GOVERNMENT DEBT MANAGEMENT AGENCY PTE LTD.

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HUNGARY
Investor Presentation

July 2020

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KEY FACTS AND FIGURES ON HUNGARY

Area: 93,023 sq. kilometres

Capital: Budapest

Population: 9.8m

Life expectancy: 76.1 years

Currency: Forint (HUF)

Exchange rate (2019): 290.65 HUF = 1.00 USD[1]

Nominal GDP (2019): HUF 46,787 billion

Real GDP growth (2019): 4.9%

Public debt (2019): HUF 29,682 billion

Public debt in foreign currency (2019): HUF 5,121bn (EUR 15 billion)

Sovereign ratings: BBB / Baa3 / BBB

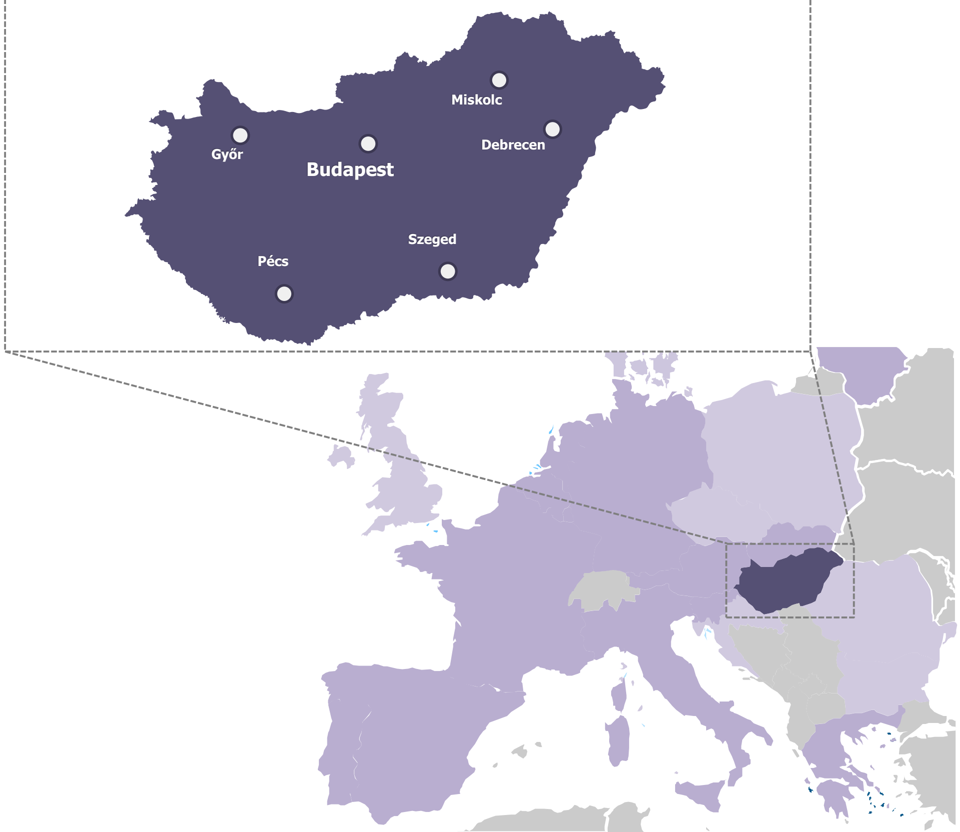
Government: parliamentary republic

EU member country since: 2004

Schengen area member since: 2007

Key economic sectors: manufacturing; wholesale and retail trade; automotive; education and health

A high income economy with a strategic location at the centre of Europe and memberships in key international organizations



Note: 1. Average exchange rate in 2019

Sources: Government Debt Management Agency of Hungary (AKK), Hungarian Central Statistics Office (HCSO), HIPA, Magyar Nemzeti Bank (the central bank of Hungary) (MNB), World Bank, Bloomberg, European Commission

HUNGARY IS IN STRONG POSITION TO FACE THE IMPACT OF COVID-19

Measures to face coronavirus pandemic

- The Government is taking **extraordinary measures to contain mass infections and mitigate the economic impact of Covid-19** as illustrated in slide 9
- The **MNB took a series of coordinated measures** including adjustment of policy rates, introduction of new liquidity enhancing facilities and executing asset purchases as illustrated in slide 15
- Fiscal policy measures result in a **total stimulus of HUF 9,200 billion** equalling 20% of GDP as illustrated in slide 11

Strong and resilient economy

- **Hungary is one of the fastest growing economies in Europe with real GDP growth of 4.9% in 2019** (3.3 times higher than the EU average) and **is facing the Covid-19 crisis from a resilient position**, as illustrated on slide 17
- **The economy benefits from strong investment dynamics,** enjoying the second highest investment rate in Europe in 2019
- **The level of unemployment is low,** amounting to 3.3% in Q4 2019 and 3.7% in Q1 2020
- **The sovereign's economic environment is stable:** inflation has been within the targeted band since 2017 and the banking sector is characterised by decreasing non-performing loan ratio and adequate capitalisation as illustrated in slide 21

Sound fiscal policies

- **The fiscal deficit had been constantly below the Maastricht threshold since 2012, however the expected 2020 ESA deficit has been revised to 3.8% of GDP (compared to the original 1.0% target) in response to Covid-19** as illustrated in slide 23
- **Counter-cyclical fiscal policies have allowed the public debt to decline steadily since 2011** – i.e. by 14.5 percentage points over 2011-2019, reaching 66.3% of GDP at year end 2019 as illustrated in slide 24
- **Fiscal policy will be supportive in 2020 in response to Covid-19, however the government remains committed to fiscal consolidation**

Favourable external position

- **Hungary enjoys a positive net international lending position since 2009** as illustrated in slide 27
- **This positive external position is largely explained by the country's trade surplus** which has been supported by the rise in services exports in recent years as illustrated in slide 27
- **External debt indicators are at historical lows** with a gross external debt level of 53% of GDP in 2019 compared to 107% in 2012 as illustrated in slide 28
- **International reserves are adequate**, representing over 1.6x the level of short-term external debt of the sovereign as illustrated in slide 28

Effective debt management

- **Hungary is an Investment Grade country that benefits from highly supportive financing conditions** as illustrated in slide 25.
- **The structure of public debt is favourable** with a decreasing share of FX debt, increasing average term to maturity and a highly diversified, deep and liquid domestic market as illustrated in slide 72 & 73
- **The development of the retail market has been a key driver of the expansion of the domestic investor base** as illustrated in slide 72 & 73

SEVERAL JAPANESE COMPANIES SIGNED A STRATEGIC ALLIANCE WITH THE GOVERNMENT OF HUNGARY

	Company	Field of Activity	Logo
1	**Suzuki**	A key player in the global automotive industry, present in Hungary since 1991.	
2	**Bridgestone**	A multinational auto and truck parts manufacturer.	
3	**Denso**	A global manufacturer of automotive parts.	
4	**Takata**	An automotive parts company.	
5	**Ibiden**	An electronics company.	
6	**Alpine**	An electronics component manufacturer.	

Source: Hungarian Government

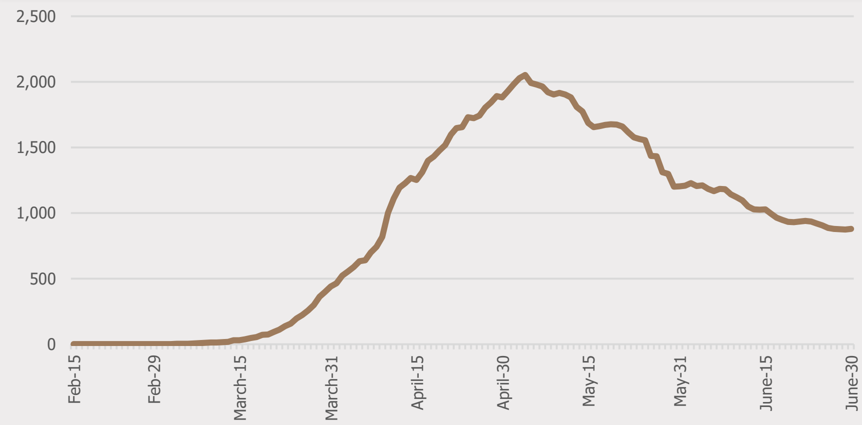
I. MEASURES TO FACE CORONAVIRUS PANDEMIC

CORONAVIRUS PANDEMIC IN HUNGARY

Key highlights

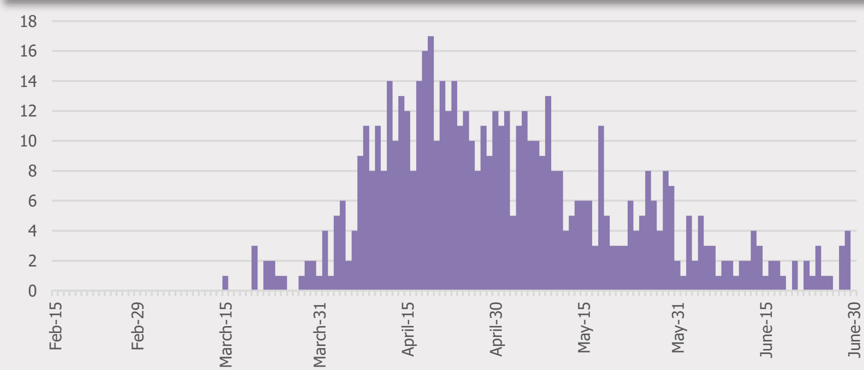
- **The first cases were detected on March 4, 2020**
  - The number of active cases grew during the next two months peaking on May 5, 2020 at 2,054
  - The number of active cases decreased since then rapidly falling below 1,000 on June 16, 2020
- **As of June 30, 2020 the total number of infected reached 4,155**
  - The number of deceased amounted to 585
  - Active cases amounted to 878; 2,692 patients recovered

Number of Active Cases



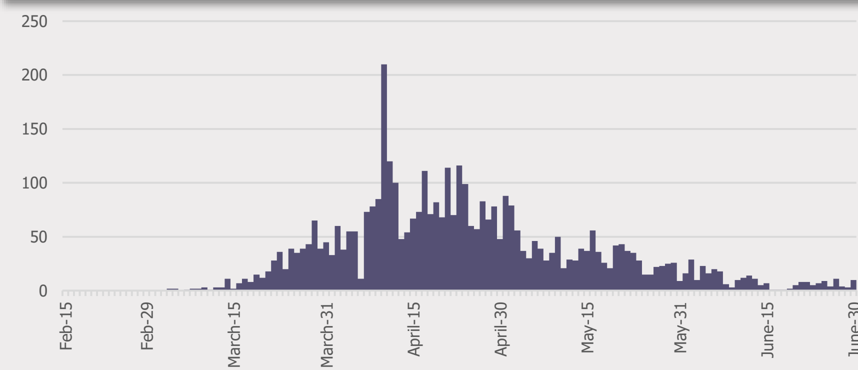
Source: www.worldometers.info

Daily Number of Deaths



Source: www.worldometers.info

Daily Number of New Cases



Source: www.worldometers.info

HUNGARY FACES THE COVID-19 CRISIS WITH A STRONG POLICY TRACK RECORD

Key highlights of government support

- **The Hungarian government is implementing a wide range of measures to support the economy in response to Covid-19**
  - Revised ESA budget deficit estimate of 3.8% of GDP in the Convergence Programme from 1.0% initially budgeted
  - Total measures announced worth HUF 9,200 billion for 2020 to mitigate the impact of the crisis
  - 2020 budget reserves of 1% of GDP mobilized
  - Creation of the Disease Control Fund and Economy Protection Fund
- The **revised ESA deficit target will limit the impact of the crisis on public finances**

Key highlights of central bank support

- **Key policy rates remaining highly accommodative and sufficient policy space** following increase in one-week collateralized lending rate to 1.85 percent following the last monetary council of April 7, 2020
- **Central bank base rate cut by 15 basis points** effective as of June 24, 2020
- **Enhanced liquidity** thanks to the introduction of 1-week FX swap tender, a 5-year long-term collateralized lending facility and the release of capital buffers of systemically important credit institutions
- **Introduction of asset purchase programs** with the Government Security Purchase Programme and the Mortgage Bond Purchase Programme
- **Introduction of a new and enlarged Funding for Growth Scheme** to ensure access to required and affordable funding for domestic SMEs

➢ **Balanced approach to maintain rates at low levels, ensure ample liquidity and achieve low long term rates**

KEY GOVERNMENT PRIORITIES IN RESPECT OF CORONAVIRUS

Protect lives, workplaces and decelerate the epidemic	Introduction of an official quarantine, boarder closing for foreigners and restricted social contact
	Besides health care delivery from abroad, the Government creates new capacities and increases existing ones in order to **produce health care products in Hungary**
	Deploy measures related to employment in order to **minimize human contacts**: employers may alter work schedule more easily, employers may order employees to work at home or remotely, employers may provide for checking the health of their employees
Mitigate the impact on the economy	**Maintain liquidity in the economy.** This requires redesigning fiscal and economic policy (budget reserves of up to 1% of GDP are being mobilized); The redesigning of budget "at all levels" is coordinated by the Minister of Finance, involvement of central bank and monetary policy tools.
	Allocate emergency defence expenditure: Until May 19, the Government already allocated a total of HUF 1,436 billion (EUR 4.1 billion) for pandemic and economy protection expenditures and further HUF 350 billion (EUR 1 billion) on tax measures.
	The tourist tax is suspended until December 31, the social contribution tax rate of the SZÉP Card will be reduced by June 30, and its limits will be raised. HUF 600 billion will be provided for the **tourism protection** program.
	In order to allow for a faster and more **flexible use of budgetary reserves** to mitigate effects of pandemic, the reserve rules which were laid down in the Budget Act are now suspended for 2020 on the basis of the 69/2020. Government Order. The reserves are now being spent on pandemic related expenditures.
	The Government created 2 new domestic funds to finance the costs related the financing of the Pandemic: (i) **Disease control fund** (HUF 634 billion) and (ii) **Economy protection fund** (HUF 1,345 billion)
Continuously monitor the situation	**Hold continuous consultation** with the representatives of the most troubled industries (such as tourism, catering industry and service sector) and representatives of the SME sector in order to introduce quick measures to help them.
	11 high-level task forces have been established in order to manage the situation

Source: MoF

ADDITIONAL FUNDS HAVE BEEN SET ASIDE TO HELP WITH THE COSTS OF THE CORONAVIRUS PANDEMIC

- After redesigning the budget law for 2020, two separate domestic funds were created for financing the costs related to the pandemic and for government's additional expenditures

Budget Law 2020

Total expenditures	Total revenues
HUF 21,991 billion	HUF 21,506 billion

Disease Control Fund

Expenditures	Sources (HUF 634 billion)
Purchase of goods, fixed assets *	Budget reserve (HUF 378 billion)*
One off wage for health care workers (HUF 71 billion)	Reallocation of other expenditures (HUF 130 billion)
	New tax – Retail sector (HUF 36 billion)
	New tax – Banking sector (HUF 55 billion)
	Existing tax – reallocated from local governments (HUF 34 billion)

Economy Protection Fund

Expenditures	Sources
Crisis related expenditures (HUF 1,345 billion)	Reallocation of expenditures from ministries (HUF 923 billion)
	Reallocation of sources from national Employment Fund (HUF 423 billion)

*The source of the asset purchase is the budget reserve which is an uncapped appropriation.

Source: MoF

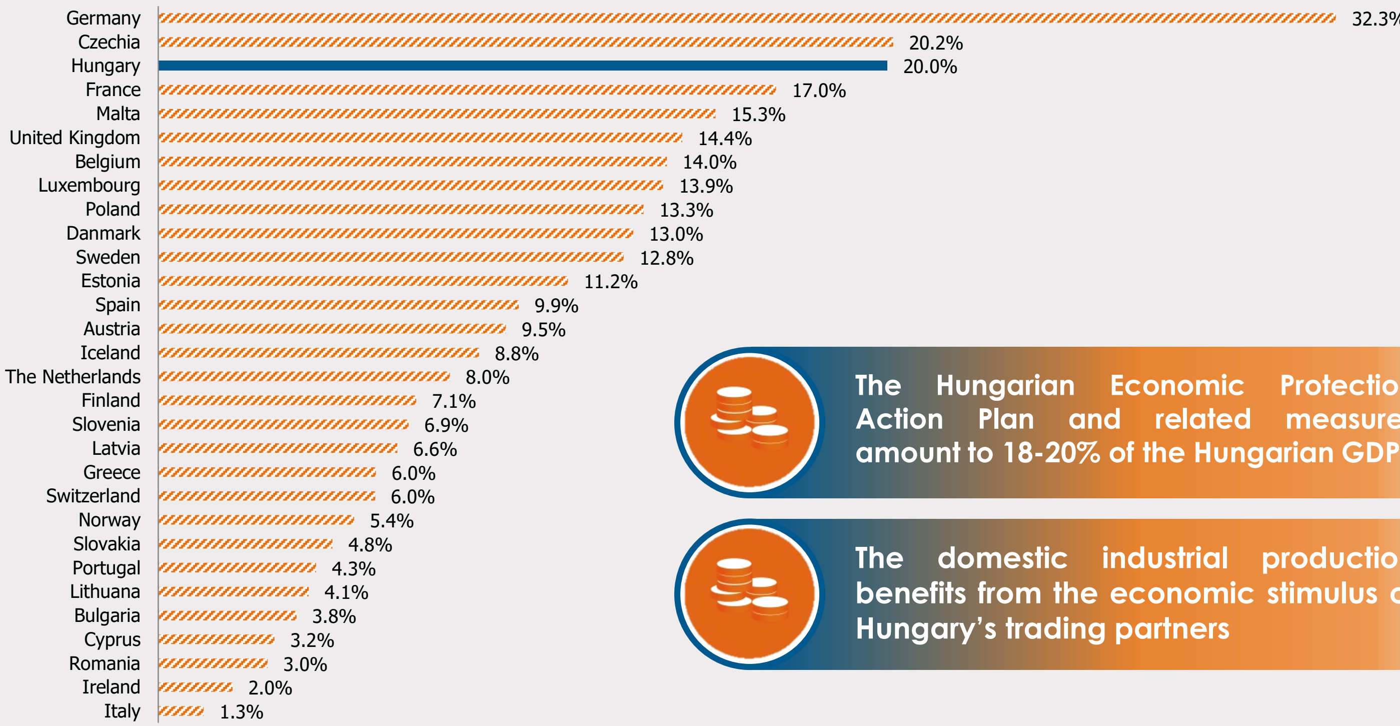
GOVERNMENT MEASURES TO ALLEVIATE ECONOMIC IMPACT OF THE PANDEMIC

Area of action	Sum of measures for 2020	
	HUF billion	% of GDP
Total measures = 1) + 2) + 3)	**9,191**	**19.5%**
1) Pandemic measures	774	1.6%
2) Economic policy measures = A) + B)	1,623	3.4%
A) Discretionary tax and social measures	360	0.8%
Further 2%-points cut of the social security tax	160	0.3%
Temporary cuts of certain employer's and employee's taxes until June 30	108	0.2%
Other tax measures	81	0.2%
Lengthened eligibility for maternity related social transfers	11	0.02%
B) Expenditure measures	1,262	2.7%
To be financed from reallocated domestic expenditures	923	2.0%
Domestic programmes not related to financing measures	*878*	*1.9%*
Budgetary effect of capital, guarantee and loan programs for 2020	*45*	*0.1%*
To be financed from reallocated EU-co-financed expenditures	340	0.7%
3) Financing measures	6,794	14.4%
Payment moratorium	3,600	7.7%
Total amount of new capital, guarantee and loan programs (up to May 19)	1,694	3.6%
Central Bank's Funding for Growth Scheme	1,500	3.2%

Source: MoF Note: 1 Calculated with expected GDP for the year 2020 of HUF 47,036.1 billion; figures are rounded for the first digit and consequently subject to rounding error

THE VOLUME OF THE HUNGARIAN MONETARY AND FISCAL MEASURES COMPARED TO THE LARGEST EUROPEAN MITIGATION PACKAGES

Size of the assistance packages (as % of GDP, 2019)



