



OECD Trade and Environment Working Papers 2008/01

Trade and Environment at
the OECD: Key Issues since
1991

**Michel Potier,
Cristina Tébar Less**

<https://dx.doi.org/10.1787/235751371440>

Unclassified

COM/TAD/ENV/JWPTE(2007)38/FINAL



Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

20-Feb-2008

English - Or. English

**TRADE AND AGRICULTURE DIRECTORATE
ENVIRONMENT DIRECTORATE**

Joint Working Party on Trade and Environment

TRADE AND ENVIRONMENT AT THE OECD: KEY ISSUES SINCE 1991

Working Paper on Trade and Environment, No. 2008-01

by Michel Potier and Cristina Tébar Less

**COM/TAD/ENV/JWPTE(2007)38/FINAL
Unclassified**

English - Or. English

JT03240832

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

Abstract

This paper provides an overview of work on trade and environment in the OECD since the creation, in 1991, of the Joint Session of Trade and Environment Experts, later re-named Joint Working Party on Trade and Environment, and summarises the main conclusions and policy recommendations arising from that work. It describes work done in three key periods:

- From 1991 to 1995, starting with the establishment of the Joint Session of Trade and Environment Experts, up to the conclusion of the Uruguay Round and the creation of the World Trade Organisation and its Committee on Trade and Environment.
- From 1995 to 2001, spanning discussions up to the adoption of the Doha Development Agenda (DDA), in which Ministers mandated negotiations on a range of topics related to trade and environment.
- From 2001 to 2008, focussing on analytical work to support discussions under negotiation in the DDA at the WTO and exploring emerging issues outside of the DDA.

Acknowledgements

The main author of this report is Michel Potier, former Deputy Director of the OECD Environment Directorate. Inputs were also provided by Dale Andrew, Joy A. Kim, Ron Steenblik, Cristina Tébar Less (OECD Secretariat) and Simone Gigli (consultant). Cristina Tébar Less co-ordinated and edited the draft.

The report was discussed by the Joint Working Party on Trade and Environment in December 2007 and cleared for declassification.

Copyright OECD, 2008

All requests for permission to reproduce or translate all or part of this material should be submitted to rights@oecd.org, OECD Publishing, 2, rue André Pascal, 75775 Paris Cedex 16, France.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
INTRODUCTION	7
THE EMERGENCE OF A DEBATE ON TRADE AND ENVIRONMENT.....	8
1991-1995: TRADE AND ENVIRONMENT DURING THE URUGUAY ROUND	10
Elaboration of procedural guidelines on trade and environment.....	11
Trade and environment principles and concepts	11
Analysis of the effects of trade liberalisation on the environment.....	12
Competitiveness issues.....	13
Use of trade measures for environmental purposes.....	13
Processes and production methods.....	14
Life-cycle approaches and trade.....	15
Economic instruments and trade	16
Harmonisation of environmental policies and standards.....	17
Dispute settlement in trade agreements and in MEAs.....	18
Input into the WTO Ministerial Meeting in 1995	18
1995- 2001: FROM THE CREATION OF THE WTO TO THE DOHA DEVELOPMENT AGENDA...	19
Implementation at national level of the procedural guidelines on trade and environment.....	20
The use of trade measures in MEAs.....	20
Sustainable product policies and trade: extended producer responsibility, eco-labelling, greening of public purchasing	21
Trade liberalisation and its environmental effects in the fossil fuel, freight transport and the environmental goods and services sectors.....	22
Environmental assessment of trade liberalisation agreements	23
Key environmental principles or approaches and trade	23
2001-2008: SUPPORTING TRADE AND ENVIRONMENT NEGOTIATIONS AT THE WTO AND EXPLORING NEW ISSUES	26
Benefits of the liberalisation of trade in environmental goods and services, including removal of non-tariff barriers.....	27
Environmental requirements and market-access	31
Effects of eco-labelling schemes	32
Regional Trade Agreements and Environment	33
NEW PROJECTS IN 2007-8.....	35
BIBLIOGRAPHY	35
Boxes	
Box 1. Mandate of the Joint Session of Trade and Environment Experts.....	9
Box 2. The Doha Development Agenda: Excerpts on Trade and Environment.....	26

EXECUTIVE SUMMARY

In April 1991, the OECD's Trade and Environment Committees established the Joint Session of Trade and Environment Experts (JSTEE), later re-named Joint Working Party on Trade and Environment (JWPTE). The OECD was the first international organisation to establish a standing body to regularly examine trade and environment issues. The work of this group has promoted a better understanding of trade and environment linkages and identified approaches for assuring the mutual compatibility of trade and environmental policies. Through this process, the OECD has promoted the fuller integration of trade and environmental policy-making in capitals and helped to bridge gaps in understanding and communication between the trade and the environmental communities, thereby contributing to the achievement of sustainable development.

Work on trade and environment in the OECD has been shaped by the policy contexts in three distinct periods:

- From 1991 to 1995, starting with the establishment of the Joint Session of Trade and Environment Experts, up to the conclusion of the Uruguay Round and the creation of the World Trade Organisation (WTO) and its Committee on Trade and Environment.
- From 1995 to 2001, spanning discussions up to the adoption of the Doha Development Agenda (DDA), in which Ministers mandated negotiations on a range of topics related to trade and environment.
- From 2001 to 2008, focussing on analytical work to support discussions under negotiation in the DDA at the WTO and exploring emerging issues outside of the DDA.

During the 1991-1995 period, the JSTEE's work was marked by a recognition that environment and trade concerns had become more closely linked as the world economy became increasingly integrated. There was also increased recognition by the environmental community of the need to integrate environmental concerns in various sectoral policies. One of the outcomes of the discussion in this period was the adoption of procedural guidelines on trade and environment, intended to help governments promote the mutual supportiveness of trade and environmental perspectives when designing national policies.

The JSTEE also analysed various linkages between trade and environment, such as the effects of trade liberalisation on the environment; competitiveness issues linked to environmental policies; the trade effects of life-cycle approaches; and economic instruments as complements to environmental regulation.

The JSTEE developed a framework for analysing the potentially positive and negative environmental effects of trade liberalisation; in particular scale, structural, product, technology and regulatory effects. This work suggested that trade liberalisation can promote the efficient use of resources, and generate finance to address environmental issues, provided that effective environmental policies and institutions are in place. In the absence of effective policies for internalising environmental costs, or removing market distortions, for example from subsidies, increased economic activity generated by trade liberalisation was likely to exacerbate environmental problems.

Concerns raised over the potential loss of competitiveness due to the implementation of environmental policies were mitigated by empirical research which indicated that the costs of compliance with environmental regulations had had little or no impact on the overall competitiveness of countries, measured by trade balance or changes in trade patterns. From a policy dialogue on these issues, the JSTEE made two major recommendations to governments: that measures to compensate for real or perceived negative competitiveness effects from environmental requirements, such as “green countervailing duties”, should be firmly rejected; and that environmental requirements should not be relaxed in order to encourage investment or to promote exports.

Other issues addressed in this period included: the use of trade measures for environmental purposes; processes and production methods; life-cycle approaches; economic instruments; harmonisation of environmental standards; and dispute settlement in trade agreements and MEAs.

In the period spanning 1995 to 2001, much of the debate on trade and environment took place in the newly created WTO Committee on Trade and Environment. At the OECD key projects in this period dealt with sustainable product policies (extended producer responsibility, eco-labelling, greening of public purchasing) and trade; environmental effects of trade liberalisation in various sectors, including freight transport and fossil fuels; the environmental assessment of trade liberalisation agreements and links between key environmental principles and approaches (precaution, the polluter-pays principle) and trade.

Work also included analysis of the use of trade measures in Multilateral Environmental Agreements (MEAs). Key conclusions were that trade can be an appropriate instrument to use in MEAs. However, it should be seen in relation to other policy instruments, and its use is most effective in specific circumstances: when the international community has agreed to tackle and manage collectively international trade as a part of the environmental problem; when trade controls are needed to make regulatory systems comprehensive in their coverage; to discourage free-riding; and to ensure compliance with the MEA.

From 2001 to 2008, work at the OECD focussed on providing analytical support for negotiations on trade and environment issues addressed under the Doha Development Agenda. Highlights included a range of reports and case studies on the environmental benefits of the liberalisation of trade in environmental goods and services, and on environmental requirements and market access. This work was regularly shared with WTO members, and several events involving non-OECD members were held to discuss the main outcomes.

Work on the liberalisation of trade in environmental goods and services conducted before the launch of the DDA in 2001 emphasized that it was an important but not sufficient condition for achieving environmental benefits: complementary, demand-side measures were also important, particularly: appropriate environmental regulatory frameworks and the choice of policy instruments; ensuring complementarities of environmental goods and environmental services; buttressing the implementation of pollution prevention by avoiding distortions; and fostering diffusion of appropriate technology in emerging economies.

After the launch of the DDA, the JWPTE supported negotiations on environmental goods and services by analysing a variety of issues: the definition of “environmental goods and services”, including the concept of “environmentally preferable products”; the linkages between “environmental goods” and “environmental services” which are negotiated in different WTO committees; trade in specific “environmental goods” including renewable energy, energy-efficient electrical appliances and monitoring equipment; and the transfer of environmentally sound technology. Most recently a survey was conducted of firms exporting environmental goods and services to assess non-tariff barriers to trade. The main

conclusion was that the most frequently cited barriers were generic and not environment-specific; for example, product testing and certification procedures, customs procedures, regulation of payments, etc.

The effects of environmental requirements on developing-country exports arising from OECD members' environmental and health regulations, as well as from standards set by governmental and non-governmental organisations, have long been a subject of trade and environment debate. Developing countries want to boost their income through exports. Importers, particularly industrialised countries, want to ensure that imported goods meet their own established requirements for health, safety and the environment. Awareness of the potential impacts of environmental requirements on trade partners has increased with time, as has information on regulations. Analysis conducted by the JWPTE showed that effective measures for reconciling exporters' and importers' interests include: early notice of intended actions; opportunities for comment; scientific studies and risk assessments to justify intended actions; and taking into account, or adopting, international standards. In addition, technical assistance and capacity building are important means for enabling the poorest exporting countries to become familiar with environmental requirements in export markets.

More recently, the JWPTE has undertaken work in areas which are not directly linked to negotiations at the WTO. This has included analysis of environmental provisions in regional trade agreements (RTAs). Over the last few years, the number of RTAs has significantly increased, and in addition to tariff reductions, many deal with other issues such as labour and environment. Today, RTAs negotiated by most OECD members include some type of environmental provision, and provide a potentially important means of making trade and environment policies mutually supportive. The JWPTE has agreed to monitor these developments and to disseminate the results.

In 2007-8, in addition to RTAs, work will focus on exploring ways to promote trade in climate change mitigation technologies and analysing the environmental and economic benefits of removing barriers to trade in non-hazardous recyclable materials.

INTRODUCTION

This report summarises the main conclusions emerging from work on trade and environment at the OECD since 1991. This was the year when the Joint Session of Trade and Environment Experts (JSTEE), later re-named Joint Working Party on Trade and Environment (JWPTE), was established. The report will contribute to the preparations of the meeting of OECD Environment Ministers in 2008. The theme of the Ministerial will be “Environment and Global Competitiveness”, and trade and environment constitutes an important aspect of that topic.

