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UNFCCC NATIONAL SYSTEMS WORKSHOP

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CURRENT STATUS OF NATIONAL SYSTEMS IN ANNEX I PARTIES

CONTENTS

I. INTRODUCTION

A. Mandate

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its nineteenth session, requested the secretariat, subject to availability of resources, to organize a workshop on national systems under Article 5, paragraph 1, of the Kyoto Protocol for the preparation of national greenhouse gas (GHG) inventories, in the first half of 2005. The SBSTA also requested the secretariat to compile information on national systems for the preparation of national GHG inventories from Parties included in Annex I to the Convention (Annex I Parties), included in national inventory reports (NIR) and inventory review reports as an input to this workshop, as part of its consideration of Articles 5, 7 and 8 of the Kyoto Protocol.

B. Background

2. Articles 4 and 12 of the Convention on Climate Change state that Parties to the Convention shall submit to the secretariat national GHG inventories of anthropogenic emissions by sources and removals by sinks of GHG not controlled by the Montreal Protocol. Annex 1 Parties are required to submit their annual national GHG inventories by 15 April in accordance with decision 18/CP.8; this takes the form of the NIR and the Common Reporting Format (CRF). The purpose of these two documents is to detail acquisition of data and formulation of the emissions; they include information on processes and structures Parties have in place to produce accurate and reliable GHG inventories. The UNFCCC reporting guidelines on annual inventories[1] define what should be included in the NIR and the CRF and also give the format for reporting. The common reporting framework facilitates management and comparability of data across the Parties.

3. The secretariat has considered all the NIRs submitted in 2004; the in-country review reports for the years 2003 and 2004 and the centralized and desk reviews for 2003 and 2004 were also used as additional reference material. The information in this paper only includes Parties that submitted an NIR in 2004.

4. The guidelines for national systems under Article 5, paragraph 1, of the Kyoto Protocol define a national inventory system including institutional, legal and procedural arrangements made within a Party for estimating emissions by sources and removals by sinks of anthropogenic GHG not controlled by the Montreal Protocol and for the reporting and archiving of the information. The guidelines take into account requirements of the Intergovernmental Panel on Climate Change (IPCC) Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories.[2] The IPCC good practice guidance provides guidance to Parties on ensuring transparency, consistency, comparability, completeness and accuracy of inventories and also for inventory planning, preparation and management. Inventory activities such as collecting activity data, selecting methods and emission factors appropriately, estimating emissions by sources and removals by sinks, implanting uncertainty assessment and quality assurance/quality control (QA/QC) activities are included. Additionally procedures for the verification of inventory data at the national level are described. The UNFCCC reporting guidelines include an outline for the NIR to allow Parties to report this information in a structured and transparent manner.

5. The guidelines for national systems under Article 5, paragraph 1, of the Kyoto Protocol are mandatory for Annex I Parties to the Kyoto Protocol. In accordance with the Kyoto Protocol, these Parties shall have their national systems in place no later than one year prior to the start of the first commitment period, i.e., 1 January 2007. Annex I Parties to the Kyoto Protocol are now in the process of building up their national systems. An official review of a Party's national system, under Article 8 of the Kyoto Protocol, will take place only after the Party has submitted its report for the establishment of its

[1] FCCC/CP/2002/8.
[2] Referred to in this paper as the IPCC good practice guidance.

assigned amount, as requested by the COP/MOP decision attached to decision 19/CP.7. It is expected that many Annex I Parties to the Kyoto Protocol will submit the report in 2006. Although, having a national system in place is mandatory only for Annex I Parties to the Kyoto Protocol, other Parties, such as the United States (US) and Australia, have established well developed national systems under the Convention.

6. This paper focuses on Annex I Parties' application, implementation and description of the various elements of national systems for reporting GHG inventories. It is a compilation of information provided by Parties in their NIRs and information from review reports, especially in-country review reports from the 2003 and 2004 reviews and might not be totally up to date with the latest development of Parties' national systems.[3] This paper does not make any judgement of Parties implementation of their national systems.

7. The paper shows that Annex I Parties have started to develop their national systems under Article 5, paragraph 1, of the Kyoto Protocol and that many of them have made good progress.

II. COMPILATION OF NATIONAL SYSTEMS INFORMATION

A. Status of greenhouse gas inventory submission

8. In 2004, thirty-eight out of forty Annex I Parties submitted a GHG inventory. Thirty-six Parties submitted both an NIR and CRF tables, in accordance with the UNFCCC reporting guidelines. Luxembourg and Poland only submitted CRF tables. Liechtenstein and the Russian Federation did not submit a GHG inventory.

9. Several Parties (e.g., Austria, the European Community (EC) and the United Kingdom of Great Britain and Northern Ireland (UK)) have included in their NIRs explicit detail of the national system.

B. Institutional arrangements

10. The national systems (Article 5.1 of the Kyoto Protocol) guidelines state that each Annex I Party shall designate a single national entity with overall responsibility for the national inventory. Austria and New Zealand have designated a single national entity with the overall responsibility for inventory preparation for the provision of the UNFCCC and the Kyoto Protocol.[4] Table 1 shows that all Parties with the exception of two named a lead agency for the reporting of GHG emissions.

Legislation

11. Austria and New Zealand described the specific supporting legislation within their country allowing for the provision of the national system and maintenance of GHG inventories. Canada and Slovenia also describe pre-existing legislative provisions for the collection of data used in their GHG inventories.

Defining the delegation of inventory preparation

12. Annex I Parties are required to define and allocate specific responsibilities in the inventory development process, including those related to choice of methods, data collection, particularly activity data and emission factors from statistical services and other entities, processing and archiving, and QA and QC.

[3] Finland has in an official submission, dated 14 January 2005, notified the UNFCCC secretariat that it has concluded its implementation of its national system. A description of the national system has been provided to the secretariat.

