

Final report of the 2012 technical
review of the greenhouse gas emission
inventory of Cyprus
to support the determination of annual emission
allocations under Decision 406/2009/EC

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Introduction

Pursuant to Article 3.2 of Decision 406/2009/EC⁽¹⁾ (the 'Effort Sharing Decision' – ESD), the European Commission shall determine the annual emission allocations (maximum allowed greenhouse gas emissions) of Member States for the period from 2013 to 2020 in tonnes of carbon dioxide equivalent (CO₂ eq.), using reviewed and verified emission data.

Complete sets of greenhouse gas (GHG) emission estimates for the reference years (2005, 2008, 2009 and 2010) were submitted by each Member State by the 15th of May, 2012 as part of the 2012 national inventory submission under Decision 280/2004/EC (the 'Monitoring Mechanism Decision' – MMD). These estimates must have been reviewed to allow the determination in 2012 of the annual emission allocations for the period from 2013 to 2020.

The 'Guidelines for the 2012 technical review of greenhouse gas emission inventories to support the determination of Member States' annual emission allocations under Decision 406/2009/EC' were endorsed by the Climate Change Committee on 19 May 2011 and published as a European Commission Staff Working Document on 26 April 2012⁽²⁾. The 2012 greenhouse gas emission inventory of Cyprus was reviewed in accordance with these guidelines.

This report presents the findings of the 2012 technical review of the greenhouse gas emission inventory of Cyprus to support the determination of annual emission allocations under Decision 406/2009/EC.

Review Objectives

The purpose of the technical review of Member States' GHG inventories is to support the determination of the annual emission allocations by:

- a) ensuring that the European Commission has accurate, reliable and verified information on annual GHG emissions for the years 2005, 2008, 2009 and 2010 to determine the annual emission allocations under Decision 280/2004/EC;
- b) providing the European Commission and its Member States with a consistent, transparent, thorough and comprehensive technical assessment of GHG emissions, with a focus on data for the years 2005, 2008, 2009 and 2010 reported in 2012;
- c) examining, in a facilitative and open manner, the reported inventory information for consistency with the 'Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories', with the 2000 'Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories', and with the requirements of Decision 280/2004/EC (the 'Greenhouse Gas Monitoring Mechanism' Decision)⁽³⁾;

⁽¹⁾ Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020. OJ L 140, 5.06.2009, p. 136.

⁽²⁾ Commission Staff Working Document of 26 April 2012: Guidelines for the 2012 technical review of greenhouse gas emission inventories to support the determination of Member States' annual emission allocations under Decision 406/2009/EC. SWD(2012) 107 final.

⁽³⁾ Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto protocol. OJ L 140, 5.06.2009, p. 136.

- d) assisting Member States in improving the quality of their GHG inventories.

Review approach and scope

The technical review of the 2012 GHG inventory estimates of Cyprus for the years 2005, 2008, 2009 and 2010 was performed by a Technical Expert Review Team (TERT) under service contract 2011/S 234-378130 to the Directorate General for Climate Action of the European Commission. The review was conducted by the following experts: Kristien Aernouts & Tomas Gustafson for Stationary combustion (CRF categories 1.A.1, 1.A.2, 1.A.4, 1.A.5) + Reference approach; Maria Liden & Tinus Pulles for CRF categories 1.A.3 Transport + 1.C International bunkers; Ralph Harthan & John Watterson for CRF category 1.B Fugitive; Anke Herold & IIs Moorkens for CRF categories 2.A Mineral products + 2.B Chemical industry + CRF sector 3 Solvents; Kristina Saarinen & Dusan Vacha for CRF categories 2.C Metal production + 2.D Other production + 2.G Other; Maria Jose Lopez & Karin Kindbom for CRF categories 2.E Production of Halocarbons and SF₆ + 2.F Consumption of Halocarbons and SF₆; Michael Anderl & Steen Gyldenkaerne for CRF categories 4.A Enteric fermentation + 4.B Manure management; Sorin Deaconu & Etienne Mathias for CRF categories 4.C Rice cultivation + 4.D Agricultural soils, 4.E Prescribed burning of savannas, 4.F Field burning of agricultural residues; Juraj Farkas & Celine Gueguen for CRF sector 6 Waste. Ole-Kenneth Nielsen, Suvi Monni, Klaus Radunsky and Tatiana Tugui acted as lead reviewers. The review was coordinated by Bernd Gugele and Justin Goodwin. The TERT acknowledges the support of the EEA review secretariat Martin Adams, Francois Dejean and Melanie Sporer.

This technical review was performed on the basis of GHG emission data and the national inventory report (NIR) officially reported by Member States by the 15th of April, 2012 under the MMD. Resubmissions reported by Member States were taken into account until the 15th of May, consistent with the reporting practice for resubmissions under Decision 280/2004/EC. Emissions from international transport and land use, land-use change and forestry (LULUCF) were not reviewed. The review was performed with a focus on data for the years 2005, 2008, 2009 and 2010, reported in 2012.

The technical review process for GHG inventories comprised three stages, each of which considered different aspects of the inventories in such a way that the purposes described above were achieved by the end of the process. The three stages were:

- Stage 1, completed by 15 April 2012 – initial completeness checks of each Member State GHG inventory (submitted by 15 January and by 15 March);
- Stage 2, completed by 15 April 2012 – initial consistency and comparability checks of each Member State GHG inventory (submitted by 15 January and by 15 March);
- Stage 3, to be completed by the end of August 2012 – detailed *technical review* of each Member State GHG inventory (submitted by 15 May).

The detailed timeline of the review, including a summary of the correspondence with Cyprus, is presented in Annex 4.

