

ZOFIA WYSOKIŃSKA

**US vs EU Environmental Policy. Differences in Character
and Effectiveness. Implications for Foreign Trade
of Environmental Goods**

Abstract

The aim of the paper is to present main similarities and differences between the US and EU environmental policy during the recent years and their impact on foreign trade in ecological products. The elimination of trade barriers also increases the efficiency of the world economic system by enabling countries to specialize in those sectors in which they possess economic advantages, which includes those sectors in which they possess favorable natural environmental conditions. In the latter half of the 1990's one can observe a rapid and dynamic increase in the environmental protection industry's share in the world economy. The overall global value of production in the environmental protection industry was estimated at 550 billion USD in the year 2001. In relative terms, this environmental market is not as big as the steel or agriculture markets, but roughly the same size as the pharmaceuticals and information technology markets. It is estimated that the OECD countries (with special reference to USA and EU) possess 90% of the environmental protection industry.

The environmental policy in the EU and US tried to contribute to the achievement of main goals of global sustainable development strategy by new market oriented economic and financial instruments during the recent years.

Results of the empirical foreign trade analysis of environmental products presented in the paper cover 11 countries of the OECD including the USA and 7 EU members. It bases on international comparable database for environmental friendly goods calculated by the author according to the OECD requirements

(OECD-EUROSTAT, WTO, 1999). The presentation of some important trends in

foreign trade of main exporters and importers of environmental goods in the USA and the EU was the effect of this analysis. These analysis is related also to some regulations of the Committee for Trade and Environment of the WTO with special reference to conclusions of the Fourth and Fifth Ministerial Conferences in Doha and Cancun. The paper will also examine the effects of environmental measures on market access within the multilateral liberalization process and compare these effects for the USA and EU.

1. Similarities and differences between the EU and US environmental policy

The EU environmental policy

The environmental policy is one of the most fundamental and complex common policies of the EU during the recent 25 years. Main aims and tasks of the common environmental policy in the EU area are defined within the Action Programmes. The first of them began in the year 1973. After 20 years the Fifth Environmental Policy Action Programme: *Towards Sustainability* has been proposed by the European Commission as the involvement to the global strategy of sustainable development. The main aim of this Programme was the presentation of the new Community strategy on the environment and the measures to be taken towards sustainable development for the period 1992-2000 (Fifth European Community Programme - 1998).

Priorities and objectives of the EU environmental policy up to 2010 and beyond are defined within the Sixth Environment Action Programme – *Environment 2010: Our Future, our Choice* (COM 2001, 31, p. 31). The main aim of this Programme is to help implement the European Union's sustainable development strategy (COM/2001/0264 final *, p. 10). The European Commission proposes five priority avenues of strategic action: improving the implementation of existing legislation; integrating environmental concerns into other policies (with special reference to energy, agriculture, transport, regional policy), empowering people as private citizens and helping them to change behaviour; and taking account of the environment in land-use planning and management decisions.

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL¹) seems to be the most important tool to achieve

¹ <http://www.europa.eu.int/comm/environment/impel>.

the improvement of the legislation. The innovative and important tasks in the 6th Programme are as follows:

- the integration of priorities of the environmental protection into other policies of the EU by the further development of indicators to monitor this process;
- the development of the partnership with business, that will base on the encouraging a wider uptake of the Community's Eco-Management and Audit Scheme (EMAS) and stimulate companies to comply with environmental requirements;
- the development of active partnership for sustainable tourism;
- the promotion of the use and evaluating the effectiveness of the eco-label scheme;
- the promotion of green procurement;
- the adoption of legislation on environmental liability;
- the improvement of the quality of information on the environment.

The Sixth Environment Action Programme focuses on four priority areas for action:

- climate change;
- biodiversity;
- environment and health;
- sustainable management of resources and wastes².

The objective in the **first area (climate change)** is to achieve the objectives of the Kyoto Protocol i.e. to reduce greenhouse gas emissions by 8% by 2008-2012 compared to 1990 levels. In the longer term, by 2020 it will be necessary to reduce these emissions by 20 to 40% by means of an effective international agreement³.

In order to meet the challenges of climate change it will be required:

- the integration of climate change objectives into various Community policies, in particular energy policy and transport policy;
- the reduction of greenhouse gases by means of specific measures to improve energy efficiency, to make increased use of renewable energy sources, to promote agreements with industry and to make energy savings;
- the establishment of an EU-wide emissions trading scheme;

² Sixth Environment Action Programme..., op.cit.

³ Greenhouse gas emissions trading and climatic change programme, <http://www.europa.eu.int/scadplus/leg/en/lvb/l28109.htm>.

- improved research on climate change;
- the improvement of information given to citizens on climate change;
- a review of energy subsidies and their compatibility with climate change objectives;
- preparing society for the impact of climate change.
- In order to achieve the aim of biodiversity it is proposed:
- the implementation of environmental legislation, in particular in the areas of water and air;
- examination of the need to protect plants and animals from ionising radiation;
- protection, conservation and restoration of landscapes;
- protection and promotion of the sustainable development of forests;
- establishment of a Community strategy for the protection of the soil;
- reinforcement of controls on labelling, monitoring and traceability of GMOs;
- the integration of nature conservation and biodiversity into commercial and development cooperation policies;
- the creation of programmes for gathering information on nature conservation and biodiversity;
- support for research in the field of nature conservation.

The third objective of the Programme oriented on **Environment and health** is to achieve a quality of the environment which does not give rise to significant impacts on, or risks to, human health.