The report briefly describes the JWPTE’s mandate and working methods (*e.g.*, type of work done, regular consultations with stakeholders, involvement of observers, etc.) and then presents its main achievements and key policy conclusions since 1991. It provides an overview of key issues related to trade and environment discussed over the past years, and may thus also facilitate a reflection within the JWPTE and its parent Committees on the mandate of the group, which ends on 31 December 2008, and its future orientations.

The report starts with a brief description of the emergence of a debate on trade and environment in the OECD, which led to the creation of the Joint Session of Trade and Environment Experts. It then summarises the work and main policy recommendation emerging from that work in three key periods:

- **From 1991 to 1995**, starting with the establishment of the Joint Session of Trade and Environment Experts, up to the conclusion of the Uruguay Round and the creation of the World Trade Organisation (WTO) and its Committee on Trade and Environment.
- **From 1995 to 2001**, spanning discussions up to the adoption of the Doha Development Agenda (DDA), in which Ministers mandated negotiations on a range of topics related to trade and environment.
- **From 2001 to 2008**, focussing mainly, but not solely, on analytical work to support discussions under negotiation in the DDA at the WTO. More recently, work has explored several emerging issues outside of the DDA.

THE EMERGENCE OF A DEBATE ON TRADE AND ENVIRONMENT

Interest in the relationship between environment and trade goes back at least to the early 70s when the linkages between both policy areas were being debated within the newly-formed OECD Environment Committee. The issues were then more narrowly framed and discussion focussed on whether pollution abatement costs in industry would significantly alter the patterns of international trade and investment. Some attention was also given to the potential trade impacts of environmentally-related product standards.

During this period, the Environment Committee's Sub-Committee of Economic Experts started developing general principles on the allocation of abatement and pollution control costs and the trade implications of environmental policies. The group held informal consultations with the Working Party of the Trade Committee, and in 1972, the "Guiding Principles Concerning the International Economic Aspects of Environmental Policies" were adopted by the OECD Council. They address mainly four general principles: the polluter-pays principle; the harmonisation principle; the national treatment and non-discrimination principle; the compensating import levies and export rebates principle.

During the 1972-1988 period, the trade and environment relationships did not figure highly on the agenda of either the Trade or the Environment Committee. In 1989, discussion on these issues started again in the Trade Committee which undertook work to identify and analyse key environment and trade issues from the trade perspective, including the relationship with GATT principles and procedures. This renewed interest was explained by the fact that environmental issues were gaining a higher profile in the GATT.

At this point, the Environment Committee initiated analysis of environment and trade issues as part of its overall work on the integration of environment and economics. The cooperative efforts by the Environment Committee and the Trade Committee led to the establishment, in April 1991, of the Joint Session of Trade and Environment Experts (JSTEE) (see its mandate in Box 1). In June of that year, the Committees submitted a report on trade and environment to the OECD Ministerial Council.

The OECD was the first international organisation to begin a regular examination of trade and environment issues with the creation of a specific body dedicated to the subject. The JSTEE constituted a unique forum where trade and environment experts worked together. It was the first body to implement in practice "policy coordination between trade and environment officials". It aimed at helping governments in understanding trade and environment issues by developing analytical tools and guidelines and providing input to negotiations in other forums.

The work of this group has contributed to substantial progress in better understanding trade and environment linkages and delineating approaches for assuring the mutual compatibility of trade and environmental policies. Through this process, the OECD has promoted the fuller integration of trade and environmental policy-making in national capitals and helped to bridge gaps in understanding and communication between the trade and the environmental communities, thereby contributing to the achievement of sustainable development.

Box 1. Mandate of the Joint Session of Trade and Environment Experts

“The Joint Session should:

- focus on analytical work, including empirical studies of selected policy areas and economic sectors, aimed at promoting the mutual compatibility of trade and environment policies in practice, in order to contribute to sustainable development, while building on its work to date;
- focus on those areas where it has the greatest value-added while supporting the activities of other OECD bodies and international organisations, and avoiding duplication;
- co-operate and liaise with other relevant OECD bodies, and with relevant international organisations including the WTO, UNEP, UNCTAD, ISO, and the Commission on Sustainable Development;
- consult with Partners in transition, Dynamic non Member economies and developing countries, and provide them with expertise as appropriate;
- consult regularly as appropriate with both industry and environmental NGOs on environment and trade related matters;
- advise and report to the parent Committees on new and emerging problems and major issues with respect to trade-environment relationships;
- assist the parent Committees in ensuring the coherence and consistency of the trade and environment related work being carried out in the various bodies of the OECD; and
- achieve the above while meeting twice a year at expert level and once more at higher level, as appropriate.”

Source: Extract of document [COM/ENV/TD/A(95)75, Annex]

1991-1995: TRADE AND ENVIRONMENT DURING THE URUGUAY ROUND

The Uruguay negotiations served as the backdrop for the work of the JSTEE.¹ There was a broader recognition that environment and trade concerns are linked to a greater degree as the world economy becomes increasingly integrated. There was also growing recognition by the environmental community of the need to integrate environmental concerns in various sectoral policies.

The JSTEE carried out its work in cooperation with other international bodies such as the GATT, UNCTAD, UNEP and the IMF, which were invited to attend its meetings as observers. Furthermore, the group held regular consultations with various stakeholders. During this period, each year, representatives of industry, trade unions and environmental organisations were invited to dialogues on particular trade and environment topics and on the nature and direction of work being pursued within the OECD.

The concerns of developing countries and countries in transition were also taken into account. The Development Co-operation Directorate (DAC) undertook a major trade and environment work programme to illustrate the concerns of non-OECD countries and how aid agencies and development NGOs might help these countries to deal with problems related to trade and environment. In addition, non-OECD countries (Mexico, Korea, Hungary, Poland, the Czech Republic, the Slovak Republic and Hong Kong, China) have sat in the Joint Session as observers and participated actively in the discussions.² The OECD also organised workshops on trade and environment issues with a number of dynamic non-member countries.

The main substantive achievements of the JSTEE during this period include reports and statements on:

- Procedural guidelines on trade and environment
- Trade and environmental principles and concepts
- Analysis of the effects of trade liberalisation on the environment
- Competitiveness issues
- Use of trade measures for environmental purposes
- Processes and production methods
- Life-cycle approaches and trade
- Economic instruments and trade

¹ An overview of the Uruguay Round discussions (1986-1994) can be found at www.wto.org/english/thewto_e/whatis_e/tif_e/fact5_e.htm.

² All these countries, except Hong Kong, China, have later become members of the OECD.

- Harmonisation of environmental policies and requirements
- Dispute settlement in trade agreements and in MEAs

This work was summarised by the JSTEE in a report to Ministers in June 1995. The remainder of this section is based on that report.

Elaboration of procedural guidelines on trade and environment

The JSTEE developed so called *Procedural guidelines on trade and environment* pursuant to the mandates by Ministers in 1991 and 1992. The objectives of these guidelines were to help governments promote the mutual supportiveness of trade and environmental perspectives when designing national policies. The four procedural guidelines address transparency and consultation, trade and environment reviews, international environmental co-operation and dispute settlement. They were endorsed by Ministers in June 1993.

According to these guidelines, Member governments should:

- Provide for transparency and consultation with all interested stakeholders in the development and implementation of trade and environmental policies.
- Undertake a review of trade and environmental policies and agreements, in order to identify and address areas where there are potentially significant effects on the other policy area. To this effect a checklist of issues to be addressed during such examinations and reviews was annexed to the guideline.
- Co-operate internationally to enhance the effectiveness of international environmental action, without undue effects on trade.
- When involved in a trade or environmental dispute with another country which affects the other policy area, resolve the matter transparently and utilise expertise involving both policy areas.

In order to help Member governments to implement the procedural guideline on reviews of trade and environmental policies and agreements, the JSTEE developed in 1994 a general methodology for conducting environmental reviews of trade policies and agreements and trade reviews of environmental policies and agreements.

Trade and environment principles and concepts

In order to further the understanding of trade and environment policies and their linkages, and facilitate the implementation of the procedural guidelines, particularly the conduct of environmental and trade reviews, the JSTEE undertook an examination of *key trade and environmental principles and concepts*.

The trade principles and concepts which were examined included non-discrimination, most-favoured nation, national treatment, like products, comparative advantage, necessity and trade restrictiveness, proportionality, complementarity and equivalence. The environmental principles and concepts included ecological interdependence, equity, common but differentiated responsibilities and shared or transboundary resources; the polluter pays principle and related concepts such as internalisation of environmental costs;

and the precautionary principle³ and related concepts such as risk management and environmental impact assessment.

Analysis of the effects of trade liberalisation on the environment

Several documents on the *effects of trade liberalisation on the environment* compiled in a 1994 publication showed that, in general terms, trade liberalisation can have a positive impact on the environment by improving the efficient allocation of resources, promoting economic growth and increasing general welfare, provided effective environmental policies are implemented. Trade liberalisation can provide resources for environmental improvement, particularly for developing countries and economies in transition. In the absence of effective environmental policies, including those aiming at internalising environmental costs, or when distortive domestic policies exist, increased economic activity generated from trade liberalisation can contribute to environmental problems. The environmental effects of trade liberalisation – both positive and negative- will vary, depending on the country, sector and particular circumstances.

In assessing the environmental effects of trade liberalisation, five main categories of trade-related environmental effects have been identified: scale, structural, product, technology and regulatory effects.

- By promoting economic growth, trade liberalisation can have positive *scale effects* in providing resources (through economies of scale) which may be used for environmental protection as well as promoting investment in environmental technology. To benefit from scale effects a minimum prerequisite is that the trade-induced increase in economic activity does not lead to irreversible environmental damage. In the absence of appropriate policies to protect the environment, or where distortive domestic policies exist, the increased economic activity resulting from increased trade can lead to environmental degradation, for example, from unsustainable exploitation and use of natural resources or from transportation when movements of goods and services expands markedly without appropriate environmental safeguards.
- If environmental costs are adequately internalised, or distortive domestic policies removed, trade liberalisation will have positive *structural effects* by improving the allocative efficiency both among and within countries. For example, where trade liberalisation results in reductions in support and protection for activities that have resulted in environmental damage, trade liberalisation can also contribute in reducing environmental damage. In the absence of internalisation of the relevant environmental costs or of coherent domestic policies, trade liberalisation can contribute to patterns of, and shifts in, production and consumption with negative environmental impacts.
- Trade liberalisation can have positive *product effects* in facilitating the sales and transfer of environmentally beneficial goods and services. However, it can also lead to increased trade with negative environmental implications, such as uncontrolled, or insufficiently controlled, trade in toxic chemicals and hazardous wastes. International co-operation, including multilateral environmental agreements or an appropriate regulatory framework, can help remedy these problems.
- Trade liberalisation can have positive *technology effects* in facilitating transfer of environmentally-friendly technologies and improving environmental management capacity through more open markets and freer investment flows. However, care should be taken that the

³ In subsequent work by the group, the terms “precaution” and “precautionary approach” were used.

technologies transferred do not cause environmental damage and are appropriate to conditions in the receiving country.

