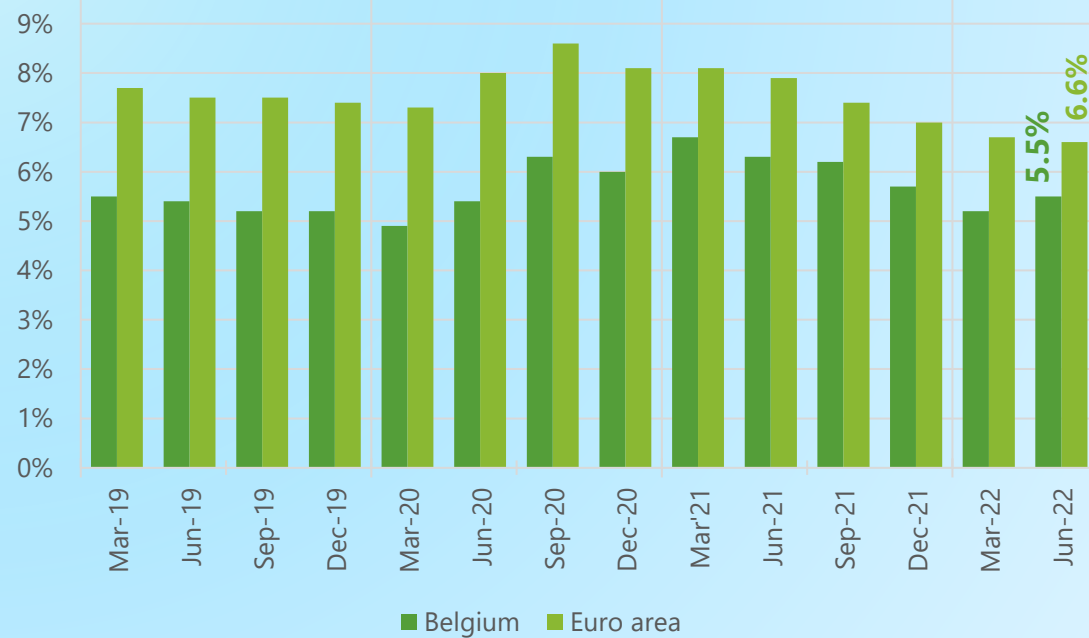
After another strong performance in 2022 Q1, the economy was expected to be flat in Q2 but surprised to the upside (+0.2%). The economy is expected to grow slightly in Q3.

Labour Market & Trade

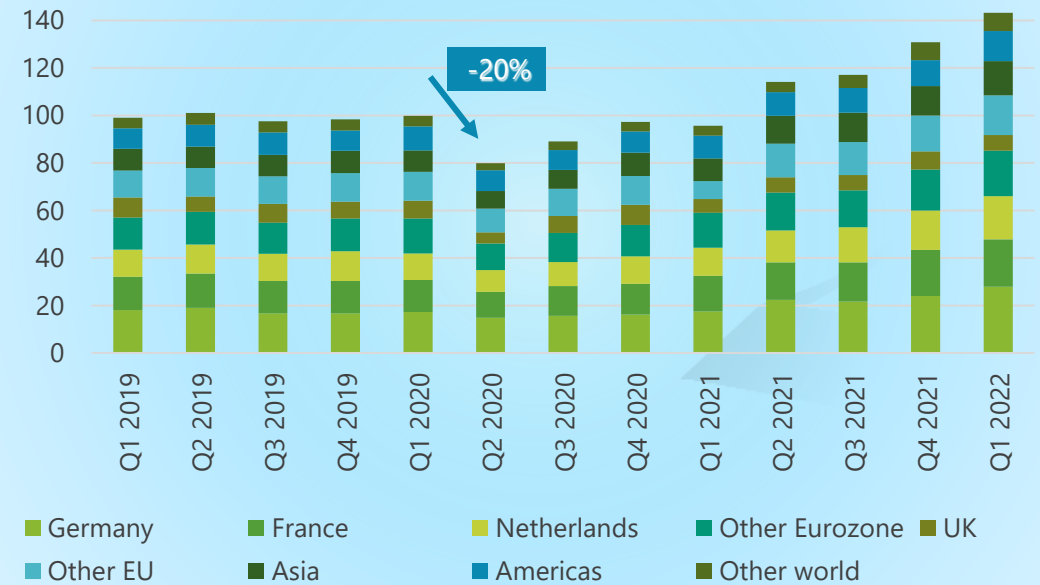
The labour market continues to be tense, while Belgium's exports have been growing strongly in recent quarters.

EU HARMONIZED UNEMPLOYMENT RATE

Source : Eurostat



VOLUME AND GEOGRAPHICAL ORIENTATION OF EXPORTS (PER QUARTER, BILLIONS OF EUR)

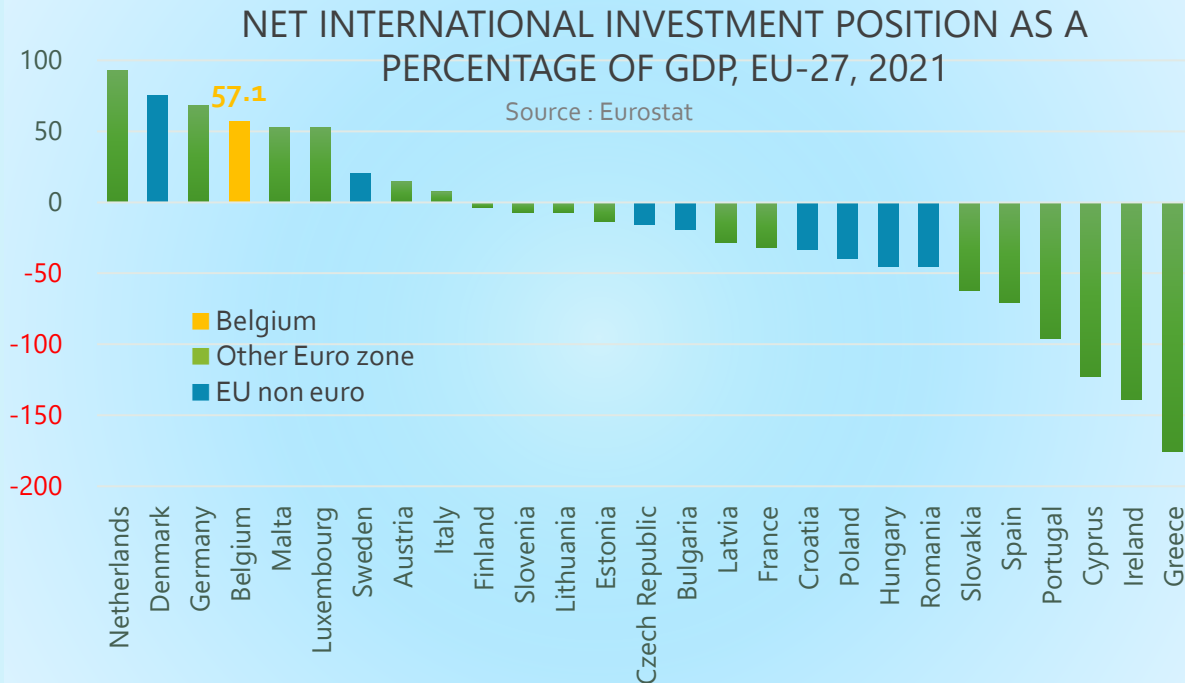


- Belgium's unemployment rate remains close to historical lows.
- In 2022, employment is projected to increase by 60K (NBB June 2022 projection). The harmonized employment rate would attain 71.8% as per end of 2022.
- In Q1 2022, Belgium had the second highest job vacancy rate of the Euro Area (4.80% vs 3.10%).

