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Report for the Stage 3 in-depth review of emission inventories submitted under the UNECE LRTAP Convention and EU National Emissions Ceilings Directive for:

CYPRUS

CONTENT

INTRODUCTION

1. The mandate and overall objectives for the emission inventory review process under the LRTAP Convention is given by the UNECE document '*Methods and Procedures for the Technical Review of Air Pollutant Emission Inventories reported under the Convention and its Protocols'* [(1)] – hereafter referred to as the 'Methods and Procedures' document.

2. This annual review has concentrated on SO_2, NOx, NMVOC, NH_3, plus PM_{10} & $PM_{2.5}$ for the time series years 1990 – 2008 reflecting current priorities from the EMEP Steering Body and the Task Force on Emission Inventories and Projections (TFEIP). HMs and POPs have been reviewed to the extent possible.

3. This report covers the stage 3 centralised reviews of the UNECE LRTAP Convention and EU NEC Directive inventories of Cyprus coordinated by the EMEP emission centre CEIP acting as review secretariat. The review took place from 21 June 2010 to 25 June 2010 in Copenhagen, Denmark, and was hosted by the European Environment Agency (EEA). The following team of nominated experts from the roster of experts performed the review: generalist - Jean Pierre Chang (France), Energy - Laetitia Serveau (France), Energy / mobile - Emilia Hanley (Ireland), Industry - Kees Peek (Netherlands), Agriculture + Nature - Rocio Danica Condor (Italy), Waste - Sophie Hoehn (Switzerland). For resource constraint reasons in the ERT the Solvents estimates were not reviewed.

4.

5. Justin Goodwin was the lead reviewer. The review was coordinated by Katarina Marečková (EMEP Centre on Emission Inventories and Projections - CEIP).

[1] Methods and Procedures for the Technical Review of Air Pollutant Emission Inventories reported under the Convention and its Protocols. Note by the Task Force on Emission Inventories and Projections. ECE/EB.AIR/GE.1/2007/16 http://www.unece.org/env/documents/2007/eb/ge1/ece.eb.air.ge.1.2007.16.e.pdf

PART A: KEY REVIEW FINDINGS

INVENTORY SUBMISSION

6. The inventory is generally in line with the EMEP EEA Inventory Guidebook and UNECE Reporting Guidelines. The ERT notes significant improvement compared to the IIR from the last (2009) submission. Cyprus provides national inventories for the years 1990 to 2008. Cyprus submitted an IIR report with general and specific sectoral chapters, following the IIR template. However, further improvements are necessary for estimating not estimated “NE” categories, providing some missing chapters on "Recalculations and Improvements" and the chapter on "Projections" according to the IIR template, for better use of notation keys in the energy sector and more detailed information on the agriculture. sector

7. Emissions and activity data (for 1990 to 2008) are reported in the NFR09 categories, however, many source categories are flagged as "NE". Projection emissions (2010) are provided, but within the NFR template for historical data activity projections data are not provided.

8. Cyprus provides some general information on recalculations in the executive summary of the IIR. However, this information is not further elaborated in the IIR with regard to significant recalculations for the time series 1990-2007.

9. The national total emissions, after clarification and exchange during the review are based on fuel sold for road transport, with a traffic-based initial calculation balanced with fuel sold statistics. But this more detailed information is not included in the IIR.

10. The ERT noted that a number of key categories have been estimated using tier 1 methods including (1A1a, 1A2Fi for the Energy, agriculture sector, waste sector and encourages Cyprus to use tier 2 & 3 estimates for these key categories where data are available (more details are provided in the sectoral chapters below).

KEY CATEGORIES

11. Cyprus has compiled and presented in its IIR a tier 1 level Key Category Analysis following the EMEP/EEA Guidebook for all the pollutants and year 2008. The key category analysis is not performed for trend. The ERT encourages Cyprus to also complete tier 1 trend analysis so as to assess categories that might be important in the future.

QUALITY

Transparency

12. The ERT recognises the relatively good quality of the Cyprus inventory data and IIR report, enabling possible sectoral reviews, and that the sectoral sections are generally transparent and well organised. However, the ERT recommends that Cyprus provide more details in its description of activity data, methods / assumptions in the IIR for transport, agriculture and for some NFR codes in the energy sector.

13. In the IIR, no information / explanations on performed recalculations are provided. The ERT suggests that Cyprus include this in future IIRs according to the IIR template.

14. The ERT acknowledges Cyprus's well presented description of key trends (1990-2008). However, the ERT encourages Cyprus to include more descriptions of the drivers for trends, particularly for increasing or decreasing trends or large dips and jumps.

Completeness

15. Cyprus provides a complete time series for the years 1990 to 2008, including the most important categories. For the energy sector, emissions for the NFR codes 1B2a iv and 1B2c should be estimated between 1990 and 2004 because a petroleum refinery was in operation in Cyprus until March 2004. The inventory regarding Waste is not complete (solid waste disposal and wastewater handling). The ERT considers the industrial processes to be complete and comprehensive with good levels of detail in the methodology descriptions. However, emissions for years before 1990 are not reported for any of the sectors. During the review, Cyprus explained that the Statistical Service did not keep enough data for the period before 1990 to enable a time series before 1990 to be estimated. The ERT encourages Cyprus to try to estimate emissions with available data for the key pollutants (SO2, NOx, NMVOC and NH3).

16. In a number of cases Cyprus's NFR tables use the notation key "NE". Explanations are provided in the IIR for the use of this notation key, but the NFR sheet "Additional info", including notation keys and other issues, is not filled in. The number of "NE" cases should be limited and reduced. ERT recommends a review of all these cases with plans to complete the inventory, beginning with the most significant missing emission estimations (e.g. PM from road transport abrasions).

Consistency, including recalculations and time series

17. Cyprus provides some general information on recalculations in the executive summary of the IIR. However, this information is not further elaborated in the IIR for significant recalculations for the time series 1990-2007 (with details missing especially for most categories in the Stationary Energy Sector, Industrial Processes transport and waste). The ERT encourages Cyprus to provide explanations and the rationale for the recalculations, as well as the impacts of the changes on the national estimates and time series, in its next IIR submission.

18. The ERT also encourages Cyprus to provide a fuller explanation of trends in chapter 2 for all sectors and to consider applying methods which are consistent across the full timeseries for Stationary Energy 1A1a, 1A1b, 1A2a to 1A2e, 1A2fi, 1A4bi and 1A4ci.

Comparability

19. The ERT commends Cyprus on its efforts to use the new NFR09 templates for the first time for this 2010 submission. The ERT notes that the inventory of Cyprus is comparable with those of other reporting Parties. The allocation of source categories follows that of the EMEP/UNECE reporting Guidelines. The ERT encourages Cyprus to continue with this approach to national inventory calculation.

