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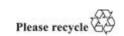
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Report of the technical review of the second biennial report of Malta

According to decision 2/CP.17, developed country Parties are requested to submit their second biennial report by 1 January 2016, that is, two years after the due date for submission of a full national communication. This report presents the results of the technical review of the second biennial report of Malta, conducted by an expert review team in accordance with 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".

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I. Introduction and summary

A. Introduction

- 1. This report covers the centralized technical review of the second biennial report (BR2)¹ of Malta. The review was organized by the secretariat in accordance with 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", particularly "Part IV: UNFCCC guidelines for the technical review of biennial reports from Parties included in Annex I to the Convention" (annex to decision 13/CP.20). In accordance with the same decision, a draft version of this report was communicated to the Government of Malta, which provided comments that were considered and incorporated, as appropriate, into this final version of the report.
- 2. The review took place from 7 to 12 March 2016 in Bonn, Germany, and was conducted by the following team of nominated experts from the UNFCCC roster of experts: Mr. Liviu Gheorghe (Romania), Ms. Pia Paola Huber (Austria), Ms. Tugba Icmeli (Turkey), Mr. Peter Iversen (Denmark), Ms. Karin Kindbom (Sweden), Mr. Hans Kolshus (Norway), Ms. Julia Meisel (United States of America), Mr. Eric Mugurusi (United Republic of Tanzania), Ms. Lilian Portillo (Paraguay), Mr. Janis Rekis (Latvia), Mr. Orlando Rey Santos (Cuba) and Mr. Ching Tiong Tan (Malaysia). Ms. Icmeli and Mr. Tan were the lead reviewers. The review was coordinated by Ms. Barbara Muik and Mr. Nalin Srivastava (UNFCCC secretariat).

B. Summary

3. The expert review team (ERT) conducted a technical review of the information reported in the BR2 of Malta in accordance with the "UNFCCC biennial reporting guidelines for developed country Parties" (hereinafter referred to as the UNFCCC reporting guidelines on BRs). During the review, Malta provided the following additional relevant information: the national institutional arrangements for the greenhouse gas (GHG) inventory; the legal framework and institutional arrangements for mitigation actions and effects; the use of market-based mechanisms in the estimation of emission reductions and removals; and clarification of the rationale for excluding perfluorocarbons (PFCs) and sulphur hexafluoride (SF $_6$) from the projections.

1. Timeliness

4. The BR2 was submitted on 7 January 2016, after the deadline of 1 January 2016 mandated by decision 2/CP.17. The common tabular format (CTF) tables were submitted on 7 January 2016. The ERT noted the delay in the submission of the BR2 and CTF tables.

2. Completeness, transparency of reporting and adherence to the reporting guidelines

5. Issues and gaps related to the reported information identified by the ERT are presented in table 1 below. The information reported by Malta in its BR2 is mostly in adherence with the UNFCCC reporting guidelines on BRs as per decision 2/CP.17.

¹ The biennial report submission comprises the text of the report and the common tabular format (CTF) tables. Both the text and the CTF tables are subject to the technical review.

Table 1
Summary of completeness and transparency issues related to mandatory reported information in the second biennial report of Malta

Section of the biennial report	Completeness	Transparency	Paragraphs with recommendations
Greenhouse gas emissions and trends	Mostly complete	Transparent	9
Assumptions, conditions and methodologies related to the attainment of the quantified economy-wide emission reduction target	Complete	Mostly transparent	15
Progress in achievement of targets	Mostly complete	Mostly transparent	24, 39, 45
Provision of support to developing country Parties ^a	NA	NA	NA

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in chapter III.

Abbreviation: NA = not applicable.

II. Technical review of the reported information

A. All greenhouse gas emissions and removals related to the quantified economy-wide emission reduction target

- 6. Malta has provided a summary of information on GHG emission trends for the period 1990–2013 in its BR2 and CTF tables 1(a)–(d). This information is consistent with that reported in the 2015 national GHG inventory submission.
- 7. Malta did not provide summary information on its national inventory arrangements as required by the UNFCCC reporting guidelines on BRs. Malta did, however, provide information in its BR2 on the establishment of an interministerial committee, which is in the process of preparing Malta's Low Carbon Development Strategy, and the establishment of the Steering Committee on Emission Modelling and Projections.
- 8. During the review, Malta provided additional information, elaborating on its national inventory arrangements, which were established in accordance with the reporting requirements related to national inventory arrangements contained in the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories" that are required by paragraph 3 of the UNFCCC reporting guidelines on BRs. Legal Notice no. 259 of 2015 under the Climate Action Act defines the national institutional arrangements for the GHG inventory system, including the roles and responsibilities of the various entities involved. The single national entity with overall responsibility for the national inventory is the Ministry for Sustainable Development, Environment and Climate Change. Malta clarified that this is a change to the previously reported national inventory arrangements.
- 9. The ERT reiterates the recommendation made in the previous review report that Malta provide information on the national inventory arrangements and any changes to these arrangements in its next biennial report (BR).
- 10. The information reported in the BR2 on emission trends is consistent with that reported in the 2015 annual inventory submission of Malta. To reflect the most recently

^a Malta is not a Party included in Annex II to the Convention and is therefore not obliged to adopt measures and fulfil obligations as defined in Article 4, paragraphs 3, 4 and 5, of the Convention.

available data, version 1 of Malta's 2015 annual inventory submission has been used as the basis for discussion in chapter II.A of this review report.

