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Report on the individual review of the annual submission of Malta submitted in 2015*

Note by the expert review team

Summary

Each Party included in Annex I to the Convention must submit an annual greenhouse gas (GHG) inventory covering emissions and removals of GHG emissions for all years from the base year (or period) to two years before the inventory due date (decision 24/CP.19). Parties included in Annex I to the Convention that are Parties to the Kyoto Protocol are also required to report supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol, with the inventory submission due under the Convention. This report presents the results of the individual inventory review of the 2015 annual submission of Malta, conducted by an expert review team in accordance with the "Guidelines for review under Article 8 of the Kyoto Protocol". The review took place from 10 to 15 October 2016 in Sliema, Malta.

* In the symbol for this document, 2015 refers to the year in which the inventory was submitted, not to the year of publication.

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Contents

I. Introduction[1]

1. This report covers the review of the 2015 annual submission of Malta organized by the UNFCCC secretariat, in accordance with the "Guidelines for review under Article 8 of the Kyoto Protocol" (decision 22/CMP.1, as revised by decision 4/CMP.11) (hereinafter referred to as the Article 8 review guidelines). As indicated in the Article 8 review guidelines, this review process also encompasses the review under the Convention, as described in the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention" (hereinafter referred to as the UNFCCC review guidelines) and particularly part III, "UNFCCC guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention". The review took place from 10 to 15 October 2016 in Sliema, Malta, and was coordinated by Mr. Roman Payo and Ms. Claudia do Valle (UNFCCC secretariat). Table 1 provides information on the composition of the expert review team (ERT) that conducted the review of Malta.

Table 1
Composition of the expert review team that conducted the review of Malta

Area of expertise	*Name*	*Party*
Generalist	Mr. Takeshi Enoki	Japan
Energy	Mr. Kaleem Anwar Mir	Pakistan
IPPU	Mr. Stanford Mwakasonda	United Republic of Tanzania
Agriculture	Mr. Bernard Hyde	Ireland
LULUCF	Mr. Sandro Federici	San Marino
Waste	Mr. Chart Chiemchaisri	Thailand
Lead reviewers	Mr. Enoki	
	Mr. Mwakasonda	

Abbreviations: IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry.

2. This report contains findings based on the assessment by the ERT of the 2015 annual submission against the Article 8 review guidelines. The ERT has made recommendations to resolve those findings related to issues,[2] including issues related to problems.[3] Other findings, and, if applicable, the ERT's encouragements to resolve them, are also included.

3. A draft version of this report was communicated to the Government of Malta, which provided no comments.

[1] At the time of publication of this report, Malta had not yet submitted its instrument of ratification of the Doha Amendment, and the amendment had not yet entered into force. The implementation of the provisions of the Doha Amendment is therefore considered in this report in the context of decision 1/CMP.8, paragraph 6, pending the entry into force of the amendment.

[2] Issues are defined in decision 13/CP.20, annex, paragraph 81.

[3] Problems are defined in decision 22/CMP.1, annex, paragraphs 68 and 69, as revised by decision 4/CMP.11.

4. Annex I shows annual greenhouse gas emissions for Malta, including totals excluding and including the land use, land-use change and forestry sector, indirect carbon dioxide emissions and emissions by gas and by sector. Annex I also contains background data related to emissions and removals from activities under Article 3, paragraph 3, forest management under Article 3, paragraph 4, and additional activities under Article 3, paragraph 4, of the Kyoto Protocol, if elected, by gas, sector and activity for Malta.

5. Information to be included in the compilation and accounting database can be found in annex II.

6. The ERT notes that Malta's 2015 annual submission was delayed, consistent with decision 6/CMP.9, paragraph 4. As a result, the review of the 2015 annual submission is being held in conjunction with the review of the 2016 annual submission, in accordance with decision 10/CMP.11, paragraph 1. To the extent that identical information is presented in both annual submissions, the ERT has reviewed this information only once, and, as appropriate, has replicated the findings below in both the 2015 and the 2016 annual review reports.

II. Summary and general assessment of the 2015 annual submission

7. Table 2 provides the ERT assessment of the annual submission with respect to the tasks undertaken during the review. Further information on the issues identified, as well as additional findings, may be found in tables 3 and 5 below.

Table 2
Summary of review results and general assessment of the inventory of Malta

Assessment				*Issue or problem ID#(s) in tables 3 and/or 5*[a]
Dates of submission	Original submission: 12 October 2016 (NIR), 29 July 2016, version 1 (CRF tables)			
	Revised submissions: 3 December 2016, version 4 (CRF tables); 9 February 2017, version 2 (CRF tables)			
	The values from the latest submission are used in this report			
Review format	In-country			
Application of the requirements of the UNFCCC Annex I inventory reporting guidelines and Wetlands Supplement (if applicable)	Have any issues been identified in the following areas:			
	1.	Identification of key categories	Yes	G.16
	2.	Selection and use of methodologies and assumptions	Yes	I.12, I.13, I.16, A.5 , A.9, L.19, L.20, W.10
	3.	Development and selection of emission factors	Yes	E.20, E.28, E.39, I. 16, A.5, A.9, A.11, L.19, W.2, W.12
	4.	Collection and selection of activity data	Yes	E.24, E.25, I.9, I.10 , A.4, A.17, A.22, L.14

Assessment			*Issue or problem ID#(s) in tables 3 and/or 5*[a]
	5. Reporting of recalculations	No	
	6. Reporting of a consistent time series	Yes	E.22, E.37, E.38, I. 10, I.18, A.16, L.14
	7. Reporting of uncertainties, including methodologies	Yes	A.3, L.8
	8. QA/QC	QA/QC procedures were assessed in the context of the national system (see below)	
	9. Missing categories/completeness[b]	Yes	G.1, G.2, I.22, A.40, L.17, L.18, L.21, L. 22
	10. Application of corrections to the inventory	No	
Significance threshold	For categories reported as insignificant, has the Party provided sufficient information showing that the likely level of emissions meets the criteria in paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines?	Yes	A.40
Description of trends	Did the ERT conclude that the description in the NIR of the trends for the different gases and sectors is reasonable?	No	L.14
Supplementary information under the Kyoto Protocol	Have any issues been identified in the following areas:		
	1. National system:		
	(a) The overall organization of the national system, including the effectiveness and reliability of the institutional, procedural and legal arrangements	No	
	(b) Performance of the national system functions	No	
	2. National registry:		
	(a) Overall functioning of the national registry	Yes	G.22
	(b) Performance of the functions of the national registry and the technical standards for data exchange	Yes	G.22
	3. ERUs, CERs, AAUs and RMUs and on information on discrepancies reported in accordance with decision 15/CMP.1, annex, chapter I.E, taking into consideration any findings or recommendations contained in the SIAR	Yes	G.24
	4. Matters related to Article 3, paragraph 14, of the Kyoto Protocol, specifically problems related to the transparency, completeness or timeliness of reporting on the Party's activities related to the priority actions listed in decision 15/CMP.1, annex, paragraph 24, including any changes since the previous annual submission	Yes	G.21

Assessment			*Issue or problem ID#(s) in tables 3 and/or 5*[a]
	5. LULUCF activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol:		
	(a) Reporting in accordance with the requirements of decision 2/CMP.8, annex II, paragraphs 1–5	Yes	KL.1, KL.3, KL.4, KL.5
	(b) The Party has demonstrated methodological consistency between the reference level and reporting on forest management in accordance with decision 2/CMP.7, annex, paragraph 14	Yes	KL.6
	(c) The Party has reported information in accordance with decision 6/CMP.9	Yes	KL.7
	(d) The Party plans to apply the provisions for natural disturbances to afforestation and reforestation	No	
	(e) The Party plans to apply the provisions for natural disturbances to forest management	No	
	(f) Country-specific information has been reported to support provisions for natural disturbances, in accordance with decision 2/CMP.7, annex, paragraphs 33 and 34	NA	
	(g) Other issues	No	
CPR	Was the CPR reported in accordance with the annex to decision 18/CP.7, the annex to decision 11/CMP.1 and decision 1/CMP.8, paragraph 18?	Yes	G.23
Adjustments	Has the ERT applied an adjustment under Article 5, paragraph 2, of the Kyoto Protocol?	No	
Response from the Party during the review	Has the Party provided the ERT with responses to the questions raised, including the data and information necessary for the assessment of conformity with the UNFCCC Annex I inventory reporting guidelines and any further guidance adopted by the Conference of the Parties?	Yes	
Recommendation for an exceptional in-country review	On the basis of the issues identified, does the ERT recommend that the next[c] review be conducted as an in-country review?	No	
Question of implementation	Did the ERT list a question of implementation?	No	

Abbreviations: AAU = assigned amount unit, CER = certified emission reduction, CPR = commitment period reserve, CRF = common reporting format, ERT = expert review team, ERU = emission reduction unit, LULUCF = land use, land-use change and forestry, NA = not applicable, NIR = national inventory report, QA/QC = quality assurance/quality control, RMU = removal unit, SIAR = standard independent assessment report, UNFCCC Annex I inventory reporting guidelines = "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories", Wetlands Supplement = *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*.

[a] The ERT identified additional issues in the energy, industrial processes and product use, agriculture and LULUCF sectors and for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol that are not specifically listed in table 2 but are included in table 3 and/or 5.

[b] Missing categories, for which methods are provided in the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*, may affect completeness and are listed in annex III to this document.

[c] Owing to the timing of the review of the 2015 annual submission, "next" in this context refers to the review of the 2017 annual submission.

III. Status of implementation of issues and/or problems raised in the previous review report

8. Table 3 compiles all the recommendations made in the previous review report. Malta was not subject to an individual inventory review of its 2014 inventory submission, therefore the recommendations reflected in table 3 are from the review of the 2013 inventory submission, published on 24 December 2013.[4] For each issue and/or problem, the ERT specified whether it believes the issue and/or problem has been resolved by the conclusion of the review of the 2015 annual submission and provided the rationale for its determination, taking into consideration the publication date of the previous review report and national circumstances.

Table 3
Status of implementation of issues and/or problems raised in the previous review report of Malta

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
General			
G.1	CRF (table 3, 2013) Completeness*	Estimate CO_2, CH_4 and N_2O emissions from gasoline consumption in navigation (1990–2004)	Not resolved. During the review, the Party explained that data for gasoline used for national navigation for the period 1990–2004 were not available. The Party further explained that subsequent improvements in the collection of sectoral data would enable the inclusion of emission estimates for the whole time series in the next submission
G.2	CRF (table 3, 2013) Completeness*	Estimate CH_4 and N_2O emissions from biomass consumption in residential	Not resolved. These emissions are not estimated
G.3	CRF (table 3, 2013) Completeness	Estimate CO_2, CH_4 and N_2O emissions from all fuels in agriculture/forestry/fisheries (1990–2001)	Resolved. Malta has estimated CO_2, CH_4 and N_2O emissions for liquid and gaseous fuels. Solid fuels and peat are reported as "NO"

[4] FCCC/ARR/2013/MLT. Available at <http://unfccc.int/resource/docs/2014/arr/mlt.pdf>.

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
G.4	CRF (table 3, 2013) Completeness	Estimate CO_2 emissions from lime production (1990–1994)	Resolved. Malta estimated these emissions and reported them in CRF tables 2(I) and 2(I).A-H
G.5	CRF (table 3, 2013) Completeness	Estimate direct soil N_2O emissions for N-fixing crops and crop residue	Resolved. Malta estimated these emissions and reported them in CRF table 3.D
G.6	QA/QC and verification (table 3, 2013) (17, 2012) (18, 2011) Adherence to UNFCCC Annex I inventory reporting guidelines	Develop a QA/QC plan, in particular tier 1 QC procedures, and provide information on the QA/QC plan in the NIR	Addressing. Work is currently ongoing by the Malta Resources Authority on the documentation of inventory processes. This documentation of processes will eventually build up into a formally documented quality system, which can be considered as the Party's QA/QC plan
G.7	Inventory planning (8, 2013) Adherence to UNFCCC Annex I inventory reporting guidelines	Strengthen and enhance the institutional arrangements for GHG inventory compilation in terms of both institutional framework and technical capacity	Resolved. The Climate Action Act was approved by the House of Representatives in 2015. It inscribes into legislation the obligation to develop, periodically update and publish national GHG inventories. Subsequently, Legal Notice 259/2015 (Subsidiary Legislation 543.01) was adopted, establishing a national system for the estimation of anthropogenic GHG emissions by sources and removals by sinks. Institutional arrangements have been strengthened as a result, but issues still exist, especially with regard to data collection (see issue G.18)

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
G.8	Key category analysis (table 4, 2013) (13, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Use the results of the key category analysis to prioritize the development and improvement of the inventory and report on this process in the NIR	Resolved. Recommendations for improvements identified during external reviews are logged into an annual inventory evaluation log which includes, among others, a record of findings, the prioritization of findings, and a record of action taken. The results of the key category analysis are used as one of the indexes to prioritize the findings
G.9	Uncertainty analysis (table 4, 2013) (14, 2012) Transparency*	Improve the transparency of the uncertainty analysis by including information on the assumptions used to calculate the uncertainty of AD and EFs at the category level	Addressing. Malta informed the ERT during the review that it has used AD and EF uncertainty values from the 2006 IPCC Guidelines for most categories. The Party also stated that it would provide a clearer description of the source of the uncertainty values in the next NIR
G.10	Uncertainty analysis (table 4, 2013) (14, 2012) Transparency*	Provide information to explain how the uncertainty analysis is used to prioritize further inventory improvements	Addressing. During the review, the Party stated that it would provide a clearer description of the use of this analysis when prioritizing inventory improvements
G.11	Inventory preparation (10, 2013) Transparency*	Provide more detailed information on the inventory preparation process	Addressing. A further description of the inventory preparation process has been provided (NIR chapter 1.3). However, a detailed overall description is still not provided

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
G.12	Inventory management (11, 2013) (20, 2012) (20, 2011) Transparency*	Provide further information on current practices relating to data collection, data assessment and archiving, including documentation on QA/QC procedures	Addressing. The NIR (chapter 1.3) contains general information on ongoing developments and additional information on the inventory preparation process (including data collection, data assessment and archiving). However, a detailed overall description is still not provided
Energy			
E.1	1. General (energy sector) (14, 2013) (26, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Implement, or start developing a plan to implement, higher-tier methods for estimating emissions from the key categories, in line with the IPCC good practice guidance, and report on any progress in the NIR	Resolved. During the review, the Party explained that a plan to implement higher-tier methods has been developed and it is envisaged that data on the carbon content for the key categories other than public electricity and heat production will be collected from 1 January 2017, subject to budgetary constraints. Specific recommendations are included in tables 3 and 5 in the appropriate categories
E.2	1. General (energy sector) (15, 2013) Not an issue	Endeavour to follow the UNFCCC reporting guidelines in order to improve the comparability of the emission estimates with those of other Annex I Parties	No longer relevant. The issue was related to the use of EFs from the 2006 IPCC Guidelines. The requirement for justification of the use of EFs from those guidelines is no longer relevant
E.3	1. General (energy sector) (16, 2013) (28, 2012) Comparability*	Allocate AD and emissions to the appropriate subcategories, in order to improve the comparability of the emission estimates with those of other Annex I Parties	Not resolved. For specific recommendations on the allocation of AD and emissions, see ID#s E.24 and E.27 below
E.4	1. General (energy sector) (16, 2013) Transparency	Change the notation key “NA” to “NO” in all instances where emissions do not occur in the country	Resolved. The ERT did not identify any cases where the notation key “NA” is used to report emissions that do not occur

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
E.5	1. General (energy sector) (17, 2013) (31, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Elaborate a QA/QC plan for the energy sector (which accounts for almost 90% of total GHG emissions in the country) as required by the UNFCCC reporting guidelines	Not resolved. During the review, the Party stated that work is currently ongoing by the Malta Resources Authority on the documentation of inventory processes undertaken, which will eventually build up into a formally documented QA/QC system (see G.6 above)
E.6	1. General (energy sector) (18, 2013) Transparency*	Improve the description in the NIR of the category-specific QA/QC activities performed on the AD, with the objective of better understanding the links between the EU ETS, the energy balances and the data reported in the CRF tables	Not resolved. During the review, the Party explained that the additional information and clarifications would be included in future submissions
E.7	1. General (energy sector) (18, 2013) Transparency*	Include copies of the national energy balance for the latest reported year, outlining the final energy consumption by sector	Addressing. The Party has included its national oil balance in the NIR (table 11-15), but not the national energy balance. During the review, the Party explained that copies of the national energy balance would be included in future submissions
E.8	1. General (energy sector) (19, 2013) Consistency	Improve time-series consistency and/or report on how this consistency would be achieved	Resolved. During the review, the Party explained that an extensive exercise has been carried out, in conjunction with NSO, to streamline the time series for all fuel types and all sectors. The improvements in time-series consistency have mainly been due to better data sources and the streamlining of methodologies (including the use of an index for backcasting purposes) for fuels used in the economic sectors and for bunker purposes

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
E.9	1. General (energy sector) (19, 2013) Transparency	Explain whether time-series consistency is being affected by changes in the national institutional arrangements	Resolved. During the review, the Party explained that the improvements in time-series consistency have mainly been due to better standardization in data gathering processes and the streamlining of methodologies (including the use of an index for backcasting purposes) for fuels used in the economic sectors and for bunker purposes. The adoption of a legal framework for the national GHG inventory system will underpin further improvements in, among others, time-series consistency
E.10	1. General (energy sector) (20, 2013) Accuracy	Explain, and, where appropriate, review, the large discrepancies related to accuracy in the AD reported in the inventory compared with the energy balance	Resolved. The Party explained that an extensive exercise has been carried out, in conjunction with NSO, to identify the differences between Eurostat and GHG inventory data for all fuel types and all sectors and reconcile the data reported in the GHG inventory with those reported to Eurostat. The Party also explained that the Eurostat data for the time series 1990–2015 would only be revised by around mid-2017
E.11	Fuel combustion – reference approach (23, 2013) (33, 2012) (33, 2011) Adherence to UNFCCC Annex I inventory reporting guidelines	Estimate CO_2 emissions using the reference approach for all years of the time series	Not resolved. The Party has reported CO_2 emissions using the reference approach for the years 2009–2014 only and not for the earlier years of the time series (i.e. 1990–2008)

