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Review

Green economy: mobilization of international capital for financing projects of renewable energy sources

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Abstract: The aim of the paper is to analyze the sustainability of green economy financing, to determine how and to what extent green economy is financed in the Republic of Serbia, the countries of the ASEAN Association, and what the economic instruments for achieving green growth are. The emphasis will be placed on green bonds, modern securities, as well as the impact they have on international projects for using renewable energy sources. At the Earth Summit of the United Nations Conference on Environment and Development (UNCED), a plan of action *Agenda 21* was adopted. Some time after the adoption of the plan of action, some favorable changes occurred in the models of financing sustainable development and the amounts of international financial transfers were defined in less developed countries of 125 billion dollars a year. Due to international activities, projects of transferring international financial resources were created with the aim of directing them from the developed to underdeveloped countries to help development of green economy. Since Serbia is one of the less developed countries and in the process of transition for a very long time, a specific recommendation for its own green finance projects can be found, based on the practice from modern countries. As an example of an advanced country that is largely on the path of sustainable development and use of renewable energy sources, the authors have taken into consideration Singapore and compared it with Serbia. The paper gives a certain contribution in terms of analyzing the development of green economy in one of the countries of the ASEAN Association (Singapore) and in Serbia, which is only paving its way of sustainable development, the use of renewable energy sources and forms of green finance.

Keywords: green economy; green finance management; green credit policy; green bonds; Serbia; ASEAN—Singapore

JEL codes: G00, F18, O10, Q050

1. Introduction

The United Nations Environment Program—UNEP defines green economy as an outcome process that creates social equity and human well-being, the process of reducing scarcity and environmental risks (UNEP, 2010). Green economy creates benefits for economic development, social equity and environmental protection in the global economic, social and financial crisis (Stojanovic at al., 2014). Conditions for global financing of sustainable and green development are created everywhere in the world, as well as for the increased expansion of private capital flows. Increased efforts in environmental policy at national and international levels are being noted in terms of introducing environmental costs, environmental compensation and emission trading programs. Investments for growth and development have to be as green and sustainable as possible in the future to prevent an even greater rise in temperature and adapt to the new climatic conditions. Therefore, first of all huge investments in green infrastructure in developed and developing countries will be necessary in the coming years. As public budgets alone will not be able to provide the necessary financing, there is a necessity to mobilize private capital for green Investments, particularly in developing countries and emerging markets (Lindenberg, 2014).

The paper gives an overview of green bonds as modern forms of securities that support green economy and green finance projects. During the analysis of green financing and green bonds that belong to the green economy sector, the authors have tried to achieve the results that aim to locate internal and external financial assets in an adequate way using less risky foreign investments and foreign loans. The authors compare the two countries and their level of green economy development, Singapore and Serbia. Through the application of theoretical concept and empirical proofs and models, the paper identifies the possibilities of implementing adequate management of green economy financing in the country that is economically weaker (Serbia in relation to Singapore) which is the main motive of authors. The discussion shows in what way the governments of the observed countries of Singapore—as a representative of the ASEAN Association countries, and Serbia—as a European country in the Balkan Peninsula, have a decisive role in achieving national sustainable and green development in line with global development and in line with EU legislation and directives, international programs, projects, conferences, documents, conventions and contracts. Concluding considerations provide recommendations for the implementation of a sustainable development policy at a global level.

2. Green economy and the Global Green Economy Index

The concept of a green economy is developed in the 80 years of the twentieth century. In practice, green economy means the Protection of Nature in all aspects of life ranging from eco-fashion, eco-shoes over to eco-building materials. In one way, green economy means a step backwards, i.e. return to the UN Conference on Environment and Development held in Rio (1992) when the environmental sustainability of economic growth and development was the center of attention.

However, on the other hand, green economy is a step forward, because it is a practical and flexible approach that will contribute to the implementation of sustainable development in all its dimensions: economic, environmental, and social. After the World War II, the global economy that is facing with its worst economic crisis turns to the new sources of growth. The European Union believes that a green economy is one “that generates growth, creates jobs and eradicates poverty by

investing in natural capital and the preservation of natural capital on which depends the long-term survival of our planet". Taking into account the presented facts, it can be said that the concept of green economy involves widespread use of renewable energy sources, increasing the number of jobs and investment in so-called green industries. Simply, a green economy can be considered an economic activity that is performed with low carbon dioxide emissions, through which resources are spent efficiently and that is socially inclusive. The green economy is not directed against economic growth; on the contrary, it should be a new impetus to the growth and generator of new, decent jobs, as well as the necessary strategies to reduce existing poverty. Based on the fact that the goals of environmental sustainability and economic progress irreconcilable there is growing evidence that greening the economy does not only reduce income generation but also does not affect fewer employment opportunities (Stojanović et al., 2014).

