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METHODOLOGICAL ISSUES

GOOD PRACTICE GUIDANCE AND OTHER INFORMATION ON LAND USE, LAND-USE CHANGE AND FORESTRY

Implications of harvested wood products accounting

Submissions from Parties

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its fifteenth session, invited Parties to submit, by 15 January 2003, their views on the implications of harvested wood products accounting, including views on different approaches and methodologies, for consideration at its eighteenth session. It requested the secretariat to prepare, based on submissions from Parties contained in this document and in document FCCC/SBSTA/2001/MISC.1, a technical paper on harvested wood products accounting, taking into account socio-economic and environmental impacts, including impacts on developing countries, for consideration at its nineteenth session (FCCC/SBSTA/2001/8 para. 29 (k) and (l)).
2. The secretariat has received 10 submissions. In accordance with the procedure for miscellaneous documents, these submissions are attached and reproduced* in the language in which they were received and without formal editing.

* These submissions have been electronically imported in order to make them available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

FCCC/SBSTA/2003/MISC.1

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PAPER NO. 1: ARGENTINA

**COMMENTS OF THE GOVERNMENT OF THE ARGENTINE REPUBLIC
ON THE IMPLICATIONS OF HARVESTED WOOD PRODUCTS ACCOUNTING**

1) Approaches for accounting carbon from forest harvesting and wood products on National Inventories

The IPCC default methodology considers that the net carbon contained in wood products is accounted for by the country in which the wood was grown and in the year of harvesting. This methodology overestimates CO₂ emissions resulting from forestry harvests. In fact, part of the carbon stored prior to harvest is not immediately released to the atmosphere, but is sequestered in diverse Harvested Wood Products (HWP) for variable periods of time.

Three approaches are currently being discussed to account for carbon stored in HWP; namely (a) Stock-change approach; (b) Production approach; and (c) Atmospheric-flow approach.

It is the view of the Government of the Argentine Republic that carbon should be credited only where removals of CO₂ from the atmosphere take place; i.e. sequestered carbon in HWP should be accounted for by producing countries. Therefore, only the Production approach thoroughly reflects the view of the Government of the Argentine Republic on the accounting of carbon for HWP.

We are aware that the Production approach presents the problem of tracking in depth the end-use of HWP, particularly those exported to countries lacking relevant and complete government or private databases. However, we are confident that modalities and procedures can be developed to improve the tracking and carbon accounting in HWP with a reasonable degree of certainty. With this aim, capacity building activities should be organized.

PAPER NO. 2: AUSTRALIA

ISSUES RELATING TO EMISSIONS FROM FOREST HARVESTING AND WOOD PRODUCTS

INTRODUCTION

Australia welcomes the opportunity to make a submission on the implications of harvested wood products accounting, including views on different approaches and methodologies.

Australia is of the view that in the first instance Parties should focus on the development of a long-term policy framework for harvested wood products (HWP). This framework should be informed by experience with the guidance included in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories. On completion of the long-term policy framework, Parties will then be in a position to consider the need for and construction of an interim policy framework specific to Kyoto Protocol accounting requirements.

BACKGROUND

Limited methodological guidance on harvested wood products (HWP) is provided by the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories:

“For the purposes of the basic calculations, the recommended default assumption is that all carbon removed in wood and other biomass from forests is oxidized in the year of removal. This is clearly not strictly accurate in the case of some forest products, but is considered a legitimate, conservative assumption for initial calculations...

The proposed method recommends that storage of carbon in forest products be included in a national inventory only in the case where a country can document that existing stocks of long-term forest products are in fact increasing... This information would, of course, require careful documentation, including accounting for imports and exports of forest products during the inventory period. (Reference Manual, p5.17)”

The above text provides Parties with no clear guidance, nor does it provide a consistent logical policy basis, on options for inventorying emissions or removals from HWP, thus preventing the preparation of consistent, comparable, transparent and verifiable inventories. There is therefore, an argument for the need for further development of methodological guidance, within a set policy framework.

LONG-TERM POLICY FRAMEWORK

The review of the IPCC Guidelines, which is to commence at the end of 2003, provides a clear mandate for the development of a long-term policy framework for HWP. As set out above, limited guidance on emissions accounting for HWP is currently available. Parties should consider and resolve relevant policy issues, prior to any further development of detailed technical methods. The first step in the development of a long-term policy framework should be a consideration of relevant guiding principles.

The development of a long-term policy framework for HWP should avoid ad hoc and incremental policy and methodological arrangements. It also provides an opportunity for Parties to deliberate on and put in place a more well considered, yet realistic and achievable, policy and methodological approach for HWP.

Australia notes that the SBSTA has requested the UNFCCC Secretariat prepare a technical paper on HWP accounting for consideration at its nineteenth session. Questions that could be considered in the preparation of this technical paper include:

- Do accounting methodologies, included in the Revised 1996 IPCC Guidelines, for sectors other than land use change and forestry provide any guidance applicable to the HWP pool?
 - For example, is there any symmetry in the treatment of emissions from the energy, fugitive emissions etc. sectors and HWP pool?
- How should attribution of HWP emissions and removals be dealt with?
- What are the implications of both the stock changes and flux approaches to accounting for HWP?

Methodological options for accounting of emissions and removals for HWP should only be considered once the policy framework has been established. The consideration of both the policy framework and accounting methodologies should be guided by the need for a single (but tiered) approach, which enables internationally consistent, transparent and verifiable emissions accounting.

Australia notes that discussion of approaches and methodologies for HWP accounting has, to date, been dominated by the outcomes of the workshop for Evaluating Approaches for Estimating Net Emissions of Carbon Dioxide for Forest Harvesting and Wood Products, Dakar, May 1998. It is noted that this was essentially a technical discussion not founded on an agreed policy framework. There remains considerable confusion and limited information available about these approaches and depending on whether a Party is a net importer or exporter of wood products the approach selected could produce results that differ significantly. This results in Parties having conflicting interests and views in relation to the approaches they support. Australia is of the view that consideration of the policy and methodological options for addressing HWP should not be limited to those identified at Dakar.

HARVESTED WOOD PRODUCTS WITHIN THE KYOTO PROTOCOL CONTEXT

In addition to the requirement for a long-term policy framework for HWP, there is a need for policy and methodological guidance specific to Kyoto Protocol accounting requirements.

