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INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

NATIONAL GREENHOUSE GAS INVENTORIES PROGRAMME



UNEP

2006 IPCC Guidelines for National Greenhouse Gas Inventories

**The First Coordinating Lead Authors and Steering Group Meeting
The First Authors/Experts Meeting : Cross-cutting Issues and Reporting Tables
4-6 May 2004
Oslo, Norway**

Meeting Report

1. Background

At its Seventeenth Session, the Subsidiary Body for Scientific and Technological Advice of the UNFCCC (SBSTA) invited the IPCC to revise the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (1996 IPCC Guidelines)*, taking the relevant work under the Convention and the Kyoto Protocol into consideration, and to aim at completing the work by early 2006. In responding to this invitation, the IPCC launched the project to develop the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006 IPCC Guidelines). The objective of the project is: to assess and collate scientific and technical information relevant to estimating greenhouse gas emissions and removals in the context of the *1996 IPCC Guidelines, the Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (GPG2000)*, and the *Good Practice Guidance for Land Use, Land-Use Change and Forestry (GPG-LULUCF)*. IPCCXXI accepted the workplan, terms of reference (TOR), and table of contents (TOC) of the project that were prepared by the Scoping Meeting held in September 2003 and elaborated by the Task Force Bureau on Inventories (TFB). This was followed by the selection of authors in accordance with the IPCC procedures including the government nomination process. To initiate the series of authors/experts meetings to develop the 2006 IPCC Guidelines, the First Coordinating Lead Authors and Steering Group Meeting (CLA/SG Meeting) and the First Authors/Experts Meeting on Cross-cutting Issues and Reporting Tables were held in parallel in Oslo, Norway, on 4-6 May 2004. The meeting was organised by the Norwegian Pollution Control Authority (SFT) and the Technical Support Unit of the IPCC National Greenhouse Gas Inventories Programme (NGGIP-TSU).

The meetings were opened by Dr. Harald Dovland, Deputy Director-General of the Ministry of Environment, Norway, who emphasised the importance of the 2006 GLs work, as a fundamental contribution to the future international cooperation in climate change. Task Force Co-chair expressed, on behalf of the IPCC Inventories Task Force Bureau and all the participants, for the generous hosting of the meetings, and thanked all the authors for their willingness to contribute to the report preparation work to be completed in early 2006.

2. Objectives and Organisation of the Meetings

The main objectives of the First CLA/SG Meeting were:

- To provide guidance on consistency in drafting the sectoral volumes of the 2006 IPCC Guidelines
- To discuss issues common to sectoral volumes of the 2006 IPCC Guidelines (use of the EFDB in preparation, update of IPCC default values, general structure of the methodological guidance, etc)
- To discuss links among the different volumes (feedstocks, CO2 capture and storage, indirect N2O emissions from air pollution, etc.)
- To prepare the detailed outlines for the sectoral volumes
- To discuss pre-meeting tasks for the lead authors and identify gaps in expertise in sectoral authors lists
- To discuss how to include the cross-cutting issues and prepare the reporting tables in collaboration with the authors of the Cross-cutting Issues and Reporting Tables

The main objectives of the First Authors/Experts Meeting on Cross-cutting Issues and Reporting Tables were:

- To prepare guidance on cross-cutting issues for the sectoral volumes
- To prepare an initial First-Order draft of the Volume on Cross-cutting Issues and Reporting Tables for the 2006 IPCC Guidelines

The two meetings had the joint opening session which was followed by the first joint plenary session to share the common understanding on the objectives, procedures, general and key issues of the development of the 2006 IPCC Guidelines, and also to build the bridge between the Cross-cutting volume and each sectoral volume. Following the first joint plenary, CLA/SG meeting and the Authors /Experts Meeting on Cross-cutting Issues and Reporting Tables were held in parallel to discuss inter-sectoral and intra-sectoral issues.

The two meetings were attended by fifty-seven participants including CLAs of all volumes and twenty-two LAs of the Cross-cutting volume, Steering Group of the 2006 IPCC Guidelines project, and others. (See Attachment A).

