



Szyja, P. (2016). The Role of the State in Creating Green Economy. *Oeconomia Copernicana*, 7(2), 207-222. DOI: <http://dx.doi.org/10.12775/OeC.2016.013>

Paulina Szyja*

Pedagogical University of Cracow, Poland

The Role of the State in Creating Green Economy

JEL Classification: E12; O13; O14; O38; O44

Keywords: *sustainable development; environment; state; green economy; energy*

Abstract: *Since the crisis of the real economy in 2008, an intense discussion about the need for changes in the economy, supported by a number of declarations on the global scale, has been developed. The analysis of the causes and effects of the economic downturn and the challenges of the future have had a huge impact on this state of affairs. As a result, some states have taken action to remedy the situation. Many of them were aimed at structural changes in production, consumption and environmentally friendly investment. At the same time, the concept of "low carbon economy" and "green economy" gained importance.*

The aim of this paper is to present the role of the state in the economy in terms of creating conditions for a green economy. The thesis of the publication is: implementation of structural changes related with creating a green economy requires involvement of the state.

Introduction

As a result of the crisis of 2008–2010, voices regarding the need for changes in both the basic paradigms of modern economics, as well as the structural framework of national economies, were raised. In the first case, a dispute flared up between opponents and supporters of liberalism. With regard to the second issue, the concept of the green economy has gained importance. Green economy is an economy based on the reduction of the consumption of energy from traditional sources, increasing energy and resource efficiency, and increasing the share of energy from renewable sources.

Intensive efforts towards green economy were taken in the United States in particular. Green economy has also become one of the elements of the anti-crisis program adopted in the European Union. As a justification for the introduction of structural transformation to a green economy, various factors can be identified: building new competitive advantages, use of research potential, environmental considerations or the creation of a new development framework. However, creating a green economy faces some obstacles: a low demand for green products and services, higher cost of production of such goods and playing down the role of increased efficiency in the use of natural resources.

The purpose of this paper is to identify the role of the states in creating a green economy.

Research Methodology

The research method is based on the analysis of strategic documents, anti-crisis plans, measures taken by the states, as well as some examples of practical actions initiated by the states in terms of real possibilities of implementation. At the same time, it presents guidelines for the implementation of a state policy in the field of creation of a green economy introduced by international organizations.

The Role of the State in the Economy

After several decades dominated by the neoliberal doctrine, espousing reduction of the state's role in the economy, the crisis of 2008–2010 revealed the weaknesses of its assumptions. The sources of the crisis are reflected both in the doctrinal concept and the structure of the economy. No less

important role was played by the implications of market weakness. According to professor Grzegorz W. Kołodko, “only the power of intelligent synergy with invisible hand of the market and the visible head of state creates opportunities for far-reaching economic success” (Kołodko, 2010, p. 95).

The state plays an important role in correcting shortcomings of the free market in the following areas (Winiarski, 2006, pp. 31-32):

- raising the efficiency of the economy in a societal scale,
- limiting excessive inequalities in the distribution of the social product,
- stabilizing the economy.

Czaja and Becla (2012, p. 134) also emphasize:

- the need for regulation of the economy,
- the existence of market failures in the competition,
- the existence of external effects.

Some of them were revealed due to the economic crisis of 2008–2010, especially in banking and financial sector. The crisis resulted from the consent for financial system to live its own life; it was reflected in limited regulations of innovation in that area (Flejterski, 2010, p. 138).

The state is obligated to ensure appropriate living conditions for citizens. That means not only working and housing opportunities, but also environmental quality. That has to be done through public concern about these elements, due to the fact that the enterprises’ activity is aimed at profit, which may be unrestricted, particularly in the use of the natural resources. This principle has to be rationalised. And that is, among others, the reason which emphasizes the need for sustainable development, defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (*Our common future...*).

A common opinion that the state is the largest economic entity, which regulates the functioning of other players and institutions, is also significant (Kaczmarek, 2004, p. 87). This conclusion corresponds with another one: “We need a smart combination of the principles of economic freedom with a pragmatic, resulting from the principles of rationalism role of the state and the appropriate scope of the public sector” (Żyżyński, 2010, p. 41).

