



RESEARCH ARTICLE

PLACE AND IMPORTANCE OF THE GREEN ECONOMY FOR SUSTAINABLE DEVELOPMENT: WORLD REVIEW

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ABSTRACT

The concept of sustainable development is used together with the cultural, political, social and environmental concepts as well as the production, consumption, trade and development concepts. In this study, the fundamental idea is to provide a sustainable development with the help of green economy. The main purpose of this study is to question the operation of the green economy with reference of the concept of sustainable development. The evaluation of the world countries or country groups (China, United States, South Korea, European Union, France, Germany, United Kingdom, Japan, Canada, India and Brazil) which attract the attention with their economic condition shall be evaluated for sustainable development and green economy within frame of this main purpose. While this evaluation is made, green economy policies of China, United States, South Korea, European Union, France, Germany, United Kingdom, Japan, Canada, India and Brazil shall be considered.

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INTRODUCTION

The sustainability word means that the present resources are transferred to the future generations. A clean environment is needed for providing the sustainable development. The necessity of the green economy concept occurs here. The sustainable development has been first expressed in the report of World Environment and Development Commission in 1987 as not to consume the natural resources from today as to provide an opportunity for meeting the needs of future generations by establishing a balance between the human and the nature. The main subjects in the developing country are on the poverty and environment size therefore many persons, establishments and developing countries try to take sociological development into their agenda like decreasing the poverty, facilitating the access to the market, developing the education and health services in the developing countries. The developed countries see the subject as the problem of protecting the environment and sustainability of the welfare within a clean environment (Kaypak, 2011: 20). The foundation of this study bases on the investigation made on the operation of the green economy with reference to the sustainable development concept. This study emphasizes the necessity of the green economy for sustainable development. In this regard, the sustainable development and green economy

facts are considered within conceptual framework. In addition to this, China, the United States, South Korea, European Union, France, Germany, United Kingdom, Japan, Canada, India and Brazil countries or country groups are commented in terms of their green economy policies.

Sustainable development and green economy concepts

The sustainable development has been first expressed as the protection of natural resources for the next generations in the World Protection Strategy which is issued for United Nations Environment Program (UNEP) by International Nature Protection Union in 1980 (IUCN, 1980). Then in the next stage, the sustainable development concept has been expressed implicitly with Our Common Future Report (Brundt and Report) which is issued by United Nations World Environment and Development Commission in 1987 (WCED, 1987:48). The concept of sustainable development is expressed as programming the development of today and future as to provide opportunity to develop and to meet the needs of the future generations and by not consuming the natural resources by establishing a balance between the human and nature (Environment Foundation of Turkey, 1991: 71). At the same time, the sustainable development is identified as the development which can meet the needs of present day without compromising the opportunity of the future generation from meeting their own needs without consuming the natural resources by establishing a balance between the ecology and

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economy. (Torunoğlu, 2004: 1). In 2011 Davos World Economic Forum, General Secretary of United Nations Ban Ki-moon has expressed the necessity of a revolution, revolutionist ideas and revolutionist activity. He expressed that the usage of the sustainable development concept is easy however we need major changes for actualizing this. (White veBaraldi, 2012: 151). Following these explanations, the idea is generated for forming a green economy based on sustainable energy and it is expressed that the environmental values have come to the forefront (Friedman, 2010). The economy and environment of a country cannot be independent from each other. If a relationship is not established between environmental issues and economy, the economy cannot be efficient (Pearce, 1998: 17). Our environment contains the society and economy in itself. The environment, society and economy are associated with each other. The environment expresses the society and economy in the highest level (UNEP, 2011: 510). The green economy is identified by UNEP as follows; It is the economy which provides human welfare and social equality while seriously considering the environmental risks and ecologic drought. The green economy shall be provided with the private and public investments which increase the energy and resource usage, decrease the carbon distribution and pollution, provide income and employment increase in an inclusive system efficiently using the resources with low carbon (UNEP, 2010: 10-15). There are some principles which are required to be obeyed for providing the green economic transition; the usage value, intrinsic value and precedence of the qualification, following the natural flow, scientific activity and much functionality, appropriate scale selection, variety, individual dependency, regulation, democracy, development are the strategic importance of the environment (Milani, 2006: 42).

The green economy concept contains some advantages and disadvantages in itself. Advantages (Barbiroli, 2011: 24):

- In the cities which are expressed as sustainable, the life quality shows increase in a large scale.
- New SME structures occur and they provide opportunity to the employment increase.
- The environmental balances become harmonized.
- The resource efficiency increases.
- For providing the temporization to the sustainable development concept, the management competitions increase.
- It causes new technological developments.
- New economic commodities generate which may be in conformity with the environment.
- New products cause new functions and the usage value of these product increases.
- The re-distribution of the income is provided.
- The personal needs decrease. The right usage of time is provided.