When the concept of a green economy is considering, it can be seen is a luxury that is only allow to the richest countries, and that's just the way that rich countries want to limit the development of undeveloped and leave them in a state of poverty. Against this perception, today it can be find a number of examples in different sectors in developing countries, which show that the transition to a green economy, something that to this country brings great benefit and it can be largely replicated in all parts of the world. In this way, the concept of green economy suggests new opportunities for future growth in the world by reducing the pressures on the environment (United Nations Enviroment Programme, UNEP 2010). As already mentioned the Green Economy is a concept where the yield growth and employment must be carried out through the investment, thereby reducing carbon emissions and pollution, improving energy efficiency and efficient use of resources and prevents the loss of biodiversity. Thus, the model for the green economy contents (Government Republic of Mozambique, 2012):

1. Efficient—where economic growth is separated from the life and physical energy;
2. Sustainable—that means strengthening non exhaustion of natural, human and social capital, infrastructure, resilience to natural disasters, climate change and economic instability;
3. Equal—means significantly lower inequality in the distribution of wealth, income and opportunity, and guarantee the benefits of growth for present and future generations of mankind.

The fact that business processes are the dominant source of pressure on the environment the companies should play an active role in protecting the environment and also in the mobilizing of green international capital for development of green economy on the global level. Green economy performances can be seen in the Global Green Economy Index (GGEI). Indicator data have been used since 2010. GGEI index is applied by governments, financial managers, international organizations, as well as private sector and civil society, in order to improve sustainable environmental development and the environment. The ranking of the aggregate data of the observed ASEAN countries (out of 141) and Serbia, according to the decreasing principle, is shown in Table 1 (Citizen, 2018a). Experts from the Global Green Growth Institute (GGGI) provide developing and developed countries with expert consulting assistance in designing programs and services on the road to economic growth development. As advisers of trust of the Institute and in agreement with the governments of the member states, they conduct scientific research in order to identify potential opportunities in accordance with national development goals (Global Green Growth Institute, 2011). Member States are provided with the means to build institutional capacity, to develop a green growth policy, enabling the exchange of knowledge and engagement of private investors and public donors.

Table 1. GGEI—Aggregate environmental indicators of green economy—ASEAN and Serbia (2014–2018). Source: (Citizen, 2018a).

Rank—In relation to the number (141 countries)	Association ASEAN and Republic of Serbia	Aggregate Indicators (%) (leadership & climate change; efficiency sectors; markets & investment; and environment.)	Year
24	SINGAPORE	0,6154	2018
38	Thailand	0,5551	2014–2018
62	Phillippines	0,5078	2014–2018
65	Cambodia	0,5022	2014–2018
66	Malaysia	0,4990	2014–2018
73	Vietnam	0,4827	2014–2018
94	Indonesia	0,4527	2014–2018
96	Mynmar	0,4515	2018
126	SRBIJA	0,3927	2018

The GGEI provides aggregate results of four economic and environmental indicators of green economy (Citizen, 2018b):

1. Leadership and climate change (the president of the state, media, international forums, climate change performances),
2. Sector efficiency (urbanism, transport, energy, tourism),
3. Market and investments (investments in renewable energy sources, "clean tech" innovations, "clean tech" commercialization, green investment improvement),
4. Ecological environment and natural capital (agriculture, air and water quality, biodiversity, habitats, fish, forests).

Based on *GGGI Report 2018*, it is noted that compared to the observed countries, Singapore has the most favorable green economy and environmental performance, as well as in terms of leadership and financing in the market—61.5%, and rank 24. The *GGGI Report 2014* provides framework guidelines for green economy investing as shown in Table 2 (Citizen, 2014). Successful green economy finance depends on many factors. Digital and social communication and knowledge exchange in some market segments play an important role. It is necessary for marketing agencies to place on the web portals of their country promotional information on the attractiveness of investments in green jobs, with sophisticated "country-data" in order to provide investment and interactive connection of international investors and entrepreneurs.

Table 2. GGGI Assesing green investment facilitation, 2014. Source: (Citizen, 2014).

Green focus	To what extent is the green economy and market opportunities within it prominently displayed on the website for the country's lead investment promotion agency?	The hierarchy of sectors and in-vestment opportunities signals to the marketplace national priorities. By prominently displaying green busness opportunities, countries signal that they are dedicated to developing them.
Presentation of related national initiatives	What information is provided about national initiatives in place or planned to foster greater green investments and suppor tinternational investors and entrepreneurs?	This background further signals that nations are serious about pursing green economic growth and supporting the businesses that enable it. It can also provide tangible resources for etrepreneurs who may be considering joint ventures in the market
Market data provided	Is there easily accessible and clearly formatted coutry-level data available so that investors and businesses can better understand the charactristics of the market?	Investors need data to evaluate investments and having these relevant data clearly displayed show transparency and a willingness to support investors with tangible tools as they evaluate their options.
Interactive & social media outreach	Does the investment promotion agency have a sophisticated grasp of digital and social communicatirons tools in a manner than successfully leverages them to share useful information?	When approached strategically, digital and social platforms enable cross border communications and information exchange in new and useful ways. Agencies that use these tools proporly can advance their attractiveness as a green investment target.
People	Are there people highlighted as contracts related to certain market segments so that serious investors and enterpreneurs can contact them for more in depth informatin exchange and knowledge sharing?	Despite the power of digital these days, people still matter a lot. Linking individuals to different green market segments offers investors comfort that they can follow up with a person to discuss more nuanced questions.