Australia is of the view that policy decisions relating to the treatment of HWP under the Kyoto Protocol should be developed following the preparation of a long-term policy framework for HWP accounting. Should this not be possible, the development of these policy determinations could occur in parallel.

As set out above, Australia is of the view that Parties should agree a policy framework as a first step. Methodological options can then be developed so as to achieve consistency with this framework.

Issues specific to HWP accounting under the Kyoto Protocol include:

- How accounting rules can be variously (and perhaps differentially) applied to Convention inventories, Article 3.3 land units, Article 3.4 activities and Article 6 and 12 projects; and
- Can harvested wood products (by nature an offsite carbon pool) be treated as a broad activity and added to the eligible activities listed under Article 3.4?

Any approaches developed for use during the first commitment period should reflect the provisions of the Marrakesh Accords, including the need to be consistent, comparable, transparent and verifiable.

DRAFT IPCC GOOD PRACTICE GUIDANCE FOR THE LULUCF SECTOR

Australia notes that methodologies to account for emissions from harvested wood products have been proposed in the first draft (December 2002) IPCC good practice guidance for land use, land use change and forestry sector. Australia is of the view that these methodologies should be removed pending changes in the treatment of HWP in accordance with future policy decisions of the Conference of the Parties. The proposed methodologies are premature because they preempt any later decisions of the Subsidiary Body for Scientific and Technological Advice.

PAPER NO. 3: CANADA

IMPLICATIONS OF HARVESTED WOOD PRODUCTS ACCOUNTING

Introduction

At the 15th session of the Subsidiary Body for Scientific and Technological Advice (SBSTA), the Parties were invited in FCCC/SBSTA/2001/8 to submit comments on the implications of harvested wood products accounting, including views on different approaches and methodologies, for compilation into an addendum to the miscellaneous document FCCC/SBSTA/20001/MISC.1, for consideration at its eighteenth session.

Canada is pleased to provide the following views on harvested wood products.

Summary

Canada supports full carbon accounting that includes the accounting of carbon stored in harvested wood products (HWP) and the C-CO₂ emissions and removals associated with HWP.

As noted in our previous submissions, it continues to be Canada's view that the primary objective of national inventory guidelines is to improve the accuracy and completeness of GHG inventories and reporting under the Framework Convention on Climate Change and under the Kyoto Protocol. The GHG inventory should provide complete, transparent and accurate accounting of emissions and removals, identifying when and where they occur. The accounting methodologies should be scientifically credible, feasible and consistent with the other sections of the inventory (i.e. provide complete accounting that does not result in double counting.)

A common understanding of the HWP accounting approaches and, in particular, the corresponding methodologies is essential to have a meaningful discussion of the approaches and their implications which ultimately will be required to select the most suitable accounting approach for UN FCCC and KP reporting at COP 10. The IPCC's current work on GPG for LULUCF should provide standardized descriptions of the methodologies by the end of 2003.

We propose that a workshop be held for experts and negotiators in the late summer/early fall 2003 to allow for a full discussion of the accounting objectives (i.e. UN FCCC and KP reporting), and the suitability and implications of the four approaches. The results of such a workshop could provide important input to the UN FCCC Secretariat's paper on HWP that, in turn, could help the Parties decide on their preferred approach and a final selection of the HWP accounting approach to be made at COP 10.

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This submission has been prepared in response to the invitation by SBSTA to provide Canada's views on the implications of harvested wood products, including views on different approaches and methodologies, for compilation into an addendum to the miscellaneous document FCCC/SBSTA/2001/MISC.1, for consideration at its eighteenth session.

Canada supports full carbon accounting that includes the accounting of carbon stored in harvested wood products (HWP) and the C-CO₂ emissions and removals associated with HWP.

As stated in Canada's submission of March 2001, it is Canada's view that the primary objective of national inventory guidelines is to improve the accuracy and completeness of GHG inventories and reporting under the Framework Convention on Climate Change and under the Kyoto Protocol. The GHG inventory should provide complete, transparent and accurate accounting of emissions and removals, identifying when and where they occur. The accounting methodologies should be scientifically credible, feasible and consistent with the other sections of the inventory (i.e. provide complete accounting that does not result in double counting.)

At this time, there are four different approaches that can account for harvested wood products: default approach contained in the 1996 Revised IPCC Guidelines; and three alternate approaches: stock change, atmospheric flow and production. The default approach assumes that harvested wood products (produced from wood produced in that country) are immediately released as CO₂ within the year of harvest. The three alternate approaches provide different ways of accounting for the carbon stored in HWP and the C-CO₂ emissions and removals associated with HWP.

At the present time, only conceptual descriptions of the alternate approaches are available. The detailed methodologies for the respective approaches are currently being drafted as part of the IPCC Good Practice Guidance (GPG) for LULUCF. In the absence of standardized descriptions of each methodology, it is Canada's view that the approaches are being interpreted differently. As a result, incomparable conclusions may be drawn regarding the implications of the approaches, thus confounding SBSTA's task of resolving this complex issue.

In order to assess the implications of the various accounting approaches and ultimately decide on the most suitable approach(es) for UN FCCC and KP reporting, there must be a common understanding of what is included and not included in each approach. Canada therefore proposes a process whereby standardized, detailed accounting methodologies are developed, and Parties can develop a common understanding and agreement on what and how HWPs should be accounted (as part of UN FCCC and KP reporting). This process should allow

for a transparent and informed decision on the accounting approach to be made at COP10.

According to FCCC/SBSTA/2001/8 (paragraphs 29 (1), SBSTA has requested the UN FCCC Secretariat to prepare a technical paper on HWP, taking into account socio-economic and environmental impacts, including impacts on developing countries for consideration at SBSTA 19. As the IPCC GPG for LULUCF will be finalized over the coming year, Canada proposes that SBSTA hold a workshop sometime in late summer/early fall 2003 for experts and negotiators to develop a common understanding of what HWP should be accounted for, the various implications of each approach, and other issues of concern to Parties. Country submissions and the workshop deliberations could provide a good foundation for the UN FCCC Secretariat's paper.

