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The positive environmental impact of the MNB's green bond portfolio increased significantly

The Central Bank of Hungary ('Magyar Nemzeti Bank – MNB') started to build its [dedicated green bond portfolio](#) in 2019, by this it was among the first central banks that incorporated the sustainability aspect into reserve management practice. Beyond managing the portfolio, tracking the positive environmental impacts generated by the investments is also of utmost importance. In light of that, MNB is monitoring not only the traditional metrics but also the yearly positive contribution of the portfolio, with the objective of showing good example and transparency. In 2021 the positive impact was 94 thousand tons of CO2 emission avoidance/reduction which corresponds approximately to the carbon footprint of a Hungarian town with 19 thousand residents. In comparison with the previous year's performance of 55 thousand tons, the significant growth could be explained by the improved quality of issuers' impact reporting and the changing bond allocation in the portfolio. The green bond portfolio reflects MNB's active role in this specific market segment which supports sustainable growth, whilst the primary goals of reserve management (liquidity, safety, return) are not compromised at all.

Among the pioneers in greening the FX reserve – MNB's dedicated green portfolio

Green bonds became one of the most dynamically evolving instruments on the market due to the heightened environmental risks and its rise into the spotlight of economic policy in the past years. With respect to the proceeds, green bonds issuers are only allowed to fund investments that generate positive environmental impacts for instance energy efficiency or renewable projects. Green bonds simultaneously contribute to (i) the effective capital-channeling into environmentally positive projects, (ii) decreasing funding costs and (iii) drawing attention to the financial risks pertaining to global climate change.

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The size of the green bond portfolio within the reserves mirrors the relative size of the global green bond market (~1%), which is justified predominantly by liquidity aspects. The risk-return characteristics of the portfolio differs only in the longer target duration from similar FI investments in the reserve which is due to the inherent long-term nature of green finance. In portfolio management the traditional risk-reward considerations take precedence, nevertheless meeting the international green bond standards is also a necessary precondition.

Monitoring the expected or materialized positive environmental impacts of the investments is also of paramount importance in managing a green bond portfolio. Obtaining impact information on the issuer level enables the analysis of the portfolio not only financially but also from an achieved emission reduction perspective. The long-term goal is to comprehensively understand the environmental drivers in order to integrate them into reserve management.

The positive impact of the projects financed by green bonds should always be interpreted versus a given emission benchmark: this represents the hypothetical emission level that would have been materialized *in the absence* of the green projects. As a result, the positive impact of the green projects can be predominantly captured as an avoided emission. Emission benchmarks are based on several assumptions, varying across regions and project types, hence in the future judging the credibility of the benchmarks could also have a key importance in analyzing the impacts of green bonds.

It is essential to point out that green bonds should ideally fit into the given issuers' comprehensive green strategy: the specific materialized green projects should mean a building block in the firm's credible emission mitigation strategy. There are many international organizations that provide external verification for these green strategies (for instance Science Based Targets initiative), and as an investor these should be followed as well.

In case at a later stage the bonds do not fulfil the expectations from a green perspective, e.g. the environmental impact of the projects miss the undertaken target levels by far, or the issuer abandons or waters down its sustainability policies („green default”), MNB may decide to sell the specific bonds. This latter action is essential for all the market players in maintaining the integrity of the green bond markets.

A medium-sized Hungarian city, 35,000 cars and more than one million mobile phones - Environmental impacts of MNB's green bond portfolio

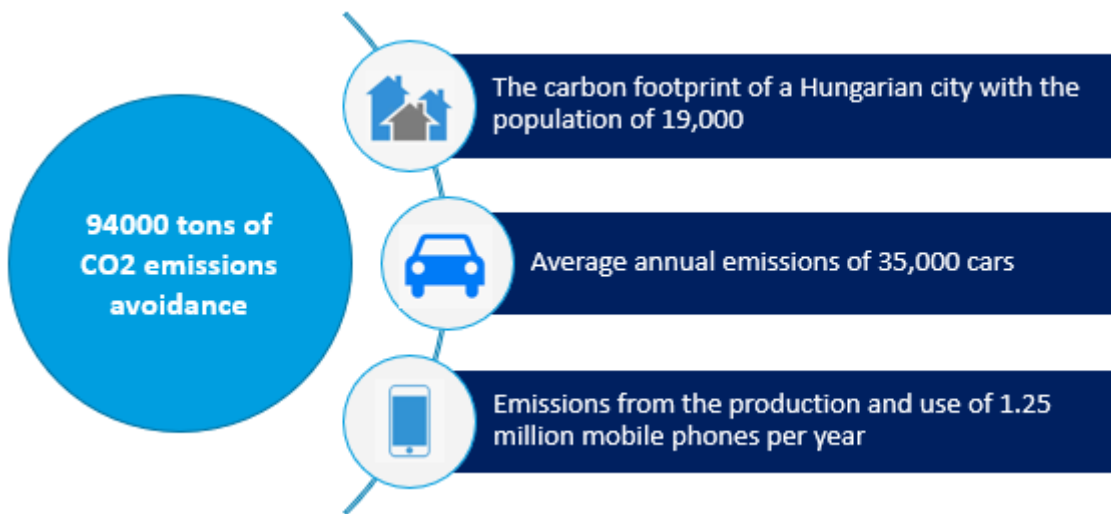
Once the green bond portfolio has been built, it is also crucial to monitor the positive environmental impact generated by those investments. With this in mind, MNB has carried out – for the second time – an environmental impact analysis on its green bond portfolio, showing that the impact of the green bond portfolio is equivalent to the CO₂ emissions avoidance of approximately 94,000 tonnes per year¹. This impact is equal to the carbon footprint of a Hungarian city of 19,000 inhabitants², and to the average annual CO₂ emissions of 35,000 cars, or the emissions of 1.25 million mobile phone production and one year usage³ (Chart 1).

