

“Green” Financing for National Sustainable Development*

Evgeniya Atamas
Kuban State University
Krasnodar, Russia
E-mail: eatamas@bk.ru

Maria Bitarova
Kuban State University
Krasnodar, Russia
E-mail: bitarova@mail.ru

Elena Belyaeva
Kuban State University
Krasnodar, Russia
E-mail: helenla@mail.ru

Veronika Panaseykina
Kuban State University
Krasnodar, Russia
E-mail: vspjuly@mail.ru

Abstract—The system of green financing for purposes of sustainable development is considered in this article. The system of green financing is being developed across two scales, which are financial market and environmental performance in all of its aspects, including manufacturing process management and rendering services, projects implementation, production output, fund raising, investment strategies, etc. The authors have explored the concept of “green financing” and analyzed the relevant rules and regulations of the Russian Federation, which arrange for the transition to green financing. The research in this field are of a great interest, for Ministry of Economic Development is preparing concrete steps to support the green bonds issuers and to attract investors to market green sector within the frameworks of the Integrated Plan for the improvement of energy performance of the Russian economy. The authors give their conclusions and recommendations, providing the strategies to support the green financing instruments.

Keywords—*green economy; green finance; sustainable development*

I. INTRODUCTION

Following the Agenda of the Sustainable Development for the period up to 2030 [1], it is necessary to ensure financing in order to achieve the Goals of the sustainable development. The global economy is based on financial markets, where banks and investors allocate their capitals between different sectors. Green financing will allow using the available capital for the formation of ecological system and models of production based on the principles of sustainable development.

The key issues are the more efficient management of ecological and social risks, taking advantages that both generate sufficient profit rate and ensure ecological performance[2] [3].

There is no whole and consistent definition for green

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financing. There only exists a term “green finance”, however, other relevant definitions appear, thus elevating the concept of green finance.

Green financing is only one of the terms used for defining the activity connected with bilateral cooperation between the environment and finance and investments [4].

Noh H. J. Considers “green finance” as future-oriented type of financing, which ensures the development of financial markets, environment improvement, and economic growth. Green finance includes innovative technology, financial products, industries and services that provide for both environmental protection and considering the interests of future generations [5].

We have distinguished the principal and most frequent terms in order to give a comprehensive characteristic of the definition “green financing” (“Table I”).

TABLE I. MAIN CHARACTERISTICS OF THE TERMS DEFINING THE CONCEPT OF GREEN FINANCING (COMPILED BY THE AUTHORS)

Concept	Characteristic	Examples
<i>Sustainable finance</i>	any form of financial services that includes ecological, social, and administrative aspects into business and investment solutions or the purposes of long-term profitability for customers and the society as a whole	Connected with: rights, wealth and interests of people and communities, effect of investment for economic environment on local, national and global levels
<i>Ecological financing</i>	instruments used for financing environmental incentives, improvement of the impact of businesses on the environment without affecting profitability, while improving the quality of community life.	Land resources; carbon emissions trading: Global Environment Facility, The Adaptation Fund, the Least Developed Countries Fund, The Special Climate Change Fund, the Multi-Lateral Fund for the Implementation of the Montreal Protocol
<i>Climatic financing</i>	Instruments used for financing of activities aimed at mitigation of climate change and adaptation.	under the Paris Agreement the financing may be made by both national governments and different foundations: Global Environment Facility; Green Climate Fund; Special Climate Change Fund; Least Developed Countries Fund, Adaptation Fund

Thus, we may distinguish main directions of green financing application ("Fig. 1").

