Joint Working Party on Trade and Environment

ASSESSING THE ENVIRONMENTAL EFFECTS OF SERVICES TRADE LIBERALISATION: A METHODOLOGY
This document was prepared for the Joint Working Party on Trade and Environment (JWPTE), as part of the OECD work programme on trade and environment. Drafted by Dale Andrew of the Trade Directorate, this methodology on assessing environmental effects of liberalising trade in services was developed in response to the JWPTE’s request to complement the 1994 OECD Methodologies which were developed to address environmental effects of liberalising trade in goods. While it was discussed, and subsequently refined, at JWPTE meetings in 2000 and 2001, the text is de-classified under the responsibility of the Secretary-General of the OECD.

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ASSESSING ENVIRONMENTAL EFFECTS OF SERVICES TRADE LIBERALISATION: A METHODOLOGY

Background

1. In 1994, the OECD developed Methodologies for Environmental and Trade Reviews\(^1\) (1994 Methodologies), thereby addressing the second of the four Procedural Guidelines on Trade and Environment, endorsed by the June 1993 Council meeting at Ministerial level. This methodology, while purposely general, was largely developed for trade in goods. At the OECD Workshop on Methodologies for assessing the environmental effects of trade liberalisation agreements, held in October 1999, the rapporteur highlighted a series of gaps in current methodologies, one of which concerned methodologies to assess the environmental impacts of the GATS. The Joint Working Party on Trade and Environment turned its attention to developing such a methodology in 2000 and 2001, the results of which are attached.

Introduction: services trade and its environmental effects

2. Although services are not precisely defined and the relevant economic data are rather poor, the WTO Secretariat estimates that international trade in services now constitutes some one-third of total international trade. Barriers to these international flows involve a host of national regulations, licensing requirements, approval procedures, ownership conditions, etc. With the signing of the Marrakech Agreement establishing the WTO in 1994, the General Agreement on Trade in Services (GATS)\(^2\) established a multilateral framework under which Members make horizontal and sector-specific commitments to free up these barriers. GATS 2000 in Geneva is now addressing a whole host of general rules and sector-specific issues to further liberalise these significant and fast-growing streams of international trade.

3. Only relatively recently has analytical work begun addressing the environmental impacts of services at the national level. Services and services delivery have many characteristics which distinguish them from extractive and manufacturing industries. Such differences mean that new approaches are useful in assessing their environmental impacts -- both the positive as well as the negative effects. Impacts vary greatly according to services sector but analysts have shown that certain services activities lead to air, water and soil pollution and have implications for natural resource inputs as well as the production and disposal of wastes. Given the relationship between goods and services, it is also necessary to trace the goods used in the supply and consumption of services.\(^3\)

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\(^2\) GATS basic concepts and modus operandi are explained in "GATS: objectives, coverage and disciplines" and "Introduction to GATS", both on the services trade page of WTO website: www.wto.org/english/tratop_e/serv_e/serv_e.htm

4. If work on the environmental impact of the services economy is fairly recent, even less is known about the environmental effects of services trade and its liberalisation. Despite the significance and growth of services trade, relatively little attention has been paid to this sector in past official environmental reviews of trade liberalisation agreements.4

Implementation Issues

5. In addition to the need for substantive analysis of trade and environment issues, the 1993 OECD Procedural Guidelines on Trade and Environment recognised that the manner in which trade and environment issues are considered is essential. In the context of environmental reviews also, Members have increasingly emphasised at least three such implementation issues in undertaking any environmental assessment of a trade agreement and which are equally important when assessing services trade liberalisation. Due to their particular importance, these are recalled here in the context of assessing services trade.