ESD 2012 technical review conclusions

Table 1. Main conclusions from the TERT

Findings
1. The TERT considers that the GHG emission inventory estimates of Cyprus for the years 2005, 2008, 2009 and 2010 submitted in 2012 under the MMD included emission overestimates and underestimates .
2. The TERT identified inconsistency issues between the reported GHG emission inventory estimates and verified emission data under the EU ETS. The identified inconsistencies might result in an underestimation.
3. During the course of the technical review, the TERT received revised GHG emission inventory estimates from Cyprus in response to its draft review report.
4. The TERT suggests that it is necessary to implement technical corrections to the GHG emission inventory estimates and to amend the reported GHG total (see Table 2).
5. As stated beneath Table 1, Cyprus accepts the aggregated GHG emission inventory estimates presented in Table 2 including any revised estimate received from Cyprus and accepted by the TERT, and technical corrections as proposed by the TERT.
6. The TERT identified non-binding recommendations for improvements of Cyprus's GHG inventory (see Table 3 in Annex 1).
7. The TERT considers that it received a response from Cyprus that was sufficient in order to undertake the review appropriately. Both the possibility of a country visit and the willingness of the TERT to prepare technical corrections also in case of underestimates significantly contributed to undertaking the review appropriately given the specific national circumstances of Cyprus.
8. The TERT considers that the national system for GHG inventories of Cyprus needs further upgrading in order to be fit enough for the reporting requirements of an Annex I Party – a status that Cyprus wants to achieve in the near future.

Statement from Cyprus on the conclusions of the TERT

Cyprus accepts the aggregated GHG emission inventory estimates presented in Table 2 including any revised estimate received from Cyprus and accepted by the TERT, and technical corrections as proposed by the TERT.

Table 2. Summary of national totals, including any revised estimates or technical corrections identified during the review

Data / Category	Reference	Status of GHG emission revision or correction	2005 Gg CO ₂ eq.	2008 Gg CO ₂ eq.	2009 Gg CO ₂ eq.	2010 Gg CO ₂ eq.
Total GHG emissions as reported in the 2012 submission under the MMD	10 May 2012, CYP-2012-v1.5		11 081.056	11 405.065	11 102.977	10 838.423
Technical correction proposed by the TERT ⁽⁴⁾						
4.D.1.2. Animal manure applied to soils*	CY-4.C-4.F-3	Accepted by MS	108.037	107.644	105.850	108.012
4.D.1.4. Crop residues, N ₂ O	CY-4.C-4.F-5	Accepted by the MS	-13.200	-7.770	-9.672	-8.274
4.D.3.1 Atmospheric deposition, N ₂ O	CY-4.C-4.F-12	Accepted by the MS	-7.142	-6.909	-6.024	-6.654
4.D.3.2. Nitrogen leaching and run-off, N ₂ O	CY-4.C-4.F-8	Accepted by the MS	-58.846	-56.607	-51.903	-55.309
6.A.Solid waste disposal on land, CH ₄	Technical_correction_CY-6-2.xlsx	Accepted by the MS	-279.326	-314.908	-327.320	-302.668
6.B.1 Industrial wastewater, CH ₄	Technical_correction_CY-6-9.xlsx	Accepted by the MS		-0.843	-1.685	-2.528
Revised estimates provided by Cyprus ⁽⁵⁾						
1.A.2.f Liquid, CO ₂	03 August 2012	Accepted by	-2.863	-5.038	-5.695	-64.491

⁴ Difference: technical correction – original estimates. A positive difference indicates an increase compared to reported emissions. A negative number indicates a decrease compared to reported emissions. For more information on technical corrections, see Annex 2.

⁵ Difference: revised estimates – original estimates. A positive difference indicates an increase compared to reported emissions. A negative difference indicates a decrease compared to reported emissions. For more information on revised estimates, see Annex 1.

	CY 120801 TERT-response.xls	the TERT				
1.A.3.b. Road transportation, biomass, CH ₄ and N ₂ O	03 August 2012 CY 120801 TERT-response.xls	Accepted by the TERT		0.171	0.180	0.179
2.F.1. HFCs from Refrigeration and air conditioning equipment	03 August 2012 CY 120801 TERT-response.xls	Accepted by the TERT	19.615	17.757		
2.F.2. HFCs from foam blowing	03 August 2012 CY 120801 TERT-response.xls	Accepted by the TERT	5.288	3.904	3.266	3.315
2.F.4. HFCs from Aerosols/metered dose inhalers	03 August 2012 CY 120801 TERT-response.xls	Accepted by the TERT	3.276	4.126	4.220	3.683
2.F.8. SF ₆ (t) from Electrical Equipment	03 August 2012 CY 120801 TERT-response.xls	Accepted by the TERT	3.085	3.342	3.308	3.238
4.A.3 Sheep	03 August 2012 CY 120801 TERT-response.xls	Accepted by the TERT				3.945
4.B. Manure management - N ₂ O	03 August 2012 CY 120801 TERT-response.xls	Accepted by the TERT	1.525	-0.740	3.513	0.803
4.D.1.2. Animal manure applied to soils	03 August 2012 CY 120801 TERT-response.xls	Not accepted by the TERT	143.837	142.281	136.058	142.743
4.D.1.3 N-fixing crops	03 August 2012 CY 120801 TERT-response.xls	Accepted by the TERT	0.066	0.067	0.067	0.066
6.B.3.b. N ₂ O from human sewage	03 August 2012 CY 120801 TERT-response.xls	Accepted by the TERT	21.526	21.705	21.876	22.011
Total GHG emissions including any accepted revised estimate received from Cyprus and/or technical correction as proposed by the TERT			10 882.097	11 170.965	10 842.958	10 543.752
CO₂ emissions from 1.A.3.a Civil aviation	10 May 2012, CYP-2012-v1.5		NA	NA	NA	NA

Note: National totals exclude emissions from LULUCF and emissions reported under memo items (e.g. international aviation and maritime transport).

Annex 1 – Recommendations, revised estimates and technical corrections

Table 3. Recommendations of the TERT

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
Yes	1.A.2. Manufacturing industries and construction CO ₂ /Liquid 2005, 2008–2009	Cyprus made recalculations in CRF 1.A.2.f. for 2005–2009. The information provided in the NIR does not match the data in the revised CRF (CRF v1_5) and thus the TERT could not judge whether the recalculations are in line with the 2000 IPCC Good Practice Guidance (GPG).	The TERT recommends that Cyprus includes descriptive and quantitative information on all significant recalculations for key categories in future submissions. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No
Yes	1.A.2.f. Other CO ₂ /Liquid 2009, 2010	The CO ₂ IEF for liquid fuels in 1.A.2.f Other in 2010 is 97.66 t/TJ for the subcategory Non-metallic minerals and 92.71 for the subcategory Other. These values are high both in comparison to other countries and to previous years (average of 90.23 t CO ₂ /TJ for the subcategory Non-metallic minerals and 77.96 t CO ₂ /TJ for the subcategory Other in 2005–2009). In the NIR (page 57) it is described that the emission factors are derived from EU ETS data for 2005–2010. Cyprus provided revised estimates in response to a technical	The TERT recommends that Cyprus includes the revised estimates in future inventory submissions.	Yes	No

⁶ The GHG emission estimate for this category was revised by Cyprus during the technical review.