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13. The majority of Annex I Parties (90%) defines a lead agency for inventory preparation which is often not the same as the agency with responsibility reporting GHG emissions. Table 1 illustrates by Party the lead agency and the associated agency that prepare the inventory. Austria, Canada, New Zealand, and Switzerland have government agencies that are both responsible for the inventory and national system and prepare the inventory annually. Generally a central government agency has overall responsibility, whilst the technical preparation of the inventory itself is delegated either amongst associated agencies or contracted to specialist institutes or private consultancies. Table 1 below indicates by Party the lead agency and the lead inventory preparation agency if different from the lead agency and the associated agencies involved in the preparation of the GHG inventory. The table also shows the range of government agencies, research institutes, consultancies and affiliated organizations that provide information. Table 1 also includes a synopsis of the variety of entities contributing to the inventory preparation process. This illustrates that the inventory in many Parties is produced from the collaboration of a number of government agencies, research providers and private industry. The inventory can as well be produced by government agencies only. The table also illustrates that several Parties rely on outside expertise in the form of consultancy companies to produce the inventory data and reports.

Table 1: Lead agencies responsible for GHG reporting and inventory preparation by Party

Party	Agency responsible for GHG reporting and *Agency preparing the inventory	Associated agencies	Number agencies producing information for the annual submission
Australia	*The Australian Greenhouse Office	• Australian Bureau of Agricultural and Resource Economics • Australian Bureau of Statistics • Energy Strategies Pty Ltd • George Wilkenfeld and Associates Pty Ltd • Burnbank Consulting Pty Ltd • ASIT Consulting • CSIRO Sustainable Ecosystems • CSIRO Atmospheric Research • Australian Greenhouse Office • Victorian Environmental Protection Agency • Australian Lot-Feeders Association • Department of Industry, Tourism and Resources • Air Transport Statistics Airport Traffic Data	6 Government Agencies 2 Research Institutes 4 Consultancy Firms 1 Industry Association
Austria	*Umweltbundesamt	• Federal Provinces • Austrian Federal Economic Chamber • Federal Ministry of the Environment • University of Natural Resources and Applied Life Sciences • Research Institute for Energy and Environmental Planning, Economy and Market Analysis • Institute for Industrial Ecology • Operators of installations covered by the IPPC directive • Statistik Austria • Austrian Federal Office • Research Centre For Forests • European Pollutant Emission Register	5 Government Agencies (UMWELTBUNDESAMT) 1 University 3 Research Institutes 1 Grouping of operators 1 European Pollutant Emission Register
Belarus	Not named	Not Named	

Belgium	The National Climate Commission *Interregional Cell for the Environment (CELINE-IRCEL)	• Flemish Environmental Agency (VMM) (Flemish Inventory) • Flemish Institute for Technical Research (VITO) • General Directorate for Natural Resources and Environment (DGRNE) (Walloon Region) • Brussels Institute for the Management of the Environment (IBGE-BIM) (Brussels Region) • Interregional Cell for the Environment (CELINE-IRCEL) • Federal Public Service Public Health, Food Chain Safety and Environment (Directorate-General Environment)	4 Government Agencies 2 Research Institutes
Bulgaria	Ministry of Environment and Water *Energy Agency	• National Statistics Institute • Ministry of Internal Affairs • Ministry of Agriculture and Forestry • Ministry of Environment and Water • Energy Agency	4 Government Agencies 1 Research Institute (Energy Institute)
Canada	*Greenhouse Gas Division, Environment Canada	• Environment Canada • Statistics Canada • Natural Resources Canada	3 Government Agencies
Croatia	Ministry for Environmental Protection, Physical Planning and Construction *EKONERG Energy Research and Environmental Protection Institute	• EKONERG Energy Research and Environmental Protection Institute • Central Bureau of Statistics • Energy Institute Hrvoje Pozar • Cadastre of Emission Environment (MZOPU) • Croatian Electricity Utility Company • Croatian Oil and Gas Company • Zagreb's Environmental Protection and Waste Management Company • Hazardous Waste Management Company	2 Government Departments 2 Research Institutes 4 Private Companies

Czech Republic	Czech Ministry of the Environment *Czech Hydrometeorological Institute	• Czech Hydrometeorological Institute • KONEKO marketing • Charles University	1 Government Agency 1 Research Institute 1 University
Denmark	Ministry of the Environment *National Environmental Research Institute	• Danish Energy Authority • The Ministry of Economic and Business Affairs • Danish Environmental Protection Agency • The Ministry of the Environment • Statistics Denmark • The Ministry of Economic and Business Affairs • Danish Institute of Agricultural Sciences • The Ministry of Food, Agriculture and Fisheries • The Road Directorate • The Ministry of Transport • Danish Centre for Forest, Landscape and Planning • The Royal Veterinary and Agricultural University • Civil Aviation Agency of Denmark • The Ministry of Transport • Danish Railways • The Ministry of Transport • Danish companies	12 Government Agencies 2 Research Institutes 1 Universities 2 Private companies
Estonia	Ministry of the Environment *The Institute of Ecology, Tallinn Pedagogical University	• The Institute of Ecology, Tallinn Pedagogical University • Ministry of the Environment • Estonian Energy Research Institute, Tallinn Pedagogical University • Estonian Agricultural University	1 Government Organisation 2 Universities

EC	Directorate-General for Environment of the Commission for the European Community *European Environment Agency *European Topic Centre on Air and Climate Change	• Austria • Belgium • Denmark • Finland • France • Germany • Greece • Ireland • Luxembourg • Netherlands • Portugal • Spain • Sweden • UK • European Community • European Environment Agency • European Topic Centre on Air and Climate Change • Eurostat • Joint Research Centre	15 Parties 2 European Government Agencies 2 Research Institutes
Finland	Ministry of the Environment *Statistics Finland *Finnish Environment Institute	• Statistics Finland • VTT Technical Research Centre of Finland • Ministry of the Environment • Finnish Environment Institute • MTT Agrifood Research Finland • Finnish Forest Research Institute • Ministry of Trade and Industry • Ministry of Transport and Communication • Ministry of Agriculture and Forestry • Finnish Meteorological Institute	5 Government Agencies 5 Research Institutes

