

ENVIRONMENTAL GOODS AND SERVICES: AN ASSESSMENT OF THE ENVIRONMENTAL, ECONOMIC AND DEVELOPMENT BENEFITS OF FURTHER GLOBAL TRADE LIBERALIZATION

Information Note by the OECD Secretariat

I. INTRODUCTION

1. At the start of the twenty-first century, one half of the world's population lacks adequate sanitation and one person in five has no access to safe drinking water. Urban and suburban sprawl and the development of industrial and agricultural capacity in developing and developed nations alike are putting pressure on air quality, water tables and biological diversity. The trend towards technology-led responses to these environmental challenges has created new markets for environmental goods and services to remedy and prevent problems of water pollution, waste treatment, air pollution, habitat protection and sustainable resource use.¹ Accordingly, a key issue for policymakers is the role which global trade liberalization can play in building international markets for environmental goods and services to deliver these solutions.

2. This information note is a summary of a recently released Study by OECD entitled: Environmental Goods and Services: An Assessment of the Environmental, Economic and Development Benefits of Further Global Trade Liberalization,² copies of which are with the WTO Secretariat for Committee Members. This work examining the potential benefits of multilateral trade liberalization in the environmental goods and services sectors has been undertaken under the aegis of the OECD's Joint Working Party on Trade and Environment. A key conclusion of the research is the need for policy settings to address both supply and demand-side factors. Indeed, supply-side factors, including a diverse and cumulative range of trade barriers, are more significant inhibitors of the deployment of technology and service-based solutions to global environmental challenges than has been assumed heretofore. It is hoped that the volume makes a timely contribution to the debate on how trade liberalization can contribute to the pursuit of concrete results on the journey to sustainable development.

II. ENVIRONMENTAL GOODS

A. DEFINITIONAL ISSUES

3. Defining the environmental industry is fraught with difficulties. In the words of one analyst, this is less a sector than an agglomeration of providers of many types of goods, services and technologies that are usually integrated into production processes and are often hard to tease out as separate items. Measuring exports and imports in "environmental goods" is therefore difficult. Problems abound in determining the contents of a list of "environmental goods". These include: the *multiple use* of products, including non-environmental as well as environmental uses; the fact that for *customs policy purposes* a good is defined according to its physical characteristics; the environmental

¹ The global environment industry was estimated at US\$453 billion in 1996 and US\$484 billion in 1998.

² Available on the web at: <http://www.oecd.org/ech/docs/envi.htm>.

characteristic of a good is often due to its *embedded technology*; the *diversity* of the industry addressing various environmental media as well as natural resource management thus presenting further challenges to definition and description; the division of the industry according to *maturity and sophistication*, covering both low-tech and high-tech goods; that pollution prevention as a key goal in environmental policy is usually accomplished by better process control (*dual motivation*); and that today's *cleaner technologies*, may become tomorrow's relatively less environmentally friendly products. Nevertheless, in order to assess the extent of tariffs applied on environmental goods and in the absence of any internationally agreed list, the OECD Secretariat set about to develop such a classification.³

B. AVERAGE TARIFF LEVELS

4. Average tariff levels for the illustrative list of environmental goods are set out in Table 5 of the Study for three groups: the Quad countries (US, EU, Japan, Canada); three other OECD Members⁴ and seven emerging economies.⁵ In Quad markets, average tariff levels are generally low for environmental goods. For the entire group of environmental goods (calculated here for six digit HS categories), applied rates average 4 per cent or lower. Analysis of the group of three other OECD members reveals applied MFN tariffs in 1996 at 9 per cent (but bound rates at end of Uruguay Round implementation still at 25 per cent). The group of seven emerging economies shows a similar pattern, but with higher levels of protection. Average applied levels are 18 per cent, and bound commitments stand at 29 per cent for the sector as a whole.

III. ENVIRONMENTAL SERVICES

A. DEFINITIONAL ISSUES

5. Increased privatization of traditional environmental services and a shift from “end of pipe” pollution control to pollution prevention and cleaner production is increasing the relative importance of a whole range of services for the environmental industry. It is difficult to delineate the precise boundaries of the environmental services sector due to similar problems to those discussed above for environmental goods - such as multiple-use, and embedded environmental technologies and skills. The classification of environmental services provided by the OECD/Eurostat manual⁶ and the W/120 informal sectoral classification list used in GATS discussions are quite different. The former - developed by a group of statistical experts from OECD countries - reflects the evolving, integrated nature of the environmental industry, whereas the latter takes a traditional and very limited view of environmental services in the earlier, largely “public infrastructure” form of this sector. The OECD Study presents a “framework approach”⁷ the goal of which is to show the ranges of services involved in the environmental industry and provide trade policymakers with a necessary overview of the range of environmental services reflecting today's commercial reality in the industry.

B. EXAMPLES OF BARRIERS TO TRADE IN ENVIRONMENTAL SERVICES

6. To establish an overall picture of barriers in the sector, the Secretariat examined the trade and investment regimes of, and constructed country inventories for, OECD members and a number of non-OECD members. Drawing on that work, the Study sets out a summary of the main types of

³ See Annex 2 of the Study for the full list and corresponding HS Codes.

⁴ Mexico, Korea, Turkey.

