

## **Minutes from the WG 2 meeting, Horsholm, Denmark**

Prepared by Emil Cienciala and Kevin Black with the input of the WG 2 participants

### **List of participants:**

Endla Asi, Thierry B elouard, Kevin Black, Mark Broadmeadow, Emil Cienciala, Atonie Colin, Cristinel Costandache, Karsten Dunger, K are Hobbelstad, Gerald K andler, Edgar Kaufmann, Gal Kusar, Michael Prskawetz, Jens Peter Skovsgaard, Arnor Snorrason, G oran St ahl, Pekka Tamminen, Roberto Tognetti, Erkki Tompo, Vittorio Tosi, Lars Vesterdal

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| <b>First Session, 14:00 - 17:00, 9/9/2004</b> |
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### **Agenda:**

G oran St ahl (WG 2 leader) outlined the agenda of the meeting. He discussed the background to WG 2, made an overview of the meeting and defined short term and long term objectives of WG 2 (Figure 1).

The background for the WG 2 agenda is set by the obligations of European countries to report their greenhouse gas emission under the United Nations' Convention on Climate Change (UNFCCC) and its Kyoto Protocol (KP).

The main objective is to set-up harmonized procedures for estimating the state and change in forest carbon pools as required for the Land-use, land-use change and forestry (LULUCF) sector. The focus is given to the national forest inventory programs in Europe implemented to meet the reporting requirements set out by UNFCCC/KP.

The practical work will include experience sharing, assessing the state of the art in the individual countries regarding UNFCCC/KP reporting, the specific role of NFI in reporting, developing harmonized principles for UNFCCC and KP reporting (AR, R, D, - and optionally FM) suggesting standardized procedures, developing methods to assess reliability of the reported figures and providing feedback to NFIs reflecting ongoing policy development for a LULUCF sector under the UNFCCC/KP.

There are other important activities to consider, such as the EU project CARBO-INVENT and COST action E21 (Contribution of Forests and Forestry to Mitigate Greenhouse Effects), in which several WG 2 participants actively take part. Cost E21 holds its final meeting in Dublin in October this year. On behalf of the steering committee, Emil Cienciala will present COST E43 to the COST E21 forum in order to establish links between the two actions. As COST E21 is primarily devoted to carbon issues and collaboration is specifically relevant for WG 2 of COST E43. Other mentioned resources include activities of the CARBOEUROPE cluster.

### **Country and personal presentations**

The rest of the day was devoted to presentation of the participants. They included personal and institutional background, motivation for the participation in WG 2, brief review of the current state and principles/strategies of national forest inventory and its relation to the subjects of WG 2.

It was agreed that each participant would prepare a presentation extract consisting of three major questions to be answered, namely:

1. My personal expertise and involvement in WG 2 issues
2. My institution's involvement in WG 2 issues, specifically in i) NFI and ii) UNFCCC/KP reporting
3. How is the NFI in my country linked to UNFCCC/KP reporting?

This common-format extract is presented below in Appendix I.

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| <b>2<sup>nd</sup> Session, 10/9/2004</b> |
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Göran Ståhl outlined the agenda for the second session of WG 2 (Figure 2). It was devoted to finalizing the personal presentations, working plans for the future meetings and discussion in three break-up groups devoted to selected themes of the WG 2 expert agenda.