To achieve this, Canada proposes that:

- Countries carefully review and provide comment on the HWP sections of the first-order draft IPCC GPG for LULUCF;
- Based on the methodologies described in the second-order draft, countries develop their preliminary estimates for HWP. Countries could be invited to make a submission to SBSTA 18 that includes their preliminary estimates and raises the issues related to the methodologies they would like to discuss at an upcoming workshop.
- SBSTA could hold a workshop in the late summer/fall 2003 with subject experts and negotiators where countries could present their estimates and views on the approaches and corresponding implications for themselves and other countries, including developing countries. Ideally, the outcome of this workshop would reach agreement on what and how HWPs accounting should be part of UN FCCC and KP reporting, that addresses the needs of the Parties, and a summary of the different country positions on HWP accounting approaches.
- UN FCCC Secretariat would prepare a technical paper on HWPs, drawing from individual country submissions to SBSTA and the workshop report. This paper should be ready for consideration at SBSTA 19.
- At SBSTA 19, Parties could be invited to submit their final HWP estimates (based on approved IPCC GPG for LULUCF) and provide their views on the preferred approach(es) for UN FCCC and KP reporting at SBSTA 20.

Canada supports the inclusion of HWP accounting as part of both UN FCCC and KP reporting. With the above-described process, Canada wishes to promote a transparent and informed decision whereby all Parties have a common understanding of the complex accounting approaches associated with HWPs.

PAPER NO. 4: DENMARK ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES, AND OF CROATIA, LITHUANIA, ESTONIA, LATVIA, SLOVAKIA, CZECH REPUBLIC, HUNGARY, POLAND, SLOVENIA

THE IMPLICATIONS OF HARVESTED WOOD PRODUCTS ACCOUNTING, INCLUDING VIEWS ON DIFFERENT APPROACHES AND METHODOLOGIES

In accordance with FCCC/SBSTA/2001/8 paragraph 29 (k) Denmark, on behalf of the European Community and its Member States, submits these views on the implications of harvested wood products (HWP) accounting, including views on different approaches and methodologies.

The EU welcomes the work and clarification which has already been provided on this issue, notably by the expert meeting convened by the IPCC-OECD-IEA Programme on National Greenhouse Gas Inventories on "Evaluating approaches for estimating net emissions of carbon dioxide from forest harvesting and wood products", Dakar, 5- 7 May 1998, and the Workshop on HWP held in Rotorua, New Zealand, 12- 16 February 2001. The EU also welcomes the views provided by other Parties in their submissions as presented in FCCC/SBSTA/2001/MISC.1, and notes that a number of issues, approaches and methodologies have been identified.

The EU regards HWP estimation and accounting as complex and multidimensional issues, which have important implications for, inter alia, sustainable forest management, biodiversity, consumption and use of wood-based products and trade as well as the use of biofuels.

The views of the EU on the accounting principles, as expressed in its submission of January 2001, and its statement at SBSTA 15, remain valid. In summary, the views of the EU are:

- Accounting of HWP is an issue for consideration for the second commitment period and beyond. This is because the decision in the Marrakesh Accords does not include HWP, either as a pool under Article 3 or as an activity under Article 3.4. Furthermore, there is still a need for further analysis and development of approaches, methodologies and availability of accurate and relevant data.
- Decisions on HWP should be consistent with other relevant LULUCF decisions.
- Inclusion of HWP accounting should not be allowed to weaken the environmental integrity of the Kyoto Protocol.
- The EU recognises the value of replacing fossil fuels and energy intensive materials with sustainably produced wood, as well as the storage and/or recycling of carbon in wood products and incentives to promote such uses.
- The EU therefore believes that Parties should aim at an accounting approach that would
 - be methodologically feasible, transparent, accurate and verifiable and not over sensitive to annual variations e.g. in the balance of imported and exported wood products,

- provide and maintain incentives for the use of HWP that result in actual climate benefits, such as use of bioenergy, recycling and/or storage in wood products and material substitution,
- be in support of the development and production of long-lived wood products and incentives for their use,
- be in support of sustainable forest management, including conservation of biological diversity and other forest values,
- address socio-economic and environmental impacts, including impacts on developing countries,
- not make a Party's inventory subject to policies over which it has no control.

In this context, and like many other Parties, the EU sees the Stock Change Approach as the most promising one for further development.

The EU looks forward to the upcoming discussions on HWP to take place in accordance with FCCC/SBSTA/2001/8 paragraph 29 (l) to (m), and the technical paper on HWP to be provided by the Secretariat. In preparing this paper, the Secretariat is invited to take into account the above considerations. It is also invited to address and assess the availability and accuracy of national and international data, on the causes, magnitude and direction of the changes in the harvested wood product pools, and identify the needs to improve data quality and completeness. In this context the Secretariat should take into account all the relevant work done earlier on this subject including work done in other fora including the FAO, and progress made by the IPCC in developing LULUCF GPG.

PAPER NO. 5: JAPAN

JAPAN'S VIEWS ON THE IMPLICATIONS OF HARVESTED WOOD PRODUCTS ACCOUNTING

Japan is of the view that the points below should be considered in analysis of carbon accounting of Harvested Wood Products (HWP) and for drafting a technical paper on this issue, while the basic viewpoints in the March 2001 submission from Japan have not been changed. In particular, Japan insists to apply the current accounting method (i.e. IPCC Default approach) in the first commitment period with a view to avoiding eventual great uncertainties and impacts of the application of new approaches in question and the likes upon the achievement of the commitments.

1. In considering carbon accounting of HWP as a significant carbon reservoir, the following basic points should be borne in mind; (a) contribution to prevention / mitigation of global climate change, (b) appropriate incentives to promote sustainable forest management, (c) equity between producing and consuming countries, and impacts on international HWP trade, (d) impacts on developing countries, (e) scientific and methodological issues such as data requirements and measurement methods, (f) compatibility with relevant provisions of the Kyoto Protocol, (g) incremental costs associated with the application, and (h) other impacts such as impacts on sustainable forest management and wood product utilisation.

2. In other words, an ideal carbon accounting method of HWP should be able to properly appreciate their role as a significant carbon reservoir, which is not taken into account in the IPCC Default approach, promote sustainable forest management, contribute to prevention / mitigation of global climate change, and be feasible at low cost.

3. Although it would not be an easy task to develop an accounting method that fulfil the above requirements, Japan would like to see extensive and comparative discussions to this end in the technical paper, which is to be developed by the Secretariat and discussed at the SBSTA19, pertaining to at least four approaches including the currently used IPCC Default approach and newly proposed three approaches (i.e. Atmospheric Flow approach, Stock Change approach and Production approach).

(a) Contribution to prevention/mitigation of climate change. For example: the IPCC Default approach does not appreciate the role of HWP as a carbon reservoir, nor the efforts to protect it by prolonging product life span, recycling or other measures, while it might be said that the IPCC Default approach avoids the risk of underestimating the potential atmospheric emission of carbon; the Production approach might not give any incentives for facilitating the protection of imported HWP.