The Communication proposes:

- identifying the risks to human health, including children and the elderly, and setting standards accordingly;
- introducing environment and health priorities into other policies and standards on water, air, waste and soil;
- strengthening research on health and the environment;
- developing a new more effective system for the evaluation and the risk management of new chemicals ;
- banning or limiting the use of the most hazardous pesticides and ensuring that best practice is applied;
- ensuring the implementation of legislation on water;
- ensuring the application of air quality standards and defining a strategy on air pollution;

- adopting and implementing the Directive of noise.

The fourth objective – **Management of natural resources and waste**, is to ensure that the consumption of renewable and non-renewable resources does not exceed the carrying capacity of the environment and to achieve a decoupling of resource use from economic growth through significantly improved resource efficiency and the reduction of waste. With regard to waste, the specific target is to reduce the quantity going to final disposal by 20% by 2010 and 50% by 2050.

Main tools to achieve this goals are as follows:

- the development of a strategy for the sustainable management of resources by laying down priorities and reducing consumption;
- the taxation of resource use;
- the removal of subsidies that encourage the overuse of resources;
- the integration of resource efficiency considerations into integrated product policy, eco-labelling schemes, environmental assessment schemes, etc.;
- establishing a strategy for the recycling of waste;
- the improvement of existing waste management schemes and investment in quantitative and qualitative prevention;
- the integration of waste prevention into the integrated product policy and the Community strategy on chemicals.

The Sixth Programme proposes a new approach to the development of a broad dialogue and the participation of industry, NGOs and the public authorities. The programme will be increasingly based on scientific and economic analyses and on environmental indicators. For this purpose, the Commission will work in close cooperation with the European Environmental Agency.

In addition to the instruments which have generally been used with regard to the environment, the Fifth and Sixth Programmes provide for the development of a broader mix of regulatory, financial and horizontal instruments:

- regulatory instruments: fixing new minimum levels of protection, implementing international agreements and establishing rules and standards with a view to the internal market;
- financial instruments: incentives for producers and consumers to protect the environment and use natural resources in a responsible manner (economic, fiscal and civil responsibility measures – taxes in accordance to main rules of environmental policy such as prevention, and “polluter pays”) and “price corrections” to ensure that products and services which respect the environment are not penalized in terms of cost;

- horizontal measures: improving information and environmental statistics (preparation of comparable nomenclature, standards, criteria and methodologies), promoting scientific research and technological development⁴, improving sectoral and spatial planning, public information (development of databases) and professional training;
- financial support mechanisms: Structural Funds, Cohesion Fund, EIB loans; LIFE programme.

The environmental policy in the “old” Member States has achieved till now the very high level of harmonization within the EU and also the relatively high level of adaptation to global ecological norms and standards taking into consideration the harmonization the EN 9000 with ISO 9000.

The EU made also a big effort to meet its Kyoto commitment. However, Kyoto is but a first step. Thereafter, the EU should aim to reduce atmospheric greenhouse gas emissions by an average of 1% per year over 1990 levels up to 2020 (COM 2001, 264 final).

The Union will insist that the other major industrialized countries comply with their Kyoto targets. This is an indispensable step in ensuring the broader international effort needed to limit global warming and adapt to its effects.

The U.S. environmental policy

The US environmental policy is also oriented on the achievement of main goals of global sustainable development strategy connected, first of all, with the improvement of air and water quality, water supply in certain areas, climate change and greenhouse gas emissions. Particular attention is paid to certain policies in agriculture and road transport, sectors with an important influence on the environment, as well as to the use of cost-benefit analysis (and in some cases specific prohibitions on its use) and the role of the courts in designing and implementing policy.

The U.S. environmental policy has changed during the recent decades from the command – and control based – and market based approaches that dominated since the early 1960s to the other policy types in the next decades based as “new tools” such as education and provision of information or voluntary measures based model in the recent years. Environmental education

⁴ Sustainable development and global change is one of the most important priorities in the 6th EU's Framework Programme for Research and Technological Development The total budget to support this priority in the years 2003-2006 amounts to €2 120 million.

efforts aimed at both the public and the students have been used since the 1960s, information-based efforts for energy conservation, such as home energy audits and appliance labeling programs, began in the aftermath of the energy crisis of the 1970s. The environmental impact assessment provisions of the U.S. National Environmental Policy Act of 1969 provided a wealth of new information on proposed policies and projects for stakeholders to evaluate. A major goal of the effort was to inform the public about toxic substances (Dietz T., Stern P. C. 2002).

While “command and control” style regulations have produced significant improvements in environmental standards since the 1970s, increasing attention has been paid to the use of economic incentives – permit trading arrangements have been preferred to environmental taxes – and more flexibility in some regulatory policies. These trends towards more cost-effective policies should be extended to such areas as fuel economy, where increased fuel taxes would be more cost-effective than the “CAFE” standards, and water supply, where increased use of pricing and removal of impediments to water trading would improve the efficiency with which water – especially for irrigation – is used. The overall efficiency of policy would benefit from a rationalization of the treatment and status of cost-benefit analysis in different policy areas (O’Brien P. 2002).

The creation of the President’s Council for Environmental Quality (CEQ) in 1969 and the U.S. Environmental Protection Agency (EPA) in 1970 was important for the future development of the U.S. environmental programmes.

Starting in the 1990s, the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy initiated several plans for voluntary action by industry, while as early as 1989 the Chemical Manufacturers Association (now the American Chemistry Council) began the Responsible Care Program – a voluntary effort conducted by the chemical manufacturing industry without direct government involvement.