France	Ministière de l'Ecologie et du Developpement Durable *Centre Interprofessionel Technique d'Etudes de la Pollution Atmospherique	• Institut Français de l'Environnement (IFEN) • Mission Interministérielle de l'Effet de Serre (MIES) • Direction de la Prévention des Pollutions et des Risques (DPPR) • Service de l'Environnement Industriel (SEI) • Ministère de l'Equipement, du Transport, du Logement, du Tourisme et de la Mer (METLTM) • Direction des Affaires Economiques Internationales (DAEI) • Direction des Routes au travers du CERTU et du SETRA • Direction Générale de l'Aviation Civile (DGAC) • Direction des Transports Terrestres (DTT) • Direction de la Sécurité et de la Circulation Routière (DSCR) • Direction du Transport maritime, des Ports et du Littoral • Direction générale de l'Urbanisme, de l'Habitat et de la Construction • Ministère de l'Agriculture, de l'Alimentation, de la Pêche et des Affaires Rurales (MAAPAR) • Ministère de l'Economie des Finances et de l'Industrie (MINEFI), notamment de l'INSEE • Direction générale de l'Energie et des Matières Premières (DGEMP) • Direction générale de l'Industrie, des Technologies de l'Information et des Postes (DIGITIP)	15 Government Agencies 1 Research Institute 1 Environmental Association

Germany	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety *UBA – Federal Environment Agency	• UBA • Öko-Institut • Federal Statistical Office • Ministry of Nature Conservation, Environmental Protection and Water Resources Management • Länder Statistics Offices • Federal Research Centre for Forestry and Forest Products • Federal Institute for Geosciences and natural resources • Fertilizer manufacturers • Federal Ministry of Consumer Protection, Food and Agriculture • Federal Agricultural Research Institute	5 Government Agencies 4 Research Institutes 1 Association of private companies
Greece	Ministry of Environmental Protection, Physical Planning and Water (MEPPPW) *National Observatory of Athens	• MEPPPW • National Observatory of Athens (NOA) • National Statistical Service of Greece • Ministry for Development • Public Power Corporation • Ministry of Transport • Civil Aviation Authority • Greek Industries • Ministry of Agriculture • General Directorate of the Forests and the Natural Environment • International Energy Agency	7 Government Agencies 1 Research Institute 1 Private Company 1 Association of private companies 1 International Agency

Hungary	Ministry of Environment and Water *National Directorate for Environment, Nature and Water	• Department for Climate Change Convention (ÉvEO) • Systemexpert Ltd • Energy Centre Non Profit Co. • Hungarian Central Statistical Office • Hungarian Customs and Finance Guard	3 Government Agencies 1 Consultancy 1 Private Company
Iceland	Ministry for the Environment *Environment and Food Agency	• Environment and Food Agency • Agricultural Research Institute • Statistics Iceland • National Energy Authority	3 Government Agencies 1 Research Institute
Ireland	Department of the Environment Heritage and Local Government *Environmental Protection Agency	• Sustainable Energy Ireland • Department of Marine and Natural Resources • Department of Agriculture, Food, and Rural Development • Central Statistics Office • Electricity Supply Board • Environmental Protection Agency • Bord Gais Eireann • TEAGASC • Industry	8 Government Agencies 1 Private Company Grouping
Italy	Ministry of Environment and Territory *Agency for the Protection of the Environment and for Technical Services	• Agency for the Protection of the Environment and for Technical Services • Ministry of Production activities • A Major National Industry corporation • Ministry of Transportation • National Statistics Institute • State Forestry Corps • National Waste Observatory	5 Government Agencies 1 Research Institute 1 National Industry Corporation

Japan	Ministry of the Environment *Greenhouse Gas Inventory Office, National Institute for Environmental Studies	• Greenhouse Gas Inventory Office (National Institute for Environmental Studies) • Consultants • Ministry of Economy, Trade and Industry • Ministry of Land, Infrastructure and Transport • Ministry of Agriculture, Forestry and Fisheries • Ministry of Health, Welfare and Labour • Ministry of the Environment	5 Government Agencies 1 Research Institute 1 Group of Consultants
Latvia	Ministry of the Environment *Latvian Environment Agency	• Latvian Environment Agency • Central Statistical Bureau of Latvia • Ministry of Environment • Ministry of Agriculture • Ministry of Transport • State Land Service of the Republic • Latvian Development Agency • State Forest Service • Private organizations and companies • Experts from different fields.	8 Government Agencies 1 Group of Private Organizations and Companies 1 Group of Experts
Lithuania	*Ministry of Environment	• Milieu Ltd • Lithuanian Hydrometeorological Service • Ministry of Environment • Statistics of Lithuania • State Forest Survey Service • Environmental Protection Agency	5 Government Agencies 1 Private Consultant
Monaco	*Direction de l'Environnement, de l'Urbanisme et de la Construction	• Société Monegasque de l'Electricité et du Gaz • Direction de l'Environnement, de l'Urbanisme et de la Construction	2 Government Agencies

Netherlands	Directorate-General for Environmental Protection, Climate Change and Industry Division of Netherlands Ministry of Spatial Planning, Housing and the Environment *National Institute for Public Health and the Environment	• National Institute for Public Health and the Environment • Netherlands Organisation for Applied Scientific Research • Novem • Statistics Netherlands (CBS) • Ministry of Agriculture, Nature Conservation and Food Quality • National Reference Centre for Agriculture • Ministry of Transport, Public Works and Water Management • National Institute of Water Management and Waste Treatment • The Inspectorate of the Ministry of Spatial Planning, Housing and the Environment	4 Government Agencies 4 Research Institutes 1 Consultancy Firm
New Zealand	*Ministry for the Environment	• Ministry for the Environment • Ministry of Economic Development • Ministry of Agriculture and Forestry • Statistics New Zealand • National Institute of Water and Atmospheric Research • Coal Research Ltd • AgResearch Ltd • Landcare Research Ltd • Forest Research Ltd • SCS Wetherill Environmental	4 Government Agencies 5 Research Institutes 1 Consultancy Firm
Norway	*Norwegian Pollution Control Authority *Statistics Norway	• Norwegian Pollution Control Authority • Statistics Norway • Norwegian Institute on Land Inventory • Norwegian Petroleum Directorate • Public Road Administration	4 Government Agencies 1 Research Institute

