

Green entrepreneurship: EU experience and Ukraine perspectives

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Abstract

These days the environmental challenges begin to play crucial role in sustainable development of the countries and regions. European environmental policy aims in the creation of a favorable framework for the development of green entrepreneurship. The paper deals with the analysis of EU experience in supporting and promoting the green entrepreneurship. The author analyzed and systematized the EU trends in GHG emission. The main features and parts of the green economy are described. The author emphasizes that EU has the huge experience in the sphere of developing and providing relevant green activities, which can be used by Ukraine for implementation green entrepreneurship projects on the different levels of the economy. Thus, the green positive practices in Austria, Hungary, Ireland and Spain were described. The author underlines that green entrepreneurship for Ukraine is one of the necessary conditions for improving the environmental status, solving the problems with the rational use of natural resources, increasing the welfare of the citizen, integration into the European Union and to ensure the green of innovative development. The activities which are necessary for mainstreaming for Ukraine's integrating to the European sustainable entrepreneurship space were considered.

Keywords: entrepreneurship, European Union, green economy, funding, supporting.

1. Introduction

Today the popularity of the "green" entrepreneurship is growing rapidly in the world and its concept is changing significantly driving. Thus, in the European Union countries the main programs are aimed, for example, not at putting into operation of treatment equipment, as it was until recently, but to creating and implementing environmentally friendly technologies. This indicates a tendency to increase interest and activating company's initiatives to develop strategies for green business conduct. Now the European Union countries has huge experience and great potential in creating, developing and implementing green technologies, eco-friendly activities, forming relevant environment legislation.

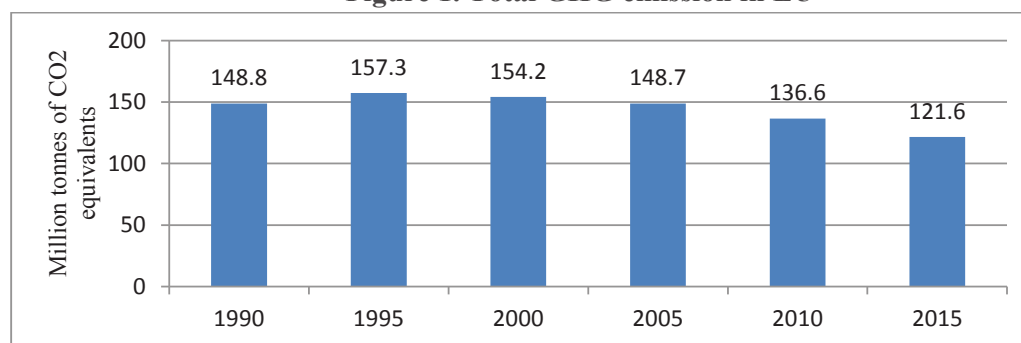
The aim of this article is to analyse the new tendencies in green entrepreneurship and green activities in EU with the purpose of their future implementation for Ukraine's economy and natural conditions.

2. Main part

Between 1970 and 2004 global emissions increased by 70%, exceeding the natural range of climate related gases (UNEP, 2011). The past decade has seen annual increases of 2.7% with 2012 emission growth increasing to 3%. If such trends continue, global average temperatures are likely to exceed 2 degrees, resulting in increasing melting of sea ice, an increase in extreme weather events and severe consequences for global agricultural production (Steurer, 2013).

But today the European Union has established a well-deserved reputation as a global leader on climate policy. So, we can see the positive trend in GHG emission (Figure 1).

Figure 1. Total GHG emission in EU



Source: Eurostat Statistics Explained (2016)

Also the analyzed sectoral greenhouse gas emissions tell about differences in the structure of emission by 1990 (Table 1).

Table 1. Sectoral greenhouse gas emissions in EU

	1990	2014	Difference
Total	5668,7	4285,6	-1383,2
Energy supply	1 861,4	1 334,3	-527,1
Industry	1 376,4	866,1	-510,2
Agriculture	643,6	514,1	-129,5
Residential and commercial	726,5	524,4	202,1
Other	31,7	10,7	21,1
Land Use, Land-Use Change and Forestry	-255,2	-302,6	-47,4
International Aviation	69,7	137,1	67,4
Waste management	243,5	146	97,6
CO2 emissions from biomass	198,2	506,1	307,9
International Navigation	109,4	135,2	25,8
Transport	785,5	889,9	104,4

Source: European Environment Agency (2016)

According to the latest official data published by the European Environment Agency (European Environment, 2016) in June 2016, GHG emissions in the EU-28 in 2014 amounted to 4 286 million tonnes CO₂-equivalent reached their lowest level since 1990.