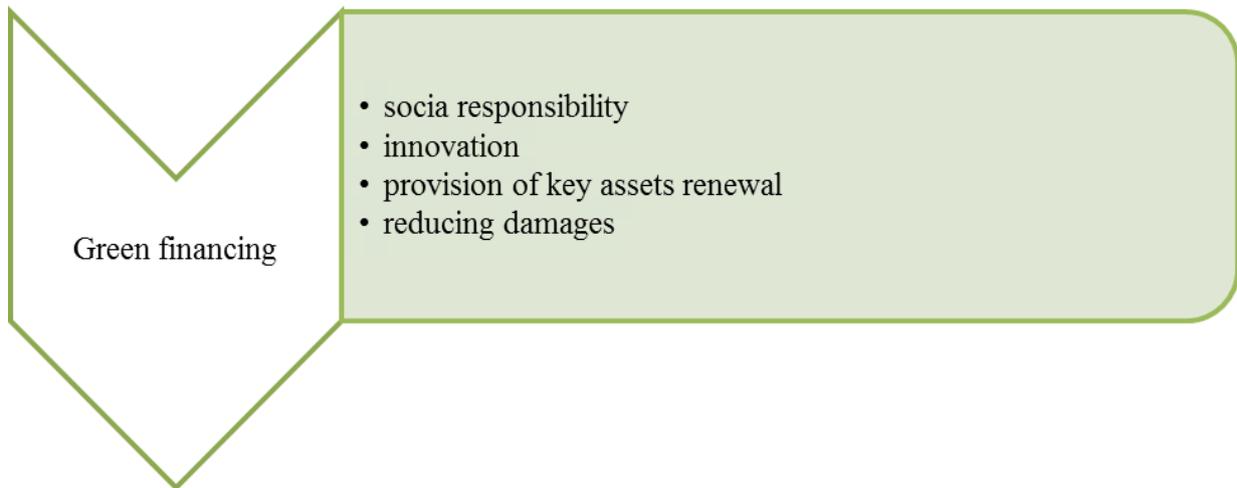


Fig. 1. Main objectives of the green financing activities.

For a quite long period there were no rules and regulations ensuring green financing within the frameworks of the concept of sustainable management available in the Russian Federation Under the Russian Constitution we could only rely on international law, when dealing with the issues of financing different activities for the formation of green economy.

The Paris Collaborative on Green Budgeting was launched by the OECD Secretary-General Angel Gurr á at

the One Planet Summit [6] in Paris on 12 December 2017. It aims to design new, innovative tools to assess and promote improvements in the alignment of national financial policy, reducing greenhouse gas emissions, and environmentally sustainable development.

"Table II" shows the characteristic of Russian rules and regulations related to green financing. The rules and regulations are arranged by the presence of the following aspects: finance, environment, and management.

TABLE II. RUSSIAN RULES AND REGULATIONS ENSURING TRANSITION TO GREEN FINANCING (COMPILED BY THE AUTHORS)