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
E.12	Fuel combustion – reference approach (23, 2013) Transparency*	Explain differences in CO_2 emissions which are above 2.0%	Not resolved. For example, for 2013, the differences are 3.9%, or –104.39 Gg CO_2. During the review, the Party explained that every effort is made to identify the source of the discrepancies in the data but that, in some cases, the absolute figures are so low that a relatively small discrepancy results in a high percentage in the discrepancy
E.13	Comparison with international data (24, 2013) Transparency	Investigate the differences between fuel imports of secondary oil products and the total apparent consumption reported to Eurostat and in the CRF tables for 2011 and report on the reasons for the discrepancies, or reconcile the differences	Resolved. The ERT could not identify any issues related to the accuracy or time-series consistency of the data reported in the annual submission, particularly for 2011. During the review, the Party explained that an extensive exercise was carried out in 2016, in conjunction with NSO and REWS, to investigate and identify the reasons for the discrepancies and reconcile the data, where applicable. See ID# E.33 in table 5
E.14	Comparison with international data (25, 2013) Transparency	Investigate the apparent discrepancy in fuel exports, reconcile it where appropriate and report on any progress in the NIR	Resolved. Malta continues to report to Eurostat some quantities of petroleum products for export. However, during the review, the Party confirmed that no export occurs. The ERT could not identify any issues related to the accuracy or time-series consistency of the data reported in the annual submission
E.15	Comparison with international data (26, 2013) Transparency	Make reasonable efforts to reconcile the differences between the energy data reported in the CRF tables and the energy data reported to Eurostat	Resolved. The ERT could not identify any issues related to the accuracy or time-series consistency of the data reported in the annual submission

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
E.16	Fuel combustion – reference approach (27, 2013) Not an issue	Use verification techniques, as explained in the IPCC good practice guidance, to help to establish the inventory's reliability regarding energy trade (e.g. fuel imports, exports and bunkers) and apparent energy consumption	No longer relevant. Verification is not a mandatory requirement in the UNFCCC Annex I inventory reporting guidelines. The ERT noted that, for example, the difference in apparent energy consumption between the reference and sectoral approaches reported in CRF table 1.A(c) for 2013 was 2.68%. During the review, the Party explained that efforts are ongoing to improve the reliability of energy trade data by, for example, REWS requesting external audits of fuel data supplied by fuel importers and traders
E.17	International bunkers and multilateral operations (27, 2013) Adherence to UNFCCC Annex I inventory reporting guidelines	Make use of additional sources of information, such as Eurocontrol, as a supplementary QA activity regarding the fuel allocation for domestic and international uses based on higher-tier methods	Resolved. Fuel consumption for international bunkers continues to be significantly higher than fuel consumption for domestic navigation and aviation. For example, for 2013, Malta reported 4 374.48 TJ for international aviation and 48 781.82 TJ for international navigation in CRF table 1.D, and only 70.39 TJ for domestic aviation and 1 028.64 TJ for domestic navigation. However, the ERT could not identify any issues related to the allocation of emissions between domestic and international bunkers

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
E.18	Feedstocks, reductants and other NEU of fuels (28, 2013) Transparency*	Increase the transparency in the reporting of feedstocks and non-energy use of fuels, both in the CRF tables and in the NIR, by providing verifiable information that lubricants in transport (including disposal) and bitumen for road paving are not used in the country	Not resolved. Malta has reported all fuel quantities for non-energy use of fuels, carbon (and CO_2) excluded and CO_2 emissions from non-energy use of fuels using the notation key "NE" in CRF table 1.A(d). No information on bitumen for road paving is reported in the NIR. For lubricants, the NIR (chapter 4.5.1.2) provides some information on the emission estimates
E.19	Feedstocks, reductants and other NEU of fuels (28, 2013) Transparency	Clarify the reporting of non-energy use of fuels for industrial purposes to Eurostat	Resolved. The ERT could not identify any issues related to the accuracy or time-series consistency of the data reported in the annual submission
E.20	1.A.1.a Public electricity and heat production – liquid fuels – CO_2, CH_4 and N_2O (29, 2013) Accuracy*	For the only two power plants, use the plant-specific EFs as well as the NCVs available from the annual EU ETS reports as far back as possible	Not resolved. The Party stated during the review that plant-specific values would be used where available
E.21	1.A.1.a Public electricity and heat production – liquid fuels – CO_2, CH_4 and N_2O (29, 2013) Accuracy*	For the only two power plants, use the plant-specific oxidation factors	Resolved. The ERT noted that an oxidation factor of 100% is consistent with the 2006 IPCC Guidelines
E.22	1.A.1.a Public electricity and heat production – liquid fuels – CO_2, CH_4 and N_2O (29, 2013) Consistency*	Consider using the averages of NCV factors for the period 1990–2004, while duly considering the fuel mix	Not resolved. During the review, the Party explained that averages of NCVs would be used for the period 1990–2004 in future submissions, taking into account infrastructure developments and fuel mix changes throughout that period

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
E.23	1.A.1.a Public electricity and heat production – liquid fuels – CO_2, CH_4 and N_2O (29, 2013) Transparency*	Report the estimates, including any relevant information such as NCVs, oxidation factors, EFs and AD used in the estimation of emissions, in the NIR	Not resolved. During the review, the Party explained that the updated estimates would be reported together with all relevant information in future submissions
E.24	1.A.2 Manufacturing industries and construction – liquid fuels – CO_2, CH_4 and N_2O (30, 2013) (41, 2012) (39, 2011) Comparability*	Allocate the AD and emissions to the appropriate subcategories, in line with the UNFCCC reporting guidelines, in order to improve comparability with other Annex I Parties	Not resolved. The Party continues to report the AD and emissions for all subcategories under manufacturing industries and construction, except for other (subcategory 1.A.2.g) as "IE". The Party reported the aggregate AD and emissions under other (subcategory 1.A.2.g). During the review, the Party explained that the disaggregation of emissions to the appropriate subcategory is being studied and is subject to data availability by Statistical Classification of Economic Activities in the European Community (NACE) category. Efforts are being made to collect data that are sufficiently disaggregated and statistically significant, where surveys are used
E.25	1.A.2 Manufacturing industries and construction – liquid fuels – CO_2, CH_4 and N_2O (31, 2013) Comparability*	Report the AD and emissions from the biogenic fraction of biodiesel under biomass and the fossil fraction under liquid fuels	Not resolved. During the review, the Party explained that the biodiesel data reported already include the biomass fraction that is blended with diesel. These data are added to the data for biodiesel that is sold as B100 (a type of biodiesel)

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
E.26	1.A.2 Manufacturing industries and construction – liquid fuels – CO_2, CH_4 and N_2O (32, 2013) Transparency	Investigate the differences in energy consumption reported to Eurostat and in the CRF tables and report in the NIR the reasons for the apparent discrepancies in final industrial consumption	Resolved. The ERT could not identify any issues with the completeness or time-series consistency of the data reported in the annual submission. During the review, the Party explained that an extensive exercise was carried out, in conjunction with NSO, to identify the differences between the Eurostat and GHG inventory data for all fuel types and all sectors and reconcile the data reported in the GHG inventory with those reported to Eurostat. The Party also explained that Eurostat data for the time series 1990–2015 would only be revised by around mid-2017
E.27	1.A.3.a Domestic aviation – liquid fuels – CO_2, CH_4 and N_2O (38, 2013) Accuracy*	Make use of additional sources of information, such as Eurocontrol, which is based on higher-tier methods, as a supplementary QA activity to verify the fuel allocation for domestic and international uses	Not resolved. The Party stated that it is envisaged that a comparative exercise with other sources of information, including Eurocontrol, would be carried out in 2017
E.28	1.A.3.b Road transportation – liquid fuels – CO_2 (33, 2013) Accuracy*	Obtain data on the NCVs and carbon content from the fuel suppliers in order to develop and use a more accurate EF when estimating CO_2 emissions from gasoline; if such data are not available, use the default CO_2 EF from the 2006 IPCC Guidelines that is applicable to European gasoline passenger cars	Addressing. The Party uses default values from the 2006 IPCC Guidelines. During the review, the Party explained that a plan to implement higher-tier methods has been drafted and it is envisaged that the data required to estimate a country-specific CO_2 EF for key categories other than for public electricity and heat production would be collected from 1 January 2017, subject to budgetary constraints

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
E.29	1.A.3.b Road transportation – liquid fuels – CO_2 (35, 2013) Comparability*	Report the AD and emissions from the biogenic fraction of biodiesel under biomass and the fossil fraction under liquid fuels (given the blending of up to 7.0%, at least 93.0% of biodiesel consumption should be reported under liquid fuels and not under biomass)	Not resolved. The Party stated that the biodiesel data reported already include the biomass fraction that is blended with diesel. These data are added to the data for biodiesel that is sold as B100
E.30	1.A.3.b Road transportation – liquid fuels – CH_4 and N_2O (36, 2013) Accuracy*	Investigate the possible implementation of the COPERT IV model, which would improve the accuracy of the non-CO_2 emission estimates, and report on any progress in the NIR	Resolved. During the review, the Party explained that the COPERT IV model is being used to estimate CO_2 and non-CO_2 emissions for the period starting from 2005, which is the earliest year for which comprehensive data on the stock of licensed vehicles are available
E.31	1.A.4 Other sectors – liquid fuels – CO_2 (37, 2013) Transparency	Improve the consistency of the AD reported in the CRF tables with the energy statistics reported internationally, and report on any progress in the NIR	Resolved. The ERT could not identify any issues with the completeness or time-series consistency of the data reported in the annual submission
E.32	1.A.5 Other (fuel combustion activities) – liquid fuels – CO_2, CH_4 and N_2O (39, 2013) Transparency	Report military emissions under the subcategory other (energy), in line with the 2006 IPCC Guidelines. If this is not possible for confidentiality reasons, change the notation key from "NA" to "IE" and include the relevant explanation in the NIR	Resolved. Malta included estimates from military activities under category 1.A.5. For additional information and pending issues see ID# E.41 in table 5
IPPU			
I.1	2. General (IPPU) (42, 2013) (50, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Develop and implement QA/QC procedures for the IPPU sector	Not resolved. During the review, the Party stated that work is currently ongoing by the Malta Resources Authority on the documentation of inventory processes undertaken, which will eventually build up into a formally documented QA/QC system (see G.6 above)

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
I.2	2. General (IPPU) (42, 2013) Adherence to UNFCCC Annex I inventory reporting guidelines	Provide information on the uncertainty of the IPPU sector	Resolved. The Party now includes information on the uncertainty assessment, as recommended by previous ERTs (e.g. see chapters 4.2.2.5, 4.2.4.5 and 4.5.1.5 of the NIR)
I.3	2. General (IPPU) – HFCs and PFCs (46, 2013) Adherence to UNFCCC Annex I inventory reporting guidelines	Report F-gases for which there are no agreed GWP values separately from the national total in accordance with the UNFCCC reporting guidelines	Resolved. The Party has excluded emissions of perfluorooctane (C_8F_{18}), which is not included in the CRF tables. The Party has included emissions of HFC-365mfc, whose GWP value is included in the Third Assessment Report of the IPCC
I.4	2.A.2 Lime production – CO_2 (47, 2013) (56, 2012) (58, 2011) Completeness	Report the AD and emissions for lime production for 1990–1994	Resolved. The Party has included emissions from lime production for 1990–2004 based on a backwards extrapolation
I.5	2.A.4 Other process uses of carbonates – CO_2 (48, 2013) Transparency*	Investigate the extent of the use of carbonates in the production of ceramics (at least one company[d] seems to produce ceramic products in Malta), calculate the emissions, if appropriate, and report on the results in the NIR	Not resolved. The Party reported that it is continuing to investigate other uses of carbonates
I.6	2.A.4 Other process uses of carbonates – CO_2 (48, 2013) Accuracy	Investigate whether carbonates other than soda ash are used in glass production and whether carbonates are used for any other processes where CO_2 is released to the atmosphere	Resolved. Glass production does not occur in Malta. The Party has ensured the completeness of the reporting on the category based on the soda ash imports (see section 4.2.3 in the NIR)
I.7	2.A.4 Other process uses of carbonates – CO_2 (49, 2013) Transparency	Correct the description of soda ash use in the NIR, that only 95% of imported soda ash is used, rather than 100%	Resolved. The Party reported an EF uncertainty of 5% in the NIR (chapter 4.2.4.5), with the assumption that all imported soda ash is used in processes that release CO_2

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
I.8	2.B.5 Carbide production – CO_2 (52, 2013) Transparency	Update the methodological description in the NIR to reflect the actual methodology used to estimate CO_2 emissions from calcium carbide use	Resolved. Malta explained (NIR chapter 4.9.3.1.1) that no carbide production occurs in the country. However, calcium carbide is used in the country, which results in CO_2 emissions (see ID# I.14 in table 5)
I.9	2.D.3 Other (non-energy products from fuels and solvent use) –CO_2 (50, 2013) (59, 2012) Completeness	Estimate and report the AD for road paving with asphalt for the period 1990–1994, if necessary by extrapolation, and the associated emissions	Resolved. The Party reports CO_2 emissions from this category for the entire time series 1990–2014. However, the Party continues to report in the NIR (chapter 4.5.4.1.1) that relevant data for road paving with asphalt prior to 1995 are not available
I.10	2.D.3 Other (non-energy products from fuels and solvent use) – CO_2 (51, 2013) (60, 2012) Consistency*	Investigate the time-series inconsistency of the estimates of CO_2 emissions from road paving with asphalt, recalculate the emissions, if appropriate, and report on the findings in the NIR	Addressing. The Party continues to report two data sources for road paving emissions (see NIR, section 4.5.4.1). During the review, the Party explained that it plans to address this issue in future submissions
I.11	2.F. Product uses as substitutes for ozone-depleting substances – HFCs and PFCs (43, 2013) Transparency*	Collect the necessary data to complete the background information tables for the reporting of F-gases (CRF table 2.II.F) in accordance with the UNFCCC reporting guidelines	Addressing. The Party has reported emissions in some cells in CRF table 2(II).B-H, but has left the majority of the cells blank. During the review, the Party mentioned that the issue had been included in the inventory improvement plan. However, this issue has not been included in the NIR as part of category-specific planned improvements

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
I.12	2.F.1 Refrigeration and air conditioning – HFCs and PFCs (44, 2013) Accuracy*	Proceed with the project to develop a better methodology for estimating emissions from refrigeration and air conditioning and report on the status in the NIR	Addressing. The Party has estimated emissions from refrigeration and air conditioning using a tier 1 method from the 2006 IPCC Guidelines. During the review, the Party mentioned that the issue had been included in the inventory improvement plan. However, this issue has not been included in the NIR as part of category-specific planned improvements and there is no information on the status of the development of a methodology to improve the estimates for the category
I.13	2.F.1 Refrigeration and air conditioning – HFCs and PFCs (45, 2013) Accuracy*	As part of the planned project to develop a better methodology for estimating emissions from refrigeration and air conditioning, consider the import of F-gases in products and report on this in the NIR	Not resolved. During the review, the Party explained that the issue had been included in the inventory improvement plan. However, this issue has not been included in the NIR as part of category-specific planned improvements
Agriculture			
A.1	3. General (agriculture) (54, 2013) (65, 2012) Transparency	Report the required parameters (e.g. gross energy intake, average CH_4 conversion rate, allocation by climate change region, animal weight, volatile solids daily excretion, CH_4 producing potential, N excretion rate and N excretion per AWMS) in the CRF tables in line with the UNFCCC reporting guidelines	Resolved. Malta has made significant improvements in the reporting of the required parameters in line with the UNFCCC Annex I inventory reporting guidelines
A.2	3. General (agriculture) (55, 2013) (66, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Develop and implement QA/QC procedures for the agriculture sector	Resolved. QA/QC procedures have been developed and implemented for the agriculture sector

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
A.3	3. General (agriculture) (55, 2013) (66, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Provide information on the uncertainty of the agriculture sector	Not resolved. Malta did not report information on the uncertainties associated with emission estimates for the agriculture sector
A.4	3. General (agriculture) (56, 2013) (69, 2012) Consistency*	Review the population data for all livestock categories, ensure time-series consistency and report on any recalculations	Addressing. Malta is still reviewing the appropriateness of the AD for the period before 2000
A.5	3.A Enteric fermentation – CH_4 (57, 2013) (67, 2012) Accuracy*	Justify the applicability of the Italian CH_4 EF for rabbits to the national circumstances in Malta	Addressing. The NIR did not include any justification for the use of the CH_4 EF of Italy. However, during the review, Malta provided the appropriate reference material
A.6	3.A Enteric fermentation – CH_4 (58, 2013) (67, 2012) Accuracy	Use a higher-tier method to estimate CH_4 emissions from this category	Resolved. Malta has implemented the use of higher-tier methods for the estimation of CH_4 emissions from enteric fermentation for cattle and sheep
A.7	3.A Enteric fermentation – CH_4 (59, 2013) Accuracy	Split the cattle population into dairy and non-dairy cattle using an appropriate technique, such as extrapolation, from the IPCC good practice guidance and calculate the emissions accordingly for the entire time series	Resolved. Malta estimated CH_4 emissions from enteric fermentation, split into dairy and non-dairy cattle
A.8	3.B Manure management – CH_4 (60, 2013) Transparency	Refer to the default EFs available in the 2006 IPCC Guidelines	Resolved. References to default EFs from the 2006 IPCC Guidelines have been included in the NIR
A.9	3.B Manure management – CH_4 (60, 2013) Accuracy*	Assess the applicability of the tier 1 default EFs used and, if necessary, implement a higher-tier methodology	Addressing. Malta continues to address the description of AWMS, has made improvements and continues to make improvements to the description

