Malta's Renewable Energy Contingent Liability

Potential costs relating to the non-attainment of the EU's mandatory 2020 targets

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List of Abbreviations

CO_2	Carbon Dioxide
EC	European Commission
ECJ	European Court of Justice
EU	European Union
IAS	International Accounting Standards
Ktoe	Kilotonne of Oil Equivalent
MRA	Malta Resources Authority
MRRA	Ministry for Resources and Rural Affairs
MS	Member States
Mtoe	Million Tonnes of Oil Equivalent
MWh	Megawatt Hours
NAO	National Audit Office
NREAP	National Renewable Energy Action Plan
PAC	Public Accounts Committee
RES	Renewable Energy Sources
TFEU	Treaty on the Functioning of the European Union
TGC	Tradable Green Certificates
TWh	Terawatt Hour

Executive Summary

Executive Summary

Introduction

1. This report aims to estimate Malta's contingent liability in the event that renewable energy targets, outlined in Directive 2009/28/EC on the promotion of the use of energy from renewable sources, are not attained in 2020. This study was undertaken following a request raised by the Public Accounts Committee (PAC) during its deliberations on 28 October and 25 November 2009 relating to the performance audit report *Renewable Energy and Energy Efficiency in Malta,* published in September 2009.

2. The PAC also requested that the National Audit Office (NAO) follows up and updates the Parliamentary Committee on progress achieved regarding the implementation of Government programmes relating to the exploitation of renewable energy sources and energy efficient practices. In view that only a limited period elapsed following the publication of the NAO's report and the subsequent PAC discussions, the Office will embark on this task at a later date in order to be able to consider developments, at least over a twelve month period.

Study approach

3. Through the consideration of different presumed scenarios and assumptions, this study aims to estimate Malta's contingent liability in the event that the current European Union's (EU) 2020 mandatory national 10 percent target is not attained. This target relates to the share of renewable energy sources in gross final energy consumption.

4. For the purpose of this study, three main approaches were adopted. In these cases, the contingent liability was assumed to be equivalent to:

- the costs that Malta will incur as a result of non-compliance with mandatory obligations, that is, the imposition of financial penalties by the European Court of Justice (Chapter 2 refers);
- the costs incurred through cooperation mechanisms, as indicated in the Directive to counter for the potential shortfall between the mandatory target and the level of renewable energy generated, through:
  - the procurement of statistical transfers (Chapter 3 refers); and
  - cooperation agreements in new renewable energy projects within EU Member States (Chapter 4 refers).

5. The NAO estimates relating to the three approaches considered in this report were undertaken on the basis of presumed best and worst case scenarios:

- The best case scenario presumes that Malta will only marginally fail to attain the relative renewable energy targets and thus will produce nine percent of the gross final consumption of energy from renewable sources in 2020. This implies that Malta's contingent liability will relate to one percent of gross final energy consumption.
- The worst case scenario presumes that in 2020 the exploitation of renewable energy sources would have reached one percent of total energy consumption.

6. The estimations carried out were based on various assumptions, which are noted in the relevant chapters of this report. Consequently, this report is subject to the following limitations:

- The limited availability of certain overseas data and information related to the subject under study.
- Due to data limitations, estimates were based on rates prevailing at different points in time.

- The duration of non-compliance with the relevant Directive and the seriousness assumed by the European Court of Justice (ECJ) in imposing financial penalties on Malta.
- Malta's future energy demand.
- The potential impact of future fossil fuel prices on statistical transfers.
- The impact on the statistical transfers market through the potential surplus or deficit of renewable energy generated by Member States in relation to the EU overall target.
- Future technological advancements.

7. In view of these limitations, the financial estimations and conclusions presented in this study are to be considered as hypothetical.

8. In addition to the renewable energy target, Directive 2009/28/EC establishes a minimum 10 percent target of renewable energy in the transport sector. Malta must therefore ensure that a minimum mandatory target of 10 percent of energy use in transport comes from renewable energy sources by 2020. In its most recent update of the National Renewable Energy Action Plan (NREAP), dated June 2010, the Malta Resources Authority (MRA) indicated that this target is envisaged to be met through various measures.

9. However, the EU is currently undertaking a number of studies related to the use of renewable energy sources vis-à-vis its transport policy. These studies were initiated by the European Commission (EC) in response to the Council's and Parliament's request to examine the indirect land use change effects of biofuels within the transport sector. Due to the potential impact of these studies, it was felt that the estimation of Malta's contingent liability related to renewable energy in transport obligations would be premature.

Estimating Malta's Contingent Liability

Financial Penalties

10. One of the approaches adopted to estimate the contingent liability was based on the assumption that such liabilities will be equal to the financial penalties imposed by the ECJ in the event that mandatory targets are not attained. Financial penalties calculations consider the seriousness of the infringement, the duration of infringement, and the need to ensure that the penalty acts as a deterrent to further infringements.

11. The imposition of a lump sum payment penalises Member States on failure to comply with the respective obligation between the first judgment on non-compliance and the judgment delivered by the ECJ under Article 260. Periodic penalty payments, meanwhile, induce Member States to end the breach of obligations after judgment in the least time possible.

12. The NAO estimated that in the presumed best case scenario, Malta may incur penalties ranging from the minimum applicable penalty of €180,000 to an annual periodic payment of €236,520. This level of fines implies that the penalty for the shortfall from the targeted amount in the generation of renewable energy will range from around €2.90 to €3.80 per MWh expected to be generated from Renewable Energy Sources (RES).