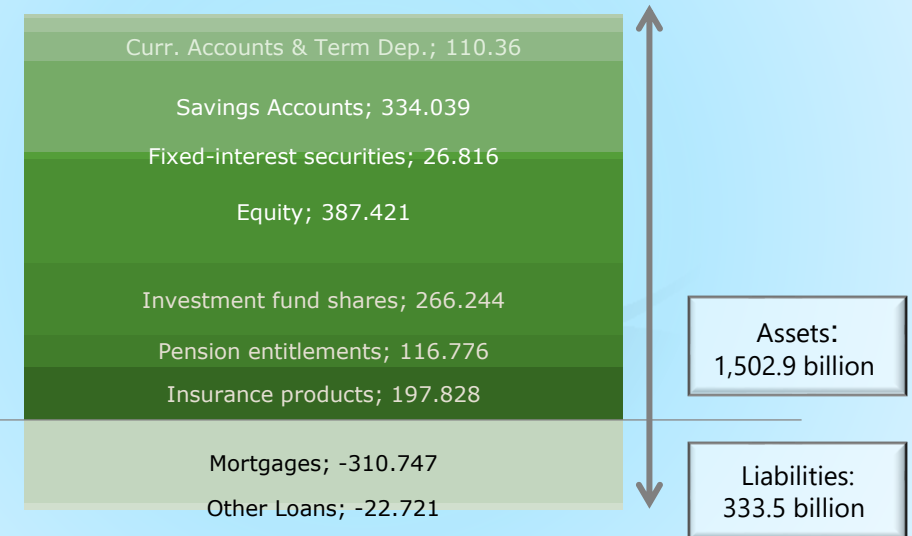
- Exports have strongly increased since Q1 2021.
- 46.1% of exports go to the 3 neighbouring countries.
- Exports to the UK decreased to 4.6% of total (\pm 7.5% before).

International Investment Position and Financial Assets

The economy's international financial position remained unchanged throughout the Covid pandemic.



NET FINANCIAL ASSETS OF BELGIAN HOUSEHOLDS, Q1 2022, IN BILLION EURO



- Belgium's favorable net international investment position was maintained at a high level.

- Net household financial wealth now amounts to 1,170 billion euro, or **231% of GDP**.
- Total net household wealth (including real estate) was estimated at EUR 2,795 billion on 31 December 2020.

4. Public Finances & Debt Management Strategy

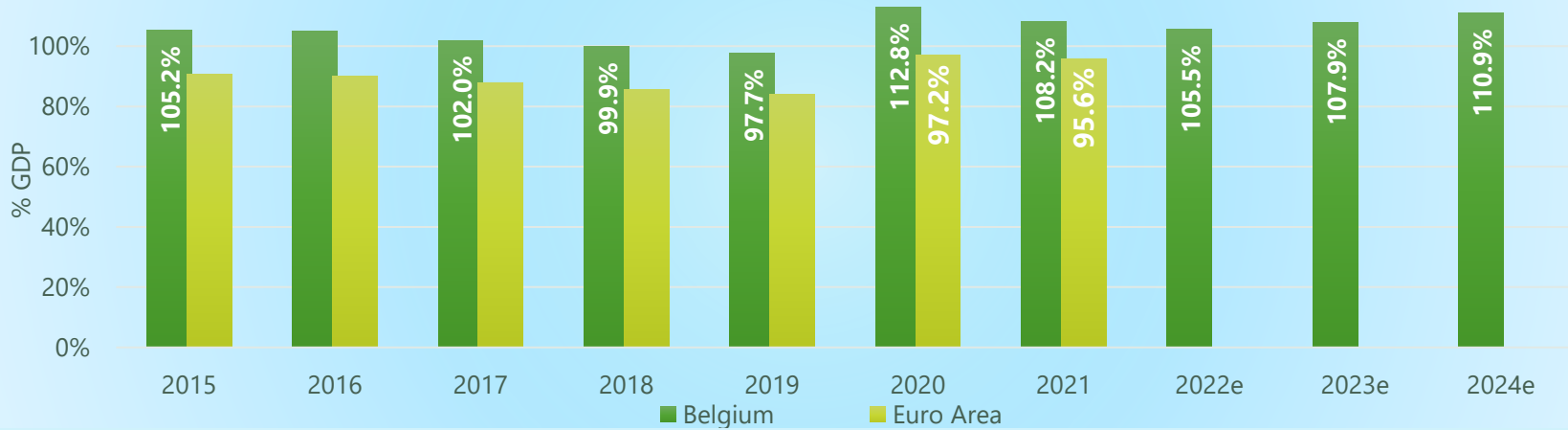


Debt-to-GDP Ratio & Government Budget

In 2022, Belgium's debt ratio should keep decreasing and the government deficit is expected to improve as well.

DEBT-TO-GDP RATIO BE/Euro Area

Sources : 1995-2021 (EA): Eurostat (Bel): NBB / 2022e-2024e NBB June 2022 projection