It should be emphasized that, as a result of globalization, new threats appeared, which, because of their scope, require the active role of the state (Dach (ed.), 2008, pp. 16-17):

- environmental hazards, e.g. destruction and environmental pollution, climate change;
- economic risk;
- social risk – increase in unemployment, poverty and hunger.

In some areas, the role of the state is marginalized because of internationalization of economic relations and trade liberalization. On the other hand, they cause many negative effects and their limitation is possible only thanks to states' cooperation. This applies to environmental issues particularly.

Green Economy – Definition and Main Goals

The concept of a green economy has gained importance as a result of the crisis of the real economy, which started in 2008. The origins of the term date back to 1989, when it was used for the first time in the "Blueprint for a Green Economy" report, prepared for the UK's government (*Blueprint for Green Economy...*, 1989). A green economy, currently, is identified with the reduction in consumption of the energy from traditional energy sources, energy and resource efficiency, and growth of the share of energy from renewable sources.

The concept was mainly developed in 2008 and 2009 by international organizations, such as the United Nations Programme for the Environment (UNEP) and the Organization for Economic Cooperation and Development (OECD) through various programs, reports, and declarations. One of the most important papers in this issue is the New Economics Foundation's report "A Green New Deal", which indicated the need to overcome the "triple crunch" crisis: financial one, the one associated with climate changes, and the crisis resulting from high crude oil prices (*A Green New Deal*, 2008). Please note that never before had such proposal, based on establishing a direction for economic development strongly associated with environmental considerations, gained such importance as in the case of the recent crisis. However, a milestone in this issue was the Brundtland Commission's report – "Our Common Future" (1987), establishing the principle of sustainable development (*Our Common Future*, 1987).

Explaining the reasons for this situation will help to answer the question of what a green economy is. According to working definition by the UNEP, a green economy "results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive" (UNEP). It is emphasized that it can be regarded a more pragmatic approach to the implementation of sustainable development (Burchard-Dziubińska, 2013).

Creating a green economy is aimed at achieving the following objectives (Szyja, 2013):

- increase in energy and raw materials efficiency,
- reduction of greenhouse gases (especially carbon dioxide),
- reduction of the level of pollution resulting from production processes,
- increase in energy security,
- mobilizing the innovative potential,
- acquiring new competitive advantages.

Implementation of these purposes is linked to the performance of green industrial revolution, which will generate global demand and create jobs through the development of clean and efficient technologies, increase in the use of renewable energy, and promotion of environmentally friendly transport systems, among others (Szyja, 2011, p. 72).

In this sense, a green economy includes the following elements:

- green products and services,
- green investments,
- green sectors of the economy,
- green public procurement,
- green tax reform,
- green jobs.

The first group are products which throughout their life cycle have a limited impact on the environment. Green investments are related to the constructions self-sufficient in their energy needs, as well as machines or devices which use raw materials and energy in an efficient way. It has been proposed to invest in natural capital, sustainable agriculture, human capital, infrastructure, and innovation (Allen, 2012, p. 7).

In turn, green sectors of the economy are not only agriculture, forestry, and animal husbandry, but first of all renewable energy and the production of environmentally friendly technologies.

Green public procurement, according to the European Commission, is “a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured” (*Public procurement for a better environment*, 2008, p. 4).

Green tax reform may help to cut down environmental externalities through appropriate structure of tax rates and tax exemptions (Aidt, 2010, pp. 31-43).

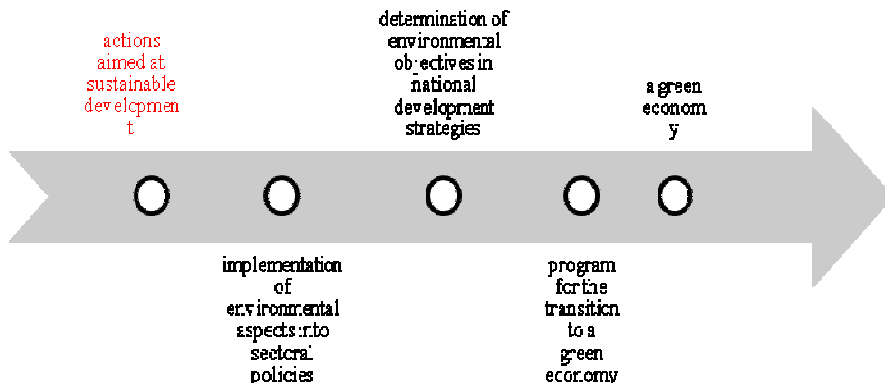
According to the International Labour Organization, green jobs are those which (Szyja, 2013, p. 199):

- contribute to reducing the consumption of energy and natural resources,
- reduce greenhouse gas emissions,
- reduce the amount of waste and pollution,
- foster the protection of ecosystems and restore their original state.