13. Conversely, the fines which may be imposed for the shortfall in the mandatory levels of generation of renewable energy would be around €23.7 million if a periodic penalty payment based on a five-year period is imposed. If the ECJ deems it appropriate to also impose an additional lump sum penalty payment based on the period of non-compliance between the first and second judgement, then the total penalties imposed would amount to €26.2 million. The foregoing suggests that in this presumed scenario, Malta may incur a fine ranging from €42.27 to € 46.97 per MWh which was not generated through renewable energy sources.

14. Additionally, the non-generation of renewable energy may also derail the attainment of carbon dioxide emissions obligations. A report commissioned by Government indicates that the potential penalties for failing the CO_2 emissions targets may range between €90 and €100 per tonne emitted above these targets (refer to Paragraph 2.5.3).

15. It is to be pointed out that the penalties imposed would have to be paid until the time Malta becomes compliant. Hence, the penalties would probably reflect the amount that Malta would have to invest to reach its obligations.

Statistical Transfers

16. The non-attainment of renewable energy targets can be mitigated through the procurement of statistical transfers to make up for the potential shortfall in the generation of renewable energy. Since the first renewable energy trajectory is in two years time, no market for statistical transfers exists yet. Consequently, the NAO assumed that the price of Tradable Green Certificates (TGC) would reflect the cost of statistical transfers per MWh. It is to be noted that the purchase of statistical transfers does not encompass the physical delivery of energy. The purchasing of statistical transfers could, in

practice, only be considered as an interim measure until Malta manages to reach its renewable energy targets through other means. Such an option would only be available in the event that other Member States have 'excess' renewable energy on a year by year basis. This situation could change if the EU decides to increase the renewable energy targets, which in turn would also influence the relative pricing mechanism for statistical transfers.

17. The limited data available relating to the historic prices of green certificates hindered the NAO from attempting to forecast possible costs of statistical transfers. One reason for the limited availability of data relates to the fact that the green certificate market is still in its developing stage. Consequently, for the purpose of this study, the NAO assumed the TGC prices prevalent in the United Kingdom, Italy and Sweden up to end 2008. Additionally, the NAO also considered the price estimation arrived at through a Government commissioned report (Paragraph 3.1.10 refers), which fell within the higher end of the TGC pricing range related to these three Member States.

18. In the presumed best case scenario, it is estimated that the cost of purchasing statistical transfers would range between €1.1 million and €6.5 million. These figures are based on the prices of TGCs traded in Sweden and Italy at €18.23/MWh and €104.46/MWh respectively over the period 2002 to 2008.

19. In the presumed worst case scenario, it was assumed that Malta purchases the required amount of statistical transfers in order to fulfil its 2020 mandatory target obligations. In this case, it is estimated that the cost to purchase the statistical transfers would range from around €10.2 million to €58.5 million. In such circumstances, Malta would be obliged to justify the non-attainment of interim trajectory targets and submit plans to the Commission outlining the way foward to rectify the situation.

Cooperation Agreements in New Renewable Energy Projects

20. The Renewable Energy Directive enables cooperation mechanisms between EU Member States in order to fulfil their renewable energy obligations. Such mechanisms can enable Member States to cooperate on any type of new projects that produce energy from renewable energy sources. The renewable energy generated through this project counts toward the respective national mandatory target according to the agreed proportion between the participating Member States.

21. Participation in such a project is based on the presumption that Malta would contribute towards greater generation and consumption levels of renewable energy within the EU, but not necessarily to consumption in Malta. Accordingly, Malta's role through this flexible mechanism is considered to be solely limited to the fulfilment of the renewable energy obligations. If such an agreement was to be made (which would be a similar concept to 'statistical transfers') then it is being assumed that Malta would not contribute towards the capital expenditure necessary for the commissioning and implementation of such a project. Such a contribution would, however, be made indirectly through the green energy tariff paid.

22. Through this approach, Malta's contingent liability is indicated by the potential costs incurred through the cooperation agreement to make up for the shortfall in attaining the mandatory renewable energy target. The green energy tariffs considered for this section of this report were based on 2010 prices of energy produced from offshore wind power. Such prices ranged between €50 MWh and €580 MWh.

23. In the presumed best case scenario, the potential costs incurred through such project are estimated to range from around €3.1 million to €36.1 million. In the presumed worst case scenario, the potential costs incurred by Malta through the participation in the joint project to comply solely with the 2020 targets would range from €28 million to €324.5 million. Since this option implies that interim trajectory targets would not be attained, then Malta would be obliged to submit revised NREAPs to the Commission, outlining the intended course of action which will enable obligations to be fulfilled.

Overall Conclusions

24. This study aimed to provide estimates of Malta's potential contingent liability in the event that renewable energy targets are not attained. The three approaches adopted led to varied results. However, it is to be noted that the renewable energy framework is still evolving at the EU and Member State levels, which thereby renders such estimates more complex and problematic. Although progress has been registered, Malta is still in the planning phases of major renewable energy projects, including one relating to an offshore wind-farm.