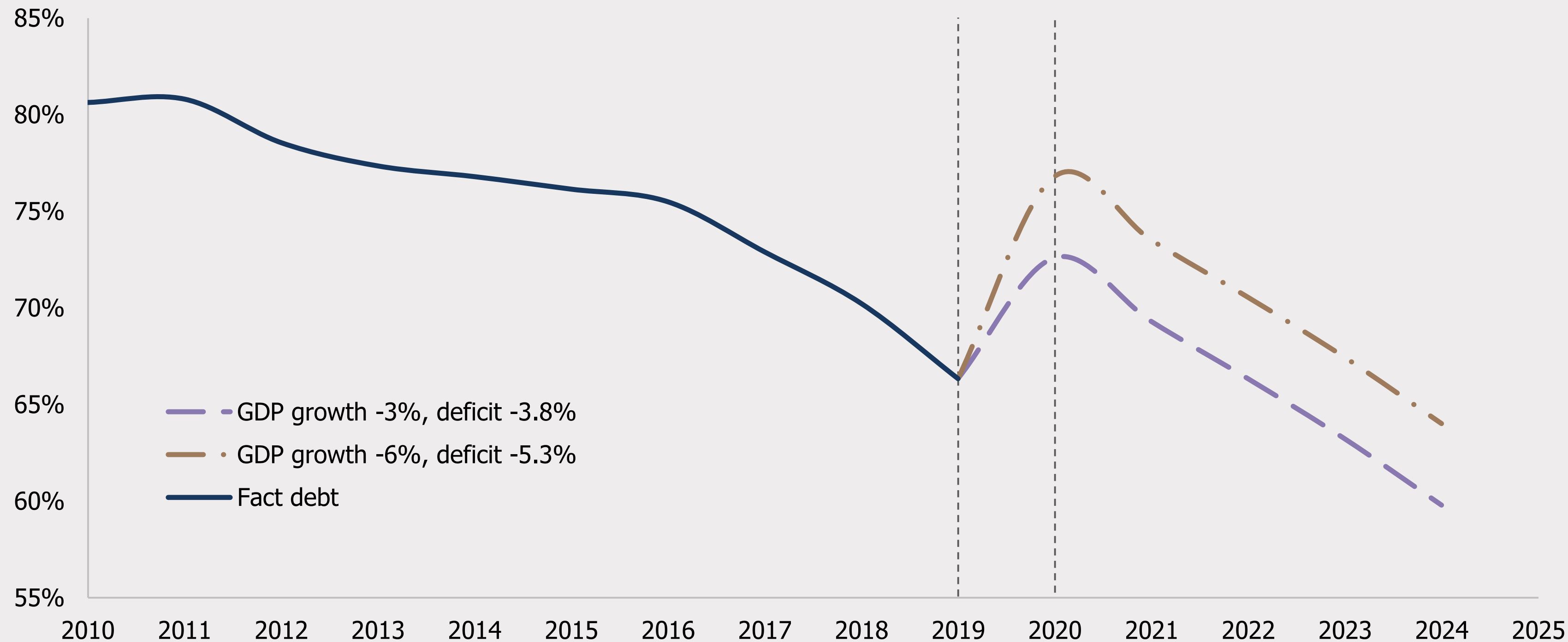
The Hungarian Economic Protection Action Plan and related measures amount to 18-20% of the Hungarian GDP

The domestic industrial production benefits from the economic stimulus of Hungary's trading partners

Source: MoF

THE 3.8% ESA DEFICIT TARGET DENOTES THE GOVERNMENT'S INTENTION NOT TO INCREASE DEBT IN AN UNCONTROLLED WAY

Various debt scenarios depending on GDP and deficit (% of GDP)



By setting a 3.8% ESA deficit target for 2020, the Government wants to send a clear message that it will not tolerate an uncontrolled increase in debt

Source: MoF

HUNGARY, SIMILARLY TO OTHER COUNTRIES, IS FOCUSED ON THE ECONOMIC RECOVERY AND KEEPING PEOPLE EMPLOYED

	Hungarian focus measures	Note	Some countries that also apply
1	**Hungarian "Kurzarbeit"**	Government support for short-term work for the period of the lockdown. The Hungarian government will take over 70% of the lost salary for 3 months.	
2	**Maintaining household income**	Expiring benefits for persons currently on maternity leave will be extended until the end of state of danger. Parents raising a chronically ill or disabled child do not cease to be eligible until the last day of the 2nd month after the end of the emergency. Employees' contributions are reduced to level equivalent to the basic health insurance contribution (HUF 7,710 Ft) payable in sectors severely affected by the epidemic.	
3	**Payment moratorium for companies and households**	Payment moratorium is introduced for debtors of households and company credit, loan and financial lease contracts until 31 December 2020.	
4	**Deferred tax payment**	Tax holiday in accommodation, food, arts, entertainment and recreation services on employers' social security contributions. Tax holiday for small businesses under the simplified, small business oriented tax regimes.	
5	**State guarantee**	Measures offer interest- and guarantee-subsidised credit facilities to Hungarian businesses.	

Source: *Hungarian Government, MoF, MoJ*

OVERVIEW OF KEY MONETARY POLICY MEASURES

Rates	• **Following the monetary council meeting on 7 April, 2020:**
	  • Base rate and overnight deposit rate remains unchanged at 0.9 percent and at -0.05 percent, respectively
	  • Overnight and one-week collateralized lending rate have been raised to 1.85 percent
	  • 1-week deposit rate remains equal to the base rate, with a +/- deviation allowed within interest rate corridor. Each week the actual rate will be set in the tender's announcement
	• **On 23 June, 2020, the central bank base rate was decreased to 0.75 percent**

Liquidity / new facilities	• **Introduction of 1-week FX-swap tenders** providing forint liquidity daily for counterparties on March 17
	• **Introduction of a long-term collateralized lending facility with maximum 5-year maturity** to support banks' liquidity management on longer-term maturities and strengthen the functioning of the government securities market on March 24:
	  • Amount: unlimited (each tender follows market conditions)
	  • Interest rate: fixed during the whole period
	  • Unconditional: it may be used for loans to private sector, FX and interest rate swaps, for buying treasury bonds or for interbank transactions
	• **Introduction of a new 1-week deposit facility paying the 0.9% base rate on April 1 aiming at addressing uneven liquidity distribution**
	  • Available for MNB's monetary policy counterparty institutions (domestic financial institutions with VIBER or BKR membership)
	  • Minimum bid: HUF 10 million HUF – tick: HUF 1 million
	  • Lifespan: as warranted by liquidity developments
	  • On 2 April MNB accepted all of the submitted bids in worth of HUF 655 billion
	• **Suspension of sanctions on reserve deficiency**
	• **Release of capital buffers of systemically important credit institutions** on April 1
	• **Introduction of a new Funding for Growth Go! scheme (FGS Go!), worth HUF 1,500 billion**[1]
	  • Refinancing rate: 0%, maximum interest rate for SMEs: 2.5%
	  • Investment loans: 20-year duration, working capital loans: 3-year duration, max. loan amount HUF 20 billion/company

Asset purchases	• Launch of a **Government Security Purchase Program** in May in the amount of HUF 1,000 billion • **Easing of Bond Funding For Growth Scheme conditions** (maximum amount of exposure to a given group of corporations increased from HUF 20 billion to HUF 50 billion and maturity of eligible securities increased from 10 to 20 years)[1] • Relaunch of the **Mortgage Bond Purchase Program** in May in the amount of HUF 300 billion

Balanced approach to maintain rates at low levels and ensure ample liquidity

Note: 1. Sterilization of excess liquidity supply created under the FGS Go! and BGS and preferential deposit facility rate of 4% for additions to stocks of loans/bonds under FGS Go! and BGS
Source: MNB measures enacted by the decisions of the Monetary Policy Council of the MNB

II. STRONG AND RESILIENT ECONOMY

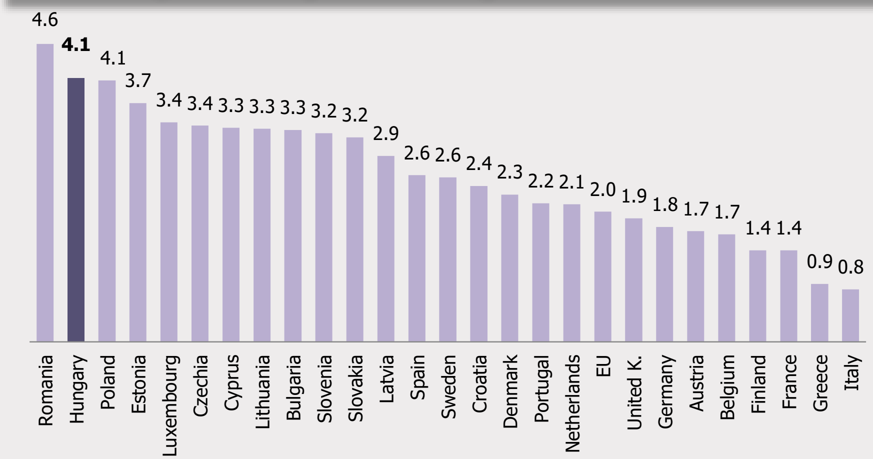
HUNGARY CONTINUES TO BUILD ON SOLID ECONOMIC GROWTH SINCE 2013

Key highlights

- **Since 2013, Hungary's GDP growth has been among the fastest in Europe as evidenced in the chart on the right**
- **Growth has been partly driven by the turnaround in employment** that happened in the wake of the structural reforms implemented after the economic crisis, including the tax regime
  - The number of people employed rose by over 784,400 between 2012 and Q4 2019
  - Unemployment decreased to a historic low of 3.3% in Q4 2019
  - **This has allowed the Hungarian economy to grow by 4.1% on average between 2014 and 2019, while the EU average has been 2.0%**
- **In 2019, real GDP grew by 4.9%, the second highest level in Europe** and 3.3x times faster than the EU average according to data compiled by Eurostat
- The strong momentum in Hungarian economic activity entering the Covid-19 crisis is supportive of the outlook compared to peers
  - Unemployment rate increased to 3.7% in Q1 2020
  - GDP growth rate amounted to 2.0% in Q1 2020, the fourth highest in the EU according to the flash estimate compiled by Eurostat

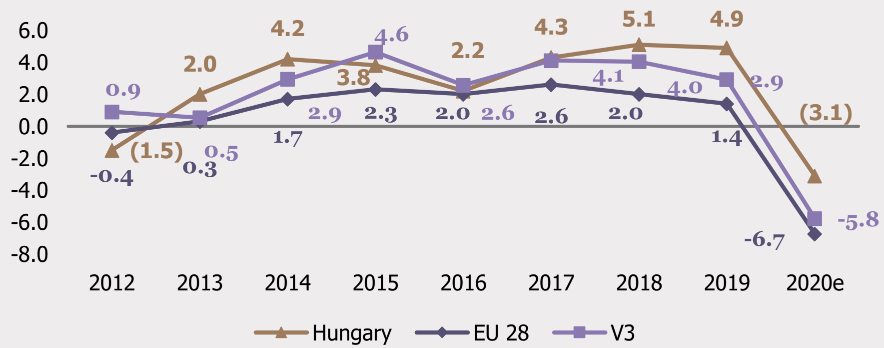
Sources: HCSO, Eurostat

Second highest GDP growth among EU countries 2014-2019*



Source: Eurostat | *excluding Ireland and Malta

Real GDP Growth (YoY, %)



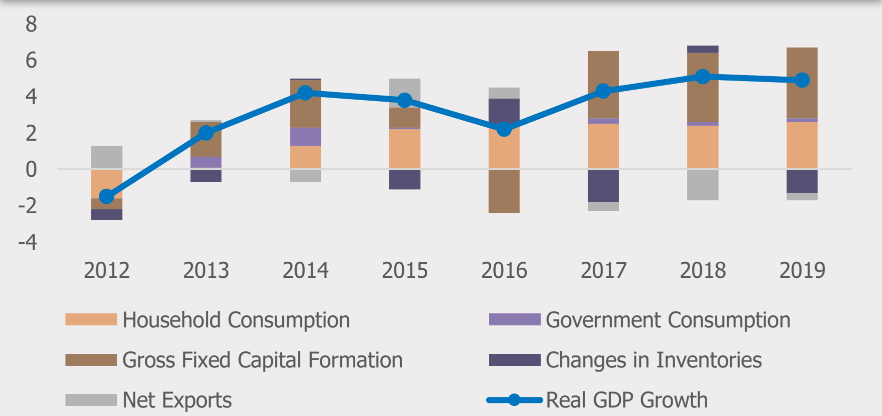
Sources: HCSO, Eurostat, IMF WEO Note: Unadjusted data

GROWTH IS DRIVEN BY BOTH CONSUMPTION AND INVESTMENT

Key highlights

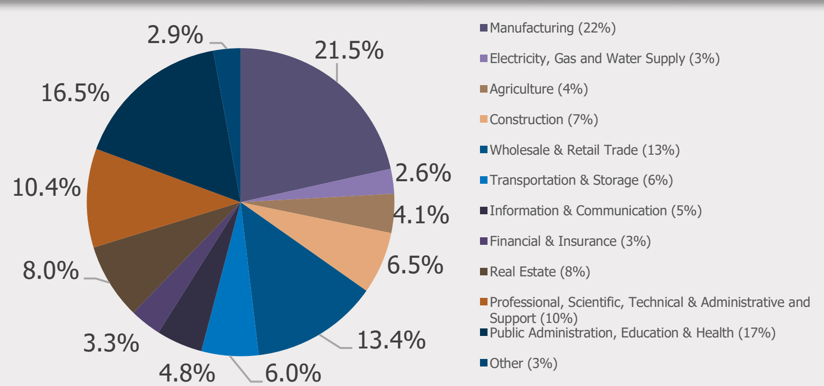
- **Growth in Hungary has been consistently supported by household consumption since 2014**
- **Household consumption has been supported by increasing household wealth and a low unemployment rate**
- **This has contributed to the development of the services industry**
  - Although all key sectors grew in Hungary in 2019, the service sector has been a key driver of real GDP growth as evidenced in the right bottom chart
- **Investment activity has picked up significantly since 2017 with high contributions to GDP growth** as evidenced by the graph to the right

Contribution to GDP growth by expenditure (percentage points)



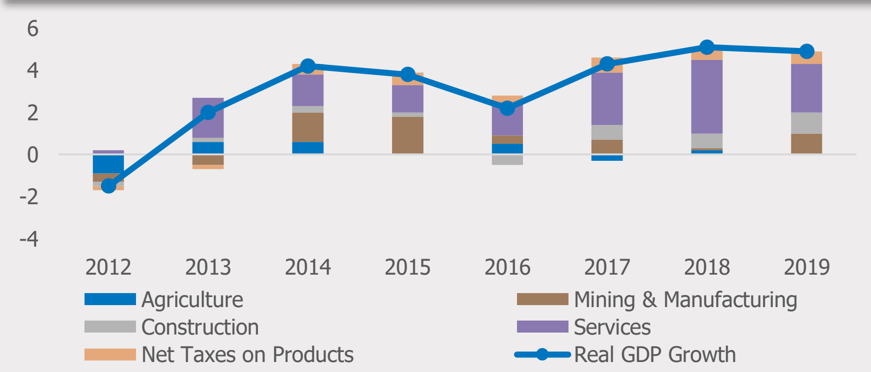
Source: HCSO Note: Calculated from indices compared to the previous year

2019 Nominal GDP breakdown by sector (% of total)



Source: HCSO

Contribution to GDP growth by sector (percentage points)



Source: HCSO Note: Calculated from indices compared to the previous year

INVESTMENT DYNAMICS ARE SUPPORTIVE OF THE BROADER ECONOMIC OUTLOOK

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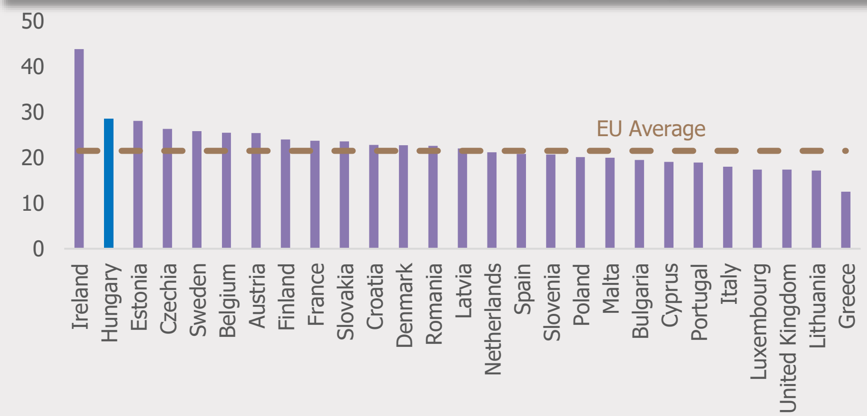
Key highlights

- **Hungary benefited from the second highest investment rate in Europe in 2019,** with investment representing 28.6% of GDP (compared to an average of 22% among EU-27)
- **Investment has been particularly dynamic in the corporate sector partly due to** incentives including flat corporate income tax rate and investment subsidy program for large corporations
- **The effective absorption of EU funds has also contributed to the positive trend and is expected to keep generating important benefits in the coming years**
    - As of 2019, only 43% of the total EU budget allocated to Hungary for the 2014-2020 period has been spent

Sources: Eurostat, HCSO, Ministry of Finance (MoF)

2019 investment rate in EU countries (% of GDP)



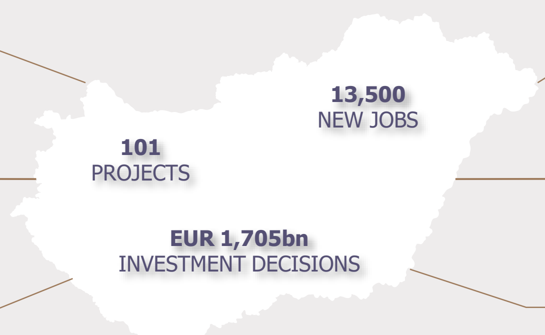
Source: Eurostat Note: Data not adjusted

Effective investment incentives and 2019 achievements

Large corporation investment subsidy program: for companies active in the manufacturing sector that contribute to growth through the modernization of economy and expansion of employment

Training Subsidy: available to investors creating at least 50 new jobs. This subsidy is provided for trainings with maximum aid intensity of 50%

VIP Cash Subsidy: for asset investments, business service centres and R&D projects



Source: MoF

Development tax incentives: tax allowance for post-investment period, exemption for up to 80% of the corporate tax payable for 13 years following installation

9% corporate income tax rate: the lowest rate in the EU, which substantially reduces capital costs and strengthens Hungary's ability to attract capital

Subsidy based on individual government decision: focusing on the creation of high value-added jobs, the maintenance of existing jobs and the improvement of the corporate productivity and automatisation

HUNGARY HOUSEHOLDS ARE BETTER POSITIONED TO FACE AN INCOME SHOCK

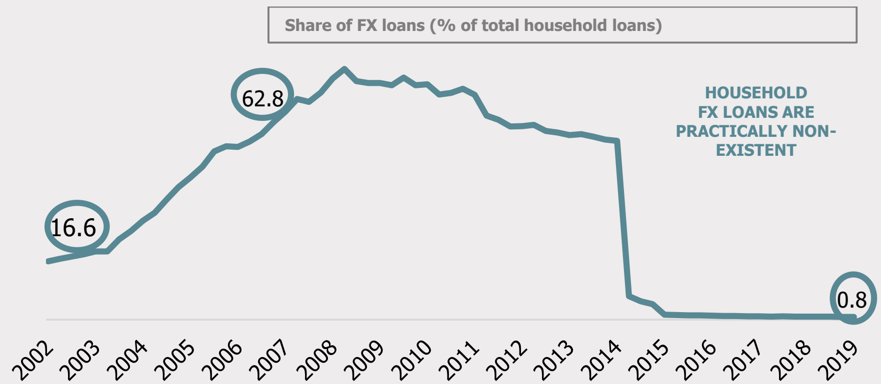
Key highlights

Hungary households are better positioned relative to the 2008 crisis to face an income shock as illustrated by :

- The saving rate which has increased by 10% during the period 2008-2018 to reach 12% which is the highest rate among the EU countries
- Household debt is less vulnerable and has evolved favourably since 2008 as illustrated by the share of FX loans (relative to total household loans) decreasing to almost 0%.