Within the U.S. Environmental Protection Agency has been organized the Environmental Information Exchange Network Grant Program, that provides funding to States, Territories and Federally Recognized Indian Tribes to support the development of Environmental Information Exchange Network. EPA provides many programs oriented on:

- Air,
- Pesticides,
- Pollution Prevention,
- Toxics & Chemicals,
- Water,

- Wastes & Recycling

and many research grants, fellowships and other financing opportunities in the following spheres: Environmental Monitoring and Assessment Program (EMAP), Great Lakes National Program, Microbiology, Environmental Economics, Environmental Assessment, Wastewater Management. EPA centrally manages its regulatory agenda and the process by which each regulation is developed. The most important role plays National Center for Environmental Innovation, that is testing a variety of ideas and approaches that can achieve results – (EPA Programs 2004).

Two main studies: The OECD *Environmental Performance Review of the United States* (OECD, 1996) and the study prepared by Paul O'Brien *Encouraging Environmentally Sustainable Growth in the United States*, (OECD 2001), provided a comprehensive overview of most important problems and tasks to be solved in the U.S. environmental policy. The key issues are related to global warming, air pollution and emission trading.

Global warming is a crucial issue, since the same emission sources are generally responsible for greenhouse gases (GHGs) and air pollution. The United States, along with most other countries, has not met the commitment made in 1992 (when the UN Framework Convention on Climate Change (UNFCCC) was established at Rio de Janeiro) that GHG emissions be no higher in the year 2000 than in 1990; however, it is a signatory to the Kyoto Protocol to the UNFCCC (though it has not ratified it), which would commit it to quite substantial reductions in emissions by 2008-12, compared with those projected in the absence of policy changes. The United States, with much higher emissions, both per capita and in absolute terms, than other countries, is a major contributor to increases in global concentrations of GHGs. It is also potentially quite sensitive to damaging effects of climate change on agriculture and on the sea level, for example. These impacts are rather uncertain and are the subject of ongoing research in the United States; some recent work suggests that the economy could adjust so that the economic costs of such changes in the United States might be lower than early estimates suggested (see Mendelsohn *et al.*, 1994 and Mendelsohn, 1999, in: O'Brien P, 2001, pp. 7-8).

A particularly innovative approach to pollution control – emissions trading – has been introduced in two programmes under the Clean Air Act. The SO₂ trading system, embodied in the Acid Rain programme, has been in operation since 1992. The year 1999 saw the start of full trading of NO_x emission permits in twelve eastern states; this is a seasonal programme, with trading in permits issued for emissions in May to September, when the incidence of smog and atmospheric pollution is at its greatest. Both programmes are

restricted, so far, to emissions from power generation. The SO₂ trading scheme was provided for in the 1990 amendments to the Clean Air Act. Although this was not the first time that permit trading had been used in the United States, it was the first time that unrestricted trading within an overall cap was made the sole means of meeting particular emissions targets. A number of aspects of these trading schemes are noteworthy, particularly in view of current interest in such schemes at the international level, in the context of attempts to limit global greenhouse gas emissions (O'Brien, 2001, p. 11).

Comparison between the EU and U.S. environmental policy allows to recognize that both of them try to contribute to the achievement of main goals of the global sustainable development strategy. The Kyoto Treaty against global warming entered recently into force. Under the Kyoto Protocol to the 1992 UN Framework Convention on Climate Change, industrialized countries are to reduce their combined emissions of six major greenhouse gases during the five-year period from 2008 to 2012 to below 1990 levels. So far 128 Member States have ratified the accord. The European Union and Japan, for example, are to cut these emissions by 8 per cent and 6 per cent respectively. For many countries, achieving the Kyoto targets will be a major change that will require new policies and new approaches.

UN Environment Programme (UNEP) Executive Director Klaus Toepfer took to task those who claim that the Protocol "is more dead than alive" without the United States (the most important per capita contributor to greenhouse gas concentrations), which accounts for about 24 per cent of global fossil fuel-related carbon dioxide emissions, about twice those of China, the world's second largest emitter, according to figures from the US Carbon Dioxide Information Analysis Center. "While the Government of the United States has decided against the Kyoto Treaty, many individual states in America are adopting or planning to adopt greenhouse gas reductions in line with the spirit of the Protocol," he said in a message⁵.

However, to meet fully commitments under the UN Framework Convention on Climate Change (UNFCCC), and under the Kyoto Protocol to this convention, the United States will have to take steps to accelerate the reduction in its fossil energy consumption per unit of GDP, especially as it now seems likely that its trend output growth rate has increased in recent years.

"The current set of US measures – the CAFE standards – do not establish the right incentives for fuel economy and seem to have reached the limit of their

⁵Kyoto treaty against global warming enters into force --- UN News Update From: "dhldl" <dhldl@un.org>, Sent: February 16, 2005.

effectiveness at their current levels. Some gasoline price increase will be necessary, whether through taxation or through the cost of buying emissions allowances on the international market, and now is the time to think about implementing this. It would be feasible, for example, to set up a domestic cap-and-trade system for CO₂ emissions in advance of the international arrangements under the Kyoto Protocol. Action in this area would also serve to increase the chances of successful agreement, on detailed measures to implement the mechanisms agreed at Kyoto in 1997". (O'Brien, 2001, p. 34).