⁷ The GHG emission estimate for this category is subject to a technical correction proposal by the TERT.

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
		correction of the TERT in its draft review report. The revised estimates were accepted by the TERT.			
No	1.A.3. Transport off-road vehicles and machinery All years	Emissions from off-road vehicles and machinery are not reported in the inventory.	The TERT recommends that Cyprus estimates emissions from off-road vehicles and machinery and reports them. If this cannot be done, Cyprus should explore national energy data, determine in what categories energy use for off-road vehicles and machinery are included and report on this. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No
No	1.A.3.a. Civil aviation All gases All years	According to the NIR, page 57, there are some civil aviation activities in Cyprus. According to the Revised 1996 IPCC Guidelines, emissions from these activities need to be reported as national emissions. It should be possible to collect activity data for estimating the share of national emissions. The TERT considers this to be an underestimation of emissions.	The TERT recommends that Cyprus estimates emissions from domestic aviation and reports them. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No
Yes	1.A.3.b. Road transportation CO ₂ gasoline and diesel 2005–2009	In the submission of 15 April, emissions from road transport are recalculated. The explanation in the NIR for this recalculation is not transparent. Cyprus was asked to clarify but did not provide any response.	The TERT strongly recommends that Cyprus provides in future submissions transparent information on AD, methods and EF used and clearly explains the reasons for all recalculations performed. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No
Yes	1.A.3.b. Road transportation	CO ₂ from gasoline used for road transportation is a key category. However, the default EF from the Revised	The TERT recommends that Cyprus obtains the C content and net calorific values of gasoline from fuel	No	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
	IEF CO ₂ gasoline All years	<p>1996 IPCC Guidelines is used.</p> <p>The 2000 IPCC GPG states in this respect: 'For traded fuels in common circulation, it is good practice to obtain the carbon content of the fuel and net calorific values from fuel suppliers, and use local values wherever possible. If these data are not available, default values can be used.'</p> <p>Use of the default value is therefore not in line with good practice. The implied EF is at the low end as compared with other MS. Unless gasoline in Cyprus is very different than gasoline used in other MS, the default EF from the Revised 1996 IPCC Guidelines is not representative.</p>	suppliers, develops a country-specific EF for CO ₂ from gasoline that is representative for gasoline used in Cyprus and reports revised data. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.		
No	1.A.3.b. Road transportation CH ₄ , N ₂ O, biomass All years	<p>Cyprus reports CH₄ and N₂O emissions from biomass used in road transportation as NE in the 2012 submission. However, in the 2011 submission emissions were estimated. No explanation is provided in the NIR why emissions were removed in the 2012 submission. According to the NIR, page 58, NE is reported in the 2012 submission due to the unavailability of emission factors.</p> <p>The TERT notes that the Revised 1996 IPCC Guidelines and/or the 2000 IPCC GPG do not provide specific EFs for CH₄ and N₂O for biofuels used for road transportation. However, the IPCC GPG clearly requires that 'Non- CO₂ emissions from biofuels should be included in national totals' (page 2.48 Chapter 2,</p>	The TERT recommends that Cyprus includes the revised estimates in future inventory submissions.	Yes	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
		<p>Energy). Furthermore, the Revised 1996 IPCC Guidelines state that for ethanol used for road transport 'Engines and emission control systems are similar to those for advanced-technology gasoline vehicles, and the overall energy efficiency and emissions properties are similar' (page 1.85 Reference Manual).</p> <p>The TERT considers this to be an underestimation of emissions that should be addressed based on the Revised 1996 IPCC Guidelines (see above). Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft report. The TERT agrees with the revised estimates.</p>			
No	1.A.3.b. Road transportation CH ₄ IEF, gasoline All years	<p>Emissions of CH₄ and N₂O from road transport are estimated using the tier 1 method. IEFs reported are very low compared with other MS and the time series is not likely to accurately reflect emissions in Cyprus. The TERT concludes that the Cypriot inventory would greatly benefit from changing the method and from using a model for estimating emissions from road traffic.</p>	<p>The TERT strongly recommends that Cyprus estimates non- CO₂ emissions from road transport using the latest available version of a model, such as the COPERT model, and reports revised non-CO₂ emissions. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.</p>	No	No
No	1.A.3.d. Navigation All gases All years	<p>According to the NIR, page 57, there are some national navigation activities in Cyprus. However, emissions are reported under 1.A.3.b. road transportation and 1.C. international bunkers. No information is provided on how the split domestic – international bunkers is done.</p>	<p>The TERT recommends that Cyprus collects activity data for estimating emissions from national navigation, verifies that the split domestic – international bunkers is accurate and reports on this. Cyprus explained in its response to the draft review report from 3 August</p>	No	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
		According to the Revised 1996 IPCC Guidelines, emissions from these activities should be reported as national navigation. Most important is to assure that the allocation of emissions to domestic or international bunkers is accurate. The TERT considers this to be a potential underestimation of emissions.	2012 that it does not intend to revise the estimate in 2012.		
Yes	2.A.1. Cement production CO ₂ 2005–2010	The share of CO ₂ reported under 2.A.1. Cement production is only 50 % of the emissions reported under the EU ETS. This share is rather low compared to other EU MS and it fluctuates from 56 % in 2005 to 50 % in 2010. This issue might indicate an underestimation.	The TERT recommends that Cyprus checks the consistency of emission estimates between the EU ETS data and the GHG inventory. Cyprus informed in its response to the draft review report from 3 August 2012 that the data is according to the ETS verified annual reports.	No	No
Yes	2.A.1. Cement production CO ₂ 2008, 2009, 2010	The emission estimation for cement production should take into account the emissions from uncalcinated cement kiln dust (CKD) not recycled to the kiln. This is also part of the reporting methodology under the EU ETS. No information is provided in the NIR whether and how CKD was taken into account in the emission estimation. This issue could result in an underestimation.	The TERT recommends that Cyprus adds information on the treatment of CKD in the calculation of emissions from cement production. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No
Yes	2.A.1. Cement production CO ₂ 2005–2010	Equation 12 on p. 79 of the 2012 NIR explains that cement production is based on clinker consumption and stock changes. However IPCC methods are based on clinker production as CO ₂ emissions are produced during clinker production and not during clinker consumption. The TERT noted that the equation provided in the NIR seems to be wrong but that the	The TERT strongly recommended that Cyprus provides a corrected description of methodologies and data sources used in the NIR and to check that its statistics relate to clinker production and not consumption. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
		equation applied for the CRF was consistent with IPCC. However, the TERT notes that, based on Cyprus's national cement and clinker statistics there are significant exports of cement but no data on imports of clinker. If Cyprus estimate emissions based on consumption and does not take into account imports or exports these estimates will be inaccurate. If, as seems to be indicated by Cyprus statistics, exports of clinker are larger than imports Cyprus the TERT concludes that Cyprus currently has an under estimate in emissions from Cement.			
No	2.A.2. Lime production CO ₂ All years	The method used for lime production could not be clarified during the review. However, the ratio of reported CO ₂ emissions from cement and lime production in the inventory to verified emissions reported from cement and lime under the EU ETS is relatively low, which seems to indicate that an underestimation of emissions is more likely than an overestimation. Therefore, no technical correction seems to be required.	The TERT strongly recommends that Cyprus provides a description of methodologies and data sources used in the NIR. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012 but that additions in the NIR will be made for the 2013 submission.	No	No
No	2.A.3. Limestone and dolomite use CO ₂ 2008–2010	NO is reported for category 2.A.3. limestone and dolomite use, but no specific explanations are provided in section 4.1.3. of the NIR on this source category. This issue could result in an underestimation.	The TERT recommends that Cyprus adds further explanation in the NIR explaining that the potential individual sources for limestone and dolomite use do not occur. This is obvious for some sources such as iron and steel production, but not for all sources such as flue gas desulphurisation. Cyprus explained in its response to the draft review report from 3 August	No	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
			2012 that it does not intend to revise the estimate in 2012.		
No	2.A.5. Asphalt roofing CO ₂ All gases All years	The NIR states on page 78 that ' CO ₂ emissions from asphalt roofing (2A5) have been replaced by NE due to high inaccuracy of method used in previous submission. No method is available for the estimation of the CO ₂ emissions from asphalt roofing (2A5) in the IPCC guidelines.' It seems not in line with guidelines to delete categories from the reporting once they had already been reported. The argument of inaccuracy is rather weak as in this approach EF is multiplied by AD and default EFs are provided by the 2006 IPCC GL.	The TERT recommends that Cyprus reinserts these emissions in the estimation under 2.A. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No
No	2.A.6. Road paving with asphalt CO ₂ All years	The NIR states on page 78: ' CO ₂ emissions from road paving with asphalt (2A6) have been replaced by NE due to high inaccuracy of method used in previous submission. No method is available for the estimation of the CO ₂ emissions from road paving with asphalt (2A6) in the IPCC guidelines.' It seems not in line with guidelines to delete categories from the reporting once they had already been reported. The argument of inaccuracy is rather weak as in this approach EF is multiplied by AD and default EFs are provided by the 2006 IPCC GL.	The TERT recommends that Cyprus reinserts these emissions in the estimation under 2.A. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No
No	2.A.7. Other (mineral products) CO ₂	The CRF reports process emissions from ceramics. However, there is no specific section in the NIR that describes the methodology and data sources used for ceramics production. No technical correction was	The TERT recommends that Cyprus includes a description of methodologies and data sources used for emissions from ceramics production in the NIR. Cyprus explained in its response to the draft review	No	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
	All years	applied because the inventory emissions are in a reasonable relationship to the EU ETS emissions from ceramics production and do not seem to be overestimated taking into account the verified emissions reported under the EU ETS.	report from 3 August 2012 that it does not intend to revise the estimate in 2012 but that additions in the NIR will be made for the 2013 submission.		
No	2.F. Consumption of halocarbons and SF ₆ SF ₆ 2005–2010	Cyprus reports potential emissions of SF ₆ but no actual emissions. In the NIR for example, SF ₆ emissions from electrical equipment, which is a likely source, are not mentioned. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft report. The revised estimates are accepted by the TERT.	The TERT recommends that Cyprus investigates and, if appropriate, estimates emissions of SF ₆ from electrical equipment and investigates other possible end uses of SF ₆ and their emissions. An omission of these emissions will lead to an underestimate in the reported actual emissions. The TERT also recommends that Cyprus includes the revised estimates in future inventory submissions as long as no country-specific data is available.	Yes	No
No	2.F(a).1. Refrigeration and air conditioning equipment HFCs 2005–2010	Cyprus reports emissions of HFC from transport refrigeration, industrial refrigeration and large stationary air conditioning for 2009 and 2010 only. This is due to large deficiencies in data before 2009 according to the NIR. This leads to an inconsistent time series and underestimated emissions for the years prior to 2009. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft review report. The revised estimates are accepted by the TERT.	The TERT recommends that Cyprus collects data for the years prior to 2009 in order to develop a consistent time series and avoid underestimations of emissions for earlier years. The TERT also recommends that Cyprus includes the revised estimates in future inventory submissions as long as no country-specific data is available.	Yes	No
No	2.F(a).1. Transport refrigeration	Cyprus reports only HFC-134a as emissions from transport refrigeration. In most countries, mixes of HFCs are used in transport and commercial	The TERT recommends that Cyprus investigates which refrigerant mixes are used in transport and commercial refrigeration and in what amounts, and reports on all	Yes	No

