

Harvested Wood Products in 2006 IPCC Guidelines

Nalin Srivastava, IPCC TFI TSU

IPCC Expert Meeting on HWP, Wetlands and Soil N₂O

WMO Geneva

19-21 October 2010

ipcc

INTERGOVERNMENTAL PANEL ON climate change



Outline

- Alternate approaches to reporting *HWP Contribution*
- Guidance on HWP in the 2006 IPCC Guidelines
- UNFCCC request and the questions to be addressed
- Conclusion

HWP

- All wood material (including bark) that leaves harvest site
- Time carbon is held in products may vary depending on the products and its uses
- Discarded wood products can be deposited in solid waste disposal sites (SWDS) where they persist for longer periods



HWP Contribution: Alternate approaches



- There are alternative approaches to report and account for the contribution of HWP to annual AFOLU CO₂ emissions/removals (*HWP contribution*)
- Various proposed accounting approaches:
 - differ in how they allocate the *HWP contribution* between wood producing and consuming countries and what process (stock changes or atmospheric fluxes) they focus on;
 - give different results for the overall annual emissions or removals of CO₂ in AFOLU that a given country would report in a given year
- Reporting and accounting of the *HWP Contribution* is under consideration by the UNFCCC
- IPCC guidance focuses on the **variables** needed for using particular approaches for estimating *HWP contribution* and **DO NOT** favour a particular approach or pre-empt any accounting choice

HWP Guidance in 2006 IPCC Guidelines

- 2006 Guidelines clarify the option of reporting “zero” *HWP contribution*
- Provide default Tier 1 methods and guidance on higher Tiers for estimating the 5 variables needed for using some of the approaches for reporting *HWP contribution*
- Contain guidance on reporting whatever accounting approach is used

HWP Guidance in 2006 IPCC Guidelines (2)

- Estimates of *HWP Contribution* are designed to be consistent with those for other sectors :
 - All CO₂ released from HWP is included in the AFOLU Sector
 - CO₂ released from wood burnt for energy in the Energy Sector is not included in the Energy Sector totals (CO₂ emissions from bio-fuels reported as a memo item for QA/QC)
 - CH₄ and other gases from HWP used for energy is included in the Energy Sector
 - CO₂ released from HWP in SWDS is not included in the Waste Sector totals although CH₄ emissions from HWP are included

"HWP Variables"

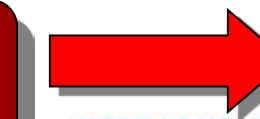
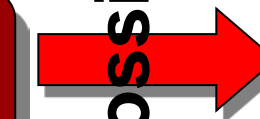
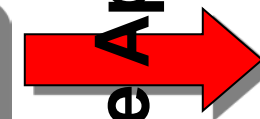
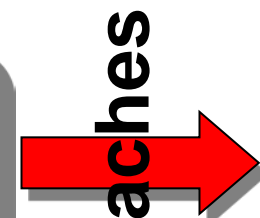
Annual change in carbon Stocks in HWP in reporting country from domestic harvest and imports for PIU (Variable 1A) + PSWDS (Variable 1B)

Annual change in carbon stock in HWP made from wood harvested in the reporting country including exports for PIU (Variable 2A) + PSWDS (Variable 2B)

Annual imports of all types of wood and paper material to reporting country, PIM (Variable 3)

Annual exports of all types of wood and paper material from the reporting country, PEX (Variable 4)

Annual harvest for wood products in the reporting country, H (Variable 5)



Possible Approaches

**HWP
Contribution**

"Zero" HWP Contribution

- The *HWP Contribution* can be reported as zero if the inventory compiler judges that the annual change in carbon in HWP stocks is "insignificant"
- Either the stocks in the country (Variable 1A + Variable 1B), or the annual change in carbon in HWP stocks originating from wood harvested in the country (including exported HWP) (Variable 2A + Variable 2B) may be considered
- HWP carbon in SWDS to be separately judged significant, IF annual change in carbon in total HWP stocks found significant (it may be assumed to be zero if not significantly increasing or decreasing i.e., Variables 1B and 2B are zero)

Insignificant

- The *HWP Contribution* can be reported as zero if the inventory compiler judges that the annual change in carbon in HWP stocks is **insignificant**. ... The term 'insignificant' in this context means that the annual change in carbon in HWP stocks, using one of the measures of carbon change above, **is of a comparable size to a key category**.