The base of Kyoto Protocol is the key issue connected with emission trading and permits scheme. Although the USA did not signed this Protocol, among the U.S. environmental policy instruments we can specify two key groups: permit trading schemes and tax-based schemes. The first one seems to have certain advantages over the second group: notably, in a society suspicious of taxation, that they are not taxes. However, the equivalence is very close, especially over time when quantitative targets are likely to be revised in the light of the costs of achieving them, just as taxes would be revised in the light of their effects on quantities. In particular they do not avoid the question of redistribution. Even at relatively low prices for GHG emission permits under the Kyoto Protocol, the notional tax revenue corresponding to the implicit carbon tax will be quite large (about \$30 billion with a "low" permit price of \$20 per tonne of carbon equivalent). If the permits are issued free of charge, then trading will result in a redistribution of income from those with high to those with low abatement costs; the latter would include, for example, operators of coal-fired power stations whose capital stock is fully amortized. While issuing permits free of charge may be necessary initially, it would make sense for the government to collect some revenue from what essentially becomes a resource rent, allowing some of the rent to be returned to consumers (taxpayers), rather than being retained within the affected industry. This applies to all resource trading schemes, from water use to greenhouse gas emissions (comp. O'Brien, 2001, p. 35).

2. Environmental norms and standards as factors influencing the competitiveness of goods and services in the international market

Environmental norms and standards play a significant role in determining the competitiveness of goods and products in the international market. Access to markets may be restricted in the case of goods and products which fail to comply with applicable environmental norms. A sound policy of

environmental protection and sustainable development creates incentives to technological innovation, which in turn encourages work and production efficiency. There are a number of different norms and standards concerning environmental management and the implementation of systems of environmental management. Among the most significant is the EMAS system which acts as the instrument for the implementation of European Union ecological policy. While the requirements of the EMAS system are basically in accord with those of global standards ISO 14001, the control mechanisms implemented within the EMAS assure that maximum environmental credibility is bestowed upon companies which obtain EMAS certification. The concept of an environmental management system according to ISO 14001 is based on the fundamental elements of the TQM idea (The European Vision of Quality, 2000 p. 24)⁶.

Taking into consideration the present rapid expansion in trade of environmental services which promote “clean” production equipment and technologies, it may be posited that sound environmental policies can have a positive effect on the competitiveness of goods and products on the international market and yield competitive advantages to those producers and exporters who are first to initiate and implement such practices.

3. Market access and multilateral regulations in international trade of environmental products and services

The elimination of trade barriers also increases the efficiency of the world economic system by enabling countries to specialize in those sectors in which they possess economic advantages, which includes those sectors in which they possess favorable natural environmental conditions. In the latter half of the 1990's one can observe a rapid and dynamic increase in the environmental protection industry's share in the world economy. The overall global value of production in the environmental protection industry was estimated at 453 billion USD in 1996, 483 billion USD in 1997, 518 billion USD in 2000 (OECD 2000, p. 12) and 550 billion USD in the year 2001 (UNCTAD, 2003, p. 36). **It is estimated that the OECD countries possess 90% of the environmental protection industry.** This industry grew by over 14 per cent between 1996-

⁶ TQM concentrates on the client, on constantly improving and benchmarking the best practices, and on engaging all employees and high-level management in quality issues (management by participation and management based on concretes, focused on processes and avoidance of poor quality practices rather than quality control; establishment of a documentation system which enables the auditing of key phases; training and education.

2000. Over-capacity slowed annual growth in the developed countries to 1,6 per cent in 2000 and 2001. During the same period annual growth in developing countries was at 7 to 8 per cent. Analysts expect that the industry will continue to expand, reaching over US\$ 600 billion by 2010. Most of the growth will continue to take place in developing countries and economies in transition, at an annual rate of 8 to 12 per cent. (Trade and Environment 2003, p. 36). In relative terms, this environmental market is not as big as the steel or agriculture markets, but roughly the same size as the pharmaceuticals and information technology markets (as above).

Markets in developed countries are mature: they are highly competitive, with a sophisticated customer base, and experience slow or negative growth in many segments. Environmental regulations are by far the most important factor. However, in spite of regulatory drivers, environmental markets are very sensitive to economic cycles. Capacity in environmental goods and services is growing in certain developing countries, mostly from involvement in partnerships with established foreign firms but also from the increased demand in the domestic market. However, there are few data to indicate that any of this capacity is translating into exports – (Vikhlyaev A. 2003, p. 36-38).

Currently barriers to trade understood as bound tariffs on many capital goods used to provide pollution-management services are low in developed countries-generally under three per cent for products on the OECD list. (OECD List of Products 2003). In most developing countries these tariffs remain relatively high, with the bound tariffs ranging from 20 to 40 per cent, and applied rates mostly ranging from 10 to 20 per cent. In some cases the rates are considerably higher. In practice, imports of environmental goods may sometimes benefit from incentives. Technical regulations affect the type of environmental goods used to meet environmental requirements. The lack of uniformity of environmental requirements in different national markets has been an important NTB.

In particular, standards and certification requirements affect trade in EPPs. On the other hand, trade in niche products seeking to enter new markets may be hindered by the lack of appropriate standards for such products. Also, imported environmental technologies need to be tested and certified by local authorities in individual markets – (Vikhlyaev A. 2003, p. 39).

Multinational Environmental Agreements

Trade-related measures permitted for environmental purposes include those carried out within the framework of multilateral environmental agreements (MEA-s). Although most MEA-s do not contain such environmental measures, the few that do also contain provisions relating to non-discrimination and

transparency. WTO notes that MEA-s provide an effective alternative to trade obstruction in order to achieve multilateral solutions to trans-boundary environmental problems.