Disadvantages (Barbiroli, 2011: 24)

- Income per capital decreases prospectively.
- In the companies which we can call as large-scale, the unemployment increases.

- The values of the products which are produced by the companies, decrease.
- The market sales price of consumer durables increases.
- Increases are seen in the energy and mine prices.
- The agricultural food prices increase.
- High investment costs are needed for providing green economy.
- Some changes occur in the purchasing power of the families.
- Major costs are needed for improving the cities in green economic conditions.
- For providing the transportation vehicles which are needed for providing economic advantage and green economy, big amounts are needed.

Place of green economy in world economy

In this section of the study, the countries which have implemented the green economy policies efficiently in world economy, are examined. In this scope, China, the United States, South Korea, European Union, France, Germany, United Kingdom, Japan, Canada, India and Brazil are investigated. The green economy structure of China shall be examined firstly. For providing the sustainable development in China economy, the investments shall be removed from independent structure. For actualizing this condition, the activities are required like developing the social security network, decreasing the over-savings and removing the obstacles for the services sector (OECD, 2013). In the new period which they have named as "Likonomiks" which is required for achieving the sustainable growth performance, while China tried to find a solution for structural problems, have a sharp decreasing risk in short term. In the period which is called as "Likonomiks", there are three main politic targets. These politic targets are expressed as structural reforms, not implementing unnecessary incentives and decreasing the debt rates for changing the risk perception in financial system (DPT, 2006). China has adopted a policy which is called as green strategy for the complete implementation of green economy system. China has started to implement this policy in the beginning of 21st century. It is aimed to increase the efficiency of resource usage with this policy. For increasing the resource efficiency, developing clean production, decreasing pollution costs in production stages, developing new energy sources, ecological industrial balance, decreasing the ecological effect of the consumption, developing green consumption studies were made (Chinese Government's Official, 2012).

China is expressed as the most polluting country of the world. It is in the first place in the world for the total carbon dioxide amount. USA is analyzed as the second country. In this period ARRA (2009 American Recovery and Reinvestment Act) of President Obama which is the economic incentive program, has been expressed as the incentive program for the future environment-business problem. ARRA is expressed as a program which has total investment of 787 billion USD and 100 billion dollar of these investments form the clean energy investments (Pollin, 2012: 84). This program has determined a specific precautions interval for starting to form a clean energy economy. This precautions interval is expressed as follows: USD governmental expenses are formed of 24,4 billion USD

for providing energy efficiency, 23.0 USD and 23.3 billion USD for renewable energy and some transportation investments. The main items of the expenses of the government include renewable energy, energy efficiency, transportation, electric network, carbon capture and storage of the fossil recorders, main science and state government (Büntül, 2011).

Table 1. Content of ARRA package

Country	Package size (billion USD)	Period	Green Investments (billion USD)	%
USA	787.0	2009-2019	94.1	%12

Source: HSBC, A Climate Recovery, 2009: 36-38.

As third country, the implementations related with green economy of South Korea, shall be analyzed. South Korea is expressed among the countries to be taken as an example by both developing and developed countries due to its successful implementations and rapid development and industrialization provided by its various policies at the last 60 years. South Korea aims to form new green sectors, to increase the energy security, to decrease the emissions by combining a series of integrated applications with green growth development process (Arlı Yılmaz, 2014: 89-90). "Green growth with low carbon" which shall be effective for the next 60 years and is announced by the President of South Korea in 2008, has the purpose for sustainable growth by decreasing the environmental pollution and greenhouse gas emission in national vision. Accordingly, a development policy is adopted which shall provide new growth locomotives based on green technologies and clean energy resources (Presidential Committee on Green Growth, 2009: 2). In 10 January 2009, South Korea has published a green economy package with the name of Green New Order. The plan consists of 4 main subjects (HSBC, 2009: 20):

- Protection: Green car, clean energy and recycle
- Life Quality: Green quarters and settlement
- Environment Protection: Vitalization of four big rivers and water sources
- Preparation for future: Infrastructure and green transportation networks

Table 2. Content of Green New Order Package

Country	Package size (billion USD)	Period	Green Investments (billion USD)	%
South Korea	38.1	2009-2012	30.7	%80.5

Source: HSBC, A Climate Recovery, 2009: 20-21.