- 11. Total GHG emissions,² both excluding and including emissions and removals from land use, land-use change and forestry (LULUCF), increased by 39.4 per cent between 1990 and 2013. The increase in the total GHG emissions can be attributed mainly to carbon dioxide (CO₂) emissions, which increased by 29.3 per cent (excluding LULUCF) between 1990 and 2013. Over the same period, emissions of methane (CH₄) increased by 21.1 per cent, while emissions of nitrous oxide (N₂O) increased by 8.6 per cent. Emissions of hydrofluorocarbons (HFCs) and SF₆ increased from a very low level over the same period, and by 2013 the level of HFC emissions exceeded both CH₄ and N₂O emissions.
- 12. The emission trends were driven mainly by increased CO₂ emissions from energy industries. After increasing during the period 1990–2007, CO₂ emissions remained relatively stable between 2007 and 2012, followed by a significant decrease in emissions of 17.3 per cent between 2012 and 2013. The decrease in emissions from energy industries between 2012 and 2013 is mainly due to the switch to more efficient turbines for energy generation. CH₄ emissions from the waste sector also increased during the period 1990–2010, after which they decreased by 64.3 per cent between 2010 and 2013 as a result of increased flaring of CH₄ in local managed landfilling activities. However, during the review, Malta explained that an error in the calculation of CH₄ recovery had led to the reported decrease in emissions for the years 2011–2013, which is not correct, and that this error will be corrected in future inventory submissions. Malta also explained that the projections of GHG emissions from the waste sector are not affected by this error.
- 13. The ERT noted that, during the period 1990–2013, Malta's gross domestic product (GDP) per capita increased by 73.7 per cent, while GHG emissions per GDP decreased by 32.9 per cent and GHG emissions per capita increased by 16.6 per cent. The decrease in emissions per GDP reflects the decrease in the carbon intensity of the economy and can be considered as a step towards the decoupling of GHG emissions from economic development. Table 2 below illustrates the emission trends by sector and some of the economic indicators relevant to GHG emissions for Malta.

Table 2
Greenhouse gas emissions by sector and some indicators relevant to greenhouse gas emissions for Malta for the period 1990–2013

	GHG emissions (kt CO ₂ eq)				Chan	Change (%)		Share by sector (%)	
Sector	1990	2000	2010	2012	2013	1990– 2013	2012– 2013	1990	2013
1. Energy	1 878.33	2 371.39	2 635.14	2 811.56	2 429.04	29.3	-13.6	93.9	87.1
A1. Energy industries	1 372.57	1 693.40	1 893.69	2 059.26	1 702.69	24.1	-17.3	68.6	61.1
A2. Manufacturing industries and construction	59.48	57.54	46.28	73.03	68.02	14.4	-6.9	3.0	2.4
A3. Transport	349.67	514.62	569.54	538.26	523.69	49.8	-2.7	17.5	18.8
A4.–A5. Other	96.60	105.82	125.63	141.01	134.63	39.4	-4.5	4.8	4.8
B. Fugitive emissions	NO	NO	NO	NO	NO	NA	NA	NA	NA

In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of carbon dioxide equivalent excluding land use, land-use change and forestry, unless otherwise specified. Values in this paragraph are calculated based on the 2015 inventory submission, version 1.

	GHG emissions (kt CO ₂ eq)				Change (%)		Share by sector (%)		
Sector	1990	2000	2010	2012	2013	1990– 2013	2012– 2013	1990	2013
from fuels									
C. CO ₂ transport and storage	NO	NO	NO	NO	NO	NA	NA	NA	NA
2. IPPU	7.49	10.22	148.55	204.37	222.17	2 865.8	8.7	0.4	8.0
3. Agriculture	72.30	114.01	91.10	83.28	83.41	15.4	0.2	3.6	3.0
4. LULUCF	-2.57	-2.64	-2.90	-3.01	-2.97	15.7	-1.2	NA	NA
5. Waste	42.20	77.70	150.65	72.23	53.83	27.6	-25.5	2.1	1.9
6. Other	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total GHG emissions without LULUCF	2 000.33	2 573.32	3 025.44	3 171.44	2 788.44	39.4	-12.1	100.0	100.0
Total GHG emissions with LULUCF	1 997.76	2 570.68	3 022.54	3 168.44	2 785.48	39.4	-12.1	NA	NA
Indicators									
GDP per capita (thousands 2011 USD using PPP)	16.60	25.84	27.91	28.27	28.82	73.7	1.9	NA	NA
GHG emissions without LULUCF per capita (t CO ₂ eq)	5.65	6.75	7.30	7.56	6.59	16.6	-12.9	NA	NA
GHG emissions without LULUCF per GDP unit (kg CO ₂ eq per 2011 USD using PPP)	0.34	0.26	0.26	0.27	0.23	-32.9	-14.6	NA	NA

Sources: (1) GHG emission data: Malta's 2015 annual inventory submission, version 1; (2) GDP per capita data: World Bank. Note: The ratios per capita and per GDP unit as well as the changes in emissions and the shares by sector are calculated relative to total GHG emissions without LULUCF using the exact (not rounded) values, and may therefore differ from the ratio calculated with the rounded numbers provided in the table.

Abbreviations: GDP = gross domestic product, GHG = greenhouse gas, IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry, NA = not applicable, NO = not occurring, PPP = purchasing power parity.

B. Assumptions, conditions and methodologies related to the attainment of the quantified economy-wide emission reduction target

- 14. In its BR2 and CTF tables 2(a)–(f), Malta reported a description of its target, including associated conditions and assumptions. CTF tables 2(a)–(f) contain the required information in relation to the description of the Party's emission reduction target. As a European Union (EU) member State, Malta contributes to the joint EU target of 20 per cent below the 1990 level by 2020. Further information on the target and the assumptions, conditions and methodologies related to the target is provided chapter 3 of the BR2 and in this report (see paras. 16–20 below).
- 15. In CTF table 2(e), Malta reported a possible contribution from the use of certified emission reductions (CERs) towards meeting its target of 264.00 kt of carbon dioxide equivalent (CO₂ eq), and used the notation key "IE" (included elsewhere) to report the possible scale of the contribution from emission reduction units (ERUs). During the review, Malta clarified that no decision has yet been made regarding the use of units from market-based mechanisms to meet the compliance requirements for its national target under the EU effort-sharing decision (ESD), and that the reported 264.00 kt CO₂ eq is the maximum

amount that can be used, whether in the form of CERs or ERUs. To increase transparency, the ERT recommends that Malta explain its use of "IE" to report the possible scale of the contribution from ERUs in its next BR.