The gradual removal of other trade restrictions, specifically tariffs, non-tariff barriers, as well as export and import restrictions, has fostered hope among both developed and developing countries that a more open multilateral trade system will facilitate the protection of the environment and accelerate the progress of sustainable development efforts. However, the effectiveness of trade measures and their efficiency in meeting the stated environmental objective of the MEA-s will significantly depend on the flexibility mechanism and the provision of effective supportive measures for developing countries – Trade And Environment 2003).

The integration of trade and environment concerns in developing countries has emerged as one of the priority areas in moving towards sustainable development. Intensive debate and dialogue as well as pilot projects at the national and regional levels have led to the evolution of possible strategies, elements of which are slowly becoming visible. It is now becoming clear that integrating trade and environment in a development-friendly manner needs concrete mechanism that span several aspects of national and international economic activity – (Jha V, Vossenaar R; 2002).

ISO 14001 (the international environmental management systems requirements standard) is heavily discussed and debated by developing countries and countries in transition. While it is clear that product-related eco-related eco-labels and related standards are covered by the TBT Agreement, the position is less clear for environmental management systems. The question as to whether management standards (such as ISO 9000 and 14000) or only those standards directly related to products should be covered by the Agreement remains subject to internal discussion at WTO. There is as yet no empirical evidence of trade implications arising from the use of the ISO 14000 series of standards.

According to the Report to the 5th Session of the WTO Ministerial Conference in Cancun covering the work undertaken by the regular session of the Committee on Trade and Development (“the CTE”) between the Fourth (Doha) and Fifth (Cancun) Ministerial Conferences of the WTO, it was recognized that improved market access for developing countries’ products was key to the goal of achieving sustainable development. It was recalled that, in line with Rio Principle 11 (4th), environmental standards and priorities needed to reflect the particular environmental and development context to which they applied and that standards applied by some countries could be inappropriate and

of unwarranted economic and social cost to others, particularly developing countries. Small and medium sized enterprises (SMEs) were especially vulnerable in this regard – (WTO 2003, p. 2).

Several Members stressed that the protection of the environment and health were legitimate policy objectives and that Members had the right to set their own appropriate level of environmental protection so as to address such objectives. However, it was also acknowledged that environmental requirements could affect exports adversely. The answer to concerns about reduced market access was not weaken such standards, but rather to enable exporters to meet them. (the key role of technical assistance, capacity building and technology transfer to help developing countries' exporters to meet environmental requirements and to adjust production methods as appropriate). In discussing ways forward, several WTO Members felt that more weight had to be given to the identification of trade opportunities for sustainable growth. The CTE could look at incentives and means to assist developing countries to identify products, and develop exports markets for environmentally friendly products in areas where these countries enjoyed comparative advantage. Several Members agreed on the need for more analysis, and the identification of concrete cases regarding the effects of environmental measures on market access, particularly on exports of products of importance of developing countries.

Such analysis, particularly if sector specific and based on real situations, could further the understanding of the issues and could serve to target taxation and subsidy schemes in OECD countries were generally biased and discriminatory vis-à-vis petroleum products. There were negligible taxes on coal and gas, and, in addition, coal products in many OECD countries, were subsidized. Such policies should be corrected. It was suggested that subsidies should be removed and that fuel taxation be restructured to reflect carbon content – this would ensure that polluting sources (with higher carbon content) be penalized, not favoured. It was stressed that the issue was not climate change mitigation *per se*, but the impact on environmental policies on market access on the one hand, and their consistency with WTO rules on the other – as above).

4. Empirical evidence – the comparison of foreign trade in environmental goods in the US and selected EU and OECD countries

The analysis presented in the paper is based on foreign trade of friendly environmental goods of 11 OECD countries at different level of economic

development such as: USA, Germany, France, Japan, Sweden, Norway, Ireland, Spain, South Korea, Greece and Poland⁷.

Results from the analysis:

OECD belongs to the biggest trading groupings in environmental goods. Among the analyzed 11 OECD countries, the USA, Japan, Germany and Norway are the biggest exporters and importers of environmental friendly goods. Such countries as the USA, Germany and Japan noticed during the analyzed period 1995-2001 positive trade balances in trade of these products. Their exports increased during the analyzed period from 33 to 49 billions of USD in the case of the USA, from 19 to 12 billions of USD in Germany and from 10 to 12 billions of USD in Japan. Norway noticed the small decrease from 21,5 to 18,5 billion of USD and Sweden from 5 to 4,5 billions of USD.

In France and Spain the foreign trade of environmental friendly goods was almost balanced, but the South Korea, Spain and Greece noticed negative trade balances. Poland belongs also to countries that are characterized by the high increase of both imports and exports of environmental friendly goods (from 2,5 billions of USD in 1995 to 3,2 billions in 2001 in import and 0,7 billions of USD in 1995 to 1,4 billions of USD in 2001 in export) starting practically from the very low level at the beginning of the transformation process – see graphs 1 & 2.