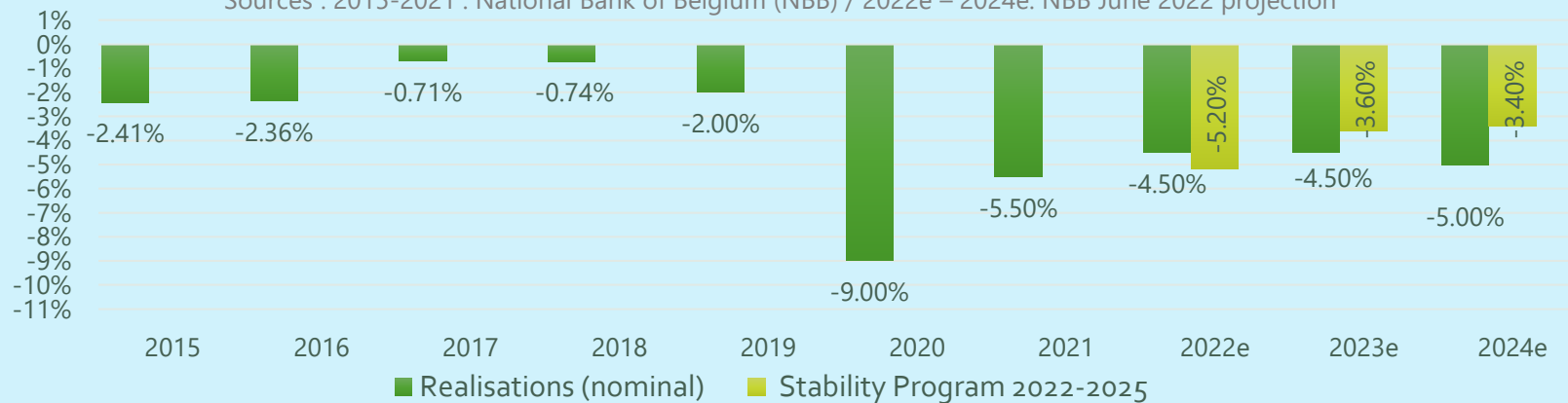


- The debt-to-GDP ratio would be reduced by 7.3% in 2021-2022 (neutralising almost half of the rise caused by the pandemic).

Assumptions	2022	2023	2024
Economic growth	2.4%	1.5%	2.0%
GDP deflator	6.1%	1.0%	0.5%

GOVERNMENT DEFICIT

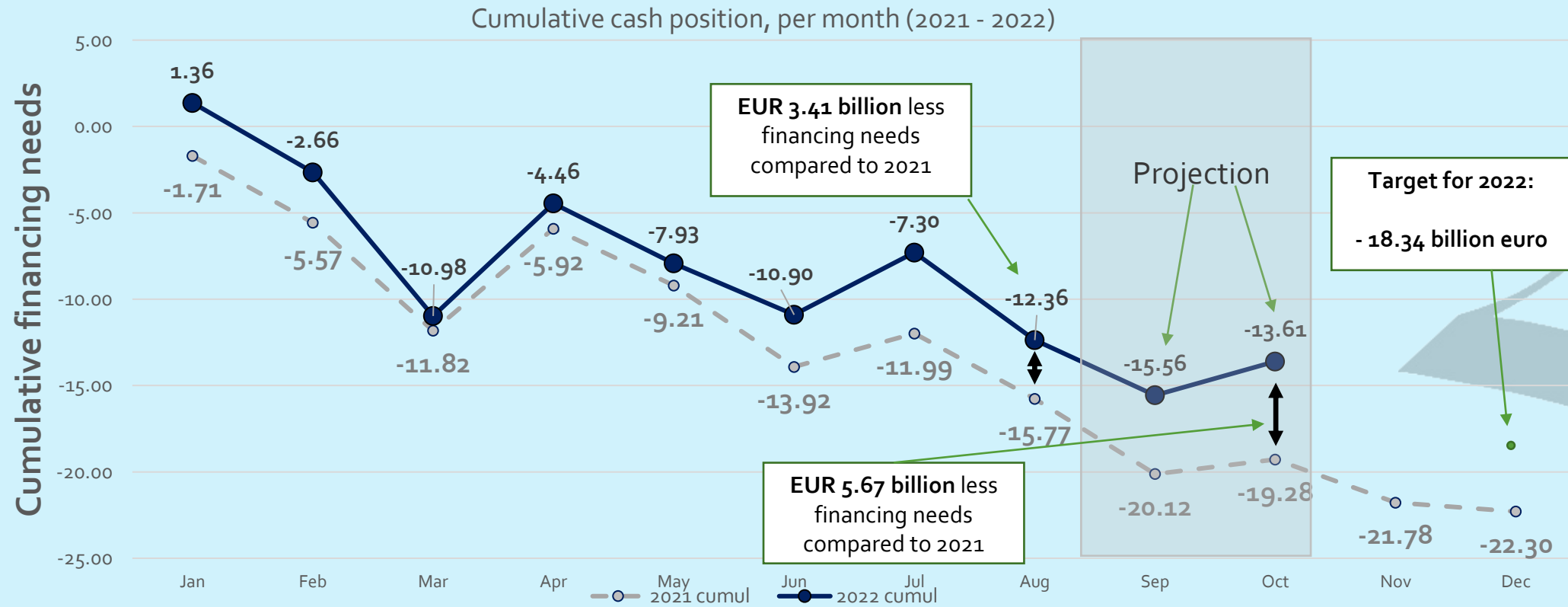
Sources : 2015-2021 : National Bank of Belgium (NBB) / 2022e – 2024e: NBB June 2022 projection



- In its 2022 Stability program, Belgium projected a 2022 deficit of -5.20%. Cost of government measures to counter (energy) inflation was estimated at 0.6% of 2022 GDP. In 2023-2024, the deficit would improve to -3.60% and -3.40%.
- The NBB's June 2022 projection on an unchanged policy basis was more positive for 2022 (deficit of -4.50%) but obviously more negative for 2023-2024.

Federal net borrowing requirements

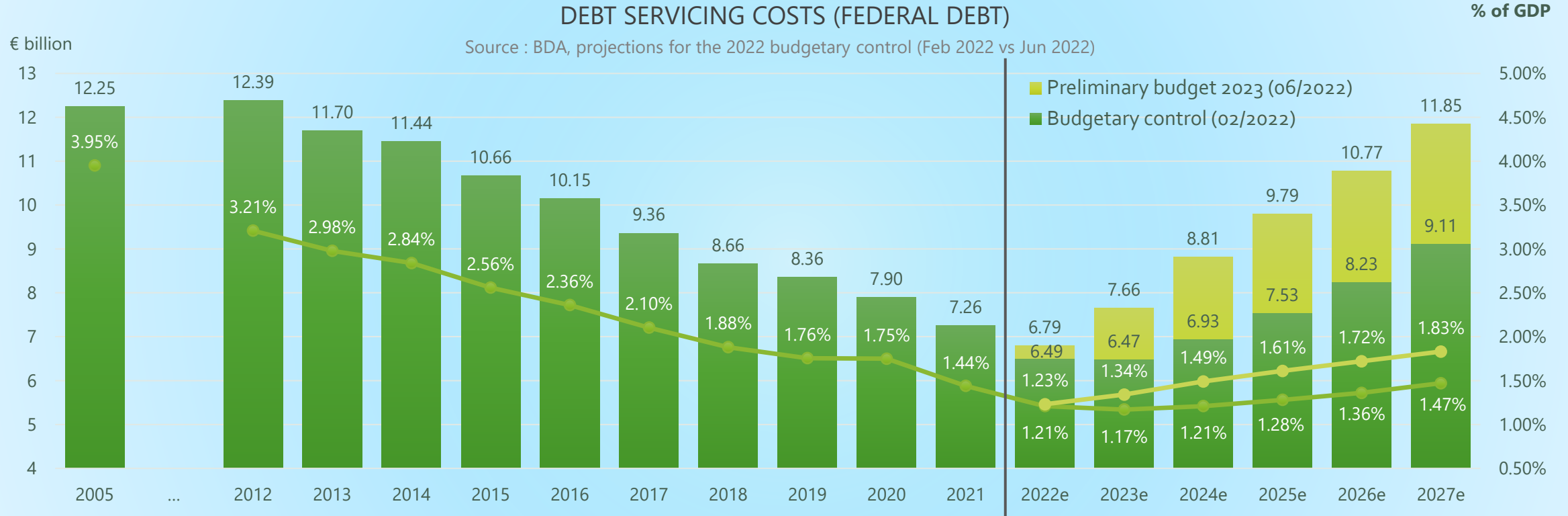
In 2022 so far, net borrowing requirements have been lower than those of 2021.