CLRTAP/NECD comparability

20. ERT notes that the Cyprus national totals from CLRTAP and NECD for submitted years 1990->2008 are fully consistent.

Accuracy and uncertainties

21. Cyprus does not estimate uncertainty relating to its LRTAP/NECD inventories. Cyprus has informed the ERT that based on the human resources and the lack of time, the uncertainty estimates are not included. However, during the review Cyprus indicated that it would consider implementing uncertainty assessment in the inventory in future submissions. The ERT encourages Cyprus to start with a tier 1 uncertainty assessment for the main pollutants and PM for the 2011 submission in order to help inform the improvement process and to provide an indication of the reliability of the inventory data.

22. The ERT notes that a number of key categories have been estimated using tier 1 methods including 1A1a, 1A2Fi for Energy, and all categories for the agriculture and waste sectors, and encourages Cyprus to use tier 2 & 3 estimates for key categories where data are available (more details are provided in the sectoral chapters below).

Verification and quality assurance/quality control approaches

23. Institutional arrangements, verifications and QA/QC procedures are described in the IIR. The ERT acknowledges Cyprus's description of QA/QC but encourages it to provide more detailed information on its QA/QC plan and procedures, especially at sectoral level for all the sectors in the IIR.

FOLLOW-UP TO PREVIOUS REVIEWS

24. The current stage 3 centralised review has used outputs from the stage 1 and stage 2 review processes. ERT invites Cyprus to also refer to these previous reviews when examining this review report, and when updating its improvement plans.

AREAS FOR IMPROVEMENTS IDENTIFIED BY CYPRUS

25. The IIR does not include an improvement chapter which states the of improvements identified by Cyprus during the submission of its inventory. Nevertheless, during the centralised review and exchanges with ERT, many improvements were identified by Cyprus for the next or further submissions. These include:

(a) - reporting the projection data within the dedicated template,

(b) - following the IIR template completely, for instance by adding two missing chapters ("Recalculations and Improvements" and "Projection") for the next submission,

(c) - completing the trend key category analysis,

(d) - starting to assess uncertainties using tier 1,

(e) – Estimate missing sources in the agriculture sectors.

26. Cyprus has also clarified that a new software system is in the process of being developed and will be operational for the 2011 submission. The ERT encourages Cyprus to make use of this system to further develop its QA/QC procedures.

27. The ERT commends Cyprus for its responsiveness to the ERT during the centralised review, and for Cyprus's willingness to go on improving its national emission inventory.

PART B: RECOMMENDATIONS FOR IMPROVEMENTS TO THE PARTY

CROSS-CUTTING IMPROVEMENTS IDENTIFIED BY THE ERT

28. Cyprus provided, in a simply structured format, a very comprehensive and transparent IIR. Significant improvements of the IIR were observed compared to the last (2009) submission. Any questions issued by the ERT to the Party were addressed quickly indicating good communication during the review process and responsiveness of the Party. The ERT commends this and encourages Cyprus to continue improving its inventory in the following areas::

29. Possible investigations to explore alternative methods / techniques / indicators for estimating years before 1990.

30. Calculating emissions for key categories using tier 2 or 3 methods where possible.

31. Following the IIR template completely by adding in the IIR the chapter on "Recalculations and Improvements", the chapter on "Projections" and the predefined Annexes 1 to 4.

32. Providing information on notation keys and other issues in the NRF "additional Info" sheet.

33. To investigate sources not estimated and flagged as "NE" in the Energy, Agriculture and Waste sectors.

34. Using the dedicated template for reporting projection data, and completing furthermore, as far as possible, projection data (different projection years, two different scenarios, emissions and activity data).

35. Implementation of at least tier 1 uncertainty assessment for the main pollutants and PM, and use of the results to prioritise improvements for key categories.

36. Providing further details on the implemented QA/QC plan and procedures in the general description and for the different sectors in the IIR.

37. To include more information on key trends, especially on trend drivers in the IIR.

38. To include further detailed descriptions of methodologies in the IIR, especially for the transport, agriculture and energy sectors, including clearer explanations of how transport emissions are calculated (whether using a fuel-sold or fuel-used basis).

39. Inclusion of the rationale and explanations for recalculations and their implication on trends in the IIR.

40. Recommended improvements relating to specific source categories are presented in the relevant sector sections of this report.

SECTOR SPECIFIC RECOMMENDATIONS FOR IMPROVEMENTS IDENTIFIED BY ERT

ENERGY

Review Scope

Pollutants Reviewed		SO2, NOx, NMVOC, NH3, CO, particulates, heavy metals		
Years		1990 – 2008		
NFR Code	**CRF_NFR Name**	**Reviewed**	**Not Reviewed**	**Recommendation Provided**
1	total energy	X		
1.A.1.a	public electricity and heat production	X		X
1.A.1.b	petroleum refining	X		X
1.A.1.c	Manufacture of solid fuels and other energy industries	X		
1.A.2.a	iron and steel	X		X
1.A.2.b	non-ferrous metals	X		X
1.A.2.c	chemicals	X		X
1.A.2.d	pulp, paper and print	X		X
1.A.2.e	food processing, beverages and tobacco	X		X
1.A.2.f.i	Stationary Combustion in Manufacturing Industries and Construction: Other (Please specify in your IIR)	X		X
1.A.2.f.ii	Mobile Combustion in Manufacturing Industries and Construction: (Please specify in your IIR)		X	
1 A 3 e	Pipeline compressors?	X		
1.A.4.a.i	commercial / institutional: stationary	X		
1.A.4.a.ii	commercial / institutional: mobile?		X	
1.A.4.b.i	residential plants	X		X
1.A.4.b.ii	household and gardening (mobile)	X		
1.A.4.c.i	Agriculture/forestry/fishing. stationary	X		X
1.A.4.c.ii	off-road vehicles and other machinery?		X	
1.A.4.c.iii	national fishing?		X	
1.A.5.a	other, stationary (including military)	X		
1.A.5.b	other, mobile (including military, land-based and recreational boats)?		X	
1.B.1.a	coal mining and handling	X		
1.B.1.b	solid fuel transformation	X		
1.B.1.c	other fugitive emissions from solid fuels	X		
1 B 2 a i	Exploration, production, transport	X		
1 B 2 a iv	Refining / storage	X		
1 B 2 a v	Distribution of oil products	X		
1 B 2 b	Natural gas	X		
1 B 2 c	Venting and flaring	X		
1 B 3	Other fugitive emissions from geothermal energy production , peat and other energy extraction not included in 1 B 2		X	
Note: Where a sector has been partially reviewed (e.g. some of the NFR codes) please indicate which pollutants have been reviewed and which have not in the respective columns.				