Key category	Gas, fuel, activity	Observation	Recommendation	Technical correction (7)	
				Revised estimate (6)	
	HFCs 2005–2010	refrigeration and not only pure HFC-134a. Omission of other existing species of HFCs in refrigerant mixes could result in an underestimation of emissions. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft review report. The revised estimates are accepted by the TERT.	existing HFC-species separately in future submissions. The TERT also recommends that Cyprus includes the revised estimates in future inventory submissions as long as no country-specific data is available.		
No	2.F(a).1. Refrigeration and air conditioning equipment HFC-143a 2010	In the CRF table emissions of HFC-143 are reported, but in the NIR (Table 4.12) imports of HFC-143a are listed. Since the GWP of HFC-143 is lower (300) than that of HFC-143a (3 800), a mistake in the allocation of emissions in the CRF tables leads to the wrong results when converted into CO ₂ -equivalents. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft review report. The revised estimates are accepted by the TERT.	The TERT recommends that Cyprus clarifies which of the species (HFC-143 or HFC-143a) is relevant and ensures that data are allocated to the right HFC-specie in the CRF reporting tables.	Yes	No
No	2.F(a).2. Foam blowing HFCs 2005–2010	Cyprus reports emissions from 2.F.2. foam blowing as NA. Even if production does not occur in a country it is probable that foam products including HFCs are imported. Any omission of those emissions could result in an underestimation. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft review report. The revised estimates are accepted by the TERT.	It is recommended that Cyprus investigates the occurrence of imported foam products containing HFCs and estimates emissions based on those results. The TERT also recommends that Cyprus includes the revised estimates in future inventory submissions as long as no country-specific data is available.	Yes	No
No	2.F(a).4. Aerosols HFCs	Cyprus does not report nor mention anything regarding aerosols in the NIR or in the CRF tables (cells	The TERT recommends that Cyprus investigates the occurrence and amount of aerosols and metered dose	Yes	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
	2005–2010	are blank). Any omission of those emissions could result in an underestimation. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft review report. The revised estimates are accepted by the TERT.	inhalers in the country and reports emissions from those sources in future submissions. The TERT also recommends that Cyprus includes the revised estimates in future inventory submissions as long as no country-specific data is available.		
Yes	4.A.3. Sheep CH ₄ 2010	In 2010, the sheep number provided in CRF (305 400 heads) is by 7.1 % lower than in the EUROSTAT data (328 900 heads). This inconsistency could be indicative of an underestimation if AD is missing from National Statistics but included in EUROSTAT. Cyprus submitted by 3 August 2012 a resubmission (using the EUROSTAT data) in response to the recommendation of the TERT in its draft review report. The revised estimate was accepted by the TERT but the TERT noted that Cyprus should improve its own national statistics and use these in future.	The TERT recommends that Cyprus ensures that its National Statistics are complete (and where possible consistent with Eurostat) and can be used as the basis for estimating emissions in future inventory submissions.	Yes	No
Yes	4.A.7. Mules and asses CH ₄ 2005	Mules and asses are reported as NE.	The TERT recommends that Cyprus provides estimates of emissions of mules and asses. If the emissions are already included in the inventory and reported in a different category, Cyprus should use the notation key IE and explain this in the NIR. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012 but that it will be changed to IE in future submissions.	No	No
No	4.B.1. Cattle 4.A.1. Cattle	For the calculation of CH ₄ emissions from enteric fermentation Cyprus uses the IPCC default value of	The TERT recommends that Cyprus develops country-specific values. If no country-specific values are	No	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
	CH ₄ All years	Western Europe whereas for the calculation of CH ₄ and N ₂ O emissions from manure management the IPCC default EF of Eastern Europe is used. No rationale for the choice of these EFs is provided in the NIR.	available the same regional characteristics of EFs and N-excretion values should be used across all sectors. If production systems are more similar to Western Europe, Western Europe default values should be taken.		
No	4.B.1. Cattle N ₂ O All years	Following the NIR the distribution among waste management systems was prepared in consultation with national experts on animal waste management. Only solid systems are applied, no cattle are held on liquid systems or are pastured. This could be a potential underestimation of emissions as the TERT considers very unlikely that cattle waste was neither managed in liquid systems nor on pastures.	The TERT recommends that Cyprus provides in the next NIR additional information on the representativeness of this assumption. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No
No	4.B.1.OptA.a. Dairy cattle N ₂ O All years	Cyprus uses the IPCC default EF of Western Europe for the estimation of emissions from dairy cattle in sector enteric fermentation, whereas for the estimation of N ₂ O emissions from manure management the IPCC default N-excretion rate of Near East and Mediterranean (70 kg N-excretion/animal/year) is used. In its NIR Cyprus indicates a milk yield of 6 440 kg in 2010, which is most comparable with the situation of Western Europe.	The TERT recommends that Cyprus uses the IPCC default N-excretion rate of Western Europe of 100 kg Nex/animal/year for dairy cattle in sector 4.B. consistent with sector 4.A. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft review report. The revised estimates are accepted by the TERT.	Yes	No
No	4.B.4. Goats N ₂ O All years	Cyprus uses for the estimation of N ₂ O emissions from manure management the IPCC default N-excretion rate of Near East and Mediterranean for 'others' (40 kg N-excretion/animal/year). This is the highest value of all EU Member States.	The TERT recommends that Cyprus elaborates a national N-excretion rate for goats or uses the value of 15.5 kg N-excretion per animal and year as listed in the EMEP/EEA Emission Inventory Guidebook 2009, Table 3-8. Cyprus submitted by 3 August 2012 a resubmission	Yes	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
			in response to the recommendation of the TERT in its draft review report. The revised estimates are accepted by the TERT.		
No	4.B.10. Other: other N ₂ O All years	The N ₂ O IEF of Cyprus for other systems is 0.003 kg N ₂ O -N/kg N-excreted. This value is higher than the IPCC default for anaerobic digestion and pit storage (0.001 kg N ₂ O -N/kg N-excreted). As described in the NIR, Cyprus reports anaerobic digestion and pit storage under other systems. Therefore, the TERT concludes that the IPCC default values for anaerobic digestion and pit storage should be used by Cyprus.	The TERT recommends that Cyprus uses the IPCC default values of Table 4.12 of the 2000 IPCC GPG for other systems relevant to Cyprus: 0.001 kg N ₂ O -N/kg N-excreted for open pits below animal confinements and 0.001 kg N ₂ O -N/kg N-excreted for anaerobic digesters. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft report.	Yes	No
No	4.B.10. Other: Solid storage and dry lot N ₂ O All years	The N ₂ O IEF for solid systems (0.0127 kg N ₂ O -N/kg N excreted in all years) is among the lowest reported by MS and much lower than the IPCC default value of 0.02 kg N ₂ O -N/kg N-excreted. This might cause an underestimation. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft review report. The revised estimates are accepted by the TERT.	The TERT recommends that Cyprus includes the revised estimates in future inventory submissions. The TERT also recommends that Cyprus uses the IPCC default value of 0.02 kg N ₂ O -N/kg N-excreted following Table 4.12 of the 2000 IPCC GPG.	Yes	No
Yes	4.D. Agricultural soils Parameter All years	Fra _{CGR} AZ is reported as NA (Not Applicable). Cyprus assumes that there are no animals on pastures, which is not common in other MS. If this is confirmed NO (Not Occurring) would be more appropriate.	The TERT recommends that Cyprus reports NO instead of NA if it is confirmed that there are no animals on pastures. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012 but that additions in the NIR will be made for the 2013 submission.	No	No
Yes	4.D.1.1. Synthetic fertilisers	On the basis of the different values reported by Cyprus in its inventory, the TERT believes that the value	If this issue is confirmed by Cyprus, the TERT recommends that Cyprus reports activity data for	No	No