As the fourth country group, European Nation shall be analyzed. The basis of green growth is established through increasing technological innovation and competitiveness and providing the energy security as depending on the inconsistency in energy prices, decrease in greenhouse gas emission caused by the climate changes, sustainable development policies which is carried by EU in 1990s (Arlı Yılmaz, 2014: 72-73). At the period of 2009-2010, a fund is provided with the package size of 38.8 billion USA and 22.8 billion USD for green investments in European Union (HSBC, 2009: 23). The investments of European Union include those mentioned below (GEF, 2009: 23):

- Infrastructure projects (Trans-Europe transportation projects, internet in high speed),
- Employment support attempt (like apprenticeship training with low social prices and with qualification),
- Investment to Research and Development, innovation and education,
- Business with finance access,
- Decreasing the administrative load and encouraging the entrepreneurship,
- Increase of the investments of energy security and climate change,
- Increasing energy efficiencies, buildings and green products,
- Developing the clean technologies for automobile and construction.

Table 3. Content of Economic Recovery Package

Country	Package size (billion USD)	Period	Green Investments (billion USD)	%
European Nation	38.8	2009-2010	22.8	%58.71

Source : HSBC, A Climate Recovery, 2009: 23.

France has explained the plan of economic vitalization in scope of green growth activities. In 2009-2010, the fund amount saved for green investment is expressed as 7.1 billion USD. The vitalization plans include those mentioned below (HSBC, 2009: 27):

- Approximately 11 billion USD for increasing the cash flow through re-payment of the taxes,
- 11 billion USD for direct state investments,
- 4 billion USD for developing the railway infrastructure, mail service and energy services from public institutions.

Table 4. Content of Vitalization Plan Package

Country	Package size (billion USD)	Period	Green Investments (billion USD)	%
France	33.7	2009-2010	7.1	%21.2

Source: HSBC, A Climate Recovery, 2009: 27-28.

The content of the investments in France includes those mentioned below (GEF, 2009: 23):

- Predominantly public expenditures in the investments (service, energy and railways), defense, investment in strategic fields (sustainable development and cleaning technologies, higher education, research and digital economy,
- The investments of regional and rural authorities (like investment partnership in hospitals),
- Employment support,
- Some environmental measurements,
- Private measurement in automobile sector.

Germany is one of the best integrated countries as a part of a sustainable development strategy. World Bank attributes the reason of it to the internalization of the pollution for the cost and strengthening the renewable energy policy (Iwulska, 2012:

150). With the “Integrated Energy and Climate Program” published in Germany in 2007, it is aimed to decrease the greenhouse gas emission in the proportion of % 40 when compared to 1990, to provide % 3 increase each year in energy efficiency, to increase to renewable energy share to % 18 in energy demand till 2020 and the green growth policies of Germany are determined (Stock veVogler-Ludwig, 2010: 11). In Germany, two consecutive Incentive Plans related with the green economy policy implementations, are announced. The incentive amount of these plans generate % 3.2 of GDP (Gross Domestic Product) (HSBC, 2009: 25).

Table 5. Content of Incentive Plan Package

Country	Package size (billion USD)	Period	Green Investments (billion USD)	%
Germany	104.8	2009-2010	13.8	%13.2

Source : HSBC, A Climate Recovery, 2009: 25-26.

With a regulation made in 2009, the idea is developed for actualizing the infrastructure for developing the connection between the energy produced from the renewable source and electric network (BMU, 2009: 3). At the same time this incentive plan gives major importance to energy efficiency. Building efficiency, vehicle with low carbon, modal shift is considered in scope of the energy efficiency (HSBC, 2009:25-26). United Kingdom has published a credit package for the automobiles and green incentive for the period of 2009-2012. There are some main points which can be considered as important in the incentive package of the government. These are energy with low carbon, energy efficiency, building efficiency, vehicles with low carbon and water. In this package which we can qualify as the vitalization package, there are green investments with the amount of 2.1 billion USD (HSBC, 2009: 30-31).

Table 6. Content of Green incentive, credit package for the automobiles

Country	Package size (billion USD)	Period	Green Investments (billion USD)	%
United Kingdom	104.8	2009-2010	13.8	%13.2

Source: HSBC, A Climate Recovery, 2009: 30-31.

In Japan, green economy policies are expressed within the subjects which their importance increases in the recent period. Ministry of Environment of Japan is in the formula process of Green Economy and Social Reform Plan as depending on the green new order. The targeted plan includes: Solar PV, hybrid vehicles, vehicles with energy saving. The plan which is tried to be issued by Japan, is expressed as “Package of Considering the Daily Lives of the Public”. The fund amount which is saved for green package among this package is 12.4 billion USD and it generates % 2.6 of the total fund (HSBC, 2009: 19).