**Topics of the working agenda**

- i) Questionnaires: - unlike other groups, WG 2 will start to formulate the intended questionnaire later, i.e., in the MC meeting in December this year. Initially WG 2 wants to evaluate previous questionnaires devoted to related topics including soil inventories and a general inventory questionnaire evaluated within COST E21, and FAO questionnaire from the meeting in Prague in June 2004.
- ii) New reporting tables are currently being prepared and are due to be finalized in the next COP. These tables would be the starting point to analyze the reporting issues with respect to estimation procedures and available data
- iii) It was decided that framing considered in this action is activities of the LULUCF sector would only include land-use changes associated with forestry activities (i.e. LUCF).
- iv) Important topics to consider within WP 2 would also include models, which are used for the reporting purposes, state of the art in EU

**Next meetings:**

21/22 Oct., Gembloux, Belgium

In WG 2, headlines will be developed for the assessment of state of the art in individual countries, i.e., descriptions of methods and strategies used for UNFCCC/KP

2-3/12 Rome, Italy (alt. Vienna, Austria),

The major presentation and working topic of WG 2 would involve the assessment of state of the art in individual countries, i.e., descriptions of methods and strategies used for UNFCCC/KP reporting and monitoring, and use of data from national forest inventories. Additional topics include the outline and scope of the questionnaire to be developed based on previous assessments by WG 2 and the new reporting tables for the LULUCF sector

### **Work in brake-up groups:**

The remaining time in the session was devoted to forming three thematic groups along the following issues:

1. NFI role and definitions of LUCF, including information on areas
2. Definition and estimation of five terrestrial carbon pools
3. Kyoto Protocol issues

The selected interim group leaders were Mark Broadmeadow (WG 1), Kevin Black (WG 2) and Karsten Dunger (WG 3). Each group started discussion on these issues, which should lead to elaboration of headlines for the assessment of state of the art for the Rome meeting. Group leaders are responsible for collaborative effort of the group on the theme. This work should be finalized during the interim meeting in Gembloux, Belgium. In the meeting will WG 2 participate with a working group of 4-5 people consisting of the interim group leaders, Göran Ståhl and Emil Cienciala.

### **Next steps**

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| 23 <sup>rd</sup> September                  | The Minutes from the meeting to be ready for distribution after the input from the participants   |
| until 20 <sup>th</sup> October              | Preparatory work of the three interim workgroups on their subtopics to be ready for the meeting in Gembloux, Belgium  |
| 21 <sup>st</sup> - 22 <sup>nd</sup> October | Meeting in Belgium to develop headlines for the assessment of state of the art in individual countries in methods and strategies used for UNFCCC/KP (5 people to participate) |
| until 25 November                           | Assessment of state of the art in individual countries and for methods and strategies in UNFCCC/KP reporting  |
| 2 <sup>nd</sup> 3 <sup>rd</sup> December    | Meeting in Rome: presentation of state of the art in individual countries, outline of questionnaire and the reporting tables  |



Figure 1: Outline presentation for WG 2 given by Göran Ståhl

**WG2**

**Observations after first day's work**

- ❖ NFI involvement in UNFCCC/KP reporting varies a lot between countries
  - ❖ Some countries are about to, or have already, developed NFIs largely oriented towards carbon reporting (Italy, Iceland, Ireland...)
  - ❖ Some NFIs only have minor involvement in the reporting
- ❖ We should build upon results (incl questionnaire results) already available from other projects
  - ❖ Next meeting should include exchange with the other projects?!
- ❖ Timely cooperation in this field due to the need to interpret new Good Practice Guidance for the reporting

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**Harmonisation issues, cont.**

- ❖ Definition of afforestation, reforestation and deforestation
- ❖ Interpretation of some requirements of the Kyoto Protocol
  - ❖ E.g. Identification of areas
  - ❖ Requirements on system for estimating area transfers
- ❖ Interpolation and extrapolation
- ❖ Application of models

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**Continued discussions today on...**

- ❖ Commenting the workplan
- ❖ Strategies regarding how to solve our task
  - ❖ Await reporting tables and use them as a basis?
  - ❖ Framing the problem (what parts of LULUCF reporting to cover)
  - ❖ Scope of questionnaire
- ❖ Major topics / ideas for questionnaire
  - ❖ Definitions of land-use classes and estimation of land-use transfers
  - ❖ Definitions of the five carbon pools
  - ❖ The KP issues afforestation, reforestation, deforestation, forest management, and "area identification"
- ❖ Homework until the next meeting

