

Changes in International Business Operations due to the Measures for Climate Change Mitigation

Stela Zhivkova*

Summary:

In today's world international business, in all forms and modifications, is an integral and vital part of the economy of each country. It changes shape depending on the economic climate and the problems which need to be solved by any society individually and by humanity as a whole. In the last few decades what becomes more important is not just getting rich and achieving economic growth but achieving it through sustainable development, through protecting the environment and preserving it for the future generations. Major problem of modern society and economic development is the problem of environment protection and specifically how to prevent climate change, whose effects are of global significance.

The present study briefly presents some of the changes in modern business practices due to the impact of the measures taken at international level to mitigate climate change. The impact that these measures have on the business activity of the international companies is discussed in brief. Some opportunities both to reduce companies' environmental footprint and to enter new markets with new activities are described.

Key words: climate change, emissions trading, international business, international trade, environment

JEL classification: F18, F23, Q54, Q56

Introduction

In the contemporary world with its high technologies, constantly developing and improving manufacturing processes and unique in its size globalization, international business in all its variations is an integral part of the economic life of each society. It significantly contributes to the increase in the gross domestic product of the developed countries as well as to the economic progress of developing and third-world countries. Nowadays, however, more and more attention is paid not only to economic growth as such, but also to the ways it is achieved. If at the beginning of the 1950s, the countries in Europe and the U.S. have achieved economic growth without paying particular attention to the effects that their development has on the environment and human health, nowadays people are more concerned about the environmental issues and how to achieve a high living standard in a sustainable way. At the beginning of 21st C the world's attention is concentrated on developing different measures and activities in order to protect the environment and avert environmental disasters.

* PhD student at International Economic Relations and Business Department, University of National and World Economy, e-mail: st_zhivkova@yahoo.com

In recent years, climate change is defined as the most pressing environmental problem. This problem is of great importance as it affects the whole world and its solution requires fundamental changes in the economy of each country. By taking various measures, using different economic incentives and regulations each country should try to transform its economy from an economy with high levels of carbon dioxide (CO₂) emission and high consumption of production resources into one where economic growth is achieved by using less resources and by reducing the CO₂ emissions and chemicals into the atmosphere.

This paper aims to briefly present some opportunities for the companies as a result of the continuously adopted measures from national and international regulatory bodies to slow down climate change. It overviews some of the international agreements that are most important for the activities of economic entities. It also presents some of the changes that occur in various international business operations due to the measures and incentives created in the field of climate change. In addition, a specific example of the business opportunities that these measures provide to the companies is described.

The research methods applied in this paper are review and analysis of national and international regulatory documents related to climate change; systematization of various international instruments designed to both stimulate economic activity and reduce the environmental footprint; analysis of different theories; review of implemented international projects, experts experience.

1. International business and climate changes

International business is a major economic activity in modern life of any society. It includes all commercial

transactions between partners from different countries (Griffin, 2005), whether these partners are individuals or government organizations (Katsioloudes, Hadjidakis, 2007). International business covers all company activities related to any form of international trade and/or international investments (Grosse, Kudjawa, 1992). The fundamental unit of international business is the foreign trade transaction (Boeva, 2004). This type of transaction provides the bases for the development of all other international business applications – both traditional and contemporary. Traditional international business transactions include import and export of goods and services, mediation operations, compensation agreements, transactions on the different exchanges. (Boeva, 2004; Karakasheva, 2005). New international business operations include licensing agreements, franchising, turnkey construction activities, investment transactions, concession agreements, outsourcing, consultancy contracts (Vassileva 2010). The main characteristic of all these operations is that their main subject is various kinds of goods and services. For instance, the main subject of the license agreement is the use of intellectual products and services such as technologies, know-how or copyrights. The traditional subject of the international exchanges is a different kind of goods such as agricultural products, minerals, metals, fuels, etc. (Dalton, 1993). Franchising's main subject is the assignment of goods, trade mark, information, knowledge and skills, distribution channels – the whole business of the franchiser. Management contracts provide people (staff) to perform an activity or management of a specific project. Another modern international business operation, outsourcing, transfers various company activities and entire production processes outside its own country (Wild, Wild, Han, 2003).

All forms of international business, traditional or modern, have originated and evolved under the influence of the economic activity across countries, due to the desire to meet the ever-increasing demands of the population, without paying much attention to the impact that these processes have on the environment and human health. In today's world, one of the most serious problems that require a rapid decision is the climate change resulting from the widespread industrial activity and uncontrolled discharge of various pollutants in the atmosphere. At present the world's attention is focused on searching for different solutions and taking various measures to restrict or at least to delay these changes, as they have a global effect. Thus, in the last decades of the 20th C and the start of the 21st C different conventions, international agreements, regulations, action plans and programs have been developed and adopted globally in order to limit the adverse effects of human activities on the environment and to slow down the climate change as much as possible. These measures, taken at macro-level, have a direct impact on the business and daily activities of the individual companies both domestically and internationally.