Table 7. Content of Considering the Daily Lives of the Public

Country	Package size (billion USD)	Period	Green Investments (billion USD)	%
Japan	483.9	As of 2009	12.4	%2.6

Source: HSBC, A Climate Recovery, 2009: 19.

The package to be implemented by Japan consists of this content: Support and lien tax deduction for household consumption, health costs, care, nursing houses, child care and creating new public sector related with the works for environmental protection, tax decrease for the environment friendly automobiles, advance technologies, food rate which shall increase self-reliance. There are some green incentives within the body of this package at the same time: tax deductions in energy saving investment and tax deductions in new energy equipment (GEF, 2009: 23). Canada has enabled the “Economic Activity Plan” which includes 2009 -2013. This activity plan deals with roads, bridges, mass transportation, clean energy, wide band internet access, electronic health records, laboratory, border crossing expenditures (HSBC, 2009:33-34).

Table 8. Content of the package for considering the daily lives of the public

Country	Package size (billion USD)	Period	Green Investments (billion USD)	%
Canada	31.8	2009-2013	2.6	%8.3

Source: HSBC, A Climate Recovery, 2009: 33-34.

The investments of Canada include roads, bridges, mass transportation vehicles, clean water investments, information and health infrastructure, replacement investments, council estate and support strengthening for home ownership and residential sector, personal and business tax deduction, finance, access to the citizens who affect from the crisis and support given to the societies. The green investments of Canada are expressed as low carbon power, energy efficiency and water infrastructure (GEF, 2009: 24). India has presented “Financial Support Plan” for implementing in 2009. This plan includes % 13.7 billion USD of the total investments. Infrastructure projects related with ports, roads and railways take part in scope of this plan (HSBC, 2009: 18).

Table 9. Content of the package by considering the daily lives of the public

Country	Package size (billion USD)	Period	Green Investments (billion USD)	%
India	13.7	2009	0	%0.0

Source: World Bank

As the last country, Brazil shall be analyzed. The implementation of green economy in Brazil occurs in 1992. In 1992, United Nations Environment and Development Conference which is gathered in Rio De Janerio of Brazil, has presented a comprehensive route map which is called as “Agenda 21” and it is still effective in present. This document consisting of total 40 pages expressed the actions to be taken for providing a sustainable development and protecting the environment (Çetin, 2011: 82).

RESULTS

The economy and environment cannot be considered as independent from each other. To become aware of the environment factor provides major contributions to the sustainable development target and providing green growth

provides major contributions to the economic and social conditions of the countries. In the study, green economy policies of China, the United States, South Korea, European Union, France, Germany, United Kingdom, Japan, Canada, India and Brazil or country groups, are analyzed. First of all, the green growth policy of China is analyzed. For implementing the green economy, China has adopted a green strategy policy. As the second country, USA is analyzed. USA has supported the green economy approach with an economy package called as ARRA (American Recovery and Reinvestment Act). ARRA is expressed as a program which has total investment of 787 billion USD and 100 billion dollar of these investments form the clean energy investments. As third country, South Korea is analyzed. "Green growth with low carbon" which shall be effective for the next 60 years and is announced by the President of South Korea in 2008, has the purpose for sustainable growth by decreasing the environmental pollution and greenhouse gas emission in national vision.

As fourth country, European Union is analyzed. European Union package is expressed as Economic Recovery Package. At the period of 2009-2010, a fund is provided with the package size of 38.8 billion USA and 22.8 billion USD for green investments in European Union. As the fifth country, France has explained the economic vitalization plan in scope of green growth activities. In 2009-2010, the fund amount saved for green investment is expressed as 7.1 billion USD. As the sixth country, Germany has announced two consecutive Incentive Plans related with the green economy policy implementations. The incentive amount of these plans generate % 3.2 of GDP (Gross Domestic Product). As the seventh country, United Kingdom has published a credit package for the automobiles and green incentive for the period of 2009-2012. In this package which we can qualify as the vitalization package, there are green investments with the amount of 2.1 billion USD. As the eight country, Ministry of Environment of Japan is in the formula process of Green Economy and Social Reform Plan as depending on the green new order. The fund amount which is saved for green package among this package is 12.4 billion USD and it generates % 2.6 of the total fund. Canada has presented an Economic Activity Plan for the period between 2009 and 2013. The size of the package is 31.8 billion dollar. India has presented "Financial Support Plan" for implementing in 2009. This plan includes % 13.7 billion USD of the total investments. As the last country, Brazil is analyzed. The implementation of green economy in Brazil occurs in 1992. In the study, green economy policies of China, the United States, South Korea, European Union, France, Germany, United Kingdom, Japan, Canada, India and Brazil or country groups, are analyzed.

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