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**Homework until next meeting**

- ❖ Finalising draft "questionnaire" for the three areas??
- ❖ Crude improved country descriptions as according to draft outline of contents of a questionnaire?
  - ❖ To be presented at the next meeting??
  - ❖ Thus we adopt a stepwise approach to the questionnaire??
- ❖ Contacts and invitations to relevant other projects??
- ❖ Ideas for improved questionnaire??
  - ❖ Questionnaire to be improved at the next meeting when we know more about what has already been done in other projects

**Harmonisation issues to consider**

- ❖ Definition of land-use classes (WG1?)
- ❖ Definition of forest and managed forest (WG1?!)
- ❖ Definitions of the carbon pools
  - ❖ Above- and belowground biomass, dead wood, litter, soil organic carbon
- ❖ Use of allometric functions and conversion factors
  - ❖ Many results available from COST E21
- ❖ Establishment of 1990 baseline for KP reporting

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**Harmonisation issues, cont.**

- ❖ Use of default figures
- ❖ Estimation approaches
  - ❖ Changes by repeated measurements
  - ❖ Changes by estimation of growth and drain (biomass)
  - ❖ ...
- ❖ Estimation of accuracy of reported figures

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**Agenda for WG2 - Friday**

- ❖ Finalising country presentation
  - ❖ Including summary discussion
- ❖ Commenting the workplan
- ❖ Strategies regarding how to solve our task
  - ❖ Await reporting tables and use them as a basis?
  - ❖ Framing the problem (what parts of LULUCF reporting to cover)
  - ❖ Scope of questionnaire
- ❖ Discussion on major topics (in subgroups?)
  - ❖ Initial discussions and ideas/first drafts for relevant questions in a questionnaire
    - ❖ NFI role and definitions of land-use classes and estimation of land-use transfers
    - ❖ Definitions of the five carbon pools
    - ❖ The KP issues afforestation, reforestation, deforestation, forest management, and "area identification"

Figure 2: Day 2 agenda for WG 2

## Appendix I:

### Personal presentations (extraction for the minutes)

Answer in 1-2 sentences each of the following questions:

1. My personal expertise and involvement in WG 2 issues
2. My institution's involvement in WG 2 issues, specifically in i) NFI and ii) UNFCCC/KP reporting
3. How is the NFI in my country linked to UNFCCC/KP reporting?

#### Endla Asi

#### Estonia

- 1 I am responsible for the Forest Soil Monitoring activities in Estonia ( ICP Forest Level I and Level II sample plots); a member of the Soil Subgroup of COST E21 WG I.
- 2 i) NFI activities are carried out by my institution (Centre of forest Protection and Silviculture) in Estonia;  
ii) Centre of Forest Protection and Silviculture provides part of the initial data for UNFCCC/KP reporting.
- 3 NFI (on sample plots base) provides Forest Resources data for UNFCCC/KP reporting.

#### Thierry Bélouard

#### France

- 1 Thierry Bélouard is the chief of the forest studies unit (Unité études et prospectives) of the French NFI in Montpellier (8 persons, 6 of whom are engineers). Studies on forest resource assessments, carbon stocks and changes in the forest ecosystem, forest cartography are conducted on the basis of NFI data with the help of different kinds of tools (statistical databases, GIS, remote sensing).
- 2 -
- 3 At the request of the French Ministry of Environment, the Technical and Interprofessional Center for Air Pollution Study (CITEPA, national reference centre) is responsible for preparing and editing the reports dealing with the French GHG emissions and removals.  
Concerning the forest sector, the French NFI annually provides CITEPA with its data on forest production (wood increment and mortality) meanwhile the statistical service of the Ministry of Agriculture (SCEES) provides CITEPA with annual data on timber harvesting.  
Regarding the response of France to the KP requirements, the Ministry of Agriculture is defining a strategy with its statistical services and the French NFI. All together we are elaborating a technical proposal on this topic. The design of the new reporting tables is discussed in that process.  
Gérôme Pignard, the former Chief of the forest studies unit of NFI has participated to the elaboration of the *Good Practice Guidance for LULUCF*.  
In collaboration with the national forest research organizations, NFI conducts methodological research studies to improve the carbon budget estimates for the French forests.