General recommendations on cross-cutting issues

Completeness:

41. The ERT notes that a specific paragraph describes the general assessment of completeness in Cyprus's IIR. The different notation keys are described in detail and the reason for the notation key used is explained.

42. The ERT recommends that Cyprus verifies, in the reporting templates, emissions with the notation key "NA" - these are cells pre-filled with this notation key - and recommends that the Party corrects for NOx and NH_3 the notation key used for the NFR code 1B1a from "NA" to "NO", and for all pollutants the notation key used for the NFR code 1B2b from "NA" to "NO"; and that Cyprus indicates in the IIR (page 33 - part 4.5) that for the NFR code 1B2b, no extraction of gaseous fossil fuel exists in Cyprus.

43. On page 27 of the IIR, it is indicated that a petroleum refinery was in operation in Cyprus until March 2004. In the emissions template, no calculation has been made for the NFR code 1B2a iv and 1B2c for the different years between 1990 and 2004. The ERT recommends that the Party uses the EFs proposed in the new EMEP Guidebook (part 1B2a iv and 1B2c) to estimate emissions (specially for the NMVOC, PAH, SOx, NOx and particulates depending on the type of refining/storage and venting/flaring) for this NFR code between the years 1990 and 2004 and completes the emissions template for the years 1990 to 2004. The ERT also encourages Cyprus to explain the methodology used in the IIR.

Transparency:

44. Cyprus has provided a detailed and generally transparent emissions inventory. Estimates are provided at the most detailed level for all energy sectors. Cyprus's methodology and emission factors in the IIR are considered by the ERT to be transparent and well described for the Energy Sector. The ERT encourages the Party to include more detail in the IIR especially for the NFR codes: 1A1a, 1A1b, 1A2a to 1A2e, 1A2fi, 1A4bi and 1A4ci.

Accuracy:

45. The ERT commends Cyprus for using Tier 2 or Tier 3 methods for some key categories. However, the ERT notes that some estimates for key categories are compiled using tier 1 methods and default emission factors (1A1a: for the period 1990-2007 and 1A2fi: for heavy metals which can be a key category for some HM). The ERT encourages Cyprus to develop higher tier methods for these categories.

46. The ERT encourages Cyprus to undertake uncertainty analysis for the Energy Sector in order to help inform the improvement process and to provide an indication of the reliability of the inventory data.

47. The ERT notes that in Cyprus's IIR a special paragraph explains "QA/QC and verification methods". A national QA/QC system for emission inventory was established and the different steps are clearly explained in its IIR. No specific QA/QC procedures have been described for the energy (stationary) sector. The ERT encourages Cyprus to undertake and document the QA/QC processes for the Energy sector.

48. The ERT notes that in Cyprus's IIR it is explained that the submission has been reviewed by a senior officer of the DLI (Department of Labour Inspection). The

ERT recommends that the Party continues to indicate in its IIR all this information and includes any external general and sectoral expert reviews done by or for the DLI.

Consistency:

49. The ERT notes that the time series for the Stationary Energy Sector is not clearly explained in chapter 2 of the IIR. The ERT recommends that Cyprus ensures time series consistency, explains in detail the reasons for changes in the time series for each sector for the period 1990-2008 in chapter 2 and highlights where there are time series consistency problems in the inventory submission.

Recalculations:

50. Cyprus has recalculated its inventory for almost all sectors during the period 1990 to 2007. However, the IIR does not include all the necessary explanations. The ERT encourages Cyprus to provide more detailed explanation of recalculations, including the impact on the sector and the implication for trends in the Energy sector in its IIR.

Improvement:

51. In the IIR, the ERT notes that no specific explanation is given concerning planned improvements. The ERT notes that a new software system is in the process of being developed. This software system will be used for the next submission. The ERT recommends that the Party includes further descriptions of these improvements and the impact on QA/QC as well as any specific planned or identified improvements for the energy sector in the next IIR.

Sub-sector Specific Recommendations

Category issue 1: 1.A.1.a Public power and district heat

52. The ERT notes that Cyprus uses the fuel consumption data provided in the environmental annual reports submitted by the operators for 1A1a. The ERT encourages Cyprus to check these data against its national energy balances and to document these cross checks and the methodology and use of operator data in its IIR. The ERT also encourages Cyprus to clarify in its IIR that Cyprus does not have waste incineration with energy recovery.

53. . The ERT notes that Cyprus uses two different methodologies to estimate emissions for 1990 and 2007, and for 2008. Between 1990 and 2007 emissions are calculated by using EF proposed in the EMEP Guidebook 2009 in table 3.13 whereas for the year 2008, emissions are based on continuous emission measurements. This implies an inconsistency in the methodology used. In addition, the EF for SOx in the EMEP Guidebook used by Cyprus does not take into account the trend of fuel sulphur content over the years. For NOx and particulates, the default emission factors in the EMEP Guidebook, and used by Cyprus, do not take into account the implementation of technical abatement. The ERT recommends that Cyprus tries to develop, for the period 1990-2007, a methodology based on emissions from individual plants in order to ensure the consistency in the time series and to improve the accuracy of estimates between 1990 and 2007.

Category issue 2: 1.A.1.b - Petroleum refinery – All pollutants

54. The ERT recommends that Cyprus provide in its IIR the sources of data used to estimate emissions for petroleum refining between 1990-2004 (after this period petroleum refineries have remained closed) and to ensure that the methods are consistent across the time series.

Category issue 3: 1.A.2.a to 1.A.2.e Manufacturing industries – All pollutants

55. For 1A2a to 1A2e Cyprus uses EFs from the EMEP Guidebook 2009. These EFs do not take into account trends in fuel sulphur content or particulates abatement processes and therefore it is likely that emissions in more recent years are overestimated. The ERT encourages Cyprus to try to develop a new methodology based on the result of measurements by plants and/or fuel content and abatement application data, for the main pollutants for its future submissions.

Category issue 4: 1.A.2.fi Manufacturing industries – All pollutants

56. The ERT notes that Cyprus uses EFs from the new EMEP Guidebook to estimate emissions for cement production, bricks and tiles production and lime production. Cyprus uses the same emission factors for all years (1990-2008) which does not reflect the likely trends in emissions taking into account abatement and sulphur in different fuels used in these plants. The ERT also notes that these sectors are a key category (for NOx, PM, CO and Hg) and are represented by only 11 plants and encourages Cyprus to try to develop a Tier 3 methodology based on the plants' emissions in order to improve accuracy of the emissions estimates... The ERT also recommends that the party provides aggregated activity data from annual environmental reports on production and fuel consumption in its IIR to improve transparency.