Key category	Gas, fuel, activity	Observation	Recommendation	Technical correction (7)	
				Revised estimate (6)	
	N ₂ O All years	reported by Cyprus as activity data for synthetic fertilisers was not adjusted for volatilisation. If the understanding of the TERT is correct, this issue does not affect the emissions.	synthetic fertilisers adjusted for volatilisation. Cyprus explained in its response to the draft review report from 3 August 2012 that synthetic fertiliser data is already adjusted for volatilisation.		
Yes	4.D.1.2. Animal manure applied to soils N ₂ O All years	Please see technical correction reference CY-4.C.-4.F-3. in Annex II.	The TERT recommends that Cyprus includes the revised estimates in future inventory submissions.	Yes	Yes
Yes	4.D.1.3. N-fixing crops N ₂ O All years	The TERT recalculated the emissions from N-fixing crops, but did not understand how the activity data was estimated by Cyprus. However, the Cypriot emissions estimate is not very different from the one implemented by the TERT (cf. calculation of the TERT in CY-Technical corrections.xls). According to the TERT, the current submission could correspond to a slight underestimation of emissions. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft review report.	The TERT recommends that Cyprus includes the revised estimates in future inventory submissions.	Yes	No
Yes	4.D.1.4. Crop residue N ₂ O All years	Please see technical correction reference CY-4.C.-4.F-5. in Annex II.	The TERT recommends that the inventory is revised to address the issues raised in the technical correction. Furthermore, the TERT recommends that time series consistency is ensured by implementing the revision for all relevant years of the time series. Cyprus accepted this technical correction in its response to the draft review report on 3 August 2012.	No	Yes
Yes	4.D.3.1.	Please see technical correction reference CY-4.C.-4.F-	The TERT recommends that the inventory is revised to	No	Yes