#### Kevin Black

#### Ireland

- 1 PHD in ecophysiology with specific interest in source-sink relationships and photosynthesis  
Funded by the Irish government to research carbon sequestration issues in forest ecosystems and also affiliated to the CarboEurope flux tower network.  
Involved in the development of biomass functions and cross validation of inventory and

eddy covariance methods and parameterisation of forest ecosystem carbon balance models such as CENTURY

Member of Cost 21

- 2 Botany Department, University College Dublin
  - (i) NFI: Advise on Carbon pool issues to the NFI, provide biomass equations and BEFs
  - (ii) Validation of reported C stock and changes and development of new accounting procedures (funded my responsible reporting body). Also involved in C flux studies on grasslands and agricultural land.
- 3 The NFI supplies the data to the Council for Forest Research and Development (COFORD). Data is then collated for the forestry sector and submitted to the Environmental Protection Agency (EPA) for a national report.

**Mark Broadmeadow**

**United Kingdom**

- 1 A plant physiologist by training with responsibility for the Agency's Forest Carbon Dynamics research Programme and the CarboEurope-associated Straits flux station. Project Leader of pilot study to develop a national forest carbon monitoring network.
- 2 Forest Research has responsibility for operating the NFI (National Inventory of Forests and Trees: NIWT). We also are part of an umbrella collaboration which provides guidance and advice and prepares the national LULUCF contribution to national GHG emissions and removals reporting.
- 3 No link at present; UNFCCC/KP reporting is based on historic planting data, together with planting grant and felling licence applications.

**Emil Cienciala**

**Czech Republic**

- 1 PhD in forest ecology, senior scientist and project leader at the Institute of Forest Ecosystem Research (IFER), responsible for assessment of IPCC GPG LULUCF for the Czech Min. of Environment, leading or participating in local and international projects focused on forest carbon cycling, accounting and modeling. SC COST E43 member.
- 2
  - i) IFER developed the methodology for the Czech NFI and currently develops the approaches for the repeated inventory cycles (projects from the Min. of Agriculture). IFER supports NIFs in methodology, technology and data processing, involved in inventory projects both locally and internationally.
  - ii) IFER provides expert assessment of GPG LULUCF to meet the new UNFCCC/KP reporting requirements in collaboration with the Czech focal point for the UNFCCC reporting, Dr. Jan Pretel (Czech Hydrometeorol. Inst., commissioned by Min. Environm.).
- 3 The Czech NFI is run by the Forest Management Inst. (UHUL, Brandys n. L.). So far, the nat. GHG inventory used aggregated forestry data (management plans) provided by UHUL, combined with the nat. stat. data on timber harvest and areas. 1<sup>st</sup> cycle of the statistical NFI ends now (2001-2004). There is no strategy for utilizing these data for the UNFCCC/KP reporting settled yet.

**Atonie Colin**

**France**

- 1 Antoine Colin is a forest engineer working at the Bordeaux interregional centre of the French NFI. His main concerns are the estimation of national and regional carbon stocks and changes at the forest ecosystem level, and also the assessment of the impacts of climate change and forest management scenarios on the carbon balance. At the moment, A Colin is involved in a study aiming at the evaluation of the carbon balance of the forestry-wood chain sector at the regional level (Aquitaine).
- 2 (see the response of Thierry B elouard)
- 3 (see the response of Thierry B elouard)

**Cristinel Costandache**

**Romania**

**Karsten Dunger**

**Germany**

- 1 After forest science studies at TU Dresden and postgradual education federal state forest

administration I worked on enterprise forest planning based on ground based sample surveys.