(b) Appropriate incentives to promote sustainable forest management. For example, the Atmospheric Flow approach might encourage excessive logging beyond the sustainable level because an export of HWP is not accounted as a debit of the exporting country. On the other hand, the Stock Change approach might encourage consuming countries to import more from the non-ANNEX I countries because producing countries included in ANNEX I might wish to reduce exports to keep carbon credits under the approach. This might also raise the issue of sustainable forest management in those non-ANNEX I countries.

(c) Equity between producing and consuming countries, and impacts on international HWP trade. For example: the Atmospheric Flow approach might encourage producing countries to increase their HWP export due to the advantage given to producing countries; Among the three new approaches,

the Stock Change approach might encourage consuming countries to increase their HWP import due to the advantage given to consuming countries.

(d) Impacts on developing countries. For example: As mentioned elsewhere in this paper, the application of different approaches might have different impacts on developing countries through, for instance, the possible alternation of international HWP trade profiles, preference to HWP from developing countries, and incentives to sink-CDM projects.

(e) Scientific and methodological issues. For example: New approaches would require most of the ANNEX I countries to establish a new system for measuring and tracking destination of HWP to collect data on HWP disposal. In addition, the Production approach would require exporting countries to collect data on HWP disposal that they have exported, in the countries of their HWP destinations. If only HWP of developed country origin would be eligible for accounting, an additional system would be required to identify HWP which are originated from the ANNEX I countries.

(f) Compatibility with relevant provisions under the Kyoto Protocol. For example: the Atmospheric Flow approach might not be compatible with Article 3.3 and 3.4 of the Kyoto Protocol which stipulate that the net changes in greenhouse gas emissions by sources and removals by sinks are “measured as verifiable changes in carbon stocks.” The Stock Change approach might not be compatible with the underlying ideas of Article 12 (Clean Development Mechanism), Article 17 (Emission Trading), etc. if this approach accounts a HWP import from a developing country as an import of carbon reservoir or credit in the ANNEX I countries; i.e. the Kyoto Protocol allows the ANNEX I countries acquire carbon credits from developing countries only through CDM.

(g) Incremental costs associated with the application. For example: As mentioned in (e) above, new approaches would require the ANNEX I countries to establish a new system for measuring and tracking destinations of HWP. In addition, under the Production approach, tracking of exported-HWP would be required. Currently, no countries seem to have such system so that substantial incremental costs might be incurred to meet these requirements.

(h) Others. For example: Our preliminary estimation indicates that the application of new approaches might give some ANNEX I countries sink credits more than their emission reduction commitments in the first commitment period. Such substantial gains in sink credits due to the mere change of accounting method might bring a lot of misunderstandings and confusion.

4. Japan thinks an accounting method, which could explicitly appreciate and facilitate the positive impacts of substituting wood products for energy-intensive materials and renewable wood-based energy for fossil fuels, would be preferable. Therefore, Japan suggests that broader methodologies beyond the four approaches be explored as far as possible, taking these aspects into account as well.

PAPER NO. 6: MEXICO

**CUESTIONES RELACIONADAS CON LAS EMISIONES DERIVADAS DE LA
EXPLOTACIÓN FORESTAL Y LOS PRODUCTOS MADEREROS**

En su Quinta Sesión de trabajo llevada a cabo el 6 de noviembre de 2001 el Órgano Subsidiario de Asesoramiento Científico y Tecnológico (SBSTA) invitó a las partes a enviar su posición acerca de las *implicaciones de la contabilización de las emisiones derivadas de la explotación forestal y los productos madereros*, tomando en cuenta los diferentes enfoques y metodologías, para su compilación como un anexo al documento misceláneo FCCC/SBSTA/2001/MISC.1.

Bajo la Convención Marco de las Naciones Unidas sobre Cambio Climático las partes están comprometidas a preparar inventarios nacionales de gases de efecto invernadero de emisiones por fuentes y remociones por sumideros; utilizando para ello *las Directrices del IPCC para los inventarios nacionales de gases de efecto invernadero*.

Los productos de la madera conservan carbono por periodos prolongados de tiempo además de que pueden ser reciclados después de su vida útil. Asimismo la madera y los productos de la madera pueden considerarse como un reservorio artificial de carbono.

Las metodologías para la contabilización de los productos derivados de la madera son sujeto de debate dentro del proceso del IPCC. Se han propuesto una variedad de metodologías, incluyendo *cambio en el stock, producción, flujo atmosférico y producción modificada*. Sin embargo temas como la contabilización apropiada del carbono derivado de la importación y exportación de productos derivados de la madera necesitan ser abordados con mayor profundidad.

México sugiere que cualquier metodología de contabilización de las emisiones provenientes de la explotación forestal y de productos derivados de la madera deberá ser transparente, verificable, completa y consistente con los objetivos sobre desarrollo sustentable perseguidos por la Convención y el Protocolo de Kioto.

Deberá establecerse una metodología que no incentive la sobreexplotación de los recursos forestales, por el contrario dicha metodología deberá incentivar el uso de la biomasa como sustituto de combustibles fósiles, promover el uso de los productos derivados de la madera, promover la reducción en la deforestación así como el manejo sustentable de los bosques

La metodología deberá tomar en cuenta la disposición de información básica (en la mayoría de las partes) sobre producción, consumo, comercio y periodo de vida de los diferentes productos derivados de la madera, entre otra información. Cualquier metodología que se use deberá ser relativamente barata y fácil de implementar, es recomendable poner atención en las estadísticas sobre leña, las cuales en los países en desarrollo normalmente son subestimadas.

PAPER NO. 7: NEW ZEALAND

HARVESTED WOOD PRODUCTS

Interim Submission by New Zealand

New Zealand appreciates the invitation by SBSTA [refer FCCC/SBSTA/2001/8 paragraph 29 (k)] to comment on the issue of harvested wood products accounting.

Harvested wood products accounting is a complex issue and one in which New Zealand has a keen interest. New Zealand considers that it is important to further develop and finalise the policy relating to the issue, which has been outstanding since the mid-1990's.

However, New Zealand's first priority over the last year has been developing domestic policy and legislation on climate change to enable ratification of the Kyoto Protocol. This was achieved in December 2002.