- 16. For Malta, the Convention entered into force on 15 June 1994. Under the Convention, Malta committed to contributing to the achievement of the joint EU economywide emission reduction target of 20 per cent below the 1990 level by 2020. The EU offered to move to a 30 per cent reduction on the condition that other developed countries commit to a comparable target and developing countries contribute according to their responsibilities and respective capabilities under a new global climate change agreement.
- 17. The target for the EU and its member States is formalized in the EU 2020 climate and energy package. This legislative package regulates emissions of CO₂, CH₄, N₂O, HFCs, PFCs and SF₆ using global warming potential (GWP) values from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) to aggregate the GHG emissions of the EU up to 2020. Emissions and removals from the LULUCF sector are not included in the quantified economy-wide emission reduction target under the Convention. The EU generally allows its member States to use units from the Kyoto Protocol mechanisms as well as new market mechanisms for compliance purposes, subject to a number of restrictions in terms of origin and type of project and up to an established limit. Companies can make use of such units to fulfil their requirements under the EU Emissions Trading System (EU ETS).
- 18. The EU 2020 climate and energy package includes the EU ETS and the ESD (see chapter II.C.1 below). Further information on this package is provided in chapter 3 of the BR2. The EU ETS covers mainly point emissions sources in the energy, industry and aviation sectors. For the period 2013–2020, an EU-wide cap has been put in place with the goal of reducing emissions by 21 per cent below the 2005 level by 2020. Emissions from sectors covered by the ESD are regulated by targets specific to each member State, which leads to an aggregate reduction at the EU level for these sectors of 10 per cent below the 2005 level by 2020.
- 19. Under the ESD, Malta has a target to limit its emission growth to 5 per cent above the 2005 level by 2020 from sectors covered by the ESD (non-ETS sectors). This national emission target for 2020 has been transferred into binding quantified annual reduction targets for the period 2013–2020, expressed in annual emission allocations. In absolute terms this means that, under the ESD, Malta has an annual emission reduction target for each year in the period 2013–2020, with a view to not exceeding 1,156.43 kt CO₂ eq in 2020.
- 20. During the review, in addition to the figures provided in the BR2, Malta provided information in tabular format, elaborating on its annual targets for emissions covered by the ESD. The ERT considers that it would increase reporting transparency if Malta also included such tabular information in its next BR. Malta further explained that the target under the ESD is established based on non-ETS sector emissions in 2005 that were reported in 2012 (for the year 2010). Improved information and recalculations have subsequently led to a revision of the 2005 emission estimate, but not of the target inscribed in EU decision 2013/162/EU.

C. Progress made towards the achievement of the quantified economywide emission reduction target

21. This chapter provides information on the review of the reporting by Malta on the progress made in reducing emissions in relation to the target, mitigation actions taken to achieve its target, and the use of units from market-based mechanisms and LULUCF.

1. Mitigation actions and their effects

- 22. In its BR2 and CTF table 3, Malta reported on its progress in the achievement of its target and the mitigation actions implemented and planned before and after its sixth national communication (NC6) and first biennial report (BR1) to achieve its target. The BR2 includes information on mitigation actions organized by sector and by gas. Further detailed information on the mitigation actions related to the Party's target is provided in chapter 4.1 of the BR2, and the estimated mitigation impact of the main policies and measures (PaMs) is provided in CTF table 3.
- 23. In its BR2, Malta explained that its legal arrangements were derived from the EU monitoring and reporting mechanism. Since its last submission (NC6 and BR1), Malta has updated its legal framework with respect to climate change with a new regulation, the Climate Action Act (2015) (CAP 543), which provides the framework for mitigation and adaptation actions. During the review, Malta provided additional information, explaining the arrangements and rules for the assessment of compliance in the country, which are a consequence of the recent adoption of its Climate Action Act. In terms of institutional arrangements, a new interministerial committee and the new Steering Committee on Emissions Modelling and Projections have been set up; they are coordinated by the Ministry for Sustainable Development, Environment and Climate Change and, respectively, by the Malta Resource Authority (MRA). MRA is also responsible for the modelling and quantitative assessment of PaMs.
- 24. The ERT noted the information reported in the BR2 and additional information provided during the review, which offered a general overview of the changes in the Party's institutional, legal, administrative and procedural arrangements. However, it was insufficiently clear to the ERT how these arrangements are used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress made towards its target, as required by the UNFCCC reporting guidelines on BRs. The ERT recommends that Malta, in its next BR, provide information on any changes in its domestic institutional arrangements and elaborate on how these arrangements, including institutional, legal, administrative and procedural arrangements, are used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress made towards its target. This could be implemented, for example, by providing a chart describing the process, institutions and roles related to the domestic institutional arrangements, which will in turn enhance the transparency of the Party's reporting.
- 25. In its BR2, Malta did not provide information on the domestic arrangements established for the process of self-assessment of compliance with emission reductions required by science, and on the progress made in the establishment of national rules for taking action against non-compliance with emission reduction targets. During the review, Malta provided additional information in relation to its Climate Action Act and its relevance to such arrangements (see para. 23 above). The ERT encourages Malta to improve the completeness of its reporting by providing, to the extent possible, information on the domestic arrangements established for the process of self-assessment of compliance with emission reductions required by science, and on the progress made in the establishment of national rules for taking action against non-compliance with emission reduction targets in its next BR.
- 26. Malta reported that its assessment of the economic and social consequences of response measures is based on the general rules set down in the policies and regulations in force at the EU level; however, the Party did not provide any examples of its application of such rules or information on the national approach to the assessment of the economic and social consequences of response measures. The ERT reiterates the encouragement made in the previous review report that Malta improve the transparency of its reporting by providing, to the extent possible, more detailed information on its assessment of the

economic and social consequences of response measures in its next BR, including, but not necessarily limited to, examples of its application of the general rules at the EU level or the national approach to assessment.