- The gap is likely to increase further in September and October, as such the end-of-year target (EUR -18.34 billion) is within reach.
- The Debt Agency accordingly expects the overall government deficit to shrink at least as much as predicted by the NBB in June.

Debt servicing costs

Federal debt servicing costs would keep declining in 2022, until increased interest rates eventually induce higher costs as of 2023.

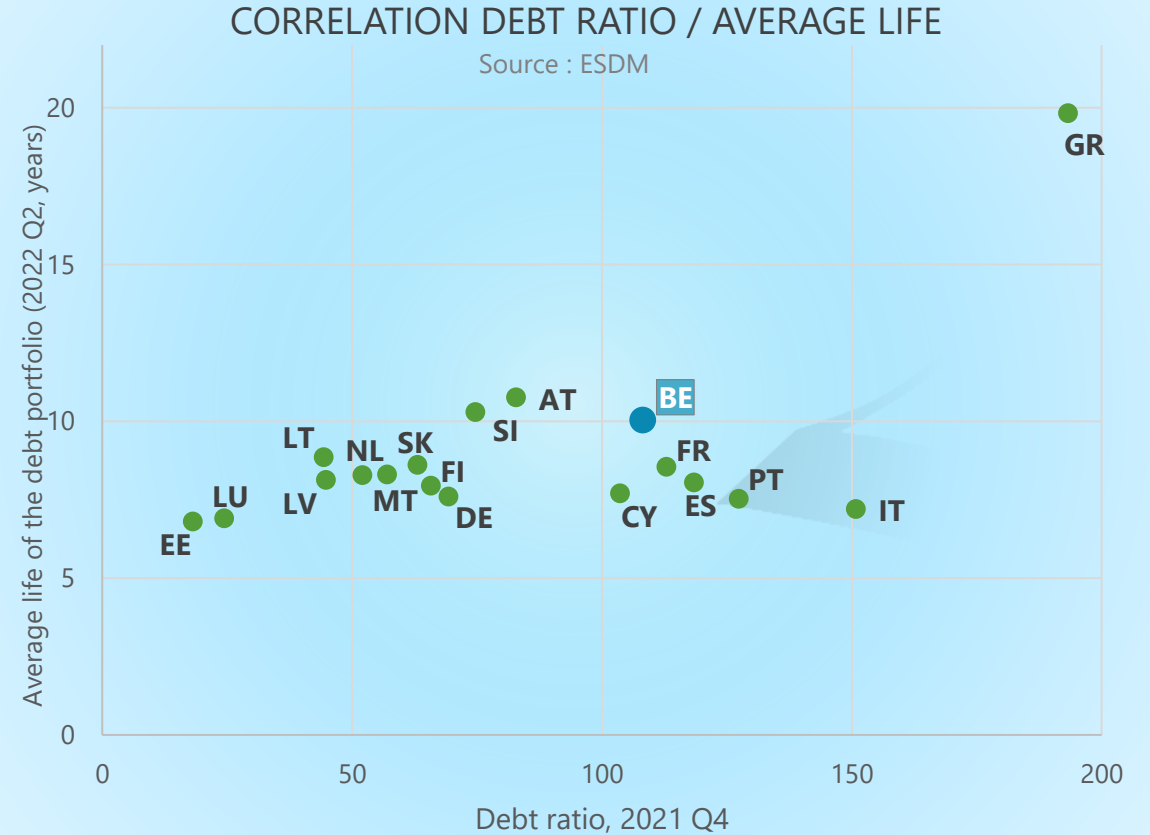
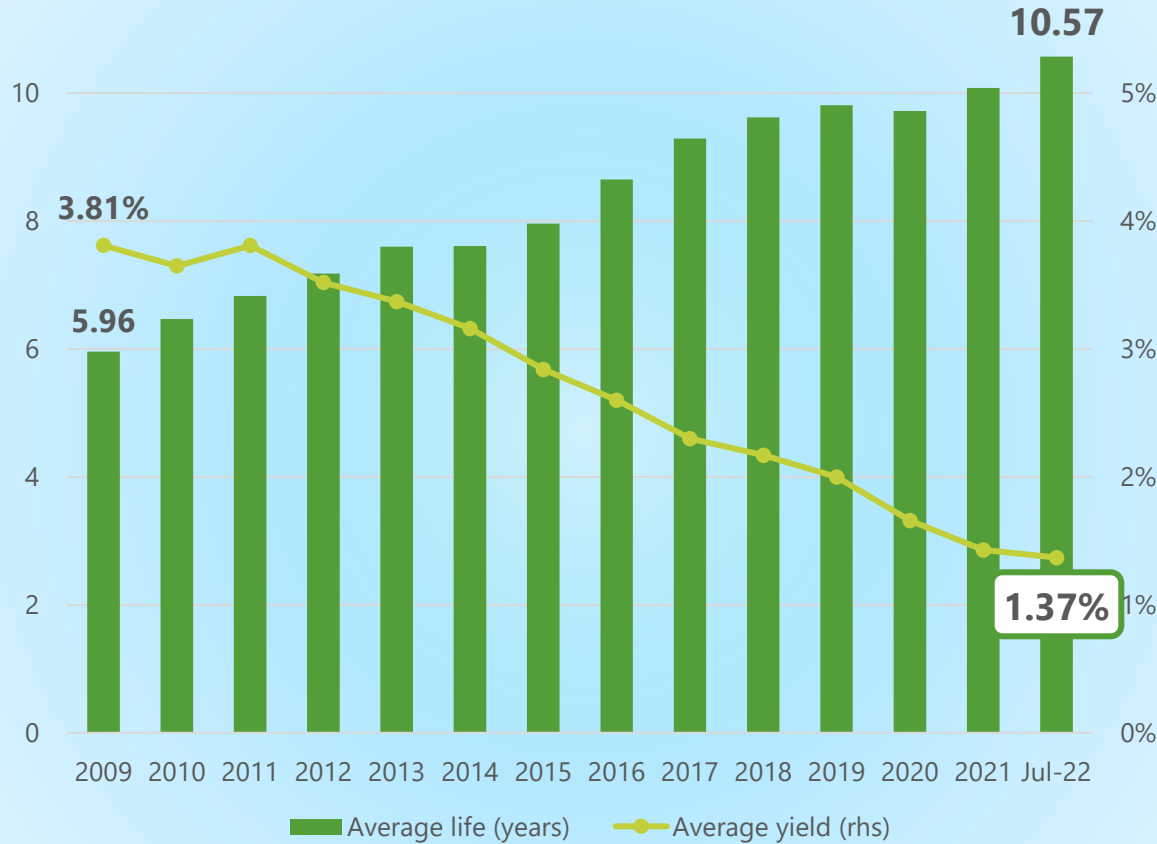


- Federal debt servicing costs are expected to rise again in 2023. By 2027, they would reach 1.83% of GDP instead of 1.47% as expected earlier this year. That is, for example, still lower than their 2018 level (1.88% of GDP at that time).