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
A.10	3.B Manure management – N_2O (61, 2013)(73, 2012) Transparency*	Replace the notation keys with data values in CRF table 3.B(b) and ensure that the information in the NIR and in the CRF tables is consistent	Addressing. Malta has reported values for the N excretion rate in table 3.B(b) and continues to address the description of AWMS and has both made improvements and continues to make improvements to the description in the NIR
A.11	3.B Manure management – N_2O (62, 2013) Comparability*	Compare the country-specific N excretion values for all animal types with the IPCC defaults and explain the differences	Addressing. Malta has made some improvements in the estimation of N excretion values, in particular for dairy cattle; however, further improvements are required for the other livestock categories
A.12	3.B Manure management – N_2O (63, 2013) Completeness	Estimate the N excretion rates and the resulting N_2O emissions for sheep, goats, horses and rabbits	Resolved. Malta has estimated the N excretion rates and resulting N_2O emissions from sheep, goats, horses and rabbits
A.13	3.B Manure management – N_2O (64, 2013) Transparency*	Provide in the NIR information regarding the assumptions used for calculating N_2O emissions from swine	Addressing. Malta has improved its description of N_2O emissions from swine; however, further information is required (e.g. AWMS data) to improve transparency
A.14	3.B Manure management – N_2O (64, 2013) Accuracy*	Provide in the NIR information to substantiate and explain the underlying data for the country-specific N excretion rates for cattle and poultry presented in NIR table 6.4	Not resolved. The ERT identified a number of issues during the review with regard to the use of country-specific N excretion rates calculated from two or more default values provided in the 2006 IPCC Guidelines. See ID#s A.28, A.29 and A.31 in table 5
A.15	3.D.a Direct N_2O emissions from managed soils – N_2O (65, 2013) (75, 2012) Completeness	Estimate and report emissions from crop residues and N-fixing crops	Resolved. Malta included estimates of N_2O emissions from crop residues in its submission. However, N_2O emissions from N-fixing crops is no longer a source for which an estimation methodology is provided in the 2006 IPCC Guidelines

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
A.16	3.D.a Direct N_2O emissions from managed soils – N_2O (66, 2013) (77, 2012) Consistency*	Review the consistency of the time series and explain the trend in the use of synthetic fertilizers in the NIR	Addressing. Malta continues to assess the veracity of the AD for fertilizer N application in order to use the most appropriate data source across the time series
A.17	3.D.a Direct N_2O emissions from managed soils – N_2O (66, 2013) Accuracy*	Investigate the quality of the statistical data reported on the N content of the imported fertilizers and describe the corrections made to the statistical data in the NIR	Addressing. Malta continues to assess the veracity of the AD for fertilizer N application in order to use the most appropriate data source
A.18	3.D.a Direct N_2O emissions from managed soils – N_2O (67, 2013) Completeness	Estimate and report emissions for all animal categories	Resolved. Malta has estimated emissions for all livestock categories within the country
A.19	3.D.a Direct N_2O emissions from managed soils – N_2O (68, 2013) Transparency	Improve the methodological description of the estimation of the amount of manure N available to soils in the NIR, including a list of all parameters used in the calculation and the values used	Resolved. Malta has provided in its NIR (chapter 5.5.2) detailed descriptions of the assumptions used in the estimation of manure N available to soils
A.20	3.D.a Direct N_2O emissions from managed soils – N_2O (69, 2013) Transparency	Provide more information on the fate of the 90.0% of the slurry, including details of the storage conditions	Resolved. Malta has provided more information on the fate of 90% of the pig slurry disposed to public sewers (see ID# W.13 in table 5). Malta explained that it would provide additional information in the 2018 submission
A.21	3.D.a Direct N_2O emissions from managed soils – N_2O (69, 2013) Transparency	Calculate all emissions from storage of slurry and transparently describe in the NIR the methodology used to calculate and report emissions	Resolved. Malta has provided the requested additional information in its submission
LULUCF			
L.1	4. General (LULUCF) (table 3, 72, 2013) (80, 2012) Completeness*	Increase the completeness of the LULUCF sector estimates	Not resolved. For specific completeness issues identified by the ERT, see ID#s L.18, L.21 and L.22 in table 5

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
L.2	4. General (LULUCF) (73, 2013) Comparability	Report areas of pastures under grassland and report areas of annual crops under cropland, as well as associated carbon stock changes in the soil organic matter pool	Resolved. There are no pastures in the country
L.3	4. General (LULUCF) (73, 2013) (83, 2012) Completeness	Prepare a land representation, consistent across the time series, which covers the entire national territory of Malta and includes all the land-use categories	Resolved. Malta has improved its reporting and, in the latest submission, the land representation reported covers the entire national territory and the total area reported is constant across the time series
L.4	4. General (LULUCF) (74, 2013) Comparability	Limit the use of the category other land to those lands without vegetation that do not fall within any other land-use category, and therefore report pasture and areas with natural vegetation that do not reach the forest definition thresholds under grassland and annual crops under cropland	Resolved. Other land includes lands without significant carbon stocks only
L.5	4. General (LULUCF) (75, 2013) Adherence to UNFCCC Annex I inventory reporting guidelines	Use the notation key "NO" for any category, pool and/or gas for which the Party has information confirming that the category, pool or gas does not occur, and provide such information in the NIR, and use the notation key "NE" for categories, pools and/or gases for which there is no information on emissions/removals, or for which the net emissions/removals are negligible	Addressing. Some notation keys are still incorrectly used; however, this does not affect the completeness of the GHG inventory. The ERT notes that the notation key "NE" should always be used when a tier 1 method is applied that assumes no net carbon stock changes across the time series, and information should be reported to clarify that the notation key "NE" refers to a tier 1 estimate. The notation key "NO" is to be used for those categories that do not occur, and the notation key "NA" for any carbon stock changes, or GHG emissions or removals from those categories that do occur but do not result in carbon stock changes, or GHG emissions or removals
L.6	4. General (LULUCF) (75, 2013) Transparency	Do not leave any cells blank in the CRF tables (e.g. dead organic matter), thereby ensuring that for any cell either an estimate or a notation key is reported	Resolved. During the review, the Party explained that blank cells in the CRF tables are due to a malfunction of the CRF Reporter software

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
L.7	4. General (LULUCF) (76, 2013) (89, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Correct the discrepancy of areas of other land remaining other land between the NIR and the CRF tables, enhance the QA/QC procedures and ensure the consistency of the reporting	Resolved. No discrepancies between the NIR and the CRF tables were identified, which suggests improved QA/QC procedures
L.8	4. General (LULUCF) (77, 2013) (86, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Report the sources of the uncertainty values	Not resolved. Information on the uncertainty of the AD and EFs and any other parameters applied to prepare the estimates for the LULUCF sector has not been reported
L.9	4.A Forest land – CO_2 (78, 2013) (80, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Report carbon stock losses in the above-ground biomass pool, including losses due to natural mortality and disturbances	Resolved. During the review, Malta explained that forests are neither subject to harvesting nor to any other disturbance. See ID# L.19 in table 5
L.10	4.A Forest land – CO_2 (78, 2013) Not an issue	Make efforts to collect the necessary data to prepare estimates for all carbon pools at a tier 2 methodological level	No longer relevant. In the current submission, no LULUCF category is a key category; therefore, good practice allows for the use of a tier 1 method
L.11	4.A Forest land – CO_2 (79, 2013) Not an issue	Use the correct factor, namely, the annual increment of biomass, for estimating the annual above-ground biomass gains in shrubland and report the revised estimate	No longer relevant. Shrubland is now reported under grassland and the Party has estimated carbon stock changes for biomass using a tier 1 method, which assumes no net change
L.12	4.A Forest land – CO_2 (80, 2013) (92, 2012) Not an issue	Include any afforested area and associated GHG emissions and removals under the category forest land	No longer relevant. All areas planted are predominantly classified under urban land use
L.13	4.B.1 Cropland remaining cropland – CO_2 (81, 2013) Accuracy	Revise the estimate of carbon stock changes in the biomass pool by excluding all woody crops older than 30 years	Resolved. The net carbon accumulation in the biomass pool is not estimated after new plantations have reached the age of maturity

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
Waste			
W.1	5. General (waste) (83, 2013) (99, 2012) Adherence to UNFCCC Annex I inventory reporting guidelines	Develop QA/QC procedures for the waste sector and report them in the NIR	Addressing. In the NIR, the Party reported that category-specific studies for the category solid waste disposal have been carried out by the Malta Resources Authority to ensure the accuracy and consistency of the data for the waste sector. The data provided through the only waste operator are also reviewed accordingly. However, QA/QC procedures for the other key category (wastewater treatment and discharge) are not reported in the NIR
W.2	5.A Solid waste disposal on land – CH_4 (85, 2013) Accuracy*	Either refer to a well-documented source (e.g. conduct a peer review of the study provided) and use the country-specific oxidation factor or use the IPCC default oxidation factor and recalculate CH_4 emissions from SWDS	Not resolved. The Party has used a country-specific oxidation factor of 0.6 (based on CH_4 emission data from the Maghtab landfill, as reported in Vella, 2013)[e] which is higher than the oxidation factor provided in the 2006 IPCC Guidelines (0 for managed, unmanaged and uncategorized SWDS and 0.1 for managed SWDS covered with CH_4 oxidizing material; see volume 5, table 3.2). In addition, the ERT notes that the peer-reviewed document (Italiano, 2014)[f] of the study does not state that CH_4 oxidation took place in the cover soil; therefore, the use of a higher oxidation factor value is inappropriate. See ID# W.12 in table 5

ID#	*Issue and/or problem classification*[a, b]	*Recommendation made in previous review report*[c]	*ERT assessment and rationale*
W.3	5.A Solid waste disposal on land – CH_4 (86, 2013) (102, 2012) Transparency*	Provide detailed information in the NIR on CH_4 recovery for all years in which recovery is reported (e.g. the quantity of CH_4 recovered and method used to quantify CH_4)	Not resolved. Malta has reported CH_4 flaring for the years from 2011 onwards, and CH_4 for energy recovery for 2013 onwards. However, the NIR does not include a description of how the figures have been estimated. See ID# W.10 in table 5
W.4	5.A Solid waste disposal on land – CH_4 (87, 2013) Transparency*	Include the DOC content per type of degradable waste material in the NIR	Not resolved. The information on the DOC content of each waste type was not included in the NIR but was provided during the review. See ID# W.9 in table 5
W.5	5.A Solid waste disposal on land – CH_4 (88, 2013) Transparency*	Include information on the k values and half-lives of the waste fractions in the NIR	Not resolved. The information on the k values and half-lives of each waste type was not included in the NIR but was provided during the review. See ID# W.9 in table 5
W.6	5.A Solid waste disposal on land – CH_4 (89, 2013) Transparency	Replace the notation key "IE" reported for DOC and the MCF in the CRF tables with appropriate values	Resolved. The DOC and MCF values have been provided in the CRF tables for managed SWDS
W.7	5.A Solid waste disposal on land – CH_4 (90, 2013) Adherence to UNFCCC Annex I inventory reporting guidelines	Revise the notation keys in CRF table 6.A to avoid inconsistencies between the notation keys reported for unmanaged waste disposal sites and the related subcategories (deep and shallow)	No longer relevant. CRF table 5.A (6.A in the previous UNFCCC reporting guidelines) does not include subcategories for unmanaged waste disposal sites
W.8	5.C.1 Waste incineration – CH_4 and N_2O (91, 2013) Not an issue	Revise the CH_4 EF (the EF for open burning used as the EF for MSW incineration), ensure consistency in the selection of the default CH_4 and N_2O EFs for waste incineration and provide an explanation in the NIR	No longer relevant. The Party used the default CH_4 and N_2O EFs for waste incineration from the 2006 IPCC Guidelines as referenced in the NIR (chapter 7.4) and its annex 3
KP-LULUCF			
		There were no recommendations related to KP-LULUCF activities in the previous review report	

Abbreviations: AD = activity data, Annex I Parties = Parties included in Annex I to the Convention, AWMS = animal waste management system, CRF = common reporting format, DOC = degradable organic carbon, EF = emission factor, ERT = expert review team, EU ETS = European Union Emissions Trading System, F-gases = fluorinated gases, GHG = greenhouse gas, GWP

= global warming potential, IE = included elsewhere, IPCC = Intergovernmental Panel on Climate Change, IPCC good practice guidance = *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, IPPU = industrial processes and product use, k = methane generation rate constant, KP-LULUCF = LULUCF emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, LULUCF = land use, land-use change and forestry, MCF = methane correction factor, MSW = municipal solid waste, NA = not applicable, NCV = net calorific value, NE = not estimated, NEU = non-energy use, NIR = national inventory report, NO = not occurring, NSO = National Statistics Office, QA/QC = quality assurance/quality control, REWS = Regulator for Energy and Water Services, SWDS = solid waste disposal sites, UNFCCC Annex I inventory reporting guidelines = "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories", UNFCCC reporting guidelines = "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories", 2006 IPCC Guidelines = *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.

[a] References in parentheses are to the paragraph(s) and the year(s) of the previous review report(s) where the issue was raised. Issues are further classified as defined in decision 13/CP.20, annex, paragraph 81. In the review of the supplementary information reported in accordance with Article 7, paragraph 1, of the Kyoto Protocol, the ERT has applied the classification in decision 22/CMP.1, annex, paragraph 69, in conjunction with decision 4/CMP.11.

[b] An asterisk is included next to each issue type for all issues that are also problems, as defined in decision 22/CMP.1, annex, paragraphs 68 and 69, including those that lead to an adjustment or a question of implementation.

[c] Malta was not subject to an individual inventory review in 2014. Therefore, the recommendations reflected in table 3 are from the 2013 annual review report. For the same reason, the year 2014 is excluded from the list of years in which the issue has been identified.

[d] Bristow Potteries Ltd. See <http://www.bristowpotteries.com/en/home.htm>.

[e] Alfred J Vella. 2013. Emissions of Methane from Maghtab Landfill: An Opinion Based on Measurement Data Pertaining to the Landfill and Scott Wilson's Report CT2586/2004, Report. Zejtun, Malta.

[f] Francesco Italiano. 2014. Review of the Vella Report on Maghtab Landfill GHG Emissions, Report. Milazzo, Italy.

IV. Issues identified in three successive reviews and not addressed by the Party

9. In accordance with paragraph 83 of the UNFCCC review guidelines, the ERT noted that the issues included in table 4 have been identified in three successive reviews, including the review of the 2015 annual submission of Malta, and have not been addressed by the Party.

Table 4
Issues identified in three successive reviews and not addressed by Malta

ID#[a]	*Previous recommendation for the issue identified*	*Number of successive reviews issue not addressed*[b]
General		
G.6	Develop a QA/QC plan, in particular tier 1 QC procedures, and provide information on the QA/QC plan in the NIR	4 (2011–2015)
G.9	Improve the transparency of the uncertainty analysis by including information on the assumptions used to calculate the uncertainty of AD and EFs at the category level	3 (2012–2015)
G.10	Provide information to explain how the uncertainty analysis is used to prioritize further inventory improvements	3 (2012–2015)
G.12	Provide further information on current practices relating to data collection, data assessment and archiving, including documentation on QA/QC procedures	3 (2012–2015)

ID#[a]	*Previous recommendation for the issue identified*	*Number of successive reviews issue not addressed*[b]
Energy		
E.3	Allocate AD and emissions to the appropriate subcategories, in order to improve the comparability of the emission estimates with those of other Annex I Parties	3 (2012–2015)
E.5	Elaborate a QA/QC plan for the energy sector (which accounts for almost 90% of total GHG emissions in the country) as required by the UNFCCC reporting guidelines	3 (2012–2015)
E.11	Estimate CO_2 emissions using the reference approach for all years of the time series	4 (2011–2015)
E.24	Allocate the AD and emissions to the appropriate subcategories, in line with the UNFCCC reporting guidelines, in order to improve comparability with other Annex I Parties	4 (2011–2015)
IPPU		
I.1	Develop and implement QA/QC procedures for the IPPU sector	3 (2012–2015)
I.10	Investigate the time-series inconsistency of the estimates of CO_2 emissions from road paving with asphalt, recalculate the emissions, if appropriate, and report on the findings in the NIR	3 (2012–2015)
Agriculture		
A.3	Provide information on the uncertainty of the agriculture sector	3 (2012–2015)
A.4	Review the population data for all livestock categories, ensure time-series consistency and report on any recalculations	3 (2012–2015)
A.5*	Justify the applicability of the Italian CH_4 EF for rabbits to the national circumstances in Malta	3 (2012–2015)
A.10	Replace the notation keys with data values in CRF table 3.B(b) and ensure that the information in the NIR and in the CRF tables is consistent	3 (2012–2015)
A.16	Review the consistency of the time series and explain the trend in the use of synthetic fertilizers in the NIR	3 (2012–2015)
LULUCF		
L.1	Increase the completeness of the LULUCF sector estimates	3 (2012–2015)
L.8	Report the sources of the uncertainty values	3 (2012–2015)
Waste		
W.1	Develop QA/QC procedures for the waste sector and report them in the NIR	3 (2012–2015)
W.3	Provide detailed information in the NIR on CH_4 recovery for all years in which recovery is reported (e.g. the quantity of CH_4 recovered and method used to quantify CH_4)	3 (2012–2015)

ID#[a]	*Previous recommendation for the issue identified*	*Number of successive reviews issue not addressed*[b]
KP-LULUCF		
	No such issues for KP-LULUCF activities were identified	

Abbreviations: AD = activity data, CRF = common reporting format, EF = emission factor, GHG = greenhouse gas, IPPU = industrial processes and product use, KP-LULUCF = LULUCF emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, LULUCF = land use, land-use change and forestry, NIR = national inventory report, QA/QC = quality assurance/quality control, UNFCCC reporting guidelines = "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories".