At an aggregate level, the biggest share of the emissions reductions during this 24-year period is split almost equally between industry and energy supply. A combination of factors explains lower emissions in industrial sectors. These include improved efficiency in restructured iron and steel plants, substantial improvements in carbon intensity and structural changes to the economy with a higher share of services and a lower share of more intensive industry in the total activity of this sector. Energy supply, improvements in the transformation efficiency of electricity and heat production, and the move towards less carbon intensive fuels at EU level have been the main reasons for the 28 % reduction of emissions. Important emissions reductions have been also achieved in the residential and commercial sectors, and agriculture.

According to (Europe's Greenhouse, 2016) the latest trends in the EU emissions problems can be systematized in the table 2.

Table 2. Trends in the EU emissions problems

Trends in the EU emissions problems	
Positive	Negative
1. The overall reduction of 24,4 %t in greenhouse gas emissions.	1. Increasing CO ₂ emission in road transport: - by 124 million tonnes from 1990-2014; - by 7 million tonnes from 2013-2014.
2. Greenhouse gas emissions decreased in the majority of sectors between 1990 and 2014: - manufacturing industries and construction - ↓372 million tonnes; - electricity and heat production - ↓ 346 million tonnes); - residential combustion - ↓140 million tonnes.	2. Increasing emissions from international transport (aviation and shipping) by 93 million tonnes between 1990 and 2014.
3. EU greenhouse gas emissions were cut by 185 million tonnes between 2013 and 2014 (4,1 %). The reduction in emissions was mainly due to lower heat demand by households due to the very warm winter in Europe. The increase in non-combustible renewables, particularly from wind and solar power also contributed to lower emissions in 2014.	3. Emissions of hydrofluorocarbons, which is a group of greenhouse gases used in the production of cooling devices such as air conditioning systems and refrigerators, also increased (99 million tonnes).

Source: Europe's Greenhouse, 2016

It have to be noted that mainstreaming of the green entrepreneurship or development of green economy has given a way which give the whole new economic opportunities for

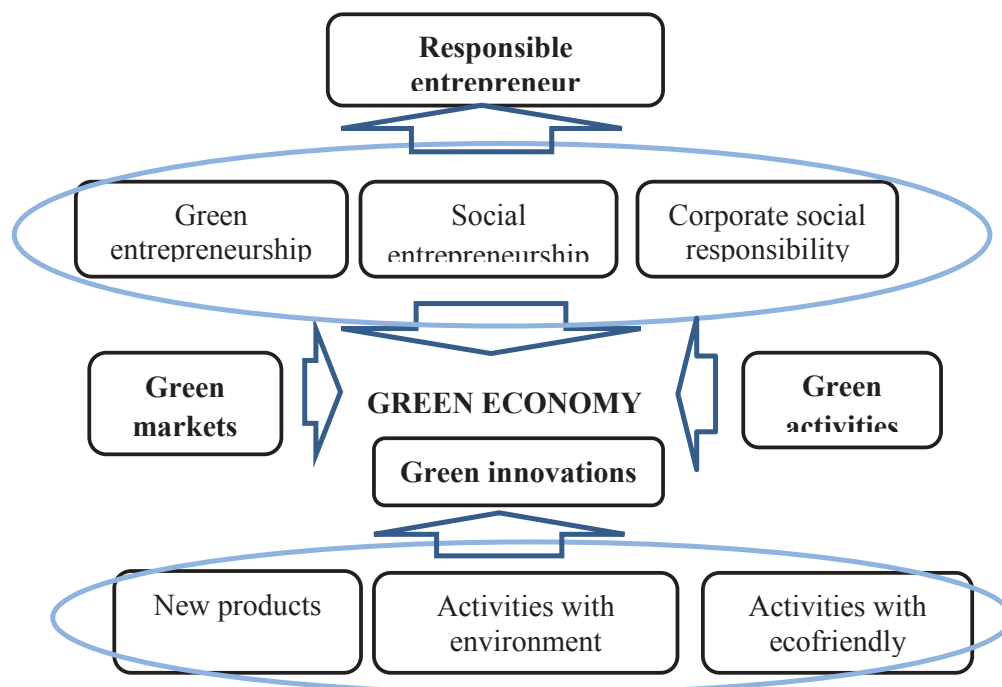
creation and evolution of new style of economy which will orient on sustainable development, job creation and environmental innovation.