- 27. The key overarching cross-sectoral policy in the EU is the 2020 climate and energy package adopted in 2009, which includes the revised EU ETS and the ESD. This package is supplemented by renewable energy and energy efficiency legislation and legislative proposals on the 2020 targets for CO₂ emissions from cars and vans, the carbon capture and storage directive, and the general programmes for environmental conservation, namely the 7th Environment Action Programme and the Clean Air Policy Package (see table 3 below).
- 28. In operation since 2005, the EU ETS is a cap-and-trade system that covers all significant energy-intensive installations (mainly large point emissions sources such as power plants and industrial facilities), which produce 40–45 per cent of the GHG emissions of the EU. It is expected that the EU ETS will guarantee that the 2020 target (a 21 per cent emission reduction below the 2005 level) will be achieved for sectors under the scheme. The third phase of the EU ETS started in 2013 and the system now includes aircraft operations (since 2012) as well as N₂O emissions from chemical industries, PFC emissions from aluminium production and CO₂ emissions from industrial processes (since 2013).
- 29. The ESD became operational in 2013 and covers sectors outside the EU ETS, including transport (excluding domestic and international aviation, and international maritime transport), residential and commercial buildings, agriculture, waste and other sectors, together accounting for 55–60 per cent of the GHG emissions of the EU. The ESD aims to decrease GHG emissions in the EU by 10 per cent below the 2005 level by 2020 and includes binding annual targets for each member State for 2013–2020, which are underpinned by the national policies and actions of the member States (see para. 19 above). Malta's target under the ESD is to limit GHG emission growth to 5 per cent of the 2005 level by 2020.
- 30. At the national level, Malta introduced policies to achieve its targets under the EU climate and energy package. The key policies reported in the BR2 are related to the energy sector, more specifically to energy supply, and include plant loading and fuel switching, and the installation of new and efficient generating capacity. Both policies refer to thermal power generation and impact installations which fall under the provisions of the EU ETS. These two measures are supplemented by the policy regarding the submarine electrical connection to the European network, which consists of the installation of a submarine cable to connect the national electricity grid with the EU unified electricity grid, and is expected to have a considerable potential to reduce emissions by replacing electricity from local carbon-intensive power generation plants. The mitigation effect of the measures applied in the energy sector is the most significant.
- 31. Other policies that have delivered significant emission reductions relate to the transport sector, including the introduction of a biofuel 'substitution obligation', which obliges importers and wholesalers to ensure a mix of biofuels in their products, the promotion of transport modal shift, and the introduction of bioethanol in E85 blends. Malta has also adopted several policies targeting energy efficiency in industry, buildings and the public sector in line with its National Energy Efficiency Action Plan (2014), such as the distribution of energy-saving lamps in the domestic sector, as well as measures to promote renewable energy in line with its National Renewable Energy Action Plan (2010), including incentives for the uptake of photovoltaic systems, which provides grants for photovoltaic installations, and a feed-in tariff for the electricity fed into the grid. Other significant measures relate to the waste sector, including the operation of an urban wastewater treatment plant.

- 32. In addition, the BR2 includes two domestic mitigation actions that are under development: the introduction of bioethanol in E85 blends, which aims to introduce the use of fuel containing 85 per cent bioethanol and 15 per cent conventional petrol; and photovoltaic farms, which provides subsidies for the installation of photovoltaic farms. However, neither of those measures is critical for Malta to attain the 2020 emission reduction target.
- 33. Table 3 below provides a concise summary of the key mitigation actions and estimates of their mitigation effects reported by Malta to achieve its target.

Table 3

Summary of information on mitigation actions and their impacts reported by Malta

Sector affected	List of key mitigation actions	Estimate of mitigation impact by 2020(kt CO ₂ eq)	Estimate of mitigation impact by 2030(kt CO ₂ eq)
Policy framework and cross-sectoral measures	EU climate and energy package		
Energy, including:	National Energy Policy (2012)		
Energy supply	Installation of new and efficient generating capacity	609.95	705.44
	Plant loading and fuel switching	580.52	671.41
	Submarine electrical connection to the European network	256.96	386.46
Transport	Promotion of transport modal shift towards public transportation and public transport reform	44.40	47.72
	Introduction of a biofuel 'substitution obligation'	30.16	33.74
	Introduction of bioethanol in E85 blends	24.23	24.76
Renewable energy	Incentives for the uptake of photovoltaic systems	31.06	29.92
Energy efficiency	Distribution of energy-saving lamps in the domestic sector	s 27.13	26.73
	Energy-saving measures in State- owned industry	22.74	22.40
IPPU	EU F-gas regulation (842/2006)	NE	NE
Agriculture	Nitrates action programme	1.13	1.25
	Modernization of agricultural holdings	0.45	0.45
LULUCF	Afforestation projects	NE	NE
Waste	Operation of urban wastewater treatment plant	45.90	45.30
	Sant' Antnin mechanical and biological waste treatment plant	32.20	40.70

Note: The estimates of mitigation impact are estimates of emissions of carbon dioxide or carbon dioxide equivalent avoided in a given year as a result of the implementation of mitigation actions.

Abbreviations: EU = European Union, F-gas = fluorinated gas, IPPU = industrial processes and product use, LULUCF = land use, land-use change and forestry, NE = not estimated.

