**UNITED
NATIONS**

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

RUSSIAN FEDERATION

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 the Russian Federation coordinated by the EMEP emission centre CEIP acting as review secretariat. The review took place from 21st June 2010 to 25th 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 – Kevin Hausmann (Germany), Energy - Nina Holmengen (Norway), Mobile Sources – Michael Kotzulla (Germany), Industry – Dušan Vácha (Czech Republic), Solvents - Valentina Idrissova (Kazakhstan), Agriculture + Nature - Romain Joya (France), Waste – Kees Peek (Netherlands).

4.   Chris Dore (United Kingdom) was the lead reviewer. The review was coordinated by Katarina Marečková (EMEP Centre on Emission Inventories and Projections - CEIP).

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[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

5.   The Russian Federation did not provide an IIR for the review process. They did provide some very limited information in Russian, but it was not possible to translate this within the review timeframe, and it was not used in the review. It was therefore not possible for the ERT to gain an understanding of the methodologies used in any part of the inventory. As a result, it has not been possible to undertake the review properly. The ERT recommends that the Russian Federation is reviewed again, preferably within the next two years.

6.   The Russian Federation submitted NFR tables. Whilst the submission was late, it was possible to use these data in the review. The ERT has therefore been able to make some brief comments and observations regarding these data. However, it should be noted that these are provisional and do not constitute the recommendations that would result from a full review.

7.   The Russian Federation did not respond to the questions from the ERT until after the review week. Many of their replies required further clarification, but it has not been possible to undertake further consultations within the review timeframe. As a result, most of the questions raised are presented here as not having been resolved or explained. Additional comments have been sent to UNECE by Russian Federation in January 2011. These comments are provided as separate document.

INVENTORY SUBMISSION

8.   The Russian Federation has reported emissions for 2008 (latest year) for the main pollutants, particulate matter and priority heavy metals. No data for earlier years were made available to the ERT for the review. The ERT strongly recommends that the Russian Federation report full time series of emissions.

9.   Data was submitted in an old NFR02 (version 2004) format. The ERT strongly recommends that the Russian Federation use the most up to date NFR format (NFR09).

10.   The Russian Federation submitted gridded emissions of the main pollutants for the year 2000 under the LRTAP Convention.   However, the Russian Federation did not submit LPS data and gridded data for the year 2005, which is not in line with the UNECE Reporting Guidelines (UNECE, 2009).

KEY CATEGORIES

11.   No IIR was provided, and therefore it is not possible to comment on Key Category Analysis (KCA). The ERT strongly encourages the Russian Federation to include a key category analysis in their IIR as part of their next submission and to use the results for prioritisation of areas for improvement.

QUALITY

Transparency

12.   The ERT cannot comment on methodology transparency as no IIR was provided for the review.

Completeness

13.　The ERT notes a number of sources where no emissions have been estimated. These are explained in detail in the relevant Chapters in Part 2 of this report.

14.　In addition, the 2008 data has not been supplied in the latest NFR structure, and there are therefore some data (e.g. the Waste sector) that are presented in an aggregated way compared to the NFR09 reporting format. The ERT strongly recommends that the Russian Federation use the NFR09 reporting format for their next submission.

Consistency, including recalculations and time series

15.　No information was provided on recalculations, and therefore the ERT is not able to comment on them. The ERT strongly recommends that the Russian Federation provide information on recalculations in an IIR as part of their next submission.

Comparability

16.　As mentioned above, the Russian Federation uses an older NFR reporting format. The ERT encourages the Russian Federation to use the NFR09 reporting format for future submissions.

CLRTAP/NECD comparability

17.　The Russian Federation does not report under the National Emission Ceilings (NEC) Directive.

Accuracy and uncertainties

18.　The Russian Federation did not present any information on whether an uncertainty analysis had been undertaken. The ERT is therefore not able to comment on this, other than strongly recommending that an uncertainty analysis is undertaken in accordance with the EMEP/EEA Guidebook in the future, and that information on this is included in an IIR.