As Edward B. Barbier emphasized, “transitioning to a green economy requires a mix of short- and long-term policies, a different mix of policies and instruments for rich as opposed to poor countries, and overcoming the political difficulty of implementation” (Barbier, 2012, p. 887). In turn, Cameron Allen (the UN Division for Sustainable Development) argues that national governments should adopt their own definitions of a green economy in accordance with national priorities and circumstances (Allen, 2012, p. 3).

The success of specific elements of a green economy depends on the involvement of three groups of players, namely states, businesses and societies, in their commitment. A particularly important role is played by the first ones because of the tools and instruments which are available for them and associated with the formation of economic policy. No less important is the process of achieving a state of the green economy, which requires a systemic approach (Figure 1).

Figure 1. Phases on the way to a green economy in the context of planning



Source: Author's own work.

Most European countries have implemented some elements of sustainable development principle, both in terms of planning solutions and through specific practical ones. However, after the crisis a green growth policy toolkit has been proposed. It includes a step-by-step guide, including four categories of policy tools, promoted by international institutions (AfDB, OECD, UN, World Bank, 2012, p. 17):

- Incentivize – tools for charging pollution and natural resource use, tools to complement pricing policies, tools to foster inclusiveness;
- Design – tools for managing uncertainty;
- Finance – financing and investment tools;
- Monitor – monitoring tools.

Overcoming the Crisis Through the Development of a Green Economy

Because of the crisis on the US mortgage market, the states were obliged to counteract. This public commitment was something new in the face of neo-liberal mainstream as understood by Milton Friedman. It occurred as a result of public disillusionment with arbitrary enterprises and limited regulatory systems of financial markets. Its aim was to meet two objectives: to overcome the effects of the crisis and to create conditions for a new development framework. In this respect, the United Nations Environment Programme pointed out the opportunity that stems from the crisis. According to the UNEP, one of the major factors of economic collapse was “an era of capital misallocation” connected with fossil fuels and structured financial assets, which led i.a. to excessive depletion and degradation of natural capital (UNEP, 2011, p. 14).

In these circumstances, some countries adopted anti-crisis programs. Furthermore, the European Union, a politico-economic union, made the same step. New elements of these plans were measures aimed at structural transformation of economies to make them more environmentally friendly and socially inclusive. This manner of states’ involvement was reasoned with the following arguments:

- reduction of likelihood of similar events in the future;
- meeting future challenges such as energy crises or climate changes;
- creating new opportunities of economic development;
- development of innovative potential associated with clean technologies;
- reduction of the reliance on natural resources, crude oil and natural gas in particular;

- increasing the efficiency of production processes;
- creating new jobs;

Below will be given examples of activities taken in this particular aspect.

On January 8th 2009 President Obama announced “The American Recovery and Reinvestment Act”. The value of the anti-crisis plan was USD 787 billion, of which nearly 80 billion was allocated to projects related to clean energy. Direct expenditures were made especially on energy efficiency, reducing air and water pollution, modernization of the power grid, reducing carbon dioxide emissions, transport, research and innovation, and renewable energy sources. The funds mentioned were transferred to government agencies, state authorities, and scientific institutions and companies in the form of loans, guarantees and grants.

A few examples of projects should be mentioned. One of them was the Department of Energy’s project called SunShot, which aims to reduce the price of solar power to USD 1 per watt (reduction up to 75%) in 2020 thanks to advancement in systems that convert light energy (photovoltaic technologies), increased productivity and optimization of the use of solar and streamline procedures for obtaining permits for the development of solar energy systems. Another example is Clean Cities Program, covering nearly 100 cities. It was designed to reduce the consumption of traditional liquid fuels, increase the use of renewable fuels and develop new technologies in the field of transport. In turn, the DOE’s Advanced Technology Vehicle Manufacturing (ATVM) encourages companies to expand production facilities for electric vehicles.