Portugal	Ministry for the Environment and Land Use Planning *The Institute for the Environment	• General Directorate for Geology and Energy • Autonomous Government of the Azores • National Statistics Institute • National Institute for Water • National Institute for Waste • Ministry of Agriculture • General-Directorate for Forest Resources • Ministry of Health • Quercus Survey • Technology Centre for Ceramics and Glass • Portuguese Association of Producers of Bitumen Materials (APORBET) • European Asphalt Pavement Association • General Directorate of Terrestrial Transportation • Road Institute • Portuguese Association of Automobile Business • National Association of Companies of Automobile Business and Reparation • National Entities for Road traffic, Air and Airports and Air Navigation • EDP • Portuguese Paper Industry Association • National Association of Industry of Refrigeration and Air Conditioning • Data from Waste Producers • Waste Incinerators • New University of Lisbon	5 Government Agencies 5 Research Institutes 1 University 7 Industry Associations 3 National Entities 2 Consultancy Firm

Romania	Ministry of the Environment *National Research and Development Institute for Environmental Protection (ICIM-Bucharest)	• National Research and Development Institute for Environmental Protection (ICIM-Bucharest) • National Institute of Statistics • Forest Research Institute	3 Research Institutes
Slovakia	Department of Air Protection - Ministry of Environment *Slovak Hydrometeorological Institute	• Slovak Hydrometeorological Institute • Ministry of Environment • Slovak Statistical Office • Ministry of Economy • Slovak Gas Industry • Association for Cooling and Air Conditioning Technique • Profiling • Agricultural University • Research Institute for Transport • Chemical Technical University • Forest Research Institute	3 Government Agencies 3 Research Institutes 2 Universities 1 Industry 1 Industry Association 1 Consultancy
Slovenia	Ministry of Environment, Spatial Planning and Energy *Environmental Agency	• Environmental Agency • Ministry of Environment, Spatial Planning and Energy • Directorate of Energy • Statistical Office of Slovenia • Ministry of Transport • Ministry of Internal Affairs • Agricultural Institute of Slovenia • Slovenian Forestry Institute	6 Government Agencies 2 Research Institutes
Spain	*Directorate-General for Environmental Quality and Assessment - Ministry for the Environment	• Directorate-General for Environmental Quality and Assessment - Ministry for the Environment	1 Government Agency

Sweden	Swedish Ministry of the Environment *Swedish Environmental Protection Agency	• Swedish Environmental Protection Agency • Swedish Ministry of the Environment • Statistics Sweden • Swedish Meteorological and Hydrological Institute • Swedish Environmental Research Institute • Swedish University of Agricultural Sciences • National Board of Forestry • Swedish Association of Waste Management • Swedish Dairy Association • Swedish Poultry Meat Association • Swedish Chemicals Inspectorate • Swedish Institute of Agriculture and Environmental	5 Government Agencies 4 Research Institutes 1 University 2 Associations
Switzerland	*Swiss Agency for the Environment, Forests, Landscapes (SAEFL)	• Swiss Agency for the Environment, Forests, Landscapes (SAEFL) • Swiss Federal Office of Energy • Swiss Federal Office of Agriculture performed by the Swiss Federal Research Station for Agroecology and Agriculture • Federal Office for Civil Aviation	4 Government Agencies 1 Research Institute
UK	Department of Environment, Food and Rural Affairs (DEFRA) *AEA Technology	• AEA Technology • Institute for Grassland Management and Environmental Research • Centre for Ecology and Hydrology • Environment Agency • DEFRA • Department of Trade and Industry • Scottish Environmental Protection Agency • Forestry Commission	5 Government Agencies 2 Research Institutes 1 Consultancy Firm
Ukraine	In Russian		

US	US Department of State *US Environmental Protection Agency	• Office of Atmospheric Programmes – Environmental Protection Agency (EPA) • Office of Transportation and Air Quality (EPA) • Department of Energy • Department of Defense • Department of Agriculture • Geological Survey • Federal Highway Administration • Department of Transportation • Bureau of Transportation Statistics • Department of Commerce • National Agricultural Statistics Service • Federal Aviation Administration	12 Government Agencies

1. Conclusions

14. It has to be acknowledged the issues faced by Annex I Parties in constructing their institutional arrangements are difficult to ascertain from the NIR and in-country reviews provide useful insight into common problems faced by Parties.

Information on institutional framework

15. Descriptions of how the national inventory is prepared range from highly detailed (e.g., Austria, France, Germany, Ireland, Portugal, Norway, UK and the US) to very brief descriptions of involved agencies (e.g. Monaco, Latvia and Spain). Belarus did not provide any information on its institutional framework in the NIR. Several Parties (e.g. Bulgaria, Canada and Japan) describe approaches made for managing confidential information from companies; however this issue has not been addressed by several Parties.

Information on cooperation issues

16. Several Parties indicate in their NIR the high degree of cooperation between their agencies (e.g. Austria, Canada, Germany, Ireland, Norway, New Zealand, UK and the US) and that there is responsibility taken by other institutes over inventory issues such as uncertainty and QA/QC implementation. Ireland has developed an Inventory Data Users Group (IDUG) to develop and improve the inventory compilation and data quality. However it is noticeable that in several Parties the inventory is being prepared without apparent representation from research institutes (Canada, Hungary, Latvia, Lithuania, Spain and the USA). This could mean either that the research agencies are involved and not mentioned in the reports or that they are not involved in the inventory preparation.

Information on issues of human resources and continuity of the national system

17. Developing competencies and funding inventory agencies is a critical aspect of the development of national systems and several Parties, particularly those with economies in transition (EIT), describe the process of capacity building of inventory expertise and the constraints of limited budgets. This is demonstrated by Parties using several approaches – either through naming Party experts involved in inventory preparation or giving some background on the team size within the agency and any increases to this. Understanding the human resources issues in developing inventories not only gives an insight into the level of experience and expertise required to produce inventories in line with the IPCC good practice guidance, but also associated funding issues being faced by these lead agencies. For example in Hungary, the inventory agency has been involved in departmental restructuring processes after being initially provided the information by a private company (Systemexpert Ltd).