Document	Characteristic	Aspect
Presidential Decree No. 204 dated May 7, 2018 "On National Objectives and Strategic Development Goal of the Russian Federation for the period up to 2024" [7]	"Ecology" National project	finance, environment, management
Russian Government Order No. 1662-p dated November 17, 2008 "Concept of Long-term Social and Economic Development of the Russian Federation for the period up to 2020" [8]	the priorities of national development are defined, aimed at the ensuring of energy and ecological performance of the national economy	finance, environment, management
Russian Government Order No. 861 dated December 17, 2009 "Climate Doctrine of the Russian Federation" [9]	The main directions of the climate policy are defined, both on the level of state authorities and local governments.	finance, environment, management
Federal Law No. 7 dated January 10, 2002 "On the Environment Protection" (as in force on July 29, 2017) [10]	implies obligatory financing of measures aimed at prevention and (or)reducing negative impact on the environment, and damage control by legal entities and self-employed entrepreneurs carrying out activities, which result or may result in the pollution of the environment	finance, environment
Governmental Order No. 3 dated January 3, 2014 "On the Approval of the Rules of Granting Federal Subsidy to Russian Organization for Partial Reimbursement of Expenses for Paying Interest on Credits Obtained in 2014-2019 from Russian Credit Institutions and State Corporation " Bank of Development and Foreign Economic Affairs (Vneshekonombank)", as well as from International Financial Organizations Established in Accordance with International Agreements Joined by the Russian Federation, for the purpose of Implementation of Complex Investment Projects in Priority Sectors of Civil Industry and (or) Payment of Coupon Profit on the Bonds Issued in 2014-2019 within the Frameworks of the Implementation of Complex Investment Projects in Priority Sectors of Civil Industry"[11]	This document defines the rules for granting state subsidy for the purpose of reducing the expenses for the service of promissory notes by organizations, related to the implementation of investment projects. The investment projects that include ecological issues are among the priority objectives	finance
Russian Government Order No. 1016 dated December 14, 201 "On the Approval of the Rules for Selecting Investment Projects and Principals Providing Sovereign Guarantees of the Russian Federation on Credits or Bond-Secured Loans Raised for the Purpose of the Implementation of Investment Projects" [12]	the mechanisms of granting sovereign guarantees on investment projects related to energy conservation and improving energy performance in housing and public utilities sector, and industry are defined	finance
Order of Federal Agency on Technical Regulating and Metrology (Rosstandart) No. 1611 dated November 2, 2012 "GOST P ISO 26000-2012. National Standard of the Russian Federation. Guidance on Social Responsibility" [13]	aimed at promoting sustainable development in part of accounting of social and ecological aspects in taking decisions by organizations	management
Decree by the President of the Russian Federation No.208 dated May 13, 2017 "Strategy of Economic Security of the Russian Federation for the period up to 2030" [14]	one of the objectives is "complex development of energy infrastructure, implementation of advanced energy efficient technologies improvement of the efficiency of reprocessing of energetic resources and diversification of their export with regard to the global tendency of transition to low emission economy"	management
"Basic Principles of State Policy for Ecological Development of the Russian Federation for the period up to 2030", as approved on April 30, 2012by the President of the Russian Federation [15]	the main objective of the state policy is "dealing with social and economic issues, which ensure environmentally-oriented economy growth, preservation of healthy environment, biodiversity and natural resources for satisfaction of needs of the current and future generations, enforcement of right of each person for heathy environment, promotion of public order in environmental protection and ensuring ecological safety"	environment, management

As one may see, the rules and regulation are generally embracing financial or administrative issues. By reference to the table above, only one document sets the ecological development of the country as main objective.

The main courses of development of Russian financial market for the period 2019-2021 set out by Russian Central Bank [16], set out recommendations on the development of

special institutes and financial instruments for sustainable development on foreign financial markets, including green bonds. Russia is to join the global process and to address the issue of establishing national system of financial instruments for sustainable development, formation of methodological and verification system of responsible financing instruments.

The system of green financing is being developed across two scales, which are financial market and environmental performance in all of its aspects, including manufacturing process management and rendering services, projects implementation, production output, fund raising, investment strategies, etc.

The framework of the ecosystem of green financing includes above all:

The subjects engaged in the system of green financing, including:

- financial markets regulators and competent environmental authorities;
- issuers and recipients of financial assets;
- financing organizations, investors managing the assets and other participants of financial market;
- infrastructures and service organizations, including market operators, rating agencies, verifiers, and certifying agencies;
- professional, expert and research organizations.

Financial instruments and tools used by the subjects above, including:

- financial instruments, including green bonds, credits, loans, insurance and leasing products, etc.;
- risk and performance assessment tools, which are: credit score, indices, indicators, benchmarks, methods, analytical materials, research, and surveys;

- centers for collection, structuring and storage of information, such as registries and databases.
- Transition to green economy is a global issue, which is estimated to cost tens of trillion dollars within the next decades, providing outstanding economic opportunities. The climate change will become one of the major issues to be solved within the next decades. In the face of the change of climate and the changes in customers' preferences, companies should align their technologies and business patterns.