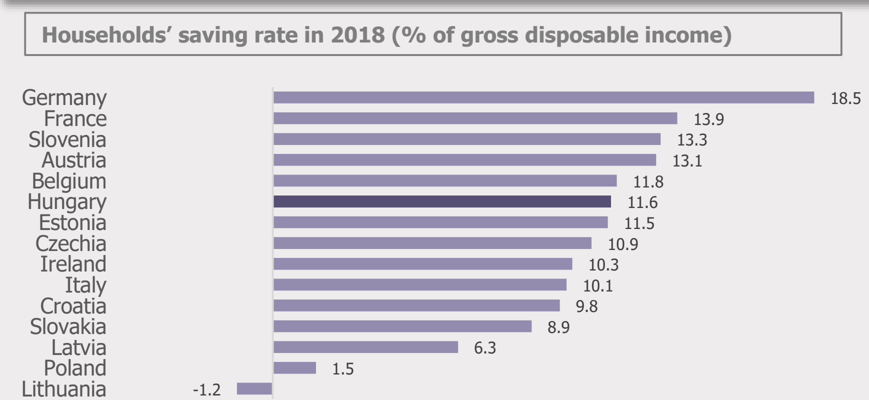
Sources: Eurostat, MNB

Household debt is much less vulnerable than before last crisis hit



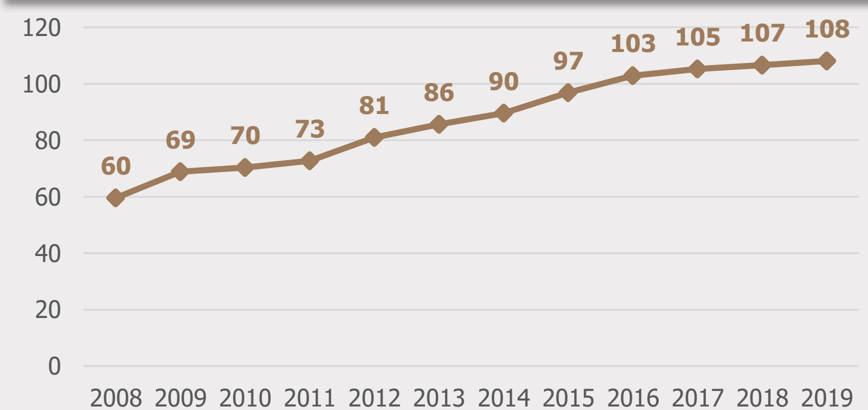
Source: MNB

Households have a strong financial position that can cushion income shock



Source: Eurostat

Net financial wealth of households relative to GDP (%)



Source: MNB, HCSO

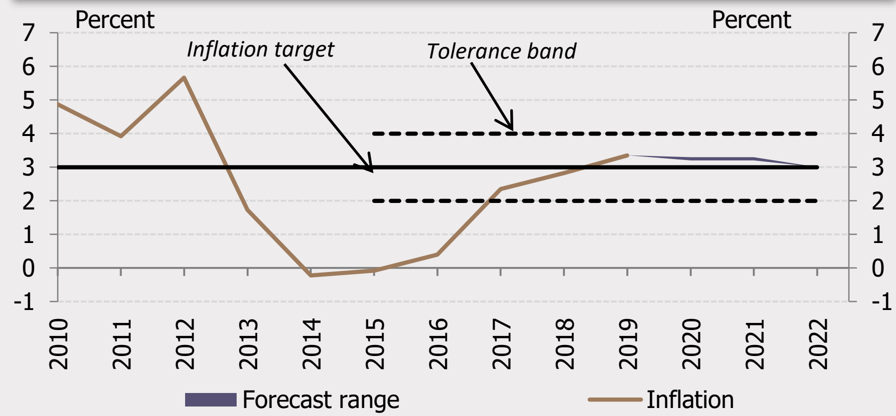
THE MACRO ENVIRONMENT IS STABLE AND THE BANKING SECTOR IS STRONG

Key highlights

- **The MNB's primary statutory objective is to maintain price stability**
  - Policy rate is adjusted to ensure inflation remains anchored at 3%, with a tolerance range of +/- 1%
  - **Baseline yearly average inflation has remained within the defined tolerance band since the beginning of 2017 and is expected by MNB to stabilize around the inflation target by 2022**
- **The banking sector is well capitalized and the quality of loans has been improving since the end of 2015** as evidenced on the graph to the right
  - Non-performing loans (NPL) ratio has significantly decreased over the last decade amounting to 4.0% as of the end of 2019
  - Capital adequacy ratio amounted to 16.9% as of the end of 2019
  - The MNB has developed a comprehensive macro-prudential framework to ensure financial stability and the Basel III regulation is implemented
- **The Central Bank has adopted a package of measures to mitigate the impact of the Covid-19 crisis on the economy and banking sector as highlighted on slide 15**

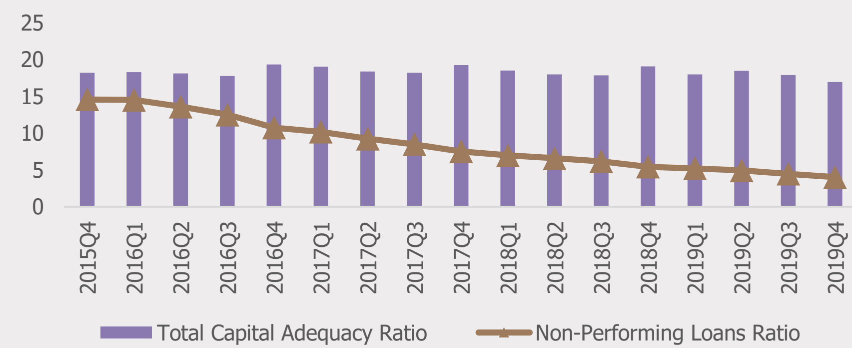
Source: MNB

Inflation vs inflation targets (%)



Sources: HCSO, MNB Note: Based on seasonally unadjusted data, compared to the corresponding period of the previous year; forecasts as of June 2020 from 2020 onwards

Total capital ratio and NPL ratios (%)



Source: MNB Note: NPL are loans overdue at least 90 days

III. SOUND FISCAL POLICIES

PUBLIC FINANCES ARE STRONG AND SUPPORT DEBT SUSTAINABILITY

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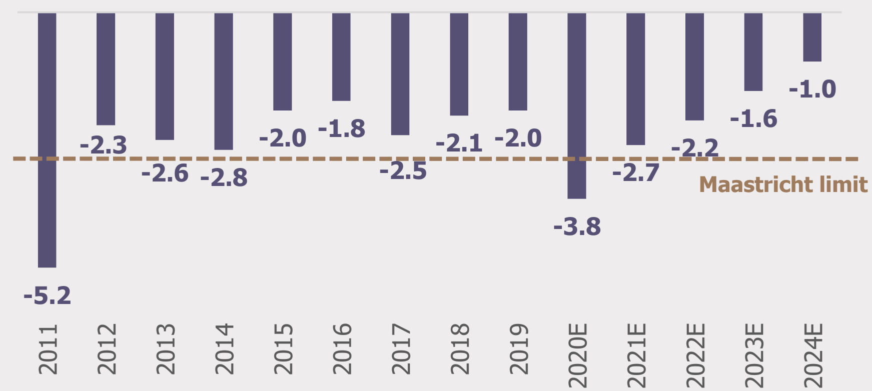
Key highlights

- **The budget deficit has remained below the 3% Maastricht threshold since 2012,** demonstrating the authorities' commitment to fiscal consolidation
- **The government originally aimed to achieve fiscal balance by 2023**
  - The authorities originally set the 2020 ESA budget deficit target to a historic low of 1.0% of GDP
  - In the latest EDP notification dated April 1, 2020 the Government estimated ESA deficit for the year 2020 to reach 2.9% of GDP due to the ongoing pandemic
  - In the middle of April, MoF set an ESA deficit target of 2.7% of GDP for the year 2020
  - Subsequently, late April, the ESA deficit estimate was revised to 3.8% of GDP in the latest Convergence Programme
- **The Government intends to decrease the fiscal deficit below the 3% Maastricht threshold as soon as next year**
- **The fiscal reserves of the government were planned to increase in 2020 to represent approximately 1% of GDP.** Since the Covid-19 outbreak in mid-March, reserves are being spent for pandemic related purchases.

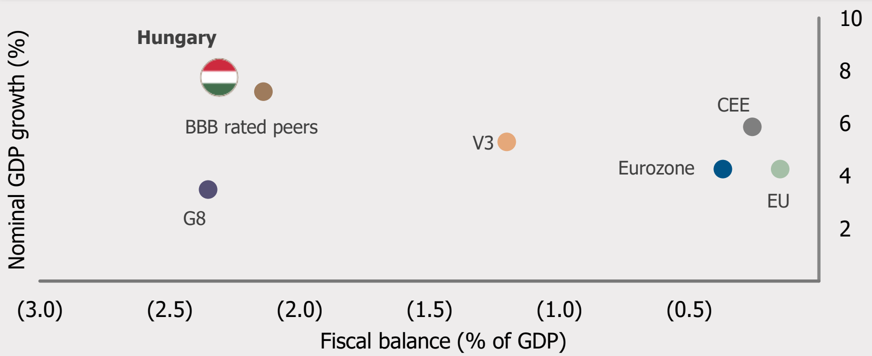
Source: HCSO, MoF

Evolution of Hungary's fiscal deficit (% of GDP)



Source: HCSO, MoF Note: Expected data based on the latest Convergence Programme of Hungary dated May 2020

Rapid nominal GDP growth – contained fiscal deficit



Sources: HCSO, Eurostat, IMF, Fitch Data Comparator (March 2020) Notes: BBB rated peers are countries with at least two BBB ratings; average 2016-19 growth and fiscal balance for countries; median for peer groups

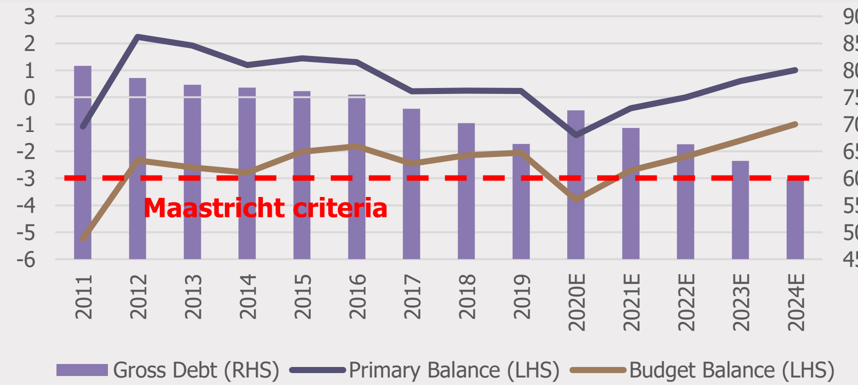
THE GOVERNMENT DEBT-TO-GDP RATIO HAS BEEN STEADILY DECLINING

Key highlights

- **Under Hungary's Fundamental Law, reducing state debt is one of the main objectives of the government**
  - As long as the debt of the government exceeds 50% of GDP, only budgets which provide for a reduction of the government debt-to-GDP ratio can be adopted
- **The authorities strictly comply with this rule**
  - Fiscal consolidation and a prudent debt management have supported a reduction in Hungary's debt-to-GDP ratio
  - The country has enjoyed a rapid decrease in government debt to GDP ratio of 14.5 percentage points between 2011 and 2019, whereas debt to GDP ratio has decreased by 0.6 percentage points on average in the EU
  - In 2019, the debt rate declined to 66.3%
  - In a State of Danger a special rule allows for a temporary debt increase

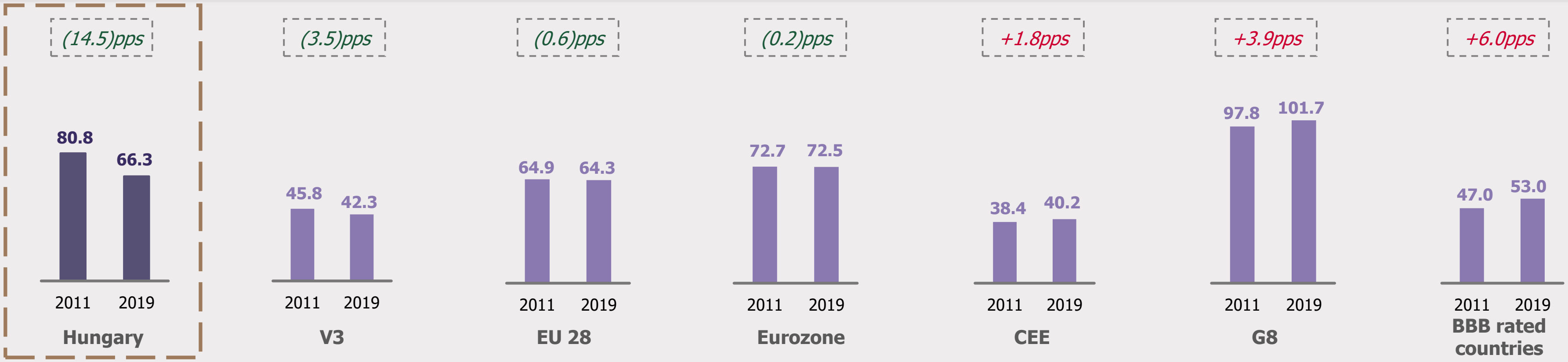
Sources: Eurostat, MNB, HCSO, MoF

General Government Debt and Deficit (% of GDP)



Sources: MNB, HCSO,
Note: Expected data based on the latest Convergence Programme of Hungary dated May 2020

Evolution of government debt in Hungary and peer groups (% of GDP)



Sources: MoF, Eurostat, IMF, Fitch Data Comparator (March 2020) Note: average for peer groups

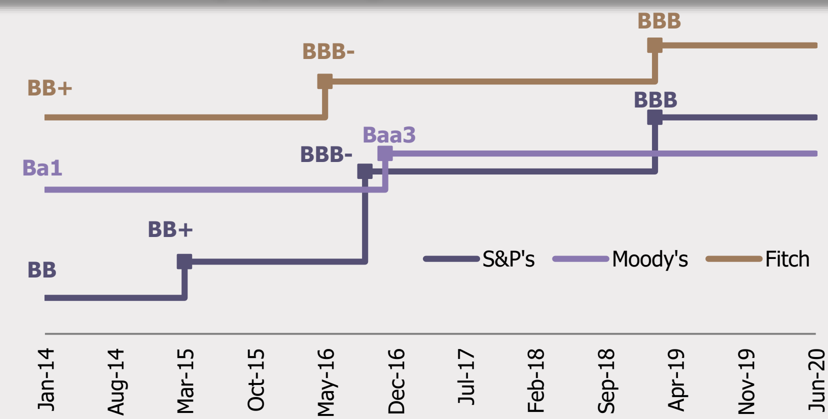
IMPROVING FUNDAMENTALS LEADING TO REDUCED HUNGARY RISK PREMIUM AND LOW COST OF FINANCING

Key highlights

- **Hungary's credit ratings have improved since 2014,** in line with the improvement in the macro-economic fundamentals
  - Hungary has benefitted from multiple rating upgrades since 2014
  - It is currently rated BBB/Baa3/BBB
  - The marked decrease in Hungary's CDS premia – approximately 533 basis points between 2011 and June 2020 on the 10Y CDS – also illustrates the increase in market confidence
- **Financing conditions have thus become increasingly supportive,** with Hungary also benefitting from the global context of low rates
  - They remain supportive despite the Covid-19 outbreak as illustrated by the level of yields and CDS as of end of June 2020

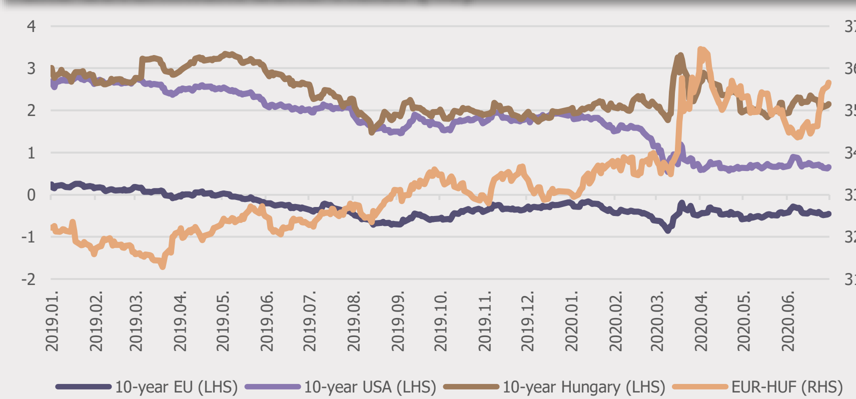
Source: MNB, Reuters, Standard&Poor's, Moody's, Fitch

Evolution of Hungary's ratings



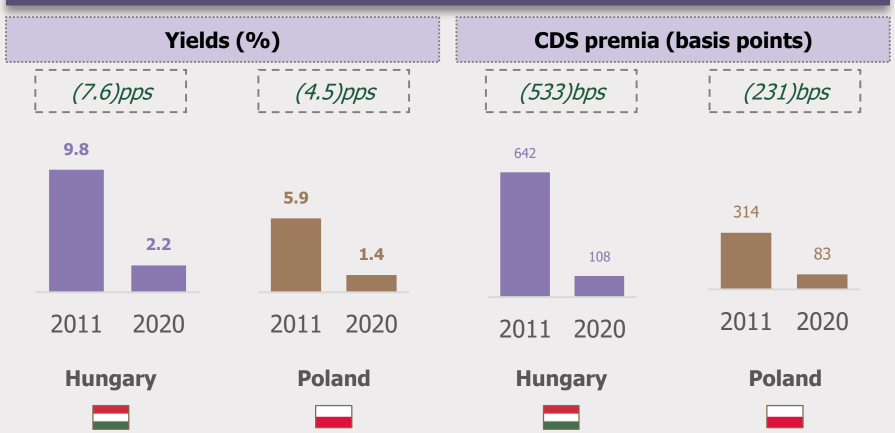
Sources: Standard&Poor's, Moody's, Fitch

Development of the Foreign Exchange Rate (EUR-HUF) and Government Bond Yields (%)



Source: AKK

10Y local yield and CDS premia in Hungary and peers



Source: Bloomberg Note: As of 30.12.2011 and 30.06.2020

IV. FAVOURABLE EXTERNAL POSITION

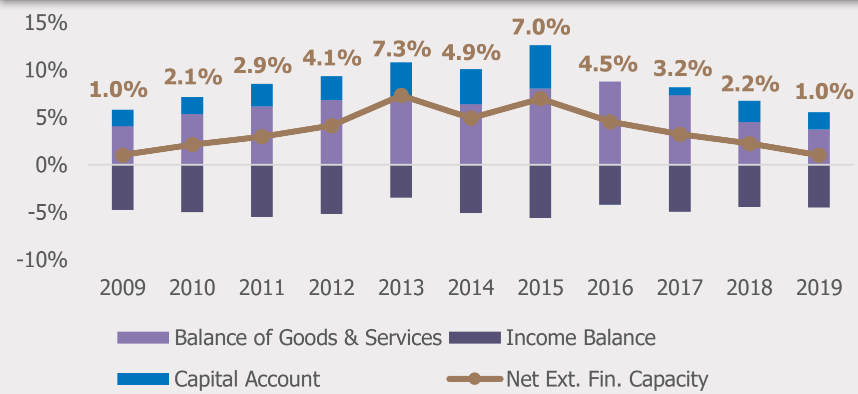
HUNGARY ENJOYS HEALTHY EXTERNAL ACCOUNTS AND A NET LENDING POSITION

Key highlights

- **Hungary's net external lending position is resilient**
  - **The country has been enjoying a net international lender position since 2009**, largely explained by the country's trade surplus that has shown significant surplus amounting to 4-9% of GDP between 2009 and 2019
  - The trade surplus increase has been driven by a rise in net services exports that represented 6% of GDP in 2019
  - Hungary also benefits from a positive capital account, partly explained by EU transfers
- **The goods and services export bases are diversified,** both in terms of sector and geography (with the exception of Germany, no country had a share in Hungarian exports over 5.2% in 2019)

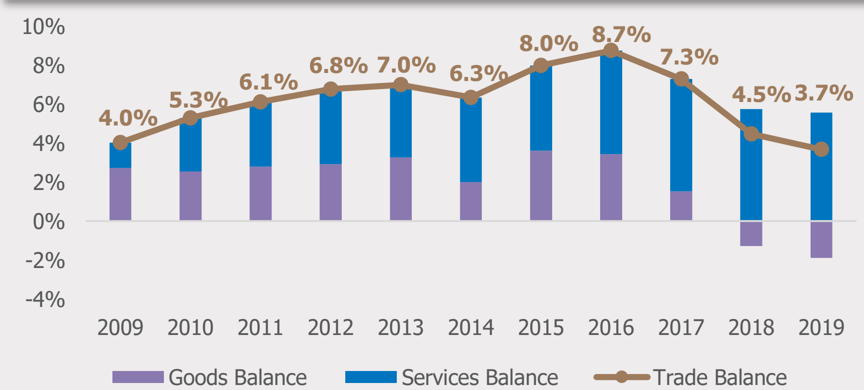
Source: MNB, HCSO

Net external lending components and position (% of GDP)



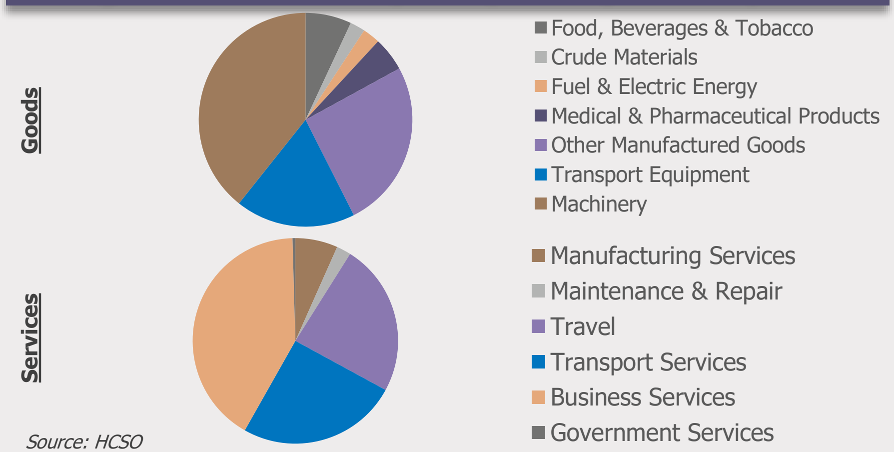
Source: MNB

Trade balance (% of GDP)



Source: MNB

2019 goods and services exports by sector (% of total)



Source: HCSO

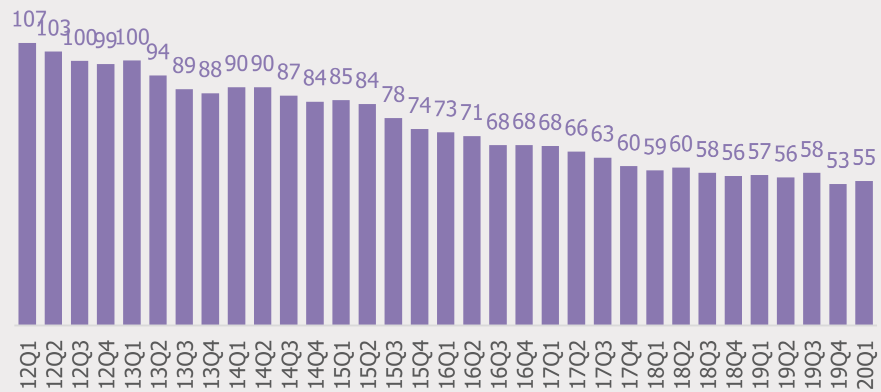
EXTERNAL DEBT HAS STEADILY DECLINED WHILE FX RESERVES REMAIN HIGH

Key highlights

- **External debt indicators have been improving since 2012**
  - Hungary's gross external debt has substantially decreased since 2012, notably on the back of active public debt management. It stands at 55% of GDP as of 2020Q1
  - The net external debt of Hungary has also consistently decreased, in line with the significant net lending of the recent years
- **International reserves remain high and continue to considerably exceed the level considered as safe by the Guidotti-Greenspan rule** (see footnote 1 of the chart to the right)
  - Hungary's FX reserves to short-term debt ratio has been above 1.0x since Q2 2012
  - This ratio has improved since 2017, driven by the decline in government short-term debt
  - FX reserves amounted to EUR 30.2 billion on June 30, 2020

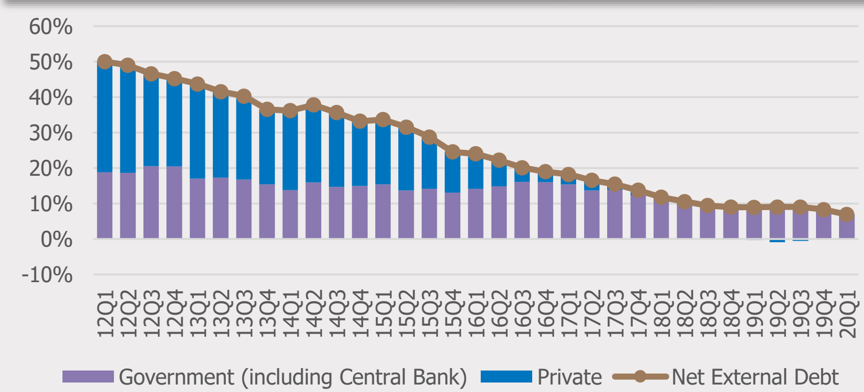
Source: MNB

Gross external debt (% of GDP)



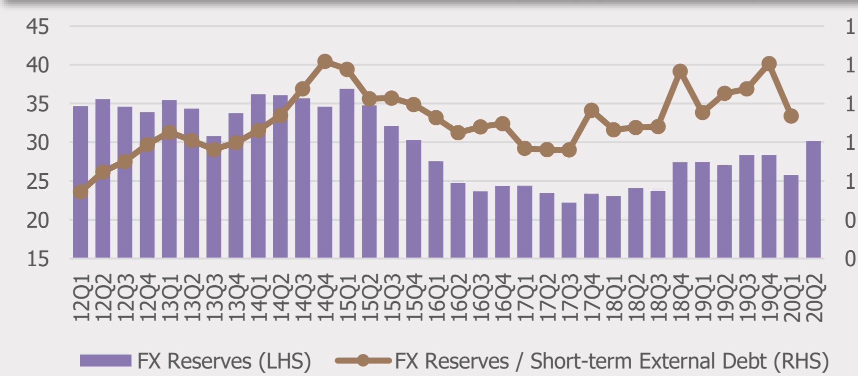
Source: MNB Note: Excluding intercompany loans

Net external debt breakdown by sector (% of GDP)



Source: MNB Note: 1. Excluding intercompany loans

International reserves level and adequacy (EUR billion)



Source: MNB Note: 1. The Guidotti-Greenspan rule stipulates that the level of international reserves should exceed the level of short-term external debt

V. HUNGARY'S GREEN BONDS

GOVERNMENT DEBT MANAGEMENT AGENCY PTE LTD.