Besides the financial support, some standards, including energy use and emission standards, started to be developed:

- introducing new requirements for car models produced in the period of 2012 to 2016. In 2016, the cars will be obliged to pass no less than 35.5 miles per one gallon of gasoline, which is almost 15 km per 1 litre (6.7 litres per 100 km),
- set measure for medium and heavy truck models of 2014-2018,
- introducing The National Emissions Standards for Hazardous Air Pollutants for Utility Boilers.

Furthermore, some economic goals, related to environment, were established. They are to be implemented by 35 federal government agencies (Szyja, 2013a, p. 154):

- 30% reduction in fuel consumption by 2020,
- 26% reduction in water consumption in the economy in 2020,

- increasing to 50% the amount of waste recycled as early as in 2015,
- increasing the share of public contracts which meet the requirements of a balanced and sustainable development to 95%.

“The European Economic Recovery Plan”, announced at the end of 2008, highlighted the need of a coordinated action at national and EU level, responding to the economic crisis. The EERP was based on two pillars: the first one related to fiscal policy, the second one to the direct structural transformation. Thus, the first one was connected with the Pact for Stability and Growth, while the second one with the Lisbon Strategy. One pillar was focused on boosting the economy in the short term by an immediate budgetary impulse amounting to EUR 200 billion. The second one concerned the orientation of "short-term action to reinforce Europe's competitiveness in the long term". In this regard, development of "smart investment" was undertaken, meaning investing in growth of energy efficiency to create jobs and save energy, as well as investing in clean technologies in order to boost, among others, the construction sector and the automotive industry. The Plan also identified an important number of green initiatives with a focus on energy-saving and climate-change related measures. This means that each efforts should have been focused on greening the economy through involvement in two areas: development of green energy infrastructure and increasing energy efficiency. In the period of 2009–2010, EUR 3,980 billion was booked for energy projects, respectively for gas and electricity infrastructure (EUR 2,365 billion), offshore wind farms (EUR 565 million) and the capture and storage of carbon dioxide (EUR 1.050 billion) (*Driving European Recovery*, (http)). At the same time, the regulations which allowed an increase of investments in energy efficiency and renewable energy in residential buildings up to EUR 8 billion were amended. (*European Parliament legislative resolution of 6 May 2009*, (http)).

Some member states adopted their own anti-crisis programs which included “green” elements of recovery instruments. It was possible thanks to the launch of legislative and financial instruments on the EU level, such as (Szyja, 2012, p. 184):

- consensus among governments of the member states and the European Investment Bank on loan guarantees and the development of innovative eco-products,
- use of the European Cohesion Fund to finance thermo-modernization of buildings and to implement renewable energy sources in all member countries.

According to the European Commission, the total sizes of the "green" parts of states' packages differed among countries. The share of "green" efforts ranged from 1.3% in Italy to 13% in Germany, and 21% in France. In most cases, the 'green' elements were identified with energy efficiency, renewable energy, development of public transport and infrastructure, and car scrapping schemes. Regarding the type of instrument, member states used public investment, loans and loan guarantees, and subsidies (*Non paper "Green elements from member states recovery plans"*, (http)). For example, a significant number of anti-crisis packages in Belgium, the Czech Republic, Estonia, France, Slovenia, Germany or Spain was allocated to increase buildings' energy efficiency. In turn, Denmark focused on green transport, Finland on green technologies and Portugal on energy from renewable sources (*Green Growth...*, 2009, pp. 15-18). In Poland, the government did not indicate in the package any directions of actions and instruments to support the implementation of structural transformations aiming strictly at the "green economy"; it solely emphasized indirectly the need to accelerate investments co-financed from the EU funds, which concern i.a. solutions for the cities and supporting renewable energy.

States' involvement in the area of creating a green economy is influenced by several factors. The first one refers to strategic dimension of projects, mainly those related to the energy sector, which is linked to energy security, and the attempts to become independent of natural gas or crude oil supplies from abroad (Table 1).

Table 1. Energy dependence rate, EU 28, 2008-2012 (% of net imports in gross inland consumption and bunkers, based on tonnes of equivalent)

Specification	2008	2009	2010	2012
Crude oil	84,9	84,1	85,1	88,2
Natural gas	61,7	63,4	62,1	65,8

Source: EUROSTAT, Retrieved form http://ec.europa.eu/eurostat/statisticsexplained/index.php/Energy_production_and_imports.