II. GREEN FINANCING IN RUSSIA AND FOREIGN COUNTRIES

Europe has become a pioneer in several market sectors dealing with green bond; the first ever green bond was issued in 2007 by European Investment Bank, being named as a bond for enhancing awareness of climate; in 2012 the first revenue green bond was issued in Île-de-France; in 2013 the Swedish real estate company Vasakronan issued the first corporate green bond; in 2016 Poland issue the first sovereign green bond [17].

According to the results of the year 2018, five countries were included into the green bond issuers rating: the USA, China, France, Germany, and the Netherlands ("Fig. 2") are the top-issuers ("Table III") [18].

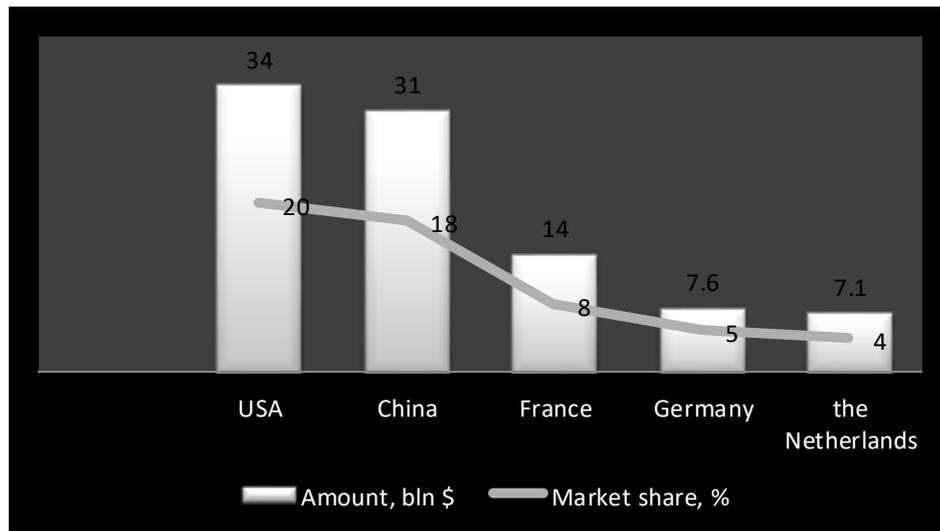


Fig. 2. Rating of Top countries issuing green bond in 2018.

Following the report of the Renewable Energy Policy Network REN21, “the amount of investment in renewable energy sources globally decreased by 11% in 2018 as compared to the figures in 2017, and constituted 288.9 billion dollars” [19]. I happened because of the sharp decline in China.

TABLE III. TOP ISSUERS OF GREEN BONDS IN 2018 (COMPILED BY THE AUTHORS BY VIRTUE OF GREEN BONDS THE STATE OF THE MARKET 2018)

Issuers	Size of offering, bln.\$
Industrial Bank of China	9,6
European Investment Bank	7
ING Financial Group (the Netherlands)	4,3
World Bank	3,8
Industrial and Commercial Bank of China	2,3

The majority of all bonds allocated in 2018 belong to financial sector.

In October 2019, the green finance non-commercial organization Climate Bonds Initiative published the survey of the key events regarding green financing. It was noted that the monthly emission volume in October reached 22.8 bln. USD, as compared to the 16.1 bln. USD in the 3rd quarter of 2018. It corresponds to the 41% of annual growth, and the overall emission volume in 2018 constituted 210.8 bln. USD, which significantly exceeds the volume of 200 bln. USD. The annual emission volume of climate bonds in 2019 is assessed between 230 and 250 bln. USD [20]. Thus, Irish issuers have made transactions for 2.2 bln. USD, France – 2.4 bln. USD, the USA – 2.7 bl. USD. Besides, Luxembourg, Finland and Austria have issued their green bonds too.

There is only one emission of green bonds in Russia nowadays: the bonds were placed at Moscow stock exchange in December 2018 by “Resursosberezhniye HMAO” Company, which is engaged in utility solid-waste recycling in Western Siberia. The volume of allocation amounts just to 1.1 bln. rubles [21].