[a] An asterisk is included after any issue ID# where the underlying issue is related to accuracy or completeness of a key category, a missing category or a potential key category, as indicated in decision 13/CP.20, annex, paragraph 83.

[b] Malta was not subject to an individual inventory review in 2014. Therefore, 2014 is excluded from this table.

V. Additional findings made during the 2015 technical review

10. Table 5 contains findings made by the ERT during the technical review of the 2015 annual submission of Malta that are additional to those identified in table 3 above.

Table 5
Additional findings made during the 2015 technical review of the annual submission of Malta[a]

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue*[b] *and/or a problem*[c]*? If yes, classify by type*
General			
G.13	QA/QC and verification	The NIR describes a QA activity carried out in 2014 for the energy sector by the University of Malta. During the review, Malta explained that in 2015, the MRA team met with GHG experts from the United Kingdom of Great Britain and Northern Ireland to discuss technical issues related to the LULUCF sector. The inventory has also undergone an external review by the European Union under the effort-sharing decision. Further, Malta informed the ERT that it plans to put in place agreements with other European Union member States to conduct desk reviews in the future as a QA activity. For example, there is a plan to establish a memorandum of understanding between Malta's Ministry for Sustainable Development, the Environment and Climate Change and Austria's Environment Agency regarding GHG inventory issues	Not an issue
		The ERT commends Malta for its efforts to carry out different approaches to implement QA procedures. The ERT encourages Malta to describe the activities carried out, and to continue to explore ways to carry out QA on a regular basis	
G.14	QA/QC and verification	During the review, Malta explained that it is in the process of drafting QA/QC procedures for the institutional arrangements. Work is ongoing on the drafting of a quality manual for the MRA Climate Change Unit and the standard operating procedures regarding: the inventory process; training; change control; document control; archiving; approval of reports; use of CRF software; writing standard operating procedures; and work instructions. The ERT commends Malta for initiating the drafting of the quality manual and the standard operating procedures, which underpin the inventory process	Yes. Adherence to UNFCCC Annex I inventory reporting guidelines
		The ERT recommends that Malta elaborate an inventory QA/QC plan, implement general inventory QC procedures in accordance with its QA/QC plan, and report information on these issues in its NIR	
G.15	Key category analysis	Recommendations for improvements identified during external reviews are logged in an annual inventory evaluation log which includes, among others, a record of findings, the prioritization of findings, and a record of action taken. Actions are discussed and decided upon during meetings of the MRA Climate Change Unit. The ERT noted that, by way of improvement, the evaluation log could be further developed to include a record of improvements identified by the inventory preparation team and to identify recommendations according to whether they relate to key categories	Not an issue

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		The ERT encourages Malta to use the results of the key category analysis to prioritize inventory improvements and include an indication of the timelines for each of the logged recommendations. As a starting point, the Party may consider adding a column on key categories in its improvement log to be considered. In addition, it may include a summary of recommendations implemented/not implemented in the NIR, including timelines to address them	
G.16	Key category analysis	In the NIR, the category that results in cumulative emissions of over 95% was not included as a key category The ERT recommends that Malta correct the cut-off criteria for the key category analysis	Yes. Adherence to UNFCCC Annex I inventory reporting guidelines
G.17	NIR	The standard operating procedures currently do not contain a list of all stakeholders in the GHG inventory. The quality manual for the MRA Climate Change Unit contains information on the roles and responsibilities of the MRA Climate Change Unit. However, it does not contain information on other stakeholders, such as data providers and QA implementers Taking into consideration ID# G.12 in table 3, the ERT notes that the quality manual could provide a good basis for the provision of this information	Not an issue
G.18	Inventory planning	During the review, Malta explained that MRA is working with NSO and other data providers to strengthen the institutional arrangements. Working groups for the energy and AFOLU sectors have been established to strengthen data provision. However, Malta recognizes that additional efforts are needed to collect the necessary data on an annual basis The ERT encourages Malta to continue its bottom-up approach to informally strengthen the institutional arrangements, but to consider additional top-down approaches (including increased collaboration with NSO, Eurostat and other organizations) to strengthen the data collection system and report on any implemented changes in the NIR	Not an issue
G.19	QA/QC and verification	The ERT identified the following inconsistencies between the data reported in the NIR and the CRF tables: 1. There are differences between NIR tables ES-1 and 2-1 and CRF table 10s6 with regard to the emission estimates and notation keys reported for: CO_2 emissions with and without LULUCF and PFC emissions for all reported years; N_2O emissions for the period 2010–2014; HFC emissions for all reported years except 1990, 2012 and 2013; and total emissions with and without LULUCF for the period 2005–2014 2. There are differences between NIR tables ES-2 and 2-3 and CRF table 10s6 with regard to the emission estimates reported for the energy sector; the total emissions with LULUCF for the	Yes. Adherence to UNFCCC Annex I inventory reporting guidelines

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		period 2005–2014; and the emission estimates reported for the IPPU sector for the period 2005–2011 and 2014	
		3. There are differences between NIR table 2-2 and CRF table 10s6 with regard to the emission estimates and notation keys reported for: CO_2 emissions with and without LULUCF; N_2O and HFC emissions and total emissions with and without LULUCF for 2014; and PFC emissions for 1990	
		4. There are differences between NIR table 2-2 and CRF table 10s6 with regard to the reported percentage change in emissions for the period 1990–2014 for all gases	
		5. There are differences between NIR table 2-4 and CRF table 10s6 with regard to the emission estimates reported for: emissions from the energy and IPPU sectors and total emissions with LULUCF for 2014; and the percentage change in emissions for the period 1990–2014 for the energy, IPPU and LULUCF sectors and total emissions with LULUCF	
		6. In the NIR (pp. xvi and 15), the Party reported that "The change in total emissions between base year and the latest reported year (2014) for the without-LULUCF estimates represents an increase of 48.94%, while for the with-LULUCF estimates this represents an increase of 48.99%", but in CRF table 10s6, Malta reported increases of 49.11% and 49.16%, respectively	
		7. In the NIR (p. 28), the Party reported "The level of net removals from sector LULUCF…and a maximum 3.01 Gg CO_2 equivalent (2012)", but in CRF table 10s6, Malta reported a figure of 2.90 Gg CO_2 eq for 2012	
		8. In the NIR (p. 109), the Party reported that "Overall, the sector accounted for –2.70 Gg of CO_2 removals in 2014", but in CRF table 10s6, Malta reported a figure of –2.83 Gg of CO_2 removals	
		During the review, the Party explained that many of the discrepancies between the NIR and the CRF tables were due to the malfunction of the new CRF Reporter software, and that MRA used internal overview sheets for the purposes of completing its sections of the NIR with respect to numerical data, which were deemed more reliable than the CRF tables generated. As the reliability of the new CRF system improves, discrepancies will be easier to identify and will be rectified to ensure consistency between the NIR and the CRF tables	
		The ERT recommends that Malta complete its quality manual and standard QC operating procedures, and implement them to ensure consistent reporting between the CRF tables and the NIR	
G.20	Uncertainty analysis	Information on the assumptions used to calculate the uncertainty of the AD and EFs at the category level is not available. In addition, information to explain how the uncertainty analysis is used to	Yes. Adherence to UNFCCC Annex I inventory reporting

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		prioritize further inventory improvements has not been included in the NIR	guidelines
		The ERT recommends that Malta discuss qualitatively the uncertainty of the data used for all source and sink categories in a transparent manner in the NIR, in particular for categories identified as key categories	
G.21	Article 3, paragraph 14, of the Kyoto Protocol	In chapter 15 of the NIR, Malta states that it has no information available to enable it to report on the minimization of adverse impacts. However, the ERT notes that decision 15/CMP.1, annex, paragraph 23, states that "Each Party included in Annex I shall provide information relating to how it is striving, under Article 3, paragraph 14, of the Kyoto Protocol, to implement its commitments mentioned in Article 3, paragraph 1 bis, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in Article 4, paragraphs 8 and 9, of the Convention"	Yes. Transparency*
		The ERT recommends that Malta include, as appropriate, information on the minimization of adverse impacts in accordance with decision 15/CMP.1, annex, paragraphs 23 and 24, including any changes since the previous submission	
G.22	National registry	In the NIR (chapter 14), Malta explained that the national registry was not yet in place. During the review, Malta explained that the registry had become operational since the submission of the NIR. The ERT noted that the initial independent assessment report of the national registry of Malta,[d] published on 22 February 2017, states that "the registry is deemed sufficiently compliant with the registry requirements defined in decisions 13/CMP.1 and 5/CMP.1"	Yes. Transparency*
		The ERT recommends that Malta report any changes to its national registry (compared with the information in the previous submission) in its NIR, in accordance with chapter G titled "Changes in national registries", contained in the annex to decision 15/CMP.1	
G.23	Kyoto Protocol units	The ERT noted that the NIR does not include information on the calculation of the CPR. During the review, Malta indicated that its CPR was 8 369 793 t CO_2 eq, based on the information included in the original CRF tables. After submitting revised estimates on 9 February 2017, Malta explained that its CPR had not changed because it is based on its assigned amount. The CPR calculated by the Party may be found in annex II to this document. The ERT agrees with the value provided in annex II	Yes. Transparency*
		The ERT recommends that Malta report, in its NIR (chapter 12, titled "Information on accounting of Kyoto units") its CPR and the method used to calculate it	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
G.24	Kyoto Protocol units	The ERT noted that Malta did not submit the SEF for reporting Kyoto Protocol units for the second commitment period in conjunction with its first annual inventory submission for that commitment period, as requested by decision 2/CMP.8, paragraph 5, decision 3/CMP.11, annex II, paragraph 2, and decision 15/CMP.1, annex, paragraph 11 The ERT recommends that Malta report the SEF tables for reporting Kyoto Protocol units	Yes. Transparency*
G.25	National system	The ERT notes that the NIR provides a basic description of the Party's implementation of the annex to decision 19/CMP.1 in conjunction with decision 3/CMP.11. As noted by the ERT (see ID#s G.7 in table 3 and G.18 above), Malta is in the process of enhancing the institutional and procedural arrangements. However, the ERT considers that the national system is functional	Not an issue
G.26	Recalculations	Malta submitted its original 2016 NIR under the Kyoto Protocol on 12 October 2016 (the Party submitted its 2015 NIR under the Convention on 19 April 2016), explaining that the official 2016 inventory submission constitutes a submission under the Convention for the year 2016, a resubmission under the Convention for the year 2015 and a submission under the Kyoto Protocol for the years 2015 and 2016. The ERT noted that the 2015 NIR does not include a description of the recalculations performed between the 2014 submission and the final 2015 submission. The ERT concludes that the Party's reporting is not transparent, but noted that this situation was related to the unique circumstances referred to in paragraph 6 above	Not an issue
Energy			
E.33	1. General (energy sector)	The ERT noted that there are still significant differences between the Eurostat data on imports of secondary oil products and the data reported in the CRF tables for different fuel consumption, as noted by the previous ERT (see ID# E.13 in table 3). For example, for 2013, the Eurostat data for secondary oil products are 107,304.00 TJ, but the figure reported in the CRF tables is 92,671.99 TJ. During the review, the Party explained that NSO was in the process of revising the data to be sent to Eurostat for the entire time series (1990–2015) for all fuel types and sectors by November 2016, but it is not known when Eurostat will update the data The ERT encourages Malta to continue to monitor and address the differences between the Eurostat data on imports of secondary oil products and the data reported in the CRF tables for different fuel consumption	Not an issue
E.34	Fuel combustion – reference approach	Regarding the differences in the estimates for energy consumption between the reference approach and the sectoral approach, the ERT noted that the values reported in NIR table 3-1 are not the same as those in CRF table 1.A(c). For example, for 2014, the difference (in percentage terms) between the values for energy consumption for liquid fuels (excluding international bunkers) is reported as –	Yes. Adherence to UNFCCC Annex I inventory reporting

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		3.72% in the NIR, but as –18.27% in CRF table 1.A(c); for gaseous fuels, the difference is reported as 0.38% in the NIR, but is reported as "NE" for the reference approach and is estimated for the sectoral approach; and for all fuels, the difference is reported as –3.72% in the NIR, but as 18.22% in CRF table 1.A(c). In response to a question raised by the ERT during the review, the Party recognized the existence of differences in the values reported	guidelines
		The ERT recommends that Malta correct the discrepancies between CRF table 1.A(c) and the NIR for the differences in energy consumption between the reference and sectoral approaches	
E.35	Fuel combustion – reference approach	The ERT noted that Malta has not estimated the apparent energy consumption (excluding non-energy use, reductants and feedstocks) for solid, gaseous and other fossil fuels using the reference approach (reported as "NE" in CRF table 1.A(c))	Yes. Transparency*
		The ERT recommends that Malta estimate the apparent energy consumption (excluding non-energy use, reductants and feedstocks) for solid, gaseous and other fossil fuels using the reference approach and report the estimates in CRF table 1.A(c)	
E.36	Fuel combustion – reference approach	The ERT noted that different notation keys were reported for CO_2 emissions from solid and other fossil fuels in NIR table 3-1 (reported as "NO, NA, IE, NE") and CRF table 1.A(c) (reported as "NE, NO, IE"). During the review, the Party acknowledged the discrepancy and explained that the correct notation keys are "NE, NO, IE"	Yes. Adherence to UNFCCC Annex I inventory reporting guidelines
		The ERT therefore recommends that Malta correct the notation keys for the AD for solid and other fossil fuels in NIR table 3-1 and CRF table 1.A(c)	
E.37	1.A.3.b Road transportation liquid fuels – CO_2, CH_4 and N_2O	The ERT noted that Malta uses a tier 1 IPCC methodology for the period 1990–2004 and the COPERT IV model for the period 2005–2014 to estimate CO_2, CH_4 and N_2O emissions from liquid fuels for road transportation. In response to a question raised by the ERT during the review regarding the provision of an explanation for not applying the COPERT IV model for the period 1990–2004, Malta explained that comprehensive and concise data on the vehicle fleet are only available from 2005 onwards and, hence, the data for the earlier period (1990–2004) could not be imported into the COPERT IV model. The Party also explained that if these data are made available by Transport Malta, they would be included in the COPERT IV model accordingly	Yes. Consistency*
		The ERT recommends that Malta ensure the time-series consistency of the CO_2, CH_4 and N_2O emission estimates of liquid fuels in road transportation by using the same methodology (COPERT IV model) for the entire time series or demonstrating in the NIR that the use of two different methodologies does not introduce inconsistencies in the time series	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
E.38	1.A.3.b Road transportation – liquid fuels – CO_2	The ERT noted that the CO_2 IEF for gasoline in road transportation for the years since 2009 reported in CRF table 1.A(a)s3 (73.73 t CO_2/TJ) is higher than the default EF from the 2006 IPCC Guidelines (69.30 t CO_2/TJ). The ERT noted that the CO_2 IEF used by the Party for the period 1990–2008 is the IPCC default value. During the review, the Party explained that the relatively high IEF for gasoline in road transportation since 2009 would be investigated The ERT recommends that Malta review the CO_2 IEF for gasoline in road transportation used for the years since 2009 and, if appropriate, explain the differences between the IEF used for the previous years reported and the IPCC default EF and demonstrate that the use of different IEFs does not render the time series inconsistent	Yes. Accuracy*
E.39	1.A.3.b.i Cars – liquid fuels – CO_2 and N_2O	The ERT noted that there are several significant inter-annual changes in the CO_2 and N_2O IEFs for gasoline, diesel oil and LPG for cars for different years of the time series (e.g. 9.2% for gasoline between 2009 and 2010; 12.1% for diesel oil between 2013 and 2014; and 222.4% for LPG between 2013 and 2014). During the review, Malta explained that the consistency of the time series is dependent on the data available on the stock of licensed vehicles The ERT recommends that Malta review the CO_2 and N_2O IEFs for cars for gasoline, diesel oil and LPG and explain any significant inter-annual changes and how the consistency of the time series is ensured	Yes. Transparency*
E.40	1.A.4.c Agriculture/forestry/fishing – liquid fuels – CO_2	The ERT commends Malta for estimating emissions from all fuels in agriculture/forestry/fisheries for the whole time series since 1990 (in the 2014 submission, the Party reported emission estimates for the period 1990–2001 only). During the review, the Party explained that data on the fuel used in agriculture/forestry/fisheries were obtained from a survey on the use of fuels in the economic sectors, covering the years 2010–2013. For the period 1990–2009, a backcasting exercise was carried out which indexed the survey results with the population in employment in order to obtain a consistent time series. The emissions were subsequently estimated by multiplying the fuel use (by fuel type) with the respective EF The ERT commends Malta for reporting the CO_2 emissions from agriculture/forestry/fisheries for the entire time series and for its efforts to ensure time-series consistency	Not an issue
E.41	1.A.5 Other (fuel combustion activities) – liquid fuels – CO_2, CH_4 and N_2O	Malta did not report emissions of fuel consumption from military activities for the entire time series since 1990 (reported as "NO" under category 1.A.5 in CRF table 1.A(a)s4). During the review, the Party confirmed that fuel consumption emissions from military activities occur in the country. The ERT noted that the 2006 IPCC Guidelines (volume 2, chapter 2, table 2.1) state that for category 1.A.5, Parties should "include emissions from fuel delivered to the military in the country and delivered to the military of other countries that are not engaged in multilateral operations" and	Yes. Transparency*

