



AD HOC GROUP ON THE BERLIN MANDATE
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Agenda item 3

**COMPILATION OF RESPONSES FROM PARTIES
ON ISSUES RELATED TO SINKS**

Comments from Parties

Note by the secretariat

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INTRODUCTION

A. Mandate

1. At the first part of the eighth session of the Ad Hoc Group on the Berlin Mandate (AGBM), a questionnaire (see annex below) was provided to Parties on issues related to greenhouse gas (GHG) sinks. The AGBM invited Parties to submit comments on the questionnaire by 12 November 1997. It requested the secretariat to compile the submissions into a miscellaneous document before resumption of the eighth session (FCCC/AGBM/1997/8, para. 19).

B. Scope of the note

2. This note responds to the above mandate by organizing all the submissions received from Parties in response to the questionnaire. The submissions may be found in documents FCCC/AGBM/1997/MISC.4 and Add.1-2.¹

3. The secretariat has also prepared a synthesis of information from national communications and in-depth reviews of Annex I Parties on sources and sinks in the land-use change and forestry (LUCF) sector (FCCC/TP/1997/5). This document provides data on anthropogenic CO₂ emissions and removals from the LUCF sector by subcategories for 1990 and information on the confidence levels of GHG emission estimates in the main source and sink categories reported in the second national communications. Parties may also wish to refer to documents FCCC/SBI/1997/19/Add.1 and FCCC/SBI/1997/INF.4 for additional information.

4. In order to assist Parties in their consideration of the submissions, the secretariat compiled a synthesis of the responses to the questionnaire in a simplified format (see table below). For incorporation, narrative submissions have been abridged in order to extract substantive comments. However, not all of the questions, particularly numbers 2 and 3, were amenable to a simplified format. Parties may wish to refer to the original submissions from Parties as contained in the miscellaneous documents for this information.

5. In order to ensure that the table properly synthesizes the submissions from Parties, a draft table was circulated by e-mail to all Parties providing submissions as of 20 November 1997. Comments on the draft table that were received as of 24 November 1997 are included in the table below.

6. The terminology associated with the issue of sinks can be confusing. For example, "sinks" is sometimes used synonymously with removals by the land-use change and forestry

¹ Submissions were received from the following Parties: Australia (2), Canada (2), Denmark, Iceland, Japan, Kenya, Marshall Islands, Nauru, New Zealand (2), Norway, Peru(2), the Russian Federation, the United Kingdom of Great Britain and Northern Ireland (on behalf of the European Community and its member States), the United States of America, and Uzbekistan.

(LUCF) category. As defined in Article 1 of the Convention, a sink means “any process, activity or mechanism which removes a greenhouse gas, an aerosol or precursor of a greenhouse gas from the atmosphere” and a source means “any process or activity which releases a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere.” The LUCF category has emissions and sinks, as defined in the Intergovernmental Panel on Climate Change (IPCC) Revised 1996 guidelines for inventorying national GHGs and has four subcategories: forests and other woody biomass, land conversion, abandoned land and other.

7. Also, the term “gross emissions” is sometimes used to reflect only emissions from the energy, transport, industry, agriculture and waste categories, excluding LUCF. To be complete, however, gross emissions should include the emissions from the LUCF category as well. The term “net emissions” is often used to refer to the difference between all sources and sinks. In some cases, Parties use the term “net emissions in the LUCF” category to mean the difference between the sources and sinks in that category. **Thus, precision in the use of terminology will be very important in the continuing discussion of “sinks”.**

8. The note has been prepared in recognition of the fact that the submissions summarized within it do not necessarily represent the final positions of Parties and does not preclude the submission of additional responses.

Summary table of responses by Parties to the questionnaire regarding sinks: part A