Comparison of shares of environmental goods in total foreign trade of the analyzed countries shows that during the period of 1995-2001 the highest level of about 10% had been achieved in Germany, 7-8% in the USA and Japan, 6% in Sweden, 4-5% – in France, Spain, Poland and 2-3% in Greece, Ireland, South

⁷ **a. goods and products designed to aid in environmental management:** includes goods and services created exclusively with the aim of environmental protection and having a significant impact on pollution reduction and the identification and collection of statistical data; **b. cleaning products and technologies:** includes goods and services which reduce or eliminate environmental harm. These are sometime used for other purposes as well, and their identification and classification in relevant statistical data is difficult, expensive, and open to controversy; **c. management and avoidance:** this group includes goods, products, and services which may have significant positive environmental effects but which are designed and implemented for other purposes (such as energy saving technologies, creation of alternative energy sources, etc.). This category may be considered optionally and its classification and analysis depends to a great extent on existing environmental policies as well as access to statistical data.-based on the Based on the definition of the environmental protection industry set forth in the OECD/Eurostat Informal Group: "Goods and services protecting the environment include the manufacturing of products and the development of services regarding the measurement, prevention, minimalization, elimination, or correction of water and air pollution and solar system pollution, as well as addressing the problems of waste disposal, noise pollution, and eco-system maintainance. OECD/EUROSTAT lists three groups of goods and products designed to aid in environmental protection (OECD/EUROSTAT, WTO 1999).

Korea and in Norway. It should be stressed the big progress of Poland in the involvement in market of the environmental friendly goods – graphs 3 & 4.

CONCLUSIONS

1. Market of environmental friendly goods is one of the most expanding markets during the 1995-2001. It achieved roughly the same size as the pharmaceuticals and information technology markets.
2. Environmental protection policy played in the US and EU the crucial role during the last decade in the process of the globalization of the economy. In both regions this policy started to be more global and contribute to the achievement of main goals of global sustainable development strategy by new market oriented economic and financial instruments during the recent years.
3. Many new instruments and programs oriented on better ecological education and protection of air, water, pollution prevention (with special reference to the sphere of wastes and recycling), toxics and heavy chemicals control and prevention. are recently the base of this policy in both regions.
4. The EU made also a big effort to meet its Kyoto commitment. However, Kyoto is but a first step it is foreseen a deep reduction of atmospheric greenhouse gas emissions (by an average of 1% per year over 1990 levels up to 2020).
5. In the USA, some market oriented instruments of the environmental policy with special reference to emitent permits that are now the base of the Kyoto Protocol, (although the USA has not signed this Agreement until now) seems to be the most effective in creation better environmental protection from water use to greenhouse gas emissions.
6. EU and US belonged to main exporters and importers of environmental friendly products in the world economy and within the OECD during the recent years. Starting from the year 2000 the US is the world leader-exporter and importer of environmental friendly goods in the world economy. Within the EU: Germany and also France occupy the leading positions in the market of environmental goods, both on the export and import sides. In Germany was observed also in the searched period (1995-2001) the highest share of environmental goods in its total export and import. During the same time the US improved its position concerning the share export of environmental products in its total export from the third place (in the year 1995) to the second place (in the year 2001) – see graph 3.

7. Barriers to trade understood as bound tariffs on many capital goods used to provide pollution-management services are low in all developed countries, but in most developing countries these tariffs remain relatively high. Technical regulations affect the type of environmental goods used to meet environmental requirements. On the other hand, trade in niche products seeking to enter new markets may be hindered by the lack of appropriate standards and certificates for such products. Imported environmental technologies need to be tested and certified by local authorities in individual markets.

Bibliography

Barria, L. Cattafesta, C., Garrido, R, Pia Hernandez M., Vossenaar R, *Environmental Goods and Services: Challenges and Opportunities for Central American and Caribbean Countries*, [in:] *Trade and Environment Review 2003*, op.cit., article 3, pp. 61-91.

O'Brien P., *Encouraging Environmentally Sustainable Growth in the United States*, (OECD 2001), Economics Department Working Papers No. 278, ECO/WKP(2001)4, <http://www.oecd.org/dataoecd/38/41/1888654.pdf>.

Commission's proposal to the Gothenburg European Council Commission of the European Communities, Brussels, 15.5.2001; COM(2001)264 final.

Communication from the Commission to the Council and the European Parliament: Bringing our needs and responsibilities together – Integrating environmental issues with economic policy, COM(2000) 576 final, 20.9.2000.

Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions On the sixth environment action program of the European Community 'Environment 2010: Our future, Our choice' – The Sixth Environment Action Program-COM/2001/0031 final.

Ditz, T., Stern P.C, *Exploring New Tools for Environmental Protection: Education, Information and Voluntary Measures*, The National Academy of Sciences, (2002), <http://www.nap.edu/openbook/0309084229/html/6.html>.

Environmental Benefits of Removing Trade Restrictions and Distortions. Note by the Secretariat, Addendum, Committee on Trade and Environment. WT/CTE/W/67/ADD.1, 13 March 1998; Implications of WTO Agreements for International Trade in Environmental Industries, ITC, 1999, in: *Trade and Environment Review 2003*, United Nations, Geneva, New York, 2004, p. 36.

Environmental Goods and Services Industry – Manual for Data Collection and Analysis, (1999); OECD-EUROSTAT, WTO, Paris.

Environmental Goods and Services, The Benefits of further Global Trade Liberalization, OECD, 2001.

EPA Programs, Policy Economics Innovation, <http://www.epa.gov>.

Europejska wizja jakości (The European Vision of Quality), Wydawnictwo PCBiC, Warszawa, 2000.

Fifth European Community Environment Programme: towards sustainability (1998), <http://www.europa.eu.int/scadplus/leg/en/lvb/l28062.htm>.

Sixth Environment Action Programme of the European Community "Environment 2010: Our future, our choice" [COM (2001) 31 final.

Sorsa, P, *Competitiveness and Environmental Standards*, The World Bank Research Working Papers, February 1994.