25. This report estimated Malta's contingent liability on the bases of financial penalties, statistical transfers and cooperation agreements. At the top end of the range of the presumed worst case scenario, these approaches estimated that the contingent liability could amount to around €2.9 million[1], €6.5 million, and €36.1 million respectively

[1] This estimate is based on a periodic penalty payment of five years of non-compliance following the ECJ's second ruling and a lump sum payment based on a period of five years between the first and second ECJ judgment.

for every one percent shortfall from the renewable energy targets.[2]

26. In the event that renewable energy targets remain unattained, the risk exists that Malta would face further non-compliance costs, in terms of other EU Directives. One such example would be that if the practice of utilising conventional fuel for energy production persists, the risk that Malta would also fail to comply with its CO_2 emissions targets as stipulated in Directive 2001/81/EC increases.

27. Despite the inherent limitations, this study provided an indication as to the potential range of Malta's contingent liability under various scenarios. The competent Governmental entities responsible for the implementation of the Renewable Energy Directive evidently need to keep abreast of developments to ensure that the provisions of the Directive are fully respected while containing Malta's contingent liability to a minimum.

[2] If the median scheduled price is assumed in calculating the cooperation agreement potential costs, then Malta's contingent liability would amount to €5.6 million for a one percent shortfall from the renewable energy targets.

Chapter 1

Malta's Renewable Energy Contingent Liability

Chapter 1 – Malta's Renewable Energy Contingent Liability

1.1 Terms of Reference

1.1.1 The National Audit Office (NAO) published the performance audit report: *Renewable Energy and Energy Efficiency in Malta* in September 2009. This report discussed issues relating to the exploitation of renewable energy sources, namely wind, solar, biomass and biofuels. Moreover, the report outlined the progress attained in the implementation of measures intended to further encourage energy efficient practices. The report benchmarked the progress achieved in the aforementioned areas against targets established by the European Union (EU). The performance audit report was discussed by the Parliamentary Public Accounts Committee (PAC) on 28 October and 25 November 2009.

1.1.2 The discussions in the PAC meetings mainly focused on progress achieved and difficulties encountered by the various governmental entities to implement the relative EU Directive. During these meetings the PAC requested that the NAO determines Malta's contingent liability in the event that EU renewable energy mandatory targets are not attained.[3]

1.1.3 The PAC also requested that the NAO follows up and updates the Committee on progress achieved regarding the implementation of Government programmes relating to the exploitation of renewable energy sources and energy efficient practices. Since only a limited period elapsed following the publication of the NAO's report and the subsequent PAC discussions, the Office will embark on this task at a later date in order to be able to consider developments, at least over a twelve month period.

1.1.4 Through the consideration of different scenarios, this report aims to estimate Malta's contingent liability in the event that the 2020 mandatory national 10 percent target in renewable energy as obliged by the EU is not attained.

1.2 Background

The Regulatory framework

1.2.1 Directive 2009/28/EC on the promotion of the use of energy from renewable sources provides a common framework within which Member States must achieve their mandatory renewable energy targets. Such targets are set on the gross final consumption of energy, with an additional specific target for energy consumed in the transport sector.

1.2.2 As a member of the EU, Malta is required to produce 10 percent of its energy consumption from renewable energy sources by 2020. The Directive also sets out indicative trajectory targets which Member States are expected to follow.

1.2.3 Directive 2009/28/EC also obliges each EU Member State to submit a National Renewable Energy Action Plan (NREAP) by 30 June 2010 outlining the measures that are intended to be implemented in order to attain their respective target. Additionally, every two years, Member States are obliged to submit a progress report to the European Commission (EC), containing information on their share of renewable energy, support schemes and progress on tackling administrative and grid barriers. The Directive also stipulates that Member States who do not attain their interim trajectory over any two-year period will have to submit an amended NREAP to the Commission. In this revised document, Member States are to indicate how they will make up for the shortfall.

1.2.4 The Directive portrays a number of flexibility measures that can be adopted by Member States to achieve their renewable energy targets. Such provisions include *ad hoc* national projects, statistical transfers between Member States, joint projects between Member States, joint projects between Member States and third countries, as well as joint support schemes. Table 1 refers.

[3] Public Accounts Committee – Minutes of Meetings No. 14 (http://www.parlament.gov.mt/pacmeetings11?l=1).

Table 1: Types of arrangements

Statistical transfers between Member States	Member States producing excess renewable energy relative to their mandatory renewable energy target may make arrangements with other Member States to transfer a specified amount of renewable energy.
Joint projects between Member States	Member States may cooperate on any type of project that produces energy from renewable energy sources. Such projects may also involve private operators.
Joint projects between Member States and third countries	Member States and other non-member countries may also cooperate to produce electricity from renewable energy sources.
Joint support schemes	Member States may, on a voluntarily basis, join or partly coordinate their national support schemes.

Source: Directive 2009/28/EC on the promotion of energy from renewable energy sources.

1.2.5 Malta's renewable energy targets are projected to be attained through the exploitation of wind, solar and biomass energy. Moreover, more potential will become available for Malta with regards the attainment of its renewable energy targets once the proposed inter-connector between Malta and Sicily is commissioned. It is, however, to be clarified that electricity transferred through the interconnection would be purchased through the already existing electricity market structures. The transfer is dependant on the quantity and time of the day with no distinction that such electricity is derived from renewable sources or otherwise.