Public participation: consulting stakeholders

6. The first guideline from the 1993 Procedural Guidelines on trade and environment calls for providing transparency and consultation with interested parties. As for goods trade, consulting those concerned by trade in services and its liberalisation allows interested parties to make essential inputs on national economic interests, as well as generating public support for the negotiations. In addition since EAs often have as their primary objective to address public concerns with trade liberalisation, allowing for early and regular public comment is essential. Some national frameworks foresee consultations at prescribed periods, others have an open process through which interested parties may comment more or less continuously. Consultations will vary in duration and frequency depending on the nature of the proposed negotiations.

Timing

7. This methodology has been primarily designed to address the services negotiations which began in 2000, and therefore represents an ex ante approach, rather than assessing what has already been negotiated and implemented (ex post assessments). However, even within the framework of ongoing and future negotiations, timing questions are important, for example: When should an assessment be initiated? How should the various phases of the EA be sequenced?

4 A recent NGO-sponsored ex post assessment of services trade is: WWF/International, Preliminary assessment of the environmental and social effects of trade in tourism, at www.panda.org/resources/programmes/trade/tourism2.pdf

Setting assessment objectives

8. Setting clear objectives for an environmental assessment of trade liberalisation is an important prerequisite for its success. Some frequently cited objectives include: addressing public concerns; assisting trade negotiators; integrating trade and environment policies; identifying appropriate policy responses, including flanking measures, etc. The EA’s objective(s) will in large part determine the focus of the assessment work, including the relative importance of each of the six steps set out below.

Six steps for assessing the environmental effects of services trade liberalisation

9. The following approach is proposed to assist national policy-makers when undertaking a review of the environmental effects of services trade liberalisation. Set out below are six steps – followed by explanatory sections for each including questions to check potential environmental effects. Questions are indicative and will need to be supplemented in the case of certain services sectors.

A. Scoping services sectors for environmental effects
B. Building scenarios of services trade liberalisation
C. Assessing environmental effects associated with economic changes
D. Assessing regulatory effects arising from rule-making
E. Screening for significance of environmental effects
F. Determining appropriate policy responses

A. Scoping services sectors for environmental effects

10. Services cover a wide variety of activities in the national economy with differing environmental impacts. Typologies for understanding their environmental impacts have been developed which examine more than the rather obvious direct and short-term impacts.\footnote{See literature cited in note 3.} An initial step involves scoping all services activities by understanding their environmental impacts at the national level – before moving on to investigate effects of liberalising trade in services.

11. Such a scoping exercise could involve combining two typologies. The first decomposes the \textit{direct} effects by notionally mapping the cumulative environmental effects of a service sector along a low to high continuum on one axis, while on the other axis arranging families of services activities according to the degree of environmental impact per facility. The second typology examines not only the direct effects, but also the \textit{indirect} effects.

12. According to the first approach examining \textit{direct} effects, the services sectors which are \textit{prima facie} candidates for an environmental assessment would include those with a high degree of impact per source plus those which, although low per production source, cumulatively have a high degree of impact.\footnote{High impact services have also been termed “smokestack services”, including electric utilities, airlines and other transport, hospitals, etc. Examples of services with a cumulative environmental impact from diffuse non-point sources include, auto-service stations, fast-food chains, dentist offices, hotels, etc. [Salzman, J. (1999), “Beyond the Smokestack: Environmental Protections in the Service Economy”, 47 \textit{UCLA Law Review} 411.]}
The former category produces large and short-term impacts on the environment from individual services production units, while the latter category triggers environmental impacts from diffuse non-point sources.

13. The category of services with indirect effects can be analysed as indirect in the sense that they affect supply chains upstream or change inputs into downstream activities. This typology can be particularly useful for policy makers who want to take advantage of the strategic position of certain sectors in order to “green” suppliers’ procedures and consumers’ purchasing. Thus, assessing indirect effects can often be expected to yield potential for “leveraging” the positive contribution of services trade liberalisation. This may be relevant in terms of identifying possible “win-win” sectors in which to promote liberalisation and designing appropriate policy responses (step F below), including enhancing measures.