Vol 4 Section 12.2.1

- This should be corrected...

Tier 1: assumptions and data needs

- 2006 GLs provide guidance on the three methodological tiers for estimating the 5 variables for estimating *HWP contribution*
- Tier 1 :
 - annual changes in stock of HWP carbon are estimated using simple assumptions about fluxes and lifetimes
 - Assumptions:
 - First order decay of HWP “products in use”(PIU)
 - Inflow rate to HWP PIU from historical consumption or production
 - Outflow from HWP PIU estimated using simple first order decay
 - C inputs and outputs since 1900 recommended to estimate current HWP PIU pool

Tier 1: Spreadsheet

- 2006 GLs contain a **simple spreadsheet model** for implementing Tier 1 method
 - Uses FAO data on production, import and export of solid wood and paper products since 1961
 - Default factors to convert solidwood and paper from volume units to carbon units
 - Regional rates of change in industrial roundwood production prior to 1961
 - Constant default half-lives for products in use
 - Waste Sector Tier 1 methods are used to estimate change in HWP carbon stock in SWDS (Variable 1B; a Tier 1 method provided to estimate Variable 2B from Variable 1B)
 - HWP Variables 3, 4 and 5 i.e., Exports(P_{EX}), Imports (P_{IM}), and Annual harvest of products and fuelwood (H), are estimated by aggregating FAO data on various forest products production, export and import data

Tier 2: assumptions and data needs

- Uses essentially the same method as Tier 1 with country specific data on:
 - Annual production, imports and exports by product types and wood species
 - Factors to convert activity data to carbon
 - Half lives of products
 - Waste Sector annual activity data and parameters

Tier 3: assumptions and data needs

- More complex, detailed country-specific methods to estimate Variables 1A, 1B, 3, 4, and 5
- May involve a more complex approach based on a consistent combination of models of HWP in use; HWP in waste disposal sites; the outputs of the HWP pool; and more detailed data on production, imports and exports.
- Models could also use decay functions other than first order decay and potentially improve the estimates (Variables 2A and 2B) by incorporating decay information for countries where most products are exported
- Use more disaggregated country-specific data

UNFCCC request

- ...The expert meeting referred to in paragraph 7 of this document should explore the need and ways:
... Information in chapter 12 on harvested wood products, in particular definitions, consistency, potential for double counting with other sectors, use of higher tier methods and any new approach that has been proposed...

HWP Questions

- Consider the guidance in the 2006 Guidelines.
 - Are there any errors for which corrigenda should be issued?
 - Issue of “insignificant” HWP contribution (p. 12.8)
 - Are there any inconsistencies in the existing guidance? If so, how should these be addressed?
 - Issues relating to consistency with AFOLU and potential double-counting with Energy and Waste sectors
 - Can any clarifications be given to make the existing chapter easier to understand?
 - Use of higher Tier methods, stock methods, detailed country data
 - Are there any new accounting approaches being proposed for which additional material should be provided?

Presentations

- 2006 IPCC Guidance on estimating net-emissions from HWP- *Sebastian RÜTER*
- The 2006 IPCC Guidance on Harvest Wood Products and some Possible Refinements - *Gregg MARLAND*

Conclusions

- 2006 IPCC Guidelines provide guidance at different methodological tiers on estimating the five variables required for reporting the *HWP contribution* using any of the different approaches
- 2006 IPCC Guidelines do not pre-judge any of the different reporting options
- Guidance on reporting “zero” contribution has been provided
- Need to consider the existing guidance in light of questions from UNFCCC

Thank you for your attention!