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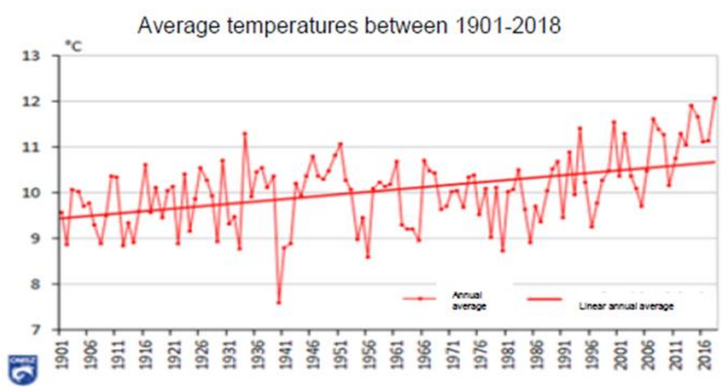
CLIMATE CHANGE IMPACTS OBSERVED IN HUNGARY

- **Hungary is already witnessing the consequences of climate change** such as the aggravation of floods and droughts, the deterioration of arable land, water and air pollution

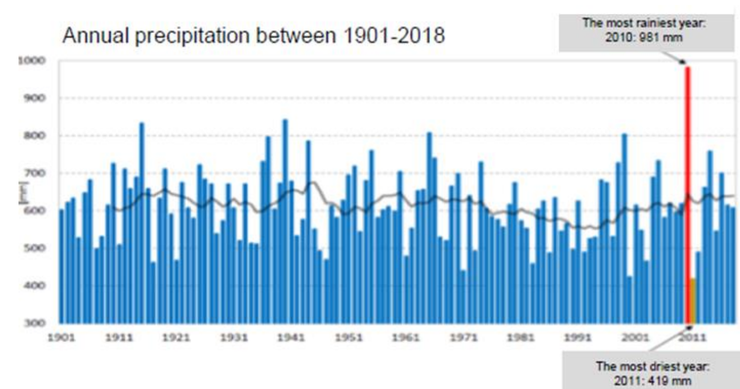
Temperatures

- Country-level **temperatures** increased 1.3°C, since the beginning of the previous century, exceeding the estimated 0.9°C of the global change.
- Between 1901-2017, the springs and summers warmed the most in Hungary, by 1.34 °C and 1.25 °C respectively. Warm temperature extremities have become more frequent in Hungary



Rain precipitation

- Changes in **precipitation** are also relevant:
  - Slight annual precipitation decrease (-4%), notably in the spring (-17%) and autumn (-11%), compared to 1901.
  - Fewer days with precipitation (-14 days since 1901)
  - Longer drier periods (+4 days)
  - The rainiest and driest years during the last 100 years were 2010 and 2011



HUNGARY'S GREEN BOND STRATEGY OVERVIEW

Rationale

- **Hungary's strong commitment to fight climate change and biodiversity loss**
  - Commitment to EU NDCs under the Paris Agreement
  - Hungary supported the EU climate neutrality target and committed to climate neutrality by 2050
- **Green Bond issues to support the government's integrated energy & climate strategy**
  - National Energy and Climate Plan and Second National Climate Change Strategy provide guidance and set tasks in the field of mitigation of GHG emission and adaptation to climate change impacts for the period of 2018-2030
- **Active contribution to the development of Sustainable Finance internationally and in Hungarian domestic capital markets**
  - National Bank of Hungary – Magyar Nemzeti Bank – gave early support to the Green Bond market by becoming the first Central Bank worldwide to set-up of a dedicated Green Bond portfolio, as an investor, in June 2019
  - Hungary is planning to issue domestic HUF-denominated Green Bonds in the future
- **Response to international investors demand for Green Bonds and further diversification of Hungary's investor base**
  - Hungary to become a regular green bond issuer in international capital markets, including Euro, Japanese Yen and Chinese Renminbi subject to market conditions
  - Hungary issued a green bond denominated in EUR in the amount of EUR1.5 billion in June 2020; more than five times oversubscribed by investors

Green Bond Framework overview

- Hungary's Green Bonds will support the country's climate change & environmental commitments with proceeds dedicated to **six Eligible Green Expenditures categories**:
  1. Renewable Energy
  2. Energy Efficiency
  3. Land Use and Living Natural Resources
  4. Waste & Water Management
  5. Clean Transportation
  6. Adaptation
- **Dedicated governance** for Green Bonds thanks to Steering Committee and Inter-Governmental Working Group
- Green Bond Framework in line with the **ICMA Green Bond Principles** and best market practices

The Green Bond Principles

- **Second Party Opinion** by Cicero with Medium Green shading

°C °CICERO Shades of Green

GREEN FINANCE IN HUNGARY

Greening Hungarian Financial markets

- Ensuring adequate financing is key for developing green economy and promoting environmental sustainability
- The Hungarian green financial products include:
  - Green loans: Residential Energy Efficiency Loan Programme, a non-market-based loan-like product, is the most important one
  - Investment funds: among the products offered by domestic fund managers, there are several funds that can be considered green
- Hungarian financial market hold a huge green potential. MNB launched a consultation paper to financial market players to boost Green Finance in the Hungary
- The Sovereign Green Bond intends to catalyse the development of the local green bond market and to increase the Sustainable Finance awareness in Hungary

Magyar Nemzeti Bank leadership

- The Magyar Nemzeti Bank (MNB) announced its Green Programme on February 2019 aiming to:
  - reduce the risks associated with climate change and other environmental problems
  - expand the financing of the green economy in Hungary
- Under this programme, the MNB implements several measures to encourage the increase of environmental awareness among Hungarian financial institutions and the greening of the products. MNB's initiatives include:
  - creating a "Green Finances Award" to recognize financial institutions doing the most to reduce ecological footprint
  - launching a separate green bond portfolio (as one of the first central banks to do so)
  - joining the Advisory Council of the Energy Efficient Mortgages Pilot Scheme
  - co-organising the International Green Finance Conference in Budapest
  - potential introduction of a green preferential capital requirement programme for green housing loans

VI. HUNGARY CLIMATE CHANGE AND ENVIRONMENTAL STRATEGY

A BROAD COMMITMENT TO COMBAT CLIMATE CHANGE

International requirements	United Nations Framework Convention on Climate Change
European goals	Clean Energy Package, European Green Deal
Carpathian Basin	Scientific evidence on climate change impacts on the Carpathian Basin
Hungary	Public survey and consultations on preferences for climate protection

Note: Climate change impact on the Carpathian Basin detailed on the report Jelentés az éghajlatváltozás Kárpát-medencére gyakorolt esetleges hatásainak tudományos értékeléséről available here

ECONOMIC DEVELOPMENT AND COMBATING CLIMATE CHANGE ARE MUTUALLY REINFORCING OBJECTIVES

- Energy and climate strategy is about to support high-tech and green economic development

Basic principles

Balance
- Combating climate change
- Competitiveness
- Security of supply

Cost effectiveness
- GDP convergence
- Underdeveloped regions

Importance of additional benefits
- Decreasing import dependency
- Affordable prices
- Innovative economic development

Technology neutrality
- Energy efficiency measures
- RES utilization
- Maintenance of nuclear capacities

Fair transition
- No one is left behind

A CLEAR AND COMPREHENSIVE ROADMAP AND STRATEGY

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- 2nd National Climate Change Strategy provides comprehensive framework of policies on climate and green economy development. Implementation via Climate and Environmental Protection Action Plan
- Important role of coordination of all the other sectoral strategies thanks to Hungarian Decarbonisation Roadmap ("HDR") & National Adaptation Strategy ("NAS")

Overall goals

I. Remanence and durable development in a changing world

II. Gathering knowledge about our capabilities, possibilities and limits

Specific objectives / ***Fields of intervention***

HDR

1. Decarbonisation
- 1.1 Replacement of fossil energy carriers
- 1.2 Increasing the energy efficiency
- 1.3 Reducing the use of natural resources
- 1.4 Development of Green Economy
- 1.5 Forestation
- 1.6 R&D and innovation

2. Analysis of climate vulnerability
- 2.1 Elaboration, set up and maintenance of NATéR
- 2.2 Promotion of climate-related research projects
- 2.3 Development of vulnerability methodologies, KPIs

NAS

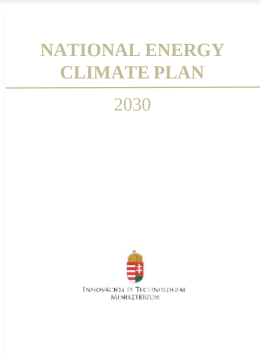
3. Adaptation
- 3.1 Preservation of natural resources
- 3.2 Adaptation of vulnerable regions
- 3.3 Adaptation of vulnerable sectors
- 3.4 Adaptation of strategic fields
- 3.5 Social adaptation
- 3.6 R&D and innovation

4. Partnership for climate
- 4.1 Horizontal integration in public administration
- 4.2 Partnership with the media
- 4.3 Awareness-raising in the Education
- 4.4 Social campaigns for climate-consciousness
- 4.5 Networking with stakeholders

Sources: "Second National Climate Change Strategy for the period between 2018 and 2030 and providing and outlook until 2050"-Annex to Parliament Decision No. 23/2018. (X.31.)

AN UP-TO-DATE SET OF LEGISLATION AND STRATEGIES

National Energy Strategy

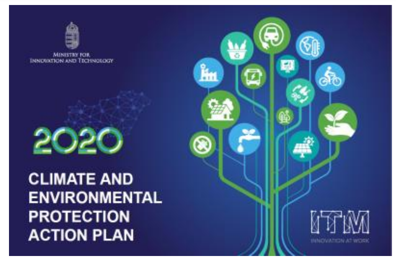


- Complementary strategic documents, elaborated in parallel and released in January 2020:
  - NES 2030 (with an outlook to 2040) targets reduction of fossil energy imports
  - NECP defines the path to meet EU 2030 climate and GHG emissions reductions commitments
- Based upon the conclusions of an administrative and social debate

Climate Protection Act Approved by Parliament in June 2020

- Hungary to become climate neutral until 2050

Action Plan on Climate and Nature Conservation



- Presented in Feb 2020 by MoIT
- Eight concrete measures to achieve three climate objectives:
  1. contribute to the reduction of harmful substance emissions
  2. serve to adapt to climate change, and
  3. play a part in shaping mentality

National Water Strategy 2030

- Avoid water crisis and protection of water
- Water management and safety against water damages (floods, droughts, pollution)

National Building Energy Strategy

- Strategy objectives include:
  - harmonisation with the energy and environmental objectives of the EU,
  - modernisation of buildings,
  - reducing energy poverty and
  - reducing GHG emissions
- Adopted in 2015 (Long-term renovation strategy likely to be adopted during summer 2020)

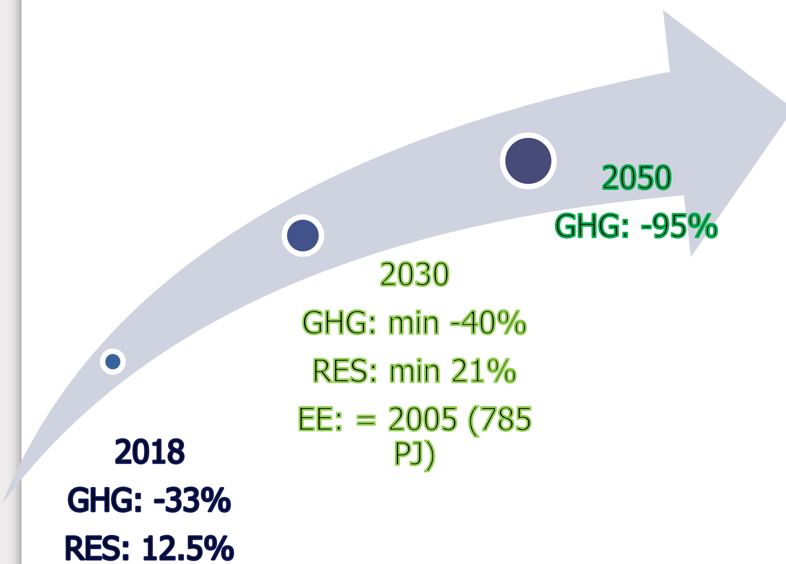
National Biodiversity Strategy 2015 - 2020

- Sets objectives for:
  - protection of areas and species,
  - maintenance of landscape diversity,
  - green infrastructure and ecosystem services,
  - agriculture, sustainable forest management,
  - protection of water resources,
  - invasive alien species.

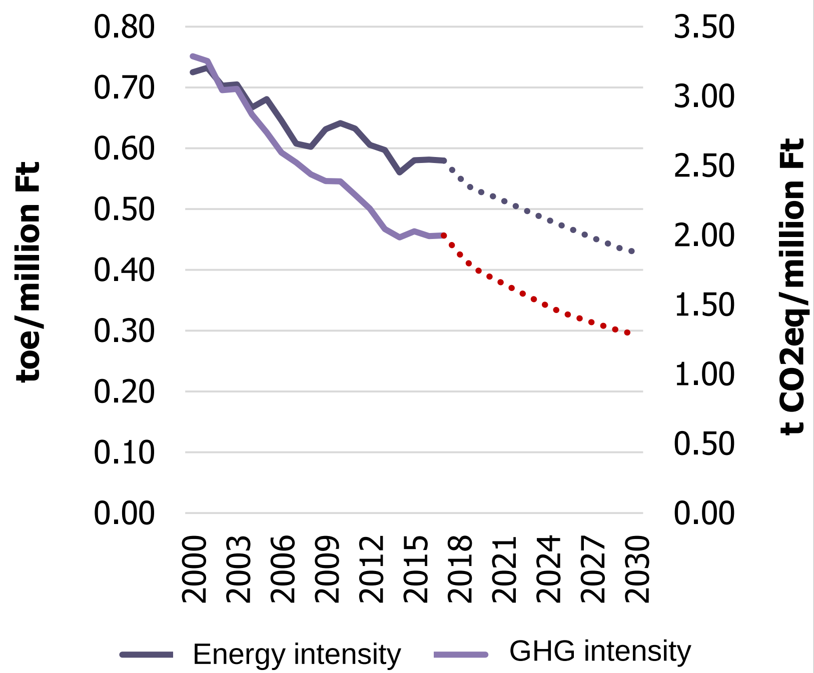
Notes: *National Energy Strategy (NES) 2030, adopted in 2011, revised in 2020; National Energy and Climate Plan (NECP) 2030, adopted in 2020; Action Plan on Climate and Nature Conservation adopted in 2020*
National Water Strategy 2030 adopted in 2017 ; National Building Energy Strategy adopted in 2015; National Biodiversity Strategy adopted in 2015

2030 AND 2050 ENERGY AND CLIMATE OBJECTIVES

Major energy and climate objectives for Hungary



Energy and GHG intensity of Hungary in GDP terms



Improved intensity indicators in 2019:

- 4.9% increase of GDP
- 0.9% decrease of GHG emission

Notes: GHG: Greenhouse Gases; RES: Renewable Energy Sources; EE: Energy Efficiency

FLAGSHIP PROJECTS OF THE NEW NATIONAL ENERGY STRATEGY

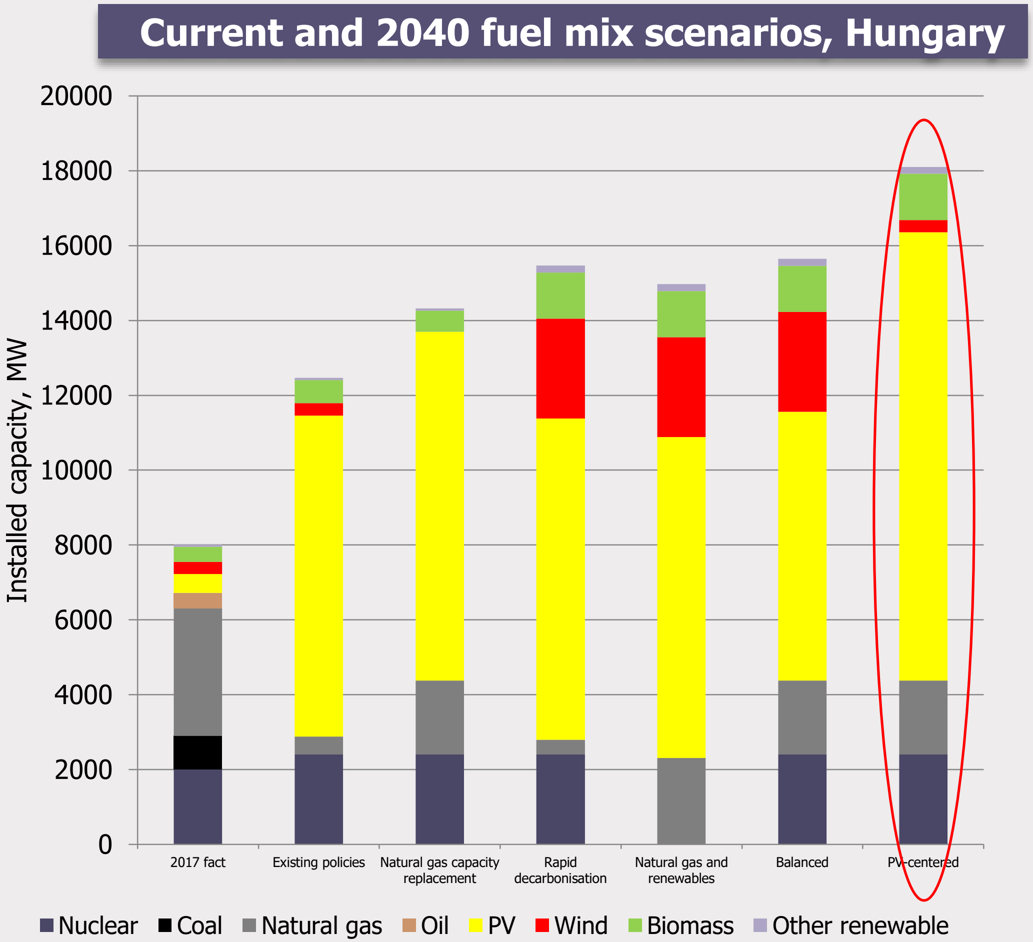
Reduction of GHG emission	• Carbon-free and flexible electricity production • Improvement of energy efficiency of our economy • Greening transport • Energy-conscious and modern Hungarian homes • Innovative projects in the energy sector
Adaptation to climate change	• Climate-conscious water management • Dealing with negative health impacts of climate change • Implementation of local governmental-level programs for combating climate change • Increasing the resilience of critical utility infrastructures to extreme climate events • Nature conservation in the context of climate policy