Below are summarized some of the most important regulatory documents that have a significant impact on business activities and create conditions for modifications in the existing international business transactions.

1.1. The United Nations Framework Convention on Climate Change (UNFCCC)

In 1992, during the World Summit on the Earth problems in Rio de Janeiro the countries all around the world pledged to reduce greenhouse gas emissions and signed the United Nations Framework Convention on Climate Change (UNFCCC), outlining the general framework of the

international efforts to address the challenges posed by climate change. The Convention states that the climate system is a shared resource whose stability can be affected by the excessive presence of carbon dioxide and other greenhouse gases into the atmosphere. UNFCCC adopted the principle of "common but differentiated responsibilities", where the largest share of historical and current global emissions of greenhouse gases is emitted by the developed countries, which should therefore make binding commitments for their reduction.

1.2. Kyoto protocol, part of the UNFCCC

In December 1997, based on the principle of "common but differentiated responsibilities" the Kyoto Protocol was adopted. It is the first legally binding global instrument that engaged the developed countries with specific quantitative reduction of their greenhouse gas emissions. The Protocol entered into force in 2005, it is valid until 2012 and has been ratified by 184 countries.

The Protocol's scope include six main greenhouse gases and its purpose is to reduce their emissions by 5% for the period 2008-2012 based on the emissions registered in 1990. The countries that have signed the Protocol are divided into Annex 1 countries (industrialized countries) and non-Annex 1 countries (mostly developing countries). For each state that has ratified it the Protocol sets mandatory targets for reducing the amounts of emitted harmful gases, but it also develops three mechanisms to encourage the participation of the private companies. These mechanisms are as follows:

- Joint Implementation (JI) - a mechanism that provides opportunity to the developed countries that cannot reduce their own greenhouse gas emissions, to invest and develop projects in transition economy

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countries. In return they receive a share of the reduced emissions by which to achieve their own obligations.

- Clean Development Mechanism (CDM)
 - enables developing countries to get investments for construction of new, low-carbon installations. On the other hand the investors get the so called "credits from projects" by which they can cover part of their own obligations under the Protocol.
- Emissions trading – this mechanism allows the countries to sell the part of the reduced greenhouse gas emissions that exceed the commitments under the Protocol (so called 'Surplus of Assigned Emission Units'). Using this mechanism, countries that have failed to reduce their emissions, can buy part of the "surplus" emission units from countries that managed to reduce their greenhouse gas emissions below the required levels¹.

Besides the above mentioned basic regulatory documents, in the field of climate change a number of agreements have been developed and adopted such as the Bali Action Plan from 2007, the Copenhagen Agreement from 2009, Cancun Agreements in 2010, Durban Platform 2011, etc.

2. International business and the greenhouse gas emissions

The most serious and binding document for the time being, however, remains the Kyoto Protocol due to the fact that it includes specific targets for reducing the greenhouse gas emissions for each of the countries that have ratified it and these

targets are binding and mandatory. The Protocol includes also the corresponding mechanisms (incentives) aimed to assist the countries in achieving these targets. The incentives, although developed on a country (macro) level, enable the companies both to meet the requirements of the state to reduce their environmental footprint and at the same time not to register any financial losses. They also provide the enterprises the opportunity to go out to the international market, to find foreign partners either through participation in the international emissions trading exchanges, or through the development and implementation of projects under the Clean Development Mechanism or the JI mechanism.

2.1 Joint Implementation mechanism as a business opportunity

"Joint Implementation" mechanism is applied by developing and implementing projects that reduce greenhouse gas emissions in a foreign country, thus generating carbon credits. These credits can be sold to preliminary selected buyers or directly on the open market. In this way the project owner or project investor receives additional financial resources².