A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development, Communication from the Commission (Commission's proposal to the Gothenburg European Council)* COM/2001/0264 final*.

Trade and Environment Review 2003, United Nations, New York, Geneva, 2004.

Vikhlyaev, A., *Environmental Goods and Services: Defining Negotiations or Negotiating Definitions?*, [in:] *Trade and Environment Review 2003*, United Nations, New York, Geneva.

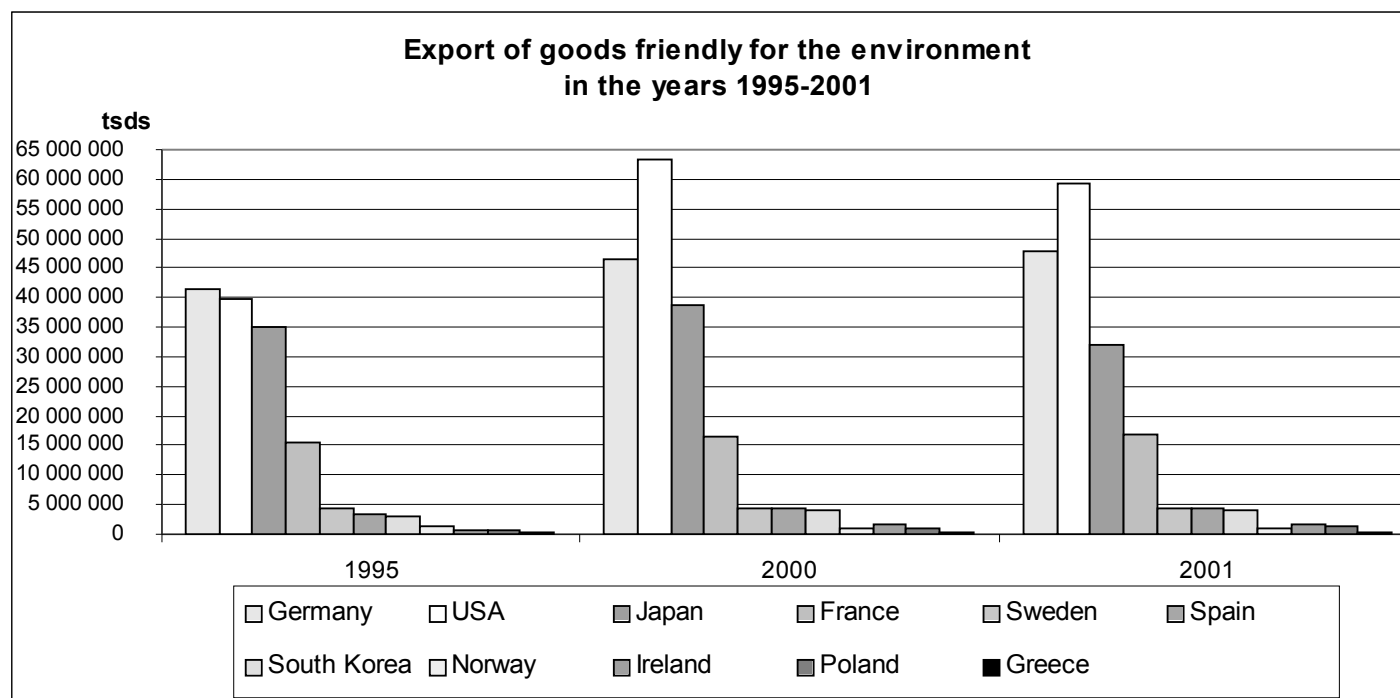
Walter I, The Pollution Content of American Trade, *Western Economic Journal* 11 (1).

Wysokińska Z., *Adaptation to European and international ecological norms and standards in the Czech Republic, Hungary, and Poland, Ecological competitiveness of Polish enterprises – results of a questionnaire research*, IT&FA Proceedings, Bangkok, 2000.

Xinpeng Xu, Liang Song, Regional Cooperation and the Environment: Do "Dirty" Industries Migrate?, *Weltwirtschaftliches Archiv*, Band 136, 2000 r.