Verification and quality assurance/quality control approaches

19.　The Russian Federation did not present any information on their QA/QC procedures. The ERT is therefore not able to comment on this, other than strongly recommending that QA/QC procedures are undertaken in accordance with the EMEP/EEA Guidebook in the future, and that information on this is included in an IIR.

FOLLOW-UP TO PREVIOUS REVIEWS

20.　The Russian Federation did not provide any responses to the questions identified in the Stage 2 Review. The ERT encourages The Russian Federation to respond to the Stage 2 Review findings and consider improving/explaining their findings in the next submission.

AREAS FOR IMPROVEMENT IDENTIFIED BY THE RUSSIAN FEDERATION

21.	No IIR was provided with the submission, so the ERT does not have any information on improvements planned by the Russian Federation. The ERT strongly recommends that planned improvements are included in an IIR as part of future submissions.

PART B: RECOMMENDATIONS FOR IMPROVEMENTS TO THE PARTY

CROSS-CUTTING IMPROVEMENTS IDENTIFIED BY THE ERT

22.	The ERT strongly recommends that the Russian Federation improves the transparency of its inventory and provides an IIR with their submission which complies with the information provided in the EMEP/EEA Guidebook and Guidelines. Without this it is not possible to undertake the Stage 3 review according to a satisfactory standard.

23.	The ERT noted a number of not estimated categories and pollutants in the Russian submission. ERT strongly recommends that Russia improve the completeness of its report for the next submission.

Sector-specific recommendations for improvements identified by ERT

Energy

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	total energy	NFR	Method	
1.A.1.a	public electricity and heat production	NFR	Method	
1.A.1.b	petroleum refining	NFR	Method	Yes
1.A.1.c	Manufacture of solid fuels and other energy industries	NFR	Method	
1.A.2.a	iron and steel	NFR	Method	
1.A.2.b	non-ferrous metals	NFR	Method	
1.A.2.c	chemicals	NFR	Method	Yes
1.A.2.d	pulp, paper and print	NFR	Method	
1.A.2.e	food processing, beverages and tobacco	NFR	Method	
1.A.2.f.i	Stationary Combustion in Manufacturing Industries and Construction: Other (Please specify in your IIR)	NFR	Method	
1.A.2.f.ii	Mobile Combustion in Manufacturing Industries and Construction: (Please specify in your IIR)		All	
1 A 3 e	Pipeline compressors?		All	
1.A.4.a.i	commercial / institutional: stationary	NFR	Method	Yes
1.A.4.a.ii	commercial / institutional: mobile ?	NFR	Method	Yes
1.A.4.b.i	residential plants	NFR	Method	Yes
1.A.4.b.ii	household and gardening (mobile)	NFR	Method	Yes
1.A.4.c.i	Agriculture/forestry/fishing. stationary	NFR	Method	Yes
1.A.4.c.ii	off-road vehicles and other machinery?		All	Yes
1.A.4.c.iii	national fishing?		All	
1.A.5.a	other, stationary (including military)	NFR	Method	
1.A.5.b	other, mobile (including military, land-based and recreational boats)?		All	
1.B.1.a	coal mining and handling	NFR	Method	Yes
1.B.1.b	solid fuel transformation	NFR	Method	Yes
1.B.1.c	other fugitive emissions from solid fuels	NFR	Method	Yes
1 B 2 a i	Exploration, production, transport	NFR	Method	
1 B 2 a iv	Refining / storage	NFR	Method	
1 B 2 a v	Distribution of oil products	NFR	Method	
1 B 2 b	Natural gas	NFR	Method	
1 B 2 c	Venting and flaring	NFR	Method	
1 B 3	Other fugitive emissions from geothermal energy production, peat and other energy extraction not included in 1 B 2	NFR	Method	

General recommendations on cross-cutting issues.

Completeness:

24.   The ERT considers the reporting of emissions in the Stationary Energy sector to be somewhat incomplete. See Category issue 1. The ERT recommends that the Russian Federation addresses these shortcomings in order to provide a comprehensive inventory in the future.

Transparency:

As no IIR was provided with the submission, it has not been possible for the ERT to assess the methodology used for estimating emissions. The ERT recommends that the Russian Federation provides all the information needed to understand the compilation of the Russian inventory with its next submission.