Category issue 5: 1.A.4.b i and 1.A.4.ci Residential and Agriculture stationary combustion – All pollutants

57. The ERT notes that the same EFs are used for the whole timeseries (1990-2008). For SOx, the IIR specifies that the EF is based on a fuel sulphur content of about 1%. The ERT encourages Cyprus to calculate SO_2 emissions taking into account any knowledge of the trend of fuel sulphur content during the above period.

Category issue 6: 1.A.5.a Other - Stationary (including military) - All pollutants

58. For 1A5a, the notation key used is "NE" because no activity data is available and no EF is presented in the EMEP Guidebook. The ERT encourages Cyprus to check if the activity is included in another NFR code and if the notation key should be IE rather than "NE".

TRANSPORT

Review Scope

Pollutants Reviewed		SO_2, NOx, NMVOC, NH_3, PM_{10} & $PM_{2.5}$		
Years		1990 – 2008 + (Protocol Years)		
NFR Code	**CRF_NFR Name**	**Reviewed**	**Not Reviewed**	**Recommendation Provided**
1 A 2 f ii	Other: Off-road construction vehicles and machinery	x		
1 A 3 a i (i)	International Civil Aviation - LTO	x		x
1 A 3 a ii (i)	Domestic Civil Aviation - LTO		NO	
1 A 3 b i	Road Transport: Passenger Cars	x		x
1 A 3 b ii	Road Transport: Light Duty Vehicles	x		x
1 A 3 b iii	Road Transport: Heavy Duty Vehicles	x		x
1 A 3 b iv	Road Transport: Mopeds & Motorcycles	x		x
1 A 3 b v	Road Transport: Gasoline Evaporation	x		
1 A 3 b vi	Road Transport: Automobile tyre and brake wear	x		
1 A 3 b vii	Road Transport: Automobile road abrasion	x		
1 A 3 c	Railways		NO	
1 A 3 d i (i)	International maritime navigation	x		x
1 A 3 d i (ii)	International Inland Waterways		NO	
1 A 3 d ii	National Navigation (Shipping)		NO	
1 A 3 e	Pipeline Compressors		NO	
1 A 4 a i & ii	Commercial / institutional: Stationary & Mobile	x		x
1 A 4 b i & ii	Residential: Household and gardening (stationary & mobile)	x		x
1 A 4 c i & ii	Agriculture/Forestry/Fishing (Stationary & Off-road vehicles and other machinery)	x		x
1 A 4 c iii	Agriculture/Forestry/Fishing: National fishing	x		x
1 A 5 a & b	Other, Stationary & Mobile (including military, land-based and recreational boats)	x		x
Note: Where a sector has been partially reviewed (e.g. some of the NFR codes) please indicate which pollutants have been reviewed and which have not in the respective columns.				

General recommendations on cross-cutting issues

59. Cyprus provided, in a simply structured format, a very comprehensive and transparent IIR. Any questions issued by the ERT to the Party were addressed quickly indicating good communication during the review process and responsiveness of the Party. The ERT commends this and encourages Cyprus to continue improving its inventory wherever possible, and particularly by including more detailed descriptions on the national circumstances explaining the small inconsistencies in the time series for some sub-sectors.

Completeness:

60. The ERT considers the Transport sector and the other sectors including mobile sources to be generally complete for the important categories, although there are some gaps which need to be filled. A small number of NEs have been observed and discussed with the ERT (see sub-sector specific recommendations below) and the Party has indicated that it plans to improve these for the 2011 submission.

Transparency:

61. Cyprus provided a detailed and generally transparent description of methods for the Transport sector in the IIR. Estimates are provided at a comprehensive level for all categories including mobile sources. A few IEs were reported for certain subsectors but reasoning was provided in the IIR with clear reference to the sectors they were included in.

Consistency:

62. A few inconsistencies in the time series for certain pollutants and certain sub-categories were identified by the ERT. An explanation was provided by the Party to the ERT's satisfaction. The ERT recommends that the Party includes more detailed description of the reasoning behind the trends and the few inconsistencies in the time series (for more details see sub-sector specific recommendations).

Uncertainty:

63. No quantitative uncertainty assessment for any of the pollutants of the Cyprus emission inventory has been provided. The ERT encourages Cyprus to undertake uncertainty analysis for the Transport Sector and other sectors including mobile sources in order to help support the improvement process and to provide an indication of the reliability of the inventory data.

QA/QC Procedures:

64. A number of general quality control checks have been introduced as part of the Party's annual work plan. The ERT encourages Party to implement sector specific OA/QC procedures for the Transport Sector and other sectors including mobile sources.

Recalculations:

65. Cyprus has carried out some methodological improvements, such as improvements of activity data and changes of several emission factors resulting in all the historical data being recalculated. However, the IIR does not include a comprehensive explanation of the process of the improvements being carried out. The ERT encourages Cyprus to provide a more detailed explanation of the recalculations in the IIR, including the rationale, the impact on the sector and implications for trends in the Transport and other mobile sources sectors.

Improvement:

66. No specific improvements were documented for the Transport sector. However, the ERT has noted, through the review communications, the Party's intention to improve and review the completeness and consistency of the time series. The ERT encourages Cyprus to document planned improvements, to include new information (especially emissions from the International Maritime Navigation sector), implement planned improvements and include any future recalculations with detailed descriptions of the processes behind all the methodologies used (especially for Tier 3 applied to calculate road transport (1.A.3.b) emissions) and recalculations undertaken.

Sub-sector Specific Recommendations

Category issue 1: 1.A.3.d i (i) International Maritime Navigation - All pollutants

67. No estimates were made for the International Maritime Navigation sector between the years 1990 – 2007 (reported as NE). However, estimates for NOx, SOx and NMVOC pollutants were submitted for the year 2008. In a response from Cyprus to ERT questions, Cyprus explains that it will try to obtain the data for all the previous years in order to estimate the emissions from this sector and submit the estimates in its next report. The ERT welcomes the explanation provided by the Party and encourages Cyprus to provide these estimates and supporting information in its IIR for future submissions.

Category issue 2: 1.A.4.c iii Shipping – Agriculture / Forestry / Fishing - National fishing, 1.A.5.a: Small Combustion - Other stationary (including military), 1.A.5.b: Off-road Mobile - Other, Mobile (including military, land-based and recreational boats) – All pollutants reported as NE

68. No estimates were made for any pollutant emissions for the sectors: 1.A.3.c iii (Shipping: Agriculture/Forestry/Fishing: National fishing), 1.A.5.a (Small Combustion: Other stationary (including military)) and 1.A.5.b (Off-road Mobile: Other, Mobile (including military, land-based and recreational boats)). The ERT encourages the Party to include the emission estimates for the above sectors (including all previous years) in any future inventory submissions.