1.2.6 In February 2010, the Malta Resources Authority (MRA) reported to the EU Commission that Malta estimates to meet all interim trajectories and final mandatory 2020 target. The report also notes that 0.8 percent of the obligatory target is to be attained through the exploitation of the cooperation mechanisms. In June 2010, the MRA updated this position and outlined in its draft NREAP various measures that enable Malta to marginally exceed all the obligatory renewable energy targets.[4]

1.2.7 Through Article 258 of the Treaty on the Functioning of the European Union (TFEU), the Commission reserves the right to initiate infringement procedures against Member States that fail to comply with a Treaty obligation. Infringement procedures may lead to the case being referred to the European Court of Justice (ECJ). Failure to comply with the ECJ ruling may lead to the imposition of financial penalties, in accordance with Article 260 of the above mentioned Treaty.

1.3 Estimating Malta's Renewable Energy Contingent Liability

1.3.1 The NAO estimated Malta's renewable energy contingent liability on the basis of the definition of the term indicated in the International Accounting Standards (IAS). The contingent liability was estimated through the three main approaches indicated within this section of the study.

Defining Contingent Liability

1.3.2 In accordance with IAS 37 contingent liability is defined as[5]:

a) a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or

b) a present obligation that arises from past events but is not recognised because:

(i) it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation; or

(ii) the amount of the obligation cannot be measured with sufficient reliability.

An entity should not recognise a contingent liability. An entity should disclose a contingent liability, unless the possibility of an outflow of resources embodying economic benefits is remote.

[4] MRA (2010), *Draft National Renewable Energy Action Plan,* p. 23.

[5] Available at http://www.iasb.org/NR/rdonlyres/81F90956-3009-4346-B727-11119816C992/0/IAS37.pdf (retrieved on 16 February 2010).

Approach

1.3.3 In the event that renewable energy targets are not attained, Malta's contingent liability can be estimated through various approaches. Such approaches would include the cost of financial penalties that may be imposed by the ECJ for failing to comply with renewable energy obligations.

1.3.4 Additionally, the contingent liability may be assumed to relate to the costs of implementing alternative measures in terms of the Renewable Energy Directive. These measures relate to statistical transfers between Member States, joint projects between Member States, joint projects between Member States and third countries, as well as joint support schemes.

1.3.5 This study will consider the costs incurred to procure statistical transfers to make up the potential shortfalls regarding Malta's renewable energy targets as an indication of the contingent liability. This approach will also take into consideration the work presented by the Climate Change Committee in 2009, where the Committee calculated the additional financial impact on Malta's Carbon emission obligations in the event that Malta does not attain its renewable energy targets.[6]

1.3.6 Malta's potential contingent liability is also estimated through cooperation agreements between one or more EU Member States. Such agreements can enable Member States to cooperate on any type of project that produces energy from renewable energy sources. The renewable energy generated through this project counts toward the respective national mandatory target according to the agreed proportion between the participating Member States. Participation in such a project is based on the presumption that Malta would contribute towards greater generation and consumption levels of renewable energy within the EU, but not necessarily to consumption in Malta.

1.3.7 This cooperation agreement approach considers the costs incurred to make up for the potential shortfall in the renewable energy mandatory target. These costs would be equivalent to the potential investment in a share of a new renewable energy generation plant, which would retrieve revenue from electricity sold with the possibility to claim the Renewable Energy Sources (RES) certificates of the electricity consumed in the EU community.

1.3.8 In addition to the renewable energy target, Directive 2009/28/EC establishes a minimum obligatory 10 percent renewable energy use in the transport sector. Malta must therefore ensure that a minimum target of 10 percent of energy used in transport comes from renewable energy sources by 2020. In calculating the amount of energy from renewable energy sources consumed in the transport sector, all forms of transport may be considered. In its most recent update of the draft NREAP, dated June 2010, the MRA indicated that this target is envisaged to be met through various measures.[7]

1.3.9 The EU is currently undertaking a number of studies related to the use of renewable energy within the transport sector. These studies were commissioned by the European Commission in response to the Council and Parliament's request to examine the indirect land use change effects as a result of the use of biofuels within the transport sector.[8] This situation may potentially impact the

[6] Climate Change Committee (2009), *The National Strategy for Policy and Abatement Measures Relating to the Reduction of Greenhouse Gas Emissions.*

[7] MRA (2010), *Draft National Renewable Energy Action Plan.*

[8] Information quoted is available at http://ec.europa.eu/energy/renewables/studies/land_use_change_en.htm and was retrieved on 30 April 2010.

EU's policies in this respect. Consequently, it was felt that the estimation of Malta's contingent liability related to the use of renewable energy in the transport sector would, in the circumstances, be premature.

Presumed Scenarios

1.3.10 The methodology adopted in the three approaches indicated in Paragraphs 1.3.3 to 1.3.7 will be presented within the framework of a best case and worst case scenario. In developing the basis for the latter scenarios, consideration was given to the 'Report on plans to achieve the set RES target of 10 percent by 2020' (MRA, 2010).

1.3.11 The Report outlines the major factors considered by the MRA in forecasting, such as: developments in the renewable energy sector, projections of energy consumption data, Government's plans and risks associated with the exploitation of wind, solar and biomass energy and improvements on energy distribution losses.

1.3.12 The MRA reported that it based its workings on the available data and a number of assumptions, which had to be made in instances where information gaps existed. However, the MRA asserted that assumptions made were based on historical data and experiences, and have been addressed in such a way that their variation would only influence minimally the final results.[9]

1.3.13 On the basis of the foregoing, the best case scenario presumes that Malta will only marginally fail to attain the relative renewable energy targets and thus will produce nine percent of the gross final consumption of energy from renewable sources in 2020. This implies that Malta's contingent liability will be based on the non-generation of one percent of renewable energy of the gross final energy consumption.