The ERT commends Russia for providing a list of the instrumental and calculation methods used for evaluation during the review process. However, the documents are in Russian only, and the ERT has not been able to assess the quality of the calculation methods.

In addition, due the missing IIR, no trend discussion and thus no information on the evolution of emissions within Russia has been accessible to the ERT. The ERT asks the Party to provide such information in a future IIR.

Accuracy:

25.   No information concerning uncertainty analysis or whether QA/QC procedures had been carried out has been provided by the Russian Federation, and the ERT can thus not assess the completeness of these procedures. The ERT encourages the Russian Federation to undertake uncertainty analysis for the Stationary Energy Sector, and to implement QA/QC procedures according to the 2009 EMEP/EEA Emissions Inventory Guidebook.

Comparability:

26.   Given the limited information available, the ERT could not check whether the methods used are consistent with those proposed in the Emissions Inventory Guidebook or not. The ERT encourages the Russian Federation to transparently describe the methodologies used – especially when country specific – in a future IIR, providing sufficient activity data and emission factors to support methodologies.

Recalculations:

27.   As the Russian Federation did not provide an IIR, the ERT has not been able to check whether any recalculations have been carried out and whether these recalculations have been justified, and resulted in real improvements to the inventory. The Russian Federation has submitted data for 2008 only, which suggests that no recalculations have been performed for the preceding years. The ERT encourages the Russian Federation to perform recalculations for the entire time series when new methodologies are utilized or new activity data or emission factors are available, and to document such recalculations in an IIR.

Improvement:

28.   Due to the lack of an IIR, no information is available to the ERT about planned or performed improvements in the Russian inventory.

Sub-sector Specific Recommendations.

Category issue 1: 1 A 1 b, 1 A 2 c, 1 A 4 & 1 B 1:- All Pollutants

29.   No emissions are reported in category 1 A 1 b, which is likely to be an emission source for all of the main pollutants. Emissions from 1 A 2 c are not reported. This is also a likely source of emissions of all pollutants. 1 A 4 a and 1 A 4 b are also known to be key emission sources of SOx in many countries, and emissions should be calculated. The ERT also recommends that the lack of estimates of fugitive emissions from solid fuels (1 B 1) is addressed.

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.3.a.i.(i)	international aviation (LTO)	All NFR (1A3a)	Method	Yes (1A3a)
1.A.3.a.i.(ii)	international aviation (cruise)	All NFR (1A3a)	Method	Yes (1A3a)
1.A.3.a.ii.(i)	civil aviation (domestic, LTO)	All NFR (1A3a)	Method	Yes (1A3a)
1.A.3.a.ii.(ii)	civil aviation (domestic, cruise)	All NFR (1A3a)	Method	Yes (1A3a)
1.A.3.b.i	road transport, passenger cars	All NFR (1A3b)	Method	
1.A.3.b.ii	road transport, light duty vehicles	All NFR (1A3b)	Method	
1.A.3.b.iii	road transport, heavy duty vehicles	All NFR (1A3b)	Method	
1.A.3.b.iv	road transport, mopeds & motorcycles	All NFR (1A3b)	Method	
1.A.3.b.v	road transport, gasoline evaporation	All NFR (1A3b)	Method	
1.A.3.b.vi	road transport, automobile tyre and brake wear	NO		
1.A.3.b.vii	road transport, automobile road abrasion	NO		
1.A.3.c	railways	NO		
1.A.3.d.i (ii)	international inland navigation			
1.A.3.d.ii	national navigation			
1.A.4.b.ii	household and gardening (mobile)	NO		
1.A.4.c	agriculture / forestry / fishing	NO		
1.A.4.c.ii	off-road vehicles and other machinery			
1.A.4.c.iii	national fishing			
1.A.5.b	other, mobile (including military, land-based and recreational boats)	NO		
1 A 2 f ii	Other: Off-road construction vehicles and machinery			
1 A 3	Transport (fuel used)	NO		

General recommendations on cross-cutting issues.

Completeness:

30.   With reference to the NFR tables, the ERT considers the Transport sector to be incomplete with no reported emissions from civil aviation, national navigation, pipeline compressors or other mobile sources. The ERT asks the Party to address these gaps in order to provide a comprehensive inventory in the future.