CLEAR PATHWAY TO REACH HUNGARY'S COMMITMENTS

Comparison of EU and Hungarian targets for 2030

Dimensions of Energy Union	Indicators	EU targets for 2030	Hungarian targets for 2030	Recent Hungarian situation (2018)	Most important measures
Decarbonization	**Reduction of GHG emission (%) compared to 1990**	min. -40%	min. -40%	-33 %	• Climate-friendly transformation of the electricity sector • Energy efficiency obligation scheme • Greening transport
	• GHG intensity of GDP	-	continuous decrease	1.87 t CO_2eq/million HUF	
	• Reduction of GHG emission in the non-ETS sector (%) compared to 2005	min. -10%	min. -7%	-9.8%	
	Share of RES in gross final energy consumption	min. 32%	min. 21%	12.5%	• Photovoltaics (PV) • E-mobility • Green District Heating Program
Energy efficiency	**Final energy consumption**	Indicative 32.5% reduction	max. 785 PJ The source of any extra consumption can be only RES between 2030 and 2040	776 PJ	• Reduction of final consumption by 0.8% per year • Promotion of energy efficiency investments in industry

ELECTRICITY MARKET TRANSITION 2040: N°1 FLAGSHIP

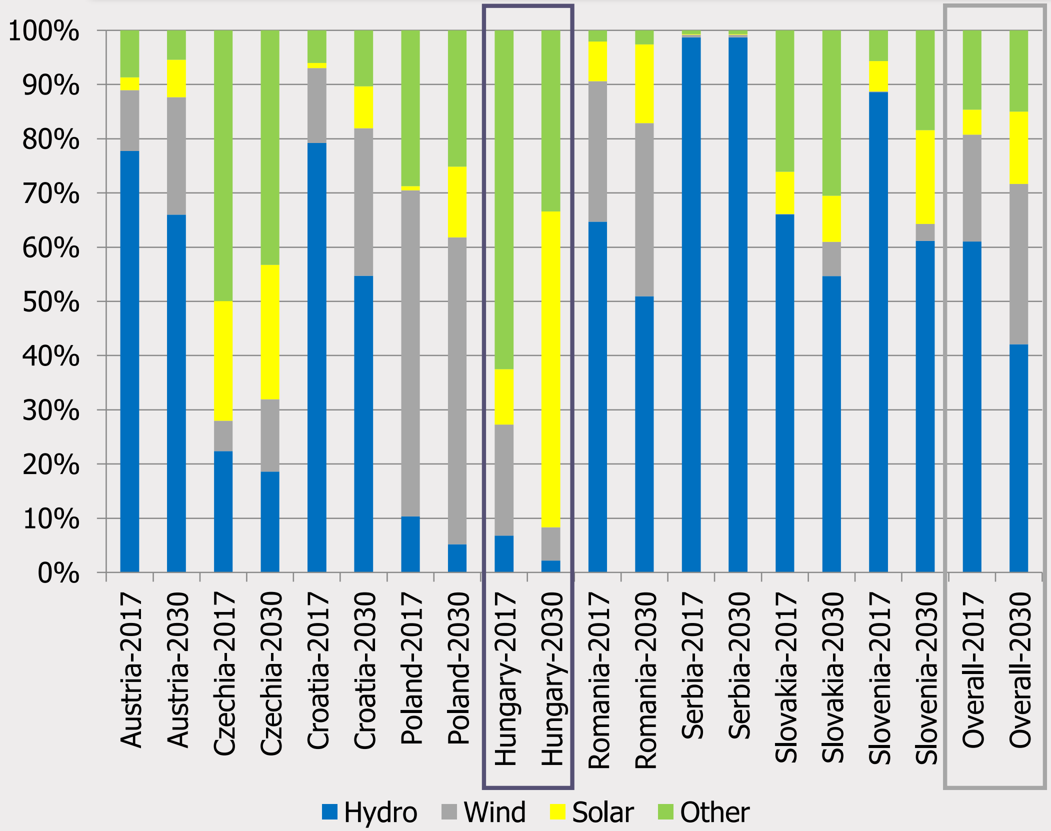


- Electricity transition will be based on:
  - Decarbonising the power sector: 90% in 2030 vs 60% in 2020
  - Maintaining nuclear capacity
  - Phasing out lignite
  - Solar-heavy RES-E portfolio: 6.6 GW by 2030; 12 GW by 2040
  - Gas based generation as primary backup
  - Network development
  - Flexibility market
  - 1 million smart meters
  - Import ratio: 20% in 2040

Source: "Hungarian Energy and Climate Strategy" – Ministry of Innovation and Technology

HUNGARIAN RENEWABLE ELECTRICITY PORTFOLIO IN LINE WITH THE REGION

Renewable electricity production within the CE region



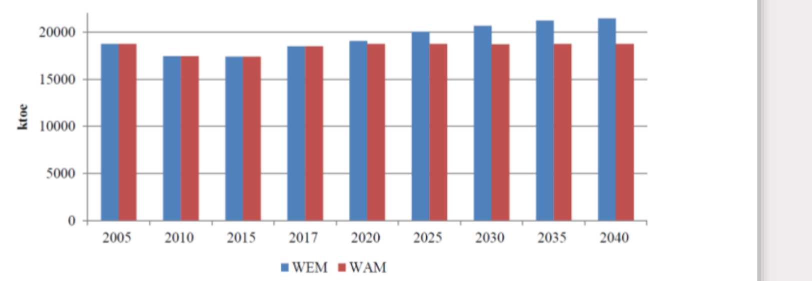
- RES-E sources: PV and biomass
  - the most cost efficient and most favorable conditions
- Fits well into the balanced regional renewable portfolio:
  - Poland: wind
  - Romania, Austria: hydro, wind
  - Balkan: hydro

Source: Eurostat, NECP of Hungary, NECP drafts

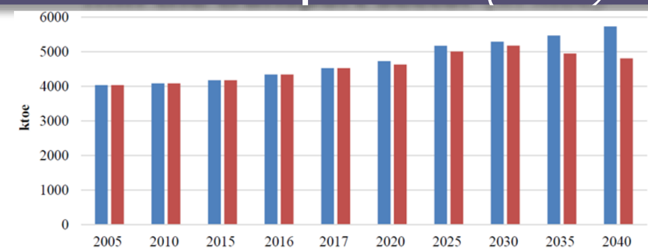
REDUCING ENERGY CONSUMPTION IS A PRIORITY

- Under Hungary's 'with additional measures' ("WAM") scenario, final energy consumption will not exceed the level of 2005 until 2030, while maintaining economic growth
- Measures to spread electric vehicles usage and reduce fuel consumption in conventional vehicles should limit the energy consumption of the transport sector
- Significantly greater energy savings are expected in the residential sector (-33% by 2030 vs 2016)
- In the meantime, final energy consumption in the tertiary/service and industrial sectors are forecasted to grow (+10% and +48% respectively by 2030 vs 2016)

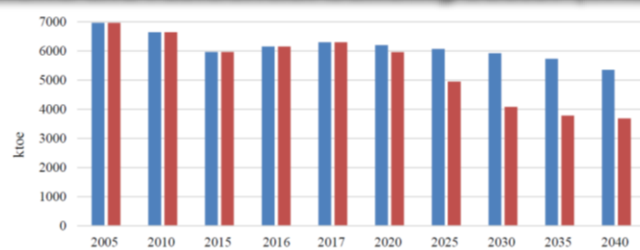
Final energy consumption *(in ktoe)*



...in the transport sector *(in ktoe)*



...and the residential building sector *(in ktoe)*

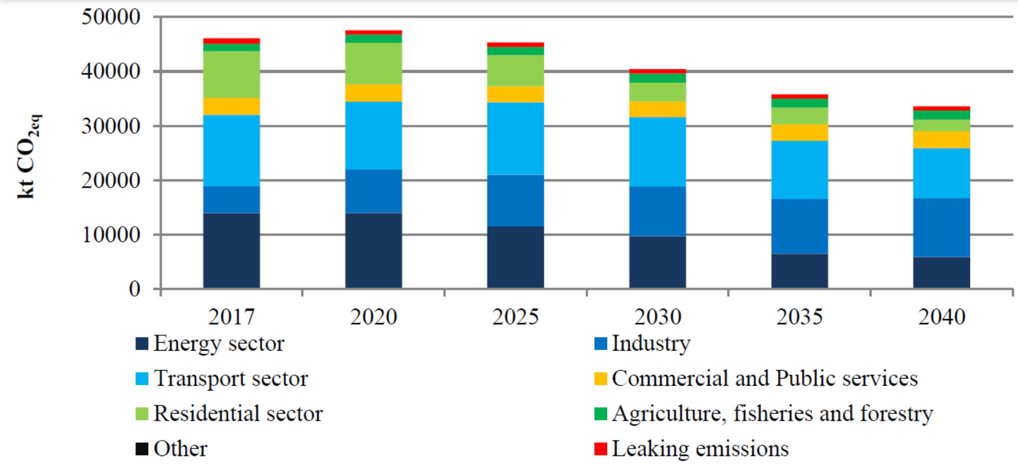


Notes: Under EU legislation, Member States have been required to report projections scenario of anthropogenic GHG or air pollutant emissions by sources that encompass the effects of currently implemented or adopted policies and measures - "with existing measures" (WEM) and projections scenario that encompass the effects of policies and measures which have been adopted and implemented, as well as planned policies that are judged to have a realistic chance to be adopted and implemented in the future 'with additional measures' (WAM). Source: Hungarian Energy and Climate Strategy, Ministry of Innovation and Technology

GHG EMISSION REDUCTION PATHWAY

- As part of the EU's 2030 Climate and Energy Framework, Hungary's overall GHG emissions will be reduced by 40% by 2030
- Transport sector will become the major emitter (with 31.6%) by 2030
- However, in 2040, industry's emissions will be the highest

Evolution of GHG emissions by sectors *(WAM scenario)*



Main actions

- Share of carbon-free electricity production to increase from 60% in 2018 to 90% in 2030
  - Phase out of coal-based power generation, with the restructuring of the lignite-fired "Mátra Power Plant"
  - Maintain nuclear power generation capacity
  - Renewable electricity production to increase from current 10% to 20% in 2030 and 37% in 2040; mostly PV based
- The new "greening transport" program to play a key role in the decarbonisation of the economy
- Share of renewables in district heating to increase from 20% to 50% by 2030
- Emission reductions from agriculture by various financing measures and legislation
- New waste management strategy (under development)
- Raise CO_2 sink capacities by raising the area covered by forests in line with the National Forest Strategy

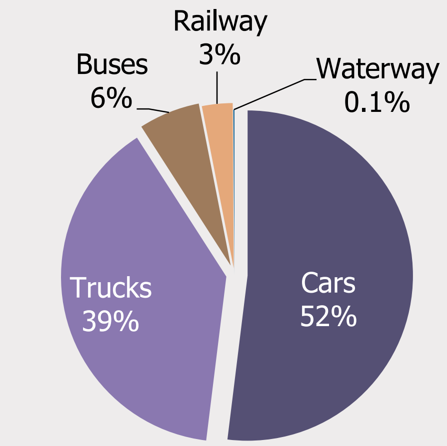
Source: Hungarian Energy and Climate Strategy, Ministry of Innovation and Technology

THE CLEAN TRANSPORTATION CHALLENGE

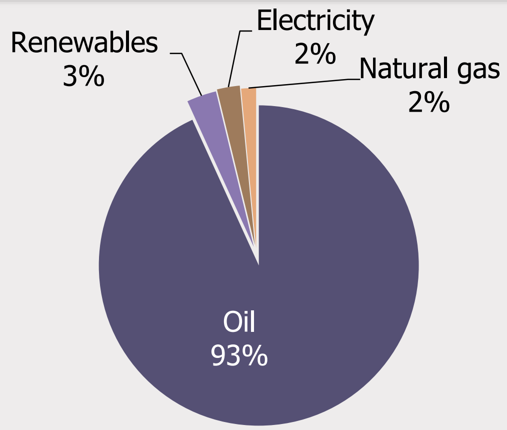
- Transport sector is responsible for 24% of Hungary's total domestic energy consumption (of which 97% from road transport)
- This economic growth-driven transport increase poses a real threat to achieving our GHG emissions reduction targets (31% GHG emissions increase between 2013 and 2017)
- Our goal is to reverse this growing trend:
  - 5% reduction of transport GHG emissions by 2030
  - Progressively replace transport fuel consumption (currently 93%) by electricity and other alternatives
  - The proportion of biofuels used in transport has increased, and expected to reach 8.2% by the end of 2020
  - In the future, we want to encourage both the use and domestic production of the so-called advanced or second-generation biofuels

Transport sector key indicators	**2017**	**2030**
Sector GHG emissions	13,143 kt CO2eq	12,485 kt CO2eq
Share of renewable energy in sector's final energy consumption	6.8%	min. 14%

Energy consumption by type of transport



Energy consumption by type of fuel



Source: Ministry of Innovation and Technology

GREENING TRANSPORT

- The implementation of the Transport Greening Program is one of the main actions of the National Energy Strategy covering four main topics:
  - Promotion of domestic developed biofuel production
  - Development of electro-mobility and alternative fuel charging infrastructure
  - Green Bus Program
  - Promotion of road-rail transport
- EU Directive on Clean procurement: the promotion of clean and energy-efficient road transport vehicles can be applied in public procurement in the Member States between 21 Aug 2021 and 31 Dec 2030

EU minimum Clean procurement targets		
Categories	Aug-21 – Dec-25	Jan-26 – Dec-30
M1, M2, N1	23.1%	23.1%
N2, N3	8%	9%
M3	37%	53%

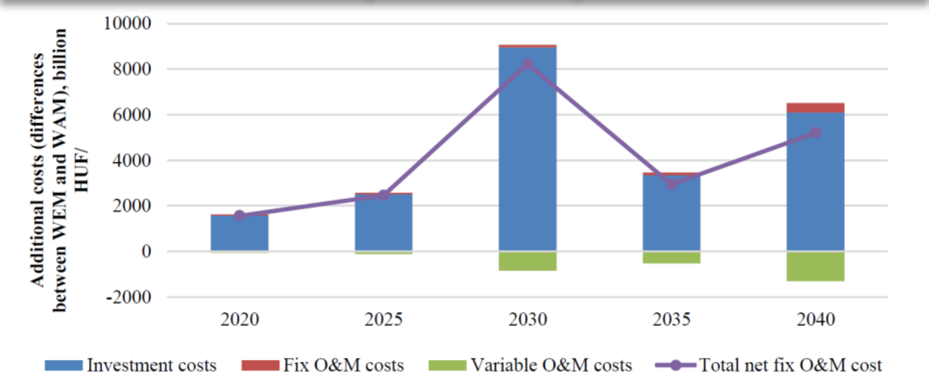
The Green Bus Program will provide a total of HUF 36 bn between 2020 and 2029 to support the purchase of 1,290 buses

Jedlik Ányos Plan 2.0 defines the 2030 strategy for electrification of road transport, promoting electric vehicles and infrastructure through regulatory, fiscal and financial support instruments

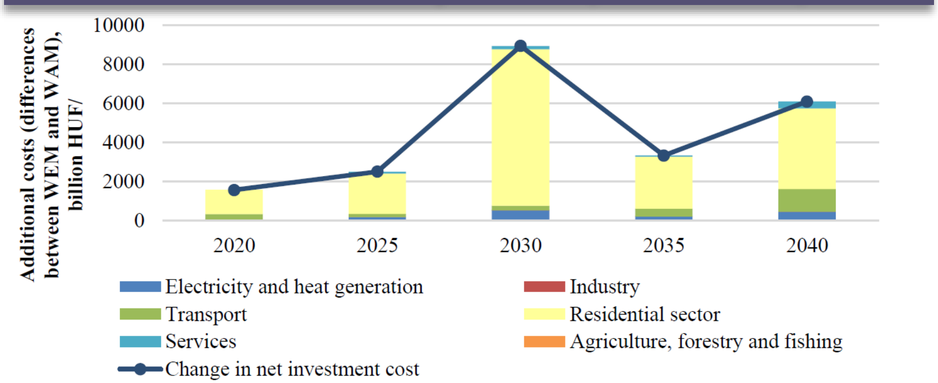
Directive (EU) 2019/1161 amending Directive 2009/33/EC - Minimum procurement targets for the share of clean light-duty vehicles in the total number of light-duty vehicles (M1, M2 and M3) and for the share of clean heavy-duty vehicles in the total number of heavy-duty vehicles (N1, N2, and N3) covered by public procurement contracts at Member State level

INVESTMENT NEEDS TO ACHIEVE HUNGARY'S TARGETS

Additional measures' implementation costs
(WAM scenario)



Additional costs by sectors (WAM scenario)

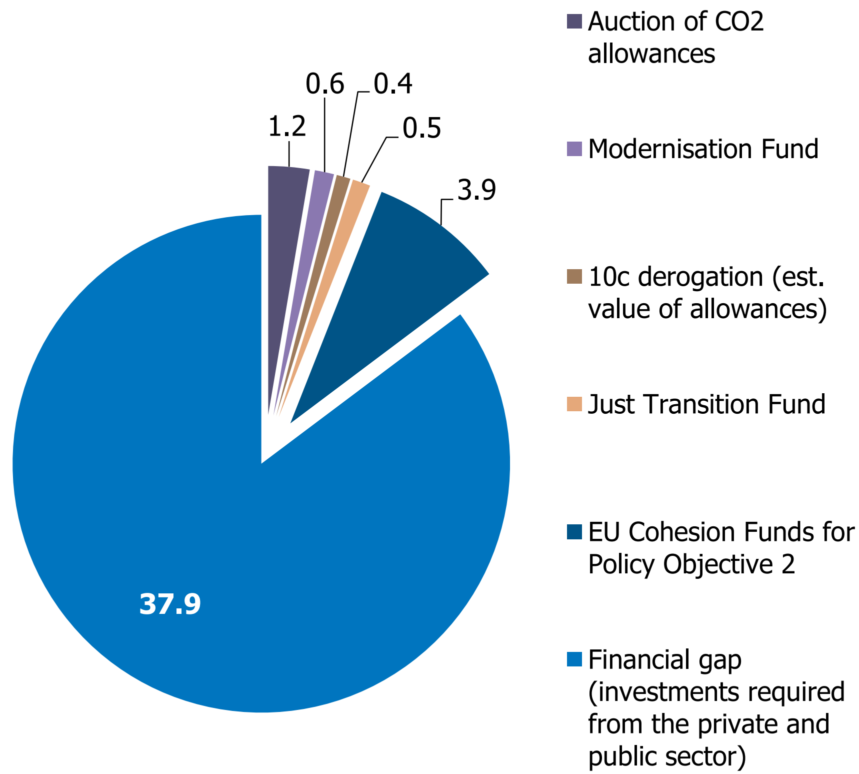


- During the last 5 years, Hungary has disbursed c. HUF 560bn (EUR 1.7bn) and will continue to expense 2 to 2.5% of its annual GDP to help meet its energy and climate targets
- Achieving Hungary's WAM scenario targets will cost c. EUR 44.5bn by 2030 and c. EUR 62bn by 2040* (excl. costs of nuclear capacity maintenance and grid development)
- The investment need is expected to be the highest between 2025 and 2030: worth waiting for the introduction of new technologies until their costs decline
- Further cost reduction can be achieved through lower operation costs of the new technologies

Additional costs from 2016 to 2030 and 2040 respectively, discounted to 2019. In the graph, each bar represent the change of the net additional cost (between WEM and WAM) during respective 5-year period.
Source: Hungarian Energy and Climate Strategy, Ministry of Innovation and Technology

FUNDING SOURCES

Available financial resources (2020-2030) and financial requirement (in EUR bn)



- A part of the funding needed for environmental projects is provided by EU funds and by the sale of CO_2 allowances in the EU ETS
- Based on the current available financial resources for 2020 to 2030, there is still an important additional financial requirement of EUR 37.9bn
- A large part will be covered by the private sector, supported by incentive schemes such as energy efficiency obligation scheme and ESCO-type solutions
- Another part is supported by the State Budget and will be partially financed by issuing Green Bonds

Source: Ministry of Innovation and Technology

VII. HUNGARY'S GREEN BOND FRAMEWORK

GREEN BOND FRAMEWORK OVERVIEW

- The Green Bond Framework of Hungary is in line with the best market practices: Green Bond Principles, Japanese Ministry of Environment Green Bond Guidelines and the Guidelines on Green Note of Non-Financial Enterprise published by NAFMII
- The proposed EU Green Bond Standard by the EU TEG was also taken into consideration

Use of Proceeds	Renewable Energy	Land Use and Living Natural Resources	Clean Transportation
	Energy Efficiency	Waste & Water Management	Adaptation
Process for Expenditure Evaluation and Selection	Ministry of Finance is in charge of coordinating the process • Inter-Governmental Working Group (IWG) evaluates potential green expenditures • Steering Committee approves Eligible Green Expenditures		
Management of Proceeds	Ministry of Finance is in charge of Green Bonds proceeds management • IWG monitors the level of Eligible Green Expenditures • Steering Committee approves the proceeds allocation Eligible Green Expenditures can include expenditures from the 2 previous year, the current year and future years		
Reporting	Green Bond Report including Allocation and Impact Reporting		
External review	Second Party Opinion from CICERO Shades of Green	Allocation Reporting review	

Notes: NAFMII : Chinese National Association of Financial Market Institutional Investors

GREEN BOND GOVERNANCE AND ORGANISATION

- For the governance of the Green Bond Framework, the Ministry of Finance in cooperation with the Government Debt Management Agency of Hungary ("ÁKK") has set-up a Steering Committee ("SC") and an Inter-Governmental Working Group ("IWG") composed by senior officials and representatives respectively of the following Ministries:

- Ministry of Finance (Chair)
- Ministry of Innovation and Technology
- Ministry of Agriculture
- Ministry of Interior
- ÁKK

Main responsibilities	Steering Committee	Inter-Governmental Working Group
Process for Expenditure Evaluation and Selection	- Approval of Eligible Green Expenditures	- Evaluation and selection of potential green expenditures
Management of Proceeds	- Approval of proceeds allocation	- Data collection and monitoring of Eligible Green Expenditures
Reporting	- Final validation	- Review and pre-validation

USE OF PROCEEDS (1/2)

- Eligible Green Expenditures should fall within the definition of Green Sector below:

Green Sector	Definition of Eligible Green Expenditures	Main State Operational Programmes	Contribution to UN SDGs and EU Environmental Objectives
Renewable Energy	- Solar - Wind - Geothermal (with direct emissions ≤ 100g CO_2e/kWh) - Biomass, Biogas or Biofuels (with direct emissions ≤ 100g CO_2e/kWh) - Other sources such as heat-pump - Excluding waste to energy	- Competitive Central-Hungary Operative Programme - Environmental and Energy Efficiency Operative Programme	EU Environmental Objective: 1. Climate Change Mitigation
Energy Efficiency	- Energy efficiency improvement in the public and private sector	- Environmental and Energy Efficiency Operative Programme - Warm at Home Programme - Rural Development Programme	EU Environmental Objective: 1. Climate Change Mitigation
Land Use and Living Natural Resources	- Sustainable agriculture - Biodiversity conservation and preservation of living natural resources	- National Environmental Protection Programme - Rural Development Programme - Environmental and Energy Efficiency Operative Programme	EU Environmental Objectives: 1. Climate Change Mitigation 6. Protection of Healthy Ecosystems

USE OF PROCEEDS (2/2)

Green Sector	Definition of Eligible Green Expenditures	Main State Operational Programmes	Contribution to UN SDGs and EU Environmental Objectives
Waste & Water Management	- Waste management - Water treatment - Water supply	- Irinyi Plan - Environmental and Energy Efficiency Operative Programme - Rural Development Programme - Local operators and NGOs support - State Reconstruction Fund for Water Utilities	 EU Environmental Objective: 3. Sustainable land use and protection of water and marine resources 4. Transition to a circular economy 5. Pollution prevention and control
Clean Transportation	- Clean transport services and modal shift towards public transportation	- Integrated Transport Operational Programme	 EU Environmental Objective: 1. Climate Change Mitigation
Adaptation	- climate change extreme weather events observation systems	- Environmental and Energy Efficiency Operative Programme - Climate change extreme weather events observation systems and support adaptation related infrastructure	 EU Environmental Objectives: 1. Climate Change Adaptation

- Eligible Green Expenditures might include:
  - Investment expenditure of State and Public bodies, agencies and companies
  - Operating expenditure of State bodies or agencies dedicated to environmental issues
  - Intervention expenditure includes transfers and subsidies to public agencies and to enterprises
  - Tax expenditure includes tax credits and tax incentives related to activities with environmental benefit

PROCESS FOR EXPENDITURE EVALUATION AND SELECTION

- The evaluation and selection of Eligible Green Expenditures is performed on an annual basis, as follows:

Process for Eligible Green Expenditures evaluation and selection	
• Steering Committee and IWG chairmanship • Coordination of identification process	Ministry of Finance
• Identification of potential green budget expenses	Each relevant ministry, and in particular: • Ministry of Finance • Ministry of Innovation and Technology • Ministry of Agriculture • Ministry of Interior
• Evaluation and selection of potential green expenditures	Inter-Governmental Working Group
• Approval of Eligible Green Expenditures	Steering Committee

MANAGEMENT OF PROCEEDS

- Eligible Green Expenditures may include expenditures:
  1. Within the 2 budget years preceding the year of issuance;
  2. Made in the same year as the issuance;
  3. Future budget expenditures
- The management of proceeds will be performed annually on a notional basis, as follows:

Process for Management of Proceeds	
• Data collection and monitoring of Eligible Green Expenditures	Inter-Governmental Working Group
• Approval of proceeds allocation	Steering Committee
• Keeping record of unallocated Green Bonds funding	Ministry of Finance

REPORTING (1/2)

- Hungary is committed to provide investors with transparent reporting:
  - on the allocation of proceeds towards Eligible Green Expenditures on an annual basis
  - on the environmental impact of those expenditures after the full allocation of the bond proceeds or more frequently as Hungary deems necessary
- The Green Bond reporting will be elaborated and validated, as it follows:

Process for Green Bond reporting	
• Coordination of reporting process	Ministry of Finance
• Data collection and Green Bond Report drafting	Each relevant ministry, and in particular: • Ministry of Finance • Ministry of Innovation and Technology • Ministry of Agriculture • Ministry of Interior
• Review and pre-validation	Inter-Governmental Working Group
• External review	CICERO Shades of Green
• Final validation	Steering Committee

REPORTING (2/2)

- The Impact Report will provide information on the impact of Eligible Green Expenditures and their contribution to at least one of six EU Environmental Objectives
- Examples of potential key environmental impact indicators include:

Impact reporting indicators		
Eligible Green Expenditures	**Output indicators**	**Environmental impact indicators**
Renewable Energy	# of projects Total renewable energy capacity (in MW)	- Annual energy production (in MWh) - Annual GHG emission avoidance (in CO_2 equivalent)
Energy Efficiency	# of applications # and nature of beneficiaries # of building subject to energy performance improvements	- Annual energy savings (in MWh) - Annual Greenhouse Gas emission avoidance (in CO_2 equivalent)
Land Use and Living Natural Resources	# of Natura 2000 sites Hectares of sustainable forest Hectares and share of protected areas	-
Waste & Water Management	Water networks efficiency rate Rate of water network leakage Amount of waste diverted from landfill	- Water exploitation index - Status of waters
Clean Transportation	KM of new public transport lines created / maintained Number of people in new environmentally friendly means of transportation	- Annual energy savings (in MWh) - Annual GHG emission avoidance (in tonnes of eq. CO_2 per passenger/tonne-km)
Pollution Prevention and Control	# of polluted sites under remediation # and nature of ecological monitoring projects	-
Adaptation	# and nature of projects supporting adaptation	-

EXTERNAL REVIEW PRE- AND POST-ISSUANCE

- Green Bond Framework pre-issuance verification:
  - Hungary has engaged CICERO Shades of Green to provide an independent Second Party Opinion on this Green Bond Framework
  - Hungary's Green Bond Framework was rated "Medium Green" and "Good" on Governance
- Allocation Reporting post-issuance review:
  - Hungary will engage an independent third party to review the Allocation Reporting and its conformity with this Green Bond Framework
  - The initial Allocation Reporting review is expected to be provided by CICERO Shades of Green
  - This process will be made on an annual basis until full allocation

°CICERO Shades of Green

Hungary

Green Bond Second Opinion

May 25, 2020

Hungary is a country in Central Europe and member of the European Union. Hungary has approximately 9.8 million citizens, an area of 93,000 square kilometers and a GDP of USD 170 billion constituting the 54th largest economy globally according to the IMF. The issuer currently plans to reduce GHG emissions by 95% until 2050 compared to 1990 levels and compensate the remaining 5% by enlarging sink capacities, mainly by afforestation. Hungary's GHG emissions decreased by 33% compared to 1990% levels, but have mostly increased since 2013 while the share of renewable energy has decreased since 2013.

Considering that Hungary's emissions result by 21% from transportation which have more than doubled in significance since 1990, we are encouraged to see approximately 90% of proceeds being designated this sector. Approximately 1/3 of total proceeds fund electric railway, subway, trolley or tram. Rail-guided vehicles financed under this framework will all be electric. While direct investments in diesel related rail infrastructure is excluded from the framework, all other railway related expenditures include fossil fuel elements as they support diesel fueled transportation, e.g., operations of the railway network, construction and upgrade of tracks and reimbursements of uncovered costs of railway passenger traffic. According to Hungary, 41% of the Hungarian open-access railway network is currently electrified.

The sovereign also includes the project categories renewable energy, energy efficiency, land use and living natural resources, waste & water management as well as adaption in its framework. Some of the potential projects include support for fossil fuels and do not necessarily generate positive climate impact and require additional evaluation procedures, e.g., in the area of building refurbishments, sustainable agriculture, forestry, organic farming and operation of national parks. Life-cycle and supply chain assessment requirements would improve the framework. Eligible expenditures will to a large extent include funding operating expenses, e.g., for national parks where more than 60% will cover personnel costs and as well as for railway operation. Hungary also anticipates including, e.g., support of environmental NGOs without further selection criteria.

Hungary will obtain an external review of its reporting and expects to report impacts according to current market practices. As the selection criteria are in parts vague, fossil fuel could be supported as well as administration costs. The issuer is encouraged to provide transparency on these aspects in its reporting.

Based on an assessment of the framework's alignment with the Green Bond Principles, the project categories and Hungary's governance, Hungary's green bond framework receives the overall **CICERO Medium Green** shading and a governance score of **Good**. This shading reflects the framework's strength focusing on electric railway expenditures, but also Light Green elements such as

SHADES OF GREEN

Based on our review, we rate the Hungary's green bond framework **CICERO Medium Green**.

Included in the overall shading is an assessment of the governance structure of the green bond framework. CICERO Shades of Green finds the governance procedures in Hungary's framework to be **Good**.

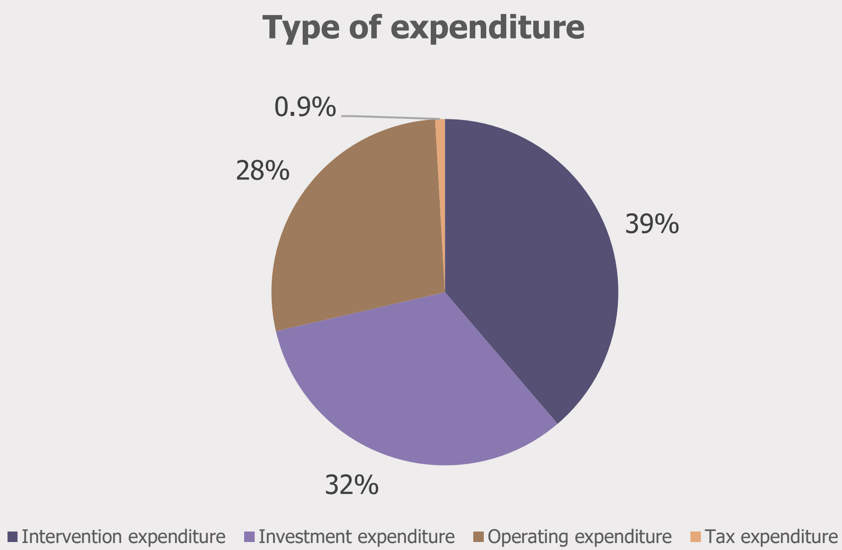
GREEN BOND PRINCIPLES

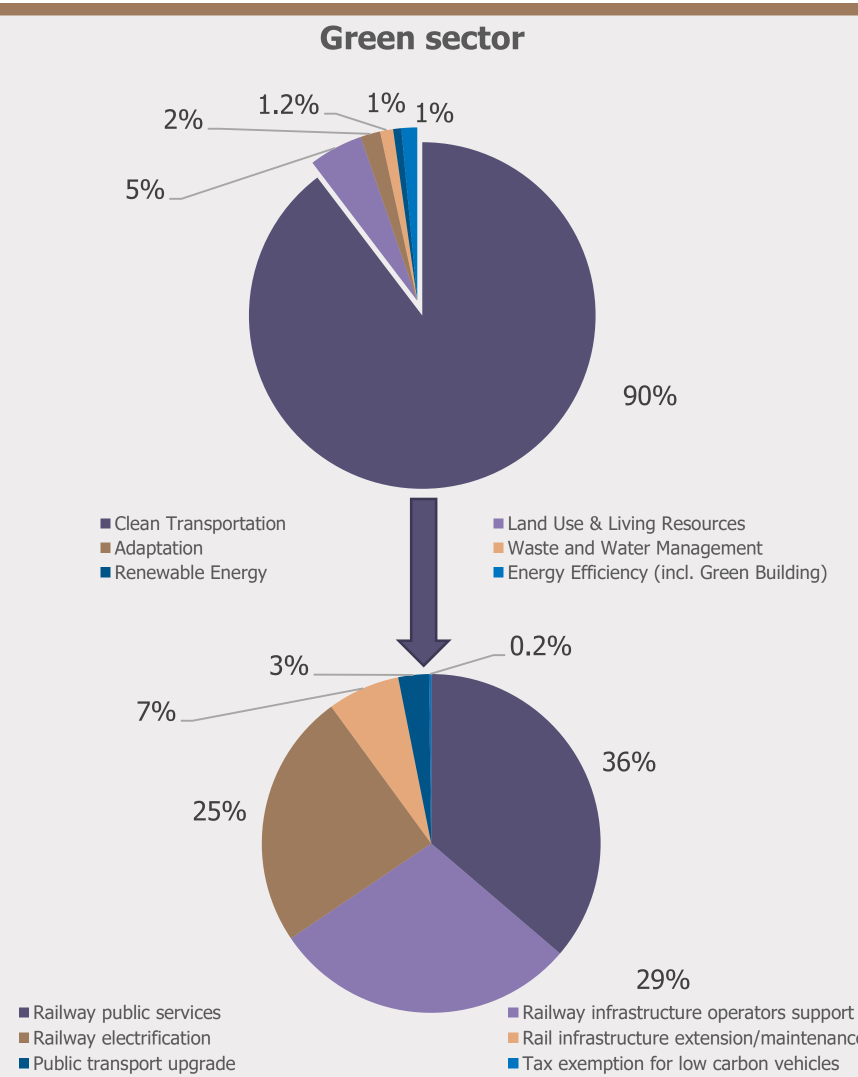
Based on this review, this Framework is found in alignment with the principles.

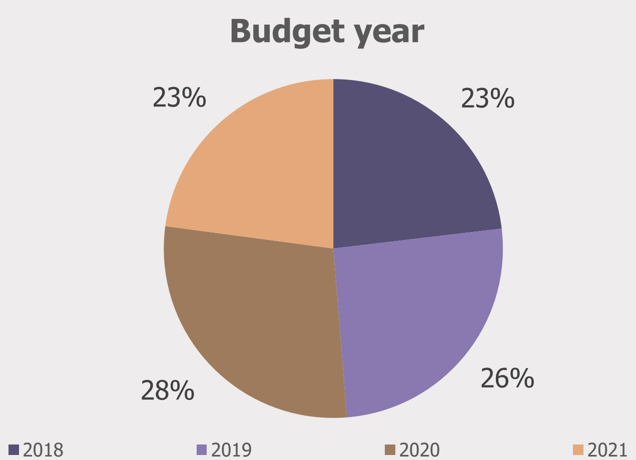
°CICERO Medium Green

VIII. HUNGARY'S GREEN EXPENDITURES

BREAKDOWN OF CURRENT ELIGIBLE GREEN EXPENDITURES







GREEN INVESTMENTS & STATE BUDGET EXPENDITURES

	Annual investment	Main funding sources	Key projects in Eligible Green Expenditures	Eligible Green Expenditures (2018-2021*)
Renewable Energy	0.3% of GDP	EU funding, CO_2 allowances, private sector, bank lending (including from Hungarian Development Bank) and State Budget	- Subsidies to state-owned energy company MVM - Building development with renewable energy use - Subsidies to SMEs dedicated to installation of renewable energy	HUF 12 bn
Energy Efficiency (incl. Green Building)		Private sector, bank lending and State Budget	- Subsidies to purchase energy-efficient electrical appliances (Home Warming Program) - Public building renovation - Support to farm owners and local institutions to implement energy efficiency measures - Subsidies to SMEs focusing on energy efficiency solutions	HUF 23 bn
Land Use & Living Resources	-	State Budget and EU funding	- Forest management - National Parks - Nature conservation institutions - Rural Development Program (organic farming, Natura 2000 and Water Framework Directive payments, etc) - Sustainable fishing	HUF 79 bn
Waste and Water Management	-	State Budget and EU funding	- Ecological monitoring of Szigetköz - State Reconstruction Fund for Water Utilities - Support for waste management industry development - Environmental remediation of the polluted sites - Subsidies to individual farm owners to increase water efficiency - Subsidies to technology development in waste management - Support to water and waste management services	HUF 19 bn
Clean Transportation	0.7% of GDP	State Budget and EU funding	- Railway public services - Public transport upgrade - Rail infrastructure extension or maintenance projects - Railway electrification projects - Railway infrastructure operators support - Tax exemption for electric and plug-in hybrid vehicles	HUF 1 404 bn
Adaptation	0.01% of GDP	State Budget and EU funding	- Hungarian Meteorological Service - Monitoring water resource and flow conditions facing climate change (e.g. Mosoni-Danube, Lake Balaton)	HUF 29 bn
			Total	**HUF 1 566 bn** **EUR 4.5 bn**

*Notes: *Indicative numbers only. Current Eligible Green Expenditures include 2018-2020 State Budget years as well as 2021 State Budget forecast. Note that 2021 State Budget has not yet been voted.*

KEY PROJECT: RENEWABLE ENERGY

Construction of Felsőzsolca Solar Power Plant, the largest capacity solar in Hungary

- Description: Felsőzsolca Solar Power Plant is the largest capacity solar power plant in Hungary. Located at Felsőzsolca, the project counts with nearly 74,000 polycrystalline solar panels installed and was concluded in November 2018.
- The project was implemented under the direction of the MVM Group engaged in renewable energy generation. The total investment was of HUF 9 billion (35% co-financed by EU funds)
- The Felsőzsolca Solar Power Plant is the first facility out of 110 solar units to be developed and constructed by the MVM Group in the country.
- Type of expenditure financed: investment
- State Programme supported: KEHOP
- Outputs and impact indicators:
  - Installed capacity: 20 MW
  - Annual energy production: 21 GWh, which corresponds to the annual electricity consumption of ~ 10,000 households
  - Annual GHG emission avoidance: 20,000 tonnes of CO_2eq.

Source: Ministry of Innovation and Technology

KEY PROJECT: ENERGY EFFICIENCY

Energy efficiency improvements in ELTE University

- Description of the project: 15 buildings of Eötvös Loránd University were renovated. The energy efficiency works of one hundred thousand square meters, included thermal insulation, replacement of external doors and windows and upgrade of boilers and heating systems. Solar panels have also been installed in the university buildings. The total investment was of HUF 5 billion (97% co-financed by EU funds)
- Type of expenditure financed: investment
- State Programme supported: KEHOP
- Outputs and impact indicators:
  - Annual energy savings: 16 990 MWh/year , equivalent to HUF 300 million
  - Annual GHG emission avoidance: 4,600 tonnes of CO_2 equivalent

Source: Ministry of Innovation and Technology

KEY PROJECT: LAND USE AND LIVING NATURAL RESOURCES

Implementation of EU Biodiversity Strategy to 2020

- Description of the project:
  - Sub-project 1 - NATURA:

    Field surveys targeting wild species and natural habitats in order to reduce data deficiencies and better define the conservation status of species and habitats of community interest
  - Sub-project 2 - ECOSYSTEM SERVICES:

    Mapping and assessment of ecosystems and the socio-economic evaluation of selected key ecosystem services at the national scale
  - Sub-project 3 - LANDSCAPE CHARACTER:

    Developing the methodology for the classification of Hungarian landscapes based on landscape character, delimitation and description of national landscape character units, defining directions of use and developing guidelines
  - Sub-project 4 - GREEN INFRASTRUCTURE:

    Assessing the status of green infrastructure in Hungary, setting objectives and defining priorities of restoration, defining conflict areas, and providing a delimitation of restoration zones

  The total investment was of HUF 1.07 billion (85% co-financed by EU funds)
- Type of expenditure financed: Investment
- State Programme supported: KEHOP
- Outputs indicators: maps of species' range and habitats, map of ecosystems and ecosystem status; methodologies of monitoring, of mapping and assessing ecosystems and for delimitation and protection of landscape character units; guidelines for the classification of landscape character types; priority list of ecosystem services; national GIS database of landscape character units, national GIS database of the green infrastructure network; national priorities and target areas of conservation.

