

«Green» bonds for financing environmental projects in Moscow

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Abstract. In this article, the author analyzes the market of debt instruments in the field of «green» financing on the example of «green» bonds issued by the city of Moscow. The placement of "green" bonds is targeted, the funds raised should be used to finance environmental projects. The Moscow government issued green bonds totaling 72 billion rubles to finance the replacement of the bus fleet and the construction of metro stations, which will reduce the emission of pollutants and greenhouse gases into the atmosphere. Consequently, investors, by purchasing "green" bonds, not only successfully invest free cash, but also finance an investment project, the purpose of which is to improve the climatic conditions of the city of Moscow. The city of Moscow is an issuer with high credit ratings, which is achieved due to the budget balance and low debt burden. The issue of green bonds of Moscow is the first case of placement of sub-federal securities of green financing. From this point of view, they are of interest both for investors wishing to invest in environmental projects, and for government agencies and other subjects of Russia. To distribute this type of financial instrument, the efforts of the state, financial institutions and corporate investors should be combined. Measures taken by the Government of the Russian Federation include certification of the taxonomy process for environmental projects and the adoption of Russian standards for the development of sustainable development bonds, including public sector green bonds. Government support measures will help develop infrastructure and increase investor confidence in green financial instruments.

1 Introduction

The climate agenda is in the focus of attention of the Eurasian Economic Union [1-17]. Developed and developing countries are actively implementing carbon regulation, green finance tools [14], and also support technologies in this area. The Russian Federation within the framework of the EAEU has set goals to achieve carbon neutrality. For their implementation, appropriate strategies are implemented.

The implementation of the energy transition and the reduction of the share of fossil energy sources entail issues of energy and food security, affect the rate of economic growth, require the development of new types of raw materials needed for new technologies. Practices that

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allow achieving carbon neutrality will be in demand for the development of technological sovereignty in the face of climate change.

Within the framework of the Eurasian Economic Union, the allied countries came to the conclusion that it is necessary to continue the formation of common energy markets while simultaneously promoting the green climate agenda. The President of Russia proposed to unify standards in the field of carbon reporting, to consider the creation of climate projects and technologies based on carbon-free energy sources.

The Government of the Russian Federation has expanded support for green projects: the list of areas of green initiatives has been expanded, for the implementation of which concessional financing can be attracted through green bonds and loans [7].

With the further construction of the tax system in Russia, the carbon agenda will be taken into account, Russia is beginning to move towards a carbon tax. Work in this direction should stimulate green investment in the economy.

In the context of negative climate change, it is also important to combine the efforts of the state and the population and harmonize approaches to carbon regulation and financing of environmental projects, to accelerate the spread of modern low-carbohydrate technologies [12, 13].

The city of Moscow pays great attention to the development of "green" energy, which has great potential. The Moscow government is actively developing renewable energy sources [6]. To this end, the Moscow Government is actively implementing the financing of "green" projects. "Green" projects are projects that comply with the objectives of international instruments in the field of sustainable development ecology. They can be launched in the following areas: waste management, energy, construction, industry, transport, water supply, agriculture, conservation of biodiversity and the environment [10, p.75-76].

Green projects related to:

- construction of energy-efficient housing;
- clearing and restoration of water bodies;
- creation and modernization of infrastructure for direct capture of greenhouse gases from the environment [13, p.18];
- capture and disposal of landfill gas with subsequent energy recovery;
- production of storage batteries, their disposal and reuse.

Also, projects that use the technology of electric heat pumps will be able to receive concessional financing. they allow the heat accumulated in the soil and reservoirs to be converted into thermal energy for heating [11, c.63].

In this article, the primary goal is to evaluate the issue of green bonds of Moscow. This is significant, first of all, because government borrowing in Russia for the first time was carried out in the form of "green" bonds. Therefore, the practice of their implementation and the prospects for development directions are of practical interest.

2 Methods

The article analyzes the city of Moscow as an issuer of sub-federal "green" bonds, air pollution in the city of Moscow. the market of placed "green" bonds in Russia and the prospects for the introduction of this financial instrument as a way to finance "green" projects. The study is based on the use of comparison methods, absolute and relative indicators, deduction and induction, cost and natural indicators.