Interest rates assumptions	2022	2023	2024	2025	2026	2027
Short term Feb 2022	-0.51%	-0.06%	0.40%	0.86%	1.31%	1.77%
Jun 2022	-0.03%	1.41%	2.01%	2.02%	2.15%	2.26%
Long term Feb 2022	0.76%	1.05%	1.29%	1.53%	1.78%	2.02%
Jun 2022	1.67%	2.31%	2.61%	2.83%	3.08%	3.33%

Average Life

The average life of the debt portfolio (one of the highest of the EA19) increased in 2021 as planned, while the implicit yield declined further.



- Minimum average life is set at 9.25 years in 2022 (same as in 2021).
- The increase in the 2020 and 2021 funding needs did not influence the debt structure.

- The methodology of the EFC Sub-Committee on Sovereign Debt Markets (ESDM) for calculating the average life of the government debt is slightly different from Belgium's methodology, leading to a different figure (10.03 years instead of 10.42).

Maturity Schedule & Long-Term Issuance (forecast 03/2022)

The new Green OLO will fit into the OLO curve.



	2022	2023	2024	2025
Gross Funding Requirements	48.28	39.82	46.54	39.06
OLO	41.20	40.25	40.25	39.25
EMTN & Schuldscheine	3.00	3.00	3.00	3.00
State Notes	0.00	0.20	0.20	0.20
Total Long- Term issuance	44.20	43.45	43.45	42.45

-2%

+0%

-2.5%

2022 Borrowing Requirements and Funding Plan

In 2022, higher gross funding requirements, yet stable long-term issuance.

(figures in EUR billion)	2021		2022	
	31/12		Plan	Up to 26/08
Financing Requirements	40.69	+18.7%	48.28	
Net financing requirements	22.48		18.34	
Redemptions of MT/LT debt	15.63		27.59	
Pre-funding (buy backs)	2.41		1.84	
Other financing requirements	0.18		0.50	
Funding Means	43.57	+1.4%	44.20	35.03 (79.3%)
OLO issuance	39.23		41.20	34.99
EMTN issuance & Schuldscheine	0.13		3.00	0.00
State Notes	0.00		0.00	0.04
Other (e.g., SURE loans)	4.21		0.00	0.00
Change in Treasury Cert. Stock	0.67		2.00	
Change other ST debt and assets	-3.56		2.08	

A lower cash deficit...
... but substantially higher redemptions

Limited increase
in OLO issuance

No contribution from
EU funding any more

Short term debt to
increase by
EUR 4.08 billion
(after the decline in 2021)

2022 Funding Strategy:

- Three new fixed-rate OLO benchmarks via syndications : New 10-, 30-year and a Green OLO.
- 11 auctions and 8 Optional Reverse Inquiry (ORI).
- EMTN (including inflation-linked) and Schuldscheine, subject to competitive funding levels.

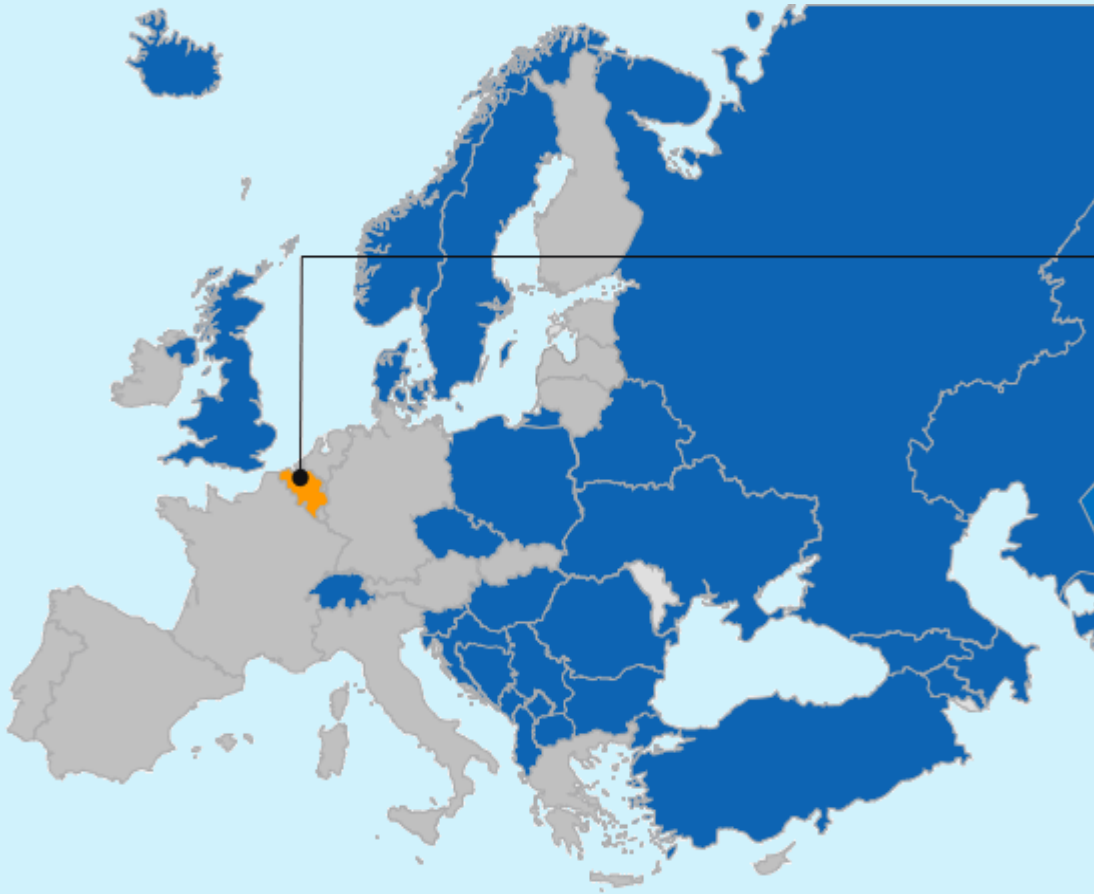
5. Appendices

5.1. National Data



Key Belgian Statistics

Belgium has 3.4% of the EA19 population and produces 4.1% of EA19 GDP.