It should be emphasized that between 2008 and 2009 the import of crude oil declined; however, it was short-lived, as well as a decrease of gas supply in 2009 and 2010. In 2013 the EU's import of crude oil from different regions of the world was as follows: former Soviet Union – 39.8%, Europe – 18.76 %, America – 4.61%, Africa – 24.05%, Middle East – 12.89% (*Market Observatory for Energy*, 2014).

The second factor is high capital investment, caused by high costs and long payback period; it is also connected with low companies' interest due to high investment costs and uncertain benefits, especially in the sectors related to environmental technologies and renewable energy (*The Global Environmental Goods and Services Industry*). According to the World Economic Forum, public action may help to introduce additional capital through other financing mechanisms by absorbing potential losses to other financiers. Direct equity investment from the public sector may also be valuable for projects with high technology risks (*The Green Investments Report*, 2013, p. 77).

The states have more opportunities than individual companies to invest in research due to their financial capacities and links with scientific centres (Vaitilingam...).

Another argument points out to encouraging the people to behave more environmentally friendly. This requires education from the beginning of primary school. "Individuals must be ready to learn, to change their habits" (Kink & Reinumägi, 2011, p. 183).

No less important is to reinforce consumers with various kinds of subsidies, which would encourage them to buy green products and services. Moreover, states should arrange solutions for entrepreneurs to make them invest in more sustainable production.

The final factor is the need to introduce some structural changes in economy – to green up economy. That means not only developing the green sectors, like renewable energy or green technologies, but also introducing ecological transformation of traditional sectors like automotive. For example, in the United States the government made state's assistance for General Motors and Chrysler subject to, among other conditions, the introduction of efficiency technologies in production processes and adding environmentally friendly vehicles to their offer. However, this example shows a conditional form of state influence on a company. It is equally important to continue the transformation of the economy and individual sectors due to, on one hand, external factors such as climate change and on the other, the pursuit of commercial entities to make profits through new types of products and services. It is essential to notice both the need for and benefits of changes aimed at environmentally friendly solutions.

International organizations, in a lot of their publications, indicate specific solutions for the implementation of a green economy. The OECD stresses the need for action in two areas: reinforcement of economic growth and the conservation of natural capital, encompassing policies targeted at incentivising efficient use of natural resources and making pollution more expensive. Both require such activities as fiscal and regulatory settings (e.g.

tax and competition policy) and a mix of price-based solutions (OECD, 2011, pp. 11-12). The UNEP highlights prioritising government's investments on supporting a green economy, limiting government's expenditures in areas that deplete natural capital, using taxes and market-based instruments to promote green investment and innovation, and investing in capacity-building, training and education. Furthermore, the UNESCAP emphasizes the need of reforming the economic incentive framework, promoting sustainable infrastructure investment, and facilitating investment in natural capital (Allen, 2012, p. 6). The World Bank has divided green growth policies into three broad categories: the "getting the price right" policies; the "complement or replace prices" policies, where markets signals cannot be relied upon to effect the desired changes; and "activist" policies, such as innovation or industrial policy (World Bank, 2011, p. 23).

It is also important to reach an agreement for green growth on the international level. The green growth is identified by "green investments" which are based on the development of technologies aimed at energy efficiency and reduction of carbon emissions (*Declaration on Green Growth*, 2009). It is essential to create more effective climate change policy. However, at the same time, attention should be given to the "green race" in the production and sale of environmental technologies, particularly those related to renewable energy. In this race, the main players involved are the USA, China and Germany. Especially the second one is characterized by high growth of wind energy capacity (IEA, 2013, p. 10). It is possible due to the involvement of the state through measures such as subsidising production and supporting export, which was a subject of the USA's petition to the WTO. In many cases it is a serious threat for foreign companies, particularly in the USA. They need state's support to compete. At the same time, the involvement of the state may stem from the public policy and (Henzelman *et al.*, 2011, pp. 33-34):

- accelerate the development of selected environmentally friendly technologies through R&D activities,
- accelerate the market introduction of modern but expensive products in order to benefit,
- create companies of the green sector,
- be a form of response to international agreements.