- 34. The ERT noted that the energy sector remains the most significant GHG-emitting sector, and most of the Party's mitigation policies relate to this sector. In the energy sector, the most significant mitigation effect relates to three measures applied to energy supply. Two of the measures refer to installations included under the EU ETS (thermal power plants). The ERT also noted that supply-side measures and demand-side measures (energy efficiency) may have some overlapping effects that are difficult to estimate and have not been clearly highlighted by Malta in its BR2. The ERT considers that it would help increase reporting transparency if Malta were to address such overlapping effects in its next BR.
- 35. The ERT further noted that some of the policies applied by Malta in the transport sector depend, to a certain degree, on people's behaviour and it is not certain that the Party will be able to achieve its projected savings unless appropriate public awareness measures are implemented in conjunction with the main policy. Also, the mitigation effects of PaMs relating to fluorinated gases (F-gases) have not been quantified, while the share of F-gases in the total GHG emissions of Malta has increased over recent years and is projected to continue increasing until 2030. In its BR2, Malta explained the uncertainty of quantifying PaMs of this nature; however, the ERT considers that it would help to increase reporting transparency if Malta were to provide a mitigation effect for these PaMs. Further, the ERT considers that an update by Malta of its assumptions in the waste sector with respect to the waste generation rate per capita, could help the Party to take account and estimate the effects of the provisions of the adopted Waste Management Plan for the Maltese Islands (2014–2020) and its prevention component.

2. Estimates of emission reductions and removals and the use of units from the marketbased mechanisms and land use, land-use change and forestry

- 36. Malta reported in its BR2 that it will not use units from other market-based mechanisms and the contribution of LULUCF to achieve its target. This is in accordance with the rules applied for the joint EU target for 2020 described in paragraph 17 above.
- 37. Malta has not filled in CTF tables 4, 4(a)I, 4(a)II and 4(b), and the CTF tables therefore do not include the information required by the UNFCCC reporting guidelines on BRs on the use of units from market-based mechanisms under the Convention and on the total emissions excluding LULUCF.
- 38. During the review, Malta provided additional information, explaining that no decision has been made yet regarding the use of market-based mechanisms to meet compliance requirements with its national target under the ESD.
- 39. The ERT recommends that Malta complete CTF tables 4, 4(a)I, 4(a)II and 4(b) by including emissions from the base year and each reported year and using the notation key "NA" (not applicable) if the requested information is not applicable, for example for LULUCF, or the value "0" (zero) in cases where units from market-based mechanisms are not used for a particular year in the progress towards the target.
- 40. For 2013, Malta reported in CTF table 1 annual total GHG emissions excluding LULUCF of 2,788.44 kt CO_2 eq, or 39.4 per cent above the 1990 level. In 2013, emissions from the non-ETS sectors relating to the target under the ESD were 1,083.08 kt CO_2 eq, or 1.7 per cent below the 2005 level, or 7.3 per cent below the annual emission allocation under the ESD for that year (1,168.51 kt CO_2 eq).

41. During the review, Malta informed the ERT that no decision has been taken yet regarding the use of units from market-based mechanisms under the Convention. Table 4 below illustrates Malta's total GHG emissions, the contribution of LULUCF and the use of units from market-based mechanisms to achieve its target.

Table 4
Summary of information on the use of units from market-based mechanisms and land use, land-use change and forestry as part of the reporting on the progress made by Malta towards the achievement of its target

Year	Emissions excluding LULUCF (kt CO ₂ eq)	Contribution from LULUCF (kt CO ₂ eq) ^a	Emissions including contribution from LULUCF (kt CO ₂ eq)	Use of units from market-based mechanisms (kt CO2 eq)
1990	2 000.33	NA	NA	NA
2010	3 025.43	NA	NA	NA
2011	3 077.66	NA	NA	NA
2012	3 171.44	NA	NA	NA
2013	2 788.44	NA	NA	NA

Sources: Malta's second biennial report and common tabular format table 1.

Abbreviations: LULUCF = land use, land-use change and forestry, NA = not applicable.

- 42. To assess the progress made towards the achievement of the 2020 target, the ERT noted that Malta's contribution to the joint EU emission reduction target under the Convention from sectors not covered by the EU ETS under the ESD is 5.0 per cent above the 2005 level by 2020 (see paras. 19 and 20 above). As discussed in chapter II.B above, in 2013 Malta's emissions from the sectors not covered by the EU ETS were 1,083.08 kt CO_2 eq, or 7.3 per cent below the annual emission allocation under the ESD for 2013 (1,168.51 kt CO_2 eq).
- 43. The ERT noted that Malta is making progress towards its emission reduction target under the ESD by implementing mitigation actions.

3. Projections

- 44. Malta reported in its BR2 and CTF table 6(a) updated projections for 2020 and 2030 relative to actual inventory data for 2013 under the 'with measures' (WEM) scenario. Projections are presented on a sectoral basis, using the same sectoral categories as those used in the section on mitigation actions, and on a gas-by-gas basis for the following GHGs: CO₂, CH₄, N₂O, PFCs, HFCs and SF₆ (treating PFCs, HFCs and SF₆ collectively in each case). Projections are also provided in an aggregated format for each sector as well as for a Party total, using GWP values from the IPCC AR4. Emission projections related to fuel sold to ships and aircraft engaged in international transport were reported separately and were not included in the totals. Malta reported on factors and activities influencing emissions for each sector. Further information on the projections is provided in chapter 5 of the BR2.
- 45. Malta has used the notation key "IE" in CTF table 6(a) to report emissions of PFCs and SF₆ for all years. During the review, Malta provided additional information, explaining that the emissions of PFCs and SF₆ are negligible and are therefore not included, and that the notation key "NA" should have been used instead. The ERT noted that this is not in accordance with the UNFCCC reporting guidelines on BRs and also leads to

^a The European Union's unconditional commitment to reduce greenhouse gas emissions by 20 per cent below the 1990 level by 2020 does not include emissions and removals from LULUCF.

inconsistencies with CTF table 1, where the relevant values for PFCs and SF_6 are reported. The ERT recommends that Malta improve the completeness of its reporting by including PFC and SF_6 emissions in CTF table 6(a). If the emissions from these gases are considered negligible, they could be included as a constant value.