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue[b] and/or a problem[c]? If yes, classify by type
		included this issue (underestimation of emissions) in the list of potential problems and further questions raised by the ERT during the review	
		In response to the list, Malta submitted revised estimates on 9 February 2017, including estimates of CO_2, CH_4 and N_2O emissions from fuel consumption from military activities and reported them (both mobile and stationary combustion) under category 1.A.5 – other (mobile). The ERT considers that the underestimation of emissions has been resolved. As a result of these changes, CO_2, CH_4 and N_2O emissions from category 1.A.5 changed from "NO" to 3.67 kt CO_2 eq, 3.27 kt CO_2 eq and 2.53 kt CO_2 eq for 2014, 2013 and 1990, respectively	
		The ERT recommends that Malta explain in its NIR the methodology, assumptions and sources of AD and EFs used to estimate and report CO_2, CH_4 and N_2O emissions from fuel use in the military (both stationary and mobile combustion) for the entire time series since 1990. The ERT also recommends that Malta disaggregate the emissions between stationary and mobile combustion	
IPPU			
I.14	2.B Chemical industry – CO_2	The ERT noted that, in its 2014 submission, Malta reported CO_2 emissions from consumption of calcium carbide. The ERT noted that Malta did not include these emissions in its 2015 and 2016 submissions. During the review, the Party explained that for calcium carbide emissions, the CRF tables only include emissions from calcium carbide production (category 2.B.5) and not consumption. However, the ERT noted that calcium carbide consumption emissions are mentioned in the 2006 IPCC Guidelines (volume 3, chapter 3, p.3.42), although there is no specific category for reporting calcium carbide consumption emissions in the CRF tables. The ERT also noted that paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines state that "Once emissions from a specific category have been reported in a previous submission, emissions from this specific category shall be reported in subsequent GHG inventory submissions" and therefore Malta shall continue reporting these emissions. The ERT considered that by not reporting these emissions, Malta is underestimating its emissions from Annex A sources for the entire time series and included this issue in the list of potential problems and further questions raised by the ERT during the review	Yes. Transparency*
		In response to the list, Malta submitted revised estimates on 9 February 2017, including CO_2 emission estimates for calcium carbide consumption estimated using an EF of 1.375 t CO_2/t CaC_2, and reported the emissions under category 2.B.5. As a result of this change, CO_2 emissions from category 2.B.5 increased by 0.07 kt CO_2 eq for 2014, 0.03 kt CO_2 eq for 2013 and 0.17 kt CO_2 eq for 1990. The ERT considers that the issue has been resolved	
		The ERT recommends that Malta include in its NIR information on how CO_2 emissions from	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		calcium carbide consumption have been estimated	
I.15	2.F.1 Refrigeration and air conditioning: commercial refrigeration – HFCs	The ERT noted that Malta reported disposal emissions from commercial refrigeration as "NO" in CRF table 2(II).B-Hs2. During the review, the Party explained that the methodology used assumes that the EF used for equipment also includes disposal emissions The ERT recommends that Malta explain, in its NIR, that the EF used for equipment in stock also includes disposal emissions and ensure that the correct notation keys (e.g. "IE") are used for disposal emissions in CRF table 2(II).B-H The ERT also recommends that Malta ensure the consistency between the notation keys used to report AD for "Filled into new manufactured products" and for "Remaining in products and decommissioning" ("NE") and the associated emissions (reported as "NO")	Yes. Transparency*
I.16	2.F.1 Refrigeration and air conditioning: transport refrigeration and stationary air conditioning – HFCs	The ERT noted that Malta reported disposal emissions from transport refrigeration and stationary air conditioning as "NE" and "NO" in CRF table 2(II).B-H. During the review, the Party explained that, for transport refrigeration, equipment disposal emissions are based on an EF associated with a specific lifetime (16 years) and that, since no equipment has yet reached that lifetime (HFC-refrigerants were introduced in 2001), it is assumed to be zero. Malta further explained that for stationary air conditioning, the EF used is assumed to comprise disposal emissions; therefore, the notation key for disposal emissions in this sector should be changed to "IE" The ERT recommends that Malta explain, in its NIR: the reasons why HFC emissions from disposal of transport refrigeration and other relevant equipment are not occurring; and how the EF for stationary air conditioning is assumed to include disposal emissions. The ERT also recommends that the Party review the notation keys reported for disposal emissions in CRF table 2(II).B-H to ensure that the correct notation keys are used	Yes. Transparency*
I.17	2.F.1 Refrigeration and air conditioning: transport refrigeration – HFCs	Malta has reported HFC emissions from transport refrigeration under category 2.F.1 for the period 2000–2014. The NIR (chapter 4.7.1.3.2) states that "Emission estimates for transport refrigeration are also based on an EF approach. A European study (RPA, 2005; p. 12)[e] estimated that there were 1,000 refrigerated vans, 600 refrigerated trucks and 300 refrigerated trailers in Malta in 2004. On the basis of information provided by the local transport authority, the total net number of refrigerated vans and trucks is assumed to have not varied between 2000 and 2012. It is therefore valid to use the same total of 1,900 refrigerated vans, trucks and trailers for the time series". Responding to a query raised by the ERT during the review about this unchanged number of refrigerated vans, trucks and trailers, Malta acknowledged that this assumption may not be valid and that those numbers have increased since 2004, based on information obtained on the number of refrigerated vans and trucks for more recent years. As such, the ERT concluded that the associated	Yes. Transparency*

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue[b] and/or a problem[c]? If yes, classify by type
		HFC emissions were potentially underestimated for the period 2005–2014 and included this issue in the list of potential problems and further questions raised by the ERT during the review	
		In response to the list, Malta explained that the actual AD for refrigerated vehicles were obtained from Transport Malta and NSO, and that these data indicate that the number of refrigerated vans and trucks was lower than the assumption of 1,900 vehicles used in the original estimates (e.g. there were 1,190 refrigerated vans and trucks registered for 2013 and 1,238 for 2014). The ERT considers that the issue has been resolved	
		The ERT recommends that Malta include this information in its NIR, and information on how HFC emissions from transport refrigeration have been estimated across the time series	
I.18	2.F.2 Foam blowing agents – HFCs	The ERT noted in the NIR (chapter 4.7.2) that there are significant inter-annual changes in HFC emissions from foam blowing agents. For example, Malta reported 1.857 kt CO_2 eq of emissions for 2006, which increased to 4.994 and 6.596 kt CO_2 eq for 2007 and 2009, respectively, then decreased significantly for 2010 (1.820 kt CO_2 eq), followed by a significant increase for 2011 (4.602 kt CO_2 eq), and a significant drop for 2012 (1.638 kt CO_2 eq). During the review, the Party explained that there are two possible reasons behind the inter-annual changes: low imports owing to market conditions; and the reluctance of some importers to provide AD	Yes. Consistency*
		The ERT recommends that Malta review the AD and ensure that there is a robust and consistent approach to collecting AD for this category in a way that eliminates any possibility of data gaps from some of the importers, and explain any significant inter-annual changes in emissions	
I.19	2.F.2 Foam blowing agents – HFCs	The ERT noted that Malta uses the notation key "NE" in the NIR to report foam blowing emissions for the years 1990–1999. During the review, the Party explained that HFC emissions from this category did not occur in that period since the earliest import of HFCs in Malta dates back to 2000, and there is no national production	Yes. Transparency*
		The ERT recommends that Malta explain, in the NIR, that HFC emissions from foam blowing agents do not occur and ensure that the notation key "NO" is used, where appropriate, in the NIR and in the CRF tables for emissions and AD that are not occurring	
I.20	2.F.3 Fire protection – HFCs	Malta has reported HFC-227ea emissions from manufacturing, stocks and disposal for the period 1990–2003 as "NE" in CRF table 2(II).B-H. During the review, the Party explained that the notation key should be "NO" since non-HFC halons were used prior to 2004	Yes. Transparency*
		The ERT recommends that Malta report HFC-227ea emissions from manufacturing, stocks and disposal for the period 1990–2003 as "NO" in CRF table 2(II).B-H and explain, in the NIR, that	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		non-HFC halons were used prior to 2004	
I.21	2.F.3 Fire protection – HFCs	Malta has reported recovery of HFC-227ea emissions for the period 1990–2003 as "NE" in CRF table 2(II).B-H. During the review, the Party explained that no estimates of recovery of F-gases are available and that, based on a conservativeness principle, the notation key "NE" is reported. Responding to a query raised by the ERT during the review on the use of the notation key "NE" to depict conservativeness, Malta explained that the notation key used should be "NO", since non-HFC halons were used prior to 2004	Yes. Transparency*
		The ERT recommends that Malta report recovery of HFC-227ea emissions for the period 1990–2003 as "NO" in CRF table 2(II).B-H and explain the use of the notation key "NO" in the NIR	
I.22	2.G.3 N_2O from product uses – N_2O	During the review, the Party explained that it is planning to include N_2O emissions from aerosols under category 2.G.3. Responding to a query raised by the ERT during the review on the current exclusion of these emissions, Malta explained that specific data on imports of such materials are not consistent and are relatively incomplete, and that the Party intends to use a proxy based on the GHG inventory of the United Kingdom in its 2017 submission. The ERT noted that the 2006 IPCC Guidelines (volume 3, chapter 8.4.1) state that it is good practice to estimate N_2O emissions from aerosols (and from medical applications) for this category. The ERT is of the view that this issue should be considered further in future reviews to confirm there is no underestimation of emissions	Yes. Completeness*
		The ERT recommends that Malta include N_2O emissions from use as a propellant in aerosol products in category 2.G.3 for the entire time series, or, if the Party considers these emissions insignificant, report them as "NE" and include a justification for doing so in the NIR, in accordance with paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines	
Agriculture			
A.22	3. Agriculture – general	Malta uses a number of different sources for the provision of AD for livestock populations prior to the year 2000 (NIR, chapter 5.2.2). As a result, there are a number of fluctuations in the time series of emissions from the agriculture sector for the period 1990–2000, in particular for the years 1997–2000 (emissions from the agriculture sector were 78.51 kt CO_2 eq for 1997, 65.53 kt CO_2 eq for 1998, 68.68 kt CO_2 eq for 1999 and 78.03 kt CO_2 eq for 2000)	Yes. Consistency*
		The ERT recommends that Malta undertake a detailed review of the AD (animal populations) for the agriculture sector, in order to identify the most appropriate data source, including for the base year, and use appropriate techniques as detailed in the 2006 IPCC Guidelines for the development of a consistent time series of AD	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
A.23	3.A.1 Cattle and 3.A.2 Sheep – CH_4	Malta did not transparently describe the assumptions used in the development of the tier 2 estimates of CH_4 emissions from enteric fermentation for dairy cattle, other cattle and sheep. During the review, Malta provided a full description of the assumptions used, in particular data in relation to milk yield, milk fat content and the quantities and proportions of forage and concentrate fed to dairy cattle, cattle and sheep The ERT recommends that Malta document in its NIR detailed information with respect to the assumptions used in the tier 2 estimates of CH_4 emissions from enteric fermentation for dairy cattle, cattle and sheep, in order to increase transparency and, to the extent possible, use a consistent approach to the use of assumptions in the estimate of CH_4 emissions from enteric fermentation, the estimate of CH_4 and N_2O emissions from manure management and the estimate of N_2O emissions from the application of organic N to soils	Yes. Transparency*
A.24	3.A.1 Cattle – CH_4	Malta uses a methane conversion rate (Ym) value of 7.5% for dairy cattle for the period 1990–1999, a value of 7.0% for the years 2000–2004 and 6.5% for the years 2005–2014 in the estimation of CH_4 emissions from enteric fermentation for dairy cattle, based on assumed proportions of forage and concentrates in the diet of dairy cattle. Further, Malta uses a Ym value of 4.75% in the estimation of CH_4 emissions from enteric fermentation for non-dairy cattle across the entire time series (1990–2014), based on a calculated average value of Ym from feedlot cattle and other cattle as presented in table 10.12 of the 2006 IPCC Guidelines. The ERT considered that Malta had not provided sufficient evidence in line with the 2006 IPCC Guidelines for the use of values that differ from the IPCC default value of 6.5% for both dairy cattle and other cattle. The ERT therefore considered that CH_4 emissions from enteric fermentation for dairy cattle were overestimated for the period 1990–1999 and CH_4 emissions from enteric fermentation for other cattle were underestimated across the entire time series (1990–2014). These issues were included in the list of potential problems and further questions raised by the ERT during the review In response to the list, Malta submitted revised estimates on 9 February 2017, including estimates of CH_4 emissions for enteric fermentation for dairy cattle and non-dairy cattle using the default Ym value of 6.5% for each year of the time series. The ERT considers that the revised estimates resolved the issue raised during the review. As a result of these changes and the changes described in ID# A.25 below, CH_4 emissions from category 3.A decreased by 1.80 kt CO_2 eq for 2014, 1.77 kt CO_2 eq for 2013 and 4.50 kt CO_2 eq for 1990 The ERT recommends that Malta describe the Ym value used for the estimation of CH_4 emissions from enteric fermentation for both dairy cattle and other cattle in its NIR and, where sufficient evidence exists, to use a value other than the default, supported by appropriate documentation in the	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		NIR	
A.25	3.A.4 Other livestock – CH_4	Malta uses an EF of 0.1 kg/head/year to estimate CH_4 emissions from poultry, which is the highest EF (factor of 10) of the small number of Parties that report CH_4 emissions from enteric fermentation for poultry. In addition, the 2006 IPCC Guidelines do not include either an approach or an EF for this category. During the review, Malta could not provide a reference for the source of the EF. The ERT is of the view that the use of the EF leads to an overestimation of emissions for the entire time series (including the base year under the Kyoto Protocol) and included this issue in the list of potential problems and further questions raised by the ERT during the review In response to the list, Malta submitted revised estimates on 9 February 2017, including estimates of CH_4 emissions from enteric fermentation for other livestock using an EF of 0.01 kg/head/year. The ERT considers that the revised estimates resolved the issue raised during the review. As a result of these changes and the changes described in ID# A.24 above, CH_4 emissions from category 3.A decreased by 1.80 kt CO_2 eq for 2014, 1.77 kt CO_2 eq for 2013 and 4.50 kt CO_2 eq for 1990 The ERT recommends that Malta document in its NIR detailed information on the EF used to estimate CH_4 emissions from enteric fermentation for poultry	Yes. Transparency*
A.26	3.A.4 Other livestock – CH_4	Malta did not transparently describe the source of the EF used for CH_4 emissions from enteric fermentation for rabbits. However, during the review, the reference was provided (Sammut, 2015)[f] The ERT recommends that Malta include the reference for the CH_4 EF for enteric fermentation for rabbits in the NIR	Yes. Transparency*
A.27	3.B Manure management – CH_4 and N_2O	Malta did not provide information with respect to allocation by climate region, typical animal mass (average), VS daily excretion (average) and CH_4-producing potential (average) for a number of livestock categories and, where relevant, did not include the required additional information (for the tier 2 estimates) in terms of the allocation by climate region and MCF for the livestock categories where this applies in CRF tables 3.B(a) and 3.B(b). Further, Malta reported the notation key "NE" for animal waste management practices which do not apply to the national circumstances (the correct notation key should be "NO") The ERT recommends that Malta undertake a review of the data currently reported in CRF tables 3.B(a) and 3.B(b) with respect to allocation by climate region, typical animal mass (average), VS daily excretion (average) and CH_4-producing potential (average) for all livestock categories and, where relevant, include the required additional information for the tier 2 estimates, including a review of the appropriate use of notation keys	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
A.28	3.B.1 Cattle – CH_4	Malta used default values for VS excretion (4 kg/head/day) (i.e. tier 1) in the estimation of CH_4 emissions from manure management for cattle (volume 4, chapter 10, tables 10A-4 and 10A-5, of the 2006 IPCC Guidelines) even though sufficient information is available in the tier 2 approach that the Party used for the estimation of CH_4 emissions from enteric fermentation to estimate VS values for dairy cattle and other cattle. The ERT noted that using a tier 1 method to estimate CH_4 emissions from manure management is not consistent with using a tier 2 method to estimate CH_4 emissions from enteric fermentation. Further, the ERT notes the guidance provided in the 2006 IPCC Guidelines, whereby "Production of manure VS can be estimated based on feed intake and digestibility, which are the variables also used to develop the Tier 2 enteric fermentation emission factors". The ERT concludes that this results in a potential overestimation of CH_4 emissions from manure management for dairy cattle and other cattle for the entire time series (1990–2014) and the base year under the Kyoto Protocol Further, Malta applies the maximum methane-producing potential (B_0) value of 0.24 m^3 CH_4/kg VS for dairy cattle to the category non-dairy cattle, without proper justification. The ERT considers that this is also a potential overestimation of CH_4 emissions for the entire time series (1990–2014) The ERT included these two issues in the list of potential problems and further questions raised by the ERT during the review. In response to the list, Malta submitted revised estimates on 9 February 2017, including estimates of CH_4 emissions from manure management using a tier 2 approach, with the same values for gross energy and digestible energy used for the estimation of enteric fermentation emissions. CH_4 emissions from manure management have been estimated for all subcategories of non-dairy cattle (mature non-lactating cows, bulls, calves and growing cattle) using a B_0 value of 0.17m^3 CH_4/kg VS (table 10A-5 of the 2006 IPCC Guidelines), although the VS rates vary across the subcategories The ERT considers that the revised estimates resolved the issue raised during the review. As a result of these changes and the changes described in ID# A.32 below, CH_4 emissions from category 3.B decreased by 7.87 kt CO_2 eq for 2014, 8.22 kt CO_2 eq for 2013 and 10.11 kt CO_2 eq for 1990 The ERT recommends that Malta explain, in its NIR, the tier 2 methodology, assumptions and parameters (including VS and B_0) used in the estimates of CH_4 emissions from manure management, and demonstrate that these estimates are consistent with the estimates for enteric fermentation	Yes. Transparency*
A.29	3.B.1 Cattle and 3.D.a.2.a Animal manure applied to	To estimate N_2O emissions from manure management for dairy cattle, Malta uses an N excretion value of 70.26 kg N/head/year for dairy cattle, based on the default N excretion values provided in table 10.19 of the 2006 IPCC Guidelines. However, the Party used the tier 2 approach to estimate	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
	soils – N_2O	CH_4 emissions from enteric fermentation for dairy cattle (category 3.A.1). The tier 2 approach includes all the necessary data to estimate the country-specific N excretion values for dairy cattle in the estimation of N_2O emissions from dairy cattle (category 3.B.1). The tier 1 approach used by Malta resulted in an underestimation of N_2O emissions from manure management for cattle (category 3.B.1) and from animal manure applied to soils (category 3.D.a.2). This issue was included in the list of potential problems and further questions raised by the ERT during the review In response to the list, Malta submitted revised estimates on 9 February 2017, including estimates of N_2O emissions for the categories 3.B.1 (dairy cattle) and 3.D.a.2 (organic N fertilizers) using equations 10.31, 10.32 and 10.33 of the 2006 IPCC Guidelines to estimate the country-specific N excretion values, based on the information used in the tier 2 estimation of CH_4 emissions from enteric fermentation for dairy cattle The ERT considers that the revised estimates resolved the issue raised during the review. As a result of these changes and the changes described in ID#s A.30 and A.31 below (for N_2O emissions from category 3.B) and ID#s A.36 and A.38 below (for N_2O emissions from category 3.D), N_2O emissions from category 3.B decreased by 2.15 kt CO_2 eq for 2014, 2.20 kt CO_2 eq for 2013 and 2.47 kt CO_2 eq for 1990; and N_2O emissions from category 3.D decreased by 6.82 kt CO_2 eq for 2014, 6.84 kt CO_2 eq for 2013 and 12.69 kt CO_2 eq for 1990 The ERT recommends that Malta explain, in its NIR, how it estimates N_2O emissions from manure management for dairy cattle, including the N excretion values used, and N_2O emissions from animal manure applied to soils, and how these estimates are consistent with the tier 2 approach used to estimate CH_4 emissions from enteric fermentation for dairy cattle Further, the ERT recommends that Malta make every effort to use the proposed approach for other cattle and sheep as well	
A.30	3.B.1 Cattle – N_2O	In NIR table 5-7, Malta provided values of 0.25 for dairy cattle and 0.375 for other cattle for the N loss due to volatilization of NH_3 and NO_X from manure management, which are lower than the default values presented in the 2006 IPCC Guidelines (volume 4, chapter 10, table 10.22) (0.3 for dairy cattle and 0.45 for other cattle). During the review, Malta provided information which suggests that the values presented in the NIR are an average of those presented in table 10.22 of the 2006 IPCC Guidelines for the AWMS solid storage and dry lot, but the only AWMS used in Malta is solid storage. Malta acknowledged that the values for solid storage should have been used in the estimates. The method used by the Party resulted in an underestimation of N_2O emissions across the time series and was included in the list of potential problems and further questions raised by the ERT during the review	Yes. Transparency*