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
	Atmospheric deposition N ₂ O All years	12 in Annex II.	address the issues raised in the technical correction. Furthermore, the TERT recommends that time series consistency is ensured by implementing the revision for all relevant years of the time series. Cyprus accepted this technical correction in its response to the draft review report on 17 August 2012.		
Yes	4.D.3.2. Nitrogen leaching and run-off N ₂ O All years	Please see technical correction reference CY-4.C.-4.F-8. in Annex II.	The TERT recommends that the inventory is revised to address the issues raised in the technical correction. Furthermore, the TERT recommends that time series consistency is ensured by implementing the revision for all relevant years of the time series. Cyprus accepted this technical correction in its response to the draft review report on 3 August 2012.	No	Yes
Yes	6.A. Solid waste disposal on land CH ₄ , DOCf All years	Please see technical correction reference CY-6-2. in Annex II.	The TERT recommends that the inventory is revised to address the issues raised in the technical correction. Furthermore, the TERT recommends that time series consistency is ensured by implementing the revision for all relevant years of the time series. Cyprus accepted this technical correction in its response to the draft review report on 3 August 2012.	No	Yes
Yes	6.A. Solid waste disposal on land CH ₄ , DOC All years	DOC of waste has been estimated on the basis of the Revised 1996 IPCC Guidelines (equation 2, page 6.9), but as no detailed data are available concerning the composition of waste, a DOC of 0.21 is applied for garden and other organic non-food, food waste, and wood and straw (B+C+D). This value corresponds to the arithmetic average of the DOC provided in the IPCC	The TERT recommends that Cyprus applies the composition of B+C+D categories from a comparable Member States with well documented waste composition (i.e. Greece) in order to calculate the DOC value of its waste. Such an approach would result in a smaller DOC value (about 10 % if Greek composition is applied) and thus in lower CH ₄ emissions for CRF 6.A.	No	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
		methodology. The associated assumption is that the proportion of each category of waste is equal. The TERT estimates that the assumption is not valid as it is unlikely that the fractions of non-food organic waste (B), food (C), and wood and straw (D) were equal. DOC has a linear impact on CH ₄ emissions when considered as constant over the time series.	Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.		
Yes	6.B.1 Industrial wastewater CH ₄ recovery All years	Please see technical correction reference CY-6-9. in Annex II.	The TERT recommends that the inventory is revised to address the issues raised in the technical correction. Furthermore, the TERT recommends that time series consistency is ensured by implementing the revision for all relevant years of the time series. Cyprus accepted this technical correction in its response to the draft review report on 17 August 2012.	No	Yes
Yes	6.B.1.a. Industrial Wastewater CH ₄ , AD All years	The tier 1 IPCC methodology was applied to estimate CH ₄ emissions from industrial wastewater treatment. As no appropriate activity data are available, data concerning sales were used instead of data concerning production. Statistics on the production of manufactured goods are not available in the EUROSTAT database concerning Cyprus.	The TERT encourages Cyprus to investigate further on industrial production by contacting national authorities in charge of statistics. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No
Yes	6.B.2.a. Domestic and commercial wastewater treatment CH ₄ All years	Cyprus estimated CH ₄ emissions according to the IPCC tier 1 methodology. On the basis of information provided in the NIR and in absence of an answer during the review, the TERT did not have enough information to assess whether emissions from anaerobic treatment of municipal wastewater (such as septic tanks) are	The TERT encourages Cyprus to enhance transparency in the NIR concerning emissions estimates from wastewater handling. Cyprus explained in its response to the draft review report from 3 August 2012 that it does not intend to revise the estimate in 2012.	No	No