UNEP defines a green economy as one that results in “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” (United, 2011). In its simplest expression, a green economy is low-carbon, resource efficient, and socially inclusive. In a green economy, growth in income and employment are driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. These investments need to be catalyzed and supported by targeted public expenditure, policy reforms and regulation changes. The development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and as a source of public benefits.

The concept of ‘green innovation’ is often associated with renewable energy. However, the shift to a post-carbon economy needs to be shared on several levels, from innovation in lifestyle to innovation in investment and governance. New corporate trends (Chigrin, 2014; Chygryn, 2016) seeking to address this challenge pointed at that sustainable functioning of the companies is possible on the conditions of mutual concord of their socio-economic and ecological interests.

The EU practice emphasizes a lot of trends in the sphere of green economy (figure 2).

Figure 2. The main parts of the green economy



Source: Created by author

The main green markets are: clean energy; sustainable transport; building energy efficiency and eco-construction; sustainable manufacturing activities; circular economy/waste

management; green services; sustainable land use (sustainable farming and forestry); sustainable water management.

In EU the green activities include green finance, eco-friendly retail, sustainable construction materials, organic catering, eco-friendly beauty salons, organic or recycled fashion, green app development, eco-friendly landscaping, sustainable event planning, air duct cleaning, bicycle repair and refurbishing, handmade all-natural (organic productions), eco-consulting, green waste management, organic agriculture, green house cleaning, composting, 'upcycled' furniture, green franchises.

It should be underlined that EU has the huge experience which can be used by Ukraine and implemented by different state and commercial institutions. Some of an examples of positive developing green entrepreneurship described in the table 3.

Table 3. Green entrepreneurship implementation examples in EU

Country	Activities
Austria	On public level, there are funding structures to promote (green) entrepreneurship. The overall approach includes funding, but also mentoring/coaching by industry experts, who have in particular an entrepreneurial background. According to the intergovernmental agreement 2015, the city of Vienna promotes green initiatives, green jobs as well as social entrepreneurship, which does through different initiatives and funding.
Hungary	In 2013, the Hungarian Parliament adopted the new National Framework Strategy on Sustainable Development in Hungary for the period 2012-24. Framework Strategy is the first step of the sustainability transition. The environmental awareness is quite high among the young people, the education based on sustainability orientation could be exploited in developing a new green way of development
Ireland	The Green Economy presents a major opportunity for employment creation in Ireland and for the development of enterprises. The various government bodies providing green mentoring are funding by government
Spain	The main leading institution regarding green entrepreneurship in the environmental field is the Biodiversity Foundation (Fundacion biodiversidad), which launched The Green Entrepreneur Support Network (Red Empreverde), co-founded by the European Social Found, with more than 7.500 entrepreneurs of the green sector.

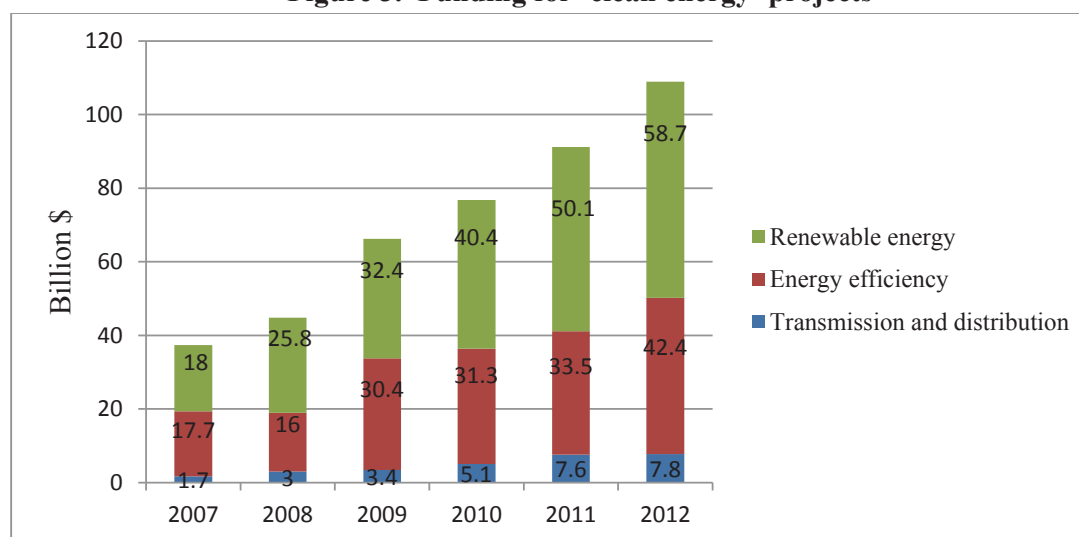
Source: Green mentor (2015)