Completing this work has placed constraints on our ability to spend time on the issue of harvested wood products accounting. Because of the importance New Zealand attaches to the issue, we would like the opportunity and more time to look at it in depth. Therefore New Zealand's full submission will not be available until the end of March 2003. At that stage we hope to provide useful and constructive comments to assist further discussion on the implications of and different approaches to harvested wood products accounting.

New Zealand hopes this timeframe will be acceptable to the Secretariat.

PAPER NO. 8: SAMOA ON BEHALF OF THE ALLIANCE OF SMALL ISLAND STATES

EMISSION FROM FOREST HARVESTING AND WOOD PRODUCTS

Samoa, in its capacity as Chair of the Alliance of Small Island States (AOSIS), is pleased to submit additional views on the issues relating to emissions from forest harvesting and wood products.¹

The consideration of the issue relating to emissions from forest harvesting and wood products (FH & WP) embraces a complexity of interlinked accounting processes which affect obligations under the UNFCCC and the Kyoto Protocol. These complex issues will need to be resolved before FH & WP can be effectively brought into the accounting framework. Some of the complexities include:

1. Is this one issue? i.e. emissions from forest harvesting and wood products or is it two issues:
 - a. emissions from forest harvesting
 - b. emissions from wood products
2. Is the current IPCC default assumption regarding removed wood and other biomass appropriate?
3. What are the relevant implications for the UNFCCC and Kyoto Protocol?
4. Is this an issue about attribution and/or allocation?

The purpose of this submission is to highlight a number of issues that need to be resolved and make recommendations for further work.

1. Differentiating Between Forest Harvest and Wood Products:

There are several factors that need to be considered in this respect:

- Treatment of carbon removed from forests
- Decay of biomass damaged
- Slash
- Special consideration of harvesting under the Kyoto Protocol

Treatment of Carbon Removed from Forests:

In general, the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories does not make a differentiation between emissions from forest harvest and wood products. It makes the default assumption that all carbon removed in wood and other biomass from forests is oxidised in the year of removal.²

Decay of Biomass

The IPCC Guidelines do however make reference to emissions from the decay of biomass damaged or killed during logging. The reference to the decay of biomass is then ostensibly ignored. This factor is not picked up in the equation for calculating annual biomass change³. This could be a significant omission, particularly in closed canopy forests that are subject to selective logging practices. Studies suggest that damage to forests in Brazil from logging operations can be as much as 40%. These

¹ Samoa's initial views can be found in Paper No 7, FCCC/SBSTA/2001/Misc.1

² Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual, page 5.17

³ Equation 1, p 5.19 op cit

studies suggest that burning of debris from logging operations can be an additional and significant source of emissions.⁴ While these statistics relate to closed canopy forests in Non Annex I countries, they should not be discounted particularly as some Annex I countries log closed forests within their territories. Furthermore, Annex I countries import forest products from closed canopy forests that are subject to high impact conventional logging operations (see later discussion on “allocation”) and/or illegal operations.⁵

Slash:

The only differentiation made in the equation for calculating annual biomass change is made in the context of slash.

Special consideration of harvesting under the Kyoto Protocol:

In the Annex to the Draft Decision -/CMP.1 (*Land use, land-use change and forestry*) reference to forest harvesting is made in two contexts and has the potential to be inferred in a third:

- In the definition of a forest (para 1(a))
- Potentially within the definition of “forest management” (para 1(f))
- In what has been called the “Nordic clause” (para 4)

The implications of these references will be discussed later.

Recommendation # 1: *The IPCC should be encouraged to undertake further work to develop accounting approaches to factor in biomass decay and carbon losses from fires after logging operations.*

2. IPCC Default Assumption Regarding Removed Wood and Other Biomass:

As stated earlier, the current default approach for removed wood and biomass is to consider that these forest residuals are oxidised in the year of removal. Clearly this is not the case. For some countries that are net producers of forest products this assumption creates an overestimate of emissions. Similarly for those countries that are net consumers of forest products this creates an underestimate of emissions. This could be significant in both instances, while for some countries which are both producers and importers of forest products the difference may not be that significant.

It should be noted that the IPCC makes a recommendation that storage of carbon in forest products be included in a national inventory only in the case where a country can document that existing stocks of long- term forest products are in fact increasing.⁶ While this is presented as a recommendation (and hence no decision has been made to incorporate this recommendation in national inventories) it does pose some complexities if this recommendation is to be carried out. For instance:

- Does the increase in long-term forest products only relate to products grown in the country concerned, or does it include imported forest products?

The source of wood products has significant implications for carbon accounting on a global scale. As stated in AOSIS’s previous submission, there are serious concerns about carbon accounting of wood products that may have been derived from sources that are not captured in the current accounting system under the UNFCCC and/or the Kyoto Protocol (see later discussion on attribution). In particular there are a number of issues associated with procurement emissions from wood products that are imported into a country. These include:

- Ancillary emissions from the logging operation (biomass decay and fires)

⁴ Nepstad, D.C., A. Verssimo, A. Alencar, C. Nobre, E. Lima, P. Lefebvre, P. Scheslinger, C Potter, P. Mouthinho, E. Mendoza, M. Cochrane and V. Brooks, Large-scale impoverishment of Amazonian forests by logging and fire, in: *Nature*, **398**, 505 - 508 (1999)

⁵ Anon, Illegal products derived from the rainforests are everywhere, in: *asiawoodweb.com*, 12.04.02

⁶ Box 5, The Fate of Harvested Wood, IPCC, p5.17

- The emissions from equipment used to procure the wood products (e.g. bulldozers, helicopters etc)
- The emissions from transporting the wood products from source to consumers

This is further complicated by the fact that many countries process wood products, then re-export them to other markets.

Recommendation #2: *If there is to be a review of the IPCC default assumption, account must be taken of the emissions associated with the procurement of wood products from outside the country for which the inventory is being developed. Consideration of these emissions should include emissions associated with the transport of these wood products.*

3. Implications for the UNFCCC and Kyoto Protocol

UNFCCC:

The UNFCCC requirements for emissions accounting of FH & WP is incorporated within guidelines for both Annex I communications⁷ and Non Annex I communications⁸. The treatment is limited to those specified in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, i.e. default assumption.