Today I'm working on modelling of forest development and timber harvesting potential based on NFI data upcoming related with carbon pools and balances.

- 2 i) BFH is responsible for Co-ordination, implementation and evaluation of the NFI.  
ii) Upcoming task is development of the greenhouse gas inventories - chapter 5 (changes of land use and forestry) for Federal Ministry of Consumer Protection, Food and Agriculture.
- 3 Reports by Federal Ministry base on calculations from NFI databases, esp. datasets on state and change of forests actually, in past and future. NFI develops methods, delivers datasets and calculations and advices Ministry.

**Kåre Hobbelstad**

**Norway**

- 1 I have a dr.science degree in forest inventory from Agricultural University of Norway. The NFI in Norway are organized as a department in Norwegian Institute of Land Inventory, and until September 1 I was the leader of the NFI department. From September 1 I am a Senior researcher at the same Institute. I am involved in WG 2 issues in scenario model building for carbon budgeting in forestry.
- 2 My institution is running the NFI and the international reporting in forestry. So far our reporting has been to the TBFRA.
- 3 We are for the time being working with models linked to UNFCCC/KP reporting.

**Gerald Kändler**

**Germany**

- 1 Head of Department of Biometrics. Main domain of activities are forest inventories both on enterprise level and state level. I am responsible of implementation of the NFI in the state of Baden-Württemberg (field work, data management and processing, data analysis). My team has developed:
  - methods and programs for a uniform description of stem profiles which are used in the German NFI for volume estimation and sorting.
  - a prognosis model for timber yield and forest development used for forecasts based on the NFI (in cooperation with the Federal Research Centre for Forestry and Forest Products (BFH)).

My personal interests are generally forest inventory data analysis and modelling. I have dealt with global change as well as forest and climate issues.

- 2 A research group (2 junior scientists) has been established which deals with issues on the role of forests and forestry in the carbon balance on state level. The group addresses not only the assessment of carbon pools and their changes in forest ecosystems but also carbon sink effects by wood utilization. Our department currently has assumed the task to develop a new carbon accounting approach based on the NFI for the Federal Ministry of Agriculture.
- 3 The carbon accounting approach based on the NFI as mentioned above is scheduled for implementation in cooperation with the Federal Research Centre for Forestry and Forest Products (BFH). UNFCCC/KP reporting concerning carbon pools in forests will be based on this accounting model (cf. also Karsten Dunger, Germany).

**Edgar Kaufmann**

**Switzerland**

- 1 Development of allometric functions and scenario models, calculating volume, growth and cut in the Swiss NFI, estimation of carbon budgets.
- 2 i) WSL institute is carrying out NFI.  
ii) data preparation and consulting for chapter LULUCF (land use change and forestry) and for the annual reporting of the Swiss agency for the environment, forests and landscape (SAEFL)
- 3 Chapter "Land use change" is partially, chapter "Forestry" completely based on NFI data.

**Gal Kusar**

**Slovenia**

- 1 I'm working as junior researcher at Slovenian Forestry Institute (SFI) in field of Forest

- Inventories. Main interest is standing trees volume estimation.
- 2 Slovenian forestry institute (SFI) cooperates with Slovenian Forest Service (SFS) at NFI and provide data for Ministry of the Environment, Spatial planning and Energy who is in charge for UNFCCC/KP reporting.
  - 3 Data for NFI are basic data for UNFCCC/KP reporting