Category issue 3: 1.A.4.b i: Small combustion: Residential: Stationary plants, 1.A.4.c i: Small combustion: Agriculture/Forestry/Fishing: Stationary, 1.A.4.c ii Off-road Mobile Agriculture/Forestry/Fishing Off-road vehicles and other machinery – CO, NMVOC

69. Inconsistencies in time series for CO and NMVOC pollutants were noted by the ERT:

70. In 1.A.4.b i (Small Combustion: Residential: Stationary Plants) - a sudden increase of the sector's CO emissions by 49% in the year 2007 (as compared to the year 2006) followed by a decrease of CO emissions by 40% in the year 2008.

71. In 1.A.4.c i (Small Combustion: Agriculture/Forestry/Fishing: Stationary) - a few inconsistencies in the sector's CO emission time series i.e. a 55% .increase of CO emissions in the year 2000 (as compared to 1999), a decrease of CO emissions by 37% in 2003 (as compared to the year 2002).

72. In 1.A.4.c ii (Off-road Mobile: Agriculture/Forestry/Fishing: Off-road vehicles and other machinery) - a sudden increase of the sector's CO emissions by 67% in the year 2000 (as compared to the year 1999), another decrease in the time series by 42% in 2003 (as compared to the year 2002).

73. In 1.A.4.b i (Small Combustion: Residential: Stationary Plants) a sudden increase of the sector's NMVOC emissions by 27% in 2007 (as compared to the year 2006), followed by a decrease of NMVOC emissions by 31% in 2008.

74. In a response from Cyprus to the ERT's questions Cyprus explains that the inconsistencies are due to the activity data used for the estimation of the national emissions. The activity data is based on the amount of fuel consumed. The fuel consumption per sector is derived from the energy balance. The jumps observed will be checked and if any recalculations are needed, they will be reported in the next

report. The ERT recommends that this and any future explanation be reflected in the Party's next IIR.

Category issue 4: 1.A.4.ai Small combustion - Commercial / institutional - Stationary, 1.A.4.a ii Off-road Mobile - Commercial / institutional - Mobile, 1.A.4.b ii Off-road Mobile - Residential - Household and gardening - Mobile - All pollutants reported as IE

75. For the sub-sectors 1.A.4.a i (Small Combustion: Commercial / institutional: Stationary), 1.A.4.a ii (Off-road Mobile: Commercial / institutional: Mobile) and 1.A.4.bii (Off-road Mobile: Residential: Household and gardening: Mobile), emission estimates are reported with the IE notation key in the Party's inventory report for all years. The three sub-sectors were reported as included in the following sub-categories: 1.A.4.b i, 1.A.3.b i-vii and 1.A.4.c ii, respectively. The ERT commends the Party for making a clear description of the notation keys and indicating the location of all sectors into which the categories reported as IE were merged. However, the ERT encourages Cyprus to make separate emission estimates for these sectors in future IIR reports.

INDUSTRIAL PROCESSES

Review Scope

Pollutants Reviewed		TSP, PM_{10} & $PM_{2.5}$		
Years		1990 – 2008 + (Protocol Years)		
NFR Code	CRF_NFR Name	Reviewed	Not Reviewed	Recommendation Provided
2.A.1	cement production	X		X
2.A.2	lime production		X	
2.A.3	limestone and dolomite use		X	
2.A.4	soda ash production and use		X	
2.A.5	asphalt roofing		X	
2.A.6	road paving with asphalt		X	
2.A.7.a	Quarrying and mining of minerals other than coal		X	
2.A.7.b	Construction and demolition	X		X
2.A.7.c	Storage, handling and transport of mineral products		X	
2.A.7.d	Other Mineral products (Please specify the sources included/excluded in the notes column to the right)		X	
2.Bb.1	ammonia production		X	
2.B.2	nitric acid production		X	
2.B.3	adipic acid production		X	
2.B.4	carbide production		X	
2.B.5.a	Other chemical industry (Please specify the sources included/excluded in the notes column to the right)		X	
2.B.5.b	Storage, handling and transport of chemical products (Please specify the sources included/excluded in the notes column to the right)		X	
2.C.1	iron and steel production		X	
2.C.2	ferroalloys production		X	
2.C.3	aluminium production		X	
2.C.5.a	Copper Production		X	
2.C.5.b	Lead Production		X	
2.C.5.c	Nickel Production		X	
2.C.5.d	Zinc Production		X	
2.C.5.e	Other metal production (Please specify the sources included/excluded in the notes column to the right)		X	
2.C.5.f	Storage, handling and transport of metal products (Please specify the sources included/excluded in the notes column to the right)		X	
2.D.1	pulp and paper		X	
2.D.2	food and drink		X	
2.D.3	Wood processing		X	
2.E	production of POPs		X	
2.F	consumption of HM and POPs (e.g. electrica an scientific equipment)		X	
2.G	Other production, consumption, storage, transportation or handling of bulk products		X	

	(Please specify the sources included/excluded in the notes column to the right)			
Note: Where a sector has been partially reviewed (e.g. some of the NFR codes) please indicate which pollutants have been reviewed and which have not in the respective columns.				

General recommendations on cross-cutting issues

Completeness:

76. The ERT considers the industrial processes sector to be almost complete and comprehensive with good levels of detail in the methodology descriptions. Only some details are missing. For more information see the sector section.

Transparency:

77. The IIR is generally transparent and well organised. Although some additional detail has been recommended (see below), the ERT commends the Party for the level of detail which makes the submission clear and transparent. The ERT also noted that Cyprus did not report Tables with activity data in the Industrial Processes chapter. The ERT encourages Cyprus to include Tables with activity data in the next submission.

Accuracy:

78. The ERT notes that Cyprus has implemented a QA/QC plan. For the industry sector, where emission calculations are based on annual environmental reports, the operators themselves are responsible for the data quality. The ERT compliments Cyprus on involving the sector in the quality assurance process.

79. So far, no quantitative uncertainty assessment for any of the pollutants of the Cyprus emission inventory has been made. Cyprus has informed the ERT that, based on a shortage of human resources and a lack of time, the uncertainty estimates are not included Cyprus's plans for the near future. Notwithstanding this, the ERT encourages the Party to undertake uncertainty analysis for the industrial processes key sources in order to help inform the improvement process and to provide an indication of the reliability of the inventory data.

Comparability:

80. The IIR noted that for this submission, the new NFR09 templates were used by Cyprus for the first time and that for the estimation of the emissions the methodology described in the EMEP/EEA Emission Inventory Guidebook was used.