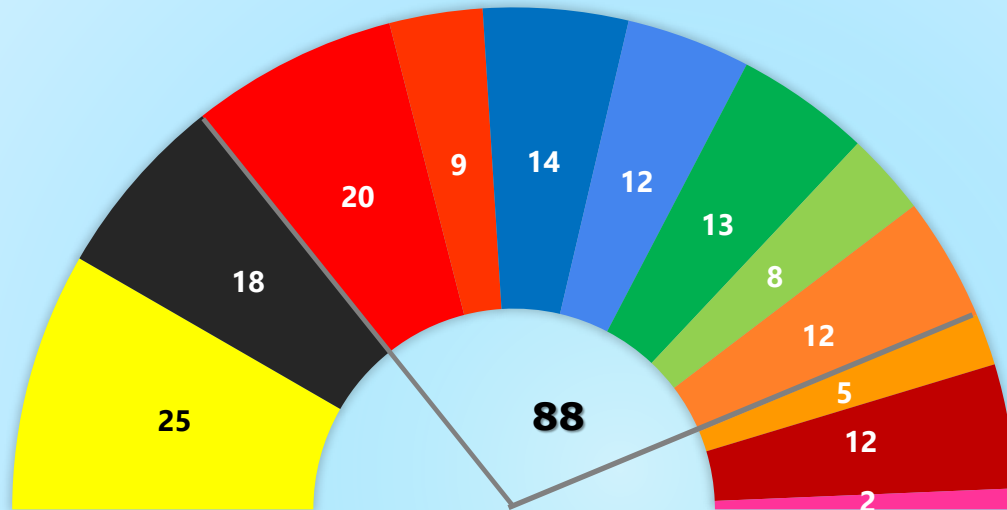


	GDP (% EA19)	Population (millions)
Germany	29.4%	83.2
France	20.4%	67.8
Italy	14.5%	59.0
Spain	9.8%	47.4
Netherlands	7.0%	17.6
Belgium	4.1%	11.6
Ireland	3.5%	5.1
Austria	3.3%	9.0
Finland	2.0%	5.5
Portugal	1.7%	10.4
Greece	1.5%	10.6
Slovakia	0.8%	5.4
Luxembourg	0.6%	0.6
Lithuania	0.5%	2.8
Slovenia	0.4%	2.1
Latvia	0.3%	1.9
Estonia	0.2%	1.3
Cyprus	0.2%	0.9
Malta	0.1%	0.5
EA19	100%	342.9

- Belgium is the **6th economy** of the euro-zone.
- It has a population of **11.6 million people** (3.4% of EA 19-population).
- Belgium's 2021 GDP amounted to **506.2 billion euros**, resulting in a GDP per capita of **44,017 euros**.

Belgian Federal Government: Composition

On October 1st, 4 political families formed a 7-party coalition government at the federal level.



- | | |
|------------------------------------|--------------------------------------|
| ■ N-VA (Dutch nationalists) | ■ Vlaams Belang (Dutch nationalists) |
| ■ PS (French socialists) | ■ SP.A (Dutch socialists) |
| ■ MR (French liberals) | ■ Open-VLD (Dutch liberals) |
| ■ Ecolo (French ecologists) | ■ Groen (Dutch ecologists) |
| ■ CD&V (Dutch christian democrats) | ■ CDH (French democrats) |
| ■ PTB/PVDA (French & dutch labour) | ■ DEFI (French centrists) |

- Elections on the federal and regional level took place on **26 May 2019**.
- The Liberal-Socialist-Green-Christian Democrat coalition has **88 seats** out of 150.
- The Prime Minister is **Mr. Alexander De Croo** (Dutch speaking liberals).

Key Figures Government Debt

Key Figures of the debt portfolio (31 July 2022).

- **Rating** : S&P:AA/A-1+, Moody's: Aa3/P-1, Fitch: AA-/F1+, DBRS: AA/R-1(high)
- **Federal Government Debt (gross):** € 468.73 billion
 - Main Marketable Debt Instruments
 - Linear Bonds (OLOs): € 408.57 billion
 - Treasury Certificates: € 28.29 billion
 - EMTN-issuance + SSD: € 10.61 billion
 - Euro Commercial Paper (in EUR): € 0.00 billion
- **Breakdown**
 - Euro-denominated: 100.00 %
 - Foreign currencies (after swaps): 0.00 %
- **Duration, average life (euro debt), average time to next fixing (total debt), weighted average yield**
 - Duration: 9.35 yr
 - Average life: 10.57 yr
 - Average time to next fixing: 10.55 yr
 - Weighted average yield: 1.37 %
- **Refinitiv page BELG/OLO**
- **Bloomberg page BEDA - OLO Auctions - Results**



Belgium's Ratings

Belgium maintains its high ratings.¹

	Long-term rating	Perspective	Most recent report
Standard & Poor's	AA	Stable	21 March 2022
Moody's	Aa3	Stable	26 November 2021
Fitch Ratings	AA-	Stable	18 March 2022
DBRS	AA	Stable	12 August 2022
JCRA	AAA	Stable	25 March 2022
R&I	AA+	Stable	28 June 2021
Creditreform	AA	Negative	24 June 2020

- Fitch Ratings improved the outlook to stable in September 2021, while DBRS downgraded Belgium to AA in August.

¹: Belgium - created in 1830 - has never defaulted (for a comparison with other countries see C.M. Reinhart and K.S. Rogoff, *This time is different – Eight centuries of financial folly*, Princeton, 2009, p. 99).

5.2. Green eligible expenditures: Case studies

Case Studies

Introduction.

- Global Environmental Challenges are addressed by different types of expenditures deployed to meet Belgium's Climate and Environmental Policies.
- In the following pages, some general examples and projects funded by the Green Bond, classified by the Green Sectors identified by the Kingdom of Belgium.

Energy Efficiency (including Green Buildings)

Green sectors and examples of eligible green Expenditures and Projects.