3. Renewable energy sources and stages of projects of RES

Renewable sources bring far reaching benefits in terms of human health, energy access, environmental protection and climate change responses, and at the same time, represent the potential for job creation around the world. However, in the midst of rapid technological development, renewable energy technologies are becoming increasingly competitive with fossil fuel costs, even as a result of low global oil prices (International Renewable Energy Agency, 2016). Nevertheless, global investments in renewable energy sources have stayed far below their potential. Lack of investment reflects lasting market barriers and high risk perception that hinder private investors and financiers. Having in mind the above mentioned, renewable energy projects, especially in developing countries, face multiple challenges. These challenges range from the institutional, political and regulatory levels to the level of the market and the project, which can hinder the development and use of renewable energy sources.

All this includes lack of market transparency, lack of funding and experience in project development, as well as the lack of relevant information on regulations, markets and resources availability. Renewable

energy projects essentially go through three different stages: development, finance and implementation. For renewable energy projects, a combination of capital and debt is necessary, whereby capital sponsors are the instruments for launching projects through the first two stages. As each stage ends, and the project is freed from risk by structural and development work, project values increase and they become more attractive to capital investors and creditors alike (Figure 1) (Jočić, 2015). In recent years, there has been a worldwide public recognition that the global financial system should actively contribute to sustainable development. In accordance with the above mentioned and encouraged by the scope and urgency of the need for sustainable development finance, the concept of green finance has become more and more pronounced around the world over the past few years. Consequently, in order to address urgent climatic and environmental challenges, the private sector takes a key role while the green financial sector helps the transfer of financial flows into green investments. So, the implementation of the climate change agreement requires the transformation of the economies of the world as well as an enormous effort of the financial sector and its actors.

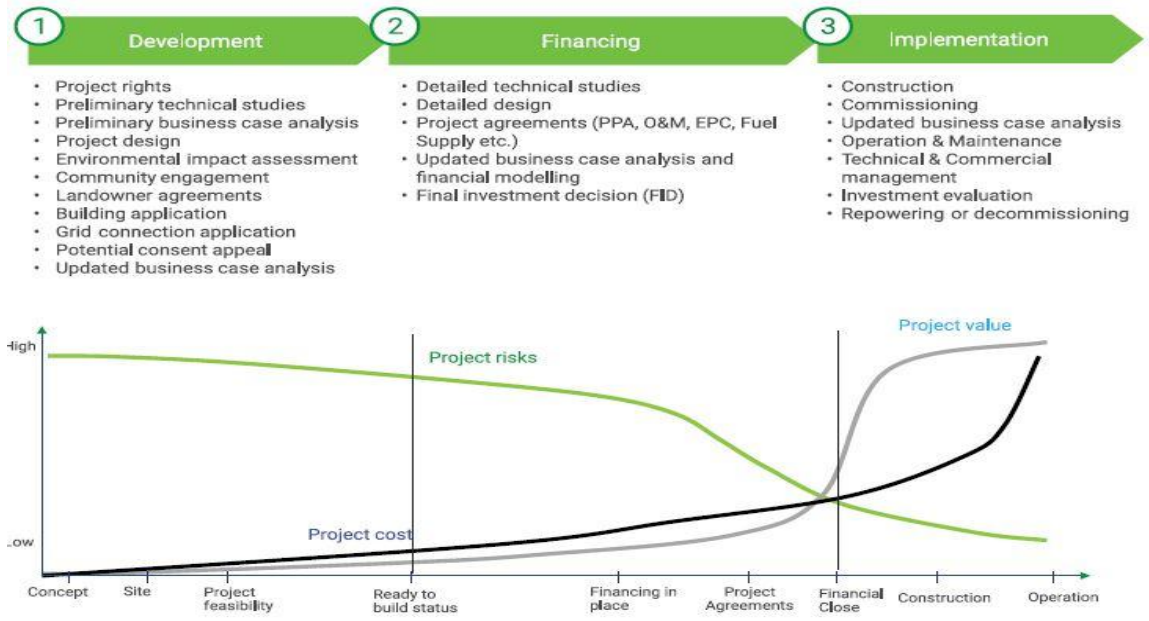

Figure 1. Renewable energy projects, implementation phases, value creation and risk profile. Source: (Jovičić, 2015).