C. Quality assurance/quality control

18. The development and implementation of quality control and quality assurance systems in GHG inventory reporting represents a significant challenge in developing the National System. Fifteen Parties have not described a plan or their use of QA/QC in the preparation of their inventories. Eleven Parties use tier 1 approaches of QA/QC and have yet to define their QA/QC plan. Ten Parties reported their QA/QC plan and Austria, France and UK included extensive descriptions including diagrams of the QA/QC systems.

19. In conclusion, QA/QC remains an area on national system development in most Annex I Parties. The national systems guidelines state that Parties shall implement general inventory QC procedures (tier 1) in accordance with its QA/QC plan following the IPCC good practice guidance. Several Parties (e.g. Austria, Belgium and France and the UK) have developed sophisticated QA/QC systems underpinned by accreditation systems (ISO 9001 and EN 45004). The main issue surrounding the full implantation of a full QA/QC plan is human resourcing and funding. The level of QA/QC applied by the Parties and described in the NIR is represented in table 2.

Nine Parties did not comment about the existence of QA/QC in their inventory preparation. Thirteen Parties have performed various degrees of tier 1 QA/QC, indicated in the table as "Partial Tier 1", with no QA/QC plan described in the NIR. Sweden and Denmark provided information on the development of the QA/QC plan for inclusion in the subsequent NIR. Five Parties are applying tier 1 according to the IPCC good practice guidance and seven are applying a mixture of tier 1 and tier 2 and provide detailed QA/QC plans in their NIRs.

Table 2. QA/QC applied to inventory preparation

Not Described	Partial Tier 1 with no plan	Partial Tier 1 with plan	Tier 1	Tier 1 & Tier 2 Plan proposed
Belarus	Belgium	Denmark	Australia	Austria
Bulgaria	Czech Republic	Sweden	Canada	France
Croatia	Greece		EC	Germany
Estonia	Hungary		New Zealand	Norway
Lithuania	Iceland		US	Netherlands
Monaco	Ireland			Switzerland
Poland	Italy			UK
Spain	Japan			
Ukraine	Latvia			
	Portugal			
	Romania			
	Slovakia			
	Slovenia			

D. Uncertainty analysis

20. Twenty-nine Parties included some form of description of uncertainty analysis in their NIRs. The required level of reporting is tier 1 and, where applicable, Parties are encouraged to apply tier 2. Table 3 below illustrates that tier 1 is used by nineteen Parties. Tier 2 is applied by five Parties (Australia, Austria, Finland, Norway and UK), whilst Canada, EC, Iceland, Spain and Switzerland are using a country-specific approach to modeling uncertainty based on the tier 1 approach. Canada and Portugal indicate in their NIRs that uncertainty analysis is a particular area of inventory preparation that they are reviewing and upgrading for subsequent submissions. In the case of Canada a consultant has been retained to determine IPCC tier 2 uncertainty on the 2001 year data. The results of the uncertainty assessment will be included in the 2005 submission. Portugal stated in the 2004 NIR that work is under way to determine quantitative tier 1 uncertainty analysis. The results of this analysis will be included in the 2005 submission.

21. Uncertainty analysis is underpinned by expert opinion and in many cases, information flow from private institutes to the inventory agency. Canada and Portugal both indicate that they have invested in uncertainty analysis programmes for their inventories. Uncertainty is managed under clear QA/QC programmes by Austria, Belgium, Denmark, EC, Finland, France, Germany, Netherlands, Norway, Switzerland, UK and the US.

2. Conclusions

22. Uncertainty analysis is an area of national system development that many Parties are not reporting to a detailed level. This is often due to resources, including access to expert opinion. Continued development and support of uncertainty analysis is important to ensure that Parties continue to develop and strengthen their inventory reporting as a result.

Table 3. Uncertainty analysis approaches used by Parties

Country-specific	Regional Tier 1	Tier 1	Tier 1 &Tier 2	Tier 2	Not performed
Canada	Belgium	Bulgaria	Norway	Australia	Belarus
EC		Croatia		Austria	Estonia
Iceland		Czech Republic		Finland	Latvia
Spain		Denmark		UK	Lithuania
Switzerland		France			Luxemburg
		Germany			Monaco
		Greece			Poland
		Ireland			Portugal
		Italy			
		Japan			
		Netherlands			
		New Zealand			
		Romania			
		Slovakia			
		Slovenia			
		Sweden			
		Ukraine			
		US			

E. Key source categories

23. Key source category analysis allow Parties to focus on the areas of their inventories which represent the greatest proportion of their total emissions and indicate the relative importance of emissions in terms of increase. Table 4 indicates the status of key source analysis across the Parties. Tier 1 level and trend assessments are simply performed on inventories and allow for the provision of inventory planning. Most Parties (thirty-three) described their key sources using level and trend assessment. Latvia and Lithuania performed tier 1 level assessment only, whilst Norway and the UK performed tier 2 assessment for their key source assessment. Only three Parties (Belarus, Estonia and Monaco) did not report key sources in their inventory reports.

Table 4. Key Source Category Assessment by Parties that submitted an NIR in 2004

Methodological Approach	Number of Parties Using approach
Tier 1 Level only	2
Tier 1 Level and Trend	26
Tier 1 and Tier 2	3
Tier 2	2
No Key Source analysis included in the NIR	3

3. Conclusion

24. Key source analysis was performed by all but three Parties, at least at the tier 1 level in the 2004 NIR submission. There are occasionally differences between the secretariat's assessment and Parties' according to the level of disaggregation within the sources applied by the Parties. Parties with sufficiently developed uncertainty analysis could further improve their reporting by upgrading to tier 2 analysis.