1.3.14 Conversely, the NAO assumed that the worst case scenario relates to a situation where the utilisation of renewable energy would amount to one percent of total energy consumption. The major factors that would lead to this assumed scenario include: financing, administrative, technological, environmental and planning issues. This level of renewable energy implies that Malta would be nine percent short of attaining its mandatory renewable energy target by 2020.

Study limitations

1.3.15 The results and conclusions, which will be presented in this study, will be subject to significant qualification. This is mainly due to the fact the estimates carried out were based on a number of assumptions. Consequently, this study is subject to the following limitations:

- The limited availability of certain overseas data and information related to the subject under study.
- The duration of non-compliance with the relevant Directive and the seriousness assumed by the ECJ in imposing financial penalties on Malta.
- Malta's future energy demand.
- The potential impact of future fossil fuel prices on statistical transfers.

[9] The forecast report submitted by the MRA to the EU Commission can be retrieved from http://ec.europa.eu/energy/renewables/transparency_platform/doc/malta_forecast_english.pdf (Accessed on 5 May 2010).

- The impact on the statistical transfers market through the potential surplus or deficit of renewable energy generated by Member States in relation to the EU overall target.

- Future technological advancements.

1.3.16 The financial estimations and conclusions presented in this study are to be considered as hypothetical.

1.3.17 The findings presented in this report also take into consideration the reactions expressed by the Ministry for Resources and Rural Affairs (MRRA), MRA and the advice of the EU Secretariat following the communication and discussions of a draft of this report.

1.4 Presentation of Findings

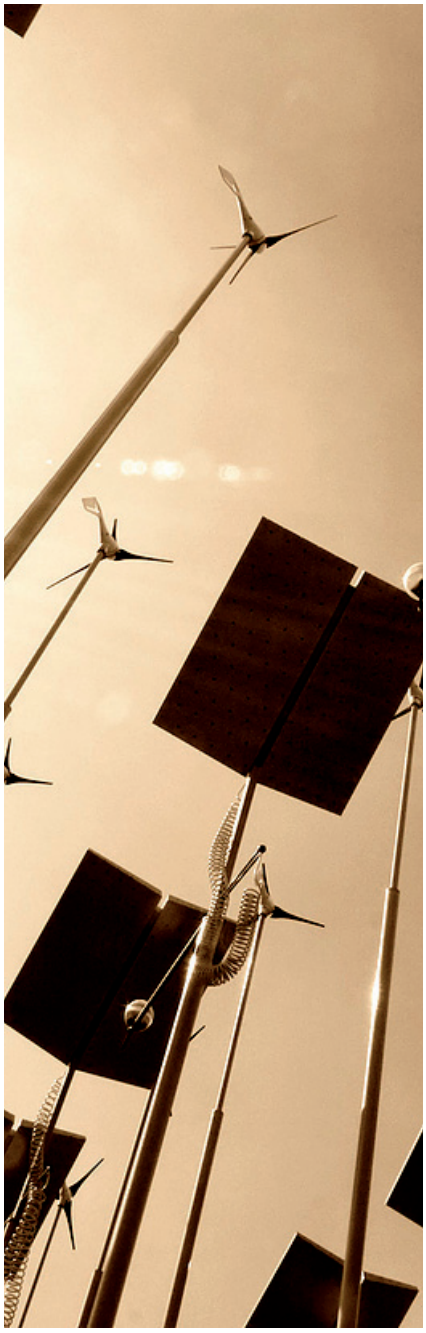
1.4.1 Following this introductory section, the report proceeds to present the three approaches undertaken by the NAO in estimating Malta's renewable energy contingent liability.

1.4.2 Chapter 2 estimates Malta's potential financial penalties as stipulated by Article 260 of the Treaty on the Functioning of the European Union in the event that the obligatory renewable energy targets are not attained.

1.4.3 Chapter 3 focuses on the potential costs, which will be incurred if the procurement of statistical transfers was resorted to as a temporary solution in order to attain the renewable energy targets.

1.4.4 Chapter 4 estimates Malta's contingent liability through the undertaking of cooperation agreements with one or more EU Member States that produces energy from renewable energy sources

1.4.5 Overall conclusions are included in this study's Executive Summary.



Chapter 2

Financial Penalties

Chapter 2 – Financial Penalties

Chapter 2 seeks to estimate Malta's contingent liability on the basis of the potential financial penalties which may be imposed on Malta by the European Court of Justice (ECJ) in the event that the mandatory renewable energy targets are not attained. This approach entails that potential financial penalties will be calculated in accordance with the provisions stipulated in Article 260 of the Treaty on the Functioning of the European Union (TFEU).

2.1 The EU Legislative Framework

2.1.1 The European Commission (EC), through Article 258, reserves the right to initiate infringement proceedings against Member States that fail to comply with its obligations. Table 2 lists the different types of infringements that may occur and against which the EC may proceed.