7.1 CONSTRUCTION OF NEW BUILDINGS	Construction of new buildings provided that the Primary Energy Demand (PED) is at least 10% lower than the threshold set for nearly zero-energy buildings (NZEB) requirements in national measures implementing Directive 2010/31/EU. The energy performance must be certified using an as built Energy Performance Certificate (EPC).
7.2 RENOVATION OF EXISTING BUILDINGS	Renovation of existing buildings leading to a reduction of primary energy demand (PED) of at least 30%.
7.3 INSTALLATION, MAINTENANCE AND REPAIR OF ENERGY EFFICIENT EQUIPMENT.	Individual renovation measures consisting in installation, maintenance or repair of energy efficiency equipment such as addition of insulation to existing envelope components and the installation, replacement, repair or maintenance of existing windows, external doors, light sources, HVAC and water heating systems with new energy efficient versions
7.5 INSTALLATION, MAINTENANCE AND REPAIR OF INSTRUMENTS AND DEVICES FOR MEASURING, REGULATION AND CONTROLLING ENERGY PERFORMANCE OF BUILDINGS	Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings , such as the installation, maintenance, and repair of zoned or smart thermostats, building automation and control or energy management systems, lighting control systems, energy management systems and smart meters for gas, heat, cool and electricity.
7.6 INSTALLATION, MAINTENANCE AND REPAIR OF RENEWABLE ENERGY TECHNOLOGIES	Installation, maintenance and repair of renewable energy technologies , on-site, consisting of the installation, maintenance and repair of either solar photovoltaic systems, solar hot water panels, heat pumps, solar transpired collectors, or thermal or electric energy storage systems as well as the ancillary technical equipment.
7.7 ACQUISITION AND OWNERSHIP OF BUILDINGS	Acquisition and ownership of buildings: - For buildings built after 31st December 2020: the Primary Energy Demand (PED) is at least 10% lower than the threshold set for nearly zero-energy buildings (NZEB) requirements in national measures implementing Directive 2010/31/EU - For buildings built before 31st December 2020: Energy performance certificate of A, or alternatively the Primary Energy Demand (PED)
Examples of Eligible Green Expenditures : <ul style="list-style-type: none"> • <i>Tax credit for corporates investing in energy efficiency</i> • <i>Investments in Sustainable Real Estate Funds with Green certification</i> 	

Green eligible expenditures – case studies

Energy Efficiency.

- BIO, a government agency, supports the private sectors through a multitude of funds to enable them to gain access to growth and sustainable development.
- Contributes in a structural and positive way of the host countries, aligned with the UN's Social Development Goals.
 - MGM Sustainable Energy Fund II (MSEF II):
 - Green infrastructure private equity fund focusing on energy efficiency and renewable energy opportunities in Latin America and the Caribbean.



Clean Transportation

Green sectors and examples of eligible green Expenditures and Projects.



	SUPPORT THE DEVELOPMENT AND EXTENSION OF:
6.1 PASSENGER INTERURBAN RAIL TRANSPORT 6.14 INFRASTRUCTURE FOR RAIL TRANSPORT	Passenger interurban rail transport and infrastructure for rail transport (including infrastructure subject to an electrification plan that will be fit for use by electric trains within 10 years).
6.3 URBAN AND SUBURBAN TRANSPORT, ROAD PASSENGER TRANSPORT	Urban and suburban transport , and related infrastructure enabling low-carbon road transport and (rail) public transport .
6.4 OPERATION OF PERSONAL MOBILITY DEVICES, CYCLE LOGISTICS 6.13 INFRASTRUCTURE FOR PERSONAL MOBILITY, CYCLE LOGISTICS	Operation of personal mobility devices, cycle logistics and related infrastructure for personal mobility, cycle logistics (soft mobility) .
6.4 OPERATION OF PERSONAL MOBILITY DEVICES, CYCLE LOGISTICS 6.13 INFRASTRUCTURE FOR PERSONAL MOBILITY, CYCLE LOGISTICS	Electric vehicles and related infrastructure.
Where all such modes of transport have zero direct (tailpipe) CO ₂ emissions.	
Examples of Eligible Green Expenditures: <ul style="list-style-type: none"> • <i>Federal State's support for investment and operating expenditures related to the extension, improvement and maintenance of public transport and rail-related infrastructure</i> • <i>Tax credits in favor of electric vehicles</i> 	

Clean Transportation

Non-exhaustive list of SNCB & Infrabel green eligible projects.

SNCB:

- Rolling stock : acquisition of M7 double-deck coaches and electric locomotives, deployment of the ETCS safety system, major overhauls of coaches, electric railcars and locomotives.
- Investments in railway stations (e.g. Gent Sint-Pieters, Mechelen, Mons, Brussels-South), redesign of rail yard, investments in workshops.
- Digitalisation travellers services (information, WIFI in stations, ticket vending machines, ...), investments in security and safety.

Infrabel:

- Renewal of the existing railway infrastructure network (very capital intensive, require significant investment every year):
 - A dense railway infrastructure network with 6.532 km of main tracks, +4.400 track switches, +11.500 civil engineering structures (bridges, tunnels,...) and +13.500 signals.
- Specific programs to structurally renew certain line sections (e.g. the railway axis Brussels-Luxemburg) and improve its safety, quality and robustness (e.g. the Brussels North-South link).