Transparency:

31.   As no IIR was provided with the submission, it has not been possible to assess the methodology applied for the emission estimates used to calculate the data given in the NFR tables. The ERT asks the Party to provide all the information needed to clearly understand the compilation of the Russian inventory with its next submission.

32.   In addition, due to the missing IIR, no trend discussion and thus no information on the evolution of emissions within Russia has been accessible to the ERT. The ERT asks the Party to provide such information in a future IIR.

33.   Within the current inventory Russia uses the NFR02 classification, providing only aggregated emission estimates which are thus not comparable to the data provided by other countries. The ERT has asked the Party to use the NFR09 classification in the future – which Russia agreed to do for its next submission. The ERT welcomes the Party's decision, encouraging Russia to further improve its inventory's transparency and comparability.

Accuracy:

34.   Again, due to the missing IIR, there is no information on issues such as uncertainty analysis or QA/QC procedures carried out by the Party. The ERT encourages Russia to undertake uncertainty analysis for the Transport sector and all other mobile sources in order to help inform the improvement process and to provide an indication of the reliability of the inventory data.

Comparability:

35.   With the information available, it was not possible to understand whether the methods used are consistent with those proposed in the Emissions Inventory Guidebook. The ERT therefore asks the Party to transparently describe the methodologies used – especially when country specific – in a future IIR, providing sufficient activity data and emission factors to support methodologies.

Recalculations:

36.   As Russia did not provide an Informative Inventory Report, the ERT has not been able to check whether any recalculations have been carried out and whether these recalculations were appropriate, and have resulted in real improvements of the inventory. The ERT encourages the Party to include detailed information on the recalculations carried out (absolute and relative changes) as well as the reasons for any recalculations in future IIRs.

Improvement:

37.   Due to the missing IIR, no information is available to the ERT about improvements already carried out or planned by the Party. Nevertheless, the ERT welcomes Russia's plans (explained by the Party as a result of the review) to use the NFR09 classifications for their next submission. This will lead to large improvements to the inventory's comparability and transparency.

Sub-sector Specific Recommendations.

Category issue 1: 1.A.3.b – Comparability and Transparency

38.   As already mentioned above, the ERT noted that Russia used the NFR02 classification instead of NFR09, thus providing only aggregated data on emissions from road transport. The Party has acknowledged this issue, stating that in future,

data will be presented according to the NFR09 categories. The ERT welcomes this plan to strongly improve the comparability and transparency of the inventory.

Category issue 2: 1.A.3.a, 1.A3.d. & Other mobile sources - Completeness

39.   During the review the ERT observed that Russia did not provide emissions from some source categories within their NFR tables. Russia stated that in accordance with data from the State Report, emissions on the territory of the Russian Federation comprise: civil aviation 1.2%, water transport 0.6% and agricultural and construction machinery 0.9%, and that due to these small shares, no accounting of emissions from national and international aviation, and navigation as well as agricultural and construction machinery have been carried out. In addition, the Party explained that, at the moment, methods for calculating emissions from civil aviation and navigation are under development and that methods for the calculation of emissions from agricultural and road-building machinery have been submitted for approval to the MNRE. The ERT welcomes these steps to improve the completeness of the Russian inventory, encouraging the Party to provide any necessary information on the methods to be applied in a future IIR.

Category issue 3: 1.A.3.b Road transport – NH$_3$, Pb, Hg

40.   The ERT has noted that no sectoral totals were reported for ammonia, lead, and mercury emissions from road transport. Given the reporting situation for the other pollutants, and the lack of notation keys, one would expect that data should be reported. The ERT has asked the Party to provide information on whether there are such estimates and why they are not included within the NFR tables. Russia stated that there is no state statistical accounting of ammonia and Hg emissions from mobile sources on the territory of the Russian Federation and that after the adoption of law34 FZ of 22 March 2003 "About a ban on the production and use of leaded fuel in the Russian Federation" lead emissions had not been accounted for. The ERT welcomes the information provided, encouraging the Party to address any gap in their emissions reporting, to use notation keys wherever necessary, and to provide any information necessary to explain the national circumstances in a future IIR.