⁵ Argentina, Brazil, Chile, Malaysia, India, Indonesia, Thailand.

⁶ OECD/Eurostat (1999), Environmental goods and services industry: Manual for the collection and analysis of data, Paris.

⁷ See Table 4 which compares the OECD/Eurostat and GATS/CPC descriptions and classifications.

supply-side barriers facing the environmental services sector.⁸ The paper examines barriers to environmental services for all four GATS modes of supply as well as horizontal restrictions applying across the board.

IV. EXAMPLES OF “WIN-WIN” FOR ENVIRONMENT, DEVELOPMENT AND TRADE: INCREASED TRADE IN WATER AND WASTE MANAGEMENT ENVIRONMENTAL SERVICES

7. Unsafe drinking water and inadequate sanitation are among the most serious problems facing developing countries today. More than a billion people in rural and urban areas around the world lack access to the most basic water and sanitation services. In an investigation of over 50 cases in developing economies of foreign participation in the provision of *water and waste management services*, “win-win” outcomes from trade and investment liberalization were found. These cases are detailed in Annex 7 to the document.

A. ENVIRONMENTAL BENEFITS:

- First and foremost, the roll-out of clean water and waste collection services to much greater numbers of citizens, leading to healthier human environments;
- Reductions in the wastage of and/or inequitable access to scarce water resources (e.g. through leaks and ease of bypass/siphoning associated with old/inadequate pipe infrastructure);
- Increased availability of drinking water from the introduction of recycling of effluent water for industrial use (which also, once established, produces cost-savings for industry);
- Use of waste recycling to create alternative sources of energy (e.g. gas and electricity from garbage recycling systems for use by households, light industry, power stations, fertilizers for small farms);
- In-country presence of foreign firms creates increased opportunities for environmental management education and training, and skills transfer, to other commercial sectors, both for the water and waste media and other environmental services;
- Availability of a larger choice of environmental technologies addressing the environmental problems more appropriately for the country in question which can often mean a move away from end-of-pipe solutions to preventive ones;
- Reinvestment of a share of profits in research and development of new environmental technologies and skills, environmental infrastructure upgrades and new environmental investments.

B. ECONOMIC EFFICIENCY AND DEVELOPMENT BENEFITS:

- Relief of pressure on government budgets, including at state and municipal level. Savings may be reallocated to environmental policy, inspection and enforcement budgets, to other social services and to the overall budget balance;

⁸ See Annex 5 of the Study for a more detailed, “illustrative list” of measures affecting trade in environmental services.

- Creation of skilled and unskilled jobs for local workers, in design, construction and long-term operation of the facilities;
- Availability of water and waste management systems attracts foreign and local investment to the community, bringing more jobs, stable economic growth and an increased local tax base;
- Local private sector partners extend their experience in big and/or very specialized projects which can be (and are being) exported to other countries with similar needs and operating conditions;
- Build-operate-transfer operations revert to local ownership at a specified time, and comprise significant environmental resources, and sources of jobs, into the future.

C. TRADE "WINS":

- Local and foreign companies participating in this trade gain new opportunities to deploy their skills and technologies;
- At a global level, trade and investment liberalization will improve resource allocation through the application of comparative advantage.

V. IMPROVING THE BALANCE BETWEEN THE DEMAND AND SUPPLY-SIDE FACTORS – THE ROLE OF COMPLEMENTARY MEASURES

8. Liberalizing trade in environmental goods and services can, for many reasons, be assumed *prima facie* to bring together the elements of a "win-win" situation. At the same time, there is a multiplicity of factors both on the supply side and the demand side which affect diffusion of environmental technologies and trade in environmental goods and services. Demand-side factors dominate, relative to the host of supply side factors such as trade barriers. These, therefore, need also to be taken into account to ensure that trade liberalization becomes a "win-win" situation. Complementary measures may, therefore, also be necessary. These four points for complementing trade liberalization in environmental goods and services are examined below and are suggested as a possible basis for developing a framework of complementary measures to trade liberalization efforts for environmental goods and services.

(a) Strengthening the environmental regulatory framework and choice of policy instruments

A framework for complementary measures would:

Reaffirm the consensus on strengthening demand through commitment to pollution prevention/waste minimization and encourage domestic environmental regulatory reform to promote use of incentives for improvements in environmental performance.

(b) Relationship of environmental goods and environmental services: ensuring complementarities of "hardware" and "software".

A framework for complementary measures would:

Address the timing and sequence of liberalization of trade in services in relation to that for goods when deciding on the scope and modalities of future liberalization in EGS.

- (c) Buttredding implementation of pollution prevention by avoiding distortions.

A framework for complementary measures would:

Ensure an enabling environment when liberalizing market access conditions for environmental goods which is technologically neutral, and promote coherence in other government support policies, that is, avoid distortions with more favourable price and access conditions for end-of-pipe technologies at the expense of cleaner technologies and processes.

- (d) Fostering diffusion of appropriate technology in emerging economies.

A framework for complementary measures would:

Strengthen programmes incorporating provision of information on environmental services and assistance tailored to the needs of emerging economies on pollution prevention and cleaner technologies. Since technology transfer is first and foremost a matter of the private sector, drawing on its experience and enlisting its collaboration is essential.