Kyoto Protocol:

Consideration of emissions from FH & WP may, if considered desirable to be incorporated within a number of scenarios under the Kyoto Protocol. These primarily relate to obligations for Annex I Parties, but may have relevance for Non Annex I Parties in the context of afforestation and reforestation activities under Article 12. Scenarios where consideration of emissions from FH & WP may need to be considered include:

- i. Inventories of emissions by sources and removals by sinks under Article 7.1.
- ii. Calculation of assigned amount
- iii. Accounting for Article 3.3 activities
- iv. Accounting for possible Article 3.4 “forest management” activities.
- v. Accounting of RMUs generated from Article 3.3 and/or Article 3.4 forest management activities
- vi. Accounting in association with project based LULUCF activities under Article 6 and 12

(i) Article 7.1 Inventories

Requirements for the development of annual inventories appear to be relatively straightforward with respect to the Kyoto Protocol and emissions from FH & WP. The proposed Kyoto Protocol requirements for reporting of emissions from FH & WP can be inferred from the Draft Decision – CMP.1 (Land use, land use change and forestry).⁹ In this context the treatment is again limited to those specified in the Revised 1996 Guidelines, however the Draft Decision allows for future elaboration of these Guidelines.

Following the elaboration of these Guidelines, the COP will develop technical guidance on methodologies for adjustments for emissions and removals from land use, land use change and forestry with a view to recommending a decision at COP 10.¹⁰

⁷ Guidelines for the Preparation of National Communications by Parties included in Annex I to the Convention, Part I: UNFCCC Reporting Guidelines on Annual Inventories, Tables on the Common Reporting Format, in: FCCC/WEB/SBSTA/2002/1

⁸ Guidelines for the Preparation of National Communications from Parties not Included in Annex I to the Convention, Annex, COP 8 Decision

⁹ Paragraph 3 (a) of the Draft Decision.

¹⁰ Decision 21/CP.7, para 4

Recommendation #3: *While the IPCC has been requested to elaborate the Revised 1996 Guidelines, there are aspects of such work that are more of a policy nature. SBSTA should continue to consider this issue.*

(ii) Calculation of Assigned Amount

The calculation of assigned amounts for Parties included in Annex I may have relevance in the consideration of accounting for FH & WP in the following contexts:

- (a) Emissions from Annex A sources
- (b) Consideration of base year calculations for Parties affected by the second sentence of Article 3.7

(a) Emissions from Annex A sources:

The calculation of assigned amounts for Parties included in Annex I relates to emissions from sources in Annex A. In this context, there are at least three activities where the emissions from FH & WP may be relevant:

- (a) Emissions from biofuel derived from wood products
- (b) Solid waste disposal on land and waste incineration of wood products
- (c) Fuel combustion from forest harvesting practices and transport of wood products (While this element may be self evident it is often ignored in the context of discussions associated with models that relate to “allocation”)

(b) Consideration of base year calculations for Parties affected by the second sentence of Article 3.7

In addition, to emissions from Annex A sources, FH & WP may also be relevant in the context of determining base year emissions in 1990 for Parties affected by the second sentence of Article 3.7. If there is to be a review of the IPCC “default assumption” concerning wood products, a calculation may need to be made for carbon sequestered in wood products derived from “the conversion of forests (deforestation)”.¹¹

Recommendation #4: *Further elaboration of methodologies for calculating emissions from biofuels, solid waste and waste incineration of wood products and fuel consumption from harvesting practices and transport of wood products should be undertaken.*

Recommendation #5 *Further consideration should be given to IPCC default assumption and its context in determining base year emissions in 1990.*

(iii) Accounting for Article 3.3 activities

Consideration of FH & WP in the context of activities included in KP Article 3.3 invokes a number of considerations (some apparently contradictory). These include:

- (a) Definition of forests
- (b) The ‘Nordic’ clause
- (c) Definition of deforestation

¹¹ The phraseology used is derived from para 5(b) of the Annex to Draft Decision -/CMP.1 (*Modalities for the accounting of assigned amounts*)

(a) Definition of forest:

The definition of forests includes land subject to temporary destocking such as harvesting and which are expected to revert to forest. In this context it can be assumed that emissions from harvesting and ongoing removals from wood products derived from harvesting would not be included in the accounting framework for activities under Article 3.3.

Following from this conclusion, it can be assumed that wood products derived from deforestation activities, may, at some stage, be considered within the accounting framework for activities under Article 3.3

(b) The ‘Nordic’ Clause

The conclusion drawn from (a) above is further complicated by paragraph 4 of the Annex to Draft Decision -/CMP.1 (Land use, land use change and forestry). This paragraph, known colloquially as the ‘Nordic clause’, makes reference to harvesting during the first commitment period following afforestation and reforestation since 1990. This paragraph would tend to imply that ‘harvesting’ is equated with ‘deforestation.’ This would then imply that the reforested land which has been harvested is a ‘one-off’ activity and that the land is not presumed to be temporarily destocked and expected to revert to a forest. Otherwise, the land concerned would not be considered “Kyoto land” under Article 3.3, (as it would be part of the ongoing harvest-regeneration cycle and would not constitute a land use change). If this is correct, then an account would need to be made of the emissions from the ‘one-off’ harvesting activity and further consideration may need to be given to accounting for the wood products derived from the ‘harvesting/deforestation’.

(c) Definition of deforestation

Following the conclusion from the consideration of ‘harvesting’ in (b) above, only wood products derived from deforestation that resulted in a permanent land use change would have the potential to enter the accounting framework for Article 3.3 activities.

Recommendation #6: Further consideration be given by SBSTA to accounting of FH & WP associated with deforestation in the context of Article 3.3

(iv) Accounting for possible Article 3.4 “forest management” activities.

Annex I Parties that elect to include ‘forest management’ as an Article 3.4 activity may need to consider the implications of forest management activities in the context of FH & WP. If wood products are to be considered in this context full life-cycle accounting would need to be considering in this context.

Recommendation #7: Further consideration be given by SBSTA to life cycle accounting of FH & WP associated with Article 3.4 “forest management’ activities.

(v) Accounting of RMUs generated from Article 3.3 and/or 3.4 forest management activities

If consideration is given to accounting of wood products derived from Article 3.3 activities and or Article 3.4 “forest management” as indicated above, consideration must also be given to determine how this accounting framework would include the issuance and transfer of RMUs (noting that RMUs may not be carried over to subsequent commitment periods).

Recommendation #8: Further consideration be given by SBSTA to the accounting framework for the issuance and transfer of RMUs in the context of FH & WP.