In the declaration of Rio +20 it was noted that the green economy has to be implemented by public policies. Each country is permitted to choose an appropriate approach in accordance with national sustainable development plans, strategies and priorities which should include i.a.: (*Report of the United Nations Conference of Sustainable Development*, 2012, p. 11):

- respect for each country's national sovereignty over their natural resources. Each country's national circumstances, objectives, responsibilities, priorities and policy space with regard to the three dimensions of sustainable development should be taken into account.
- a support of enabling environment and well-functioning institutions at all levels, with a leading role of governments and with the participation of all relevant stakeholders, including civil society;
- promotion of sustainable consumption and production patterns;
- continuous efforts to strive for inclusive, equitable development approaches to overcome poverty and inequality;

In the Author's opinion, the main obstacles in introducing green economy include overcoming the gap between short term expenses for environmentally friendly investments and the economic and social benefits achieved in the long term. In this regard, the state should take action to convince companies and public opinion to make the effort now, incurring expenditure which will bring the desired results in the long term. Other problems may include a concern about the continuing increase in unemployment in traditional, environmentally harmful sectors of the economy (Kahn, 2009, pp. 34-38), costs of introducing changes in some countries, especially in those in which the energy sector is based on coal. A problem with global agreement on reducing greenhouse gas emissions should also be mentioned.

Conclusions

A green economy may be identified with the new direction of development. It should be emphasized that in this field a lot has already been done, mainly as a result of anti-crisis programs which were introduced to overcome the effects of the economic downturn.

The role of the state in the development of a green economy is essential due to its instruments and measures, which are necessary for shaping supply and demand in the field of environmental solutions. Both consumers and producers require support because of high cost of green technologies, energy from renewable sources and green products. At the same time, financing research and innovation aimed at lowering the price of such goods is required. The future of green economy also depends on a global concern for the climate changes and the ways, depending on the cooperation of the states, of dealing with them.

The further research will concern the involvement of enterprises in the process of transition to a green economy and development of job places.

References

- A Green New Deal. Joined-up Policies to Solve the Triple Crunch of the Credit Crisis, Climate Change and High Oil Prices. 2008. Retrieved from http://b3cdn.net/nefoundation/8f77ea19fe5db2f_xbm6ihwb1.pdf (02.07.2014).
- A Toolkit of Policy Options to Support Inclusive Green Growth. Submission to the G20 Development Working Group by the AfDB, the OECD, the UN and the World Bank. (2012). Retrieved from <http://www.oecd.org/greengrowth/toolkit.pdf> (18.12.2014).
- Aidt, T. S. (2010). Green Taxes: Refunding Rules and Lobbying. *Journal of Environmental Economics and Management*, 60(1). DOI: [10.1016/j.jeem.2010.04.001](https://doi.org/10.1016/j.jeem.2010.04.001).
- Allen, C. (2012). *A Guidebook to the Green Economy*. UN Division for Sustainable Development.
- Barbier, E. B. (2012). The Green Economy Post Rio+20. *Science*, 338. DOI: [10.1126/science.1227360](https://doi.org/10.1126/science.1227360).
- Burchard-Dziubińska, M. (2013). Green Economy as a New Area of Interest in Economics. Paper at the Ninth Congress of Polish Economists, Economics for the future. Explore the nature and causes of economic phenomena. Warsaw.
- Czaja, S., & Becla, A. (2012). Disputes Over The Role of the State in the Economy in Modern Economic Theory. In *The Challenges of Modern Economics. Selected Problems*. Warsaw: Difin.
- Declaration on Green Growth*. OECD. Meeting of the Council at Ministerial Level, 24-25 June 2009.
- Driving European Recovery*. Volume 1, Communication for the Spring European Council., COM(2009) 114 final, Brussels 4.3.2009. Retrieved from http://ec.europa.eu/commission_barroso/president/pdf/press_20090304_en.pdf (15.07.2014).
- European Parliament Legislative Resolution of 6 May 2009 on the Proposal for a Regulation of the European Parliament and of the Council Establishing a Programme to Aid Economic Recovery by Granting Community Financial Assistance to Projects in the Field of Energy* (COM(2009)0035-C6-0049/2009-2009/0010(COD)). Retrieved from <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P6-TA-2009-0366&language=EN> (17.07.2014).
- Flejterski, S. (2010). The Global Banking and Financial Crisis. Genesis, the Actors, the Consequences. In G. W. Kołodko (Ed.). *Globalization, Crisis and What Next ?* Warsaw: Poltext.
- Green Elements from Member States Recovery Plans*. Retrieved from http://ec.europa.eu/environment/integration/pdf/recovery_plans.pdf (15.07.2014).
- Henzelmann, T., Schaible, S., Stoeber, M., & Meditz, H. (2011). The Genesis of the Green Revolution and the Expected Economic Benefits. In *Green Growth, Green Profit. How Green Revolution Stimulates the Economy*. Warsaw: Wolters Kluwer Business.