Source: Ministry of Agriculture

KEY PROJECT: CLEAN TRANSPORTATION

Eletrification of the Mezőzombor-Sátoraljaújhely railway line

- Description of the project: : Electrification of 46.3 km long railway line between Mezőzombor and Sátoraljaújhely will be concluded in 2020, after two years of work. The project included the renovation of stations in order to increase passage comfort and safety.
- Part of the line between Sárospatak - Sátoraljaújhely station was also adapted to perform the flood protection function, reducing the risk of train traffic disruption caused by the flooding of the Bodrog river.
- The project was conducted by Hungarian Railways (MÁV) and National Infrastructure (NIF). The total investment was of HUF 23 billion (85% co-financed by EU).
- Type of expenditure financed: Investment
- State Programme supported: Integrated Transport Operational Programme

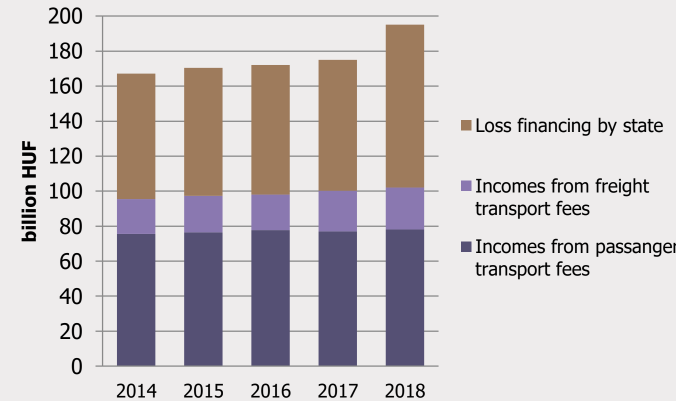
Source: Ministry of Innovation and Technology

KEY PROJECT: CLEAN TRANSPORTATION

Railway public transport support

Railway infrastructure operators support

- Length of Hungarian railway lines is 7 712 km, of which 3 000 km belongs to Trans-European network (TEN-T)
- Operation of Hungarian network is contracted between Hungarian State and 2 track operators (MAV, GYSEV) for 2016-2025
- The difference between total operation expenditures vs. incomes from network access fees is financed by Hungarian central budget



Railway public services

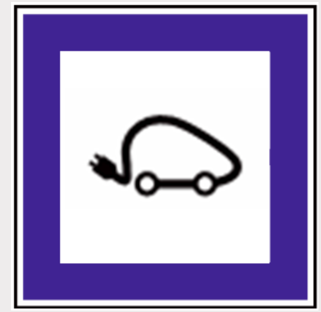
- Reimbursement of uncovered costs of railway passenger traffic based on EU directive
- Keeping of the high level service with frequent traffic is essential for avoiding bigger increasing of modal split reduction
- Main actions to keep and improve the financial sustainability:
  - prioritizing railway traffic at the long-distance mainlines and suburban areas
  - making the service more attractive by constant development of tracks, timetable, vehicles and further connecting services
  - improving the passenger-side facilities of ticketing by launching e-platforms for purchasing and ticket-checking

KEY PROJECT: CLEAN TRANSPORTATION

Accelerating in electric vehicles

Tax exemption for electric and plug-in hybrid vehicles

- Description of the project: Environmentally friendly vehicles are exempt from registration tax, motor vehicles tax and motor vehicle duty
- Type of expenditure financed: tax expenditure
- State Programme supported: Jedlik Ányos Plan 2.0.



Financing Battery Electric Vehicle through tenders

- Tenders to provide financial support for purchasing electric vehicles.
- To date there have been two calls: one in 2016 with a budget of HUF 2 billion and another in 2018 with a budget of HUF 3.3 billion. The tenders have contributed to the financing of 2578 electric cars
- This investment is financed by CO_2 allowances (EU Emissions Trading System)

elektro mobilitás
jövőbe vezetünk

Subsidy for electric vehicles
May 2020: announcement of a new subsidy programme for the acquisition of full electric vehicles with a value of less than 15 million forint until June 2022

Source: Ministry of Innovation and Technology

KEY PROJECT: WASTE AND WATER MANAGEMENT

Subsidies for SMEs working with waste management development

- Description of the project: the Ministry for Innovation and Technology provides subsidies to companies for the development and production of new devices and technologies for the recovery and treatment of waste, including plastic, glass, wood, metal, paper and related packaging waste, and electrical and electronic waste.
- The objective is to support a circular economy, increase efficiency, and the use of secondary raw materials in the waste sector.
- Type of expenditure financed: intervention
- State Programme supported: Irinyi Plan
- Outputs and impact indicators: number of registered patents

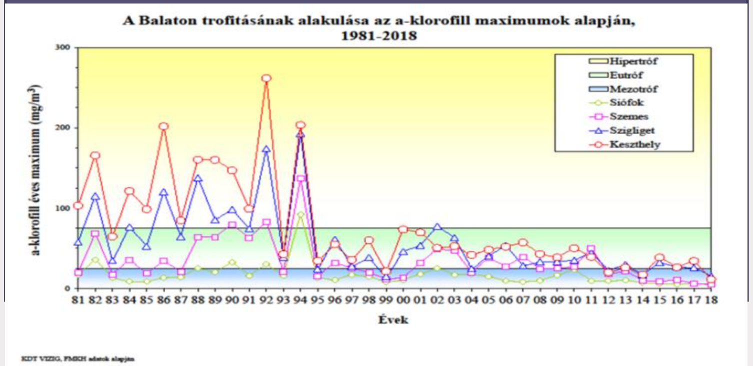
Source: Ministry of Innovation and Technology

KEY PROJECT: ADAPTATION

Comprehensive environmental monitoring and information system on Lake Balaton

- Description of the project: Lake Balaton is the largest lake in Central Europe. The lake has a high degree of sensitivity to environmental and meteorological changes.
- The aim of the project is to contribute to a better understanding of the vulnerability and adaptability of the ecological and socio-economic system of Lake Balaton. Appropriate adaptation measures will also be developed by analyzing the results of the project.
- The project includes the development of a water monitoring system and the establishment of a unified information and decision support system by connecting subsystems.
- The project is implemented by the National Water Directorate General, has started in October 2017 and will be completed by October 2020. The total investment is of HUF 1 billion.
- Type of expenditure financed: Investment
- State Programme supported: KEHOP
- Outputs indicators: increasing the knowledge base on water status (more frequent and accurate information for decision – making), improved status of water

Trophic change in Lake Balaton 1981-2018
Chlorophyll-a (mg/m^3)



Source: Ministry of Interior

KEY PROJECT: ADAPTATION

Monitoring studies and developments of Water Framework Directive

- Description of the project: The project aims to develop the equipment, measurement and monitoring methods of the Hungarian monitoring system, the development of databases obtained from the performed measurements and the evaluation methods of the data in line with the requirements of the European Union (Water Framework Directive), as well as the development of future river basin management plans.
- Each element of the project can be divided into two groups: quantitative (or hydrographic) and qualitative monitoring elements. The implementation of the project has a national scope, separate target areas and investment development areas have not been delimited.
- The project has started in February 2017 and will be completed by January 2023. The total investment is of HUF 4.8 billion (85% co-financed by EU funds)
- Type of expenditure financed: investment
- State Programme supported: KEHOP
- Outputs and impact indicators: increasing the knowledge base on water status (more frequent and accurate information for decision – making), improved status of water (impact)

Source: Ministry of Interior

IX. EFFECTIVE DEBT MANAGEMENT

HUNGARY BENEFITS FROM A FAVOURABLE DEBT PROFILE

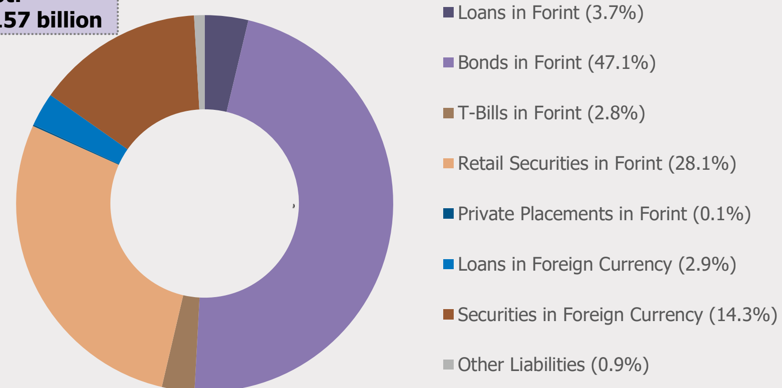
Key highlights

- **Each year, AKK defines key benchmark targets with the objective of optimizing Hungary's government debt portfolio**
  - The aim is to shield Hungary's government debt against exchange rate, interest rate and refinancing risks
- **All targets have been achieved in 2019**
  - **The self-financing policy has led to a material decrease in the FX share of government debt in Hungary**
  - **The active cross-currency swap strategy further mitigates FX risks** (risks emanating from adverse foreign exchange rate movements)
  - **Hungary enjoys in addition a large share of debt with a fixed coupon**
- **In 2020 AKK introduced a new benchmark of average term to maturity (ATM) exceeding 4 years in case of domestic debt**

Source: AKK

Hungary's government debt breakdown (May 31, 2020, % of total)

Total debt: HUF 31,157 billion



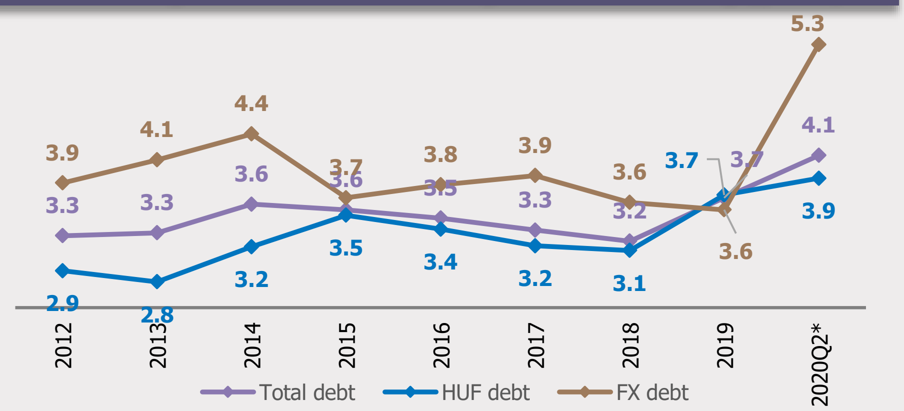
Source: AKK Note: Central government debt

Key targets and characteristics of Hungary's government debt[1]

	2021 benchmark targets		Q2 2020 figures[2]
Share of FX debt	Between 10% and 20%	✓	17.3%
Currency mix of the FX debt (after swaps)	100% in EUR (with a 5% deviation allowed)	✓	100% in euro
Share of domestic and FX debt with a fixed coupon	Between 60% and 80%	✓	74% and 78%
Average time to re-fixing of domestic debt	Minimum 3.5 years	✓	3.8 years
Average time to maturity of domestic debt	Minimum 4 years	✓	4.2 years

Source: AKK Note: 1. Central government debt 2. 90-day moving average

Evolution of government debt average time to re-fixing (years)



*Source: AKK Note: Central government debt; Note: *Preliminary data*

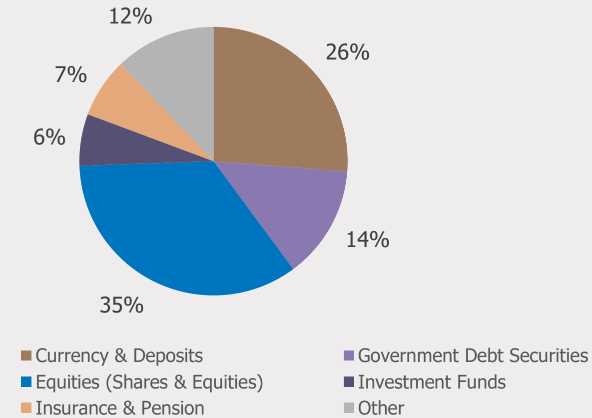
SIGNIFICANT CONTRIBUTION FROM THE HUF RETAIL MARKET

Key highlights

- **The retail sale market constitutes an important financing channel for the government,** in addition to local and international wholesale/institutional markets
  - The outstanding amount of government retail securities has significantly increased since 2011. It represents HUF 9,045 billion as of June 30, 2020
- **Hungary issues retail instruments with different characteristics, which allow to attract diverse retail investors**
  - Maturities range from 1 to 19 years, securities have step-up, fixed or inflation-linked coupon and besides dematerialised securities there are physical securities
- **AKK is regularly buying back retail securities from market makers to reduce the ownership of retail debt by non-household investors only**
- **Using retail government bonds as collateral is not permitted in Hungary**
- Main distribution channels for retail securities are post offices (7%), the Hungarian State Treasury (16%) and banks / investment companies (77%)

Source: AKK

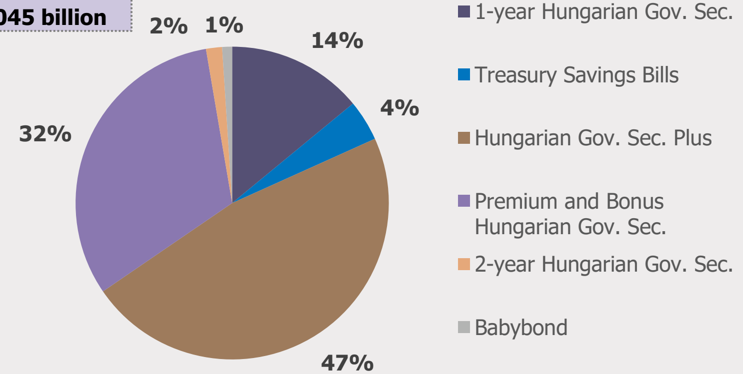
Households asset structure (Q1, 2020, % of total)



Source: MNB

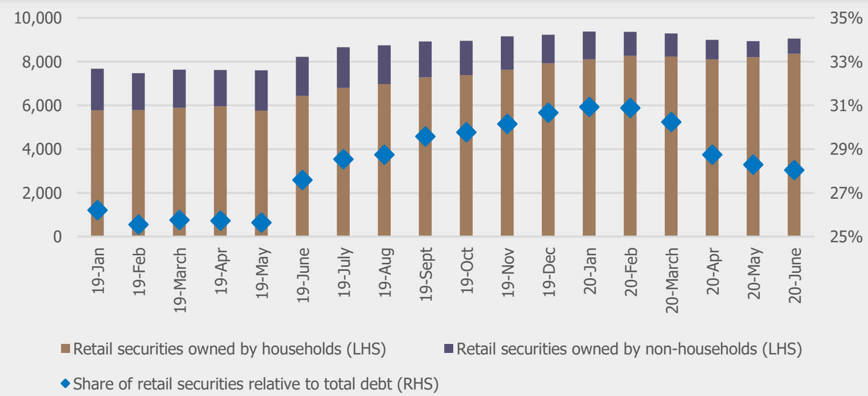
Retail portfolio by instrument (Q2, 2020, % of total)

Total retail debt: HUF 9,045 billion



Source: AKK Note: Central government debt

Retail securities (HUF Billions and % of total)



Source: AKK

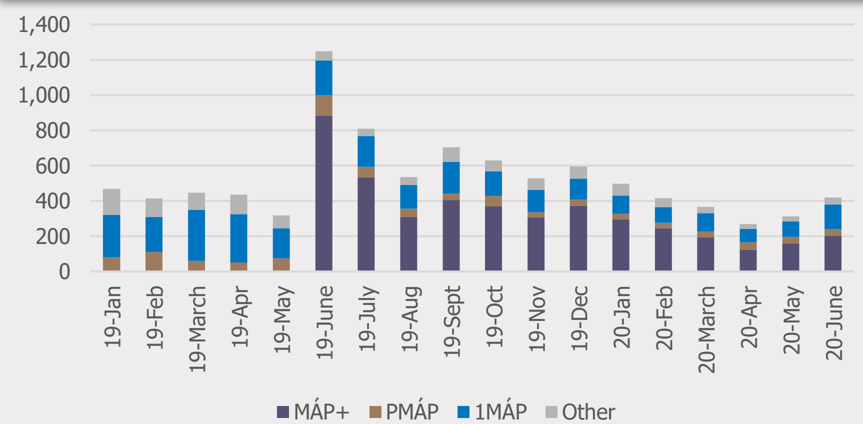
RETAIL MARKET OVERVIEW

Key highlights

- **Since 2012, AKK concentrated on the retail market**, initially using a wide range of instruments each tailored to different investor demand
- **In 2019 AKK introduced a new instrument MÁP+** and reduced the product range. Flagship instruments are:
  - **MÁP+** a bond with 5-year tenor and step-up interest rate (close to an average of 5% when held until maturity)
  - **PMÁP** an inflation-linked bond granting a positive real yield (inflation protection)
  - **1MÁP** a product with a tenor of 1 year (short-term product)
- **Since its introduction, MÁP+ was the most popular product** and currently accounts for 41% of total retail debt
- In February and March 2020 net issuance was negative, partly driven by seasonality and partly by the global epidemic affecting Hungary

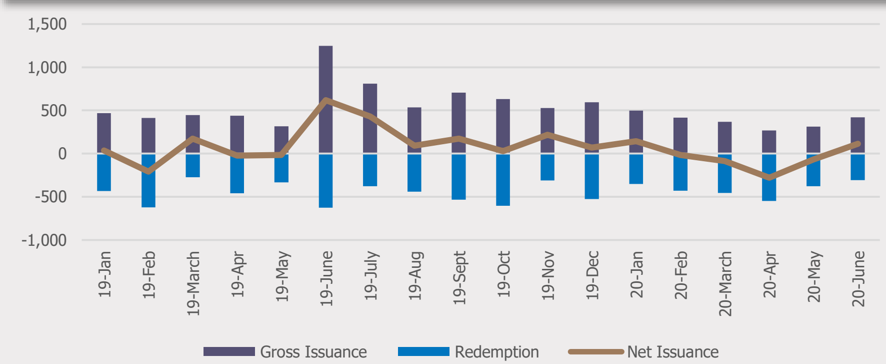
Source: AKK

Monthly Gross Sales of Retail Securities (HUF Billions)



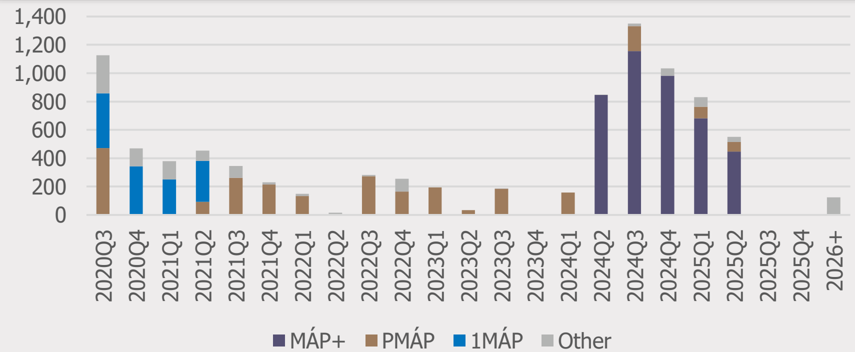
Sources: AKK

Monthly Gross and Net Issuance of Retail Securities (HUF Billions)



Source: AKK Note: Including executed buy-back options

Maturity Structure of Retail Securities (HUF Billions)



Source: AKK, Note: As of June 30, 2020

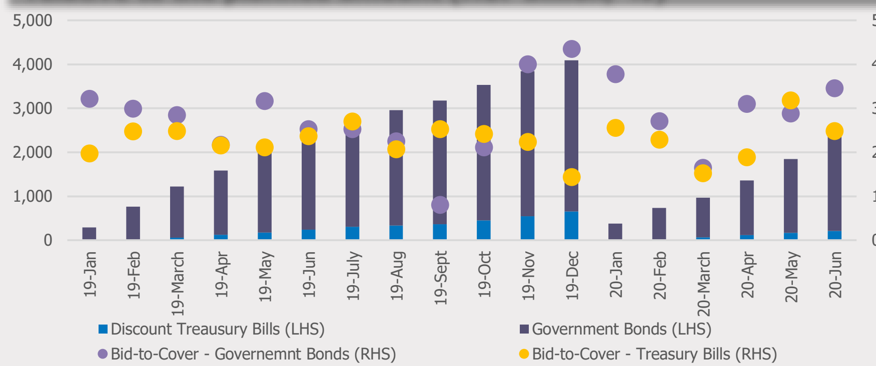
PERFORMANCE ON THE LOCAL WHOLESALE MARKET IS POSITIVE

Key highlights

- **To ensure simplicity and transparency, AKK issues standard debt instruments according to a fixed annual calendar published in advance**
- **Primary auctions are implemented as well as buyback and switch operations** to support a balanced government bond issuance pattern, manage the maturity profile and reduce refinancing risk
- **Hungary's local yields have significantly decreased since 2014**
  - Yields have decreased across the entire yield curve and have entered negative territory in the short-term end of the curve

Source: AKK

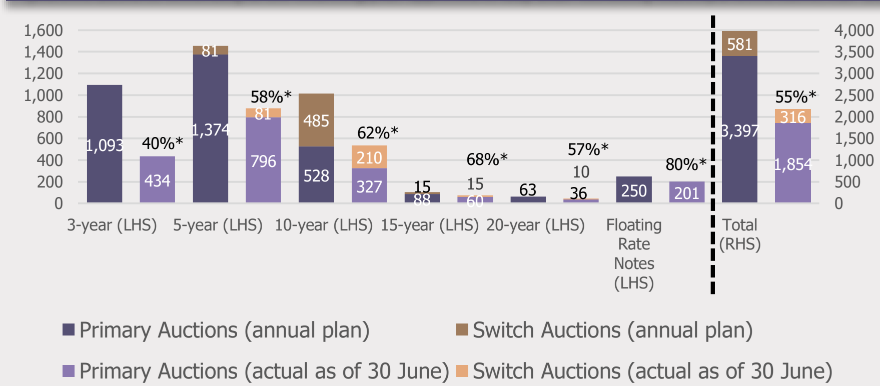
Cumulated monthly debt securities issuance and the ratio relative to the planned amount (HUF billion, %)



Source: AKK Notes: Government Bonds excluding repo transactions; Discount Treasury Bills according to OECD methodology