Recalculations:

81. The ERT noted that based on methodological improvements, such as improvements of activity data and changes of several emission factors, the historical data for 1990 up to 2007 were recalculated by the Party, and compliments Cyprus on this effort. The ERT does not find any inconsistency in the time series.

Improvement:

82. The ERT has found that there are no planned improvements specified in the IIR. The ERT encourages Cyprus to list desired improvements (e.g. uncertainty analysis) in its IIR to help to support improvement prioritisation.

Sector-specific Recommendations

Category issue 1: 2.A.1 Cement production

83. Cement clinker production is a key source for TSP, PM_{10} and $PM_{2.5}$. The category is responsible for about 43% of the national PM_{10} emissions in 2008. For the estimation of these emissions Cyprus is using the Tier 2 methodology. Emissions were calculated by multiplying the activity data from the annual environmental reports by EFs from the new Guidebook.

84. In Cyprus, two cement plants are in operation. One of them applies the dry process and the second one the semi-dry process. Due to the fact that there are no emission factors for the semi-dry process in the Guidebook, the emission estimation for this cement plant undertaken by Cyprus uses the lower factors given in the 95% confidence interval for the dry process. Cyprus informed the ERT that it used these EFs because these are higher than those for the wet process and lower than those for the dry process. Because cement production is the most important key source in the industrial processes sector, the ERT encourages Cyprus to arrange measurements with the "semi-dry process plant", so that plant-specific EFs can be applied to derive a Tier 3 methodology in the near future. The ERT also notes that the NFR activity data time series from 2A1 are not complete. Cyprus has informed the ERT that activity data for the time series 1990 – 2008 are existing but have not been submitted in the reporting table. The ERT encourages Cyprus to report the complete activity data time series for 2A1 in the next submission.

Category issue 2: 2.A.7.b Construction and Demolition

85. This key category includes emissions of particulates from building construction and demolition. Activity data are provided from reports of the Statistical Service of Cyprus and emissions were calculated by the use of EFs from the new Guidebook. Cyprus uses Tier 1 EFs from the guidebook, which provides an appropriate estimate in the absence of tier 2 methodologies. The ERT also notes that the NFR activity data time series from 2A7b are not complete. Cyprus informed the ERT that Activity data for the time series 1990 – 2008 are existing but have not been submitted in the reporting table. The ERT encourages Cyprus to report the complete activity data time series for 2A7b in the next submission.

SOLVENTS (NOT PROVIDED)

AGRICULTURE

Review Scope

Pollutants Reviewed		SO_2, NOx, NMVOC, NH_3, PM_{10} & $PM_{2.5}$		
Years		1990 – 2006 + (Protocol Years)		
NFR Code	CRF_NFR Name	Reviewed	Not Reviewed	Recommendation Provided
4 B 1 a	Cattle dairy	a	-	yes
4 B 1 b	Cattle non-dairy	a	-	Yes
4 B 2	Buffalo	a	-	Yes
4 B 3	Sheep	a	-	Yes
4 B 4	Goats	a	-	Yes
4 B 6	Horses	a	-	Yes
4 B 7	Mules and asses	a	-	Yes
4 B 8	Swine	a	-	Yes
4 B 9 a	Laying hens	a	-	Yes
4 B 9 b	Broilers	a	-	Yes
4 B 9 c	Turkeys	a	-	Yes
4 B 9 d	Other poultry	a	-	Yes
4 B 13	4 B 13 Other	a	-	Yes
4 D 1 a	Synthetic N fertilisers	a	b	Yes
4 D 2 a	Farm-level agricultural operations including storage, handling and transport of agricultural products	a	-	No
4 D 2 a	Off-farm storage, handling and transport of bulk agricultural products	a	-	No
4 D 2 c	N excretion on pasture range and paddock unspecified (Please specify the sources included/excluded in the notes column to the right)	a	-	Yes
4 F	Field burning of agricultural wastes	a	-	Yes
4 G	Agriculture other (c)	a	-	No
11 A	(11 08 Volcanoes)	a	-	Yes
11 B	Forest fires	a	-	Yes
11C	Other natural emissions	a	-	Yes
Note: Where a sector has been partially reviewed (e.g. some of the NFR codes) please indicate which pollutants have been reviewed and which have not in the respective columns.				

(a) reviewed main pollutants, PM_{10} and $PM_{2.5}$

(b) not reviewed POPs, dioxins, furans, HM

General recommendations on cross-cutting issues

86. The CLRTAP submission included emissions from 1990 to 2008. The emission inventory is complete for the main pollutants. In the IIR Cyprus provides transparent information on methodologies and emission factors (EFs) used for estimations for the following categories: 4B, 4D and 4F. The tier 1 default approach was applied for all these categories. Natural sources are reported as “NE”. The ERT recommends reporting information, in the IIR, on activity data used for emission estimations (number of animals, fertiliser use) as well as the description of the drivers on emissions. The ERT encourages Cyprus to estimate key sources at tier 2 or higher, and to include nitric oxide (NO) emissions for 4B, 4D1a and 4D2c and NH_3 emissions for 4D2c in its future reports on emissions from agriculture. The ERT

thanks Cyprus for its responsiveness and for facilitating the review process by providing additional information.

Completeness:

87. The inventory is complete with respect to the most important sources of emissions. Specific recommendations are given in the sector section.

Transparency:

88. Cyprus has provided sufficient information in the IIR for EFs, methodologies and key source categories. The IIR is generally transparent and well organised. The Party has used the notation keys for reviewed pollutants appropriately, even if some clarifications were requested during the review process. The ERT encourages the Party to report, in the IIR, additional information on activity data, emission drivers and explanations of notation keys.

Accuracy:

89. The Party has provided a clear picture of the key sources in the IIR for the agriculture sector.

90. The Party does not provide an uncertainty analysis for the agriculture sector. Cyprus intends to include plans for future uncertainty estimations, but has also explained that due to limited human resources and a lack of time it will take longer to implement such plans. Cyprus has no basic QA/QC checks for the agriculture sector. The ERT encourages the Party to undertake uncertainty analysis and to implement QA/QC checks to help guard against errors, inform the improvement process and provide an indication of the reliability of the inventory data.

Comparability:

91. The Party has prepared the agriculture inventory using a tier 1 default approach for all sources following recommendations given in the EMEP/EEA 2009 Guidebook.

Recalculations:

92. Between 2009 and 2010 recalculations were identified. The Party has explained that recalculations were made using the new EMEP/EEA 2009 Emission Inventory Guidebook. The ERT acknowledges the effort undertaken for the preparation of the inventory and encourages the Party to explain and document any further recalculations in future submissions of the IIR.