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue[b] and/or a problem[c]? If yes, classify by type
		In response to the list, Malta submitted revised estimates on 9 February 2017, for which Malta used the default values for solid storage from the 2006 IPCC Guidelines. The ERT considers that the revised estimates resolved the issue raised during the review. As a result of this change and the changes described in ID#s A.29 above and A.31 below, N_2O emissions from category 3.B decreased by 2.15 kt CO_2 eq for 2014, 2.20 kt CO_2 eq for 2013 and 2.47 kt CO_2 eq for 1990	
		The ERT recommends that Malta describe, in its NIR, the values used to estimate the N loss due to volatilization of NH_3 and NO_X from manure management for dairy cattle and for other cattle	
A.31	3.B.1 Cattle – N_2O	In NIR table 5-6, Malta provided an EF for the estimation of direct N_2O emissions from cattle manure (0.0125 kg N_2O-N/kg N excreted), which is different from the default values presented in volume 4, chapter 10, table 10.21, of the 2006 IPCC Guidelines (0.005 kg N_2O-N/kg N excreted for solid storage and 0.02 kg N_2O-N/kg N excreted for dry lot). During the review, Malta provided information which suggests that the value reported by the Party is an average of those presented in table 10.21 of the 2006 IPCC Guidelines for the AWMS solid storage and dry lot, but the only representative AWMS used in Malta is solid storage. The ERT concluded that by using a higher EF, Malta is overestimating the N_2O emissions for the entire time series (1990–2014) and is therefore overestimating its base-year emissions under the Kyoto Protocol. The ERT included this issue in the list of potential problems and further questions raised by the ERT during the review	Yes. Transparency*
		In response to the list, Malta submitted revised estimates on 9 February 2017, for which Malta used the default EF for solid storage from the 2006 IPCC Guidelines. The ERT considers that the revised estimates resolved the issue raised during the review. As a result of this change and the changes described in ID#s A.29 and A.30 above, N_2O emissions from category 3.B decreased by 2.15 kt CO_2 eq for 2014, 2.20 kt CO_2 eq for 2013 and 2.47 kt CO_2 eq for 1990	
		The ERT recommends that Malta describe, in its NIR, the value and source of the EF used for estimating direct N_2O emissions from cattle manure	
A.32	3.B.3 Swine – CH_4	Malta uses an MCF of 37% for liquid slurry from the 2006 IPCC Guidelines (volume 4, chapter 10, table 10.17) in the estimation of CH_4 emissions from manure management for swine; however, in the estimation of direct N_2O emissions from manure management, Malta describes the AWMS as pit storage (NIR table 5-6). The ERT noted that the MCF for pit storage for <1 month (3%) is lower than the MCF used by Malta. During the review, Malta confirmed that the AWMS used is for pit storage and that the incorrect MCF value was applied to the CH_4 emission estimates. This leads to an overestimation of CH_4 emissions from manure management for the entire time series and for the base year under the Kyoto Protocol. This issue was therefore included in the list of potential problems and further questions raised by the ERT during the review	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		In response to the list, Malta submitted revised estimates on 9 February 2017, for which Malta used the MCFs from the 2006 IPCC Guidelines: since pit storage is the AWMS for pigs and the manure is stored in the cess pit for approximately 14 days, the MCFs used were 3% (for <1 month) and 39% (for >1 month at 19 ºC (average temperature)). The ERT considers that the revised estimates resolved the issue raised during the review. As a result of this change and the changes described in ID# A.28 above, CH_4 emissions from category 3.B decreased by 7.87 kt CO_2 eq for 2014, 8.22 kt CO_2 eq for 2013 and 10.11 kt CO_2 eq for 1990	
		The ERT recommends that Malta explain, in its NIR, the methodology and assumptions used in the estimates of CH_4 emissions from manure management for swine	
A.33	3.B.4 Other livestock – CH_4	A value of 0.03 kg/dm/head/day for VS excretion is presented in CRF table 3.B(a)s1 for poultry, which is higher than the default value presented in table 10A-9 of the 2006 IPCC Guidelines (0.02 kg/dm/head/day). During the review, Malta provided a country-specific reference for the source of the value of 0.03 kg/dm/head/day	Yes. Transparency*
		The ERT recommends that Malta provide additional information on the use of the country-specific value for VS excretion for poultry in the NIR	
A.34	3.B.4 Other livestock – N_2O	Malta uses the default value for N loss due to volatilization of NH_3 and NO_X from manure management for poultry (without litter) in the estimation of indirect N_2O emissions from manure management for rabbits on the basis of the similarities in the AWMS used. However, the Party has not provided a rationale for this approach in the NIR	Yes. Transparency*
		The ERT recommends that Malta provide a rationale in the NIR of future submissions for the use of the default value for N loss due to volatilization of NH_3 and NO_X from manure management for poultry in the estimation of indirect N_2O emissions from manure management for rabbits (see also the recommendation on undertaking a representative survey of manure management practices for all livestock types (ID# A.20 in table 3))	
A.35	3.D.a.2.a Animal manure applied to soils – N_2O	The ERT noted that Malta does not estimate direct and indirect N_2O emissions from manure for "pasture, range and paddock". During the review, the Party stated that the implementation of the European Council nitrates directive[g] requires that all animals are housed throughout the year	Yes. Transparency*
		The ERT recommends that Malta explain, in its NIR, that that the implementation of the European Council nitrates directive[g] requires that all animals are housed throughout the year and therefore that direct and indirect N_2O emissions from manure for "pasture, range and paddock" do not occur	
A.36	3.D.a.2.a Animal manure applied to	Malta applied the default values for total N loss from manure management from table 10.23 of the 2006 IPCC Guidelines (volume 4, chapter 10) to estimate the total quantity of N available for the	Yes. Transparency*

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue[b] and/or a problem[c]? If yes, classify by type
	soils – N_2O	estimation of N_2O emissions from the application of animal manure to soils (F_{ON}). However, those default values include losses through run-off and leaching from the storage of manure in outdoor areas (as field heaps), in feedlots and where animals graze pasture, but they are not applicable to management practices in Malta. This results in an overestimation of the N loss from manure management and, as a result, an underestimation of the N applied to soils and the associated emissions across the time series. The ERT included this issue in the list of potential problems and further questions raised by the ERT during the review In response to the list, Malta submitted revised estimates on 9 February 2017, for which Malta deducted from the total N excreted: (i) the N emitted as N_2O during manure management; and (ii) the N emitted from indirect emissions from manure management estimated using the default values for N loss from the volatilization of NH_3 and NO_X presented in table 10.22 of the 2006 IPCC Guidelines. The ERT considers that the revised estimates resolved the issue raised during the review. As a result of this change and the changes described in ID#s A.29 above and A.38 below, N_2O emissions from category 3.D decreased by 6.82 kt CO_2 eq for 2014, 6.84 kt CO_2 eq for 2013 and 12.69 kt CO_2 eq for 1990 The ERT recommends that Malta explain, in its NIR, the methodology, assumptions, AD and EFs used in the estimation of N_2O emissions from category 3.D.a.2.a (animal manure applied to soils)	
A.37	3.D.a.2.a Animal manure applied to soils – N_2O	The ERT noted that Malta has provided scarce information in relation to the animal waste management types used in the country for all categories of livestock The ERT recommends that Malta undertake a representative survey of AWMS for all livestock species as part of future improvements to the inventory and include in the NIR information on the AWMS used in the country	Yes. Transparency*
A.38	3.D.a.5 Mineralization/ immobilization associated with loss/gain of soil organic matter – N_2O	Malta has not reported (reported as "NO") N_2O emissions for mineralization/immobilization associated with the loss/gain of organic matter following the conversion of grassland to cropland. However, the ERT noted that conversion of grassland to cropland occur (e.g. for 2014, Malta reported 0.14 kha of conversion from grassland to cropland in CRF table 4.B). The ERT therefore considered that N_2O emissions from agricultural soils were underestimated and included this issue in the list of potential problems and further questions raised by the ERT during the review. In response to the list, Malta submitted estimates of N_2O emissions from subcategory 3.D.a.5 (e.g. 0.00084 kt N_2O for 2014) The ERT considers that the revised estimates resolved the issue raised during the review. As a result of this change and the changes described in ID#s A.29 and A.36 above, N_2O emissions from category 3.D decreased by 6.82 kt CO_2 eq for 2014, 6.84 kt CO_2 eq for 2013 and 12.69 kt CO_2 eq	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		for 1990	
		The ERT recommends that Malta explain, in its NIR, how the N_2O emissions from mineralization/immobilization associated with the loss/gain of organic matter are estimated	
A.39	3.G Liming – CO_2	Malta reported the category 3.G (liming) as "NE" in the original submission of its CRF tables. However, the ERT noted that Malta's soils are largely calcareous in nature and therefore do not have a lime requirement in order to maintain soil fertility. The ERT considers that liming probably does not occur in Malta and that category 3.G should therefore be reported as "NO". Malta reported these emissions as "NO" in the CRF tables submitted on 7 November 2016	Yes. Transparency*
		The ERT recommends that Malta explain in the NIR the notation key used for category 3.G (liming)	
A.40	3.H Urea application – CO_2	Malta does not estimate CO_2 emissions from the application of urea fertilizer to agricultural soils (reported as "NE"). During the review, Malta provided evidence that CO_2 emissions from the application of urea to agricultural soils are insignificant	Yes. Completeness*
		The ERT recommends that Malta report CO_2 emissions from urea application to agricultural soils or justify, in its NIR, that CO_2 emissions from urea application to agricultural soils are insignificant in accordance with paragraph 37(b) of the UNFCCC Annex I inventory reporting guidelines	
LULUCF			
L.14	Land representation – general	The ERT notes that Malta has not constructed a fully consistent time series of area data for each of the land-use change categories reported. Indeed, in a generic year X, the area reported under each land-use conversion category does not correspond to the cumulative area of land-use changes that have occurred from the year X-19 to the year X inclusive. Further, in a generic year X, the area reported under each land-use remaining category does not correspond to the area reported under the same category in the previous year minus the area converted in the year X to other land uses plus the area converted to this land-use category in the year X-20	Yes. Consistency*
		The ERT recommends that Malta construct a time series of land use and land-use change matrices for the time period 1971–1989 and report them in the NIR	
		Further, the ERT recommends that Malta report in CRF tables 4.A, 4.B, 4.C, 4.D, 4.E and 4.F the correct AD values (namely the cumulative area changes to the relevant land-use categories for the last 20 years, including the reporting year, for each corresponding land-use conversion category and the area for the previous year minus the area losses in the reporting year plus the area gains that occurred 20 years before the reporting year for each corresponding land-use remaining category)	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
L.15	Land representation – general	Malta reported that its land representation has been developed using a national statistics data set (for cropland and for forest land) and the CORINE land cover statistics (for all other land uses). The ERT noted that such data sets use different land category definitions and the areas identified as forest land and as cropland under CORINE and the national statistics are not consistent. To resolve these differences, Malta applied a method, based on assumptions, to integrate in a consistent land representation time series, the national statistical data for cropland and forest land and the CORINE land cover data for other land uses. However, the ERT notes that information on the method, including the assumptions used, has not been reported in the NIR The ERT recommends that Malta report all information, including assumptions, on the method applied to construct a consistent land representation while using two different data sets (national statistics for cropland and forest land and CORINE land cover data for all other land uses)	Yes. Transparency*
L.16	Land representation – general	The ERT noted that no information has been reported on the correspondence between the CORINE land cover/land-use categories and the IPCC land-use categories The ERT recommends that Malta report a confusion matrix between the CORINE land cover/land-use categories and the IPCC land-use categories, including the two grassland subdivisions: woody grassland; and non-woody grassland	Yes. Transparency*
L.17	4. General (LULUCF) – CO_2	The ERT notes that, although the IPCC tier 1 method is available, Malta has not estimated the biomass carbon stock changes in each of the following categories: (i) other grassland converted to annual cropland; (ii) maquis (shrubland (a type of grassland) biome in the Mediterranean region) converted to annual cropland; (iii) annual cropland converted to settlements; (iv) maquis converted to settlements; (v) maquis converted to other land; and (vi) annual cropland converted to other grassland. Further, Malta has not estimated the initial biomass loss in maquis converted to perennial cropland The ERT recommends that Malta estimate the biomass carbon stock changes in: (i) other grassland converted to annual cropland; (ii) maquis converted to annual cropland; (iii) annual cropland converted to settlements; (iv) maquis converted to settlements; (v) maquis converted to other land; and (vi) annual cropland converted to other grassland The ERT also recommends that Malta separately report land-use change categories to and from maquis (including the initial biomass loss in maquis converted to perennial cropland) and other grassland	Yes. Completeness*
L.18	4. General (LULUCF) –	The ERT notes that, although the 2006 IPCC Guidelines provide a tier 1 methodology, Malta does not estimate the SOC changes in mineral soils in the following categories: (i) conversions among	Yes. Completeness*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
	CO_2	annual and perennial cropland; (ii) conversions between maquis (grassland) and other grassland; (iii) grassland (both subcategories) converted to cropland (both subcategories); (iv) grassland (both subcategories) converted to settlements; (v) annual cropland converted to other grassland; (vi) annual cropland converted to settlements; (vii) perennial cropland converted to maquis (grassland); (viii) maquis (grassland) converted to other land; and (ix) settlements converted to other land. The ERT recommends that Malta estimate the SOC changes in mineral soils by applying the IPCC tier 1 methodology or a more precise methodology according to the national circumstances for: (i) conversions among annual and perennial cropland; (ii) conversions between maquis (grassland) and other grassland; (iii) grassland (both subcategories) converted to cropland (both subcategories); (iv) grassland (both subcategories) converted to settlements; (v) annual cropland converted to other grassland; (vi) annual cropland converted to settlements; (vii) perennial cropland converted to maquis (grassland); (viii) maquis (grassland) converted to other land; and (ix) settlements converted to other land	
L.19	4.A.1 Forest land remaining forest land – CO_2	Malta applies the IPCC default above-ground biomass net increment factors to estimate the carbon stock gain in forest land, while the biomass carbon stock losses are not estimated since forest land harvest is not allowed and no disturbances have occurred to date. The ERT notes that the use of the IPCC default above-ground net increment factors is not appropriate for forest land that is neither subject to harvesting nor to disturbances because the use of the IPCC factors results in the illogical estimate of an indefinite net carbon accumulation across time, while the carbon pools have physical limits regarding the amount of carbon stock they can store. Further, the ERT notes from the information provided during the review that forest land in Malta is limited to two forest reserves,[h] where the forest cover is almost at maturity and where the carbon stock losses are therefore offset by the carbon stock gains, so that, without considering the indirect impacts of the fertilization effect due to N deposition and the increasing CO_2 concentration in the atmosphere, their long-term carbon stock balance can be assumed to be at equilibrium The ERT agrees with the information provided by Malta that long-term carbon stock can be assumed to be at equilibrium in mature forest land subject to management systems that avoid any disturbance. Therefore, the ERT notes that the country-specific method based on the national circumstances is consistent with the 2006 IPCC Guidelines and, although not estimated, the annual net carbon stock changes in the biomass pool can be assumed to be equal to zero across time, provided that no disturbances, including harvesting, occur Therefore, the ERT recommends that Malta apply the IPCC default factors for estimating the carbon stock gains only if forest land is subject to harvesting or other disturbances Further, the ERT recommends that Malta report information on the management plan for each forest	Yes. Accuracy*