3. Plenary Sessions and Breakout Group Sessions

Joint Plenary Sessions

The guidance on cross-cutting issues was discussed at the joint plenary on the second day. After the presentation by CLAs of Cross-cutting volume (See Attachment B), some issues were raised, which include:

For reporting tables

- Whether to use Implied Emission Factors → may be used in the QA/QC
- Where to address activity data

- Which level of tiers worksheets are for →
 - worksheets is linked only to Tier 1
 - as far as methods are available, their results needs to be presented in the table
- Worksheets on uncertainties and key categories need to be developed at least for the internal documentation purpose.

For other issues

- How to address uncertainties associated with regional data and country specific data
- Aggregation level of categories under each sector → input from sectoral BOGs are needed
- Definition of tiers → moving tiers may not necessarily decrease uncertainties

CLA meetings

CLAs met every morning to discuss issues including the linkage among sectoral volumes and cross-cutting volume. The issues discussed/agreed include:

- The mutual participation by CLAs of IPPU and Energy volumes to each sectoral meetings was proposed to address allocation of issues between both sectors, in particular non-energy use of fuels and feedstock.
- The energy volume will play a central role on carbon capture and storage questions, while IPPU needs to address carbon capture in industrial sector, and Waste volume needs to take carbon storage questions.
- (See the timetable questions in the subsequent meeting output section.)

CLA/SG Meeting

The CLAs of each sector discussed their sector specific issues and the planning of the sectoral meetings. The outputs from these discussions include; detailed TOC, suggested breakout groups and identification of issues for those breakout groups' discussions as well as suggestions for background papers. The following section highlights issues that were discussed in the sectoral discussion.

IPPU

Some modifications of TOC on sub-heading level were made including; the merger of groups on ozone precursors and solvent use, separate sub-sections for adipic and nitric, shift of “soda ash” from “mineral” to “chemical; wider scope for fugitive fluorinated by-product emissions e.g. CF₃SF₅ from fluorination. The scope of gases was also discussed.

The points of discussion include;

- non-CO₂ emissions from industrial processes and product use,
- CO₂ emissions from industrial processes and product use,
- carbon stored in products and used in feedstocks – (could it be considered as carbon capture and storage?)
- NMVOC, CO and SO₂ in a simplified way (links to other protocols and guidance) and atmospheric conversion to CO₂

- where to report on direct CO₂ from energy consumption in industrial processes (links and overlap with energy section)?

Waste

Following issues need to be considered in the course of revision of the sectoral volumes.

- specific issues like recycling (affects activity data - amount and composition)
- links with other volumes
- whether/where to treat CO₂ storage in geological formations and oceans (here or in Energy/IPPU)
- issues requiring consideration in relation with other sectors, e.g. Sludge spreading (N₂O emissions) in the agriculture sector, waste incineration –where to report. Should it be in energy use in Energy sector, anaerobic digestion should be in Energy sector if CH₄ is used for energy, HWP in AFOLU, Sludge spreading and open burning of manure and agricultural waste should be addressed in AFOLU or Waste,
- more data and parameters of country-specific methods are required to provide methodologies
- Consideration of a revised Tier 1 approach for landfills based on a simplified decay model

Energy

The CLAs conclusions include;

- CO₂ and non-CO₂ for (stationary) combustion are separate in 1996GL: the separate treatment is a left-over of early GHG inventory methods and they should be integrated.
- By definition the non-energy use of fuels should not be dealt with in the Sectoral Approach in the Energy sector

AFOLU

The CLAs identified following points to be included in the sectoral volume of AFOLU

- Clear guidance on approaches and information for the estimation of fluxes/stocks from pools
 - Clear reference on where in GL96 and GPGs those gases/pools are covered needs to be given to users
 - Highlights on differences in methodologies among 96 GLs, GPG2000 and GPGLULUCF
- CLAs also highlighted the areas that need to be improved, including;
- consistent representation of lands and management systems (e.g. animal characterization, land use statistics, manure management),
 - Cross-cutting issues,
 - additional categories, pools, and methods

Detailed TOC were prepared and will be further refined at the sectoral authors meetings.