On the 17t of May 2019 the “Russian Railways” Company (RJD) placed green bonds in the amount of €500 mio with coupon rate of 2.2% and maturity in 8 years. JP Morgan, VTB Capital and UniCredit are the underwriters. The funds will be channeled to financing and refinancing of purchase of “Lastochka” light rails within the frameworks of the expansion of the program for energy connectivity and emissions reduction in Russia. The raised funds will be used for the acquisition of light rails, for “Russian Railways” keeps updating its rolling stock, gradually retreating from diesel and out-of-date electric trains. RJD plans to increase the fleet from actual 183 “Lastochka” light rails to 270 trains by 2021. Besides the energy connectivity of the networks and railroad-engines, RJD implements advanced environmental policy, which includes 56 laboratories all over the country that measure the emission levels in different locations and report on them, regular checking o trains, annual objectives with regard to emissions reduction, plastic and water consumption, “green day” for all employees every month in order to increase the awareness of employees and passengers, regular activities in planting trees, recycling of old railway sleepers into biomass, and interlocking of heat supply systems [22].

Earlier in May 2019, the company published its Green Bond Framework in order to formalize its approach to raising money funds from green financing to channel them to the projects consistent with the company’s objectives and principles with regard to the implementation of

environmental projects. The Framework was developed in compliance with the Green Bond Principles 2018, International Capital Market Association (ICMA), as well as with CBI Low Carbon Transportation Standard [23].

In compliance with the Framework, RJD will be channeling the green bond funds to financing or refinancing of the acquisition of electric-drivel railroad engines and light trains satisfying the ICMA Eligible Green Project Categories-Clean Transportation, including electric, hybrid and railroad transport.

Besides, the company’s project implemented in the sphere of clean transportation serve a purpose of the UN Sustainable Development Goals [24], in particular, Goal 11: Ensuring openness, safety, viability and ecological sustainability of cities and townships; task 11.2: to ensure safe, inexpensive, available and ecologically sustainable transportation systems by 2030; and Goa 9: to develop stable infrastructure, promote comprehensive and sustainable industrialization and innovations, task 9.4: to update the infrastructure and to reequip the manufacturing plants by 2030, having achieved their sustainability by virtue of improvement of efficient use of resources and wider implementation of clean and ecologically safe technologies and industrial processes provided the participation of all countries to the extend of their capacities.

Starting from August 12, 2019, a Sustainable Development Sector was launched on Moscow stock exchange, which is he first comprehensive platform in Russia for promoting ecological projects. The new sector consists of three independent segments: green bonds, social bonds and national projects. Green and social bonds may include the securities by Russian and foreign issuers given that the emission, the issuer or the investment projects complies with the principles of green/social financing of International Capital Market Association (ICMA) or international non-commercial organization Climate Bonds Initiative (CBI), as well as the availability of independent external assessment confirming the compliance with those principles. It corresponds to the concept of development of green bonds, social bonds and sustainable development bonds, which is now being considered by Ministry of Economic Development, competent federal executive authorities, Bank of Russia and the members of business community. The concept provides granting tax exemptions to the issuers and support of investor by Bank of Russia (including special provisioning conditions) [25].

The segment of national projects may include the bonds of Russian and foreign issuers given that the emission, the issuer or the investment projects complies with the tasks and results of national projects “Ecology”, “Demography” and “Public Health”, federal projects, including the “Implementation of the best available technology” project, provided the availability of the decision on the compliance with the tasks and results of one of the projects from the Listing Rules, issued by state authorities or officers or by Interdepartmental Commission.

It should be noted that earlier in 2019 Moscow stock exchange joined the global incentive “Sustainable Stock

Exchanges” (SSE). Besides, Moscow stock exchange in collaboration with Russian Union of Industrialists and Entrepreneurs started the assessment of the sustainable development indices on every-day basis.