14. Combining these two approaches for categorising environmental effects of services activities produces an initial overview of sectors showing potential environmental pressure points at the level of the national economy, as well as reveal sectors holding potential for positive environmental contributions. Identification of environmental benefits from particular services could help to indicate where specific liberalisation commitments and opening up greater trade and investment could also promote positive environmental effects.

15. Figure 1 is a matrix to help carry out such an initial scoping exercise: the rows correspond to each of the 12 main services sectors, used in the GATS, and the columns to effects across the major environmental media. To illustrate this approach, the row in the matrix for the tourism sector has been filled in, showing potential environmental impacts – both effects which are potentially positive and negative, whether direct (high impact per source and cumulative) or indirect.

16. A complementary step to scoping consists of excluding services (sub-)sectors which are not traded and unlikely to be traded to a significant degree even after liberalisation due to the characteristics of the sub-sector and delivery of the service.

B. Building scenarios of services trade liberalisation

17. The scope of negotiations covering services sectors and services trade rules will be conditioned on numerous factors. It is therefore important to allow for various liberalisation scenarios. The degree of detail will vary according to the negotiating objectives of various parties and evolve as information becomes available. As a start, a Base scenario or Benchmark can be established which reflects the current situation, assuming the levels of sectoral commitments and rules as they stand. It should be noted that the baseline scenario does not reflect a static economic situation. Irrespective of commitments to liberalise barriers to trade in services, economic growth including changes in sectoral activity will continue, which in turn will have knock-on environmental effects. The challenge, as always in assessing trade-induced environmental effects, is to identify those environmental effects associated with economic changes associated with trade liberalisation.

18. Then two general scenarios may be envisaged:

   Partial liberalisation scenario: where specific commitments in some (sub-)sectors are improved.

   More complete liberalisation scenario: significant liberalisation of sectoral commitments.

19. In addition, discussions on rules are ongoing in areas or for sectors where only general rules exist (e.g. domestic regulations), or areas for which the GATS disciplines are not fully developed (e.g. subsidies; government procurement; safeguards). Relatively less rule-making work is going on in GATS discussions
in the areas of subsidies and government procurement. The likelihood of changes in rules would also need to be factored in when building liberalisation scenarios.

**Steps C and D: Introduction**

20. Existing methodologies for assessing environmental effects of trade liberalisation policies tend to share the same basic approach of examining both the environmental effects of economic-induced changes and regulatory (legal and policy) effects. With some adaptation, this basic approach is suggested here, that is, the adoption of a two-stage approach looking at both the economic-induced changes and the regulatory effects when assessing environmental effects. The questions below, based on the Checklists appended to the 1994 OECD *Methodologies*, have been adapted to the specificities of services trade and liberalisation under the GATS.

21. In order to facilitate understanding of the various elements in the complex structure of GATS and possible approaches in the liberalisation of services trade, it may be helpful to construct a notional model matrix. This model matrix combines for each services (sub-)sector, (a) the relevant modes of supply\(^{8}\) (i.e. those retained after preliminary screening as having significant trade); (b) liberalisation scenarios; and (c) key liberalisation issues. It would obviously not be feasible to cover all of these and means are needed to identify where the likely significant economic and environmental changes may occur. Due to the specific nature of services, and their modes of supply, certain modes are often either not feasible or represent insignificant trade flows. These would be assessed in C.(1) below.

**C. Assessing environmental effects associated with economic changes**

22. Assessments of environmental effects associated with economic changes take into account four main categories of environmental effects: scale, structural, technology and product effects. Step C therefore involves two parts (1) estimating the economic changes arising from liberalisation of main restrictions, and then (2) assessing the environmental effects of these economic changes.