Authors/Experts Meeting on Cross-Cutting Issues and Reporting Tables

After the short plenary session to clarify issues and tasks of each breakout group, six breakout groups (Uncertainties, Methodological Choice and Identification of Key Categories, Time Series Consistency and Recalculation, QA/QC and Verification, Reporting Tables, and Data collection) discussed their specific issues and prepare the guidance on how to address cross-cutting issues with the harmonised way for sectoral groups. In addition to the guidance to sectoral authors, BOGs also discussed the section specific issues and planning to develop the First Order Drafts. The results of the discussions were presented in the joint last plenary session with the CLA/SG meeting. Some of the points of discussion in the BOGs are as follows:

Uncertainties BOG

- Detailed contents in the line with the chapter outline
- Issues arise in evaluating the previous works, which include the clarification of terminologies and their definitions such as the use of the term ‘approach’ instead of tiers, and the application of 95 percent confidence level and 2.5th to 97.5th percentile.
- Current gaps that need to be filled include the better guidance for model-based Tier 3, more information on types and sources of uncertainty, trends analysis, how uncertainty can be reduced, default uncertainty estimates, etc.

Methodological Choice and Key Category Analysis BOG

- Improvement of user friendliness from the previous works
- Issues on aggregation levels of each sector

Time Series Consistency and Recalculation BOG

- Applicability to other issues , not just for recalculations
- Inclusion of mitigation and time series consistency
- More guidance on splicing methods

QA/QC BOG

- Issues need to be elaborated including the development of sample checklist for ‘internal documentation’, trend and time series checks
- Confidentiality issue
- Inclusion of verification approach

Reporting Tables BOG

- The guidance to sectoral authors and authors of the Cross-cutting volume. The group also discussed the main components of the reporting tables.

Data Collection BOG

- The detailed outline of the chapter
- The guidance to sectoral authors and authors of Cross-cutting volume.

4. Outputs of the Meetings

The schedule to compile the outputs of the discussion as the guidance to sectoral authors from Cross-cutting volumes and the general guidance for authors from the Oslo meeting was agreed as follows.

Workplan for CLAs and SGs towards AFOLU meeting

Target Dates	Items	From/by	To
14 May	Draft guidance to sectoral authors from Cross-cutting BOGs for SG consideration	Cross-cutting Bog	SG
18 May	Guidance to sectoral authors	SG	CLAs/LAs
18 May	General guidance	SG	CLAs/LAs
25 May	AFOLU background papers	AFOLU BOG Facilitators	AFOLU authors
25 May	Cross-cutting volume draft FOD (text draft)/Extended outline from Cross-cutting CLAs to ALL CLAs/ LAs (except for Data Collection)	Cross-cutting CLAs	SG AFOLU authors

The Workplan for FOD of the Cross-cutting Volume

Section Action	Uncertainties/key source/time-series/QA/QC	Data collection	Reporting tables/guidance
Guidance to authors from C-C volume	14 May: Draft from C-C authors for SG consideration 18 May: To TSU May 18.	Draft tomorrow. For SG consideration next week. To TSU May 18.	Draft tomorrow. For SG consideration next week. To TSU May 18.
1 draft/Extended Outline	25 May: For Mauritius.	Extended outline with explanations. Expanded on measurements before IPPU meeting. Draft October 1	End of December
Draft after Vol I LA comments	October 1	November 1	January 2005
Harmonized drafts	January 2005	January 2005	January 2005
Resources	OK	OK, but need CAs	Needs TSU technical support and CAs from the sectoral volumes

The final outputs of the meeting were forwarded to the 12th Session of TFB, which was held on 7 May 2004, back-to-back with the CLAs/LAs Meetings.