- Lastly, trade liberalisation can have *regulatory effects* in establishing rules that may affect the design and implementation of environmental policies, including voluntary approaches. Care should be taken that measures to liberalise trade do not provide a disincentive to governments to pursue appropriate and effective environmental policies. In general, some of these effects may be felt sooner (*e.g.* product and regulatory effects), while others will be felt in the longer term (*e.g.* scale and structural effects).

In light of this analysis, it was recognised that the OECD's procedural guidelines by promoting improved integration and mutual compatibility of environmental and trade policies should help realise the beneficial effects of trade liberalisation.

Competitiveness issues

Concerns had been raised over the potential *loss of competitiveness* due to the implementation of environmental policies, but empirical research done by the JSTEE in 1993 indicated that the costs of compliance with environmental regulations has had little or no impact on the overall competitiveness of countries, measured by trade balance or changes in trade patterns.

Environmental costs may have more significant impacts on selected sectors or firms where environmental costs are higher than average and which may be experiencing other types of competitive difficulties. But the relative role of environmental factors was difficult to pinpoint. In addition, stringent environmental regulations may help rather than hurt the competitiveness of certain sectors which are prompted to innovate and to market green products. Lax environmental standards may detract from rather than contribute to competitiveness, particularly in the longer term. There was also little evidence that environmental compliance costs have caused firms to relocate polluting facilities to countries with more lax environmental standards, thereby creating pollution heavens.

On the basis of this work, the JSTEE made two major recommendations to OECD governments in its 1995 report to the Council. The first one was to firmly reject demands which were sometimes made to introduce so-called "green countervailing duties" or other protectionist or WTO-inconsistent trade measures, to compensate for negative competitiveness effects, whether real or perceived, of environmental policies. The second was to strongly affirm that it would be inappropriate to encourage investment or to promote exports by relaxing domestic health, safety or environmental requirements or their enforcement.

Use of trade measures for environmental purposes

With the Tuna-Dolphin dispute as a background, the use of various forms of *trade measures for environmental purposes* was lively debated by the JSTEE.⁴ In the 1995 report to Ministers, it was recognised that the use of trade measures for environmental purposes may, in some cases, be part of a package of instruments that a government may use to achieve environmental objectives, although they are very rarely the primary or best instrument.

The most frequent use of trade measures for environmental purposes is in connection with national product requirements, for example, requiring imports to meet national environmental, safety, and health

⁴ A brief description of the Tuna-Dolphin dispute can be found at www.wto.org/English/tratop_e/envir_e/edis04_e.htm.

requirements for products. Such requirements are permitted under multilateral trade rules, subject to agreed disciplines, for example, as complements to domestic product requirements to limit environmental damage in the importing country linked to the use or consumption of the product. Other uses raise concerns, including, in some cases, the possibility of abuse for protectionist purposes and of undermining the multilateral trading system.

The JSTEE confirmed the OECD governments' commitment to UNCED Agenda 21 and Principle 12 of the Rio Declaration that unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures to address transboundary and global problems should as far as possible be based on an international consensus. These principles also extend to unilateral restrictions based on requirements on processes and production methods. In particular, the report mentioned that OECD countries should not use trade restrictions to pressure other countries to change their policies and practices with respect to environmental problems whose effects are limited solely to the jurisdictions of these countries, recognising that it may at times be difficult to distinguish the geographic boundaries of environmental effects.

The JSTEE further considered that international co-operation among countries (including in the form of multilateral environmental agreements) is the best and most effective means of addressing transboundary and global environmental problems. It is the most effective from an environmental policy perspective; it is likely to prevent the misuse of trade restrictions including those for protectionist purposes; and it reduces the pressure for use of unilateral trade restrictions.

International co-operation may involve the use of specifically agreed-upon provisions for trade measures in MEAs to achieve the environmental goals of the agreement. However, in the design of an MEA, whenever other policy options are feasible and equally effective and efficient, they should be used in preference to trade restrictions. The aim should be to implement measures that are not more trade restrictive than necessary to fulfil a legitimate objective. Technical and financial assistance and the acceptance of transitional grace periods should be considered when poor environmental performance is mainly caused by lack of technical, human, or financial resources, as is often the case for developing countries and economies in transition. The best policy package is likely to vary with the specific circumstances.

Processes and production methods

Processes and production methods (PPMs), e.g. the way in which products are manufactured or processed and natural resources extracted or harvested, can have significant environmental impacts. Due to the continued importance of the subject, the JSTEE invested considerable efforts in analysing the environmental and trade implications of countries imposing PPM-related requirements on imported products. A conceptual framework was first developed and then tested through a series of case studies on actual PPM-related requirements which were debated at a workshop in 1994 and reported in a publication entitled *Trade and Environment: Processes and Production Methods*.

Negative impacts of PPMs can be of two sorts. They can affect the characteristics of a product so that the product itself may pollute or degrade the environment when it is consumed or used (product-related PPMs). Alternatively, PPMs can directly have a negative impact on the environment through, for example, the release of pollutants into the air or water (non-product-related PPMs). This environmental impact may be purely local at the site of production or it may have a transboundary or global implications.

According to this JSTEE report, domestic PPM-related requirements are important policy tools for promoting sustainable development. Consumers in many countries are increasingly seeking information on how the PPMs of products affect the environment. Areas in which PPM-related issues arise include the use

of trade measures for environmental purposes, life-cycle approaches, economic instruments and harmonisation of environmental policies and requirements.

In most cases, PPM-related requirements set by government regulations have exclusively domestic effects and do not cause frictions with trade policy. However, concerns with the impacts of certain PPMs on the environment and the wish to promote more environmentally sound activities or to avoid promoting environmentally damaging activities, have led occasionally to the actual or proposed use of trade measures. In some instances, non-environmental objectives have played a role. Depending upon the market power of the country imposing the trade measures and the trade dependence of the country against whom the trade measures are imposed on the goods in question, these measures may put pressure on countries to change their own environmental policies and have the effect of extending domestic PPM-related requirements to other countries.

When PPMs affect the characteristics of products, existing trade rules clearly permit the use of PPM-based trade measures, subject to agreed disciplines. However, multilateral trade rules and disciplines make no provision for, and have been interpreted not to allow for, import restrictions based on characteristics which are not physically embodied in the imported products and therefore do not impact on the environment of the importing country. The JSTEE analysed the motivation, feasibility, effectiveness and efficiency of using trade restrictions based on non-product related PPMs.

Besides environmental motivations, non-environmental concerns or objectives for the use or proposed use of trade restrictions based on non-product related PPMs may enter into play. Environmental motivations usually stem from the desire to protect transboundary or global environments and shared resources. Competitiveness motivations can reflect the concern that high domestic environmental requirements are perceived to have an adverse effect on the competitiveness of domestic industry as well as more purely protectionist concerns. Value-based motivations usually reflect consumers' objections to PPMs that conflict with their moral or value preferences. These different motivations are not always transparent and distinguishable.

Differences in views regarding appropriate PPM-related requirements may stem from differences in cultural or other values, in policy priorities, in political systems, in proposed approaches to resolving problems, in knowledge and understanding of environmental impacts, in perceptions of scientific evidence and acceptability of risk, and in financial capacities and technology.

One of the conclusions reached by the JSTEE was that environmental concerns related to PPMs that have transboundary or global environmental effects are best addressed through international co-operation. This may take the form of technical and financial assistance, the negotiation of multilateral agreements or the development of international standards. It is also necessary to recognise that under certain circumstances, multilateral environmental agreements may need to incorporate, among other measures, trade restrictions based on PPMs in order to achieve their environmental objectives.

Life-cycle approaches and trade

Life-cycle approaches are valuable tools for governments, industry and consumers in understanding the complex environmental effects of products from "cradle to grave", in reducing environmental burdens caused by the products during their life-cycle, and in making environmentally informed production and purchasing decisions.

The trade effects of policies and programmes that involve life-cycle approaches will depend partly on their design. Poorly-designed policies and programmes can have adverse trade and environmental impacts. Some of the findings of the PPMs analysis are relevant in the case of some life-cycle based policies or

programmes that incorporate production stage criteria. In general, the proliferation of different types of national environmental packaging, recycling, recycled content, labelling and other programmes which are not compatible with one another can impede trade. There is a need for greater transparency and international cooperation in the development of life-cycle approaches as well as for greater efforts towards international harmonisation and/or equivalency and mutual recognition approaches.

Voluntary eco-labelling schemes play also a valuable role in informing consumers about the environmental consequences of their purchasing decisions. However, they can raise particular trade concerns when they include production-related criteria which can discriminate against imports when they reflect exclusively the environmental conditions and the preferences of the importing country.

In light of these concerns, the JSTEE encouraged private programmes based on life-cycle approaches and recommended that OECD governments take steps to:

- Ensure the transparency of these programmes by providing appropriate notice and opportunity for consultation with trading partners when significant impacts on their exports are expected;
- Allow appropriate time periods for adaptation by trading partners to new or changed rules and programmes;
- Take into account, where feasible and appropriate, the different factors and conditions existing for foreign suppliers which may not be relevant for domestic suppliers;
- Make appropriate provisions, when feasible, for the special needs of developing countries and economies in transition;
- Pursue greater harmonisation of life-cycle methodologies, convergence of procedures, as well as equivalency and mutual recognition approaches, where appropriate;
- Ensure that life-cycle policies and programmes do not discriminate against foreign producers;
- Ensure that the criteria are environmentally justified and, where relevant, based on best scientific and technical information, taking into account relevant environmental principles.

Economic instruments and trade

The OECD advocates greater *use of economic instruments*, including environmental taxes and charges, tradable permits and deposit refund schemes, as complements to regulatory instruments and voluntary approaches to implement environmental policies. Economic instruments have the potential to help achieve environmental goals in a cost-effective manner and to promote innovation. Well-designed economic instruments lead to trade patterns and production and consumption patterns which more fully reflect all costs, including environmental costs. However, economic instruments should be designed and implemented in accordance with multilateral trade principles and rules so as to avoid unnecessary adverse trade impacts. Some of the issues, concerns and findings identified by the JSTEE in the PPM analysis are relevant in the case of some economic instruments that include process-related elements.

At the time of the elaboration of the 1995 Ministerial report, it was found that environmental taxes and charges on processes had not been set at a high enough level to have significant impacts on trade flows. Environmental taxes and charges on products, and other product-related instruments such as deposit-refund schemes, could affect market access for foreign producers if discriminatory or not well-designed. Deposit-refund schemes, if not properly designed, could particularly disadvantage partners who

incur significant transportation costs due to their distance from the market. Similarly, depending on their design, it is possible that tradable permit systems could function in a way to deter investment either domestic or foreign, but there was no evidence that this had been the case in practice.

Multilateral trade rules contain provisions on border tax adjustments, *i.e.* the application to imports of domestic taxes on like products, and the remission of domestic taxes on exports of like products. WTO rules have been interpreted as generally allowing, subject to agreed disciplines, for border tax adjustments on products on the basis of product characteristics or physically incorporated inputs but not for taxes on imports on the basis of domestic process taxes. These rules do not, of course, directly limit a country from using taxes to address environmental problems occurring in its own jurisdiction. However, it was recognised that border adjustments for domestic process taxes may, due to the perceived competitiveness effects of these taxes, be a necessary component of countries' efforts to use these economic instruments domestically to prevent serious global environmental damage.