Improvement:

93. No specific improvements were reported in the IIR. Further information was requested. Cyprus has indicated that no specific improvements for the agriculture sector are planned for the immediate future. However, the ERT encourages the Party to estimate NO and NH_3 emissions from missing sources, provide additional information on activity data, explanations for emission drivers, specific information for key notations (NE) and to include documentation of the planned and expected improvements in the IIR.

Sector-specific recommendations

94. The Party mainly used a tier 1 default approach for estimating emissions from the agriculture sector. EFs are those recommended in the EMEP/EEA 2009 Guidebook. Recalculations were made using the EMEP/EEA 2009 Emission Inventory Guidebook. The ERT has identified NO emissions which are not estimated. Key sources were identified for NH_3 emissions (4B8, 4B9b, 4B1a, 4D1a, 4B4), NMVOC emissions (4B8, 4B9b) and PM_{10} emissions (4B9b).

Category issue 1: 4.B Manure management

95. Cyprus has estimated emissions for the following pollutants: NH_3, NMVOC, PM_{10} and $PM_{2.5}$. The ERT noted that the Party did not estimate NO emissions from 4B. During the review Cyprus acknowledged that these estimations will be considered in its next submission. The EMEP/EEA Guidebook provides EFs for NO for this source. These are used to make emission estimates of NO, which are an equivalent of NOx (because there is no primary NO_2 from these sources), and then reported as "NOx expressed as NO_2" by multiplying them by 46/30. The ERT notes that this is not explained well in the EMEP/EEA Guidebook, but recommends that the party make estimates of "NOx expressed as NO_2" in this way.

96. Cyprus is encouraged to provide more detailed information in its next IIR submission on the activity data used for emissions estimations and emission drivers. During the review process the Party provided the time series (1990-2008) for all livestock categories and explained that the main drivers for NH_3 and NMVOC emissions were given by 4B due to a reduction in the number of animals from 2003 onwards. The Party is also encouraged to use a tier 2 technology-specific approach for key-source categories.

Category issue 2: 4.D Agricultural Soils

97. Cyprus estimates emissions for NH_3, NMVOC, PM_{10} and $PM_{2.5}$. The ERT has identified NO emissions from 4D1a synthetic N fertilisers which are not estimated. The ERT recommends using the tier 1 default approach that is provided in the EMEP/EEA guidebook to estimate these emissions.

98. During the review process Cyprus provided the time series (1990-2008) for fertiliser use and explained that NH_3 emissions trends had decreased due to the fact that agricultural production had decreased. The ERT encourages the Party to provide, in the IIR, information on the breakdown of national fertiliser consumption into the relevant compounds in use, which are accounted for in emission estimates under the 4D1a synthetic N fertiliser source.

99. The ERT has identified NO and NH_3 emissions from the 4D2c N excretion on pasture range and paddock source which are not estimated. The Party has explained that not activity data is available. The ERT encourages Cyprus to collect data and estimate emissions from default values provided in the EMEP/EEA 2009 Guidebook or in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. For instance, country-specific information regarding animal excretion rates could be estimated by livestock categories and defined by livestock population characteristics from Cyprus based on a comparison with other similar European country information. At European level, in 2010, the national institutes of statistics have been requested to compile the Survey of Agricultural Production Methods (SAPM) where information regarding animal production systems and agronomic practices will be available. The ERT recommends using future national statistics (census, farm and structure survey) for gathering data on production methods.

Category issue 3: 4.F Field burning of agricultural wastes

100. Cyprus estimates emissions for NH_3, NOx, NMVOC, SOx, PM_{10} and $PM_{2.5}$. Particulate matter is reported only from 2000 (4B, 4F). Cyprus has made it clear that according to the EMEP Emission Reporting Programme, the minimum requirements for PM are reporting data from the year 2000 onwards, but that activity data for the estimation of PM emissions has been available since 1990. As activity data is available the ERT encourages the Party, if possible, to provide a complete time series of PM.

Category issue 4: 4.G Agriculture – Other

101. The Party has used the NE notation for the 4G source, and has explained that the import and use of pesticides included in 4G is not permitted in Cyprus. The ERT suggests using “not occurring” (NO) as notation for 4G.

Category issue 5: 11 Natural sources

102. Cyprus has reported natural sources as NE. The ERT recommends describing, in the IIR, the sources which need to be accounted for in the inventory.

WASTE

Review Scope

Pollutants Reviewed		SO_2, NOx, NMVOC, NH_3, PM_{10} & $PM_{2.5}$,TSP, DIOX, PAH, Hg, Pb, CO		
Years		1990 – 2008 + (Protocol Years)		
NFR Code	**CRF_NFR Name**	**Reviewed**	**Not Reviewed**	**Recommendation Provided**
6.A	solid waste disposal on land	x		Yes
6.B	waste-water handling	x		Yes
6 C a	6 C a Clinical waste incineration (d)	x		No
6 C b	Industrial waste incineration (d)	x		No
6 C c	Municipal waste incineration (d)	x		No
6 C d	Cremation	x		Yes
6 C e	Small-scale waste burning	x		Yes
6.D	other waste (e)	x		Yes
7	Other	x		Yes
Note: Where a sector has been partially reviewed (e.g. some of the NFR codes) please indicate which pollutants have been reviewed and which have not in the respective columns.				

General recommendations on cross-cutting issues

103. The CLRTAP submission from Cyprus regarding Chapter 6 (Waste) represents a significant improvement on previous submissions with emissions now included for major pollutants and for major activities following the EMEP Guidebook 2009. The IIR for Cyprus presents EFs for the major sources. The ERT encourages Cyprus to continue the improvement transparency by adding AD tables and more details on the methodologies used to calculate emissions to the IIR. The table in the IIR providing EFs used for cremation is helpful and ERT encourages Cyprus to continue with this clear presentation. The ERT also welcomes the improvement suggestions made by Cyprus for 6A and 6B during the review week.

Completeness:

104. The inventory regarding Waste is not complete at the moment. Sector 6A has not been reported up to 2008 and 6B has not been reported at all. Cyprus has indicated that data from 2009 onwards will be available and Cyprus will add them in the NFR tables and in the IIR for the next submission. For sector 6Cd, only animal cremation emissions are reported because human cremation does not happen in Cyprus. The EF used is the one for cows because on average more cows than sheep have been estimated for the cremation. The ERT recommends that Cyprus use an average EF between sheep and cows to better estimate the emissions.