List of Participants

IPCC NGGIP
2006 IPCC Guidelines for National Greenhouse Gas Inventories

First Coordinating Lead Authors Meeting
First Authors/Experts Meeting on Cross-cutting Issues and Reporting Tables

4 – 6 May 2004
Norwegian Pollution Control Authority, Oslo, Norway

* Absentee

** Task Force Bureau Member

Coordinating Lead Authors for All Sectors**Brazil**

Thelma KRUG ** (Overview)
 Inter-American Institute for Global Change
 Research
 Avenida dos Astronautas 1758
 Jardim da Granja
 12297-010 Sao Jose dos Campos, SP
 Tel : (55 12) 3945 6895
 Fax : (55 12) 3941 4410
 thelma@dir.iai.int

Newton PACIORNIK (Volume 1 : CC)
 Ministry of Science and Technology
 Praia do Flamengo 200 s. 2401
 Rio de Janeiro 22210-901
 Tel : (55 21) 2555 0308
 Fax : (55 21) 2555 0306
 newton@finep.gov.br / npaciornik@mct.gov.br

Sonia M. M. VIEIRA (Volume 5 : Waste)
 IPT - Instituto de Pesquisas Tecnológicas
 Cidade Universitaria
 Sao Paulo – SP 05508-901
 Tel : (55 11) 3767 4270
 Fax : (55 11) 3767 4030
 soniav@ipt.br

Finland

Riitta PIPATTI (Volume 5 : Waste)
 VTT Processes
 P.O. Box 1602
 FIN-02044 VTT (Espoo)
 Tel : (358 9) 456 6532
 Fax : (358 9) 456 7026
 Riitta.Pipatti@vtt.fi

Germany

Jochen HARNISCH (Volume 3 : IPPU)
 ECOFYS
 Landgrabenstrasse 94
 D-90443 Nürnberg
 Tel : (49 911) 994 4677
 Fax : (49 911) 994 4678
 j.harnisch@ecofys.de

Ghana

William Kojo AGYEMANG-BONSU (Volume 3 : IPPU)
 Environmental Protection Agency
 P.O. Box M326, Accra
 Tel : (233 21) 664697/8
 Fax : (233 21) 662 690
 Wbonsu@epaghana.org
 agyemang_bonsu@yahoo.co.uk

India

Amit GARG (Volume 2 : Energy)
 Ministry of Railways
 NATCOM Project, 1, Navjeevan Vihar
 New Delhi - 110017
 Tel : (91 11) 2669 3876
 Fax : (91 11) 2669 3876
 amit@winrockindia.org / dramitgarg@yahoo.co.in

N.H. RAVINDRANATH (Volume 4 : AFOLU)
 Centre for Ecological Sciences
 Indian Institute of Science
 Bangalore, 560 012
 Tel : (91 80) 2334 1838
 Fax : (91 80) 2360 1428
 ravi@ces.iisc.ernet.in

Japan

Taka HIRAISHI ** (Overview)
 c/o Institute for Global Environmental Strategies(IGES)
 2108-11 Kamiyamaguchi, Hayama
 Kanagawa 240-0115
 Tel : (81 46) 855 3750
 Fax : (81 46) 855 3808
 hiraishi@iges.or.jp

Netherlands

Andre AMSTEL, VAN (Volume 4 : AFOLU)
 Environmental Systems Analysis
 Wageningen University
 P.O.Box 47
 NL-6700 AA Wageningen
 Tel : (31 317) 484 812
 Fax : (31 317) 484 839
 andre.vanamstel@wur.nl

Tinus M.P.J. PULLES (Volume 2 : Energy)
 TNO-MEP
 Laan van Westenenk 501
 7334 DT
 Tel : (31 55) 549 3762
 Fax : (31 55) 549 3252
 M.P.J.Pulles@mep.tno.nl

Norway

Kristin RYPDAL (Volume 1 : CC)
 Center for International Climate and Environmental
 Research (CICERO)
 P.O. Box 1129 Blindern
 N-0318 Oslo
 Tel : (47) 22 85 87 80
 Fax : (47) 22 85 87 51
 kristin.rypdal@cicero.uio.no

Russian Federation

Michael L. GYTARSKY (Overview)
 Institute of Global Climate and Ecology
 20-B, Glebovskaya str.
 Moscow 107258
 Tel : (7 095) 169 2198
 Fax : (7 095) 160 0831
 Mike.Gytarsky@ru.net

UK

Jim PENMAN (Overview)
 Global Atmosphere Division
 Department for the Environment, Food and Rural
 Affairs
 123, Victoria St
 London, SW1E 6DE
 Tel : (44 20) 7082 8152
 Fax : (44 20) 7982 8151
 Jim.penman@defra.gsi.gov.uk