- IEA (2013). *Technology Roadmap. Wind Energy*. Paris. Retrieved from http://www.iea.org/publications/freepublications/publication/Wind_2013_Roadmap.pdf (08.01.2015).
- Kaczmarek, T. T. (2004). *Policy rules in the market economy. Role of the state*. Warsaw: Difin.
- Kahn, M. E. (2009). The Green Economy. *Foreign Policy*, 172.
- Kink, M., & Reinumägi, S. (2011). Skills in the Green Economy. *Vocational Education: Research and Reality*, 20.
- Kołodko, G. W. (2010). Neoliberalism and the Systemic Crisis of the Global Economy. In G. W. Kołodko (Ed.). *Globalization, Crisis and What Next ?*. Warsaw: Poltext.
- Market Observatory for Energy. Registration of Crude Oil Imports and Deliveries in the European Union (EU27) (1) (INTRA + EXTRA EU), period 1-12/2013*. European Commission, Directorate General for Energy.
- OECD (2009). *Green Growth: Overcoming the crisis and beyond*. Paris.
- Our common future*. Retrieved from <http://www.un-documents.net/our-common-future.pdf> (17.07.2014).
- Pearce, D., Markandya, A., & Barbier, E. B. (1989). *Blueprint for Green Economy*. London: Earthscan.
- Public Procurement for a Better Environment*. Communication from Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions. Brussels 16.7.2008. COM (2008)400 final.
- Report of the United Nations Conference of Sustainable Development*. Rio de Janeiro 20-22 June 2012. A/CONF.216/16. New York 2012.
- Szyja, P. (2011). The Role of "Green" Investments in Anti-crisis Packages in the United States and the European Union. *Economics and Environment*, 1(39) .
- Szyja, P. (2013a). The Role of Green New Deal Programs for Creating Socio-economic Development. In K. Górka & P. Szyja (Eds.). *Green New Deal and Selected Problems of Energy Market and Water Management*. Cracow: Library "Economics and environment".
- Szyja, P. (2013b). Creating Green Jobs in Situation of Real Economy Crises. In S. Partycki (Ed.). *Theories of crisis*. Lublin: KUL.
- Szyja, P. (2014). The Role of Sustainability Indicators and Sustainable Development in the Study of the Green Economy. *Optimum. Economic Studies*, 4.
- The Global Environmental Goods and Services Industry*. OECD. Paris. Retrieved from <http://www.oecd.org/industry/ind/2090577.pdf>(08.01.2015).
- The Green Investments Report* (2013). WEF. Geneva. Retrieved from <http://reports.weforum.org/green-investing-2013/>(08.01.2015)
- Towards Green Growth* (2011). OECD. Paris.
- UNEP (2011). *Towards a Green Economy. Introduction. Setting the Stage for a Green Economy Transition*. Nairobi.
- Vaitilingam, R. (2015). Research for our Future: UK Business Success Through Public Investment in Research. Retrieved from <http://www.rcuk.ac.uk/RCUK-prod/assets/documents/publications/researchforourfuture.pdf> (08.01.2015).

- What is “the Green Economy”?* UNEP. Retrieved from <http://www.unep.org/greenconomy/AboutGEI/WhatisGEI/tabid/29784/Default.aspx> (02.07.2014).
- Winiarski, B. (2006). *Economic Policy*. Warsaw: PWN.
- World Bank (2011). From Growth to Green Growth. *Policy Working Research Paper*, 5872.
- Żyżyński, J. (2010). Neoliberalism – Dead End of Globalization. In G. W. Kołodko (Ed.). *Globalization, Crisis and What Next ?*. Warsaw: Poltext.