(vi) Accounting in association with project based LULUCF activities under Article 6 and 12

If consideration is given to the issuance and transfer of RMUs in the context of FH & WP, it would seem appropriate to consider this in the context of project based LULUCF activities under Article 6 and 12. Accounting for FH & WP adds a significant level of complexity for the accounting framework for project-based activities. Possible issues that need to be resolved include:

- length of the project,
- considerations of transparency,
- accounting approaches, (including the operation of cancellation accounts)
- tracking ownership of CERs and ERUs and the fate of wood products

***Recommendation #8:** SBSTA will need to give serious consideration as to whether or not the inclusion of FH & WP in the context of project based activities in the first commitment period is a viable proposition, considering the complexities associated with the accounting of these products. This issue will need to be considered in the context of discussions associated with developing modalities for the inclusion of afforestation and reforestation in the Clean Development Mechanism.*

4. Attribution and Allocation

AOSIS shares the view of other Parties¹² that consideration of emissions from FH & WP should be considered primarily in the context of “attribution” (the scientific accounting of emissions and removals) rather than in the context of “allocation” (the assignment of responsibility for emissions and removals). To date discussions on FH & WP have been dominated by the consideration of “allocation” models rather than refining scientific methods for accounting of emissions and removals from FH & WP. AOSIS believes that accurate scientific accounting of emissions and removals from FH & WP is paramount. If there is to be further work in the elaboration of the Revised IPCC Guidelines this must be done in such a way as to ensure scientific accuracy and within the context of all emissions and removals.

In this context, consideration of tiered approaches to the decay rates of certain products should be based on the significance of the emissions and removals (including the GWP of emitted gases) and not on the difficulty of measurement or for the purposes of policy prescription or attribution. The development of more accurate accounting of emissions and removals from FH & WP should be the key focus of future work of the IPCC and SBSTA.

In the context of “allocation” discussions, various models have been proposed to attribute responsibility for emissions and removals from FH & WP. The most notable consist of:

- Stock change approach
- Production approach
- Atmospheric flow approach

As noted in our previous submission, we believe that each of these approaches has a number of flaws, creating perverse incentives which may:

- facilitate unsound forest practices, where wood products are derived from illegal or poorly managed sources
- not account for biomass decay or forest fires
- not account for emissions from equipment used in logging operations
- not account for emissions from the transport of wood products

¹² See for instance, the viewpoint of Canada in Paper No. 2, FCCC/SBSTA/2001/Misc.1

Incentive based accounting systems inevitably favour certain circumstances and not others. In the past, discussions on various models have lead to circular discussions about the relative merits of respective accounting approaches depending on which Party is advantaged or disadvantaged. This is not a productive way forward.

It is our view that allocation systems should only have relevance in the context of existing obligations under the UNFCCC and the Kyoto Protocol. This should primarily relate to allocation obligations in the context of RMUs, CERs and ERUs.

Recommendation # 9: *Guidance be given to SBSTA and the IPCC to focus their attention on attribution considerations rather than allocation models. Any discussion on allocation should focus on obligations in the context of RMUs, CERs and ERUs.*

PAPER NO. 9: UNITED STATES OF AMERICA

IMPLICATIONS OF HARVESTED WOOD PRODUCTS CARBON ACCOUNTING

The United States welcomes the opportunity to present its views on harvested wood products (HWPs) carbon accounting and its views on different approaches and methodologies. Harvested wood products, including those products currently in use and in landfills, are an important component of the carbon cycle and as such, they should be included in any greenhouse gas accounting system.

A variety of approaches have been proposed to account for carbon in HWPs, including the stock change, production, and atmospheric flow approaches. These approaches for accounting for the carbon in HWPs should not be confused with methodologies for measuring and estimating the carbon associated with HWPs. We strongly support the ongoing efforts by the National Greenhouse Gas Inventories Program of the Intergovernmental Panel on Climate Change to prepare the report on good practice guidance and uncertainty quantification in the land use, land use change and forestry sectors. We understand the methodological issues associated with estimating carbon storage in HWPs will be discussed as part of that report. We look forward to the assessment of uncertainty as part of this document.

With respect to accounting approaches, we feel it is important that Parties begin reporting the carbon associated with HWPs in their national inventories. This could be done even if there is no initial agreement on a single accounting approach. We also encourage Parties to report the carbon associated with HWPs transparently. Given that accounting approaches deal differently with carbon associated with imports and exports, we encourage parties to report carbon emissions and storage in HWP imports and exports separately. This type of transparent reporting of carbon associated with HWP imports and exports would provide flexibility if, in the future, Parties agree that a single accounting approach is necessary.

Background

A comprehensive approach to carbon accounting will capture all relevant pools including the carbon in forests as well as disposition of HWPs. Harvesting, in effect, transfers carbon from one carbon pool, the forest, to another carbon pool, the product pool. HWPs are goods manufactured or processed from wood, including lumber and panels for end uses such as housing and furniture, and paper and paperboard for uses such as packaging, printing and writing, and sanitary applications. Similarly, landfills store carbon as discarded products. Once a product is in use or in a landfill, the carbon is emitted over time as the product is combusted or decays.

The actual amount of carbon released to the atmosphere depends on how products are processed, their end-use and their ultimate disposal. For example, carbon emissions from residues and wastes are generally released into the atmosphere in a relative short period of time. However, carbon may be stored in products (e.g. paper products, buildings) for relatively long periods of time. Generally, the amount of time the carbon remains in paper products in use range from less than 1 to 6 years while the amount of time carbon remains in homes can range from 70 to over 100 years. In addition, when products are taken out of use, some carbon is sequestered in landfills. In modern landfills much of the HWP carbon can be sequestered almost indefinitely.

In the U.S. harvested wood represents only about 5 percent of the total stock of forest carbon (table 1). However, the impact of HWPs on the annual carbon flux is more important, accounting for almost 30 percent of annual net sequestration from U.S. forests (table 2). Recognizing and accounting for HWPs can also have important implications for various mitigation options. For example, shifting product mix to a greater proportion of lignin-containing solid wood, paper, and paper board products (which decay less in landfills), increasing product recycling, and increasing product life can increase carbon sequestration even without increasing the overall consumption of wood and paper products.

Accounting Methodology

The U.S. currently uses assumptions and methods to estimate changes in carbon stored in HWPS that are consistent with the Revised 1996 IPCC Guidelines. The IPCC identifies two methods to accounting for carbon emissions from HWPs: 1) assume all harvested wood replaces HWPs that decay in the inventory year so that the amount of carbon in annual harvests equals annual emissions from harvests; or 2) account for the variable rate of decay of HWPs according to its disposition (e.g., product pool, landfill, combustion).