Case

Bulgarian Company X manufactures fiber, yarn, organic and inorganic products and works entirely on the Bulgarian market. According to the Bulgarian environmental legislation, company X is allowed to emit a certain amount of greenhouse gas emissions, and has to apply some measures to reduce them. The company's management wants to find a way both to comply with the legal requirements and to obtain financial benefit. After some investigations, the management

¹ Third national plan of the Republic of Bulgaria for climate change actions in the period 2013-2020, <http://www.moew.government.bg/>

² Handbook for development and submission of project ideas under the Joint Implementation mechanism, <http://www3.moew.government.bg/?show=top&cid=357>

decides, through implementation of "Joint Implementation" project, to change the fuel consumption from coal to natural gas. According to the feasibility studies this change will save large emissions amounts and the company will be able to earn additional money. When the company decides to develop a project and apply for funding under this mechanism at the national level there is only one funding source namely Memorandum of Understanding between the Republic of Bulgaria and Denmark. This means that company X needs to find a Danish partner and a Danish customer for its emission credits in order to get funding. Since the company has no experience in similar projects, in order to develop the project idea, it signs a contract for consultancy services with a Bulgarian company that is a representative of a large Danish engineering company. According to this contract, the Consultant has to not only prepare the project papers of company X, with which it will apply to the Ministry of Environment and Water for obtaining a letter of support, but also to find a buyer in Denmark for the emissions saved.

The Danish partner of the Consultant manages to find a buyer in Denmark, which agrees to fund the development of the feasibility study for the emissions which will be saved in the project, and then to buy emission savings (credits) of company X as it will buy these credits at a price lower than the price it would pay if the credits were generated in Denmark.

In the above described case few important things should be noted:

1) the Bulgarian company X starts to develop activities related to the waste product from its traditional production namely the greenhouse gas emissions. Thus it diversifies the goods it produces and supplies to the market. Greenhouse gas emissions become a "good" that has a

commercial interest.

2) the Bulgarian company X goes out to the international market as an "exporter" of the produced "goods" greenhouse gases - a good which is a waste product and an environmental pollutant.

3) the company-buyer of the emissions is an operating industrial enterprise in Denmark, which by that time has never had any international activities and now it becomes an "importer" of the goods emission credits.

Thus, two well-known international business transactions such as imports and exports whose traditional subject usually are various goods and services (Boeva 2004) change their subject - a waste product from companies' daily activities such as the greenhouse gas becomes a "goods" and a subject of export and import transactions.

In addition, this new "commodity" contributes to the development and promotion of a new sector in the modern economy – the sector of the environmental services and in particular the services in the field of greenhouse gas emissions. According to OECD data from 2000, the environmental services sector in the developed countries generates annual revenue of about \$300 billion².

2.2 Emission trading

2.2.1 The emissions as an exchange market "goods"

From all three mechanisms, developed under the Kiyoto Protocol, most popular and most opportunities for the companies provides the emissions trading mechanism. This mechanism is implemented by emissions trading schemes.

The European Union has developed the European Emission Trading Scheme (ETS), which was first introduced in 2005,

² "The Global Environmental Goods and Services Industry", OECD, Data refer to 2000

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but the first forward transactions had been carried out before its actual beginning. Vertis Environmental Finance, for example, enters into forward contracts in 2004. The EU emissions trading scheme is obligatory for all member states. Its scope covers over 10,000 energy-intensive sites³ – both small power plants and large energy companies. The EU ETS works on the "cap and trade" principle. This means that a "cap" is set on the total amount of certain greenhouse gases that can be emitted by the entities in the system. Within the cap, companies receive or buy emission allowances which they can trade with one another as needed. After each year a company must surrender enough allowances to cover all its emissions. If a company reduces its emissions, it can keep the spare allowances to cover its future needs or sell them to another company that is short of allowances⁴. The tradable good on the EU ETS, but it is also valid for all other emission trading exchanges worldwide, is the emission permit or Certified Emission Reduction units (CERs) or emission reduction units (ERUs). Within the Clean Development Mechanism (CDM) of Kyoto Protocol CERs are certificates for clean energy and sustainable development projects in developing countries. They can be used in certain areas of the EU, creating the opportunity for investment in CDM projects in countries such as India, Brazil etc. ERUs are certificates for clean energy and sustainable development projects in Central and Eastern Europe.

The EU ETS is considered to be a successful scheme as the market is liquid. The EU permit price ranged between € 15 and €25/tCO₂-eq from mid-2007 to early 2008, spiked at €30 in mid-2008, declined

to a low of €9 in early 2009, and has ranged around €13–16 in the first half of 2010⁵.

Globally, there are other emission trading schemes such as the Regional Greenhouse Gas Initiative in the northeastern United States (RGGI), Japanese voluntary carbon market, etc.