	Australia	Canada	Denmark	European Community	Iceland
Include sinks?	Yes, as part of a comprehensive approach.	Yes	Yes, if properly designed.	Yes, but modalities to be decided at the first Meeting of the Parties (MOP 1).	Yes
If yes, how should they be included?	Net approach in both base and budget year across all sectors.	Base year: gross. target: gross emissions and net new removals from LUCF after 1990. Scaling emissions according to their uncertainty.	Include in protocol provisions and processes, which may lead to agreement in the future. Submission compares 6 different approaches technically by a credit system.	Modalities to be decided at MOP 1.	In QELRO. direct actions after 1990 in afforestation, deforestation and revegetation.
4: How would you define “anthropogenic” sinks?	IPCC Guidelines definition: “...direct result of human activity...”, as agreed by COP.	“Direct human activities undertaken after 1990 that protect and enhance sink capacity, (especially reforestation and afforestation) and that affect carbon stocks (deforestation and harvesting) and that can be verified.”	Currently: total sink of managed forest.	“By human activity” = all sinks of IPCC Guidelines.	Only direct actions such as planting forests, application of fertilizers to forests, exclusion of grazing or revegetation activities.
5: Are the 1996 IPCC Guidelines adequate?	Yes. 1996 Guidelines are adequate for first budget period. Any refinements accepted within these guidelines should be applied to base and target years. Revisions to guidelines should be applied to next period only.	1996 IPCC as basis. If new methods before 1 st budget period, then to be applied.	Await update from IPCC before inclusion of sinks.	Yes, for 1 st budget period. subsequent revisions would apply to 2 nd budget period.	Yes, but best available methods should be used as they become available.

	Australia	Canada	Denmark	European Community	Iceland
6a: Which LUCF subcategories should be included or excluded?	All terrestrial activities included to ensure comprehensive approach.	See item 4 above.	Restricted to anthropogenic changes in carbon stock.	All quantifiable anthropogenic sinks.	All should be reported.
6b: How should excluded subcategories be dealt with?	All categories to be included.	No comment	No comment	Still general commitment.	Credits for included categories only if excluded ones are appropriately managed.
7: What reference year should be used?	Same as for emissions - 1990	1990 for emissions and the beginning of the budget period for net sinks.	No comment	1990	1990
8: Uncertainty	Greater certainty if same methodology is used in comparison between years. Fuel (CO ₂): high confidence but low confidence for other gases, industrial: high confidence, fugitive: low confidence, agriculture: medium confidence, LUCF: low confidence, waste: low confidence. Adequate methods are available to include comprehensive approach in QELROs. Confidence levels are improving over time.	Uncertainty is not an excuse to exclude important categories. Issue needs to be addressed prior to the 1 st budget period.	No comment	Energy: 5% CH ₄ : 20%-30% N ₂ O: order of magnitude, overall between years: 1% forests: 10-15% soils: 50%, gross/net approach: no cancellation of errors, high uncertainty. Allowable level to be decided at MOP.	Account only for afforestation and revegetation, categories with relatively high certainty.
9: Should there be a limit on the amount of sinks in a QELRO?	No limit; comprehensive approach.	Limited to new actions after 1990.	No comment	Matter for MOP.	No limit

	Australia	Canada	Denmark	European Community	Iceland
10: Are data in national communications (NC) adequate/inadequate?	Yes, in conjunction with in-depth review (IDR).	Methods have to be improved prior to 1 st budget period.	No comment	Matter for MOP.	Adequate
11: Should a national system give special consideration to sinks?	Inclusion of sinks is a commitment under the Convention.	No comment	No comment	Institutional mechanisms for data gathering if missing.	Yes
12: Compliance	Comprehensive approach, including all LUCF categories.	New LUCF actions after 1990.	Accurate definition of compliance.	Matter for MOP.	See 4,6,7.
13: Definitions	IPCC Guidelines include definitions so there is no need for separate definitions in the protocol.	See item 4 above.	Propose definition for "gross", "net", compliance.	Depend on QELROs.	"...Direct actions taken by Parties ...".
14: Other approaches?	No comment	No additional	No additional	See 15.	Results from direct actions after 1990.
15: Protocol text?	No comment	No comment	No comment	Yes	No comment

Summary table of responses by Parties to the questionnaire regarding sinks: part B