The second method, accounting for the variable rate of decay, is used to estimate the carbon stored in HWPs in use and HWPs in landfills for the U.S. inventory of greenhouse gas emissions and sinks. Annual historical data and long-range projections are used to track roundwood and carbon disposition through to end uses such as housing and paper. Estimates are also made of the disposition of HWPs after use e.g. burning, landfills or other locations of decay. Decay rates for products in use and landfills are applied to the carbon stocks in respective pools to yield carbon fluxes.¹

Accounting Approaches

Several approaches have been proposed to account for carbon in forests in combination with carbon in HWPs. The most common accounting approaches, discussed in detail at the IPCC experts meeting held from May 5-7, 1998 in Dakar, Senegal and the informal workshop held from February 13-16, 2001 in Rotorua, New Zealand are the stock change, production, and atmospheric flow approaches.

The stock change approach uses estimates of net changes in carbon stocks in the forest and the HWPs pools in a country. Changes in carbon stock in forests are accounted for in the country in which the wood is grown, referred to as the producing country. Changes in the carbon stocks associated with products pool are, however, accounted for in the country where products are used, referred to as the consuming country.

The production approach also uses estimates of the net changes in carbon stocks in the forests and the HWPs pool, but attributes carbon storage in both domestically used products and exported products to the producing country.

The atmospheric flow approach uses net emissions or removals of carbon to/from the atmosphere within national boundaries, where and when the emissions and removals occur. Removals of carbon from the atmosphere due to forest growth are accounted for in the producing country, while emissions of carbon to the atmosphere from oxidation of HWPs are accounted for in the consuming country.

The United States currently uses the production approach to report changes in carbon in HWPs. With this approach, carbon stored in HWPS in use and in landfills includes the carbon in exported products and does not include the carbon in imported products. Carbon in exported HWPs is assumed to have the same disposition rates as in the United States. While the United States currently uses the production

¹ For a more complete description of the methods used to estimate carbon in wood products and discarded in landfills see Skog, K.E., and G. A. Nicholson. (2000). Carbon Sequestration in Wood and Paper Products. Chapter 5 in "The Impacts of Climate Change on America's Forests: A technical document supporting the 2000 USDA Forest Service RPA Assessment." L.A. Joyce and R. Birdsey (eds.) Gen. Tech. Rep. RMRS-GTR-59. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 133 p. See <http://www.fpl.fs.fed.us/documents/pdf2000/skog00b.pdf>.

approach for its Inventory of Greenhouse Gas Emissions and Sinks, we are open to discussing other accounting approaches.

Because the carbon associated with net imports (imports less exports) is a relatively small percentage of the overall carbon flux associated with U.S. forests, the effects of different accounting approaches are relatively small compared to countries that are large importers or large exporters of HWPs. For example, from 1990 to 2000, carbon in exported HWPs accounted for an average of 22 Tg CO₂ Eq. storage per year, with little variation from year to year. For comparison, imports (which were not included in the HWPs net flux estimates under the production approach) increased from 26 Tg CO₂ Eq. per year in 1990 to 46 Tg CO₂ Eq. per year in 2000. Therefore, preliminary estimates indicate that switching from the production approach to the stock change, for example, may increase the amount of carbon stored in HWPs by 30 Tg CO₂ Eq. per year, or less than 5 percent of the total flux from U.S. forests.

Table 1: U.S. Forest Carbon Stock Estimates

	1987	1997	2001
	Tg CO ₂ Equivalents		
Forest	47,594	49,694	50,291
Harvested Wood Products	1,920	2,479	2,712
Total	49,514	52,173	53,003

Source: Information is from the U.S. Environmental Protection Agency, Office of Policy. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2000. EPA 430-R-02-003, April.

Table 2: Estimated Net CO₂ Sequestration from U.S. Forests

	1990	1995	2000
	Tg CO ₂ Equivalents		
Forest	774	774	546
Harvested Wood Products	209	205	209
Total	983	979	755

Source: Information is from the U.S. Environmental Protection Agency, Office of Policy. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2000. EPA 430-R-02-003, April. Data for harvested wood products in 2000 is revised slightly from the EPA report to correct small errors in the reported results.

PAPER NO. 10: URUGUAY

EMISSIONS FROM FOREST HARVESTING AND WOOD PRODUCTS

Re.: FCCC/SBSTA/2001/8, para.29(k)

Principles:

Removal of atmospheric carbon dioxide is the relevant process in forests regarding climate change mitigation. Changes in carbon stocks are no more than a simple way of measuring net flows of carbon dioxide to and from the forest.

Carbon credits should be awarded based on the service of removing carbon from the atmosphere. **International trading of wood products does not involve any climate change mitigation service and, therefore, should not be accepted as a means for transferring carbon credits from one country to another.**

“Harvested Wood Products” (HWP) should be treated as a carbon pool in the same way as other forest carbon pools such as aboveground biomass, belowground biomass, soil carbon, non-tree biomass and dead wood.

HWP pool is a source of carbon, which is released at a rate varying according to the different types of products. **The fate of carbon stored in harvested wood is strongly determined by two factors: (a) forest management and (b) the first sale of harvested wood to enter the transformation process.** These concepts should allow for the implementation of reliable methods for adequate accounting of carbon emissions from HWP carbon pool.

Methods for accounting carbon dioxide emissions from HWP should be based on locally developed benchmarks and simplified models that simulate the rate of decay of a few classes of products (eg. short, medium and long life wood products).

The fact that the fate of carbon in HWP is determined to a large extent by forest management practices is also the basis for making the forestry activity liable for any emissions produced by the HWP pool. **These emissions should be accounted at the time when they occur, not at the time of forest harvesting, nor at the time of exporting the wood from one country to another.**

In order to stimulate maximal environmental benefit of forest carbon sinks, accounting of carbon emissions from HWP pool should encourage storage of carbon in long-lived products. Also, it should stimulate the use of short-lived products and wood wastes for bioenergy purposes.

Accounting of carbon stored in HWP should be allowed in the case of forestry projects both under articles 6 and 12 of Kyoto Protocol.

In forestry projects oriented to solid wood products, and after successive forest rotations, HWP pool can become of significant size with respect to other forest carbon pools. This should be considered as a way of dealing with the sink non-permanence issue.