Accuracy:

105. Cyprus uses a Tier 1 default approach for all sources using recommended methods and default EFs from the EMEP/EEA guidebook 2009. For sector 6Cd the EF used is the one for cows because on average more cows than sheep have been estimated for cremation. The ERT recommends that Cyprus use an average EF between sheep and cows to better estimate the emissions. Cyprus has provided a clear picture of the key sources in the IIR for the Waste sector. Cyprus does not provide an uncertainty analysis or basic QA/QC checks for the waste sector. The ERT encourages Cyprus to implement higher tier 2 or 3 methods where data is

available, undertake uncertainty analysis and to implement QA/QC checks for the waste sector to help guard against errors, inform the improvement process and to provide an indication of the reliability of the inventory data.

Comparability:

106. The ERT commends Cyprus for following the recommendations of the Guidebook for the Waste chapter and for providing completed NFR tables for the waste sector with minimal use of notation keys.

Recalculations:

107. According to the 2009 LRTAP submissions where no emissions for the waste sector were reported, the submission 2010 presents an improvement in recalculations. However, no explanations about these changes are provided in the IIR. The ERT encourages Cyprus to explain these major improvements in its IIR.

Improvement:

108. No specific improvements were reported in the IIR for waste. Further information provided by Cyprus indicates that specific improvements for the waste sector are planned for the immediate future, particularly for sectors 6A and 6B as elaborated below. The ERT encourages Cyprus to provide additional information on activity data, explanations for emission methodologies, descriptions of drivers for trends and specific information on notation keys (NE) and to include documentation of the planned and expected improvements in the IIR.

Sub-sector Specific Recommendations

Category issue 1: 6.A Solid waste disposal on land - All pollutants

109. No emissions are reported in category 6A (NO or NE are used). Following questions from the ERT, Cyprus has confirmed that improvements are planned to collect new data for the 2011 submission and that prior to 2008 waste disposal was not monitored. The ERT encourages Cyprus to use this new activity data to estimate emissions for the latest year and to use additional techniques presented in the time series consistency chapter of the Guidebook to estimate all years from 1990 onwards. The ERT also encourages Cyprus to include these new estimates in its submission and provide details on the methods, AD and emission factors used in the IIR, including AD and EF tables. The ERT encourages Cyprus to describe, in the IIR, the reasons behind the new estimates.

Category issue 2: 6.B Wastewater handling - All pollutants

110. No emissions are reported in category 6B (NO or NE). Following questions from the ERT, Cyprus confirmed that improvements are planned for future submissions. Cyprus has explained that AD are unknown for this category but that a contract with the Statistical Service of Cyprus will generate appropriate AD and emissions estimates. The ERT encourages Cyprus to use this new activity data to estimate emissions for the latest, and all years from 1990 onwards and to include them in its submission and provide details on the methods, AD and emission factors used in the IIR, including AD and EF tables. The ERT encourages Cyprus to describe, in the IIR, the reasons behind the new estimates.

Category issue 3: 6.C.d Cremation - All pollutants

111. Currently only emissions from animal cremation are estimated and reported in Cyprus as human cremation did not use to occur in Cyprus. During the review Cyprus confirmed that recent legislation that allowed the cremation of human bodies came into force in Cyprus in 2008. The ERT encourages Cyprus to follow up these developments and to consider estimating and reporting any new emissions in this sector if needed.

Category issue 4: 6.C.d: Cremation - EF TSP, $PM_{2.5}$, PM_{10}

112. The ERT notes that the Cyprus uses the cows EF for TSP, $PM_{2.5}$ and PM_{10} emissions from all animal carcass incineration (although the Guidebook includes different factors for different animal types) and is thus likely to underestimate emissions. Cyprus's explanation during the review was that the number of carcasses of each species was not recorded but that the number of cows burned was bigger than that of other animals (sheep incinerated). Therefore, EFs for cows were used by Cyprus. The ERT encourages Cyprus to consider using a survey (or known ratios of cows to sheep in the agriculture inventory) to develop a weighted EF and to use this in its reported estimates and to document the methods, data sources and assumptions in its IIR for future submissions.

Category issue 5: 6.C.e Small-scale waste burning - All pollutants

113. The IIR explains that bonfires are included in this category. However, no description of the methodology and EFs used is provided in the IIR. The ERT encourages Cyprus to add some more information about assumptions, Emission Factors, data sources and AD and to present them in a table in the IIR.

Category issue 6: 6.D Other Waste(s) - All pollutants

114. Emissions from car fires are reported by Cyprus under 6D. However, the AD are not presented in the IIR and the EFs used are not described. The ERT encourages Cyprus to add a table for AD and provide information about the methodology for estimating emissions. Fires from buildings and apartments and compost and sewage sludge emissions should be included under 6D but no information is provided in the IIR. ERT encourages Cyprus to improve the submission (IIR and NFR Tables) with emissions from these sources and, if emissions are not occurring (NO), to clarify this in the IIR.

Category issue 7: 7 Other (new sector from Guidebook 2009) - All pollutants

115. Chapter 7 may be used to report emissions from, for example, NH_3 emissions from Cats and Dogs, from Zoo animals, and human ammonia emissions, etc. In addition, although the Guidebook has methods for Car and house fires under NFR 6, it may be more transparent to include these under Chapter 7 as Chapter 6D is more focused on compost and sludge. ERT encourages Cyprus to consider including some of these emissions in the next submissions.

LIST OF ADDITIONAL MATERIALS PROVIDED BY THE COUNTRY DURING THE REVIEW

Generalist

1. Responses to questions from the generalist reviewer during the stage 3 review:

   CY-General-29-06-10-Q1

Energy

1. Response to preliminary question raised prior to the review:

   Cyprus-Energy-14-06-10Q1.docx
2. Cyprus Stage 2 S&A report
3. Cyprus Stage 1 report 2008
4. Cyprus IIR 2008

Transport

5. Response to questions raised during the review
6. Cyprus IIR 2008
7. Cyprus Stage 2 S&A report
8. Cyprus Stage 1 report 2008

Solvents

Agriculture

9. Response to preliminary question raised prior to the review:

   Cyprus q1-q3 (ReviewQ&ATemplate-v2_CYPRUS 18_06_2010.doc)
10. Response to questions raised during the review:

    Cyprus q4-q14 (Agriculture_ReviewQATemplate-v2_CYPRUS 21_06_2010[1] last 23 06 2010.doc)
11. Excel file with time series of fertiliser and animal numbers:

    Agricultural statistic.xls

Waste

12. Response to preliminary question raised prior to the review:

    CY_waste_q1.doc

    CY_waste_q2.doc

    Response to questions raised during the review:

    CY_waste_Resolved.doc
13. Cyprus Stage 2 S&A report
14. Cyprus Stage 1 report 2008
15. Cyprus IIR 2008