¹ In addition to CO₂ emissions avoidance, other positive environmental effects could be captured, but the availability and quality of the data do not currently allow to reliably quantify them. In parallel with the development of the reports of green bond issuers, MNB also strives to conduct the most comprehensive impact analysis possible in the future.

² In Hungary, per capita GHG emissions are approximately five tons.

³ In the case of cars, we calculated an average consumption of 7 liters per 100 km and took an annual mileage of 16,000 km. In the case of mobile phones, we calculated an average of 75 kg of CO₂ emissions from production and use per year.

Chart 1: Impact of MNB's green bond portfolio

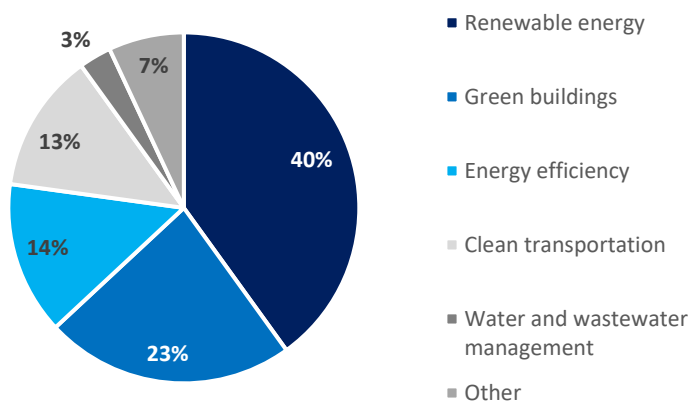


Source: MNB

The significant increase compared to the avoidance of [around 55,000 tons of CO2 emissions](#) in the previous year is due to a number of factors, including the positive change in the impact reporting of some issuers and the reallocation between bonds in the green bond portfolio. As our in-depth analysis suggests, this year our allocation has shifted to bonds with higher environmental performance, but as mentioned earlier, business decisions are made primarily in the traditional return/risk space, following our benchmark closely.

The relative proportions of the types of projects financed are in line with the overall market distribution. More than 60 percent of the projects financed by the green bond portfolio are related to renewable energy and green buildings (Chart 2). It is important, that MNB does not run the risk of the specific projects, but as by conventional bonds the credit risk of the highly rated – in many cases 'AAA' – issuers.

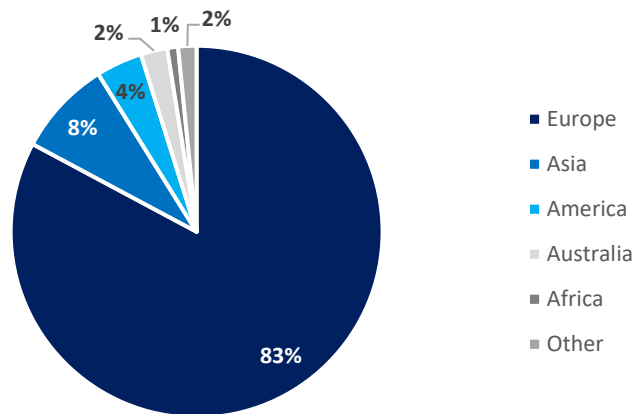
Chart 2: Distribution by type of financed green projects



Source: Bond issuers' reports

The green bond portfolio is denominated in euro, this is reflected in the predominance of European issuers and the geographical distribution of green projects realized. However, projects in Africa and Asia have also been financed, mainly thanks to projects by supranational issuers, which in many cases generate an even higher overall green 'return' due to the green investments that have replaced often more polluting operations in these countries (Chart 3).

Chart 3: Geographical distribution of financed green projects



Source: Bond issuers' reports

In their reports, bond issuers usually name which UN Sustainable Development Goals (SDGs) are targeted and reached by their projects. By definition, out of the 17 SDGs, the purchased green bonds primarily promote goals related to climate change, energy efficiency and clean energy (Chart 4).

Chart 4: SDGs supported by projects financed by MNB's green bond portfolio



Source: Bond issuers' reports

Without measurement, there is no green transition... but market standards are still missing

In accordance with general international standards, the environmental impacts reported by issuers are based on expert estimates and reflect the total expected future impact of the financed projects on an annualized basis. Nevertheless, impact reporting method may vary significantly among issuers, it is not unified, therefore in some cases the analysis might have to rely on individual estimates.

Quantifying the environmental impact of green investments is an extremely data-intensive process, with additional challenges due to insufficiently standardized reporting by issuers. While some issuers precisely quantify and report the exact amount of investment made to achieve the indicated environmental impact, for others this is not entirely clear and obvious to trace back. Moreover, in several cases the exact time period which the report covers is not clearly defined, which makes the calculation even more difficult. For the time being, there is a lack of market infrastructure that ensures the authenticity, cheap and easy availability of data.

Overall, via its green bond portfolio, MNB is an active player in the market segment supporting sustainable growth, simultaneously ensuring the primary objectives of FX reserve management (liquidity, safety, return). The market of green bonds is still in the phase of establishment, in parallel with this, MNB is constantly considering new opportunities and procedures. As a key step in the systematic greening of the Hungarian financial system, MNB also prepared a more detailed climate risk analysis of its total foreign exchange reserves, which is included in [“The Magyar Nemzeti Bank’s Climate-Related Financial Disclosure”](#).