US

William N. IRVING (Overview)
 US Environmental Protection Agency
 1200 Pennsylvania Avenue NW (6204J)
 Washington DC 20460
 Tel : (1 202) 343 9065
 Fax : (1 202) 343 2357
 irving.bill@epa.gov

Keith PAUSTIAN * (Volume 4 : AFOLU)
 Colorado State University
 NESB Rm B207, Colorado State University
 Ft. Collins, CO, 80523
 Tel : (1 970) 491 1547
 Fax : (1 970) 491 1547
 keithp@nrel.colostate.edu

CC: Cross-cutting Issues and Reporting Tables
 IPPU: Industrial Processes and Product Use
 AFOLU: Agriculture, Forestry and Other Land Use

Lead Authors for Cross-cutting Issues And Reporting Tables**Australia**

Carl P. MEYER
 CSIRO Atmospheric Research
 Private Bag 1
 Aspendale, Vic, 3195
 Tel : (61 3) 9239 4686
 Fax : (61 3) 9239 4444
 carl.meyer@csiro.au

China

Erda LIN
 Agro-Environment and Sustainable Development
 Institute
 Chinese Academy of Agricultural Sciences
 12, Zhong Guan Cun South Street
 Beijing 100081
 Tel : (86 10) 6211 9688
 Fax : (86 10) 6211 9688
 lined@ns.ami.ac.cn / linerda@hotmail.com

Hong YAN
Research Institute of Forestry
Chinese Academy of Forestry
Beijing 100091
Tel : (86 10) 6288 9645
Fax : (86 10) 6287 2015
yanh58@hotmail.com

(Hong YAN – until the end of July 2004)
Research Group of Plant and Vegetation Ecology
Department of Biology
University of Antwerp (UIA)
Universiteitsplein 1, Antwerpen
Belgium
Tel :
Fax : (32 3) 820 2271
hong.yan@ua.ac.be

EC

Anke HEROLD
Oeko-Institut
Novalisstr. 10
Berlin 10115
Tel : (49 30) 2804 8686
Fax : (49 30) 2804 8688
a.herold@oeko.de

Finland

Suvi J. MONNI
VTT Technical Research Centre of Finland
B.O.Box 1602
(Visiting address: Biologinkuja 7)
FIN-02044 VTT
Tel : (358 9) 456 5075
Fax : (358 9) 456 7021
suvi.monni@vtt.fi

Germany

Matthias KOCH
ECOFYS
Eupener Str. 59
D-50933 Köln
Tel : (49 221) 510907 42
Fax : (49 221) 510907 49
m.koch@ecofys.de

India

Sumana BHATTACHARYA
Winrock International India
NATCOM Project
1, Navjeevan Vihar
New Delhi 110017
Tel : (91 11) 2669 3876
Fax : (91 11) 2669 3876
sumana@winrockindia.org
sumana_bhattacharya@yahoo.com

Italy

Riccardo VALENTINI *
University of Tuscia Disafri
Via de LeIllis, 01100 Viterbo
Tel : (39) 0761357394
Fax : (39) 0761357389
RIK@UNITUS.IT

Japan

Hideaki NAKANE
National Institute for Environmental Studies
16-2, Onogawa, Tsukuba
Ibaraki 305-8506
Tel : (81 29) 850 2491
Fax : (81 29) 850 2920
nakane@nies.go.jp

Kyrgyzstan

Shamil A. ILIASOV *
Kyrgyz-Russian Slavic University
44 Kievskaya Str., room 1/108
720000 Bishkek
Tel : (996 312) 28 28 49
Fax : (996 312) 28 64 92
ccproject@istc.kg

Netherlands

Johannes G.J. OLIVIER *
MNP-RIVM
P.O. Box 1, Bilthoven
NL-3720 BA
Tel : (31 30) 274 3035
Fax : (31 30) 274 4464
jos.olivier@rivm.nl / jos.olivier@12move.nl