For the analysis, the regulatory legal acts of the Government of Russia and the Government of Moscow, the Concept of "green" bonds of Moscow, issue documents [3] and the registry of "green" bonds of the state development institute VEB.RF [8] were used.

3 Results

The city of Moscow has been issuing such debt instruments as bonds for more than twenty years and has never failed to pay coupons and other income on securities, which characterizes it as a creditworthy borrower. The capital has a low debt burden (Table 1), which is only 6.3% of the budget revenues.

Table 1. Moscow budget in 2018-2022, billion rubles

	2018	2019	2020	2021	2022
Budget revenues	2377	2631	2869	3336	3654
Budget expenditures	2315	2685	3006	3446	3601
Budget deficit/surplus	62	-54	-137	-110	53

As part of its environmental policy, the city of Moscow has managed to significantly reduce the amount of pollutants, namely carbon dioxide, over the past ten years (Figure 1)

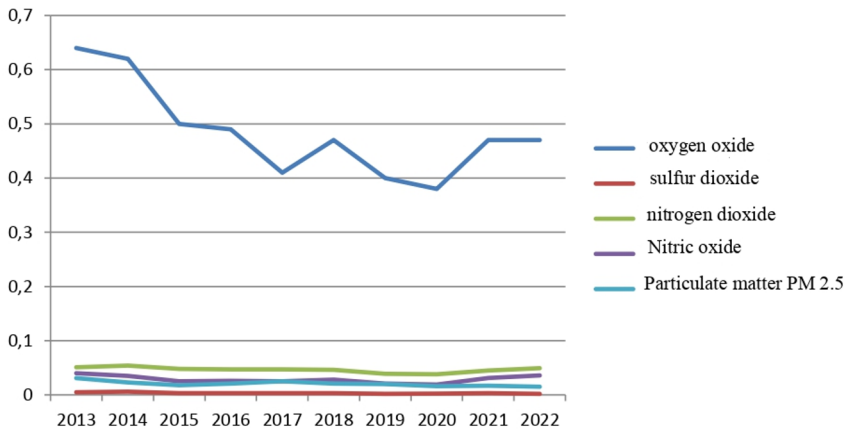


Fig. 1. Concentrations of pollutants in Moscow, mg/m3. Source: compiled by the author on the basis of [2]

To further reduce the concentration of pollutants and greenhouse gases in the atmosphere, the city of Moscow in 2021 implemented "green" projects. As part of environmental projects, 400 electric buses were purchased and 12 metro stations were built. The projects were partially financed by funds received from the placement on the Moscow Exchange of "green" bonds with an placement volume of 70 billion rubles [1].

In 2023, the Moscow Government decided to place "green" bonds among the population (outside the exchange) in order to finance the increase in the fleet of electric buses received from the placement of funds [3].

The operation of electric buses does not lead to direct greenhouse gas emissions, which meets the criteria for green projects approved by Decree of the Government of the Russian Federation No. 1587 of 21.09.2021, in terms of emissions of less than 50 g of CO₂/passenger-kilometer [4].

The purchased electric buses create indirect emissions from recharging in the amount of about 14.6 kg/year, which is much less than that of Euro-4 and Euro-5 buses, whose emissions are 247.8 kg/year and 186.9 kg/year, respectively (Figure 2).

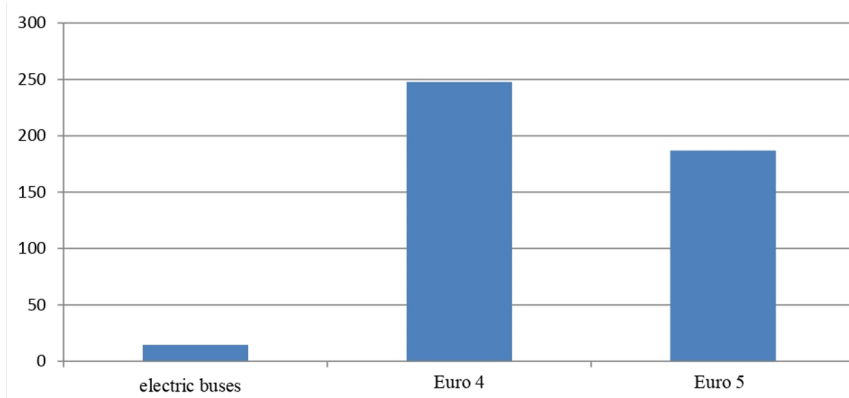


Fig. 2. Volumes of pollutant emissions from electric buses and diesel buses, kg/year. Source: compiled by the author on the basis of [2]

As we see on schedule, the volume of pollutants emitted into the atmosphere by electric buses is about 17 times less than that of Euro-4 diesel buses and about 13 times less than that of Euro-5, which indicates the environmental efficiency of the project [2].