Category issue 4: 1.A.3.a Civil Aviation – Pb, Priority HM

41.   The ERT has noted that, apart from the fact that there are no emissions reported from the civil aviation sector, 'NA' is provided for all Priority Heavy Metals. The ERT points out that if piston engine driven aircrafts are in use in Russia, then there should at least be lead emissions to report from leaded aviation gasoline. The Russian Federation has replied to the ERT, explaining that Russia does not provide emission estimates from civil aviation because of the insignificant contribution of pollutant emissions on the territory of the Russian Federation. The ERT warmly encourages the Party to make estimates in the future, and provide the data asked for in order to improve their inventory's completeness as well as comparability.

INDUSTRIAL PROCESSES

Review Scope

Pollutants Reviewed		SO$_2$, NOx, NMVOC, NH$_3$, PM10 & PM$_{2.5}$		
Years		1990 – 2008 + (Protocol Years)		
NFR Code	CRF_NFR Name	Reviewed	Not Reviewed	Recommendation Provided
2.A.1	cement production	NFR	Method	Yes
2.A.2	lime production	NFR	Method	Yes
2.A.3	limestone and dolomite use	NFR	Method	Yes
2.A.4	soda ash production and use	NFR	Method	Yes
2.A.5	asphalt roofing	NFR	Method	Yes
2.A.6	road paving with asphalt	NFR	Method	Yes
2.A.7.a	Quarrying and mining of minerals other than coal	NFR	Method	Yes
2.A.7.b	Construction and demolition	NFR	Method	Yes
2.A.7.c	Storage, handling and transport of mineral products	NFR	Method	Yes
2.A.7.d	Other Mineral products	NFR	Method	Yes
2.Bb.1	ammonia production	NFR	Method	Yes
2.B.2	nitric acid production	NFR	Method	Yes
2.B.3	adipic acid production	NFR	Method	Yes
2.B.4	carbide production	NFR	Method	Yes
2.B.5.a	Other chemical industry	NFR	Method	Yes
2.B.5.b	Storage, handling and transport of chemical products	NFR	Method	Yes
2.C.1	iron and steel production	NFR	Method	Yes
2.C.2	ferroalloys production	NFR	Method	Yes
2.C.3	aluminium production	NFR	Method	Yes
2.C.5.a	Copper Production	NFR	Method	Yes
2.C.5.b	Lead Production	NFR	Method	Yes
2.C.5.c	Nickel Production	NFR	Method	Yes
2.C.5.d	Zinc Production	NFR	Method	Yes
2.C.5.e	Other metal production	NFR	Method	Yes
2.C.5.f	Storage, handling and transport of metal products	NFR	Method	Yes
2.D.1	pulp and paper	NFR	Method	Yes
2.D.2	food and drink	NFR	Method	Yes
2.D.3	Wood processing	NFR	Method	Yes
2.E	production of POPs	NFR	Method	
2.F	consumption of HM and POPs (e.g. electrical and scientific equipment)	NFR	Method	
2.G	Other production, consumption, storage, transportation or handling of bulk products	NFR	Method	

General recommendations on cross-cutting issues

Accuracy

42.   The ERT cannot check whether the industrial processes sector is complete and accurate because an IIR was not provided, and the NFR table (2008 only) does not provide enough detailed data (e.g. only total emissions for category 2A, 2B are

provided, and no emissions for the more detailed sub-categories). As a result, the ERT considers the inventory for the industrial processes sector as non-transparent. The ERT strongly recommends that the Russian Federation provide an IIR, and emissions disaggregated into the NFR categories.

Comparability:

43.   The Russian Federation informed the ERT that several industrial process sources are included in combustion NFR categories: 2C (Metal Production) is included in category 1A2a (Stationary combustion in manufacturing industries and construction: Iron and steel), and 2D (Other Production) is included in 1A2d and 1A2e (Stationary combustion in manufacturing industries and construction: Pulp, Paper and Print, and Stationary combustion in manufacturing industries and construction: Food processing, beverages and tobacco). This has limited the extent to which the inventory can be compared with other national data.