Emission trading is being done on emission trading exchanges. These exchange markets bear resemblance to the traditional commodity and stock exchanges. The main actors on the traditional exchanges are the buyers and sellers of various commodities as well as the brokers who implement transactions on behalf of their clients (Papadopoulos, 2011). On the emissions trade exchanges (schemes) the major participants are buyers and sellers of the goods "carbon credits" - this can be either the companies themselves who are emitters of the greenhouse gas emissions or brokers who implement transactions on behalf of their customers. Much like the traditional exchanges, the emission trading exchanges may also involve dealers who buy carbon credits to re-sell to different stakeholders and make a profit from the difference between the credits' purchase and sale price – the so called speculators. Another resemblance between the traditional exchanges and the newly emerged emission trading markets is the form of creating, organizing and managing the markets. The traditional exchanges can be private and public owned (Boeva, 1992). The first type of markets are constructed in the form of free associations of private companies or individuals, and the second ones - on the basis of regulations issued by public authority⁶. The emission trading markets, just like the commodity and stock exchanges, can also be public when the

³ Boneva S., 2009, Individualni merki na darjavite chlenki na ES za preminavane kym izpolzovane na vazobnoviaemi energiini iztochnitsi v kontexta na evropeiskata shema za targovia s emisii, Upravlenie I Ustoichivo Razvitie.

⁴ <http://ec.europa.eu/clima/policies/ets/>

⁵ Wood P., Jotzo F., 2011, Price floors for emissions trading, Energy Policy 39 (2011) 1746–1753

⁶ Karakasheva L., Mencheva L., Dinkov D., Markova B., 2005, Mezhdunaroden biznes, Prizma Publisher.

scheme is legally defined and is mandatory for all large emission generators or private institutions when they are not legally defined, but encourage the reduction of generated emissions on regional basis or based on private initiatives (Pinkse, Kolk, 2008).

The main difference between these two types of markets is the subject of the transactions. The traditional subjects of the transactions on the traditional international exchanges are more than 500 types of goods, most common of which is the "agricultural commodities, minerals and fuels, also ferrous and precious metals, oil, diesel, etc." (Karakasheva, Markova, 2004). In the case of the emissions trade exchanges the main sales subject is an environmental pollutant, a waste product from the activities of companies and the industry, namely greenhouse gas emissions.

The participation in such exchanges (schemes) has a double effect for the business entities: on one hand, they bring their operations and production activities in compliance with the relevant legal requirements and on the other hand – they earn additional income from their waste product which otherwise would have resulted in additional costs. Nevertheless, for the time being, most enterprises not only in Bulgaria but also internationally are very cautious with respect to their participation in such transactions. This is largely due to the fact that first they need to make additional transaction costs in order to participate in the scheme and second - there is great uncertainty (risk) in terms of return of these costs and the generated profit. Also they are inexperienced and are not well aware of the rules and procedures of these newly emerging markets. These factors create new market opportunities, provide new niche for the development of other economic sectors. Most companies

have no experience in marketing such a product like emission allowances and need the expert services of consultancy firms and financial intermediaries. Thus a lot of banks have started offering assistance for emissions trading, providing services in risk management or sale of allowances (credits) on behalf of their clients. By providing that kind of services these intermediaries contribute to the development of the emissions trading market, as this allows more companies to trade emissions while avoiding organizational activities. These activities have been transferred to the financial intermediaries or consultancy firms (Pinks, Kolk, 2007). An example in this respect can be found in the role of the British bank Barclays, which in its own words, is "the first bank in the UK that has established an emissions trading desk and supports the further development of the emissions trading market by developing standard contracts for emission trading"⁷.

Another possibility to participate in the emissions trading schemes is by generating and trading emission credits, obtained by the Joint Implementation Mechanism and the Clean Development Mechanism. This practice allows firms that are generally outside the scope of the emissions trading schemes nonetheless to take part in them by developing and implementing projects that are both consistent with their everyday production activities and at the same time reduce the amount of their emissions. This option is often used also by the banks that fund various projects, especially in the developing countries, and receive emission credits under the JI mechanism afterwards.

2.2.2. Outsourcing of emissions

In the modern international business an important place has been allotted to the outsourcing. This is an "organizational and management solution for transferring

⁷ Jonatan Pinkse, Ans Kolk, "Multinational Corporations and Emission trading: Strategic Responses to New Institutional Constraints", *European Management Journal* Vol. 25, No 6, December 2007

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some of the company's business activities to external contractors⁸. Outsourcing is most common for the industrialized countries where the enterprises, in search of lower production costs, cheaper labor and more favorable legislative climate or less stringent environmental requirements, transfer part and sometimes even the entire production process outside their own country, usually in the developing world. The processes and activities that are most often transferred to external contractors include different business services, trade, financial, computer services, education and health services. In manufacturing outsourcing the companies even transfer part of their added value chain or the entire production chain to foreign companies (Boeva, 2004). Transferring their production processes in the carbon-intensive developing countries, the enterprises actually transfer (outsource) also their greenhouse gas emissions from their own countries into the developing world. A good example is Great Britain. Measured on a territorial basis, in the period 1990 - 2004 Great Britain has reported a reduction of its carbon emissions by 12%, but when these values are added together with the emissions generated by the outsourced production in the developing countries, it turns out that Great Britain had actually increased its air emissions by 19%. However the emissions from the outsourced production are no longer Great Britain's concern but are put on the account of the countries where these emissions had been generated⁹.