F. Archiving and documentation

25. Archiving and storage of data and reference materials that are the basis of the national inventory is an important aspect of the national system. Assessing this component of the national system is primarily through the in-country review process; however several Parties have described their approach to archiving and documentation in their NIR. Archiving is described by eight Parties in their NIRs; however another sixteen Parties have demonstrated their archiving systems to expert review teams during in-country reviews in the 2003 and 2004 reviews. Accurate information regarding the exact status of this national system process is limited and therefore is noteworthy of attention. The information sources provide information on the archiving approaches currently used by only twenty-three Parties. Austria, Germany, Japan and the UK have developed archiving process in conjunction with their QA/QC plans. Other approaches vary, for example Parties with a centralized archiving system (Portugal, US) for storage of electronic data. Finland and Switzerland have electronic data stored on servers in two separate government agencies. Some Parties describe the archiving process, whereby data are frozen each inventory year and new spreadsheets initiated (Portugal and Croatia). Table 5 is a summary of information about archiving available in the 2004 NIRs and table 6 is information taken from the review reports.

Table 5. Parties reporting their archiving process within the NIR

Finland	Archived at 2 different sites in electronic and hard copy – the information is stored within 2 separate Government agencies
New Zealand	Data stored in electronic form by being backed up on inventory agency server
Portugal	Centralized archiving system. Updated periodically and sources frozen - new spreadsheets started each new inventory reporting year
Slovenia	Available in electronic and hard copy
Sweden	Archiving as part of QA/QC but not described in full detail - system to be in place by 2005. Currently Agricultural data archived by the Swedish University of Agricultural Sciences
Switzerland	Data is saved on 2 servers in different institutions in different sites
UK	Archiving systems in place. At the end of each reporting cycle, all the database files, spreadsheets, on-line manual, electronic source data, paper source data, output files are in effect frozen and archived. An annual report outlining the methodology of the inventory and data sources is produced. Electronic information is stored on hard disks that are regularly backed up. Paper information is being archived in a Lektreiver® system and there is a simple database of all items in the archive
US	Centralized within the US EPA - electronic copies of each year's summary spreadsheet are stored on the Agency's central server

Table 6. Archiving according to in-country review reports for 2003 and 2004

Belgium	Archived in the different regions so actual checking has not been verified by an expert review team
Bulgaria	Do not have a formalized archiving process and has not been checked by an expert review team
Canada	Distributed archive not compliant with IPCC good practice guidance
Croatia	Data needs to be frozen on a yearly basis
Czech Republic	Documentation systems need codifying
Germany	Centralized Archiving system
Greece	Not a formalized system and is missing structure and a robust archiving process
Iceland	No formal process
Ireland	Archiving not centralized, electronic and hard copy storage
Japan	Centralized Archiving Process in place
Netherlands	Developing document for archiving process
Portugal	Centralized archiving system. Back ups of data made systematically by the system manager in accordance with the Institute of Environment's internal procedures. If major changes to methodology are made, old spreadsheets are frozen and stored and new spreadsheets are started. Paper and electronic copies are kept of the annual submissions
Romania	Not complete - described in NIR only as part of QA/QC
Slovenia	Centralized system of archiving. Environment Agency stores files, whilst other departments back up their files daily
Spain	Complies with current IPCC recommendations
Switzerland	Centralized by not fully systematic archiving system. Data and Documentation archived in SAEFL on two different servers at two separate sites

4. Conclusions

26. Archiving remains an area of national system development that is generally not described extensively or at all by Parties in their NIRs and tends to be a practical issue that can easily be addressed by the expert review team during in-country review visits. A general conclusion is that many Parties are storing the data in at least one central location in both electronic and hard copy formats. Many have not described whether supporting information to the NIR, such as expert scientific reports, surveys and methodological approaches, are stored in a categorized manner or within one or several archive units. Parties with extensive archiving systems could enhance their description of the process and manner in which information is stored for both transparency and as a useful reference for other Parties that are developing their archiving and documentation structure within their national systems.

G. Overview summary

27. Table 7 is a brief summary of the main elements of national systems by each Party that submitted information either in an NIR or by an expert review team as a result of an in-country review visit.

Table 7. Summary of current status of national system implementation (NIRs, 2004)

Australia	Institutional arrangements: The Australian Greenhouse Office. The national system is not fully described in the NIR. Legislation is not described. The AGO is not named as single entity with overall responsibility.
	QA-QC plan: Good Practice tier 1; Some data quality issues are noted by the Party.
	Uncertainty analysis: Performed – tier 2
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation:
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Austria	Institutional arrangements: Department of Air Emissions – UMWELTBUNDESAMT. Description in NIR clearly defined with diagrams. Legislation for emissions reporting comes under the Environmental Control Act 1996. Umweltbundesamt is named as single entity with overall responsibility for the National System.
	QA-QC plan: QA-QC plan described with diagrams. A Quality Management System has been implemented. This is an extensive QA/QC procedure that includes European Standard 45004:1995 General Criteria and the EU/ISO 9000 series of standards. Austria also uses its Accreditation Act "Akkreditierungsgesetz" as an integral part of its QA/QC plan.
	Uncertainty analysis: Performed – tier 2
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in Review Report. The Archiving is available in electronic and hard copy. Part of the QMS implemented by Austria.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Belarus	Institutional arrangements: No named entity for national system responsibility. The appropriation of the NS is not described in NIR. Legislation not described.
	QA-QC plan: None described in the NIR.
	Uncertainty analysis: Not described.
	Key sources: Analysis not described
	Archiving and documentation: Not described in NIR
	Submission dates: NIR – 31 March 2004; CRF – 31 March 2004
Belgium	Institutional arrangements: Working Group on «Emissions» of the Co-ordination Committee for International Environmental Policy (CCIEP). Brief description (not transparent) in NIR. Legislation is not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan, using T1 QA/QC on certain data sets. Conduct independent audits and hold EMAS certification and are in the process of seeking ISO 9001 accreditation.
	Uncertainty analysis: Performed – regional tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Archived in the different regions so actual checking has not been verified by an expert review team.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Bulgaria	Institutional arrangements: Bulgarian Energy Institute in association with the Executive Environment Agency in the Ministry of Environment and Water. Not described in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan however due to staffing issues are able to perform Uncertainty analysis
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Not using a formalized archiving process and has not been checked by an expert review team.
	Submission dates: NIR – 25 May 2004; CRF – 25 May 2004