WTO trade rules allow limited use of environmental subsidies subject to agreed disciplines. The JSTEE recognised that limited use of environmental subsidies can have benefits in implementing environmental policies, but they need to be subject to certain disciplines or rules since they can distort trade in giving advantages to domestic producers and can conflict with the polluter-pays principle.

Harmonisation of environmental policies and standards

The question of the harmonisation of environmental standards has been at the centre of trade and environment discussions for many years. The OECD Guiding Principles Concerning the International Economic Aspects of Environmental Policies of 1972 recommend harmonisation of environmental standards where valid reasons for differences do not exist and where there are significant obstacles to trade. In 1993, the JSTEE, in re-examining the need to harmonise environmental policy instruments came to the conclusion that a greater harmonisation of environmental policies and requirements can be beneficial for trade. If set sufficiently high for the environment harmonisation does not necessarily require strict uniformity of environmental standards. Different types of harmonisation include pre-market harmonisation (such as the OECD Chemicals Programme), mutual recognition, equivalency and international standards.

However, the extent to which harmonisation is useful and feasible differs with the type of environmental standard. Accordingly, efforts should continue to harmonise environment related-product standards which may pose potential trade problems (such as life cycle management approaches and environmental labelling).

Harmonisation of ambient and process standards on a consensual basis may be necessary and desirable to address transboundary and global environmental concerns. There may be cases where such harmonisation could lead in the longer term to internationally agreed minimum ambient and process standards. Harmonisation would generally occur within the context of regional and multilateral environmental agreements which take into account the differing environmental conditions, responsibilities, abilities and priorities of countries.

Harmonisation of ambient and process may be less desirable or feasible in the case of local environmental problems. Because environmental conditions and preferences differ widely among countries, ambient and process standards are best tailored to local circumstances. However, international convergence of process standards for certain goods, such as food or resource products, may reduce potential non-tariff trade barriers.

Dispute settlement in trade agreements and in MEAs

A review to approaches to *dispute settlement in environmental conventions* and other legal instruments showed that most environmental conventions contained provisions for dispute avoidance, consultation, negotiation, mediation, conciliation, arbitration and judicial settlement and that the emphasis had been on dispute avoidance through monitoring and reporting. In its 1995 report to Ministers the JSTEE urged governments to make every effort to continue to avoid disputes at the interface between trade and environment through a better integration of trade and environmental policy making. At the same time, it underscored the importance to rely on an effective and reliable dispute settlement process not only in the case of Multilateral Environmental Agreements (MEAs) but also within the multilateral trading system. Thus, it welcomed the new provisions contained in the Dispute Settlement Understanding of the WTO Agreement which was under negotiation at the time of the elaboration of its report.

Input into the WTO Ministerial Meeting in 1995

As described above, during the 1991 and 1995 period, the JSTEE carried out extensive work on trade and environment issues. The report on all these issues which was submitted to the 1995 OECD Council at Ministerial Level was in fact heavily relied on in negotiating that year's WTO Ministerial meeting in Singapore and helped shape the WTO's agenda on trade and environment for the following years.

1995- 2001: FROM THE CREATION OF THE WTO TO THE DOHA DEVELOPMENT AGENDA

With the creation of the WTO in 1995 and the establishment of a WTO Committee on Trade and Environment (CTE), questions were raised about the need for, and rationale of, continued work within OECD on this issue. The level of priority of trade and environment issues was lowered by the Trade Committee, which favored work on the new issues of trade and investment, competition and social standards in the context of globalisation. Analysis of trade and environment links remained on the Environment Policy Committee's agenda throughout the second half of the 90s, but the priority assigned to this work fell somewhat in this period.

The fact that much of the debate - and senior officials - had moved to Geneva had a clear impact on the work on trade and environment at the OECD. The focus of international attention shifted to the WTO, and specifically to the CTE, which was "up and running" and engaged a broader range of countries than the OECD. The Trade and Environment programme was maintained in the OECD and efforts were made to ensure that the Organisation continued to address and analyse issues that were at the centre of the debate, and which were of priority to OECD members.

Main substantive achievements during this period include reports on⁵:

- Implementation at national level of the procedural guidelines on trade and environment
- The use of trade measures in MEAs
- Sustainable product policies (extended producer responsibility, eco-labelling, greening of public purchasing) and trade
- Trade liberalisation and its environmental effects of trade liberalisation in the fossil fuel, the freight transport sector and the environmental goods and services sectors.
- Environmental assessment of trade liberalisation agreements
- Key environmental principles (precaution, the polluter-pays principle) and trade

Part of this work was summarised by the JSTEE, renamed during this period Joint Working Party on Trade and Environment (JWPTE) in their fifth report to Ministers to the 1999 OECD Ministerial Council meeting. The following sub-sections are partly based on this report.

⁵ During this period, the JWPTE did also work on the benefits of the liberalisation of trade in environmental goods and services. This work is described in the section dealing with the period 2001-present, when most of the work on environmental goods and services was carried out.

Implementation at national level of the procedural guidelines on trade and environment

Since their adoption in 1993, the OECD Procedural Guidelines on Trade and Environment have provided guidance to Member countries on ways of increasing the integration and mutual reinforcement of trade and environment activities and policies. A first review of the implementation of the guidelines was carried out in 1995-96 under the aegis of the JSTEE. In May 1998, it launched a second review of the implementation of the guidelines. A synthesis report highlighting common themes in terms of successes and difficulties in implementing the Guidelines was also published. Both surveys showed that the procedural guidelines on trade and environment have contributed to a greater integration of trade and environmental policy-making in OECD countries and more consultation with interested non-governmental parties.

Focussing on the guideline on transparency and consultation, a further series of case studies was undertaken in 13 OECD countries plus the European Commission, and in several organisations, all of which were observers of the JSTEE (WTO, UNEP, UNCTAD and the CEC). The main findings from the case studies were synthesised in a report.

The use of trade measures in MEAs

Since 1996, the JSTEE has undertaken case studies examining *the use of trade measures in MEAs*, focussing on the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); the Montreal Protocol on Substances that Deplete the Ozone Layer; and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

Despite key differences among these three MEAs, some common policy approaches were identified, including the use of the precautionary principle or approach, differentiated responsibilities, co-operative non-compliance mechanisms and prior informed consent procedures. Several common implementation difficulties were also identified, in particular, inadequate resources for effective implementation and enforcement and illegal trade.

In CITES and the Basel Convention the trade aspects which these Conventions address are just one part of the environmental problem; however establishing systems to regulate and restrict trade reduces harmful transactions and brings more information on environmental aspects into market decisions. The Montreal Protocol uses a comprehensive package of policy measures designed to reduce (and eventually to eliminate) the production of ozone-depleting substances.

MEAs have been shown to be dynamic instruments, with continuous improvement occurring through the regular meetings of the Parties. The use of trade measures has also evolved in the MEAs studied. They have tended to become more nuanced over time as environmental and economic contexts have been better understood, as confidence in international legal regimes has grown and sustainable development has come to be a central guiding concept.

Some common difficulties have been noted with the use of trade measures in these MEAs, controlling illegal trade being among the largest ones. Effective implementation and enforcement is necessary to make trade measures work, which implies greater attention to human, financial and technical resources required of Parties, particularly developing countries.

The general conclusion of these studies is that trade measures should not be seen in isolation from other related policies. Often they are part of a broader package of reinforcing instruments. Sometimes trade provisions make other regulations more effective, and sometimes other instruments are needed to make trade-based regulation more effective. Nevertheless, it seems that trade measures have been more effective when they have been directed at specific problems and pursuing specific objectives.

Lessons drawn from the case studies are that trade measures can be an appropriate policy measure to use in MEAs, *inter alia*:

- when the international community has agreed to tackle and manage collectively international trade as a part of the environmental problem;
- when trade controls are required to make regulatory systems comprehensive in their coverage;
- to discourage free-riding which can often be a barrier to effective international co-operation and
- to ensure compliance with the MEA.

Sustainable product policies and trade: extended producer responsibility, eco-labelling, greening of public purchasing

Sustainable product policies which aim to reduce the negative effects of consumption on the environment may affect trade to the extent these policies tend to take a life-cycle approach.

Extended producer responsibility (EPR) seeks to make the producer responsible for “his” products after their use by consumers. The need to obtain information about EPR and to deal with products or their packaging after their use raises concerns for foreign producers. Trade effects can also arise in the markets for recycled goods, by increasing volumes and potentially driving down prices.

A study by the JWPTE in 1999 showed that the emergence of Producer Responsibility Organisations has provided an economically and environmentally sensible solution to the problem of collecting and back-hauling used products especially for small exporting firms and for developing country exporters. Consultation with representatives of importers concerning the Producer Responsibility Organisations’ approval procedures was judged to be very important to alleviate the disadvantage of foreign producers in obtaining and understanding EPR requirements.

The study on the possible trade effects of *eco-labelling* programmes carried out in 1996-7 reviewed the actual markets, trade and environmental effects of a selection of eco-labelling programmes. Fears and concerns about potential trade effects, particularly when eco-labelling schemes include production-related criteria, had been voiced, especially in developing countries. However, information gathered in the study did not reveal hard evidence of changes in trade flows arising from such schemes. Access to information and participation in the eco-label criteria development were found to be more difficult for foreign producers.

A number of steps were identified which could alleviate potential trade concerns, such as ensuring a wide consultation on eco-label criteria and taking into account comments on the draft criteria during the consultation process. The need for an international notification system centralising information on all eco-labelling programmes has been suggested. Mutual recognition and equivalency have been also been recognised as useful concepts to help minimise the potential trade effects of eco-labelling programmes.

Many OECD countries promote the purchase by public authorities at the central or sub-central level of environmentally preferable products through *green public purchasing (GPP)* programmes. Trade concerns may arise when GPP specifications appear to favour domestic producers or when criteria used in GPP schemes relate to processes and production methods (PPMs). The analysis done by the JWPTE in 1999 did not show any evidence that the existing procurement rules (which were based on the principle of non discrimination among potential suppliers and the fostering of competition to obtain the lowest price and best product) constituted an obstacle to the establishment of GPP programmes. With a trend towards

decentralisation and smaller contracts there may be greater latitude for the greening of purchasing. Public authorities who operate large purchases should not encounter serious obstacles provided they comply with the spirit and principles that underlie procurement and trade rules.

Environmental effects of trade liberalisation in selected sectors

During the 1995-2000 period, the JWPTE deepened its analysis of the environmental effects of trade liberalisation moving from identifying broad effects on the economy generally to investigating effects in three specific market sectors: *fossil fuels, freight transport and environmental goods and services*.⁶

In assessing the environmental effects of trade liberalisation in the *fossil fuel sector*, the JWPTE undertook first to identify and quantify the impact of government interventions in the energy market through taxation, government ownership, subsidised lending and trade barriers and which lead to price distortions. Using the “price gap approach“, which compares end-user prices within the industry and power sectors in 27 countries with the cost of replacement energy abroad, price distortions were estimated totalling nearly USD 60 billion per year, which, according to the approach chosen, provides a lower-bound estimate of the impact of government interventions.