Consistency

44.   The Russian Federation emissions inventory for industrial processes reported under the UNFCCC and CLRTAP presented different results. The Russian Federation has replied to the ERT, explaining that "The reason for the difference in reported emissions is the difference in attitudes towards inventorisation processes for GHG emissions and polluting substances". The ERT considers this answer to be unacceptable. The very large differences between the datasets (see Table below) cannot be explained by the use of different methodologies or guidelines under the UNFCCC and CLRTAP. The ERT strongly encourages the Russian Federation to review their estimates of these emissions to improve consistency.

Emission estimates reported under the UN FCCC and CLRTAP for 2008 in Gg.

	CLRTAP				UN FCCC			
	NO_X	CO	NMVOC	SO_2	NO_X	CO	NMVOC	SO_2
2A	56,5	92,9	8,3	65,3	NE	NE	359,5	16,1
2B	29,6	114,7	50,4	22,9	3,0	106,7	119,7	161,6
2C	0	0	0	0	15,0	1041,0	7,5	161,0
2D	0	0	0	0	7,2	27,0	339,1	66,4
Total	86,1	207,6	58,7	88,2	25,2	1174,7	825,9	405,1

Sector-specific Recommendations

Category issue 1: 2 Industrial Processes

45.   The ERT has noted that the Russian Federation does not report emissions from individual CRF categories. In some cases no information is provided for 2C and 2D. The ERT strongly encourages the Russian Federation to provide emissions disaggregated into the NFR categories in the categories where it is possible and to use appropriate notation keys in others.

SOLVENTS

Review Scope

Pollutants Reviewed		NMVOC		
Years		1990 – 2008 + (Protocol Years)		
NFR Code	CRF_NFR Name	Reviewed	Not Reviewed	Recommendation Provided
3.A.1	Decorative coating application	NFR (NMVOC)	Method	
3.A.2	Industrial coating application	NFR (NMVOC)	Method	
3.A.3	Other coating application (Please specify the sources included/excluded in the notes column to the right)	NFR (NMVOC)	Method	
3.B.1	Degreasing	NFR (NMVOC)	Method	
3.B.2	Dry cleaning	NFR (NMVOC)	Method	
3.C	Chemical Products, Manufacture & Processing	NFR (NMVOC)	Method	
3.D.1	Printing	NFR (NMVOC)	Method	
3.D.2	Domestic solvent use including fungicides	NFR (NMVOC)	Method	
3.D.3	Other product use	NFR (NMVOC)	Method	
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

46.   The Russian Federation does not estimate NMVOC emissions from solvent use under CLRTAP. The Party explained after the review that the Russian Federation is not a Party to the VOC Protocol yet. However, being a Party participating in the EMEP Programme, the Russian Federation does have to contribute to emission data collection, including NMVOCs.

47.   The ERT has noted that the CRF tables and the NIR both report NMVOC emissions for the whole time series 1990-2008 for: 3A Paint Application, 3B Degreasing and Dry Cleaning and 3D Chemical Products, Manufacture and Processing. Estimates are based on the simple methodology of the EMEP/CORINAIR Emission Inventory Guidebook, 2005 and population data. These estimates are sufficient under the UNFCCC requirements. However, under LRTAP, a more up-to-date and detailed methodology (as provided in the 2009 EMEP/EEA Emissions Inventory Guidebook) is strongly recommended by the ERT.

48.   Given that Solvent and Product use categories are usually key sources of NMVOC emissions, the ERT recommends that the Russian Federation collect activity data on solvents and paints used. These data can then be used to make estimates of NMVOC emissions by using the latest methodologies from the new 2009 EMEP/EEA Emissions Inventory Guidebook. The ERT recommends that this is undertaken, and that emissions are reported in the next submission. The ERT also encourages the Russian Federation to include a chapter in its IIR on the activity data, emission factors and methodologies used for the solvent emissions inventory. This will significantly improve the completeness and transparency of the inventory.

AGRICULTURE.