46. Malta did not report a 'without measures' (WOM) or a 'with additional measures' (WAM) scenario. Malta explained in the BR2 that the WAM scenario provided in the BR1 has been excluded from the BR2 because there is only one measure (large solar energy parks) that would qualify as an additional measure. The ERT encourages Malta to include, in its next BR, information on a WOM scenario in order to provide an indication of the pathway of emissions and removals without the existing PaMs and, as appropriate, a WAM scenario if there are additional planned PaMs.

Overview of projection scenarios

47. The WEM scenario reported by Malta includes all currently implemented and adopted PaMs as at the end of 2014. The definition provided by Malta indicates that the scenario has been prepared in accordance with the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications".

Methodology and changes since the previous submission

- 48. The methodology used in the BR2 is different from that used for the preparation of the emission projections for the NC6/BR1. In chapter 5 of the BR2, Malta provided information explaining the methodologies used and the changes made since the NC6/BR1. The methodology used for the projections is based on a number of sector-specific models developed during 2015 covering emissions from the energy, transport, industrial processes and other product use, agriculture, LULUCF and waste sectors.
- 49. A cost-optimization modelling approach was used for the estimation of emissions from the energy sector, which includes demand based on economic growth models, development in energy efficiency and energy-saving measures, and the choice of fuel depending on price, but superseded by policy decisions such as the mandatory use of renewable energy sources. For the transport sector, the model used includes the expected impact of existing and new measures on road transport, subdividing transport between transport modes and fuel types, and by the categories passenger vehicles and cargo transport.
- 50. For the industrial processes and other product use sector, the model is built mainly on historical emissions. The effect of the EU F-gas regulation (842/2006) is not taken into consideration because of uncertainties regarding the net effect of this regulation. For the agriculture sector, the model is built mainly on historical activity data. For the LULUCF sector, which is a relatively small sector in Malta, the model simply assumes that the sequestration rate will remain constant over time. Lastly, for the waste sector, the model is built on the current relationship between solid waste and GDP per capita and industrial waste per GDP unit, with an expected reduction in such relationships over time.
- 51. To prepare its projections, Malta relied on the following key underlying assumptions: energy prices, economic development indicators, energy efficiency, travel distance, passenger transport and transport efficiency, as reported in CTF table 5. These assumptions have been updated on the basis of the most recent economic developments known at the time of the reporting on projections. While the models developed in 2015 for the BR2 are much more comprehensive than those used for the BR1, Malta has also updated the input to the model, assuming a higher GDP growth rate in 2020 and 2030 compared with the assumptions reported in the BR1.

52. Malta did not report on quantitative sensitivity analyses, but qualitatively discussed the sensitivity of the projections for some of the most important underlying assumptions. As discussed in chapter II.C.1 above, the effect of some PaMs, such those in the transport sector, is dependent upon the behaviour of the public towards the adoption of new transport habits (see para. 35 above). The ERT encourages Malta, where possible, to also report on the sensitivity of the projections for the assumptions related to the effect of PaMs, in cases where this is associated with some uncertainty.

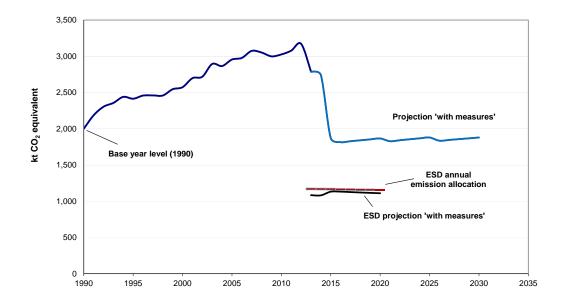
Results of projections

- 53. Malta's total GHG emissions excluding LULUCF in 2020 and 2030 are projected to be 1,865.29 and 1,878.64 kt CO_2 eq, respectively, under the WEM scenario, which represents a decrease of 6.8 and 6.1 per cent, respectively, below the 1990 level. The 2020 projections suggest that Malta will contribute to the achievement of the EU target under the Convention (see para. 16 above).
- 54. Malta's target for the emissions from sectors covered by the ESD (non-ETS sectors) is to limit its emission growth at 5.0 per cent above the 2005 level by 2020, or, after the EU decision on adjustments, to 1,156.43 kt CO₂ eq by 2020 (see para. 20 above). According to the projections under the WEM scenario, emissions from the non-ETS sectors are estimated to reach 1,109.50 kt CO₂ eq by 2020, which is 46.93 kt CO₂ eq below the ESD target for 2020. In addition, Malta projects that emissions will be significantly below its annual emission allocations for all years in the period 2013–2020. The ERT noted that this suggests that Malta expects to meet the target under the WEM scenario (see para. 19 above) and commends Malta for the way in which it presented the historical GHG emissions and projected emissions under the WEM scenario, for sectors covered by the ESD, in figure 5-10 of its BR2.
- 55. According to the projections reported by sector, the most significant GHG emission reductions under the WEM scenario from 1990 to 2020 will occur in the energy sector (579.79 kt CO₂ eq, or 37.0 per cent). According to figure 5-2 of the BR2, most of the reduction in energy emissions will occur from 2014 to 2015. During the review, Malta explained that this is due to technical developments in the power plants and that the effect is represented in two separate measures, namely plant loading and fuel switching, and the installation of new and efficient generating capacity.
- 56. GHG emissions from the transport subsector are projected to increase by $140.21~\rm kt$ $\rm CO_2$ eq (40.1 per cent) above the 1990 level by 2020, while GHG emissions from the waste sector are projected to increase by $114.74~\rm kt$ $\rm CO_2$ eq (271.9 per cent) and GHG emissions from the industrial processes and product use sector are projected to increase by $189.18~\rm kt$ $\rm CO_2$ eq (7.49 kt $\rm CO_2$ eq in 1990). Minor changes only are projected in the agriculture and LULUCF sectors.
- 57. GHG emissions from the energy sector will also constitute the largest reduction in emissions under the WEM scenario from 1990 to 2030, with a reduction of 490.13 kt $\rm CO_2$ eq (32.1 per cent) below the 1990 level by 2030. GHG emissions from the agriculture sector are projected to decrease by 19.28 kt $\rm CO_2$ eq (26.7 per cent) below the 1990 level by 2030, while GHG emissions from the industrial processes and product use sector are projected to increase by 222.51 kt $\rm CO_2$ eq and GHG emissions from the waste sector are projected to increase by 135.37 kt $\rm CO_2$ eq (320.8 per cent).
- 58. The projections under the WEM scenario show a significant decrease in emissions from the energy sector between 2013 and 2020, followed by a slightly increasing trend towards 2030. This trend is due to the expected effect of the main PaMs in energy supply and is further explained in chapter II.C.1 above. For the waste sector, GHG emissions are projected to increase between 2013 and 2020 because GDP is increasing. However, the