Philippines

Jose Ramon T. VILLARIN
Manila Observatory
P.O. Box 122, U.P. Diliman
Q.C. 1101
Tel : (63 2) 426 5921
Fax : (63 2) 426 6141
jett@observatory.ph / jvillarin@ateneo.edu

Slovakia

Katarina MARECKOVA
Osuskeho 32, Bratislava
SK 851-03
Tel : (36 26) 311 281
Fax : (36 26) 504 029
kmareckova@rec.org / kama26@chello.sk

Spain

Maria Jose SANZ SANZCHEZ
Fundación CEAM
Parque Tecnológico, c/ Charles Darwin
14. Paterna (Valencia), 46980
Tel : (34 96) 131 8227
Fax : (34 96) 131 8190
mjose@ceam.es

Sudan

Mirghni Osman IBNOAF
Ministry of Science & Technology
P.O. Box 216, Khartoum
Tel : (249 183) 780826
Fax : (249 183) 794582
ibnoaf90196@yahoo.com

Togo

Ayite-Lo N. AJAVON
Atmospheric Chemistry Laboratory
FDS/Universite de Lome
BP. 1515 Lome
Tel : (228) 226 91 70 / 904 15 93
Fax : (228) 221 8595
noajavon@tg.refer.org / sossiyite@hotmail.com

UK

Justin W. L. GOODWIN
AEA Technology Environment
Culham Science Centre, Building E5
Abingdon, Oxon., OX14 3ED
Tel : (44 870) 190 6480
Fax : (44 870) 190 6607
Justin.Goodwin@aeat.co.uk

Archie McCULLOCH
University of Bristol
Barrymore, Marbury Road, Comberbach
Northwich, Cheshire, CW9 6AU
Tel : (44) 160 689 1604
Fax : (44) 160 689 1604
archie@marbury.u-net.com / A.Mcculloch@bris.ac.uk

Jim PENMAN
Global Atmosphere Division
Department for the Environment, Food and Rural
Affairs
123, Victoria St
London SW1E 6DE
Tel : (44 20) 7082 8152
Fax : (44 20) 7982 8151
Jim.penman@defra.gsi.gov.uk

Mike WOODFIELD
AEA Technology Environment
Culham Science Centre, Building E5
Abingdon, Oxon., OX14 3ED
Tel : (44 870) 190 6604
Fax : (44 870) 190 6607
mike.woodfield@aeat.co.uk

US

H. Christopher FREY
North Carolina State University
Campus Box 7908, Mann Hall
Raleigh, NC 27695-7908
Tel : (1 919) 515 1155
Fax : (1 919) 515 7908
frey@eos.ncsu.edu

Lisa J. HANLE
US Environmental Protection Agency
1200 Pennsylvania Ave, NW
Mail Code- 6204J
Washington DC 20460
Tel : (1 202) 343 9434
Fax : (1 202) 343 2358
Hanle.Lisa@epa.gov

William N. IRVING
US Environmental Protection Agency
1200 Pennsylvania Avenue NW (6204J)
Washington DC 20460
Tel : (1 202) 343 9065
Fax : (1 202) 343 2357
irving.bill@epa.gov

Joseph MANGINO
US Environmental Protection Agency
1200 Pennsylvania Ave., NW (6202J)
Washington DC 20460
Tel : (1 202) 343 9481
Fax : (1 202) 343 2208
mangino.joseph@epa.gov

Invited Expert**US**

Stephen M. OGLE
Colorado State University
NREL Colorado State University
Fort Collins, CO 80523
Tel : (1 970) 491 7662
Fax : (1 970) 491 1965
ogle@nrel.colostate.edu

UNFCCC

Roberto ACOSTA
P.O. Box 160 124
D-53175 Bonn
Germany
Tel : (49 228) 815 1419
Fax : (49 228) 815 1999
racosta@unfccc.int

Clare Richelle BREIDENICH
P.O. Box 160 124
D-53175 Bonn
Germany
Tel : (49 228) 815 1525
Fax : (49 228) 815 1999
cbreidenich@unfccc.int

Stylianos PESMAJOGLOU
Haus Carstanjen
Martin-Luther-King Str. 8, Bonn
Germany
Tel : (49 228) 815 1112
Fax : (49 228) 815 1499
spesmajoglou@unfccc.int