Recognising that the relationship between trade liberalisation, subsidy reform and their environmental effects is a complex one and that it was not possible to capture all environmental effects of trade liberalisation with current methodologies, the OECD “Green Model” was used to simulate the impact of fossil fuel-related distortions on carbon emissions. The “Green Model” results showed that, for some countries, liberalisation of fossil fuels could reduce the greenhouse emissions by liberalising countries and help them to meet their emission commitments under the Kyoto Protocol. For other countries, in particular Japan, the simulations showed adverse effects on emissions which offset reductions elsewhere in the OECD. In the absence of appropriate environmental policy regimes in OECD countries, reforms outside of the OECD would be necessary to obtain the CO₂ emission reductions from the less distortionary fossil fuel pricing. In fact, the simulated carbon emission reductions came almost entirely from liberalisation in non-OECD policies.

Concern that increased environmental damage would result from a rise in freight activity due to trade liberalisation and liberalisation in the transport sector led the JWPTE to investigate the environmental effects of international transport of goods attributable to trade liberalisation and structural reform on the transport sector itself.

A simulation of the changes in world bilateral trade flows arising from the Uruguay Round trade liberalisation commitments predicted only a relatively small increase globally in trade volumes and a slightly greater increase in intercontinental transport flows. Overall increases in the global volume of goods traded due to the Uruguay Round liberalisation represented in the order of 3-4% and the international transport associated with these changes in regional trade flows in the range of 4-5%. This suggested that trade liberalisation is not a substantial cause of the predicted increases in total freight.

The effects of trade liberalisation and structural reform in the transport sector in North America and Europe were also examined. In North America, where deregulation began in the 1980s, almost simultaneously in the rail and road sectors, important economic gains have been made. Such gains have permitted in many cases environmental improvements through the adoption of new technologies and infrastructure investments. In particular, energy consumption in the sector has gone down and intercity freight movements by rail have increased relative to those on road. By contrast in Europe, where rail

⁶ Work on environmental goods and services done in this period will be described later in the report, in the section describing the period 2001-2008, where the bulk of work on this topic has been carried out.

reforms have lagged behind the road sector, road haulage has increased dramatically both in absolute and relative terms. It seemed that the way in which EU liberalisation policy has been implemented has favoured the less environment-friendly modes and accelerated the decline of rail and inland waterways. A major issue remained the non-internalisation of environmental externalities in the road sector. However, analysis suggests that internalisation, while important, will not alone be sufficient to recapture market shares for the more environmental-friendly freight transport modes.

Environmental assessment of trade liberalisation agreements

As a follow-up to the work carried out in 1994 on “methodologies for environmental and trade reviews”, the JWPTE held a workshop in 1999 to review the state of the art in terms of methodologies for environmental assessment of trade liberalisation agreements and to assess whether the OECD methodologies were a sound basis to move beyond national reviews to multilateral guidelines. Experiences and lessons were exchanged from various environmental reviews of trade agreements undertaken by governments, governmental bodies such as the European Commission, and nongovernmental organisations, *e.g.*, WWF.

A general conclusion of the workshop was that the art and science of carrying out environmental assessments of trade agreements was still at an early stage of evolution and that more work on developing and improving data and methodologies was needed. Early environmental assessment of trade agreements for examples did not cover services and investment-related issues. Consequently, it was considered premature to develop detailed multilateral guidelines on environmental assessments of trade agreements. It was felt, however, that setting out best practices and commonalities of approaches and assumptions would be useful.

Key environmental principles or approaches and trade

Building on work done a few years earlier on key environmental and trade concepts, the JWPTE undertook more in-depth analysis of the relationship between some key environmental principles or approaches and trade: precaution and the polluter pays principle.

While the use of *precaution* has been part of health and food regulations for many years, it has also become recognised as an important element of environmental protection in national regulatory systems and international environmental instruments. An increasing number of OECD countries specifically address the issue of scientific uncertainty and the use of precaution in their laws. The objectives of precaution are specific to the framework of each instrument, and the implementation of adequate measures needs to be adapted to each particular context. While references to precaution contained in international instruments are generally addressed to governments, over the last few years a number of instruments have been adopted which recommend the use of precaution by individuals or enterprises, for instance, the OECD Guidelines for Multinational Enterprises. Several WTO Agreements refer to measures to protect human health and the environment: the General Agreement on Tariffs and Trade (GATT), the Agreement on Technical Barriers to Trade (TBT Agreement), and the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), with, however, only the latter referring specifically to circumstances where measures are taken on a provisional basis in cases where relevant scientific evidence is insufficient.

Exercising precaution in the context of environmental protection may be desirable in situations where two factors concur: (1) the *existence of a risk*, *i.e.*, where potentially hazardous effects resulting from an action, product or process have been identified, and (2) a *lack of scientific certainty* on the effect on human health and the environment of such an action, product or process, or on the extent of potential damage. In situations of uncertainty, risk analysis plays an important role in the decision-making process. It consists of three inter-related components: risk assessment, risk management and risk communication.

A variety of tools, measures and steps relevant to the use of precaution, aimed at addressing situations of risk and scientific uncertainty, are available to decision-makers. They can be roughly divided into two broad categories depending on their objective: a) identification, evaluation and assessment of risks (including tools such as risk assessment and environmental impact assessment), and b) management and control of risks (risk management; standards and limits; restrictions, bans, quotas and moratoria).

The use of precaution in the context of trade and environment raises several issues that may need further consideration by decision-makers and other stakeholders in order to settle conflicts or diverging views. Such issues include the relationship between precaution and science; matters of transparency, consultation and communication; the costs of precaution; and developing countries' concerns regarding precaution. The JWPTE did not, however, explore these issues further.

The 1972 OECD Council Recommendation on Guiding Principles concerning International Economic Aspects of Environmental Policies incorporates the first formulation, at the international level, of the *polluter-pays principle* (PPP). This Recommendation sought to encourage sound environmental management and to harmonise methods for allocating the costs of pollution in order to avoid price distortions in international trade. According to this Recommendation, the PPP implies that the polluter should bear the costs of measures to prevent and control pollution to the level established by public authorities, and that such measures should not be accompanied by subsidies that would create significant distortions in international trade and investment. The costs of these measures should be reflected in the costs of goods and services that generate pollution in their production or consumption processes.

Since its adoption in 1972, the PPP has evolved: while it was initially limited to costs of pollution prevention and control (PPP "in a strict sense") and later came to include compensation payments, taxes and charges, it is now evolving in certain instruments towards encompassing all pollution-related expenditure including treatment taxes and charges, clean-up costs and compensation (PPP "in a broad sense"). This evolution is in line with the efficiency objective of both environmental as well as economic policies. Governments implement the PPP through the application of either command-and-control or market-based regulations, thereby aiming at putting pressure on polluters to make judicious use of scarce environmental resources.

The initial goals of the PPP were to keep new environmental protection measures from having to be financed by governments, *e.g.* in the form of subsidies, and to prevent differences in environmental policies between countries from impacting on the competitiveness of national firms, thus posing an obstacle to trade. However, the Council Recommendation also leaves room for "exceptions or special arrangements, particularly for the transitional periods, provided that they do not lead to significant distortions in international trade and investment".

The PPP is not expressly mentioned in any of the WTO agreements. Nonetheless, the notion of removing market distortions and, in particular, restrictions on pollution prevention and control subsidies that may create significant distortions to international trade, is broadly consistent with the disciplines on certain subsidies under WTO agreements.⁷ To this extent, while being distinct concepts, the PPP and the WTO disciplines on subsidies are often closely related.

Pressure on governments has been increasing to more fully internalise the externalities of pollution, for example through taxes on energy or carbon or sales of negotiable permits. The extent of this internalisation varies from one country to another, depending on the degree to which environmental costs

⁷ The three main WTO agreements dealing with subsidies are the General Agreement on Tariffs and Trade (GATT), the Agreement on Subsidies and Countervailing Measures (ASCM) and the Agreement on Agriculture (AA).

are taken into account in public policies. This aspect might be particularly important with regard to the PPP and its application to developing countries. It could be argued that the exclusion of developing countries from the scope of the PPP (as foreseen in OECD Recommendations) might lead to distortions in the global international trading system in the event that official development assistance helps developing country exporters in complying with national or international pollution standards.

Another area in which the application of the PPP may have an impact on trade is that of transfrontier or global pollution. Initially, the PPP was not designed for cases of transboundary or global pollution. According to the OECD study, it could be argued that on the basis of the principle of non-discrimination formulated for cases of transfrontier pollution, polluters should be subject to the PPP whatever the geographic dimension of pollution: national, transfrontier or global. An application of the PPP that is limited to domestic pollution may fail to address many of the transboundary and global environmental pollution challenges of today's increasingly interdependent world.

2001-2008: SUPPORTING TRADE AND ENVIRONMENT NEGOTIATIONS AT THE WTO AND EXPLORING NEW ISSUES

In this period, the JWPTE's work focused to a large extent on providing analytical background to discussions and negotiations in the WTO, following the DDA mandate on trade and environment (see box 2). Much of the work done in the past by the JWPTE touched upon issues in the DDA and was relevant for these negotiations. The JWPTE's new work focused in particular on three issues mentioned in the DDA: the reduction or, as appropriate, elimination of tariff and non-tariff barriers to *environmental goods and services* [paragraph 31 (iii) of the DDA]; the *effect of environmental measures on market access*, especially in relation to developing countries [paragraph 32(i)] and labelling *requirements for environmental purposes* [paragraph 32(ii)].

Box 2. Trade and Environment in the Doha Development Agenda

"31. With a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on:

- (i) the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs). The negotiations shall be limited in scope to the applicability of such existing WTO rules as among parties to the MEA in question. The negotiations shall not prejudice the WTO rights of any Member that is not a party to the MEA in question;
- (ii) procedures for regular information exchange between MEA Secretariats and the relevant WTO committees, and the criteria for the granting of observer status;
- (iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services.

We note that fisheries subsidies form part of the negotiations provided for in paragraph 28.

32. We instruct the Committee on Trade and Environment, in pursuing work on all items on its agenda within its current terms of reference, to give particular attention to:

- (i) the effect of environmental measures on market access, especially in relation to developing countries, in particular the least-developed among them, and those situations in which the elimination or reduction of trade restrictions and distortions would benefit trade, the environment and development;
- (ii) the relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights; and
- (iii) labelling requirements for environmental purposes.

Work on these issues should include the identification of any need to clarify relevant WTO rules. The Committee shall report to the Fifth Session of the Ministerial Conference, and make recommendations, where appropriate, with respect to future action, including the desirability of negotiations. The outcome of this work as well as the negotiations carried out under paragraph 31(i) and (ii) shall be compatible with the open and non-discriminatory nature of the multilateral trading system, shall not add to or diminish the rights and obligations of members under existing WTO agreements, in particular the Agreement on the Application of Sanitary and Phytosanitary Measures, nor alter the balance of these rights and obligations, and will take into account the needs of developing and least-developed countries.

33. We recognize the importance of technical assistance and capacity building in the field of trade and environment to developing countries, in particular the least-developed among them. We also encourage that expertise and experience be shared with members wishing to perform environmental reviews at the national level. A report shall be prepared on these activities for the Fifth Session."