23. Undertaking the first part of Step C.(1) estimating the economic changes arising from liberalisation of main restrictions, is necessarily an objective toward which only a rough estimate can be made. Ideally not only the direction but the extent of these economic changes should be assessed, in order to carry out (2) -- assessing the environmental effects of these economic changes. Determination, particularly of the extent, of economic changes will in the current state of services trade data and modelling limitations be difficult. On the other hand, though still limited, there is a growing body of sector-specific information on services trade restrictions in place\(^9\), providing further insight into the key limitations affecting market access and national treatment; the horizontal restrictions of particular significance; and the MFN exemptions in place.

24. Despite the fact that the body of information on services barriers is constantly growing, the analyst’s task will not be easy. In the GATS “bottom-up” approach to build a liberal services trade regime,

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\(^{8}\) Mode 1: cross-border supply; Mode 2: consumption abroad; Mode 3 commercial presence; mode 4 movement of natural persons. The four modes of supply, with examples, are explained in literature referenced *supra* footnote 2.

\(^{9}\) See the dozen or so WTO Secretariat sectoral notes in the series S/C/W/... The OECD Secretariat has inventoried barriers in following services sectors: Financial Information and Advisory Services (TD/TC/WP(98)51/FINAL); Wholesale Trade Services (TD/TC/WP(99)18/FINAL); Retail Trade Services (TD/TC/WP(99)41/FINAL); Air Cargo Services (TD/TC/WP(99)57/FINAL); Tourism (TD/TC/WP(2000)10/FINAL). Available at: [http://www.oecd.org/ech](http://www.oecd.org/ech)
it provides a framework for new commitments across a range of sectors. Using the GATS schedules of commitments, however, does not provide a full or accurate picture of the extent of a country’s measures in place. Nor do attempts based on frequency indexes to assess the countries which have made commitments give a good portrayal of the relative restrictiveness of the various types of measures restraining trade. To further complicate the analyst’s task, many countries have undertaken unilateral liberalisation in the recognition that, through domestic regulatory reform, increased competition and improved access conditions are indeed in their own national economic interests, even when their industries are not necessarily an important supplier of a particular service. Therefore those commitments which have been “bound” in GATS schedules are often a minimum, when in fact access conditions are far more liberal for foreign services suppliers. All of these factors can be expected to frustrate the job of approaching the assessment of services trade liberalisation for its environmental effects.

C.(1) Estimating the economic changes arising from liberalisation of main restrictions

Questions:

Preliminary screening for significance of trade:

Will liberalisation in the (sub-)sector overall represent potential for significant environmental effects? Or, among the four modes of supply, do one or more modes of supply represent trade of such minor significance in the (sub-)sector being reviewed that they can be safely eliminated from the scope of the review? Are these modes of supply likely to remain insignificant after liberalisation, including for reasons of technical feasibility of mode of supply? Which of the three categories of key GATS issues (market access; national treatment; MFN exemptions) are truly important for trade in this sector?

Sectoral commitments:

Do the existing GATS schedules of commitments reflect the actual market situation? Or are current, applied, regimes more liberal indicating that liberalisation is not likely to induce significant economic change?

What restrictive effects on services trade flows do these limitations have? Do the barriers effectively block access to foreign service suppliers or simply limit their numbers? Do they impede the supply of certain kinds of services?

To what extent will their reduction/elimination increase trade flows by changing price, quantity and quality of sectoral supply?

Horizontal restrictions:

How will liberalisation of the horizontal restrictions -- which tend to be concentrated in modes 3 and 4 -- affect quality, price and quantity of the service supplied to the liberalising economy?

MFN exemptions:

In which sectors do we find MFN exemptions and what is the likelihood of their being removed? How would their eventual removal affect supply?
Figure 1. Step A: Scoping services sectors based on environmental effects at the national level