	Japan	Kenya	Marshall Islands	Nauru	New Zealand
Include sinks?	No, still premature.	No, not from LUCF.	Not in the first budget period, but later.	No, but as soon as methods are available.	Yes
If yes, how should they be included?	Problems with inclusion and exclusion.	“Land resources and forests are crucial to national economic development in Kenya”.	Tackle fossil fuel emissions first.	“Discounting”	Gross/net, but decreasing all budgets by 12%-15% (contraction factor) accounting for additional emissions when sinks are credited.
4: How would you define “anthropogenic” sinks?	Difficult to answer before COP 3.	“Any system/process created/developed for the sole purpose of absorbing greenhouse gases”.	To be determined by MOP 1.	“... Created or significantly enhanced exclusively through significant human intervention and/or management efforts...”	Definition as given by IPCC, approved by SBSTA and COP.
5: Are the 1996 IPCC Guidelines adequate?	If sinks included in first budget period, then methods to be decided at COP 3, which will be the IPCC methods. Apply new methods only for second budget period.	No, since sinks are too complex.	No, because key questions are not answered, further work needed.	No, not before revision.	Yes, but have to be finalized.
6a: Which LUCF subcategories should be included or excluded?	Premature to decide which category.	None	All categories excluded for the first budget period.	Only activities with certainty higher than $\pm 10\%$.	“All anthropogenic emissions”, less than complete list may be chosen in 1 st budget period.

	Japan	Kenya	Marshall Islands	Nauru	New Zealand
6b: How should excluded subcategories be dealt with?	Further work needed.	None	No comment	Devote urgent attention to decrease uncertainty.	Include the emissions in 2 nd budget period.
7: What reference year should be used?	1990	Difficult	1990	1990	Emissions in 1990 and sinks in the beginning of budget period.
8: Uncertainty	Soils are very uncertain. Include those source categories which reach satisfactory certainty level (to be decided by a COP).	~100%	Include only sources with "high" (less than $\pm 10\%$) confidence in a QELRO, e.g. only CO ₂ from energy, industry and other sectors. Include other sources in subsequent budget periods.	Nauru does not report. Only activities with $\pm 5\%$ -10% acceptable. Requests IPCC to do further work, create incentive by discounting to decrease uncertainty.	Forests: $\pm 25\%$ on-site burning and decay: $\pm 35\%$ LUCF uncertainty in some cases is less than some CH ₄ and N ₂ O sources.
9: Should there be a limit on the amount of sinks in a QELRO?	Not sufficient information.	No limit	Cap of 6%-7% or smaller, but differentiation difficult.	Limited on the basis of the uncertainty.	No limit
10: Are data in NCs adequate/inadequate?	Fuel combustion: yes Sinks: no	"No, because most of the information is too subjective".	Inadequate.	No, since uncertainty is too high.	Yes
11: Should a national system give special consideration to sinks?	Yes if sinks are included in QELROs.	"Yes"	Improve sinks reporting.	Yes	Most accurate possible methods should be established.
12: Compliance	See 7,8b,10.	"Emissions reduction 1990".	No credits	Credit sinks up to a limit according to uncertainty.	Already in net QELRO.

	Japan	Kenya	Marshall Islands	Nauru	New Zealand
13: Definitions	Definitions of “net”, “anthropogenic” and categories of LUCF should be in protocol or by COP.	“Difficult”	Definition of “net” and “sinks” to be determined by COP/MOP.	Subject to negotiation.	“Net=emissions by source less removals by sinks”.
14: Other approaches?	Request IPCC to further develop methods.	“Amount of sinks in each country should be equal or greater than the amount of emissions of that country per year.”	Request special report from IPCC taking into account “discounting” according to uncertainty.	Discounting: credit sinks up to a limit according to the uncertainty.	See 1,2,3.
15: Protocol text?	No comment	No comment	No, but can be elaborated quickly.	No comment	Yes

Summary table of responses by Parties to the questionnaire regarding sinks: part C

	Norway	Peru	Russian Federation	USA	Uzbekistan
Include sinks?	Yes	Yes, if they are adequately established with sound methodologies, fully recognized.	Yes	Yes	No - too uncertain.
If yes, how should they be included?	“Net” or “stock change approach”, the latter has technical and scientific advantages.	No comment	Net aggregate anthropogenic CO ₂ equivalent emissions minus sinks.	Net. Maximum flexibility.	No comment
4: How would you define “anthropogenic” sinks?	Include anthropogenic emissions and sink in accordance with IPCC Guidelines.	“...Product of a process in which clear action and decision making process were involved...”	No comment	Account for all LUCF fluxes with demonstrable exception, with review, as IPCC Guidelines.	Anthropogenic sinks present CO ₂ absorption by reservoirs and for anthropogenic activities.
5: Are the 1996 IPCC Guidelines adequate?	1996 IPCC, for sources; improvements in methodologies should apply both to base and target years.	No, to be further developed to reduce uncertainty to base and target year(s).	1996 IPCC until revised in the future.	Improvements after setting QELROs, if applied for base, budget and target years.	If there is a QELRO, 1996 Guidelines for first budget. Revised Guidelines for second budget.
6a: Which LUCF subcategories should be included or excluded?	All included	Only forest and woody biomass, because human action is more evident.	All, provided high certainty, monitoring and verification.	All categories. Issues (harvested wood) to be solved before inclusion in QELROs.	No comment
6b: How should excluded subcategories be dealt with?	All included	Other categories to be addressed by policies and measures.	No comment	No comment	No comment
7: What reference year should be used?	1990	2000 when clear methods are available.	1990	Same as for emissions, but for some categories there may be exceptions.	No comment