Source: www.wto.org; http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm.

This was also a time when the OECD further opened up to non-OECD countries. This had an impact on the JWPTE's work; for example, Brazil became an observer to the JWPTE in 2002, and Global Forums on Trade and Environment were organised in non-OECD countries: in 2002 in Delhi (India) and 2005 in San José (Costa Rica).

During this period, the JWPTE also explored issues which were not directly linked to the DDA mandate, such as environmental provisions in the increasing number of regional trade agreements, and the relationship between the trade and climate change agendas.

Main substantive achievements during this period include reports on:

- Benefits of the liberalisation of trade in environmental goods and services, including removal of non-tariff barriers
- Market access and environmental requirements
- Effects of eco-labelling schemes
- Regional trade agreements and environment

Liberalisation of trade in environmental goods and services

Work done before the DDA

Starting in 1997, the JSTEE undertook a series of studies on environmental goods and environmental services. These studies were assembled in a volume entitled: *Environmental goods and services: the benefits of further global trade liberalisation*.

In the mid-1990s OECD and Eurostat convened a working group of national statistical experts and finalized, in 1999, a detailed manual for measuring the contours of the environmental industry: *The Environmental Goods and Services Industry: manual for data collection and analysis*. The *Manual* was designed to be both far-reaching and dynamic. Far-reaching insofar as it provided for three large "environmental segments" in measuring the industry - pollution management; cleaner technologies and products; and resources management - with each segment to record a large range of business activities: equipment manufacturing; operation and maintenance; engineering services; R&D; and construction and installation of facilities. It was also dynamic in the sense that it was designed to allow room for activities in a fast evolving industry.

At about the same time, the JSTEE had begun to analyse the possible benefits accruing to further trade liberalisation in this area. For this exercise it was obviously necessary to determine representative categories of both goods (Harmonised System -HS- codes) and services (UN Central Product Classification -CPC-). An illustrative list of goods was put together covering each of the three large environmental segments and the sub-groups, in order to calculate tariff profiles for various groups of countries. It was found that the average "Quad" (US, EC, Japan and Canada) tariffs were between 2.5 % ("bound" tariff rates after full Uruguay Round implementation) to 3.4% (those actually "applied") and for a group of emerging economies, tariffs averaged 18% (applied) to 29% (bound). This list of illustrative examples for each category became known informally in the WTO context as the "OECD list".

On the side of environmental services, it was recognised early on that the services classification document⁸ generally used for making commitments in the Uruguay Round was quite minimalist, had not

⁸ "Services sectoral classification list" [MTN/GN/W/120, 1991]

been updated to incorporate the latest CPC revision and was removed from the commercial reality in this rapidly expanding sector. Some of the relevant “business activities” used by the OECD/Eurostat statisticians fell in other services categories than the very narrowly defined environmental services sub-categories used during the Uruguay Round, so the JSTEE discussed a detailed correspondence between WTO sub-sectors, as reflected in the CPC (revised) classification and the OECD/Eurostat *Manual* coverage of environmental services. These covered business services (professional services; R&D; rental/leasing and “other business services”); construction and other related engineering services; educational services; and tourism and travel-related services.

All of the work in this early period was posited on the fact that trade liberalisation – of relevant goods and of services – would contribute to, but could not alone bring, the necessary benefits for environmental protection and prevention. In addition to addressing supply-side factors, such as tariff reductions, four factors were important on the demand side: a) strengthening the environmental regulatory framework and choice of policy instruments; b) ensuring complementarities of “hardware” and “software” (environmental goods and environmental services); c) buttressing the implementation of pollution prevention by avoiding distortions; and d) fostering diffusion of appropriate technology in emerging economies. The work concluded that trade liberalisation measures of environmental goods and services held a strong potential for promoting “win-win”, there was an obvious need to accompany these with complementary measures which should address the above four factors, which could be addressed in a framework for future trade liberalisation, designed for implementation at both the inter-governmental and domestic levels.

Work done after the DDA

Shortly after the negotiations under the DDA began in earnest, in 2002, the JWPTE set out a programme of work to help support OECD member countries in their negotiations in this area. The JWPTE had already explored the challenges to liberalising trade in environmental goods and services generally, but the negotiations had thrown into sharp relief some of the practical issues that needed to be addressed if a successful outcome were to be achieved.

One very simple question arose early on in the negotiations: what was the basis for the so-called “OECD list” of environmental goods, and how and why did it differ from the list of goods that had been prepared by the Asia-Pacific Economic Cooperation (APEC) in the context of its own earlier attempt to include environmental goods among sectors slated for early voluntary sectoral liberalisation? A few OECD members had made reference to the “OECD list”, while others had based theirs on the APEC list. Some non-OECD countries mistook the “OECD list” as having greater status — *e.g.*, representing the collective opinion of the OECD members — than it actually had. A paper by the JWPTE explained the different origins and logic of the OECD and APEC lists, and the fact that the OECD list had been assembled only for the purposes of an analytical exercise.

The negotiations had also thrown up a number of contentious issues relating to how environmental goods might be identified and selected, and on the modalities of an eventual agreement. Particularly vexing was the perceived problem of “dual use” goods — *i.e.*, goods that had uses other than environmental protection or resource conservation. Equally challenging was ensuring that environmental goods represent the most appropriate technology for a particular environmental problem. Drawing on the experiences of other sectoral-liberalisation initiatives, a report showed how negotiators of prior agreements had dealt with these issues, and suggested various avenues that negotiators of an agreement on environmental goods and services might pursue.

Parallel to the work aimed at resolving or explaining issues relating to the design and implementation of an agreement on environmental goods and services, the JWPTE also supported work that showed the benefits to developing and emerging countries of liberalising trade in environmental goods and services. Six country case studies were commissioned (Brazil, Chile, Czech Republic, Israel, Kenya and Korea), each written by a national of the country. These case studies complemented several others by UNCTAD and the United Nations Development Program (UNDP). A report synthesising the findings of these studies was also produced. In general, these studies showed that developing and emerging countries were by no means passive importers of environmental goods and services. Many depended on imports to improve their environment, especially in the early years of their industrialization, but most also had developed export industries that built on their own particular natural endowments or areas of expertise.

One structural problem of the WTO negotiations on environmental goods and services was that the negotiations on environmental goods and the negotiations on environmental services were conducted in different bodies — respectively, the Committee on Trade and Environment, Special Session (CTE-SS) and the Council for Trade in Services. The importance of maintaining linkages between the two sets of negotiations was sometimes not adequately appreciated by all Members participating in the CTE-SS. To underscore the mutual interdependence of trade in environmental goods and trade in environmental services, therefore, the JWPTE undertook a study that explored the synergies between these types of trade. The study identified a series of examples of environmental services imports by developing countries that also necessitated procurement of many of the products that were common to most of the lists of candidate environmental goods that had been proposed by OECD countries. It showed that while some environmental goods had to be imported from OECD countries, many were procured locally or from other developing countries. Moreover, the importation of environmental goods and services had enabled the benefiting manufacturers to quickly achieve a high level of environmental performance, and often in a way that allowed several companies to benefit from the same treatment facilities. This “clustering” of services also enabled economies of scale to be exploited.

One sub-category of environmental goods attracted a great deal of interest in the negotiations, from OECD and non-OECD countries alike: goods related to the supply of renewable energy. In two separate papers, the JWPTE looked at the goods that were involved in producing or using charcoal, biodiesel, solar power (for electricity), geothermal heat, solar thermal heat (for water heating), and wind power (for electricity and water pumping). Besides emphasising the importance and the potential of renewable energy for developing countries, the papers also documented the growing participation of developing countries in this sector's trade. One of the more interesting aspects of this trade identified by this work was the importance of developing countries in producing and using components of renewable-energy systems. For example, although OECD countries still dominate the world market for solar photovoltaic cells, developing countries are the main manufacturers of inverters and direct-current appliances.

In the view of a number of developing countries, one of the problems of the lists of candidate goods that had been proposed by OECD countries was that they tended to contain mainly goods requiring either an established heavy-industry manufacturing base (*e.g.*, pumps and boilers), or access to high levels of technological expertise (*e.g.*, monitoring instruments). Their perception was that OECD countries would continue to dominate these trades. By contrast, many felt, if the definition of an environmental good could be broadened beyond goods mainly used for pollution control or resource conservation, and include goods that were intrinsically preferable from an environmental perspective, the potential for developing countries, particularly the least developed among them, to become exporters of environmental goods would be increased.

The study produced for the JWPTE started as a basis for its analysis a short list of environmentally preferable products (EPPs) prepared earlier by UNCTAD. It then scoured the complete list of goods listed under the Harmonized System (HS) for any goods that might qualify as EPPs. Taking a rather broad

definition of an EPP, an illustrative list was produced. In addition, the study examined three goods that could possibly be classified as EPPs: bicycles, improved solid-fuel stoves, and sisal. The study showed that for each of these three goods, developing countries were the leading producers and exporters, and that increased trade in these products could yield environmental benefits.

Electrical appliances — specifically, ones that are more energy-efficient than others — was another sub-category of environmental goods examined by the JWPTE, related to both energy and the notion of EPPs. Unfortunately, to define *relatively* energy-efficient appliances as “environmental goods”, and then to discriminate in favour of them through trade policies, would run into certain difficulties. As the paper documents, the complexity and lack of harmonisation of existing methods for measuring energy performance of electrical appliances militates against reaching any quick consensus on where countries could draw a line between “relatively more efficient” and “inefficient” appliances.

The JWPTE also commissioned studies examining the impacts of air quality and water quality monitoring programmes implemented over the last decade in seven developing countries: China, Chinese Taipei, India, Indonesia, Malaysia, Morocco and the Philippines. These studies demonstrated that a key starting point to better enforcement of clean air laws in developing countries is obtaining comprehensive and reliable air-quality monitoring data. The study on water quality monitoring programmes demonstrated that in several countries the water-quality monitoring and protection capacity has been improved through the use of imported water-quality monitoring equipment combined with indigenous implementation.

The issue of the *transfer of environmentally sound technologies* (EST) is closely related to trade in environmental goods and services. According to Agenda 21, EST are defined as those technologies that “protect the environment, are less polluting, use all resources in a more sustainable manner, recycle more of their wastes and products, and handle residual wastes in a more acceptable manner than the technologies for which they were substitutes.” Development and transfer of EST are crucial for achieving sustainable development, particularly in developing countries and economies in transition. EST, as technologies in general, are mainly transferred through three channels: trade, foreign direct investment and licenses. Unlike other types of technology, EST often necessitate public “seed” funds as incentives for private companies to initiate EST-related research and development. For the successful transfer of EST, particularly through trade, the following factors have been found to be decisive: adequate environmental regulation and enforcement and market-based instruments; removal or reduction of trade barriers, such as tariffs on environmental goods and services; adequate intellectual property rights regimes; sufficient capacity and access to information in governments and enterprises to acquire EST; and appropriate financing mechanisms.