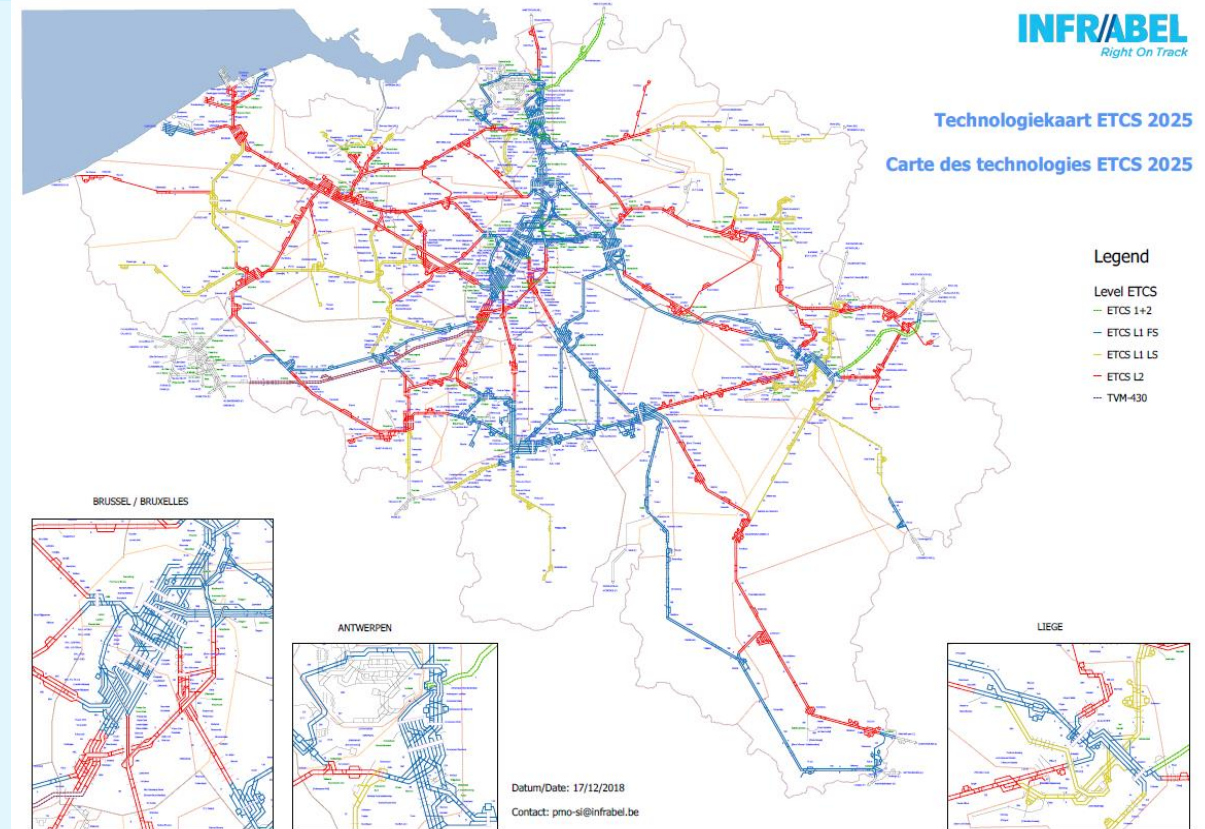


Clean Transportation

Zoom-in on ETCS system.

European Train Control System (ETCS)
making the Belgian rail network one of the safest in Europe:

- An automatic train control system operating with balises in the track that allow the train driver to closely monitor train's speed and even correct it by activating the emergency brake.
- An EU interoperable standard, allowing trains from other EU countries to run safely in Belgium thereby contributing to a unified and safer EU network and promoting international rail traffic.
- Being installed on the national rail network since 2009. Infrabel issued in 2019 the (second version of the) ETCS Master Plan, aiming at equipping the entire Belgian infrastructure with ETCS until 2025.



Clean Transportation

Zoom-in on means of production and infrastructure network.



Means of production: workshops, rolling stock,...



- Disposing of adequate production means is necessary for Infrabel to maintain the Belgian railway infrastructure network and manage the railway traffic (long term planning as well as day-to-day operations).
- Infrabel's own workshops are modernized to the current standards and aiming at improving workers safety and environmental aspects (e.g. use of switches on concrete sleepers vs. wooden sleepers).
- Yearly investments in the rolling stock (e.g. a ballast tamper), so as to dispose of the necessary tools for an efficient maintenance and renewal process, limiting the impact on the day-to-day operations.
- Given the geographical dissemination of its network, the personnel of Infrabel is housed in buildings all over Belgium. A program is ongoing in order to concentrate the workforce in less buildings which are constructed or modernised taking into account the current environmental standards (e.g. energy consumption). Examples are the new logistics centres (maintenance and renewal crews) and the new concentrated signalling boxes, evolving from 311 boxes (2005) to 10 large signalling boxes.

Railway infrastructure network:



- Investment projects extending the capacity of the network, such as (i) the addition of a 3rd 4th track between Ghent and Bruges (allowing an increase passenger traffic by rail) and (ii) the investments in the ports (allowing an increase freight traffic by rail).
- Infrastructure investments improving passenger amenities, such as (i) increasing the height of the railway platforms (allowing easier access to the trains), (ii) improving the announcement systems, and (iii) reviewing the track configuration.

Renewable Energy

Green sectors and examples of eligible green Expenditures and Projects.



4.1 ELECTRICITY GENERATION USING SOLAR PHOTOVOLTAIC TECHNOLOGY

Develop and support/deploy renewable energy technologies and related investments linked to **electricity generation using solar photovoltaic technology.**

4.3 ELECTRICITY GENERATION FROM WIND POWER

Develop and support/deploy renewable energy technologies and related investments linked to **electricity generation from wind power.**

4.10 STORAGE OF ELECTRICITY

Develop and support/deploy renewable energy technologies and related investments linked to **the construction and operation of battery electricity storage.**

Examples of Eligible Green Expenditures:

- *Federal State's support to renewable energy infrastructure*

Circular Economy

Green sectors and examples of eligible green Expenditures and Projects.



Measures promoting the sustainable consumption and production modes of materials through:

- Reducing the use of primary raw materials and increasing the use of recycled, re-used, repurposed or by-products;
- Sustainable design and manufacture activities aimed at increasing the durability, recyclability and reusability of products;
- Prolonging the use of products through reuse, repurposing, remanufacturing, upgrade and repairs; and/or
- Reducing the amount of non-recyclable waste or waste to landfill through waste hierarchy or waste management infrastructure and practices.

Examples of Eligible Green Expenditures:

- *Tax expenditures for reusable packaging*

Living Resources and Land Use

Green sectors and examples of eligible green Expenditures and Projects.



Measures supporting:

- **The protection, preservation, restoration of terrestrial and marine ecosystems** with the aim of preserving or enhancing natural capital (i.e. protection or enhancement programmes, rehabilitation plans);
- **Sustainable land use and management** (i.e. sustainable agriculture preventing the degradation of soil and ecosystems, remediation or prevention of contamination through monitoring and remediation, prevention of deforestation and habitat loss);
- **Sustainable use of water and protection of marine resources** through the prevention and remediation of water pollution and contamination, the improvement of water management (through water efficiency and reuse); and/or
- **The prevention, mitigation or remediation of floods and other natural disasters** (as defined in Appendix A of the Climate Change Adaptation Delegated Act).

Examples of Eligible Green Expenditures:

- *Operating expenditures of academic research programs in biodiversity, climate change and other global environmental challenges*
- *Investment expenditures for soil rehabilitation and biodiversity restoration*
- *Investment in sustainable programs for climate change mitigation and adaptation in developing countries while enhancing biodiversity (i.e. using nature-based solutions as defined in UNEA 5 resolution)*

Living Resources and Land Use

Non-exhaustive list of FPS Foreign Affairs Foreign Trade and Development Cooperation's green initiatives.

Also through the FPS Foreign Affairs, Foreign Trade and Development Cooperation, the Kingdom of Belgium supports various multilateral climate and environmental initiatives, such as:

- the Global Environment Facility
- the least Developed Countries Fund (LDCF)
- the Green Climate Fund (GCF)
- the UN Environment Program (UNEP).



Living Resources and Land Use, Energy Efficiency and Circular Economy

Non-exhaustive list of SFPIM green eligible investments.

- SFPIM is a government agency who manages the Federal government's shareholdings through cooperation with the government and its own investment policy in the interests of the Belgian economy.
- A broader role for SFPIM in the government's environmental investments was decided in 2021.
- Investments towards energy efficiency in real estate construction, restoration of polluted sites, clean transportation and agricultural food funds.
- In 2021, biggest investments:
 - Caloritum (Qpinch) – Renewable Energy
Capture of waste heat to deliver new energy after a transformation process.
 - Good Harvest Ventures – Living Ressources and Land Use
Venture capital fund managed by Good Harvest: invest in food and agricultural sector.



Thank you for your attention !