	Norway	Peru	Russian Federation	USA	Uzbekistan
8: Uncertainty	Fuels: rather accurate. LUCF: same order of magnitude as some CH ₄ and N ₂ O categories, therefore inclusion of LUCF does not necessarily raise uncertainty.	Sinks: high uncertainty, additional funds to reduce uncertainties.	Only those with low uncertainty 10%.	Reliability estimates: Forestry above ground: low. Forestry below ground: low. Other land-use: low. The best method for forests: ±10% BUT error between years smaller if same method for base and target.	No comment
9: Should there be a limit on the amount of sinks in a QELRO?	No limit	Limited to the overall capacity of GHG removals by sinks.	No limit	No limit	No comment
10: Are data in NCs adequate/ inadequate?	Yes	No, maximum and minimum according to uncertainties and evidence of human action for sinks not provided.	Yes - subject to requirements of certainty and verification.	Compliance with IPCC reporting Guidelines + IDR + additional provisions would be sufficient. Other data sources should also be used.	No comment
11: Should a national system give special consideration to sinks?	Yes	Not clear with Article 4.	Yes	Open to special consideration of sinks in national systems.	No comment
12: Compliance	In QELRO	Afforestation, reforestation and forest management.	Parties to choose measures to achieve compliance.	All changes in LUCF in QELROs.	No comment
13: Definitions	No comment	Categories of anthropogenic enhancement of sinks.	"Anthropogenic" might be included in Article 1.	None	No comment
14: Other approaches?	No comment	No comment	See submission on protocol.	No comment	No comment
15: Protocol text?	No comment	No comment	No comment	No comment	No comment

Annex

PROPOSED QUESTIONS FOR PARTIES REGARDING SINKS¹

1. Should anthropogenic sinks be included or excluded in a QELRO? Why or why not? (In responding you may wish to consider which budget period or target year).
2. What should be the impact of including or excluding sinks on the QELRO levels, national plans or policies of your country? (Please try to provide a qualitative answer).
3. What criteria governed your answer to question number 1?
4. How would you define “anthropogenic” sinks in the context of a QELRO?
5. Do you agree or disagree with the following proposition; if so why or why not? “Any QELRO that would include sinks should be based on the 1996 IPCC Guidelines. Any new IPCC methods would only apply to a second budget period or subsequent target”.
6. a) Which IPCC LUCF categories should be included or excluded in a QELRO? Why? Examples: All land-use change and forestry/Changes in forest and other woody biomass stocks/other.

b) If some categories are excluded, how should they be dealt with?
7. What reference year should be used as the basis for any QELRO that would include sinks? 1990/2000/none/other
8. a) How much uncertainty do you associate with the GHG inventories provided by your country for the specific IPCC reporting categories?

b) What uncertainty levels would be appropriate for sinks in a QELRO, bearing in mind the uncertainties associated with sources?

c) How should uncertainty be dealt with?
9. Should there be a limit on the amount of sinks in a QELRO; if so how should it be determined?
10. Is the data provided in national communications adequate /inadequate for assessing compliance with a QELRO? Why or why not?

¹ Proposition from Mr. Antonio La Viña, Chairman of the informal contact group on sinks.

11. Should any “national system” established under Article 4 give special consideration to sinks?
12. In order to achieve compliance with a QELRO (with/without sinks), what activities should be credited or not credited and what base year should be used?
13. What definitions should be included; in which article of the protocol?
14. Do you have any other approach to propose?
15. Do you have specific protocol language?