Two stock indices of Moscow stock exchange and Russian Union of Industrialists and Entrepreneurs are involved, they are: 1) “Responsibility and Openness” and 2) “Sustainable Development Vector”. Both indices are calculated by virtue of annual analysis of nonfinancial reports from the largest Russia companies and include the companies, which: 1) disclose the information about sustainable development and corporate social responsibility to the most and 2) show the best dynamics of sustainable development and corporate social responsibility indices in comparison to the previous year [21] [22] [23] [24] [25].

III. CONCLUSION

Ministry of Economic Development is preparing concrete steps to support the green bonds issuers and to attract investors to market green sector within the frameworks of the Integrated Plan for the improvement of energy performance of the Russian economy. Russian budget may provide about 2.5 bln rubles for that purposes within 6 years [26].

Ministry of Economic Development is working on the following possible measures to promote the green financing instruments:

- complete or partial income tax exemption for Research and Production Companies of institutional investors in part of the interest rate on green bonds;
- the possibility of application of 0% tax rate to the amounts received from selling green bonds, as in case with tech-intensive sector bonds;
- to ensure a dedicated approach with regard to the load on the capital of bank investing in green bonds and entering them into Lomabard list, in some case with deep discounting.

By virtue of the analysis made above, we can distinguish certain issues in the sphere of green financing in the Russian Federation:

- unavailability of the dedicated legislation determining the position of green financing, including the trading of green bonds;
- the assessment system with regard to the concept of green financing is insufficiently developed;
- the market infrastructure providing the placement of green bonds is insufficiently developed
- в considering that green bonds are long-term investments, the participants are not interested in such investment because of possible risks.

REFERENCES

- [1] Agenda of the Sustainable Development for the period up to 2030. Access on: <https://undocs.org/ru/A/RES/70/1>
- [2] E.V. Atamas, D.A. Kotelnikov (2015) The trinity the concept of sustainable development: environmental, economic and social aspects // Journal of Economy and entrepreneurship. № 12-4 (65). PP. 804-809
- [3] M. A. Bitarova, k. S. Zadneprovskaya (2016) Problems of use of "green technologies" in modern Russia// Technology foresight 2.0: collection of articles on the materials of the all-Russian scientific and practical conference of students, postgraduates and young scientists. PP. 211-213
- [4] The Green Qualifications Workbook. Access on: <https://www.charteredbanker.com/uploads/assets/uploaded/6e89f43e-6a3b-41c7-a2a65d41deeee960.pdf>
- [5] Noh, H. J. 2018. Financial Strategy to Accelerate Green Growth. ADBI Working Paper 866. Tokyo: Asian Development Bank Institute. Available: <https://www.adb.org/publications/financial-strategy-accelerate-green-growth>
- [6] One Planet Summit. Access on: <https://www.diplomatie.gouv.fr/en/french-foreign-policy/climate-and-environment/one-planet-summit/article/the-one-planet-movement>
- [7] Presidential Decree No. 204 dated May 7, 2018 “On National Objectives and Strategic Development Goal of the Russian Federation for the period up to 2024”. Access on: <http://publication.pravo.gov.ru/Document/View/0001201805070038>
- [8] Russian Government Order No. 1662 dated November 17, 2008 “Concept of Long-term Social and Economic Development of the Russian Federation for the period up to 2020” Access on: <http://docs.cntd.ru/document/902130343>
- [9] Russian Government Order No. 861 dated December 17, 2009 “Climate Doctrine of the Russian Federation” .Access on: <https://www.garant.ru/products/ipo/prime/doc/2070243/#2070243>
- [10] Federal Law No. 7- dated January 10, 2002 “On the Environment Protection” (as in force on July 29, 2017). Access on: <http://docs.cntd.ru/document/901808297>
- [11] Governmental Order No. 3 dated January 3, 2014 “On the Approval of the Rules of Granting Federal Subsidy to Russian Organization for Partial Reimbursement of Expenses for Paying Interest on Credits Obtained in 2014-2019 from Russian Credit Institutions and State Corporation “ Bank of Development and Foreign Economic Affairs (Vneshekonombank)”, as well as from International Financial Organizations Established in Accordance with International Agreements Joined by the Russian Federation, for the purpose of Implementation of Complex Investment Projects in Priority Sectors of Civil Industry and (or) Payment of Coupon Profit on the Bonds Issued in 2014-2019 within the Frameworks of the Implementation of Complex Investment Projects in Priority Sectors of Civil Industry”. Access on: <https://base.garant.ru/70558574/>
- [12] Russian Government Order No. 1016 dated December 14, 201 “On the Approval of the Rules for Selecting Investment Projects and Principals Providing Sovereign Guarantees of the Russian Federation on Credits or Bond-Secured Loans Raised for the Purpose of the Implementation of Investment Projects”. Access on: <https://base.garant.ru/12181382/>
- [13] Order of Federal Agency on Technical Regulating and Metrology (Rosstandart) No. 1611 dated November 2, 2012 “GOST P ISO 26000-2012. National Standard of the Russian Federation. Guidance on Social Responsibility”. Access on: <http://docs.cntd.ru/document/1200097847>
- [14] Decree by the President of the Russian Federation No.208 dated May 13, 2017 “Strategy of Economic Security of the Russian Federation for the period up to 2030”. Access on: <http://www.consultant.ru/cons/cgi/online.cgi?req=doc&base=LAW&n=216629&fld=134&dst=100000001,0&rnd=0.8188617456646865#06672750489504271>
- [15] “Basic Principles of State Policy for Ecological Development of the Russian Federation for the period up to 2030”, as approved on April 30, 2012by the President of the Russian Federation. Access on:

<http://www.consultant.ru/cons/cgi/online.cgi?req=doc&base=LAW&n=129117&fld=134&dst=100000001,0&rnd=0.8355998030982281#06308078651510443>

- [16] Main directions of the development of the Financial Market of the Russian Federation in 2019-2021. Access on: https://cbr.ru/content/document/file/71220/main_directions.pdf
- [17] Green Bonds – a key tool for financial centre competitiveness: Lessons from Europe Access on: <https://www.climatebonds.net/resources/reports/green-bonds-key-tool-4-financial-centre-competitiveness-lessons-from-europe>
- [18] Green bonds the state of the market 2018. Access on: <https://www.climatebonds.net/resources/reports/green-bonds-state-market-2018>
- [19] REN21. 2019. Renewables 2019 Global Status Report (Paris: REN21 Secretariat). Access on: https://www.ren21.net/wp-content/uploads/2019/05/gsr_2019_full_report_en.pdf
- [20] Market Blog #35 - 07/11/19: Over \$22bn GB in October: First GB from Greece - Certified: Conf2020 Registrations open: GB Gossip, reading list and more! Access on: https://www.climatebonds.net/files/files/Market%20Blog%20%2335_final%281%29.pdf
- [21] Moscow Stock Exchange launched the first platform for green bonds in Russia. Access on: <https://www.rbc.ru/trends/green/5d6422b19a7947efa673ac48>
- [22] Russian Railways invests in electrification to reduce carbon emissions. Access on: <https://www.globalrailwayreview.com/news/82117/russian-railways-invest-electrification/>
- [23] Green Bond Framework, 2019. Access on: http://eng.rzd.ru/static/public/en?STRUCTURE_ID=4355&layer_id=4516&id=2671
- [24] Objectives of sustainable development. Access on: <https://www.un.org/sustainabledevelopment/ru/sustainable-development-goals/>
- [25] Moscow Stock Exchange to launch Sustainable Development Sector with the Assistance of Ministry of Economic Development of Russia. Access on: <https://www.moex.com/s3019>
- [26] Complex Activity plan for improving energy connectivity of the Economy of the Russian Federation. Order of the Government of the Russian Federation No 703 dated April 19, 2018. Access on: <http://static.government.ru/media/files/rE6AtHAMGYeZUz51fpCeHYfmuyRzUGow.pdf>