Non-tariff barriers

Despite the importance of non-tariff barriers (NTBs) documented by business surveys and other source for trade in non-agricultural products, there is very limited understanding of the incidence and *impact of NTBs on trade in environmental goods and associated services*. Surveying 136 exporting firms from ten OECD and non-OECD countries, the JWPTE carried out a study documenting the incidence, and impact of, non-tariff measures that are perceived to act as barriers to trade in seven sectors of environmental goods and associated services. Although the DDA has a mandate to address, *i.e.*, such trade barriers, information shedding light on the specific problems that firms encounter in their export activities has been scarce.

Accounts by exporting firms in Austria, Brazil, Canada, Chile, France, Germany, India, Japan, Korea and the United States suggest that environmental goods indeed face a variety of obstacles when traded abroad. Firms participating in the survey mentioned that they encountered relatively often problems associated with product testing and certification requirements, customs procedures, regulations on

payment, problems with intellectual property protection, government procurement procedures and technical regulations and standards. Certain types of reported barriers appear to be more prevalent in certain markets. For example, customs procedures reportedly pose a problem predominantly in developing and transition economies and problems with intellectual property rights are associated especially with China. The non-tariff barriers reported by firms appear to be generic and not specific to the environmental sector. The study shows that in many countries the environmental industry consists mostly of SMEs, for whom cost-raising barriers pose disproportionately greater problems due to their limited resources.

The survey helps to better understand the effects that NTBs have at the firm level, and what firms do when they encounter barriers of various types. It appears that the firms participating in this study mostly seek to devise ways of coping with the difficulties that they encounter, rather than seeking help from governments. Since these measures are *ad hoc* and do not address problems at their source, they cannot substitute for governments taking action. The study points out that many of the concerns voiced by firms in the environment sector can be addressed at the WTO, but that more can be done also at the bilateral and regional levels.

Environmental requirements and market access

The effects on developing-country exports of environmental requirements arising from OECD members' environmental and health regulations, as well as from standards set by governmental and non-governmental organisations, have long been a subject of the trade and environment debate. Developing countries want to boost their income through exports. Importers, particularly industrialised countries, want to ensure that imported goods meet their own established requirements for health, safety and the environment. Their consumers may also want to minimise the environmental impacts of producing and using those goods. In theory, these goals are compatible. In practice, there are different ways to reconcile them, and some affect developing-country exporters more adversely than others. Equally, environmental requirements, if well designed and implemented, can create new export opportunities for developing countries while improving the environmental performance of the affected industries.

The JWPTE embarked in 2001 on a programme of work to enhance understanding of the trade effects, perceived or actual, of environmental regulations and other technical measures taken by the governments of OECD members and private bodies on developing-country exports. The 21 case studies undertaken in the framework of this project cover a wide range of natural-resource-based products and manufactured goods, and one traded service, as well as key import markets and a cross-section of developing-country exporters. They were selected with a view to illustrating a full spectrum of issues and types of environmental measures. For most of the cases studied it was not possible to quantify the impacts of the environmental measures on exports from developing countries; the discussion of trade impacts is therefore qualitative. A Global Forum held in Delhi, India in 2002, involving exporters from developing countries and regulators in OED countries provided further, first-hand input into the research. The project concluded with a second Global Forum, held in San José, Costa Rica in 2005, where the discussion focused on the role that technical assistance and capacity building play in helping developing-country governments and industries to meet environmental requirements affecting their exports, and to benefit from trade in the markets for environmental goods and services.

Developing-country exporters often contend that environmental requirements for products create barriers to market access. Faced with having to adapt constantly to new environmental requirements imposed by importing countries or foreign buyers, they may still be heard occasionally complaining that a particular requirement assumes that one size fits all and therefore does not take their special circumstances into account, is at odds with established international norms, or is a disguised form of protection for a domestic industry. A more general complaint from developing countries is that each time a new measure is adopted by an importing country and differs from those covering the same contaminant or product adopted

by other importing countries, it contributes to the proliferation of national environmental measures. This adds to exporters' transaction and information costs, and in extreme cases may require them either to produce products tailored for different import markets or to become more dependent on a smaller number of importers. Requirements relating to conformity assessment may also create impediments to exports. For example, the technologies that make it possible to assess a product's conformity with an environmental requirement are often costly.

Awareness of the potential effects of environmental requirements on trade partners has increased over time. With the coming into force of the TBT and SPS Agreements in 1995, information on regulations is more readily available than it was in the 1970s and 1980s. Consequently, measures that have been introduced by governments since then have tended to involve earlier advance notice of intended actions and provide more opportunities for comment; be backed up by scientific studies, in particular assessments of risk; and consider, if not be based on, internationally agreed standards.

Openness and transparency in the development of environmental requirements and providing information on the requirements after they have gone into force are crucial. Governments develop standards and regulations in accordance with national rule-making procedures. Nonetheless, experience shows that when these procedures are open and transparent, they have at the very least generally provided forewarning to exporters that a new environmental measure is being contemplated. Notification of an impending measure, as provided for in the SPS and TBT Agreements, also appears to have facilitated two-way communication. Any policy aimed at minimising adverse trade impacts must ensure that information about the environmental requirement is well disseminated to potential exporters.

Technical assistance and capacity-building activities have tended to be provided after the effects of a measure have become apparent. Although they may not be able to address short-term problems of market access, in the long run they can increase the ability of exporters and their governments to anticipate and react positively to new environmental requirements. For the poorest countries, and particularly when the environmental requirements affect agricultural products, direct interaction with producers provides an effective means of transferring information and knowledge.

In the past, importers reacted to problems encountered by developing-country exporters at a relatively late stage in the implementation of environmental measures. More recent examples reveal encouraging signs that countries are trying to solve such problems holistically, and are finding ways to reconcile the desire for a high level of environmental protection with strong growth in developing-country exports. The impetus appears to be coming above all from a desire to make policies affecting developing countries more coherent, and from national regulatory reform exercises to make governmental regulations more efficient and trade-friendly.

Effects of eco-labelling schemes

Following the study done in 1997, the DDA revived countries' interest in the actual effects of eco-labelling schemes. To complement the project on environmental requirements and market access, the JWPTE explored in 2004 the potential market access implications of a range of eco-labelling programmes.⁹

⁹ The selected eco-labelling programmes were: the Marine Stewardship Council's Sustainable Fisheries Programme; the Forest Stewardship Council's Certification Programme for sustainably-managed forests; the International Federation of Organic Agriculture Movements' Certification Programme for organic agricultural products; the U.S. Department of Agriculture's organic labelling programme; and shade-grown coffee.

The eco-labelling programs described in the study paper offer potentially significant market opportunities to developing country suppliers. Food, fish and forest products are among the most heavily traded products in the world, and developing country suppliers account for an important share of exports of these products. At the same time, eco-labelling programmes require their participants to undertake additional costs not borne by producers of competing, non-eco-labelled products. These costs can include higher-cost production methods, certification fees, and additional documentation requirements.

The study reviewed a number of factors that may make it more difficult for developing country producers to meet the requirements of eco-labelling programs than their competitors in developed countries. On balance, a variety of procedural issues seem to be more important than standards-related issues in terms of constituting obstacles to developing-country access to eco-labelling programs. Nevertheless, developing country producers have successfully participated in eco-labelling programs, and one of the programs described in the report (shade-grown coffee) is specifically aimed at producers in developing countries. Moreover, all the eco-labelling programs described in the report are making efforts to improve the participation of developing country producers. Such outreach efforts, when combined with international efforts to harmonise standards and establish equivalence arrangements under certain labelling programs, should eventually improve developing country access to the markets targeted by these programs.

Another report summarised results of recent studies exploring the environmental and economic effects of eco-labelling programmes.¹⁰ Most of these studies have registered some impact of eco-labels on the behaviour of consumers and producers. In general, eco-labels seem to raise consumers' awareness of environmental issues and change their purchasing behaviour while leading manufacturers to increasingly produce environmentally preferable goods. Environmental attributes are then often emphasised in marketing practices. While some of the studies provide data on the effects of the schemes on their respective markets (*e.g.*, the German Blue Angel, the Japanese Eco Mark and the Korean label), or on consumers (*e.g.*, the Nordic Swan), and while it is found that most eco-labels have a positive effect on the environment, they also note the difficulties associated with measuring this effect precisely, or dissociating it from the effects of other measures.

Regional Trade Agreements and Environment

Multilateral trade rules provide the best guarantee for securing substantive gains from trade liberalisation for all WTO members. Nevertheless, WTO rules also allow the possibility of regional integration and bilateral agreements for members who wish to liberalise at a quicker pace. In this sense, regional trade agreements (RTAs) should be seen as a complement rather than an alternative to multilateral agreements.

The JWPTE began exploring the inclusion of provisions dealing with environmental issues in regional trade agreements (RTAs) with a contribution of a chapter on environment to a 2003 project exploring regionalism undertaken by the Trade Committee. A more in-depth study followed in 2005-7, which explored in detail the different approaches to environmental issues in RTAs and countries' experience with their negotiation and implementation.

Over the last few years, the number of RTAs has significantly increased. While the main purpose of many RTAs is to reduce or eliminate tariffs, a growing number of agreements also deal with other trade-related issues, such as labour and environment. Today, RTAs negotiated by most OECD members include some type of environmental provision.

¹⁰ The report analysed studies on the German Blue Angel, the Nordic Swann, the US Energy Star, the Korean Ecolabel, Japan's Eco Mark and New Zealand's Environmental Choice.

The scope and depth of environmental provisions in RTAs vary significantly. Among OECD members, Canada, the European Union, New Zealand, and the United States have included the most comprehensive environmental provisions in recent RTAs. The agreements by the United States are unique in that they put trade and environmental issues on an equal footing. Among non-OECD countries, Chile's efforts to include environmental provisions in its trade agreements are particularly noteworthy.

So far, the most ambitious agreements, from an environmental point of view, include a comprehensive environmental chapter, or are accompanied by an environmental side agreement, or both. Some countries consider environmental issues before entering into an agreement, and carry out a prior assessment of its potential environmental impacts. A few RTAs, which did not originally include environmental provisions, have later been complemented by an environmental agreement. This is the case of the MERCOSUR agreement, which has been complemented by a Framework Agreement for Environment.

Environmental elements typically found in many RTAs are environmental co-operation mechanisms. These range from broad arrangements, to co-operation in one specific area of special interest to the Parties. The areas of co-operation in different RTAs vary significantly, and depend on a range of factors, e.g. on whether the trade partners have comparable levels of development or not (in which case, co-operation often focuses on capacity building), or whether they have common borders, as is the case between members of the North American Free Trade Agreement (NAFTA).

Environmental standards also figure in a range of agreements, in various forms. The obligation for Parties to enforce their own environmental laws is included mainly in agreements involving the United States and Canada. A few RTAs refer more generally to the Parties' commitment to maintain high levels of environmental protection. Others, such as those recently negotiated by New Zealand, include references to the inappropriateness of lowering environmental standards. Most RTAs contain clauses reiterating the compatibility between Parties' trade obligations and their right to adopt or maintain environmental regulations and standards. Some also include a reference to the compatibility between the agreement and multilateral or regional environmental agreements.

In spite of these developments, the number of RTAs including significant environmental provisions remains small, and some countries, especially developing ones, are reluctant to deal with environmental issues in the context of trade agreements.