The green finance market includes a market-oriented mechanism and financial products that can control pollution emission. One of the most important financial products is green bonds.

4. Green bonds as a new tool for financing RES projects and the green bonds market

Green bonds are modern types of securities. There were named according to the method of collecting money. The green bonds have great importance in achieving the goals of sustainability, because the money received by issuing them should be spent of environmental projects and reduction of the resulting pollution consequences.

These securities, which are already largely traded on the markets, not only bring prestige and positive image to investors, but also make a significant profit. Green bonds are the part of green investments.

In order to address urgent environmental problems, such as climate change, the private sector plays a key role in solving the problem, while, at the same time, the green finance sector helps to transfer financial flows into green investments. Capital markets can play a significant role in mobilizing private funds for climate change mitigation and adaptation projects. Having this fact in mind, the green finance market includes market mechanisms, as well as financial products that can control pollutants' emissions. Therefore, green financing and finance sustainability are broad terms covering different financial products that promote low carbon economy and support investments in environmental projects. The most famous market is the carbon market, while Green bonds are the most famous product (Stojanovic and Ilic, 2018). Green bonds support project finance in the field of mitigation of climate change effects. In addition, their value lies in the fact that the issuer undertakes to direct the funds rose to the financing of the projects that have a positive impact on the environment. This marks the obligation to use the funds collected exclusively for financing or refinancing "green projects", funds or business activities. In accordance with the principles of green bonds, the funds raised are directed to (Vella, 2018):

1. Renewable energy,
2. Energy efficiency (including efficient buildings),
3. Sustainable waste management,
4. Sustainable land use (including sustainable forestry and agriculture),
5. Conservation of biodiversity,
6. Clean transport,
7. Sustainable water management (including clean and/or drinking water), and
8. Adapting to climate change

In addition to the fact that green bonds are a relatively new financial instrument used in protection against climate change, their market has seen a remarkable growth since 2007 (Figure 2) (Bloomberg New Energy Finance, 2017).

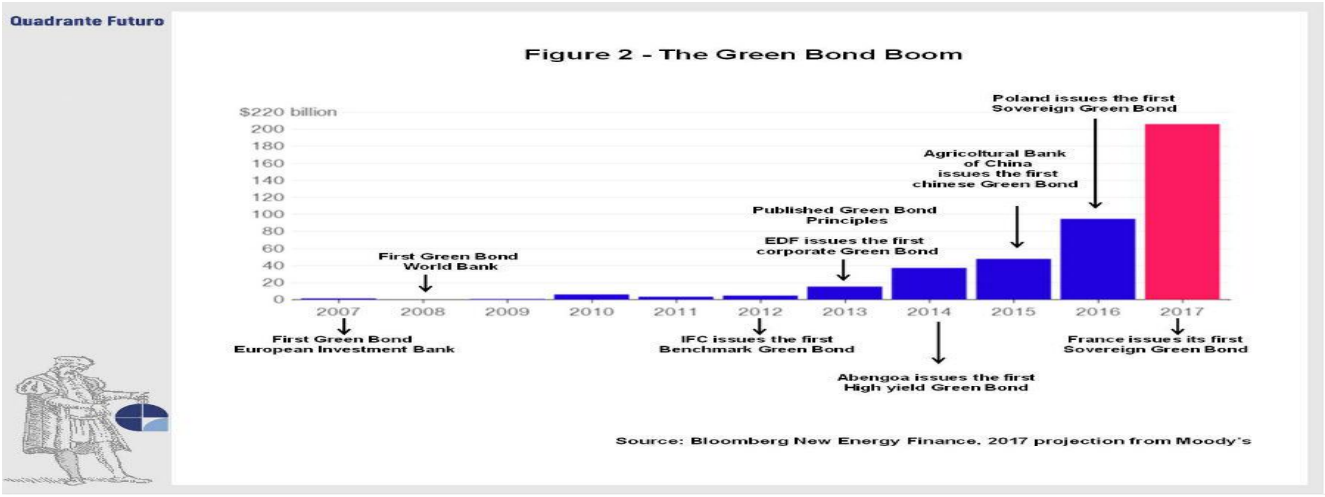

Figure 2. The Green Bond Market: a new green trend. Source: (Chiesa M, 2017). https://www.quadrantefuturo.it/settori/the-green-bond-market-a-new-green-trend.html.

However, the real expansion of the market began in 2014, when the principles of green bonds were established. Since that period, the market has been rising steadily, so that in 2015, 42 billion dollars was issued, which is four times more than in 2013.