4 Discussion

The market for "green" bonds in Russia began to develop quite recently. To date, the register of "green" bonds, which is maintained by the State Development Institute ВЭБ.РФ lists only 13 issues of such bonds [8], two of them belong to the Moscow Government. The total volume of "green" bonds placed in Russia is 291,488 billion rubles, of which 72 billion rubles are the volume of bonds issued by the city of Moscow. All green bonds issued in Russia comply with the principles of green bonds [6] established by the International Capital Markets Association (ICMA) and the criteria for green financial instruments (Figure 3).

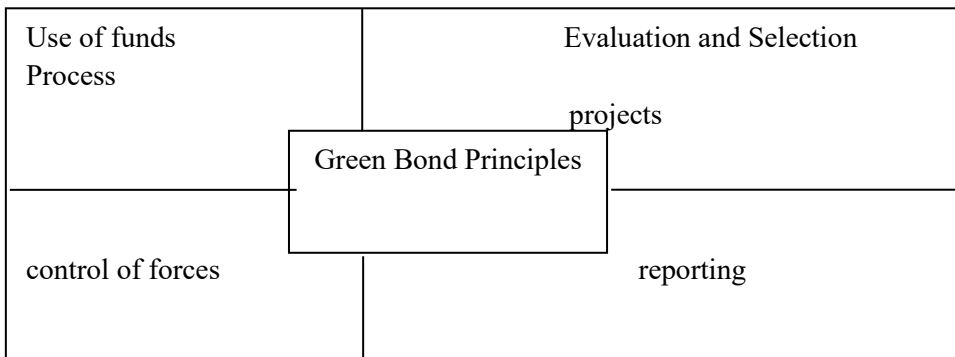


Fig. 3 Green Bond Principles. Source: compiled by the author on the basis of [5]

Green Bond Principles is a document developed in 2014 by a consortium of large international banks with the support of the International Capital Market Association (ICMA).

Inclusion in the register means that "green" bonds comply with the principles of sustainable development [9] and the taxonomy of green projects established by the Government of the Russian Federation [7].

The Government of the Russian Federation approved the criteria for "green" financing. The Government Decree spelled out specific parameters upon reaching which preferential

financing can be attracted for the implementation of the "green" project through "green" bonds or "green" loans [7].

Thus, "green" bonds are not only a debt financial instrument, but also one of the types of targeted financing [15, c.371-373]. The funds received from the placement of "green" bonds should be directed only to projects that have been verified in advance.

The city of Moscow is the first issuer to place sub-federal "green" bonds. With changes in national legislation and the introduction of Russian certification standards, regions and single-industry towns can also start borrowing money to finance environmental projects such as the construction of treatment plants, waste processing plants, etc.

State support measures for the development of the market of "green" debt instruments may include: subsidizing coupon payments, providing guarantees (for example, federal guarantees on municipal "green" bonds), reducing the personal income tax rate. Among the measures to support "green" financing are the change in regulatory and methodological measures of the Central Bank of the Russian Federation and the Ministry of Finance of the Russian Federation.

5 Conclusion

The world is striving for a "green" economy and a decrease in demand for traditional carbon fuel amid the development of alternative energy. Under these conditions, Russia seeks to move to low-carb development and reduce greenhouse gas emissions. The potential of Russia as an issuer of "green" bonds has not yet been fully disclosed and financial instruments of sustainable development are not widespread among Russian investors. The "green" bonds of Moscow made it possible to finance the purchase of electric buses and the construction of new metro stations, which had a positive environmental effect on the atmosphere of the city. Amendments to national legislation regarding the conditions for defining government bonds as "green" bonds will allow such bonds to be issued to municipalities and other government authorities.

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