Also the relevant good practices (programs) identified at the European level are the following: The Green Entrepreneurship Europe in Europe; Ecopreneurs4climate by Ecopreneur.eu in Europe; EMCC in Europe; Quality Award (EQA); Youth and Environment Europe in Europe; SWITCHMED program in EU; PRO CONCEPT/schooltalk.at in Austria;

The Green Entrepreneurship Europe in Europe; Green Business in Ireland; Eco-Recinnova by Red emprendeVerde in Spain.

For eco-entrepreneurs in Europe, such a situation provides considerable business opportunities. They can offer services to small and medium enterprises, but also to bigger companies to help them meet environmental challenges. They can promote resource efficiency or provide support in the face of new environmental regulation, sometimes even anticipating it to gain business advantages. Now the global greentech market is estimated at US\$ 0,6 - 1 trillion and growing, and European companies are holding the greatest market share (Eco Innovation, 2016). Also noted that in recent years the development banks have been a key source of investing in green energy projects, committing more than US\$100 billion in 2012 (Figure 3)

Figure 3. Funding for ‘clean energy’ projects



Source: Mazzucato (2015)

Ukraine has a lot of environment problems, such as: high energy consumption in industrial and private heating; water and land pollution from chemical and metal industry; threats on biodiversity and use of resources in general; urban contamination and degradation of coastal environments; soil pollution and degradation due to inefficient agricultural activities; transport pollution in cities, landfills growth

The green entrepreneurship in this case is one of the necessary conditions for improving the environmental status, solving the problems with the rational use of natural resources, increasing the welfare of the citizen and integration into the European Union. It should be noted that in order to ensure the green of innovative development, a sufficient level of motivation for ecologization of innovation activity of enterprises of various sectors of the economy and society as a whole is required.

It is necessary to emphasize the mainstreaming for Ukraine’s integrating to the European sustainable entrepreneurship space through providing the next activities.

1. Supporting in different levels of the green innovation. They must be put at the center of support efforts for green entrepreneurs, for small and medium enterprises. Easy entry and registration for eco-innovators provide clear guidance to available support offerings.

2. Encouraging experimentation and improvements: it has to be support for eco-innovators because for many branches in Ukraine it is a fairly new phenomenon. For entrepreneurs should be free and available best World and European practices in different spheres of eco-entrepreneurship (green products, technologies, approaches, energy savings).

3. Domestic adaptation of support activities: eco-entrepreneurs are not a homogeneous group, but comprise different types of entrepreneurs who act in very different sectors, markets and environments.

4. Mainstreaming sustainability in the supports system (economic and organizational with the specific relevant market instruments). Green entrepreneurship providing is not just an issue for the specific group of domestic eco-entrepreneurs that are highly mission-driven or active in specific green markets. Nowadays it is relevant for all entrepreneurs no matter in which field of technology, sector or market they are active or intend to be active. Therefore green business principles have to be deep integrated on the state and local levels to be active in the development and support system.

5. Economic assessment and monitoring of effectiveness are not an end in itself, but should contribute to specific goals. Support systems for green innovation and eco-entrepreneurship should be designed to generate multi-purpose benefits (economic, ecologic, and social). This requires relevant assessment and monitoring tools (environmental audit, green standards, environment management system etc.) that will help to benchmark existing support systems, measure impacts and outcomes of support activities and provide information for policy makers and decision makers.

3. Conclusions

Ukraine eco-entrepreneurs should be are not only interested in being more efficient and greener but as also be involved to be environmental problem-solvers. Future eco-entrepreneurial solutions have to be innovative, long-term and beneficial to both the environment and the domestic economy. Since eco-entrepreneurship can be a win response boosting both environmental and economic performance, eco-entrepreneurs have been attracted increasing attention from society, policy-makers as reflected by the many EU programs supporting them.

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