increase in GHG emissions from the waste sector is less pronounced than in the reported figures in the BR2, because the significant decrease in the period 2011–2013 is due to an incorrect calculation of the flaring of CH₄ (see para. 12 above). Compared with the projections presented in the BR1, the total projected emissions reported in the BR2 are lower, which to a large extent is due to the revised projected emissions for the energy sector following the implementation of a number of PaMs, as described in chapter II.C.1 above.

- 59. According to the projections reported by gas, in 2020, reductions in CO₂ emissions are expected to contribute the most to the Party's overall emission reductions. Under the WEM scenario, CO₂ emissions are projected to decrease by 23.3 per cent below the 1990 level by 2020 (434.06 kt CO₂ eq), while N₂O emissions are projected to decrease by 43.6 per cent (18.90 kt CO₂ eq). CH₄ emissions are projected to increase by 138.6 per cent above the 1990 level by 2020 (120.56 kt CO₂ eq), while HFC emissions are projected to increase from "NO" (not occurring) in 1990 to 196.67 kt CO₂ eq in 2020. Under the WEM scenario, the projections for 2030 are similar: CO₂ emissions are projected to decrease by 24.3 per cent below the 1990 level by 2030 (455.09 kt CO₂ eq), while N₂O emissions are projected to decrease by 54.1 per cent (23.44 kt CO₂ eq). CH₄ emissions are projected to increase by 145.1 per cent above the 1990 level by 2030 (126.15 kt CO₂ eq), while HFC emissions are projected to increase by 230.00 kt CO₂ eq.
- 60. The projected total national emission levels under the WEM scenario, as well as the projected emissions under the ESD and Malta's annual emission allocations under the ESD are presented in the figure below.

Greenhouse gas emission projections for Malta



Sources: (1) Data for the years 1990–2013: Malta's 2015 annual inventory submission, version 1; total GHG emissions excluding land use, land-use change and forestry; (2) Data for the years 2013–2030: Malta's second biennial report; total GHG emissions excluding land use, land-use change and forestry; (3) Data for the ESD projection and annual emission allocation provided by Malta during the review.

*Abbreviations: ESD = European Union effort-sharing decision, GHG = greenhouse gas.

D. Provision of financial, technological and capacity-building support to developing country Parties

- 61. Malta is not a Party included in Annex II to the Convention and is therefore not obliged to adopt measures and fulfil obligations as defined in Article 4, paragraphs 3, 4 and 5, of the Convention. However, Malta provided information on its provision of support to developing country Parties in its BR2, and additional information during the review. The ERT commends Malta for reporting this information.
- 62. In its BR2 and CTF tables 7, 7(a) and 7(b), Malta reported information on the provision of financial support through multilateral and bilateral channels in 2013 and 2014. Its contribution of financial support through multilateral channels was EUR 75,000 in 2014, consisting of EUR 25,000 through the United Nations Development Programme and EUR 50,000 through the United Nations Children's Fund. The financial support provided through bilateral channels amounted to EUR 29,637 in 2013 and EUR 30,725 in 2014, covering projects in the areas of mitigation, adaptation and cross-cutting issues, mostly regarding water and sanitation, in African countries (Ethiopia, Kenya and Uganda) and one Asian country (Pakistan).
- 63. During the review, Malta provided additional information on the selection criteria, priority areas and countries for the provision of financial resources, and the processes for tracking the flows of financial resources provided. Applications of funding are reviewed, following which the applicants are interviewed by a selection board, which is composed of internal and external members appointed directly by the Minister of Foreign Affairs. The applications are then graded according to a set of selection criteria, in line with Malta's official development assistance policy 2014–2020, and in accordance with the applicant's capacity to deliver the project. Countries selected by Malta are those affected by natural or human-induced disasters, with priority focused on countries and regions in North Africa, sub-Saharan Africa and the State of Palestine. Once approved, Malta secures the commitment of successful applicants with a letter of commitment and binds them to other requirements on reporting and provision of documentation. The ERT commends Malta for the additional information provided.

III. Conclusions

- 64. The ERT conducted a technical review of the information reported in the BR2 and CTF tables of Malta in accordance with the UNFCCC reporting guidelines on BRs. The ERT concludes that the reported information is mostly in adherence with the UNFCCC reporting guidelines on BRs and provides an overview on: emissions and removals related to the Party's quantified economy-wide emission reduction target; assumptions, conditions and methodologies related to the attainment of the target; progress made by Malta in achieving its target; and the Party's provision of support to developing country Parties.
- 65. Malta's total GHG emissions excluding LULUCF related to its quantified economywide emission reduction target were estimated to be 39.4 per cent above its 1990 level in 2013. Total GHG emissions including LULUCF also increased by 39.4 per cent over the same period. The emission increase was driven mainly by CO₂ emissions from the energy sector, mostly from energy industries and transport.
- 66. Under the Convention, Malta is committed to contributing to the achievement of the joint EU quantified economy-wide target of a 20 per cent reduction in emissions below the 1990 level by 2020. The target covers all sectors and the gases CO₂, CH₄, N₂O, HFCs, PFCs and SF₆, expressed using GWP values from the IPCC AR4. Emissions and removals from the LULUCF sector are not included in the quantified economy-wide emission reduction target under the Convention. The EU generally allows its member States to use

units from market-based mechanisms, but Malta has not yet taken a decision in that regard; however, companies can make use of such units to fulfil their requirements under the EU ETS.