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue[b] and/or a problem[c]? If yes, classify by type
		land reserve, together with information on ongoing surveillance activities aimed at avoiding any actions that may disturb the forest equilibrium, including illegal harvesting and fuelwood gathering or disturbances to the forest to facilitate traps used for animals or hunting In addition, the ERT recommends that Malta report any information collected from its surveillance system on any disturbance that has occurred in the forest land and report the associated GHG emissions and subsequent removals	
L.20	4.B Cropland – CO_2	The ERT notes that Malta assumes that perennial crops achieve the biomass carbon stock at maturity 26 years after the date of planting. However, no information is reported in the NIR to justify this assumption. Further, Malta does not estimate the initial biomass loss associated with the conversion of annual crops to perennial crops The ERT recommends that Malta report information to justify the selected age of maturity (26 years) for perennial crops in its NIR Further, the ERT recommends that Malta estimate the initial biomass loss associated with the conversion of annual crops to perennial crops	Yes. Accuracy*
L.21	4.C.1 Grassland remaining grassland – CO_2	The ERT notes that, although the 2006 IPCC Guidelines provide a tier 1 methodology, Malta has not reported the biomass carbon stock changes in the following subcategories: (i) other grassland converted to maquis; and (ii) maquis converted to other grassland The ERT recommends that Malta estimate the biomass carbon stock changes in: (i) other grassland converted to maquis; and (ii) maquis converted to other grassland, applying the IPCC tier 1 methodology or a more precise methodology according to the national circumstances	Yes. Completeness*
L.22	4 (III) Direct N_2O emissions from N mineralization / immobilization and 4 (IV) Indirect N_2O emissions from managed soils – N_2O	The ERT notes that the following land-use and land management conversions result in a net loss of SOC in mineral soils: (i) grassland (both subcategories) converted to cropland (both subcategories); (ii) perennial cropland converted to annual cropland; (iii) maquis (grassland) converted to other grassland; (iv) annual cropland converted to settlements; (v) grassland (both subcategories) converted to settlements; (vi) maquis converted to other land; and (vii) settlements converted to other land. The ERT also notes that the 2006 IPCC Guidelines contain a methodology for estimating direct and indirect N_2O emissions associated with SOC losses in mineral soils (volume 4, chapters 11.2.1 and 11.2.2) Therefore, the ERT recommends that Malta estimate direct and indirect N_2O emissions associated with SOC losses in mineral soils, and report under the LULUCF sector the N_2O emissions originating from land categories that do not need to be reported under the agriculture sector	Yes. Completeness*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		(category 3.D (managed soils)) to avoid the double counting of N_2O emissions	
Waste			
W.9	5.A Solid waste disposal on land – CH_4	The ERT noted that the Party used the first-order decay method for the estimation of CH_4 emissions from SWDS. The estimation method requires the input of the waste composition, the DOC content and the methane generation rate (k) for each waste type. In the NIR (chapter 7.2.2), the Party reported a DOC content (0.18) and a k value (0.09), without providing information on the waste composition, DOC content and k value used for each type of waste. In response to a question raised by the ERT during the review, the Party provided the DOC content and k value for each waste type in the spreadsheet used for the calculation of CH_4 emissions from SWDS	Yes. Transparency*
		The ERT recommends that the Party provide information on the waste composition, DOC content and k value for each waste type in the NIR	
W.10	5.A Solid waste disposal on land – CH_4	The ERT noted that information on the amount of CH_4 recovered is not provided in the NIR. The amounts of recovered CH_4 are used for the recalculation of CH_4 emissions from managed landfills (NIR table 7-2). During the review, the Party provided data on CH_4 recovery for regenerative thermal oxidizer and combined heat and power generation units (the only plants using CH_4 recovered from landfills) for 2013 only. According to the 2006 IPCC Guidelines (volume 5, p.3.19), the CH_4 recovery should be reported only when reliable references documenting the amount of recovered CH_4 are available. The ERT is of the view that this issue should be considered further in future reviews to confirm there is not an underestimation of emissions	Yes. Accuracy*
		The ERT recommends that the Party justify, in accordance with the 2006 IPCC Guidelines, its estimates of CH_4 recovered, or use the assumption that no recovery occurs	
W.11	5.A Solid waste disposal on land – CH_4	The ERT noted a significant inter-annual change in the DOC value between 2004 and 2005 (49.3%). During the review, the Party explained that the DOC value for 2004 reported in CRF table 5.A (4.84% for anaerobic sites) was entered incorrectly and the DOC value should be 7.07%, and that it would be corrected in the next submission	Yes. Transparency*
		The ERT recommends that Malta correct the DOC value reported for 2004 in CRF table 5.A	
W.12	5.A.2 Unmanaged waste disposal sites – CH_4	The Party used a country-specific oxidation factor for unmanaged SWDS (0.6), which is higher than the value provided in the 2006 IPCC Guidelines (0 for managed, unmanaged and uncategorized SWDS and 0.1 for managed SWDS covered with CH_4 oxidizing material) (see ID# W.2 in table 3). During the review, the Party explained that the use of a country-specific oxidation factor is considered appropriate because the evidence of oxidation occurring at the sub-surface levels of the	Yes. Accuracy*

ID#	Finding classification	Description of the finding with recommendation or encouragement	Is finding an issue[b] and/or a problem[c]? If yes, classify by type
		landfills (owing to improper gas pumping systems) led to the abstraction of air through the landfill surface, as suggested by expert judgement. The ERT recognizes that the oxidation factor in the 2006 IPCC Guidelines considers only the amount of CH_4 from SWDS that is oxidized in the soil or other material covering the waste. The ERT notes that the fraction of waste that decomposes anaerobically inside the landfill is taken into account in the MCF parameter	
		The ERT welcomes Malta's efforts to quantify site-specific CH_4 emissions, but recommends that the Party provide estimates using a country-specific MCF to reflect the aerobic conditions in unmanaged landfills and the default oxidation factor value (0) for unmanaged landfills	
W.13	5.D Wastewater treatment and discharge – N_2O	In the NIR (chapter 5.5.2.2), Malta reported that it assumes that 90% of all pig slurry is flushed into the sewerage system and only 10% of total pig slurry is applied to soils. The ERT noted that the estimation of direct N_2O emissions from wastewater treatment and discharge accounts for domestic and industrial wastewater only. The ERT noted that, in the estimates of N_2O emissions from wastewater treatment and discharge, there was no measurement of N entering the wastewater treatment plants to take into account the extra N from pig slurry entering the wastewater plants. During the review, the Party provided unofficial estimates of additional N from pig slurry entering the sewerage system for the whole time series. The estimates show that the contribution of additional N from pig slurry to the sewerage system would account for approximately 9% of reported N_2O emissions in this category for 2013 and 2014. As a result, the ERT concluded that Malta did not account for the N contribution from pig slurry discharged into the sewerage system for direct and indirect N_2O emissions from wastewater treatment and discharge and, therefore, that the N_2O emissions from this category are underestimated for the whole time series. The ERT included this issue in the list of potential problems and further questions raised by the ERT during the review	Yes. Transparency*
		In response to the list, Malta submitted revised estimates on 9 February 2017. In the revised estimates, an additional amount of N (additional to the human N and industrial correction factor) was introduced into the calculation to account for the input of pig slurry into the system. The amount of N is extracted from the N calculations for the agriculture sector. Once added to the system, the additional N is assumed to behave in the same way as N from human or industrial sources; therefore, the same EFs are applied. The ERT considers that the issue has been resolved. As a result of this change, N_2O emissions from wastewater treatment and discharge increased by 1.45 kt CO_2 eq for 1990 and by 1.05 kt CO_2 eq for 2013 and 2014	
		The ERT recommends that the Party explain, in its NIR, the methodology, assumptions, AD and EFs used to estimate N_2O emissions from pig slurry entering wastewater treatment plants	

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
KP-LULUCF			
KL.1	General (KP-LULUCF)	Malta has not reported the following supplementary information on KP-LULUCF activities required by decisions 2/CMP.7 and 2/CMP.8 in its NIR: (1) a description of how the definition of each KP-LULUCF activity has been implemented and applied consistently over time; (2) the methods used to calculate the carbon stock changes and GHG emission and removal estimates for each activity; (3) information on whether indirect and natural GHG emissions and removals have been factored out of the calculations; (4) information that demonstrates that each activity has occurred since 1 January 1990 and is human-induced; and (5) information on the conversion of natural forest to planted forest The ERT recommends that Malta report for each KP-LULUCF activity the following information in its NIR: (1) a description of how the definition of the activity has been implemented and applied consistently over time; (2) the methods used to calculate the carbon stock changes and GHG emission and removal estimates for each activity; (3) information on whether indirect and natural GHG emissions and removals have been factored out of the calculations; and (4) information that demonstrates that the activity has occurred since 1 January 1990 and is human-induced The ERT also recommends that Malta report information in its NIR on conversion of natural forest to planted forest	Yes. Transparency*
KL.2	Afforestation and reforestation – general	The ERT notes that no afforestation/reforestation is reported by the Party for the years since 1990. Malta reported that tree plantations have occurred since 1990 under settlements, since they have occurred in urban areas that are not classified as forest land The ERT encourages Malta to consider planting trees (e.g. in abandoned lands), with the aim of changing the land use to forest land, to enable the Party to report mitigation results for afforestation/reforestation under the Kyoto Protocol	Not a problem
KL.3	Deforestation – general	The ERT notes that no deforestation is reported by the Party for the years since 1990. During the review, Malta explained that deforestation has not occurred in the country because the two forest reserves that constitute the entire forest land area are subject to management plans that avoid any conversion of the forest to other uses The ERT recommends that Malta justify, in its NIR, the absence of deforestation since 1990	Yes. Transparency*
KL.4	Forest management – general	Although Malta has reported the general definition of forest (table NIR 1.1), the ERT noted that the Party has not reported a definition of “natural forest” or “planted forest”, as required by the Kyoto Protocol Supplement for reporting under the Kyoto Protocol (step 1.2, p. 1.8) The ERT recommends that Malta report in its NIR the definitions of “planted forest” and “natural	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		forest" in accordance with the good practice established by the IPCC. The ERT noted that the Party may consider the definition of planted forest as provided by FAO[i] and define as natural forests all forests that do not conform to the definition of "planted forests"	
KL.5	Forest management – general	During the review, Malta explained that other treed lands that may meet the forest definition have been excluded from the reporting because those lands are under predominantly urban use. The ERT notes that it is good practice to report information on emissions and removals in treed lands that meet the forest cover definition and that are excluded from forest management reporting (see the Kyoto Protocol Supplement, p. 1.8) The ERT recommends that Malta identify the areas that meet the forest definition and that are not reported under any KP-LULUCF activities, and report on the impact of such exclusion on the accounting	Yes. Transparency*
KL.6	Forest management – general	The ERT noted that Malta has reported no net emissions for forest management (reported as "NE, NO" in the CRF accounting table) on the basis that the forest areas subject to forest management (only two in the country; see ID# KL.7 below) are not subject to any harvesting or other natural disturbance. The ERT noted that the FMRL value inscribed in the appendix to decision 2/CMP.7 was calculated applying a different methodology and different data. Consequently, the ERT considers that Malta should report a technical correction to its FMRL. The ERT also noted that Malta has not reported complete information on the technical correction of the FMRL, as well as the impact of each of the causes of the recalculation (as listed in NIR table 11.5-2) Consequently, the ERT recommends that Malta estimate and report a technical correction to its FMRL and enhance the transparency of the information reported on the technical correction by ensuring that the following information is included in the NIR: (a) The rationale for calculating the $FMRL_{corr}$ (b) The methods used to calculate the $FMRL_{corr}$ (including all background data and parameters used) (c) The results (i.e. the $FMRL_{corr}$ and the technical correction value) and a discussion of the differences between the $FMRL_{corr}$ and the FMRL (the causes and, where possible, the impact (percentage) of each cause). The ERT notes that, for this purpose, it is good practice to report a comparison of the recalculated estimates with the previous estimates (see table 2.7.2 of the Kyoto Protocol Supplement) (d) Information that demonstrates consistency between the $FMRL_{corr}$ and the GHG estimates	Yes. Transparency*

ID#	*Finding classification*	*Description of the finding with recommendation or encouragement*	*Is finding an issue[b] and/or a problem[c]? If yes, classify by type*
		submitted for forest management	
KL.7	Forest management – general	The ERT noted that reporting under the Kyoto Protocol requires that forest land is subject to continuous monitoring to identify sources and sinks and estimate and report any associated emissions and removals. During the review, Malta explained that the only two forest areas present in the country are subject to specific management plans[h] (see ID# L.19 above) Therefore, the ERT recommends that Malta report, in its NIR, information on the entities involved in the implementation of the forest management plan, including surveillance, and information on the entities involved in the monitoring of the forest land, so that anthropogenic sources and sinks are identified and the associated emissions and removals are reported when they actually occur	Yes. Transparency*

Abbreviations: AD = activity data, AFOLU = agriculture, forestry and other land use, Annex A sources = sources included in Annex A to the Kyoto Protocol, AWMS = animal waste management system, B_0 = methane-producing potential, CPR = commitment period reserve, CRF = common reporting format, dm = dry matter, EF = emission factor, ERT = expert review team, FAO = Food and Agriculture Organization of the United Nations, FMRL = forest management reference level, $FMRL_{corr}$ = technical correction to the FMRL, F_{ON} = fraction of organic N fertilizer applied to soils, GHG = greenhouse gas, IE = included elsewhere, IEF = implied emission factor, IPCC = Intergovernmental Panel on Climate Change, IPPU = industrial processes and product use, KP-LULUCF = LULUCF emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, Kyoto Protocol Supplement = *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*, LPG = liquefied petroleum gas, LULUCF = land use, land-use change and forestry, MCF = methane conversion factor, MCF = methane correction factor, MRA = Malta Resources Authority, NA = not applicable, NE = not estimated, NIR = national inventory report, NO = not occurring, NSO = National Statistics Office, QA/QC = quality assurance/quality control, SEF = standard electronic format, SOC = soil organic carbon, SWDS = solid waste disposal site, UNFCCC Annex I inventory reporting guidelines = "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories", VS = volatile solids, Ym = methane conversion rate, 2006 IPCC Guidelines = *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.

[a] The review of the 2015 GHG annual submission is being held in conjunction with the review of the 2016 annual submission, in accordance with decision 10/CMP.11, paragraph 1. The ERT has reviewed both the 2015 and the 2016 inventory submission, and in accordance with the conclusions from the 13th meeting of greenhouse gas inventory lead reviewers (para. 9) has started with the review of the 2016 submission. This table includes all findings that are relevant for both the 2015 and the 2016 annual submission (i.e. this table excludes findings that, although they may have been relevant for the 2015 annual submission, had already been resolved in the 2016 annual submission).

[b] Recommendations are related to issues as defined in decision 13/CP.20, annex, paragraph 81, or problems as identified in decision 22/CMP.1, annex, paragraph 69, identified by the ERT during the review. Encouragements are made to the Party to address all findings not related to such issues.

[c] An asterisk is included next to each issue type that is also a problem, as defined in decision 22/CMP.1, annex, paragraphs 68 and 69, including those that lead to an adjustment or a question of implementation.

[d] Available at <http://unfccc.int/files/kyoto_protocol/registry_systems/registry_initialization/application/pdf/mt_iar_v1.0.pdf>.

[e] RPA. 2005. Analysis of the costs and the impact on emissions of regulatory measures for reducing emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride in foams and mobile refrigeration in the road transport sector. Prepared for the European Commission, DG Environment.

[f] Sammut, S. 2015. Estimation of greenhouse gas emissions from agricultural activities for Malta's inventory. (unpublished report)

[g] Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources. Available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31991L0676&from=EN>.

[h] Malta Environmental Planning Authority. The Management plan (2007-2013) of the forest reserve: L-Inħawi tal-Buskett u tal-Girgenti and Wied il-Miżieb. Both reports are available at <http://www.natura2000malta.org.mt/index.php/managmentplanning/>.

[i] See <http://www.fao.org/docrep/017/ap862e/ap862e00.pdf>.

VI. Application of adjustments

11. The ERT has not identified the need to apply any adjustments to the 2015 annual submission of Malta.

VII. Accounting quantities for activities under Article 3, paragraph 3, and, if any, activities under Article 3, paragraph 4, of the Kyoto Protocol

12. Malta has elected commitment period accounting and therefore the issuance and cancellation of units for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol are not applicable for the 2015 review.