Canada	Institutional arrangements: Environment Canada, with associated organizations Statistics Canada, Natural Resources Canada and Agri-Food Canada. Clear description in NIR. Legislation under Statistics Act and Canadian Environmental Protection Act. Agency is not named as single entity with overall responsibility.
	QA-QC plan: Basic QA-QC good practice guidance-Compliant using verification system as part of inventory process. Plans to develop formal QA/QC plan; Develop a QA/QC manual for the inventory as a whole and by individual activity sector Improving the documentation and archiving systems; Uncertainty analysis with new QC procedures; Implementation of T2 QC procedures for key sources.
	Uncertainty analysis: Performed a Country Specific uncertainty analysis
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Not stated if available in electronic or hard copy. Distributed archive not compliant with good practice guidance.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Croatia	Institutional arrangements: Ministry for Environmental Protection, Physical Planning and Construction. Basic description of compilation process in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan. Verification process using a T1 approach; 3 Party reviews and Expert Assessment via Workshops held by the Party.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Data needs to be frozen on a yearly basis.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Czech Republic	Institutional arrangements: Department of Emissions and Sources, The Czech Hydrometeorological Institute. Clear description of current compilation process in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: Basic T1 QA-QC, Checking by third parties in the country; QC of emission estimates through consistency checks.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Needs codifying.
	Submission dates: NIR – 14 April 2004; CRF – 14 April 2004
Denmark	Institutional arrangements: National Environmental Research Institute – Danish Ministry for the Environment. Clear description of compilation process in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: QA/QC plan outlined in NIR – based on the IPCC good practice guidance
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR or IDR.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Estonia	Institutional arrangements: The Institute of Ecology at Tallinn Pedagogical University, in conjunction with the Ministry for the Environment. Basic description of compilation process in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No formal QA/QC plan however QA of each sector is included in the NIR.
	Uncertainty analysis: Not performed due to insufficient resources
	Key sources: Analysis not described.
	Archiving and documentation: Not described in NIR
	Submission dates: NIR – 17 June 2004; CRF – 15 April 2004

EC	Institutional arrangements: Directorate-General for Environment of the Commission for the European Community. Clear description of process and partners in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: QA-QC plan in place and under development. Carry out initial checks, Consistency Checks and Checks during Inventory Compilation; Documentation and Archiving and also there is the individual Party's own QA/QC process included in their submissions.
	Uncertainty analysis: Performed – CS.
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR or IDR.
	Submission dates: NIR – 28 May 2004; CRF – 7 May 2004
Finland	Institutional arrangements: Statistics Finland – Greenhouse Gas Working Group, Ministry for the Environment. Clear description in NIR. Legislation not described. Agency is named as single entity with overall responsibility.
	QA-QC plan: Plan being devised by Statistics Finland. General T1 QA/QC and verification processes being carried out on inventory data.
	Uncertainty analysis: Performed – tier 2
	Key sources: T1 Level and Trend and T2 analysis performed
	Archiving and documentation: Described in NIR. Available in electronic and hard copy. Archived at 2 different sites.
	Submission dates: NIR – 1 April 2004; CRF – 1 April 2004
France	Institutional arrangements: Ministère de l'Ecologie et du Développement Durable. Description extensive but in French in the NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: QA-QC plan described with diagrams. Use an elaborate QA/QC programme underpinned by ISO 9001:2000.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed, no table included in the NIR.
	Archiving and documentation: Not described in NIR
	Submission dates: NIR – 26 March 2004; CRF – 26 March 2004
Germany	Institutional arrangements: Federal Environment Agency (UBA). Clear description of current compilation process in the NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: QA-QC plan described in an Annex of the NIR describing the German national system in detail. A quality system of emission is described.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Centralized archiving system.
	Submission dates: NIR – 30 April 2004; CRF – 30 April 2004
Greece	Institutional arrangements: National Observatory of Athens (NOA) for the Ministry of Environmental Protection, Physical Planning and Water (MEPPPW). Basic description in NIR. Legislation not described. Agency is named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan included in NIR; However currently use a reliability check, Archiving of all emission factors used, perform comparisons with the database; observe trends and use third Party checks.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Not a formalized system, missing structure and robust process.
	Submission dates: NIR – 7 April 2004; CRF – 7 April 2004

Hungary	Institutional arrangements: National Directorate for Environment, Nature and Water. Basic description in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan described. No Quality Assurance Accreditation however Laboratories hold accreditation; Government issues Expert Licenses for only qualified experts; consistency and time series checks made on the Inventory data.
	Uncertainty analysis: Performed, not described.
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR.
	Submission dates: NIR – 4 June 2004; CRF – 13 May 2004
Iceland	Institutional arrangements: Environment and Food Agency, Ministry for the Environment. Clear description with diagram in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan. Internal checks for calculations and units and time series consistency checks.
	Uncertainty analysis: Performed – CS.
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Not stated if available in electronic or hard copy. No formal process.
	Submission dates: NIR – 25 June 2004; CRF – 25 June 2004
Ireland	Institutional arrangements: Environment Protection Agency (EPA). Clear description with diagram in NIR. Pre-existing legislation for collection of pollution statistics. Agency is named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan proposed due to resourcing issues however a verification process is used; cross checking of emission estimates carried out and completion checks performed.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Not centralized.
	Submission dates: NIR – 26 April 2004; CRF – 26 April 2004
Italy	Institutional arrangements: Agency for the Protection of the Environment and for Technical Services. Basic description in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan proposed. Inventory reviewed
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend and T2 analysis performed
	Archiving and documentation: Not described in NIR.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Japan	Institutional arrangements: Ministry of the Environment. Clear description with diagram in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan in use. Reviews carried out by third party organizations within Japan and also there is an Inter-governmental agency check performed.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Centralized.
	Submission dates: NIR – 24 May 2004; CRF – 24 May 2004