**Michael Prskawetz**

**Austria**

- 1 I'm working for the Austrian Federal Office and Research Centre for Forests in the Department of Forest Inventory. When I started work in this department I made field assessments according to NFI. Now my main tasks are the GPS evaluation and the planning and organizing of the field assessments, but moreover, and in the last 2 years most of my time, I had to calculate and evaluate different problems and questions for varied projects using our NFI data. One of these projects is CarboInvent. I'm further partly involved in the COST E21 Action "*Contribution of Forests and Forestry to the Mitigation of GH effects*".
- 2
  - i.) The Department for Forest Inventory at the BFW is responsible for planning, accomplishment, evaluation and presentation of the results of the Austrian NFI.
  - ii.) The Austrian NFI measures among many others the forest area, increment and the harvest and the stock of the stemwood of the Austrian Forests. These data are the main basis of calculating the C balance of the Austrian forest biomass. The mean annual increment and harvest according to NFI can be converted with indices derived from wood core data respectively national statistics to get annual data of increment and harvest. Further calculations and conversions lead to total tree biomass. C-stock of the Austrian forest soils is calculated using data of the Austrian forest soil survey, which is accomplished by the Department of Forest Ecology at the BFW.
- 3 The Federal Environment Agency – Austria is according to law in charge of the UNFCCC/(KP) reporting for Austria. For LULUCF sector the Austrian NFI provides most of the data in close cooperation with the Federal Environment Agency. One output of this cooperation is a joint publication of summarizing the methods used for UNFCCC reporting sector LULUCF. The responsible person from the side of the Federal Environment Agency was also nominated for WG 2.

**Jens Peter Skovsgaard**

**Denmark**

**Arnor Snorrason**

**Iceland**

- 1 I have a M.Sc. degree in forestry from the Agricultural University of Norway. I am working as a research scientist at Icelandic Forest Research. I have been responsible for research in the field of carbon stock measurement at the institute since 1997. I am project leader of newly started Icelandic National Forest Inventory.
- 2
  - i) NFI. reporting: When it was clear that the ministry of agriculture was ready to fund a inventory project for GHG for LUCF, it was decided to implement at same time a general NFI. As one have to sample in many cases the same data to obtain e.g. stem volume and carbon stock the benefits of merge this assessments should be rather obvious.
  - ii) UNFCCC/KP reporting; The ministry of agriculture is responsible for GHG-accounting for LULUCF-issues. It have formally requested the State Forest Service to report on a yearly basis GHG for LUCF. Icelandic Forest Research is a branch of the State Forest Service and I was pointed out as a project leader of this task. I have, since 2001 made a report over C-accounting for LUCF who have been used in the yearly report of Iceland to UNFCCC.
- 3 I have already answered that question in 2.i.

**Göran Ståhl**

**Sweden**

- 1 PhD in forest inventory; program leader of the Swedish NFI; lead author in IPCC's work to develop good practice guidance for LULUCF sector reporting; participant in Swedish workgroup to set up new reporting procedures for the LULUCF sector.
- 2 The Swedish University of Agricultural Sciences will provide all information needed for

the LULUCF sector annual reports to UNFCCC/KP. SLU, Dept of Forest Resource Management and Geomatics (where I work), is responsible for the Swedish NFI.

- 3 The NFI will be used to derive land-use transfer estimates and also to provide – mainly by repeated measurements on permanent plots – input data for the estimation of changes in the five different carbon pools in forest (and transfers to and from forest).

**Roberto Tognetti**

**Italy**

- 1 Roberto Tognetti has a PhD in Plant Physiological Ecology, operates as researcher in Tree Physiology at the University of Molise and acts as Editor of the journal *Tree Physiology*. Main research experience: *Physiological ecology of plant production; Environmental physiology; Global change biology*. As a member of the team at the University of Molise he is currently involved in coordinating researches in field surveys with emphasis on belowground biomass and soil carbon that would support NFI activities.
- 2 The University of Molise is involved at various levels in scientific issues concerning the assessment and monitoring of carbon pools for the new NFI (“National Forest and Forest Carbon Sink Inventory”).
- 3 Data collected by the NFI (forest areas, forest managed areas, carbon in the aboveground biomass), and information on carbon in the belowground biomass and other pools gathered from different sources will be submitted to a national committee for final UNFCCC/KP reporting.