Task Force Bureau Members

Australia

Ian CARRUTHERS
International, Land and Analysis Division
Australian Greenhouse Office
GPO Box 621
Canberra, ACT 2601
Tel : (61 2) 6274 1405
Fax : (61 2) 6274 1439
Ian.Carruthers@deh.gov.au

Bolivia

Freddy TEJADA MIRANDA
National Climate Change Programme
Ballivian Building 1st Floor, Office 101
La Paz
Tel : (591 2) 22 00 206
Fax : (591 2) 22 00 206
ftejada@mds.gov.bo / Freddy_Tejada@hotmail.com

Canada

Art JAQUES
Greenhouse Gas Division
Environment Canada
351 St. Joseph Blvd., 19th floor
Hull, QC, K1A 0H3
Tel : (1 819) 994 3098
Fax : (1 819) 953 3006
art.jaques@ec.gc.ca

India

Kirit S. PARIKH
Integrated Research and Action for Development (IRADe)
50 Chhota Singh Block, Asian Games Village
Complex
Khelgaon, New Delhi 110049
Tel : (91 11) 2649 5522
Fax : (91 11) 2649 5523
kirit@irade.res.in

Mauritius

Soobaraj Nayroo SOK APPADU
Meteorological Services
St. Paul Road
Vacoas
Tel : (230) 696 5626
Fax : (230) 686 1033
meteo@intnet.mu

New Zealand

Helen PLUME
New Zealand Climate Change Office
P.O. Box 10362
Wellington
Tel : (64 4) 916 7627
Fax : (64 4) 916 7615
helen.plume@mfe.govt.nz

Norway

Audun ROSLAND
Norwegian Pollution Control Authority
P.O. Box 8100 Dep.
N-0032 Oslo
Tel : (47 22) 57 3547
Fax : (47 22) 67 6706
audun.rosland@sft.no

Tanzania, United Republic of

Jamidu H. Y. KATIMA
Chemical and Process Engineering Department
University of Dar es Salaam
P.O. Box 35131
Dar es Salaam
Tel : (255 22) 241 0754 (direct)
Fax : (255 22) 241 0114
jkatima@cpe.udsm.ac.tz

US

Dina KRUGER
Office of Air and Radiation
Climate Protection Partnerships Division
US Environmental Protection Agency
1200 Pennsylvania Ave. N.W. (6202J)
Washington DC 20460
Tel : (1 202) 343 9039
Fax : (1 202) 343 2208
kruger.dina@epamail.epa.gov

IPCC Secretariat

Renate CHRIST
c/o World Meteorological Organization
7bis Avenue de la Paix
C.P. 2300, CH-1211 Geneva 2
Switzerland
Tel : (41 22) 730 8574
Fax : (41 22) 730 8025 / 13
rchrist@wmo.int

IPCC NGGIP TSU

Simon EGGLESTON
c/o Institute for Global Environmental Strategies(IGES)
2108-11 Kamiyamaguchi, Hayama
Kanagawa, 240-0115 Japan
Tel : (81 46) 855 3750
Fax : (81 46) 855 3808
eggleson@iges.or.jp

Todd NGARA
c/o Institute for Global Environmental Strategies(IGES)
2108-11 Kamiyamaguchi, Hayama
Kanagawa, 240-0115 Japan
Tel : (81 46) 855 3750
Fax : (81 46) 855 3808
ngara@iges.or.jp

Leandro BUENDIA
c/o Institute for Global Environmental Strategies(IGES)
2108-11 Kamiyamaguchi, Hayama
Kanagawa, 240-0115 Japan
Tel : (81 46) 855 3750
Fax : (81 46) 855 3808
lbuendia@iges.or.jp

Kyoko MIWA
c/o Institute for Global Environmental Strategies(IGES)
2108-11 Kamiyamaguchi, Hayama
Kanagawa, 240-0115 Japan
Tel : (81 46) 855 3750
Fax : (81 46) 855 3808
miwa@iges.or.jp