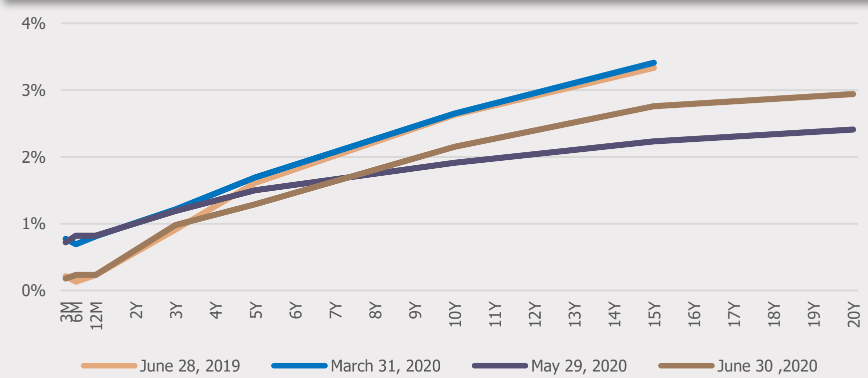
Government bond issuance on auctions by tenor in H1 2020

(planned amounts according to the financing plan approved in May 2020 excluding municipal bond sales, HUF billion)



*Source: AKK Note: * Share of actual amount (excluding switch) relative to annual planned amount*

Benchmark Yield Curve Development (percent)



Sources: AKK

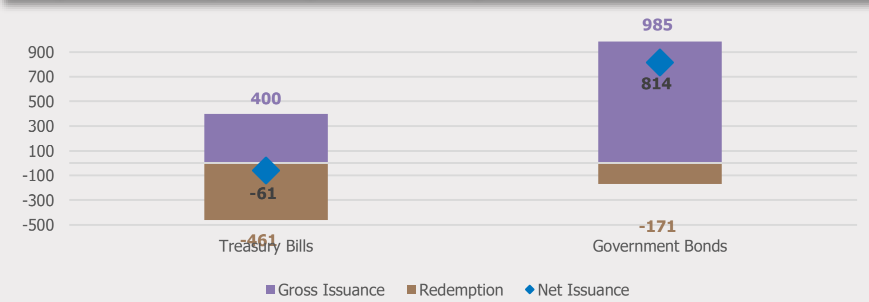
NEW AUCTION CALENDAR

Key highlights

- **On April 7, 2020 AKK announced the modification of the auction plan**
  - In the middle of every month, AKK publishes the auction plan for the next three months local currency issuance
- **The financing plan for the three-months period of July-September contemplates:**
  - A gross total issuance of HUF 1,385 billion against a redemption of HUF 632 billion resulting in a net issuance of HUF 753 billion
  - Gross bond issuance will amount to HUF 985 billion against a redemption of HUF 171 billion resulting in a net issuance of HUF 814 billion
  - Gross treasury bill issuance will amount to HUF 400 billion against a redemption of HUF 461 billion resulting in a net issuance of HUF -61 billion
- **3-month treasury bill auctions will take place on a weekly basis, 12-month treasury bill auctions will take place on a bi-weekly basis**
- **Bond auctions will take place on a weekly basis.** Two out of three auctions will be held for conventional bonds but every third auction will be held for floating-rate notes
- **Bond switch auctions or buy-backs will take place on a bi-weekly basis**

Source: AKK

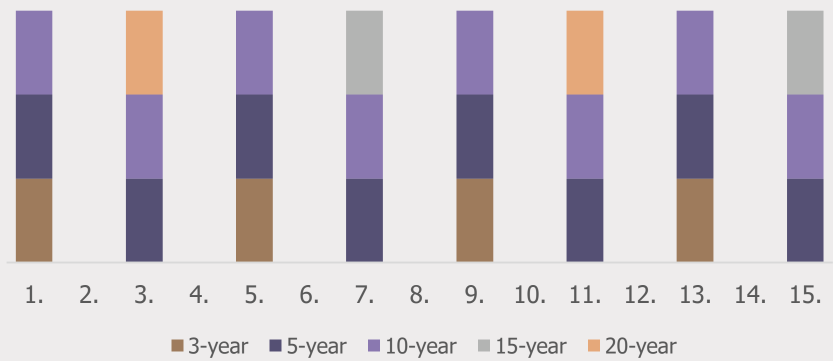
Gross and Net Issuance for the three-month period ending September 30, 2020 (HUF billions)



Source: AKK

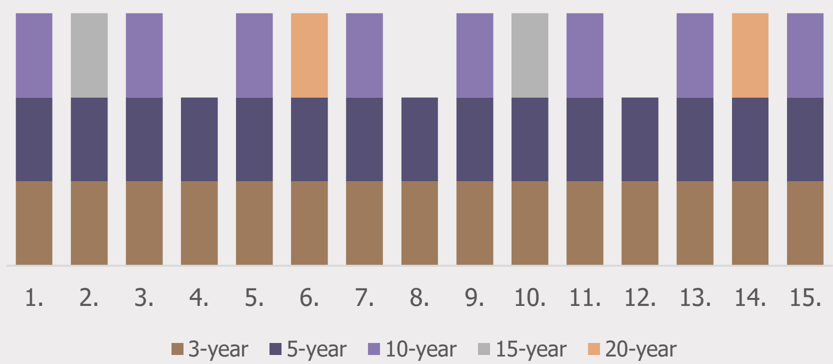
Auction Order of Fixed Rate Bonds (HUF billions)

Auction order of fixed-rate bonds - to April 6, 2020



Source: AKK

Auction order of fixed-rate bonds - from April 6, 2020



Source: AKK

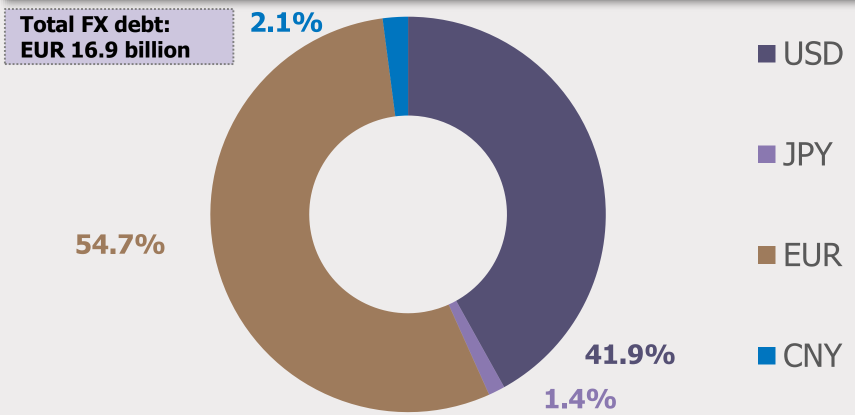
HUNGARY'S EXPOSURE TO INTERNATIONAL MARKETS IS CAREFULLY MANAGED

Key highlights

- **The share of Hungary's government debt in foreign currency has materially decreased**
  - Buybacks implemented by AKK, both on public and OTC markets, have also contributed to this positive trend
  - While containing the share of FX exposure between 10% and 20% of total debt, Hungary would also like to maintain its presence on the international capital markets to ensure diversification of funding sources
- **The FX debt is mainly denominated in USD and EUR but is fully converted into EUR using cross-currency swaps**
  - 100% of FX debt is denominated in EUR after swaps as of the end of Q2 2020, in line with AKK debt management target to mitigate exchange rate risk
- **Hungary's EUR yields have significantly decreased since 2014** and the country currently enjoys negative yields in short- to medium-term EUR market
- **AKK also relies on interest rate swaps to mitigate interest rate risk**
  - As of the end of Q2 2020, the interest rate swap portfolio amounted to 1.2 billion EUR and the fix rate share of the FX portfolio was 78%

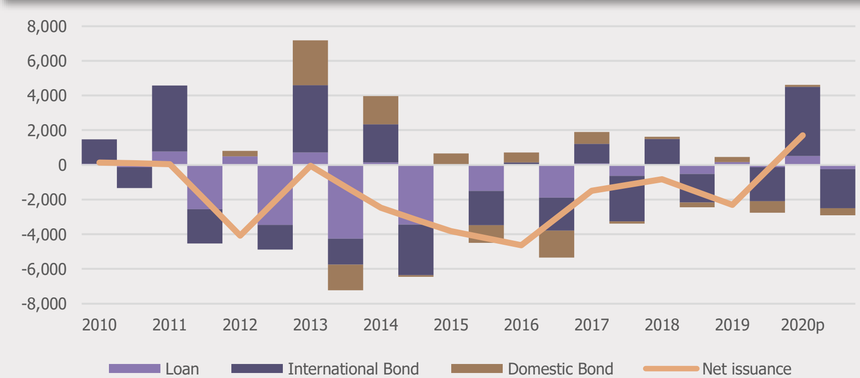
Source: AKK

FX debt composition by currency (Q2 2020, % of total)



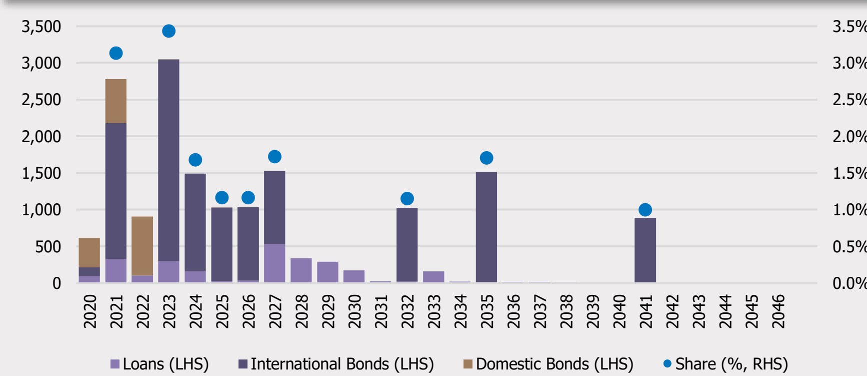
Source: AKK; Note: composition of the FX central government debt portfolio before swaps

FX Redemption, Issuance & Net Issuance (EUR million)



Source: AKK; Note: Central government debt

Redemption profile of FX debt as of June 30, 2020 (EUR million)



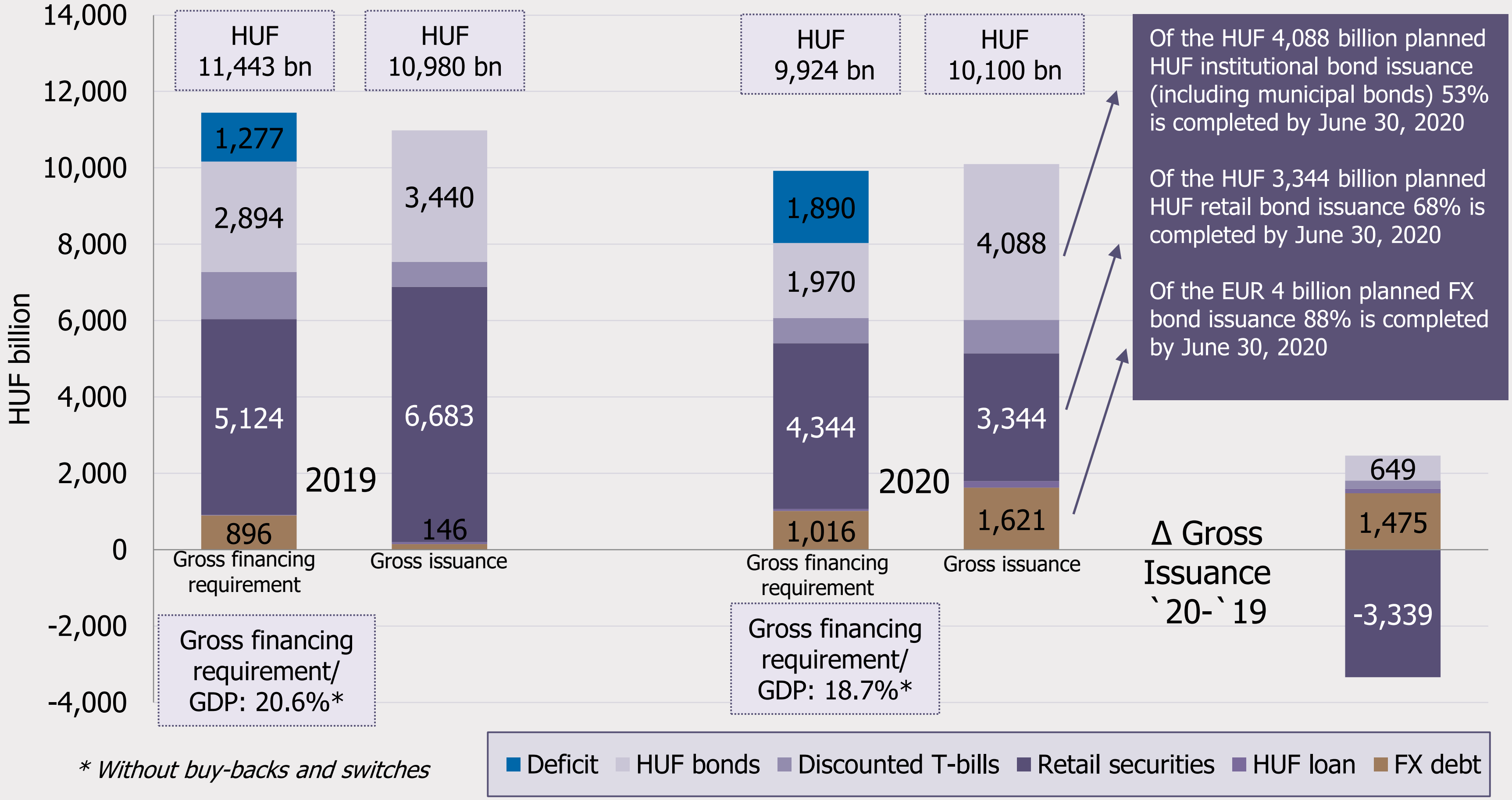
Source: AKK; Note: Central government debt,
Note: (1) Share relative to total central government debt

PLANNED VOLUME AND STRUCTURE OF GROSS FINANCING NEED IN 2020 (REVISED FINANCING PLAN COMPILED IN MAY 2020)

	HUF billion	Percentage of GDP
Redemption of HUF government bonds	1,086	2.3%
Redemption of retail securities (including retail buy-backs)	4,344	9.2%
Redemption of discount T-bills (OECD method)	657	1.4%
Redemption of HUF loans	47	0.1%
Redemption of FX debt	772	1.6%
Total redemptions	**6,906**	**14.7%**
Domestic bond buy-backs and OTC operations	285	0.6%
Buy-backs via switch auctions	600	1.3%
FX bond buy-backs	244	0.5%
Total redemptions with pre-financing	**8,034**	**17.1%**
Net financing requirement (CF budget deficit)	**1,890**	**4.0%**[1]
Gross financing requirement with pre-financing	**9,924**	**21.1%**

Source: AKK Note: 1 cash-flow based deficit figure in line with the accrual-based (ESA) deficit target of 3.8% of GDP

PLANNED FINANCING IN 2020 (REVISED FINANCING PLAN COMPILED IN MAY 2020) COMPARED TO 2019

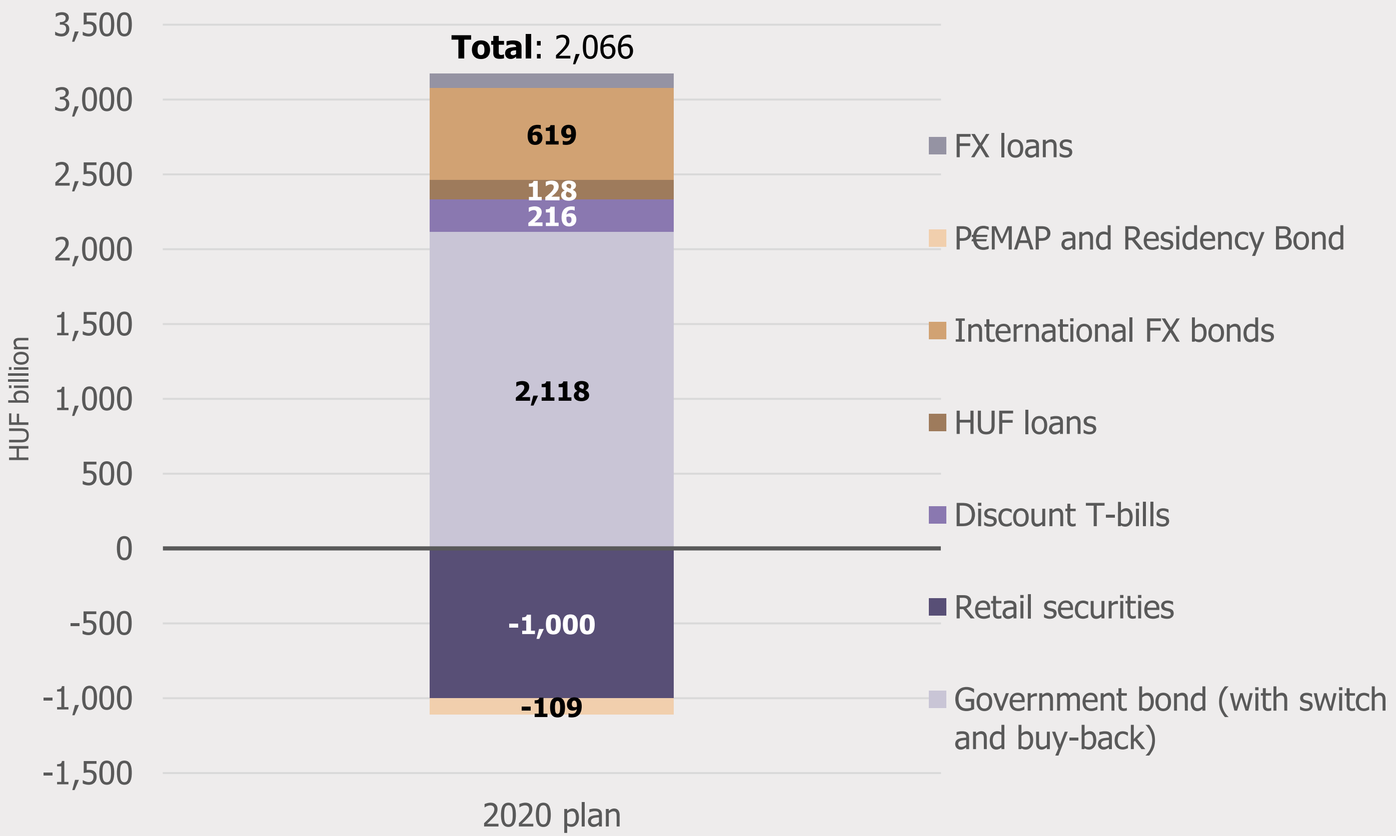


** Without buy-backs and switches*

Source: AKK

Planned 2020 gross issuance increased due to higher net financing requirement of the budget (by HUF 289 billion) and increased amount of HGB switch auctions for the purpose of ATM and ATR extension compared to Financing Plan published in April 2020. The increased financing requirement is largely covered by increased HGB issuance.

PLANNED VOLUME AND STRUCTURE OF NET ISSUANCE IN 2020 (REVISED FINANCING PLAN COMPILED IN 2020)



Source: AKK

Due to more than HUF 900 billion redemptions of retail securities held by non-household sectors and lower retail bond sales due to COVID-19's economic impact, the stock of retail securities is expected to decrease by HUF 1,000 billion in 2020. Positive net FX issuance and over HUF 2000 billion HGB issuance will cover the net financing requirement. Net issuance of discount T-bills planned to be HUF 216 billion, actual outstanding amount depends on liquidity management objectives.

RETAIL MARKET STRATEGIC OBJECTIVES FOR 2020

Due to impact of Covid-19, the retail securities stock may decrease this year

1. The medium term strategic goal to achieve HUF 11,000 billion retail debt stock owned by retail investors by 2023 is kept
2. Maintain the positive real interest rate of long term retail securities
3. Enhance online distribution channels to boost contactless sales and maintain business continuity
4. Introduction of General Terms and Conditions framework for retail distribution completed on May 1, 2020
5. Retail Sales Department established within the AKK

Source: AKK

DOMESTIC WHOLESALE MARKET STRATEGIC OBJECTIVES FOR 2020

Due to Covid-19 HGB volatility increased, demand shrank in March. By April yields consolidated and auction demand returned to pre-COVID levels and the HGB market continued to show resilience and liquidity during May

1. Aligned with the Central Bank's newly introduced up to 5-year tenor, weekly collateralised lending facility, AKK's weekly bond auctions have met strong demand in April and May. The new auction calendar allows to have maximum flexibility to address the financing requirements of the budget and manage liquidity

2. AKK sticks to the objective to increase both ATM and ATR (duration) targets by continuing with the issuance of 10, 15 and 20-year HGB's. The introduction of the new HMAX index also supports this objectives helping local real money managers to more effectively benchmark HGB portfolios

3. AKK will maintain its practice to efficiently manage Hungary's liability profile using switch and buyback auctions

Source: AKK

FX MARKET STRATEGIC OBJECTIVES FOR 2020

1

While keeping the benchmark of 10-20% share of FX denominated debt within total Central Government Debt, Hungary intends to maintain its presence in the international debt markets with the aim to achieve investor diversification and duration extension. This updated financing plan maintains up to EUR 3 billion foreign currency denominated bond issuance for 2020, of which EUR 2 billion has already been issued in April

2

In addition to the above mentioned EUR 3 billion equivalent foreign currency bond issuance in 2020, Hungary intends to issue Green Bonds in 2020 denominated in Euro, Japanese Yen and potentially Chinese Renminbi subject to market conditions

3

Depending on the budget's liquidity position and subject to market conditions AKK may continue to follow any of the strategies adopted and utilised during the past 3 years (namely Tender and New Issue, public Buyback Auction and secondary market purchases) to actively liability-manage its FX debt maturity profile

Source: AKK

THANK YOU FOR YOUR ATTENTION

GOVERNMENT DEBT MANAGEMENT AGENCY PTE LTD.
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