The same trend continued in 2016, when the aggregate issue of green bonds was 80 billion dollars. Namely, the European Bank for Reconstruction and Development (EBRD) raised 1.64 billion euros in 2016 through 57 bond issues in eight different currencies. Finally, the 2015 Paris Agreement opened the way for a new green finance trend. Following France's release of 7.4 billion dollars in June 2017, Poland issued a green finance bond of 750 million euros. Observations of the green bond market reveal that corporate green bonds have a new issuance premium (NIP) equal to traditional bond premium, which indicates that they are accepted even by regular market participants. In addition, green bonds issuing supports corporate reputation for sustainability and creates a new green dynamics of thinking in financial markets (Chiesa, 2017). In contrast to the conventional bonds, green bonds are used to finance specific "green" investments and are not an additional risk to investors. Compared to bank deposits, bonds tend to provide higher profitability, liquidity and stability that meet the most diverse investors. The funds raised must be spent on renewable energy and sustainable green projects. Green bonds can be viewed as an experiment, which has shown that capital markets can be a source of financing initiatives to solve climate change. The key objective is to offer investors, along with the bonds, a product that meets their investment return targets which include the risk, as well as to support the finance of the projects that reduce greenhouse gas emissions on one side, while on the other, to help countries adapt to the impacts of the climate change (Knežević at al., 2013). According to the OECD Report there are following six types of green bonds (OECD, 2015):

1. Corporate bond: A use of proceeds" bond issued by a corporate entity with recourse to the issuer in the case of default on interest payments or on return of principal. This category includes bonds issued by "Yield Co" vehicles to finance asset acquisitions.
2. Project bond: A bond backed by single or multiple projects for which the investor has direct exposure to the risk of the project, with or without recourse to the bond issuer.
3. Asset-backed security (ABS): A bond collateralized by one or more specific projects, usually providing recourse only to the assets, except in the case of covered bonds (included in this

category). For covered bonds, the primary recourse is to the issuing entity, with secondary recourse to an underlying cover pool of assets, in the event of default of the issuer.

4. Supranational, sub-sovereign and agency (SSA) bond: Bonds issued by international financial institutions (IFIs) such as the World Bank and the European Investment Bank (i.e. "supranational issuers"). SSA bonds have features similar to a corporate bond relating to "use of proceeds" and recourse to the issuer. Agency bonds are included in this category (e.g. issuance by export-import banks), as are sub-sovereign national development banks (e.g. the German KfW).
5. Municipal bond: Bonds issued by a municipal government, region or city. A national government entity could theoretically also issue a "sovereign" bond; no green sovereign bonds have been issued to date.
6. Financial sector bond: A type of corporate bond issued by a financial institution to specifically raise capital to finance "on-balance sheet lending" (i.e. to provide loans) to green activities (e.g. ABN AMRO or Agricultural Bank of China). This type of bond is considered separately for the purposes of OECD scenario modeling to retain a distinction between financial sector bond issuances which finance lending and those which directly finance green investments.

5. Green financing of renewable energy sources projects—Case study ASEAN—Singapore and Serbia

Regarding the volume of green investments, it can be said that Asia is a real financial capital. In the first half of 2016, China emitted a third of its total green financing at global level by its government, banks and corporate entities. The figure of 11.2 billion dollars supports it. This fact is not surprising given the fact that the thirteenth five-year plan (2016–2020) set very ambitious environmental goals that require investments worth 300 billion dollars. Thus, neither India is an exception when it comes to the Asian region, because it issued its first green bonds in 2015 and 2016. In Japan as well as in South Korea, green bond markets are alive and in expansion. Figure 3 represents the amount of green bonds of Asian countries expressed in billions of US dollars. As seen in the Figure, China is convincingly superior to other Asian countries (Chittilapally, 2016).

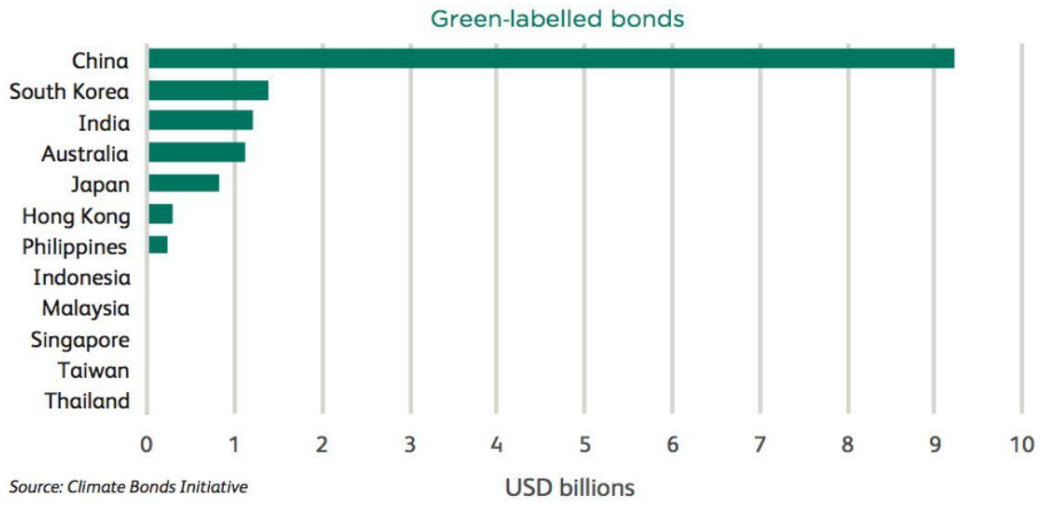

Figure 3. Green-labelled bonds (USD billions). Source: (Chittilapally, 2016).