Table 2: Different types of infringements

Type of infringement	Description
Violations of Treaty Provisions, Regulations, and Decisions	Treaty Provisions, Regulations, and Decisions are directly applicable and, therefore, do not have to be incorporated into national law. Non-compliance takes the form of not or incorrectly applying and enforcing European obligations as well as of taking, or not repealing, violative national measures.
Non-transposition of Directives	Directives are not directly applicable, as a result of which they have to be incorporated into national law. Member States are left the choice as to the form and methods of implementation. Non-compliance manifests itself in a total failure to issue the required national legislation.
Incorrect legal implementation of Directives	The transposition of Directives may be erroneous. Non-compliance takes the form of either incomplete or incorrect incorporation of Directives into national law. Parts of the obligations of the Directive are not enacted or national regulations deviate from European obligations because they are not amended and repealed, respectively.
Improper application of Directive	Even if the legal implementation of a Directive is correct and complete, it still may not be practically applied. Non-compliance involves the active violation of taking conflicting national measures or the passive failure to invoke the obligations of the Directive. The latter also includes failures to effectively enforce Community Law, that is, take positive action against violators, both by national administration and judicial organs, as well as make adequate remedies available to the individual against infringements which impinge on human rights.
Non-compliance with ECJ judgments	Once the ECJ finds a Member State guilty of infringing Community Law, the Member State is finally obliged to remedy the issue. Non-compliance refers to the failure of Member States to execute Court judgments, which establish a violation of Community Law.

Source: Tanja A. Börzel, 2001. *'Non-Compliance in the European Union. Pathology or Statistical Artifact?'* Robert Schuman Centre for Advanced Studies, European University Institute.

2.1.2 The Commission may initiate infringement proceedings under Article 258, either in response to a complaint from someone in a Member State or on its own initiative, but it remains ultimately at the Commission's discretion to issue infringement proceedings. Infringement procedures under Article 258 do not carry penalties.

2.1.3 Prior to issuing a formal infringement notification against a Member State, the Commission gives a Member State the opportunity to informally explain its position with a view to reach an understanding with the Commission. If the matter is not sufficiently clarified or resolved informally at this stage, the Commission may decide to proceed to issue a Member State with a letter of formal notice. This represents the first stage within the infringement procedure, whereby a Member State is invited to submit its observations on the allegations brought against it, usually within a given two-month period. If a reply to the letter of formal notice fails to reach the Commission, or if the observations submitted by the Member State in reply to that notice are not considered to be satisfactory, the Commission may proceed to issue a reasoned opinion, which will require the Member State to end the infringement and to take action within a specified time period, usually also two months.

2.1.4 If a Member State ignores or fails to meet the impositions set out in the Reasoned Opinion, the Commission may refer the case to the ECJ. It rests within the Commission's discretion to decide whether or not to refer a case to the ECJ. For example, it may consider that whilst there is sufficient evidence of a breach of Community environmental law, such action may not be appropriate or necessary if the Member State has undertaken to remedy the breach. The ECJ will verify whether Community law has actually been violated, examine whether the mandatory measures demanded by the Commission are stipulated by the EU law and make a judgment on the legal action of the Commission.

2.1.5 If the ECJ finds a Member State to be in breach of Community law, the Member State is expected to comply with the Court's decision immediately. If a Member State fails to comply with a decision handed down by the Court of Justice, the Commission may take further action against that Member State under Article 260 TFEU. This Article empowers the Commission to propose the appropriate financial penalties, which the ECJ may impose in the circumstances. The EC's proposal on the imposition of financial penalties - in the form of a periodic penalty payment and/or a lump sum - depends on the duration and seriousness of non-compliance as well as the Member State's ability to pay, namely its gross domestic product.

Financial Penalties Proceedings

2.1.6 As noted in Section 2.1, Member States failing to comply with an ECJ judgment may be liable to financial penalties. The ECJ basis the calculations of the financial penalties on the following criteria:

- The seriousness of the infringement.
- The duration of infringement.
- The need to ensure that the penalty acts as a deterrent to further infringements.

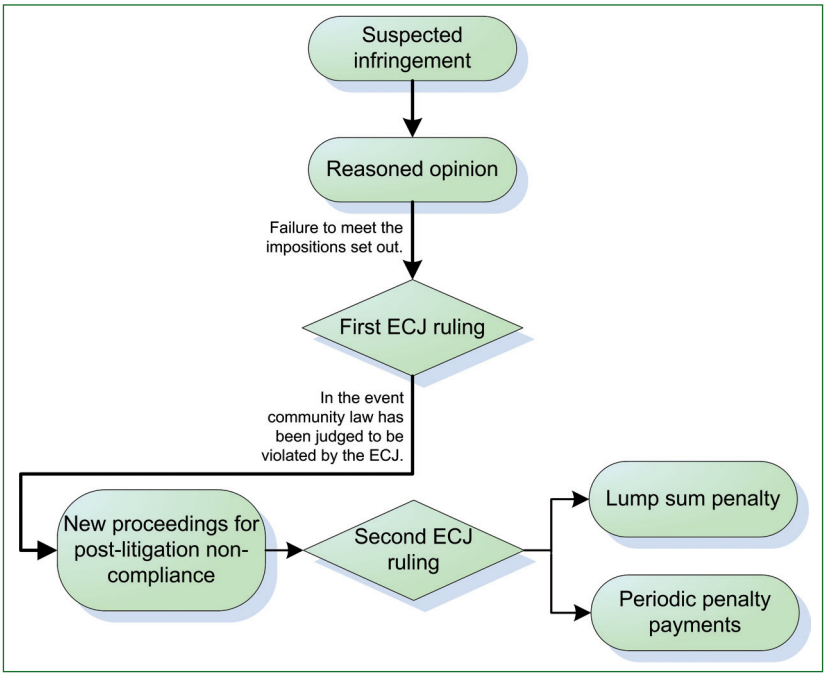
2.1.7 The imposition of a lump sum payment penalises Member States on failure to comply with the respective obligation between the first judgment on non-compliance and the judgment delivered by the ECJ under Article 260. Periodic penalty payments, moreover, are meant to induce a Member State to end the breach of obligations after judgment in the least time possible. Figure 1 refers.