VIII. Questions of implementation

13. No questions of implementation were identified by the ERT during the review.

Annex I

Overview of greenhouse gas emissions and removals for Malta for submission year 2015 and data and information on activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

1. Tables 6–9 provide an overview of total greenhouse gas emissions and removals as submitted by Malta.

Table 6
Total greenhouse gas emissions for Malta, base year[a]–2013[b]
(kt CO_2 eq)

	Total GHG emissions excluding indirect CO_2 emissions		*Total GHG emissions including indirect CO_2 emissions[c]*		*Land-use change (Article 3.7 bis as contained in the Doha Amendment)[d]*	*KP-LULUCF activities (Article 3.3 of the Kyoto Protocol)[e]*	*KP-LULUCF activities (Article 3.4 of the Kyoto Protocol)*	
	Total including LULUCF	*Total excluding LULUCF*	*Total including LULUCF*	*Total excluding LULUCF*			*CM, GM, RV, WDR*	*FM*
FMRL								–49.00
Base year	1 972.06	1 974.64	1 972.06	1 974.64	NA		NA	
1990	1 972.06	1 974.64	1 972.06	1 974.64				
1995	2 468.21	2 470.86	2 468.21	2 470.86				
2000	2 593.15	2 595.80	2 593.15	2 595.80				
2010	3 077.14	3 079.97	3 077.14	3 079.97				
2011	3 194.61	3 197.48	3 194.61	3 197.48				
2012	3 308.09	3 310.99	3 308.09	3 310.99				
2013	2 936.41	2 939.27	2 936.41	2 939.27		NO	NA	NE, NO

Abbreviations: CM = cropland management, FM = forest management, FMRL = forest management reference level, GHG = greenhouse gas, GM = grazing land management, KP-LULUCF = LULUCF emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol, LULUCF = land use, land-use change and forestry, NA = not applicable, NE = not estimated, NO = not occurring, RV = revegetation, WDR = wetland drainage and rewetting.

[a] Base year refers to the base year under the Kyoto Protocol, which is 1990 for all gases except NF_3, for which the base year is 1995. Malta has not elected any activities under Article 3, paragraph 4, of the Kyoto Protocol. For activities under Article 3, paragraph 3, of the Kyoto Protocol and forest management under Article 3, paragraph 4, only the inventory years of the commitment period must be reported.

[b] Emissions/removals reported in the sector other (sector 6) are not included in total GHG emissions.

[c] The Party has not reported indirect CO_2 emissions in common reporting format table 6.

[d] The value reported in this column refers to 1990.

[e] Activities under Article 3, paragraph 3, of the Kyoto Protocol, namely afforestation and reforestation, and deforestation.

Table 7

Greenhouse gas emissions by gas for Malta, excluding land use, land-use change and forestry, 1990–2013[a]

(kt CO_2 eq)

	CO_2[b]	*CH_4*	*N_2O*	*HFCs*	*PFCs*	*Unspecified mix of HFCs and PFCs*	*SF_6*	*NF_3*
1990	1 863.16	63.69	47.78	NO, NA, NE, IE	NA, NO	NA, NO	0.01	NA, NO
1995	2 315.98	96.52	56.92	0.002	NA, NO	NA, NO	1.44	NA, NO
2000	2 416.86	112.94	60.81	3.72	NA, NO	NA, NO	1.47	NA, NO
2010	2 692.91	183.53	57.34	144.50	0.000001	NA, NO	1.69	NA, NO
2011	2 789.04	176.47	59.64	167.74	0.000001	NA, NO	4.59	NA, NO
2012	2 871.41	177.43	60.77	200.93	0.000001	NA, NO	0.45	NA, NO
2013	2 479.36	178.70	60.21	218.33	0.000001	NA, NO	2.68	NA, NO
Per cent change 1990–2013	**33.1**	**180.6**	**26.0**	**NA**	**NA**	**NA**	**25 093.8**	**NA**

Abbreviations: IE = included elsewhere, NA = not applicable, NE = not estimated, NO = not occurring.

[a] Emissions/removals reported in the sector other (sector 6) are not included in total greenhouse gas emissions.

[b] Malta did not report indirect CO_2 emissions in common reporting format table 6.

Table 8
Greenhouse gas emissions by sector for Malta, 1990–2013[a, b]
(kt CO_2 eq)

	Energy	*IPPU*	*Agriculture*	*LULUCF*	*Waste*	*Other*
1990	1 870.85	7.66	52.24	–2.57	43.89	NA
1995	2 326.04	9.19	74.32	–2.65	61.30	NA
2000	2 429.46	11.93	78.03	–2.65	76.37	NA
2010	2 704.46	150.88	72.14	–2.83	152.49	NA
2011	2 804.07	177.45	70.29	–2.87	145.67	NA
2012	2 887.59	206.37	70.31	–2.90	146.72	NA
2013	2 494.42	225.57	71.08	–2.87	148.21	NA
Per cent change 1990–2013	**33.3**	**2 844.8**	**36.1**	**11.4**	**237.7**	**NA**

Abbreviations: IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry, NA = not applicable.

[a] Emissions/removals reported in the sector other (sector 6) are not included in total greenhouse gas emissions.

[b] Malta did not report indirect CO_2 emissions in common reporting format table 6.

Table 9
Greenhouse gas emissions/removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol by activity, base year[a, b]–2013, for Malta
(kt CO_2 eq)

	Article 3.7 bis as contained in the Doha Amendment[c]	*Article 3.3 of the Kyoto Protocol*		*Forest management and elected Article 3.4 activities of the Kyoto Protocol*				
	Land-use change	*Afforestation and reforestation*	*Deforestation*	*Forest management*	*Cropland management*	*Grazing land management*	*Revegetation*	*Wetland drainage and rewetting*
FMRL				–49.00				
Technical correction				NR				
Base year	NA				NA	NA	NA	NA
2013		NO	NO	NE, NO	NA	NA	NA	NA
Per cent change Base year–2014					**NA**	**NA**	**NA**	**NA**

Abbreviations: FMRL = forest management reference level, NA = not applicable, NE = not estimated, NO = not occurring, NR = not reported.

[a] Base year refers to the base year under the Kyoto Protocol, which is 1990 for all gases except NF_3, for which the base year is 1995. Malta has not elected any activities under Article 3, paragraph 4, of the Kyoto Protocol. For activities under Article 3, paragraph 3, of the Kyoto Protocol, and forest management under Article 3, paragraph 4, only the inventory years of the commitment period must be reported.

[b] Values in this table include emissions on lands subject to natural disturbances, if applicable.

[c] The value reported in this column refers to 1990.

2. Table 10 provides an overview of relevant key data for Malta's reporting under Article 3, paragraphs 3 and 4, of the Kyoto Protocol.

Table 10
Key relevant data for Malta under Article 3, paragraphs 3 and 4, of the Kyoto Protocol

Key parameters	*Values*
Periodicity of accounting	(a) Afforestation/reforestation: commitment period accounting
	(b) Deforestation: commitment period accounting
	(c) Forest management: commitment period accounting
	(d) Cropland management: not elected
	(e) Grazing land management: not elected
	(f) Revegetation: not elected
	(g) Wetland drainage and rewetting: not elected
Election of activities under Article 3, paragraph 4	None
Election of application of provisions for natural disturbances	No. For further information see FCCC/IRR/2016/MLT
3.5% of total base year GHG emissions, excluding LULUCF	69.112 kt CO_2 eq (552.898 kt CO_2 eq for the duration of the commitment period)
Cancellation of AAUs, ERUs, CERs and/or issuance of RMUs in the national registry for:	
1. Afforestation and reforestation in 2013	NA
2. Deforestation in 2013	NA
3. Forest management in 2013	NA
4. Cropland management in 2013	NA
5. Grazing land management in 2013	NA
6. Revegetation in 2013	NA
7. Wetland drainage and rewetting in 2013	NA

Abbreviations: AAU = assigned amount unit, CER = certified emission reduction, ERU = emission reduction unit, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry, NA = not applicable, RMU = removal unit.

Annex II

Information to be included in the compilation and accounting database

Table 11 includes the information to be included in the compilation and accounting database for Malta. Data shown are from the original annual submission of the Party, including the latest revised estimates submitted, adjustments (if applicable), as well as the final data to be included in the compilation and accounting database.

Table 11
Information to be included in the compilation and accounting database for 2013, including the commitment period reserve, for Malta
($t CO_2 eq$)

	Original submission	*Revised estimates*	*Adjustment*[a]	*Final*[b]
Commitment period reserve	8 369 793			8 369 793
Annex A emissions for 2013				
CO_2	2 476 074	2 479 361		2 479 361
CH_4	188 678	178 700		178 700
N_2O	68 198	60 206		60 206
HFCs	218 331			218 331
PFCs	0			0
Unspecified mix of HFCs and PFCs	NA, NO			NA, NO
SF_6	2 677			2 677
NF_3	NA, NO			NA, NO
Total Annex A sources	**2 953 958**	**2 939 273**		**2 939 273**
Activities under Article 3, paragraph 3, of the Kyoto Protocol for 2013				
3.3 Afforestation and reforestation	NO			NO
3.3 Deforestation	NO			NO
Forest management and elected activities under Article 3, paragraph 4, of the Kyoto Protocol for 2013				
3.4 Forest management for 2013	NE, NO			NE, NO

Abbreviations: Annex A sources = sources included in Annex A to the Kyoto Protocol, NA = not applicable, NE = not estimated, NO = not occurring.

[a] "Adjustment" is relevant only for Parties for which the expert review team has calculated one or more adjustment(s).

[b] "Final" includes revised estimates, if any, and/or adjustments, if any.

Annex III

Additional information to support findings in table 2

Missing categories that may affect completeness

The categories for which methods are included in the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* were reported as "NE" (not estimated) or for which the expert review team otherwise determined that there may be an issue with the completeness of reporting in the Party's inventory are the following:

(a) 1.A.3.d Domestic navigation – liquid fuels – CO_2, CH_4 and N_2O emissions for 1990–2004 (see issue G.1 in table 3);

(b) 1.A.4.b Residential – biomass – CH_4 and N_2O emissions (see issue G.2 in table 3);

(c) 2.G.3 N_2O from product uses (from use as a propellant in aerosol products) – N_2O (see issue I.22 in table 5);

(d) 3.H Urea application – CO_2 (see issue A.40 in table 5);

(e) Biomass carbon stock changes and/or soil organic carbon stock changes for the following cropland subcategories (see issues L.17 and L.18 in table 5): annual cropland converted to other grassland; conversions among annual and perennial croplands; annual cropland converted to other grassland; annual cropland converted to settlements; perennial cropland converted to maquis (grassland); annual cropland converted to settlements;

(f) Biomass carbon stock changes and/or soil organic carbon stock changes for the following grassland subcategories (see issues L.17, L.18 and L.21 in table 5): conversions between maquis (grassland) and other grassland; maquis converted to annual cropland; maquis converted to settlements; maquis converted to other land; other grassland converted to annual cropland; grassland (both subcategories) converted to cropland (both subcategories); grassland (both subcategories) converted to settlements; maquis (grassland) converted to other land; other grassland converted to maquis; and maquis converted to other grassland;

(g) Soil organic carbon (SOC) stock changes and N_2O emissions (direct and indirect) associated with SOC losses in mineral soil for settlements converted to other land (see issues L.18 and L.22 in table 5);

(h) N_2O emissions (direct and indirect) associated with SOC losses in mineral soil not reported under agriculture (see issue L.22 in table 5).

Annex IV

Documents and information used during the review

A. Reference documents

Aggregate information on greenhouse gas emissions by sources and removals by sinks for Parties included in Annex I to the Convention. Note by the secretariat. Available at <http://unfccc.int/resource/webdocs/agi/2015.pdf>.

Annual status report for Malta for 2015. Available at <http://unfccc.int/resource/docs/2015/asr/mlt.pdf>.

FCCC/ARR/2013/MLT. Report of the individual review of the annual submission of Malta submitted in 2013. Available at <http://unfccc.int/resource/docs/2014/arr/mlt.pdf>.

"Guidelines for national systems for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, paragraph 1, of the Kyoto Protocol". Decision 19/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf#page=14>.

"Guidelines for review under Article 8 of the Kyoto Protocol". Decision 22/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf#page=51>.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories". Annex I to decision 24/CP.19. Available at <http://unfccc.int/resource/docs/2013/cop19/eng/10a03.pdf#page=4>.

"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol". Decision 15/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf#page=54>.

"Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention". Annex to decision 13/CP.20. Available at <http://unfccc.int/resource/docs/2014/cop20/eng/10a03.pdf#page=6>.

"Implications of the implementation of decisions 2/CMP.7 to 4/CMP.7 and 1/CMP.8 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol, part I: implications related to accounting and reporting and other related issues". Decision 3/CMP.11. Available at <http://unfccc.int/resource/docs/2015/cmp11/eng/08a01.pdf#page=5>.

"Implications of the implementation of decisions 2/CMP.7 to 4/CMP.7 and 1/CMP.8 on the previous decisions on methodological issues related to the Kyoto Protocol, including those relating to Articles 5, 7 and 8 of the Kyoto Protocol, part II: implications related to review and adjustments and other related issues". Decision 4/CMP.11. Available at <http://unfccc.int/resource/docs/2015/cmp11/eng/08a01.pdf#page=30>.

Intergovernmental Panel on Climate Change. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories.* Available at <http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html>.

Intergovernmental Panel on Climate Change. 2014. *2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol*. Available at <http://www.ipcc-nggip.iges.or.jp/public/kpsg>.

Intergovernmental Panel on Climate Change. 2014. *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*. Available at <http://www.ipcc-nggip.iges.or.jp/public/wetlands/index.html>.

Independent assessment report of the national registry of Malta. Available at <http://unfccc.int/files/kyoto_protocol/registry_systems/registry_initialization/application/pdf/mt_iar_v1.0.pdf>.

B. Additional information provided by the Party

Responses to questions during the review were received from Ms. Josianne Muscat (Office of the Permanent Secretary, Directorate for the Environment and Climate Change, Ministry for Sustainable Development, the Environment and Climate Change), including additional material on the methodology and assumptions used. The following documents[1] were also provided by Malta:

Sammut, S. 2015. Estimation of greenhouse gas emissions from agricultural activities for Malta's inventory.

Malta Environmental Planning Authority. *The Management plan (2007-2013) of the forets reserve: L-Inħawi tal-Buskett u tal-Girgenti*. Available at <www.natura2000malta.org.mt/index.php/management-plans/>.

Malta Environmental Planning Authority. *The Management plan (2007-2013) of the forets reserve: Wied il-Miżieb*. Available at <www.natura2000malta.org.mt/index.php/management-plans/>.

RPA (2005). *Analysis of the costs and the impact on emissions of regulatory measures for reducing emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride in foams and mobile refrigeration in the road transport sector*. Prepared for the European Commission, DG Environment.

Scott Wilson. 2004. *Development of Rabilitation Streategies Maghtab, Qortin and Wied Fulija Landfills, Summary Report*. Derbyshire. UK.

Scott Wilson. 2010.*Rehabilitation of Maghtab, Qortin and Wied Fulija Landfills- Aerial Emissions Control Works CT2586/2004, Final Report*. Derbyshire, UK.

Alfred J Vella. 2013. *Emissions of Methane from Maghtab Landfill: An Opinion Based on Measurement Data Pertaining to the Landfill and Scott Wilson's Report CT2586/2004, Report*. Zejtun, Malta.

Francesco Italiano. 2014. *Review of the Vella Report on Maghtab Landfill GHG Emissions, Report*. Milazzo, Italy.

[1] Reproduced as received from the Party.

Annex V

Acronyms and abbreviations

AAU	assigned amount unit
AD	activity data
AFOLU	agriculture, forestry and other land use
AWMS	animal waste management system
B_0	methane-producing potential
C_8F_{18}	perfluorooctane
CaC_2	calcium carbide
CER	certified emission reduction
CH_4	methane
CM	cropland management
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CPR	commitment period reserve
CRF	common reporting format
dm	dry matter
DOC	degradable organic carbon
EF	emission factor
ERT	expert review team
ERU	emission reduction unit
EU ETS	European Union Emissions Trading System
FAO	Food and Agriculture Organization of the United Nations
F-gases	fluorinated gases
FM	forest management
FMRL	forest management reference level
$FMRL_{corr}$	technical correction to the forest management reference level
F_{ON}	fraction of organic N fertilizer applied to soils
Gg	gigagram
GHG	greenhouse gas
GM	grazing land management
GWP	global warming potential
ha	hectare
HFCs	hydrofluorocarbons
IE	included elsewhere
IEF	implied emission factor
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
k	methane generation rate constant
kg	kilogram (1 kg = 1,000 grams)
KP-LULUCF	LULUCF emissions and removals from activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol
kt	kilotonne
LPG	liquefied petroleum gas
LULUCF	land use, land-use change and forestry
m	metre
m^3	cubic metre
MCF	methane correction factor
MCF	methane conversion factor

MSW	municipal solid waste
N	nitrogen
N_2O	nitrous oxide
NA	not applicable
NCV	net calorific value
NE	not estimated
NEU	non-energy use
NF_3	nitrogen trifluoride
NH_3	ammonia
NIR	national inventory report
NO	not occurring
NO_X	nitrogen oxides
PFCs	perfluorocarbons
QA/QC	quality assurance/quality control
RMU	removal unit
RV	revegetation
SEF	standard electronic format
SF_6	sulphur hexafluoride
SIAR	standard independent assessment report
SOC	soil organic carbon
SWDS	solid waste disposal sites
t	tonne (1 t = 1,000 kg)
TJ	terajoule (1 TJ = 10^{12} joule)
UNFCCC	United Nations Framework Convention on Climate Change
VS	volatile solids
WDR	wetland drainage and rewetting
Ym	methane conversion rate