<table>
<thead>
<tr>
<th>GATS SERVICES SECTORS TO BE LIBERALISED</th>
<th>POTENTIAL POSITIVE ENVIRONMENTAL EFFECTS</th>
<th>POTENTIAL NEGATIVE ENVIRONMENTAL EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Air Emissions</td>
<td>Water Effluents</td>
</tr>
<tr>
<td>Business services</td>
<td>Direct</td>
<td>Indirect</td>
</tr>
<tr>
<td>Communication services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction and related engineering services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial (insurance and banking) services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health-related and social services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism and travel-related services</td>
<td>Preservation of habitats, improved infrastructure</td>
<td>Influence on client behaviour e.g. Eco-tourism</td>
</tr>
<tr>
<td>Recreational, cultural and sporting services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Figure 2. Model matrix combining services (sub-)sectors, liberalisation scenarios and key liberalisation issues**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Key issue</th>
<th>Environmental effects from economic changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Market access</td>
<td>National treatment</td>
</tr>
<tr>
<td>Base or Benchmark</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial liberalisation scenario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 1</td>
<td><strong>not feasible technically for sub-sector</strong></td>
<td>none in place for (sub-) sector</td>
</tr>
<tr>
<td>Mode 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 4</td>
<td><strong>trade relatively insignificant for this sub-sector</strong></td>
<td></td>
</tr>
<tr>
<td>More complete liberalisation scenario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 1</td>
<td><strong>not feasible technically for this sub-sector</strong></td>
<td>none in place for (sub-) sector</td>
</tr>
<tr>
<td>Mode 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode 4</td>
<td><strong>trade may be relatively insignificant for this sub-sector</strong></td>
<td></td>
</tr>
</tbody>
</table>

Shading indicates that these cells would not be covered by an environmental review -- for the particular (sub-)sector in question. Other cells might likewise be excluded from a review, if following preliminary screening under C(1) a) certain modes of supply were determined not to cover significant services trade; or b) were not considered to be a feasible mode of supply; or c) MFN exemptions are not in place. For other (sub-)sectors the shaded cells could well be different.
C.(2) Assessing the environmental effects of these economic changes

Questions:

Scale effects

Scale of economic growth: Might liberalisation of the restrictions on services trade increase economic growth and by how much? What are the expected environmental benefits in terms of financial resources for environmental protection or the level of environmental preferences?

Scale of pollution: Might liberalisation of the restrictions on services trade increase or decrease overall levels of pollution and by how much? What are the expected environmental impacts in terms of releases of pollutants to air, water and land? What are the expected impacts on biodiversity?

Scale of resource use: Might liberalisation of the restrictions on services trade increase or decrease overall levels of resources use and by how much? What are the expected environmental impacts in terms of the change in intensity of use of natural resources, following the services trade liberalisation?

Structural (or composition) effects

Structure of production/consumption: Might liberalisation of the restrictions on services trade increase or decrease the production (consumption) of specific services sectors? What are the expected environmental impacts of changes in production (consumption) patterns at the micro-economic level?

Structure of investment: Might liberalisation of the restrictions on services trade -- and in particular those affecting mode 3 affecting establishment of commercial presence -- likely to promote investment in specific sectors? What are the expected environmental impacts of changes in investment patterns at the micro-economic level?

Structure of costs: Might liberalisation of the restrictions on services trade increase or decrease raw material costs, energy costs, labour costs or capital costs for specific sectors? In particular, when services are inputs into infrastructure, what effect will the increased trade in such services following liberalisation have on overall economic efficiency?

Geographical Structure: Might liberalisation of the restrictions on services trade increase or decrease production, consumption or investment in particular geographical areas or regions? What are the environmental implications?

Technology effects

Is liberalisation of the restrictions on services trade likely to affect the processes or production methods used in supplying the service?
Is liberalisation of services trade likely to facilitate access to environmentally friendly technologies?

**Product effects**

The use of which specific products is likely to increase (decrease) due to an increase in services trade following liberalisation of a given services sector?

What are the environmental effects (positive and negative) of an increase (decrease) in use of such products relative to those involved in the pre-liberalised services trade regime?

**D. Assessing regulatory effects arising from changes in multilateral trade rules**

25. Assessing regulatory effects involves evaluating whether proposed multilateral rules may have legal/regulatory effects at the domestic level. Such effects may be positive or negative.