2.1.8 Until mid-2005, the ECJ had only imposed periodic penalty payments until the mandatory measures were implemented by the respective Member State. Appendix 1 lists some examples of the judgments by the ECJ with respect to the environment. However, in its judgement of 12 July 2005, Commission vs France, the ECJ ordered France to pay both a lump sum of €20 million and a penalty payment of approximately €58 million for each period of six months from July 2005 onwards until fulfilment of obligations. Following this judgment it has become the practice of the Commission to request the award of both penalties when appropriate: as declared in the Commission Communication (SEC(2005)1658, hereinafter referred to as 'Commission Communication'), in cases where a Member State rectifies the infringement after the Court is seized and before the judgement is delivered under Article 20, the Commission will no longer withdraw its action for this reason alone, and the Court can then accordingly decide to impose the lump sum alone.

Methodology

2.1.9 Although Article 260 of the TFEU refers to the applicability of lump sum and periodic penalties, there is no reference relating to its calculation. However, the Commission Communication sets out guidelines for the calculation of penalties. The Court is not legally bound by the guidelines proposed by the Commission but in practice it still follows the Commission's recommendations.

Figure 1: Infringement process and payment period coverage



2.1.10 Since this study deals with the potentiality that Malta does not attain its renewable energy targets, situations ranging from best to worst case scenarios had to be assumed. These potential scenarios were assumed on the basis of Malta's projected progress on the extent of implementation of the planned renewable energy projects.[10] Moreover, assumptions related to the EC's proposal to the ECJ on financial penalties to be imposed, in terms of their seriousness and duration of non-compliance, also had to be factored in the calculation in the context of the assumed scenarios.

2.1.11 In order to derive the assumed scenarios, the NAO consulted with the Ministry for Resources and Rural Affairs, the Malta Resources Authority, the EU Secretariat and members of the former Climate Change Committee.

2.2 Presumed Scenarios

2.2.1 In order to estimate the potential financial penalties that may be incurred for failure to attain renewable energy targets, the following scenarios were presumed.

[10] MRA (2010), *Report on Plans to achieve the set RES target of 10 percent by 2020.*

Best Case Scenario

2.2.2 This scenario assumes that Malta will produce nine percent of its energy through renewable sources. This level of generation of renewable energy constitutes a shortfall of one percent of Malta's 10 percent target, which amounts to 62,174 MWh. This is based on the assumption that Malta would not have exploited any cooperation mechanisms.

Worst Case Scenario

2.2.3 The worst case scenario assumes that Malta's generation of renewable energy would amount to one percent of final energy consumption in 2020. This represents a shortfall of nine percent from attaining its mandatory renewable energy target by 2020.

2.3 Defining Financial Penalty Payments

2.3.1 Article 260 of the TFEU stipulates that the Commission shall specify the amount of the periodic penalty or lump sum payment that it proposes to the ECJ to inflict on non-compliant Member States. The subsequent sections provide a brief outline regarding the calculation of such financial penalty payments.

Periodic Payments

2.3.2 Periodic payments may be imposed to induce a Member State to end the breach of obligations after judgment in accordance with Article 260 of the TFEU.

2.3.3 The Commission Communication provides that the periodic penalty payment is based on a daily penalty payment which is estimated as indicated hereunder:

$$Dp = (Bfrap \times Cs \times Cd) \times n$$

where:

- *Dp* relates to the daily penalty payment imposed;
- *Bfrap* denotes the flat-rate amount 'penalty payment' which is equivalent to €600;
- *Cs* represents the coefficient of seriousness, ranging from a minimum and maximum of 1 to 20;
- *Cd* reflects the coefficient of duration, ranging from a minimum and maximum of 1 to 3;
- *n* is a fixed and distinct factor assigned to each Member State and represents the country's capacity to pay and the votes in the Council. In Malta's the *n* factor is quoted at 0.36.

Lump Sum Payments

2.3.4 Lump sum payments may also be imposed by a judgment delivered by the Court under Article 260 of the TFEU. Similarly to the situation discussed with respect to periodic penalty payments, this Article does not indicate the methods of calculating periodic penalties. Consequently, this study is based on the guidelines set in the Commission Communication.

2.3.5 The Commission Communication calculates the lump sum payment as follows:

$$Ls = Bfrap \times Cs \times n \times dy$$

where:

- *Ls* is the lump sum payment, where in Malta's case will be subject to a minimum of €180,000;
- *Bfrap* notes the flat-rate amount 'lump sum payment', which is equivalent to €200;
- *Cs* represents the coefficient of seriousness, ranging from a minimum and maximum of 1 to 20;

- *n* is a fixed and distinct factor assigned to each Member State and represents the country's capacity to pay and the votes in the Council. In Malta's the *n* factor is quoted at 0.36;
- *dy* is the number of non-complaint days elapsed since the date of the judgement under Article 258 and the date of the judgement under Article 260.