Review Scope:

NFR Code	CRF_NFR Name	Reviewed	Not Reviewed	Recommendation Provided
		NH$_3$		
Years		2008		
4 B 1 a	Cattle dairy	NFR NH$_3$	Method	Yes
4 B 1 b	Cattle non-dairy	NFR NH$_3$	Method	Yes
4 B 2	Buffalo	NFR NH$_3$	Method	Yes
4 B 3	Sheep	NFR NH$_3$	Method	Yes
4 B 4	Goats	NFR NH$_3$	Method	Yes
4 B 6	Horses	NFR NH$_3$	Method	Yes
4 B 7	Mules and asses	NFR NH$_3$	Method	Yes
4 B 8	Swine	NFR NH$_3$	Method	Yes
4 B 9 a	Laying hens	NFR NH$_3$	Method	Yes
4 B 9 b	Broilers	NFR NH$_3$	Method	Yes
4 B 9 c	Turkeys	NFR NH$_3$	Method	Yes
4 B 9 d	Other poultry	NFR NH$_3$	Method	Yes
4 B 13	4 B 13 Other	NFR NH$_3$	Method	Yes
4 D 1 a	Synthetic N fertilizers			
4 D 2 a	Farm-level agricultural operations including storage, handling and transport of agricultural products			
4 D 2 a	Off-farm storage, handling and transport of bulk agricultural products			
4 D 2 c	N excretion on pasture range and paddock unspecified			
4 F	Field burning of agricultural wastes			
4 G	Agriculture other(c)			
11 A	(11 08 Volcanoes)			
11 B	Forest fires			

General recommendations on cross-cutting issues

Completeness:

49.   With reference to the NFR tables, the ERT considers the Agriculture sector to be incomplete with no reported emissions from 4D and 4F for NH3, and no emissions from all the sectors for NOx and PM emissions. The ERT also recommends that Russia provide disaggregated NH3 emissions for the NFR 4B sub-sectors. The ERT asks the Party to address these gaps in order to provide an inventory of an acceptable standard in the future.

Transparency:

50.   As no IIR was provided with the submission, it has not been possible to assess the methodology applied for the emission estimates used to calculate the data given in the NFR tables. The ERT asks the Party to provide all the information

needed to clearly understand the compilation of the Russian inventory with its next submission. In addition, activity levels should be provided in the NFR table.

51.   In addition, due to the missing IIR, no trend discussion and thus no information on the evolution of emissions within Russia has been accessible to the ERT. The ERT asks the Party to provide such information in a future IIR.

52.   The ERT also encourages Russia to use the appropriate notation keys e.g. NO where emissions are "Not Occurring", NE where emissions are "Not Estimated" and IE where emissions are "Included Elsewhere". Generally, the notation key "NE" would be more relevant in the NFR tables from the Russian Federation because emissions exist but are not assessed by Russia. Currently "NO" is used.

Accuracy:

53.   Again, due to the missing IIR, there is no information on issues such as uncertainty analysis or QA/QC procedures carried out by the Party. The ERT encourages Russia to undertake uncertainty analysis for the Agriculture Sector in order to help inform the improvement process and to provide an indication of the reliability of the inventory data.

Comparability:

54.   With the information available, it was not possible to understand whether the methods used are consistent with those proposed in the EMEP/EEA Emissions Inventory Guidebook. The ERT therefore asks the Party to transparently describe the methodologies used - especially when country specific - in a future IIR, providing sufficient activity data and emission factors to support methodologies.

Recalculations:

55.   As Russia did not provide an Informative Inventory Report, the ERT has not been able to check whether any recalculations have been carried out and whether these recalculations have been justified and resulted in real improvements of the inventory. The ERT encourages the Party to include detailed information on recalculations carried out (absolute and relative changes) as well as the reasons for any recalculations in future IIRs.

Improvement:

56.   Due to the missing IIR, no information is available to the ERT about improvements already carried out or planned by the Party. Nevertheless, the ERT welcomes Russia's plans, as explained by the Party as a result of the review, to use the NFR09 classifications for their next submission and thus strongly improve the inventory's comparability and transparency.

Sector-specific recommendations

57.   Due to the lack of an IIR, and the resulting lack of information available to the ERT, the ERT cannot provide sector-specific recommendations.