Key category	Gas, fuel, activity	Observation	Recommendation	Revised estimate ⁽⁶⁾	Technical correction ⁽⁷⁾
		included in the inventory or not.			
Yes	6.B.3.b. N ₂ O from human sewage N ₂ O, Protein All years	The value provided by FAO for protein consumption is 96 g/pers./day (corresponding to 35 kg/pers./yr). The value applied in the inventory is 0.096 kg/pers./yr. This mistake results in an underestimation of N ₂ O emissions from human sewage. Cyprus submitted by 3 August 2012 a resubmission in response to the recommendation of the TERT in its draft review report. The TERT accepted the revised estimates.	The TERT recommends that Cyprus includes the revised estimates in future inventory submissions.	Yes	No
No	6.C. Waste incineration All gases All years	Incineration is not considered in the inventory although at least 15 % of generated MSW is not disposed in landfills (2010). In response to the draft review report Cyprus explained that only animal carcasses are incinerated in Cyprus and that the 15 % of MSW not disposed in landfills is recycled. In addition, Cyprus explained that it does not intend to revise the estimate in 2012 due to lack of activity data.	The TERT recommends that Cyprus includes incineration in the next submission and provides additional information in the NIR.	No	No

Annex 2 – Detailed technical corrections

Name of technical correction	N₂O emissions from animal manure to soils				
Reference to transcript finding record	CY-4.C-4.F-3				
Subsector	4.D.1.2 Animal manure applied to soils				
Gas/fuel/activity	N ₂ O				
	2005	2008	2009	2010	
Original estimate	0.092	0.091	0.087	0.090	Gg CO ₂ eq.
Revised estimate provided by Cyprus	143.837	142.281	136.058	142.743	Gg CO ₂ eq.
Corrected estimate	108.128	107.734	105.937	108.102	Gg CO ₂ eq.
The underlying problem	<p>The TERT identified two issues related to this source category:</p> <p>(1) On the basis of the different values reported by Cyprus in its inventory, the TERT believes that the value reported as activity data for animal manure application is correct but that the emissions are underestimated. If the understanding of the TERT is correct, the ratio of 44/28 to convert N-N₂O to N₂O was forgotten and a factor of 1 000 was added by error.</p> <p>(2) On the basis of the revision of the nitrogen excretion under 4B (dairy cattle and goats) also N₂O emissions from this source category need to be revised.</p> <p>In response to the draft review report Cyprus provided revised estimates taking into account issue (1) but not taking into account issue (2) related to the revised nitrogen excretion of cattle and goats.</p>				
The rationale for the technical correction	The TERT considers that the revised estimates provided by Cyprus constitute an overestimation.				
The assumptions, data and methodology used to calculate the technical correction	<p>The following corrections are made by the TERT in its calculations:</p> <p>(1) The TERT corrects the emissions taking into account the ratio of 44/28 to convert N-N₂O to N₂O and the factor of 1 000 (which was used erroneously by Cyprus in its original submission).</p> <p>(2) The TERT uses the revised nitrogen excretion under 4B (dairy cattle and goats) taking into account volatilisation of nitrogen (Frac_{GASM}).</p>				

Name of technical correction	Overestimation of N₂O emissions from crop residues				
Reference to transcript finding record	CY-4.C-4.F-5				
Subsector	4.D.1.4 Crop residue				
Gas/fuel/activity	N ₂ O				
	2005	2008	2009	2010	
Original estimate	17.28	9.49	12.88	11.51	Gg CO ₂ eq.
Corrected estimate	4.08	1.72	3.21	3.24	Gg CO ₂ eq.
The underlying problem	The emission estimates for crop residues are not transparently described in the NIR				
The rationale for the technical correction	By recalculating the emissions from crop residues, the TERT did not manage to understand how the activity data and the emissions are estimated by Cyprus. According to the calculations implemented by the TERT this leads to an overestimation of emissions from crop residues and would trigger a technical correction.				
The assumptions, data and methodology used to calculate the technical correction	The TERT calculates emissions using the correct activity data and the relevant factors from the IPCC GPG.				

Name of technical correction	Overestimation of N₂O emissions from atmospheric deposition				
Reference to transcript finding record	CY-4.C.-4.F-12				
Subsector	4.D.3.1. Atmospheric Deposition				
Gas/fuel/activity	N ₂ O				
	2005	2008	2009	2010	
Original estimate	32.064	30.697	29.312	30.357	Gg CO ₂ eq.
Corrected estimate	24.922	23.787	23.288	23.703	Gg CO ₂ eq.
The underlying problem	The revision of nitrogen excretion in 4B also leads to revisions of N ₂ O emissions from this source category.				
The rationale for the technical correction	The TERT considers that due to revised nitrogen excretion in 4B N ₂ O emissions from atmospheric deposition are overestimated.				
The assumptions, data and methodology used to calculate the technical correction	The TERT corrects emissions using revised nitrogen excretion data.				

Name of technical correction	Overestimation of the N₂O emission factor for leaching and run-off				
Reference to transcript finding record	CY-4.C.-4.F-8				
Subsector	4.D.3.2 Nitrogen leaching and run-off				
Gas/fuel/activity	N ₂ O				
	2005	2008	2009	2010	
Original estimate	164.67	154.21	147.11	152.01	Gg CO ₂ eq.
Corrected estimate	132.60	123.51	117.80	121.65	Gg CO ₂ eq.
The underlying problem	The implied EF for Nitrogen leaching and run-off appears high (0.03 kg N-N ₂ O/kg N) compared to the IPCC default (0.025 kg N-N ₂ O/kg N).				
The rationale for the technical correction	The use of a higher EF without proper explanation leads to an overestimation of emissions from leaching and run-off. The default EF has to be applied.				
The assumptions, data and methodology used to calculate the technical correction	The reported N ₂ O emissions from Nitrogen leaching and run-off have been multiplied by the ratio 0.025/0.03 in order to correct the overestimate.				