Singapore

Singapore, or officially, the Republic of Singapore, belongs to the island-based cities-states, based in Southeast Asia, in the south of the Malay Peninsula. Singapore is rated as the world's friendliest economy which employs thousands of foreign middle-class workers in its multinational corporations. This city-state employs tens of thousands of workers from abroad.

When it comes to green finance in the state of Singapore, it can be freely said that this country has already paved its way to sustainable development and it races towards the development of green forms of financing with the aim of supporting the projects for the use of renewable energy sources.

This is confirmed by the fact that in 2017 Singapore Institute of International Affairs (SIIA) started with making a report entitled "Singapore Joint Green Finance Initiative—Singapore and Green Finance as Support for the ASEAN Countries and the Asian Region in the G20 Countries—Conference on Green Finance in Singapore".

The strength of Singapore as a member state of the ASEAN group lies not only in its strong financial capabilities but also in the field of environmental protection, which gives Singapore a good position for greater progress in the field of green finance. This opens up opportunities for the development of green and sustainable economy of Singapore.

The initiative launched by SIIA has enabled a partnership with the surrounding countries in the United Nations program proposal on the creation of the financial system as well as the survey questionnaire (UNEAP survey) at the international level, in order to include as many countries as possible in this area. Many organizations and financial institutions have provided support for fund investing and launching green finance initiative, such as: The Association of Banks in Singapore (ABS), Mitsubishi UFJ Financial Group (MUFG), Monetary Association of Singapore (MAS), BNP Paribas, Development Bank of Singapore (DBS), Oversees Chinese Banking Corporation (OCBC), and United Overseas Banks (UOB). In Singapore's financial sector there are more green variants, that is, differences in the rate of adopting green credit and green finances among the organizations and companies.

How much and in what way the companies would invest in green finance largely depend on their financial capacity and determination of the companies themselves. The Development Bank of Singapore (DBS), the first to issue a green bond in Singapore, is seeking to impose itself as a leader in the green finance market. Issuing of a first green bond was a milestone in DBS's business, which gave investors the opportunity to pursue "commitment" to sustainable development with sustainable green finance. However, the Singapore government believes there is still a lot to be done to make Singapore the center for green finance in the region. That is why the SIIA Report gave recommendations that would avoid the critical state of green economy and allow the blooming of green finance. The government should present and conduct a clear policy that promotes commitment to sustainable development, supported by the future vision of sustainability, knowledge and capacities of the country, that is, the main actors of the country from the public and private sectors (Singapore Institute of International Affairs, 2017). Namely, when it comes to green finance, financial institutions, depending on their policy and practices, can be characterized as phases, ranging from the preliminary to investigative, from beginners to the leading institutions (Table 2) (Singapore Institute of International Affairs, 2017a).

By analyzing Table 2, it can be concluded that various players from the financial sector in Singapore have already been prepared or are taking certain steps in the transition towards green economy and development of green finance products. The prospects for progress and greater development of green bonds as a green finance model lie not only in Singapore, but also in the ASEAN Association region, as can be seen in the data on the green economy index from the previous table that shows that, besides

Singapore (which is ranked 24th), the countries that need to improve this index are Thailand, Philippines, Cambodia and Indonesia. So it is of vital importance for Singapore to align itself with green movements in the region, or to establish green finance dialogues with other ASEAN member countries. Green finance area in Singapore marks the future economy of the country as well as the improvement of the quality of life for all its citizens (Singapore Institute of International Affairs, 2017b).

Table 2. Stages of Green—Financial institution in Singapore**.** Source: (Singapore Institute of International Affairs, 2017).