**Questions:**

What changes may occur in GATS rules which could affect domestic regulatory capability, including that of sub-national governments in the case of federal countries? How will the ability of a Member to select regulatory mechanisms to meet national environmental policy objectives (including obligations under MEAs) be affected by new rules? Would any such changes affect environmental protection regulations designed to address services-specific environmental impacts, such as the cumulative impacts arising from non-point sources and indirect impacts?

How might the development of tighter disciplines on transparency of domestic regulations, developed in accordance with GATS Article VI, including provisions on prior consultation, designed to allow input from interested parties, affect the quality and timeliness of national environmental regulations? To what extent might strengthened transparency disciplines and procedures enhance (mitigate) the potentially positive (negative) environmental effects flowing from trade liberalisation or rule-making?

What are the prospects for other rules under GATS Article VI(4)? How might rules in the areas covered by VI (4) impact upon environmental regulation? How would the criteria outlined in VI(4) relate to potential environmental regulations covering qualifications, technical standards and licensing?

What is the impact of GATS Article VI(5) for areas where specific commitments have been made in terms of environmental regulation?

Given the transboundary and global scope of many environmental issues, might developments under GATS Articles VI and VII be expected to help in enhancing positive environmental effects and mitigating negative ones, e.g. by diffusing best practices, harmonising standards, and promoting mutual recognition arrangements, and thereby contributing to more cost-effective environmental management?

What environmental effects might the possible further development in GATS rules on government procurement and on subsidies to services suppliers have?
How robust are domestic regulatory environmental programmes and institutions in terms of meeting possible challenges which might arise following services liberalisation?

E. **Screening for significance of environmental effects**

26. Those environmental effects -- positive and negative -- should be identified which are significant enough to retain the attention of negotiators and lead to consideration for follow-up action.

*Questions:*

- What is the potential scope of the environmental effects predicted (e.g. local, national, transboundary, global)?
- What is the potential magnitude of the environmental effects predicted?
- What is the expected duration of the effects? Are such effects reversible?

F. **Determining appropriate policy responses**

27. The 1993 Procedural Guideline recommending that Member governments undertake environmental reviews, also make reference to the need “to identify alternative policy options for addressing concerns.” According to the explanatory text of the Methodologies, these different policy responses include: a) modification of some aspects of the trade agreements; b) including environmental safeguards in the trade measure or agreement; or c) implementation of a complementary environmental mechanism to accompany the trade measures or agreement.

28. Another similar approach consists of placing particular emphasis on designing “flanking” measures. These are generally further sub-divided into enhancing measures (to boost positive effects) and mitigating measures (to buffer negative effects).

29. Further questions may arise concerning domestic jurisdictional issues, such as responsibility of sub-national governments for certain environmental policies. Do these issues have implications for the design and implementation of appropriate environmental responses?

*Environmental regulations and enforcement capacity*

30. A set of related issues concern the adequacy and efficiency of domestic environmental regulations and capacity for enforcement of applicable environmental regulations. For example, depending on a number of factors, greater demands to meet compliance may result from liberalisation in certain sectors. This may be a particularly acute issue to meet enforcement of standards on non-point sources of pollution, which contribute to cumulative impacts over time and space on particular media.

*Questions:*

- What means are available to enhance positive effects?
- Are existing environmental policies sufficient to address negative effects?
If not, should the environmental regulatory environment be strengthened? What is likely to be the impact on enforcement requirements following liberalisation? Will the need for increased efforts be met with increased resources? Is there potential for regulatory reform -- either through complementary regulations or redesigning of environmental policy instruments to lead to greater efficiencies?

How should a realistic assessment of weak capacity for environmental enforcement be factored into the nature and extent of liberalisation? Should changes be made to the particular aspect of the services trade negotiating position which, in the light of the findings of the review, has been determined as potentially producing negative effects?