NEW PROJECTS IN 2007-8

In the 2007-8 biennium, the JWPTE is undertaking research in three new topics. One project will explore the economic and environmental benefits of removing barriers to trade in non-hazardous recyclable materials and waste. It aims to contribute to ongoing national and international efforts in the implementation of 3R policies (“Reduce-Reuse-Recycle”) in member countries, and is being undertaken in close co-operation with the OECD Working Group on Waste Reduction and Prevention.

A second project will deal with measures to facilitate trade in climate change mitigation technologies. It will identify technology-specific barriers to trade in climate change mitigation technologies and examine trade-facilitating measures, on both the demand and the supply side, to accelerate a wider transfer of the technologies and maximize the potential benefits thereof.

The third study analyses economic and trade implications of measures employed to address climate change problems arising from growing trade liberalization and subsequent changes in global transportation patterns with a view to promoting balanced policy decisions.

In addition, the JWPTE will continue monitoring developments at both the multilateral and regional levels and will, in particular, pursue analysis on the way regional trade agreements deal with environmental issues.

BIBLIOGRAPHY¹¹

1991-1995: Trade and environment during the Uruguay Round

- Joint Report on Trade and Environment: June 1991 [[OCDE/GD\(92\)25](#)].
- Trade and Environment: A Progress Report [[OCDE/GD\(92\)97](#)].

Elaboration of procedural guidelines on trade and environment

- Trade and Environment [[OCDE/GD\(93\)99](#)].

Trade and environment principles and concepts

- Environmental Principles and Concepts [[OCDE/GD\(95\)124](#)].
- Trade Principles and Concepts [[OCDE/GD\(95\)141](#)].

Analysis of the effects of trade liberalisation on the environment

- Methodologies for Environmental and Trade Reviews, [[OCDE/GD\(94\)103](#)].
- The Environmental Effects of Trade (1994).
- Tariff Escalation and Environment [[OCDE/GD\(96\)171](#)].

Competitiveness issues

- Environmental Policies and Industrial Competitiveness (1993).

¹¹ The reports in this bibliography can be downloaded from the OECD Trade and Environment webpage www.oecd.org/tad/tradenv. Titles in italics are OECD books, available at the OECD on-line bookshop www.oecdbookshop.org.

Processes and production methods

- Processes and Production Methods (PPMs): Conceptual Framework and Considerations on Use of PPM-Based Trade Measures, [[OCDE/GD\(97\)137](#)].
- *Trade and Environment: Processes and Production Methods (1994)*.

Life-cycle approaches and trade

- Life-cycle Management and Trade (1994).

Harmonisation of environmental policies and standards

- Increasing the Compatibility of Environmental Policies [[OCDE/GD\(93\)136](#)].

Dispute settlement in trade agreements and in MEAs

- Dispute Settlement in the WTO [[OCDE/GD\(95\)140](#)].
- Dispute Settlements in Environmental Conventions and Other Legal Instruments, [[OCDE/GD\(95\)138](#)].

Input into the WTO Ministerial Meeting in 1995

- Report on Trade and Environment to the OECD Council at Ministerial Level [[OCDE/GD\(95\)63](#)].

1995- 2001: From the creation of the WTO to the Doha Development Agenda

Implementation at national level of the procedural guidelines on trade and environment

- Implementation of the OECD Procedural Guidelines on Trade and Environment: Results of the Second Review [[COM/TD/ENV\(98\)132/FINAL](#)].
- Transparency and Consultation on Trade and Environment. National Case Studies [[COM/TD/ENV\(99\)26/FINAL](#)].
- Implementation of the OECD Procedural Guidelines: Successes and Difficulties [[COM/ENV/TD\(99\)28/FINAL](#)].

- Transparency and Consultation on Trade and Environment in Five International Organisations [[COM/ENV/TD\(99\)96/FINAL](#)].
- Synthesis of Case Studies on Transparency and Consultation Practices on Trade and Environment in OECD Countries and the European Commission [[COM/ENV/TD\(2002\)26/FINAL](#)].

The use of trade measures in MEAs

- *Trade Measures in Multilateral Environmental Agreements (1999)*.
- Trade Measures in Multilateral Environmental Agreements: Synthesis Report of Three Case Studies [[COM/ENV/TD\(98\)127/FINAL](#)].

Sustainable product policies and trade: extended producer responsibility, eco-labelling, greening of public purchasing

- Extended Producer Responsibility Policies and Trade: An Overview of the Linkages [[COM/ENV/TD\(98\)39](#)].
- Eco-labelling: Actual Effects of Selected Programmes, [[OCDE/GD\(97\)105](#)].
- Trade Issues in the Greening of Public Purchasing, [[COM/TD/ENV\(97\)111/FINAL](#)].

Environmental effects of trade liberalisation in selected sectors

- The Environmental Effect of Liberalising Trade-Distorting Measures in the Energy Sector [[COM/TD/ENV\(98\)110/REV1](#)].
- Environmental Effects of Liberalising Fossil Fuels Trade: Results from the OECD Green Model [[COM/TD/ENV\(2000\)38/FINAL](#)].
- Trade Liberalisation and Changes in International Freight Movements [[COM/TD/ENV\(96\)73 & ADD](#)].
- Freight and the Environment: Effects of Trade Liberalisation and Transport Sector Reforms, [[OCDE/GD\(97\)213](#)].
- *Liberalisation in the Transportation Sector in North America (1997)*.
- *Liberalisation and Structural Reform in the Freight Sector in Europe (1997)*.

Environmental assessment of trade liberalisation agreements

- Methodologies for Environmental Assessment of Trade Liberalisation Agreements [[OCDE/GD\(97\)105](#)].
- *Assessing the Environmental Effects of Trade Liberalisation Agreements: Methodologies (2001)*

- Assessing the Environmental Effects of Services Trade Liberalization: a Methodology. [[COM/TD/ENV\(2000\)123/FINAL](#)].
- Checklist of Issues for Ex-Ante Environmental Assessments of Trade Liberalisation [[COM/ENV/TD\(2001\)42/FINAL](#)].

Report to Ministers 1999

- Report on Trade and Environment to the OECD Council at Ministerial level [[C/MIN\(99\)14](#)].

Key environmental principles or approaches and trade

- Uncertainty and Precaution: Implications for Trade and Environment [[COM/ENV/TD\(2000\)114/FINAL](#)].
- The Polluter-Pays Principle as it Relates to International Trade [[COM/ENV/TD\(2001\)44/FINAL](#)].

2001-2008: Supporting trade and environment negotiations at the WTO and exploring new issues

Liberalisation of trade in environmental goods and services, including removal of non-tariff barriers

- Future Liberalisation of Trade in Environmental Goods and Services: Ensuring Environmental Protection as well as Economic Benefits [[COM/TD/ENV\(98\)37/FINAL](#)].
- Environmental Services: The "Win-Win" Role of Trade Liberalisation in Promoting Environmental Protection and Economic Development [[COM/TD/ENV\(99\)93/FINAL](#)].
- Environmental Goods and Services: An Assessment of the Environmental Economic and Development Benefits of Further Global Trade Liberalisation [[COM/TD/ENV\(2000\)86/FINAL](#)].
- *The Environmental Goods and Services Industry: Manual for Data Collection and Analysis (1999)*.
- *Environmental Goods and Services: The Benefits of Further Global Trade Liberalisation (2001)*.
- *Trade that Benefits the Environment and Development: Opening Markets for Environmental Goods and Services (2005)* ¹².
- Liberalising Trade in Environmentally Preferable Products [[COM/ENV/TD\(2005\)22/FINAL](#)].

¹²

This publication compiles the following studies: Environmental goods and services: a synthesis of country studies; Environmental goods: a comparison of the APEC and OECD lists; Liberalising trade in "environmental goods": some practical considerations; Managing request-offer negotiations under the GATS: the case of environmental services; Synergies between trade in environmental services and trade in environmental goods.; Identifying complementary measures to ensure the maximum realisation of benefits from the liberalisation of trade in environmental goods and services.

- Liberalising Trade in Renewable-energy Products and Associated Goods: Biodiesel, Solar Thermal and Geothermal Energy [[COM/ENV/TD\(2005\)78/FINAL](#)].
- Liberalising Trade in Renewable-Energy Products and Associated Goods: Charcoal, Solar Photovoltaic Systems, and Wind Pumps and Turbines [[COM/ENV/TD\(2005\)23/FINAL](#)].
- *Environmental and Energy Products: the Benefits of Liberalising Trade (2006)*.¹³
- The Impact of Monitoring Equipment on Air Quality Management Capacity in Developing Countries [[COM/ENV/TD\(2006\)7/FINAL](#)].
- Issues of Dual Use and Reviewing Product Coverage of Environmental Goods [[COM/ENV/TD\(2006\)30/FINAL](#)].

Non-tariff barriers

- Business Perceptions of Non-Tariff Barriers (NTBs) Facing Trade in Selected Environmental Goods and Associated Services: Survey Results [[COM/ENV/TD\(2006\)48/FINAL](#)] and [[COM/ENV/TD\(2006\)48/ANN/FINAL](#)].

Environmental requirements and market-access

- *Environmental Requirements and Market Access (2005)*.
- Addressing Market-Access Concerns of Developing Countries arising from Environmental and Health Requirements: Lessons from National Experiences [[COM/ENV/TD\(2003\)33/FINAL](#)].

Effects of eco-labelling schemes

- Labelling Requirements for Environmental Purposes: Trade Implications of Selected Schemes [[COM/ENV/TD\(2002\)110](#)].

¹³ The individual chapters can also be found on the web as: Liberalising trade in Environmentally Preferable Products [[COM/ENV/TD\(2005\)22/FINAL](#)]; Liberalising trade in renewable-energy products and associated goods: biodiesel, solar thermal and geothermal energy [[COM/ENV/TD\(2005\)78/FINAL](#)]; Liberalising trade in renewable-energy products and associated goods: charcoal, solar photovoltaic systems, and wind pumps and turbines [[COM/ENV/TD\(2005\)23/FINAL](#)]; Can Energy Efficient Electrical Appliances be Considered “Environmental Goods? [[COM/ENV/TD\(2003\)35/FINAL](#)]; The Impact of Monitoring Equipment on Air Quality Management Capacity in Developing Countries. OECD Trade and Environment Working Paper - 2006-2 and Building Capacity to Monitor Water Quality: a first step to clean water in developing countries: OECD Trade and Environment Working Paper - 2006-3; Issues of dual use and reviewing product coverage of environmental goods [[COM/ENV/TD\(2006\)30/FINAL](#)] .

- Developing-Country Access To Developed-Country Markets Under Selected Ecolabelling Programmes [[COM/ENV/TD\(2003\)30/FINAL](#)].
- Effects of Eco-labelling Schemes: Compilation Of Recent Studies [[COM/ENV/TD\(2004\)34/FINAL](#)].
- Achieving the Successful Transfer of Environmentally Sound Technologies: Trade-related aspects [[COM/ENV/TD\(2004\)33/FINAL](#)].

Regional Trade Agreements and Environment

- *Regionalism and the Multilateral Trading System (2003)*.
- The Relationship Between Regional Trade Agreements and The Multilateral Trading System [[TD/TC/WP\(2002\)26/FINAL](#)].
- *Environment and Regional Trade Agreements (2007)*.