Stage 0: Laggards and Skeptics
• Environmental management as an avoidable cost. Strong doubts on the value of having green labeled investments and Instruments.
• Unsupportive of new environmental legislation with the view that it is onerous and impose pressures on the interest of the firm directly or Indirectly.
Stage 1: Preliminary
• Environmental management is actively taken up partly due to government or civil society influence, through social pressures or by law.
• Internal processes are considered in relation to environmental management and risk assessment.
Stage 2: Exploratory
• Growing awareness of ESG as part of their calculus of risk, and ESG factors are integrated as part of investment decision-making. ESG reporting, to varying degrees, is also being adopted.
• Presence of a sustainability representative or small sustainability team focusing on sustainability reporting.
Stage 3: Early Adopters
• Adoption of proactive, creative and innovative attitudes to develop and market environmentally friendly products. Environmental activities are also reported.
• Foreign financial institutions are influenced by sustainability requirements and commitments issued by their home offices, usually in Europe or the USA. Sustainability also tends to be incorporated across all business units, including at the individual level. Employees may also have individual KPIs to increase the number of sustainable transactions in the year.
• Search for "win-win" solutions. But efforts limited due to the narrow understanding of the effects of climate change, and the lack of financial instruments and market information of environmental risks.
Stage 4: Leading Edge
• Financial institutions seek the highest sustainable rate of return, while being profitable in the long run.
• Corporate philosophy supports projects at a higher risk, lower rate of return and longer payback periods.
• Requires a certain level of status and demand for sustainability in society in order for more financial institutions to enter this stage.

Serbia

Serbia is a small country situated in the Balkan Peninsula and it represents one of the six countries of former Yugoslavia. It is located at the intersection of the roads of Central and Southeast Europe in the southern part of the Pannonia Plain in the central part of the Balkans. The term green bond is, for now, known in Serbia only as a term, since the country has to solve its economic stability in order to follow green investment trends. The term of green financing in Serbia, first appeared about 10 years ago, but it never became mainstream.

The Government of Serbia commitment in 2008, that will realize about 70 percent of the revenue from its own budget revenues and public companies revenues by applying the principle of the European Union—"user/polluter pays" (The Government of the Republic of Serbia, 2008). Data of the previous green investments is not easy to find, but it is estimated that in Serbia is placed green loan about 200 and 300 million Euros. This financing is mostly initiated by the credit lines from international financial institutions in Serbia (Kalkan, 2018). Because of the fact that Serbia open chapters in the negotiations with the EU to be a part of it, the Chapter 27 that concern the administration of environmental protection is coming soon.

One of obligations for Serbia was to draw up an investment plan for financing the environment, to compile projects and to start a green fund from which to finance the projects (Environmental Ambassadors for Sustainable Development, 2014). In 2016 in Serbia the Green Fund was established as an institutional financial mechanism in order to implement measures for financing environmental protection (Paragraf, 2016).

As a form of green financing in Serbia, it should be mentioned the funds from the European Union and from the region for the financing of energy efficiency and renewable energy sources. Those funds include (Center for Management of the Projects of Serbian Chamber of Commerce, 2016): WEBSEFF (Western Balkans Sustainable Energy Financing Facility), EBRD (European Bank for Reconstruction and Development), WBIF (Western Balkans Investment Framework), GEF (Global Environmental Facilit, KfW (Kreditanstalt für Wiederaufbau), IFC (International Finance Corporation, IPA (Instrument for Pre-Accession), GGF (Green for Growth Fund). Through financial leasing, this money companies and farmers in Serbia will be able to use to improve inefficient equipment, optimization of production processes and to replacement of agricultural machinery.

There are also credit lines of banks in Serbia that finance renewable energy and energy efficiency. The banks that provide these lines are: Intesa Bank, Erste Bank, Procredit Bank Unicredit Bank and Credi Agricole Serbia (Ilić at al., 2018). When using renewable energy sources in Serbia is in question, it is important to mention the fact that certain efforts are being made to implement certain projects for the use of RES. The support is mainly sought from abroad in terms of investing in this type of projects. An example is the company "Fintel Energija A.D." which is going to build the largest wind farm in Europe named "Maestrale Ring" in Vojvodina in 2019 (Energetski portal, 2019). The Board of Directors of the company decided to launch ambitious projects for the construction of new wind farms, among which is the project of development of the largest wind farm on the European continent.

In 2018, EPS financed projects Cibuk and Alibunar, which represent new energy of Serbia with more than 200 MW of new wind energy. Those 200MW are currently on the network in probation and with 100 to 150MW obtained in previous years from renewable sources, for Serbia today they represent a good "pass time" in the use of clean energy. Credit Agricole Srbija bank has signed a financing agreement with KfW, a German development bank operating within the Ministry of Finance of Germany, in a total amount of 20 million euros, for financing development projects and renewable energy resources and in line with the global strategy of the Credit Agricole Group and postulates of a corporate social responsibility business that put ecology in the first place (Energetski portal, 2018b). Through this arrangement with KfW, Credit Agricole Serbia provides favorable credit terms for all the segments of business that affect the improvement of energy efficiency and develop energy sources such as: energy efficient heating and cooling systems, energy efficient lighting, vehicle fleets and machines with reduced carbon dioxide emissions. Thanks to the contract signed with Elektroprivreda Srbije, ProCredit Bank became the first major buyer of "green" electricity in Serbia, as the first domestic company to receive

from EPS the guarantee of origin that the electricity spent by the Bank has been produced from renewable energy sources exclusively (Energetski portal, 2018c).