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_NFRName	Reviewed	Not Reviewed	Recommendation Provided
6.A	solid waste disposal on land	NFR	Method	Yes
6.B	waste-water handling	NFR	Method	Yes
6 C a	6 C a Clinical waste incineration (d)	NFR	Method	Yes
6 C b	Industrial waste incineration (d)	NFR	Method	Yes
6 C c	Municipal waste incineration (d)	NFR	Method	Yes
6 C d	Cremation	NFR	Method	Yes
6 C e	Small scale waste burning	NFR	Method	Yes
6.D	other waste (e)	NFR	Method	Yes
7	Other	NFR	Method	Yes

General recommendations on cross-cutting issues.

58.   The NFR tables from the Russian Federation do not provide any emissions for the Waste chapter (6). The ERT asks the Party to add emissions for the chapter, with the related activity data and EFs.

59.   The NFR tables from the Russian Federation provide emissions for the Chapter Other (7). But due to the lack of an IIR, the ERT does not know which processes are included in this, or which methodology was used to calculate emissions.

Completeness:

60.   As mentioned under paragraph 39, the NFR tables from the Russian Federation do not provide any emissions for the Waste chapter (6). The sector is therefore not complete and the ERT asks the Party to add emissions for the Waste chapter, with the related activity data and EFs.

Transparency:

61.   As mentioned in paragraph 40, the Russian Federation provides emissions for the Chapter Other (7). However, without an IIR, the ERT has not been able to obtain information on which processes are included in the emission estimates. In addition, no trend discussion and thus no information on the evolution of emissions within the Russian Federation has been accessible to the ERT. The ERT asks the Party to provide such information in a future IIR and asks the Party to use the NFR09 classification in the future,following the new categories of the EMEP/EEA Guidebook 2009. The ERT encourages the Russian Federation to further improve the transparency and comparability of its inventory.

Accuracy:

62.   Again, due to the missing IIR, there is no information on issues such as uncertainty analysis or QA/QC procedures carried out by the Party. The ERT encourages the Russian Federation to undertake uncertainty analysis for the Waste Sector in order to help inform the improvement process and to provide an indication of the reliability of the inventory data.

Comparability:

63.   As no emissions are reported for the Chapter Waste (6) and due to the lack of an IIR, it was not possible for the ERT to understand whether the methods used are consistent with those proposed in the Emissions Inventory Guidebook. The ERT therefore asks the Party to transparently report emissions and describe the methodologies used - especially when country specific - in a future IIR, providing sufficient activity data and emission factors to support methodologies. For the Chapter Other (7), where emissions are reported, the ERT asks the Party to transparently describe the methodologies used - especially when country specific - in a future IIR, providing sufficient information on activity data and emission factors used in the methodologies.

Recalculations:

64.   For the Chapter Waste (6), emissions where not reported in 2009 either. For the Chapter Other (7), the ERT has not been able to understand the changes in emissions between 2009 and 2010 (as Russia did not provide an IIR), or whether these recalculations were justified and resulted in real improvements of the inventory. The ERT encourages the Party to include in future IIRs detailed information on any recalculations carried out (absolute and relative changes) as well as the reasons for any recalculations.

Improvement:

65.   Due to the lack of an IIR, no information has been available to the ERT about improvements already carried out or planned by the Russian Federation for the Waste sector.

LIST OF ADDITIONAL MATERIALS PROVIDED BY THE COUNTRY DURING THE REVIEW

1. 2008 NFR Tables

2. Response to questions raised during the review was received after the review week in January 2011.

3. NIR and CRF tables, 2010 submission

REFERENCES

EMEP/EEA, 2009. *EMEP/EEA air pollutant emission inventory guidebook – 2009*, EEA technical report No. 09/2009. European Environment Agency, Copenhagen. Available at: http://www.eea.europa.eu/publications/emep-eea-emission-inventory-guidebook-2009.

UNECE, 2009. Guidelines for Reporting Emission Data under the Convention on Long-range Transboundary Air Pollution (ECE/EB.AIR/97). www.ceip.at/fileadmin/inhalte/emep/reporting_2009/Rep_Guidelines_ECE_EB_AIR_97_e.pdf.

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