Kiyoto TANABE
c/o Institute for Global Environmental Strategies(IGES)
2108-11 Kamiyamaguchi, Hayama
Kanagawa, 240-0115 Japan
Tel : (81 46) 855 3750
Fax : (81 46) 855 3808
tanabe@iges.or.jp

Ayako HONGO
c/o Institute for Global Environmental Strategies(IGES)
2108-11 Kamiyamaguchi, Hayama
Kanagawa, 240-0115 Japan
Tel : (81 46) 855 3750
Fax : (81 46) 855 3808
hongo@iges.or.jp



Cross-cutting issues in 2006 GL

Kristin Rypdal and Newton Paciorek

CICERO Center for International Climate and Environmental Research – Oslo
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Basis

- 1996 GL (very little, reporting instructions including tables)
- GPG 2000
- GPG LULUCF

- Volume I on cross-cutting issues
- Cross-cutting issues in the sectorial volumes

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Vol I Structure & issues

- Approaches to data collection
- Uncertainties
- Methodological choice & key categories
- Time series consistency & recalculations
- QA/QC & verification
- Reporting guidance & tables

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Link to sectorial volumes

- Vol I will provide *general methodologies*
- The sectorial volumes are expected to come up with source-specific guidance
 - QA/QC
 - Time-series consistency
 - Uncertainties
 - Reporting and documentation
 - Completeness
 - Decision trees

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Link to sectorial volumes

- The vol I LAs will suggest a guidance for handling cross-cutting issues in the sectorial volumes
 - More details tomorrow
- Several of the LAs and the CLAs will be present at the sector meetings
 - CLA presentation of the guidance
- The reporting table BOG will suggest criteria for developing reporting tables

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General

- 2006 GL will not be extremely different from GPG 2000
- GPG LULUCF is considered a further development and improvement
- Avoid using the term "tier" in volume I
 - Confusing due to estimation "tier"
 - Often complementary

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Data collection

- New chapter
 - Direct observations
 - Measurements/standards
 - Sampling to obtain spatial data
 - Surveys/censuses
 - Literature reviews
 - Methods
 - Choosing data

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Data collection

- Expert judgment
 - Methods
 - Documentation
- Will pick up issues from GPG uncertainties and QA/QC
- Key challenges
 - Focus
 - Other international activities/guidance
 - Consistency with the sectorial guidance
 - Guidance for developing countries with poor statistical systems and data availability

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Uncertainties

- Increase clarity
 - Provide good definitions
- Improve the description of sources of uncertainties
 - Reductions in uncertainties
- Approach 1 trend calculation
- Incorporate parts of the "Conceptual basis from GPG2000"

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Methodological choice

- Increase clarity of the guidance in general
- Integrate LULUCF and non-LULUCF to one method
- Clearer guidance on aggregation level
 - Draw on experience from reporting from EU and other countries
 - Inventory user experience
 - Review experience
 - Inventory compiler experience

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Time-series consistency

- Methods appropriate, but consider additional splicing methods
 - Examples
- Change focus somewhat towards general time-series, not just recalculations
- Increased focus on mitigation and time-series consistency
- QA/QC and trends (inter BOG discussion on useful checks)

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QA/QC & verification

- Keep the ambition level
- Make the guidance more practical & link to the inventory development process
- Link to data collection & uncertainty
- Address confidentiality
- Integrate verification
 - Focus and expand on practical approaches
 - Comparisons with other sources of data etc.
 - More advanced techniques: only very briefly

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Reporting guidance & Tables

- Produce criteria for the production of tables by the sector LAs
- Extractions from the old reporting instructions
 - BOG to consider what goes where based on TSU proposal
 - Sector LAs responsible for for tables, source/sink categories and several other issues
 - General introduction – partly outdated
 - Worksheets - sectorial
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Reporting guidance & Tables

- Main body of reporting instructions
 - Step by step instructions (partly outdated?)
 - Time periods – needs update (sector issues)
 - QA/QC/uncertainty/verification/documentation: addressed elsewhere
 - Relation to data collection? Integrated and dynamic process, not stepwise
- Where to print the tables? Sector volumes or in vol I
- BOG task to suggest what goes where + deletions and suggest updates and responsibilities

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