Based on the above, it can be concluded that in the modern world outsourcing is applied not only for production processes and activities, not only for business and any other kind of services, but also

for environmental pollutants such as the emissions of harmful gases. This practice results not only from the transfer of production processes on the territory of another country, but also through the mechanisms developed in Kyoto Protocol to reduce the greenhouse gases emitted into the atmosphere. For instance, under the "Joint Implementation" mechanism and the "Clean Development" mechanism, the emissions that exceed the threshold values permitted to one of the project participants are transferred (outsourced) to the other who presents them as his own due to operations such as purchase or direct investment or participation in the project.

After the Kyoto Protocol was signed, in the countries that have ratified it, a public debate had begun on issues related to the companies' competitiveness and the effect of this protocol on other economic parameters. The business entities in many states begin to put pressure on their governments to reduce the competition by introducing various measures such as tariffs, taxes etc. European Commission's Report even proposes to impose taxes on goods imported from countries that do not charge their industry for the emitted CO₂ emissions. This proposal is an attempt to compensate the entities in the countries that have signed the Protocol for the costs they have made for trying to slow down climate change¹⁰.

In "Making globalization work" (2006), Joseph Stiglitz advocates the idea that Europe, Japan and the other countries that have ratified the Kyoto protocol should limit or impose taxes on the imports from the U.S.A.. In his opinion this will be a small compensation for the fact that the U.S. producers do not have additional costs for

⁸ Vassileva, A., 2010, *Savremenni formi na mezhdunaroden biznes*, Nova Bulgarska Mediina Grupa Holding.

⁹ The Global Transition 2012, Paper 11: Outsourced emissions and global trade in the Green Economy, Guy Shrubsole, Earth Summit Rio June 2012, <http://www.uncsd2012.org/>

¹⁰ World Bank 2007, "International Trade and Climate Change, Economic, Legal and Institutional Perspectives"

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limiting the greenhouse gas emissions and thus they produce products that are both environmentally unfriendly and are more competitive because they are produced at lower costs.

Conclusion

The measures taken to protect the environment and especially to reduce the effects of climate change provide a number of business opportunities for the companies not only at national but also at international level. They also result in a number of changes in the international business operations. The different mechanisms for reducing the amount of air emissions provide companies with the opportunity to earn additional income, although this is accompanied by many new and unknown risks. They open new markets also for the non-manufacturing sectors such as banking and consultancy services. In addition, due to the concerns for protecting the environment and the measures that have been taken at national and international level some changes in the business operations are noted, namely:

- 1) New type of exchange has emerged – emissions are traded on emission trading exchanges;
- 2) The very subject of the international transactions has been changed - an environmental pollutant such as the greenhouse gas emissions becomes a profitable and tradable "good";
- 3) The newly established emission trading markets operate using the experience of the long-functioning organized markets (exchanges) but due to the specific nature of the marketed product, some modifications have been introduced: the "good" is only virtually sold; in order the transaction to be carried out there is a need of additional "goods" account, where the actual implementation of the transaction is done;
- 4) There are changes in the company

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transaction costs – usually such corporate expenses are mainly related to the preparation and implementation of trade negotiations, the preparation and execution of commercial transactions, etc. Such transactions are inevitable, but if the company thinks they involve too high costs, it can give up the particular transaction. The transaction costs connected with the operations involving greenhouse gases emissions are of a different nature - some are inevitable, given that part of the "producers" of this product are legally obliged to take part in the emission trading schemes. An example of such obligatory transaction costs is the purchase of machinery and equipment to reduce emissions, and the monitoring and reporting of the generated emissions. The companies cannot give up that kind of transaction costs if they are too large;

- 5) New market niches emerge - non-productive sectors such as banking services, develop new products to offer their clients (brokerage services to exchanges emissions trading, project financing mechanisms under the Protocol of Kyoto);
- 6) Modifications appear even in a relatively new international business operation such as the outsourcing - in order to reduce the environmental footprint in their own country, the companies begin to outsource not only the different activities and production processes, but also emissions.

Thus the environment protection measures on one hand achieve the main purpose for which they have been created - to reduce the harmful effects from human activity on nature while at the same time they result in modifications in the international business operations.

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