Name of technical correction	Application of a DOCf value from the revised 1996 IPCC GL				
Reference to transcript finding record	CY-6-2				
Subsector	6.A. Solid waste disposal on land				
Gas/fuel/activity	CH ₄				
	2005	2008	2009	2010	
Original estimate	977.64	1 102.18	1 145.62	1 059.34	Gg CO ₂ eq.
Corrected estimate	698.31	787.27	818.30	756.67	Gg CO ₂ eq.
The underlying problem	Cyprus applies a DOCf value of 0.77 as recommended in the Revised 1996 IPCC Guidelines. However, the value for this parameter has been updated to a range of 0.5–0.6 in the 2000 IPCC Good Practice Guidance (GPG). This parameter has a proportional impact on CH ₄ emissions.				
The rationale for the technical correction	The use of an outdated default DOCf value results in an overestimation. The 2000 IPCC GPG updated default parameters have to be applied.				
The assumptions, data and methodology used to calculate the technical correction	Emissions are multiplied by the ratio of 0.55/0.77; 0.55 is the average of the range of 0.5–0.6 of DOCf values provided in the 2000 IPCC GPG. As this parameter has a proportional impact on CH ₄ emissions, this ratio is applied on reported CH ₄ emissions.				

Name of technical correction	Recovery on industrial WWTP				
Reference to transcript finding record	CY-6-9				
Subsector	6.B.1 Industrial wastewater				
Gas/fuel/activity	CH ₄				
	2005	2008	2009	2010	
Original estimate		863.6	772.0	772.0	Gg CO ₂ eq.
Corrected estimate		862.7	770.3	769.5	Gg CO ₂ eq.
The underlying problem	<p>CH₄ emissions from wastewater and sludge are estimated together as it is proposed in the 2000 IPCC GPG when default factors are used. However, CH₄ recovery is not considered although some values are included in the EUROSTAT database concerning primary production from sewage sludge (6 TJ in 2010). The calculated CH₄ emissions corresponding to energy use of sewage sludge biogas is about 0.3 % of CH₄ emissions reported by Cyprus for 6.B.1.</p>				
The rationale for the technical correction	The omission of CH ₄ recovery constitutes a potential overestimation of emissions.				
The assumptions, data and methodology used to calculate the technical correction	The amount of CH ₄ recovered (TJ) with energy purpose and reported in the EUROSTAT Database is used.				

Response from Cyprus on all technical corrections

Cyprus accepts the above technical corrections.

Final remarks by TERT

The TERT thanks Cyprus for the very good cooperation during the review process and the country visit.

Annex 3 – Checks and tests completed

The initial checks (stage 1 and 2 checks), which cover the national inventory submissions, informed the stage 3 technical review with a view to:

- a) assess whether all emission source categories and gases are reported as required under Decision 280/2004/EC;
- b) assess whether sub-category sums are consistent with sectoral and national totals;
- c) assess whether emission data time series are consistent;
- d) assess whether implied emission factors across Member States are comparable;
- e) assess the use of 'Not Estimated' notation keys where IPCC Tier 1 methodologies exist;
- f) compare with the previous year's inventory submission of the Member State;
- g) limited sector-specific checks performed by ETC/ACM sector experts.

The EU initial checks were extended in 2012 to address additional elements needed for the 2012 technical review. The extended checks included:

- a) a detailed analysis of recalculations performed for the 2012 inventory submissions, in particular if recalculations are based on methodological changes.
- b) a comparison of the verified emissions reported under the EU ETS with the greenhouse gas emissions reported in GHG inventories. The verified emissions under the EU ETS are not fully comparable with the emissions reported in the GHG inventories. This comparison may only highlight areas where some Member States' data and trends deviate considerably from those of other Member States.
- c) a comparison of the results from Eurostat's reference and sectoral approach, based on energy data reported under Regulation (EC) No 1099/2008, with the Member States' reference and sectoral approach.

The specific activities of the 2012 technical review included:

- a) an analysis of the Member States' implementation of recommendations related to improving inventory estimates in accordance with the Revised 1996 IPCC Guidelines and the 2000 IPCC good practice guidance (GPG) as listed in the UNFCCC Annual Review Reports from the 2010 and 2011 UNFCCC review processes. Where UNFCCC recommendations have not been implemented, the analysis included an assessment as to whether the Member State provided adequate justification for this;
- b) an assessment of the time series consistency of the greenhouse gas emissions estimates, with a particular focus on the 2005 and 2008-2010 estimates;
- c) checking whether problems identified for one Member State in UNFCCC reviews might also have been a problem for other Member States (whether identified by the UNFCCC expert review team or not);
- d) an assessment of any recalculations made by a Member State in its inventory since the previous submission, and an assessment as to whether these were transparently reported and were in accordance with IPCC good practice guidance;
- e) a follow-up on any outstanding findings from existing and extended stage 1 and 2 checks;
- f) the inclusion of revised estimates as provided by Member States in response to the review, and as accepted by the TERT during the review;
- g) the provision of an estimate for any 'technical correction' to emission estimates reported by a Member State where it is believed that emissions reported by the Member State are

overestimated, and a statement of the significance of these 'technical corrections' in comparison to the overall reported inventory estimates;

- h) the provision of recommendations where problems have been identified that do not require technical corrections.

Material from previous UNFCCC inventory reviews was used to inform the technical review, including the previous years' Annual Review Reports, which provide an indication of the overall quality of the inventory.

The TERT used additional technical information in the review process, such as EU ETS data, information from Eurostat, and F-gas data from the 'Preparatory study for a review of Regulation (EC) No 842/2006 on certain fluorinated greenhouse gases (⁸), as well as data from other international organisations.

⁸ Service contract 070307/2009/548866/SER/C4 to the European Commission

Annex 4 – Correspondence references

Date	Reference
10 May 2012	Final CRF and NIR submission under the MMD, version CYP-2012-v1.5
21, 23 May 2012	Initial questions raised by the TERT during the desk review
7, 8 June 2012	Additional questions raised by the TERT during the centralised review
8, 12 June 2012	Telephone conferences (EEA, TERT lead reviewers and Cyprus)
21 June 2012	Draft technical corrections from TERT to Cyprus
13 July 2012	Draft review report from TERT to Cyprus
20 July 2012	Country visit
3 August 2012	Response from Cyprus to draft review report
16 August 2012	Draft final review report from TERT to Cyprus
17 August 2012	Response and additional information from Cyprus to final review report
17 August 2012	Final review report to European Commission
24 August 2012	Additional response from Cyprus to final review report
24 August 2012	Revised version of final review report to European Commission
29 August 2012	Revised version of final review report to European Commission