**Erkki Tomppo**

**Finland**

- 1 PhD in Statistics (Forest Biometry), Fil. Lic. in Mathematics, Forestry studies; programme coordinator of the Finnish NFI, and project leader of its research project; forestry GHG reporting of UNFCCC to the national focal point since 1997; writing of several reports about GHG reporting for the Finnish Government; member in GHG national reporting and developing groups; commenting of IPCC GPG of reporting procedure for the LULUCF sector.
- 2 The Finnish Forest research Institute / NFI (Metla/NFI) will provide all information needed for the LULUCF sector annual reports to UNFCCC/KP. Metla and NFI are developing and improving the LULUCF GHG reporting.
- 3 The NFI will be used to derive land-use areas, land-use transfer estimates and also the estimates of the five carbon pools.

**Vittorio Tosi**

**Italy**

- 1 Degree in Forest Science, Vittorio Tosi operates as a senior researcher at the Forest and Range Management Research Institute (ISAFa) of Trento. Research fields: forest inventories and forest biometrics. EU project experiences: LIFE project, EFICS study and COST actions (E-4, E-27).  
As a member of ISAFa’s NFI team he is currently involved in the carrying out of project, field guidelines, education and technical assistance to field teams, with the following special tasks: classification system, definitions, 2<sup>nd</sup> (and 3<sup>rd</sup>) phase data collection (attributes selection, measurements techniques, plot configuration, etc).
- 2 ISAFa is responsible for all the technical and scientific issues regarding the NFI (the new survey is called “National Forest and Forest Carbon Sink Inventory”), carried out by the National Forestry Corps of the Ministry for Agricultural and Forest Policies. The 2<sup>nd</sup> phase of the new (2<sup>nd</sup> cycle) NFI is going to be completed and afterwards the 3<sup>rd</sup> phase will follow (2005-2006) with the collection (ground samples) of biomass (and carbon) related attributes. In a parallel project ISAFa is preparing models for aboveground tree and shrub biomass, dead wood included, to be applied to the NFI data. Models concerning belowground biomass (litter, organic soil and roots) will probably be prepared by another staff outside ISAFa, but it is not yet confirmed at the moment.  
An interministerial Committee coordinated by the Ministry of Environment (ME) is responsible for the actions to face in order to follow the Kyoto commitments for the greenhouse gas reduction and the ME is responsible for the reporting as well.

- 3 Data collected by the NFI (forest areas, forest managed areas, carbon in above ground biomass), computed by ISAFSA, together with other data (below ground biomass, ARF data, etc.) collected by other sources (included the National Register for Agricultural and Forest Carbon Sinks), will be submitted to the ME for the reporting.

**Lars Vesterdal**

**Denmark**

- 1 My background is a M Sc. in forestry and a Ph.D. in forest ecology (soil C stocks and nutrient cycling as affected by management and soil type). I've been involved in research on effects of afforestation and changed forest management practices on soil C over the last 5-10 years. I'm responsible for submission of Danish LUCF data to the Danish focal point (National Environmental Research Institute). Member of Cost E21 (Management Committee and WG 2) on contribution of forests to mitigation of greenhouse gases. Co-coordinated the just ended EU project (FP5) AFFOREST that dealt with effects of afforestation on carbon sequestration in NW Europe.
- 2
  - i) *Forest & Landscape Denmark* is responsible for the Danish NFI
  - ii) *Forest & Landscape Denmark* is responsible for calculation of C stocks and C stock changes in forestry (including afforestation) and submission of data to the Danish focal point for UNFCCC/KP reporting.
- 3 The NFI supplies data used for estimation of CO<sub>2</sub> removals in UNFCCC/KP reporting. It is an important task of the new NFI to supply data for estimation of CO<sub>2</sub> removal. However, the reporting is not done within the NFI framework.