Latvia	Institutional arrangements: Latvian Environmental Agency (LEA), the government institution subordinated to the Ministry of Environment. Basic description in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: Time series and Internal consistency checks. QA/QC identified as next focus of development in the Latvian Inventory.
	Uncertainty analysis: Not performed.
	Key sources: T1 Level analysis performed
	Archiving and documentation: Not described in NIR.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Lithuania	Institutional arrangements: Air Protection Division of the Department for the Quality of the Environment, Ministry for Environment. Basic description in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan. To be elaborated following In-Country Review.
	Uncertainty analysis: Not performed.
	Key sources: T1 Level analysis performed
	Archiving and documentation: Not described in NIR
	Submission dates: NIR – 14 April 2004; CRF – 14 April 2004
Monaco	Institutional arrangements: Direction de l'Environnement, de l'Urbanisme et de la Construction. Not described in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: None described.
	Uncertainty analysis: Not performed.
	Key sources: Analysis not described
	Archiving and documentation: Not described in NIR.
	Submission dates: NIR – 1 June 2004; CRF – 23 April 2004
Netherlands	Institutional arrangements: The Climate Change and Industry Division of the Ministry of VROM. Clear description with diagram in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: QA-QC plan integral part of the Pollutant Emission Register; More general QA/QC to be developed. Includes as process BEES A regulation; Database Consistency checks and verification also performed by the Party.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend and T2 analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Developing document.
	Submission dates: NIR – 1 April 2004; CRF – 1 April 2004
New Zealand	Institutional arrangements: New Zealand Climate Change Office (NZCCO) of the Ministry for the Environment. Clear description in NIR. Legislation in Climate Change Response Act. Agency is named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan; T1 QA/QC process including T1 QC Check sheets, Time series checking, Scientific Peer Review of Agriculture and Land Use Change and Forestry. Statistics New Zealand also performs QA/QC process on data used in inventory.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Described in NIR. Available in electronic form, not stated if available in hard copy.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004

Norway	Institutional arrangements: The Norwegian Pollution Control Authority (SFT), a directorate under the Norwegian Ministry of Environment. Clear description in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: QA-QC plan in place that follows IPCC good practice guidance.
	Uncertainty analysis: Performed – tier 1 and 2.
	Key sources: T2 analysis performed.
	Archiving and documentation: Not described.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Portugal	Institutional arrangements: The Institute for the Environment/ Ministry for the Environment and Land Use Planning. Clear description with diagram in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: Technical checks carried out for accuracy; Internal consistency checks and T1 uncertainty analysis underway for next submission.
	Uncertainty analysis: Not performed.
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Described in NIR and review report. Available in electronic and hard copy. Centralized archiving system. Updated periodically and sources frozen – new spreadsheets, etc restarted.
	Submission dates: NIR – 14 April 2004; CRF – 14 April 2004
Romania	Institutional arrangements: National Research and Development Institute for Environmental Protection (ICIM-Bucharest). Basic description in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No plan proposed. Checking of data input; consistency and time series consistency checks performed.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in review report. Available in electronic and hard copy. Not complete – described in NIR only as part of QA-QC.
	Submission dates: NIR – 14 May 2004; CRF – 14 May 2004
Slovakia	Institutional arrangements: Department of Air Protection, Ministry of Environment. Clear description in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan. QA/QC by consistency checks in the preparation and use of 3 external Party reviewers.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Not included in the NIR and there has not been an in-country review to pursue this issue in depth.
	Submission dates: NIR – 14 April 2004; CRF – 14 April 2004
Slovenia	Institutional arrangements: The Environmental Agency. Comprehensive description with diagram in NIR. Memorandum of Understanding in place. Agency is not named as single entity with overall responsibility.
	QA-QC plan: No QA/QC plan proposed. Verification of input data, EFs, AD and methodology and uncertainty analysis. Planning to publish a "Manual of Procedures" by the end of 2004
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Described in NIR. Not described in review report. Available in electronic and hard copy.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004

Spain	Institutional arrangements: Directorate-General for Environmental Quality and Assessment, Ministry for the Environment. Basic unclear description in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: None described.
	Uncertainty analysis: Performed – CS.
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Not described in NIR. Described in IDR. Available in electronic and hard copy. Complies with current IPCC recommendations.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Sweden	Institutional arrangements: The Swedish Ministry for the Environment. Clear description with diagram in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: Basic plan proposed for 2005. T1 QC for Energy and Land Use Change and Forestry.
	Uncertainty analysis: Performed – tier 1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Described in NIR. Not stated if available in electronic or hard copy. Archiving as part of QA-QC but not described in full detail – system to be in place by 2005.
	Submission dates: NIR – 16 April 2004; CRF – 16 April 2004
Switzerland	Institutional arrangements: Swiss Agency for the Environment, Forests and Landscapes (SAEFL). Detailed description of preparation of inventory and comprehensive diagram in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: QA-QC plan described. QA/QC under a T1 of IPCC good practice guidance, Creating a Single Information Management System and a fully formalized system for QA/QC including Archiving Background documentation (QA/QC plan - 2004 to 2006).
	Uncertainty analysis: Performed – CS.
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Described in NIR. Available in electronic and hard copy. Back up on 2 servers.
	Submission dates: NIR – 14 April 2004; CRF – 14 April 2004
UK	Institutional arrangements: AEA Technology on behalf of DEFRA. Comprehensive description with diagram in NIR. Legislation not described. Agency is named as single entity with overall responsibility.
	QA-QC plan: QA-QC plan described with diagrams.
	Uncertainty analysis: Performed – tier 1 and tier 2
	Key sources: T2 analysis performed.
	Archiving and documentation: Described in NIR. Available in electronic and hard copy. Archiving systems in place.
	Submission dates: NIR – 15 April 2004; CRF – 15 April 2004
Ukraine	Institutional arrangements: NIR in Russian.
	QA-QC plan: None described.
	Uncertainty analysis:
	Key sources: T1 level analysis performed.
	Archiving and documentation: N/A
	Submission dates: NIR – 20 February 2004; CRF – 20 February 2004

US	Institutional arrangements: The US Environmental Protection Agency. Clear description in NIR. Legislation not described. Agency is not named as single entity with overall responsibility.
	QA-QC plan: QA-QC plan described and in use – complies with the IPCC good practice guidance.
	Uncertainty analysis: T1
	Key sources: T1 Level and Trend analysis performed
	Archiving and documentation: Described in NIR. Available in electronic and hard copy. Centralized archiving and documentation performed within the US EPA.
	Submission dates: NIR – 12 April 2004; CRF – 12 April

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