- 67. Under the ESD, Malta has a target to limit the emission growth to 5.0 per cent above the 2005 level by 2020. Malta's annual emission allocations, which correspond to its national emission target for non-ETS sectors, change linearly from 1,168.51 kt CO2 eq in 2013 to 1,156.43 kt CO2 eq in 2020.
- 68. Malta's main policy framework relating to energy and climate change derives from the EU climate and energy package 2020. Key legislation supporting Malta's climate change goals includes the Climate Action Act adopted in 2015. The mitigation actions with the most significant mitigation impact are plant loading and fuel switching, the installation of new and efficient generating capacity, and submarine electrical connection to the European network, all of which target energy supply. These are supplemented by measures adopted in the waste and transport sectors.
- 69. For 2013, Malta reported in CTF table 1 total GHG emissions excluding LULUCF of 2,788.44 kt CO₂ eq. Malta has not yet reached a decision on its use of units from market-based mechanisms. LULUCF will not contribute to the achievement of its target. In 2013, Malta's emissions from the non-ETS sectors were 1,083.08 kt CO₂ eq, or 7.3 per cent below the annual emission allocation under the ESD for that year. The ERT noted that Malta is making progress towards its emission reduction target for the ESD by taking relevant mitigation actions.
- 70. The GHG emission projections provided by Malta in its BR2 include those for the WEM scenario. Under this scenario, emissions are projected to be 6.8 per cent below the 1990 level in 2020. According to the projections under the WEM scenario, emissions from the non-ETS sectors are estimated to reach 1,109.50 kt CO₂ eq by 2020, which is 46.93 kt CO₂ eq below the ESD target for 2020. Based on the reported information, the ERT concluded that Malta expects to meet its target for non-ETS sectors.
- 71. Malta is not a Party included in Annex II to the Convention and is therefore not obliged to adopt measures and fulfil obligations as defined in Article 4, paragraphs 3, 4 and 5, of the Convention. However, Malta reported that in 2014 it contributed EUR 75,000 through multilateral channels and EUR 30,725 through bilateral channels, covering projects in the areas of mitigation, adaptation and cross-cutting issues, mostly regarding water and sanitation, in African and Asian countries.
- 72. In the course of the review, the ERT formulated the following recommendations for Malta to improve its adherence to the UNFCCC reporting guidelines on BRs in its next BR:³
 - (a) Improve the completeness of its reporting by:
 - (i) Providing information on the national inventory arrangements and any changes to these arrangements (see para. 9 above);
 - (ii) Providing information on all elements related to the progress towards the target, for the base year and each reported year, by completing CTF tables 4, 4(a)I, 4(a)II and 4(b) (see para. 39 above);
 - (iii) Including the projections for PFC and SF_6 emissions in CTF table 6(a) (see para. 45 above);
 - (b) Improve the transparency of its reporting by:

³ The recommendations are given in full in the relevant chapters of this report.

- (i) Explaining the use of "IE" to report the possible scale of the contribution from ERUs (see para. 15 above);
- (ii) Providing information on any changes in its domestic institutional arrangements and elaborate on how these arrangements, including institutional, legal, administrative and procedural arrangements, are used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress made towards its target (see para. 24 above);
- (c) Improve the timeliness of its reporting by submitting its next BR on time (see para. 4 above).

Annex

Documents and information used during the review

A. Reference documents

"UNFCCC biennial reporting guidelines for developed country Parties". Annex to decision 2/CP.17. Available at

http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf#page=4>.

"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 to decision 24/CP.19. Available at

http://unfccc.int/resource/docs/2013/cop19/eng/10a03.pdf#page=2>.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications". FCCC/CP/1999/7. Available at http://unfccc.int/resource/docs/cop5/07.pdf>.

"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>.

FCCC/IDR.6/MLT. Report of the technical review of the sixth national communication of Malta. Available at http://unfccc.int/resource/docs/2014/idr/mlt06.pdf.

FCCC/TRR.1/MLT. Report of the technical review of the first biennial report of Malta. Available at http://unfccc.int/resource/docs/2014/trr/mlt01.pdf>.

2015 greenhouse gas inventory submission of Malta. Available at http://unfccc.int/8812.php.

Sixth national communication of Malta. Available at

 $< http://unfccc.int/files/national_reports/annex_i_natcom/submitted_natcom/application/pdf/mlt_nc3,4,5,6.pdf>.$

First biennial report of Malta. Available at

http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/mlt_br1.pdf.

Common tabular format tables of the first biennial report of Malta. Available at http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/mlt_2014_v2.0.pdf.

Second biennial report of Malta. Available at

http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/br2_malta.pdf.

Common tabular format tables of the second biennial report of Malta. Available at http://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/mlt_2016_v1_0_formatted.pdf.

B. Additional information used during the review

Responses to questions during the review were received from Ms. Claire Qoul (Malta Resources Authority), including additional material and the following documents¹ provided by Malta:

Climate Action Act, 2015 CAP 543.

Ministry of Foreign Affairs Malta. 2014. Official Development Assistance Policy and a Framework for Humanitarian Assistance 2014-2020.

Decision 2013/162/EU on determining Member States' annual emission allocations for the period from 2013 to 2020 pursuant to Decision No. 406/2009/EC of the European Parliament and of the Council. Available at

http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32013D0162.

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