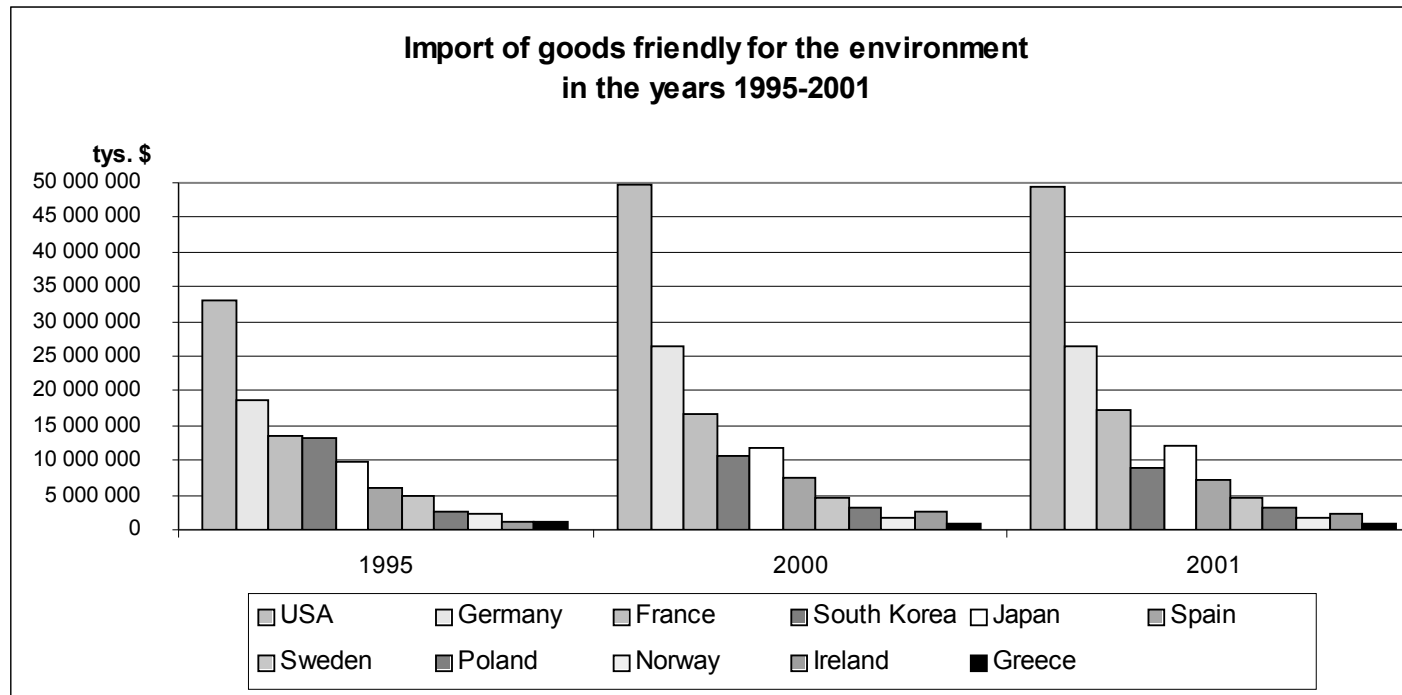
GRAPHS⁸

Graph 1

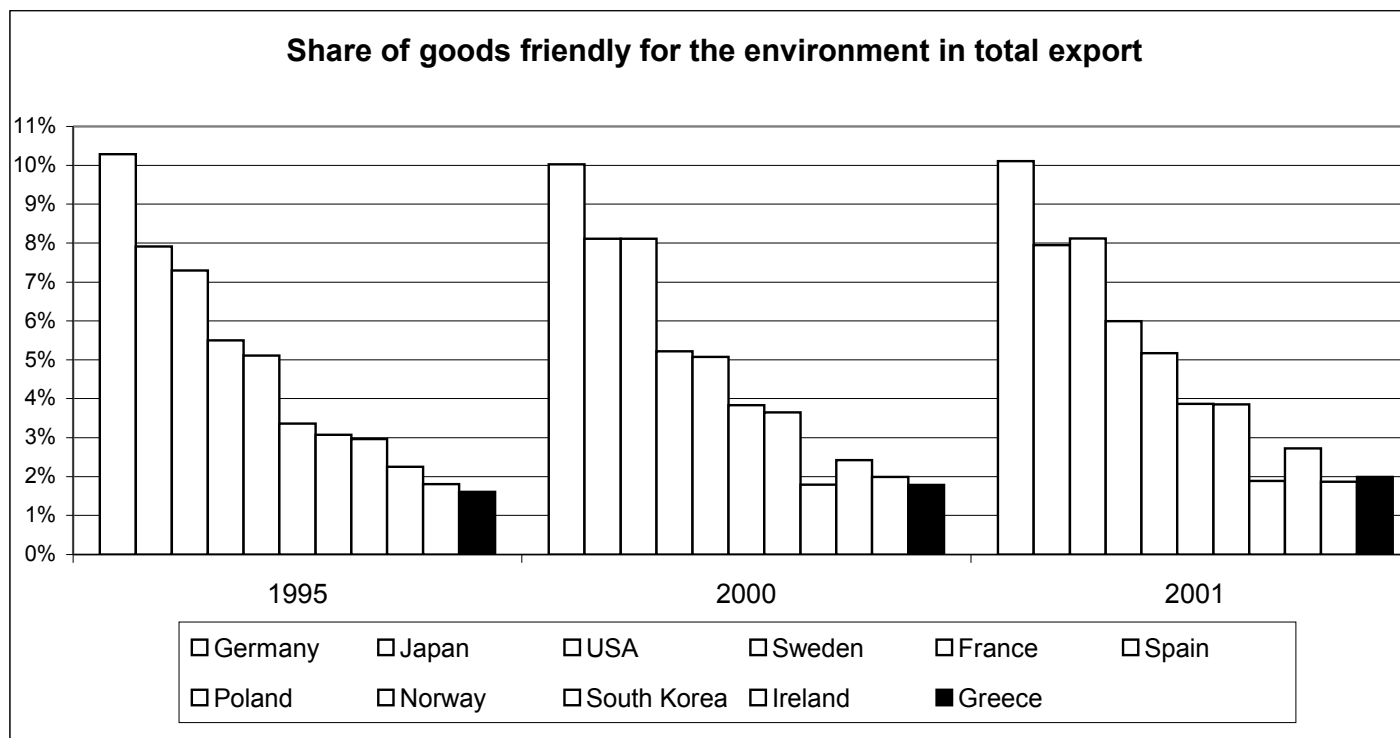


⁸ All graphs presented in the paper base on own Author's calculations of foreign trade statistical data collected according to the international requirements presented in: *Environmental Goods and Services Industry - Manual for Data Collection and Analysis*, OECD-EUROSTAT, WTO, Paris, (1999).

Graph 2



Graph 3



Graph 4