In Serbia an increase in solar installations of 18% is expected in 2019 (Energetski portal, 2018d). The development of solar technology began in the 1980's, and mass production of the panels began at the beginning of the new millennium.

The price of the panels has fallen by almost 90% in the last ten years, making solar plants the cheapest way of producing electricity in many parts of the world. Mono crystalline technology attracts more and more customers and becomes more advanced.

Energy storage options are increasing. Changes on the political level are suitable for the blooming of solar energy. In 2017, installation capacity increased by almost 20% compared to 2016, and IHT Market forecasts their increase in 2019 as well, of 18 percent.

6. Discussion

Green economy comprises all forms of capital investments and finance movement in the direction that will further accelerate the use of renewable energy sources and reduce the harmfulness of the use of non-renewable energy resources, or the emission of harmful substances into the environment.

Having in mind that some countries are more developed and predominant in their economy, these countries are also the first to encourage sustainable development and understanding of green finance and green economy. The ASEAN Association countries have a stable economy and it is not surprising that they are each other's rivals in the field of green finance, trying to reach and overtake their competitors in the region. The authors put emphasis on Singapore which is, according to the Aggregate Environmental Green Economy Indicator, ranked 26th among ASEAN countries, as well as on the methods that the government of Singapore, together with large corporations, applies so that Singapore would achieve the objectives of sustainable development and green economy as much as possible. On the other hand, the authors also represented Serbia, which is trying to make its way to sustainable development and sustainable business. It is still difficult to talk about green economy in Serbia since the country is still in the process of transition and since legal regulation and harmonization of legislation with the laws of the European Union are still under way.

Since Serbia, especially in recent years, has been making efforts to establish the stability of its economy, green finance is only at its beginning in this country. Nevertheless, the authors think and want to present their country in the best possible way stating the fact that some efforts are being made when green economy in Serbia is in question. Certainly, investments and cooperation with foreign capital are being drawn for the development of sustainable business in Serbia, but, nevertheless, Serbia does not want to lag behind European countries in this field. Since it belongs to relatively small European countries, Serbia needs assistance and cooperation with the rest of Europe and the world in order to get closer to global standards of sustainability and to provide its citizens with better quality living conditions. Perhaps the answer to the question of how Asian countries have progressed so far and so quickly should be looked for in the ways of doing business and respecting their compatriots.

No matter how hard they try to overtake one another when it comes to green finance, the ASEAN countries also push each other and agree on the principles of sustainability. On the other hand, Serbia has remained alone after the breakup of the former and big Yugoslavia, and has tried to restore economic stability on its own. Neighborly relations with some countries of the former Yugoslavia were quite tightened, and therefore business and business cooperation were put into

another plan. But, the situation in the Balkans is slowly stabilizing, and Serbia has already made good business deals with its foreign partners.

7. Conclusion

The adopted concept of sustainable social development is based on conditionality and link between environmental protection and human protection. Consequently, sustainable development of economy requires a shift of investment from natural resources intensive industries and gas emissions towards green technologies and new model of development. In this model of development—green transformation, the central role is taken by the financial sector, that is, green finance. In the context of such an approach, green financing is a positive step in the transition of the regional, and thus, global economy, towards sustainability. In order to encourage investment that provides environmental benefits, the main objectives of green finance are the internalization of the external effects in the environment and reduction of risk perception. Based on the analysis of green finance system in Singapore, we can conclude that the main actors that are driving green finance development are banks, institutional investors, international financial institutions, central banks, and financial regulators.

In order to support the greening of the financial system, the actors implement various policies and regulatory measures such as requirements for crediting priorities, financing below the market rate through subsidies, interest rates, or refinancing. In addition to the fact that the estimates of actual needs of green economy finance largely vary between different sources, it is common for all the assessments that a large amount of private capital is needed for this goal. This type of finance first appeared in Serbia about ten years ago, however, the data on past green investments is not easy to find. This kind of financing in Serbia was mostly initiated by the credit lines from foreign international financial institutions.

Starting from the fact that Serbian financial sector is still in the stage of policy formulation, it is very difficult to measure how much our banking or financial industry has reached the vision of "Green finance". However, as Serbia opens chapters in its negotiations with the EU, Chapter 27 regarding environmental protection will soon come to order. Based on the fact that the implementation of the climate change agreement requires the transformation of the countries' economies, as well as an enormous effort of the financial sector and its actors, it is time for the policy makers in Serbia and individual financial institutions to implement the green finance concept in reaching the goals of sustainable economic development. In addition to the fact that green investments as a basic form of green finance have a wide mapping in relation to the goals of sustainable development and green economy, there are certain contradictions that need to be overcome between environmental protection and green finance. To successfully communication with Europe and with the world Serbia should share their own national economic identity. Green growth (in the context of sustainable development) is a good choice for Serbia and solid bond that is linked to the rest of the world.

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Conflict of interest

The authors declare no conflict of interest.

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