2.3.6 In estimating Malta's periodic penalty payment and lump sum fine, it is assumed that the flat-rate and *'n'* factor included in the calculations remain unchanged until 2020. However, it is to be noted that the EU Commission may revise the flat-rates and *'n'* factor every three years in line with inflation and economic growth respectively.

2.4 Estimating Potential Financial Penalties

2.4.1 For the purpose of providing an estimate of Malta's contingent liability, this study will present a range within which potential liabilities will fall. The contingent liability range is estimated on the basis of the presumed best and worst case scenarios indicated above in Paragraphs 2.2.2 to 2.2.3.

Best Case scenario

2.4.2 In the best case scenario, it is assumed that Malta would have only marginally failed to attain its renewable energy targets. It is presumed that the Commission will acknowledge the progress attained in this regard and may not impose any penalty payments. However, this study will assume that the Commission will propose that the minimum penalty possible will be imposed. It is to be noted that the Commission Communication states: "Every time it refers a case to the Court of Justice under Article 228 (now Article 260) the Commission will propose *at least* a fixed lump sum payment". In Malta's case the minimum lump sum payment applicable is of €180,000.[11] Penalties imposed under this presumed scenario are presented in Table 3 under scenario (I).

2.4.3 Conversely, it may be presumed that non-compliance with obligations was due to avoidable circumstances in implementing projects. In such cases, whilst applying the minimum coefficient of seriousness weighting, the Commission may propose to factor in the maximum weighting for the coefficient of duration in its calculation of periodic penalty payments. The applicable penalties are indicated in Table 3 under scenario (II).

2.4.4 Table 3 shows that in the best case scenario presumed, that is on the attainment of nine percent of energy from renewable energy, Malta may incur yearly penalties ranging from the minimum applicable penalty of €180,000 to €236,520. This level of fines implies that the penalty for the shortfall from the targeted amount in the generation of renewable energy will range from around €2.90 to €3.80 per MWh expected to be generated from RES.

Worst Case scenario

2.4.5 The worst case scenario assumes that Malta achieved very little progress regarding the attainment of its renewable energy targets than the position reported to the Commission in 2009. Thus, this presumed scenario

Table 3: Potential financial penalties in the presumed best case scenario

	Best case scenarios	
	I	II
Daily penalty flat-rate (Bfrap)	€ 600	€ 600
Member State factor (n)	0.36	0.36
Coefficient of seriousness (Cs) [ranging from 1 – 20]	1	1
Coefficient of duration (Cd) [ranging from 1 – 3]	1	3
Daily penalty [*Dp = Bfrap x Cs x Cd x) x n*]	Not applicable	€648
Minimum penalty applicable	€ 180,000	Not applicable
Yearly penalty [DP x 365 days]	Not applicable	€236,520
Fine for the shortfall in renewable energy generation per MWh	€2.90	€3.80

[11] The assumptions made by the NAO with regards to the imposition and calculation of lump sum payment is indicated in paragraphs 2.3.4 to 2.3.6.

suggests that Malta would have been generating only one percent of the final energy consumption, instead of the obligatory ten, from renewable energy sources.

2.4.6 In this presumed scenario, it is being assumed that the Commission would recommend that the highest coefficients of seriousness (*Cs*) and duration (*Cd*) weightings would be factored in the calculation to determine the periodic penalty payment to be imposed. For the purpose of this study, it is being assumed that Malta will become compliant within a period of five years following the ECJ's second ruling.

2.4.7 The Commission may also recommend that the ECJ imposes a lump sum payment. It is being assumed that the calculation of the lump sum payment would, similarly to the imposition of periodic penalty payments, consider the maximum coefficient of seriousness (*Cs*) contemplated. Additionally, when calculating the lump sum penalty in this presumed scenario, it is being assumed that the duration of non-complaint days would be significant, that is five years (based on an assumed period between the first and second ECJ judgments).

2.4.8 Table 4 presents the financial penalties which would be applicable under the presumed scenarios depicted in this Section.

2.4.9 The fines indicated in Table 4 imply that the penalty for the shortfall in the mandatory levels of generation of renewable energy would be around €23.7 million if a periodic penalty payment based on a five-year period is imposed. If the ECJ deems it appropriate to also impose an additional lump sum penalty payment based on the period of non-compliance between the first and second judgement, then the total penalties imposed would amount to €26.2 million. The foregoing suggests that in this presumed scenario, Malta may incur a fine ranging from €42.27 to €46.97 per MWh which was not generated through renewable energy sources.

2.5 Contingent Liability based on Potential Financial Penalties

2.5.1 This Chapter sought to estimate Malta's contingent liability in the event that EU obligatory renewable energy targets are not attained. In a presumed best case scenario, the minimum penalty which will be imposed would amount to €180,000. Conversely, in the presumed worst case scenario the total penalties imposed could potentially amount to €26.2 million. This estimate is based on a periodic penalty payment of five years of non-compliance following the second ruling and a lump sum payment based on a period of five years between the first and second judgment. The latter figure suggests that for every one percent shortfall in the attainment of the renewable energy targets Malta could face a periodic penalty of around €2.9 million (based on a 5-year period).

2.5.2 It is pertinent to point out that Malta is legally obliged to comply with its renewable energy obligations. Consequently, it can be reasonably presumed that penalties imposed would have to be paid until the time Malta becomes compliant. Hence, the penalties would probably

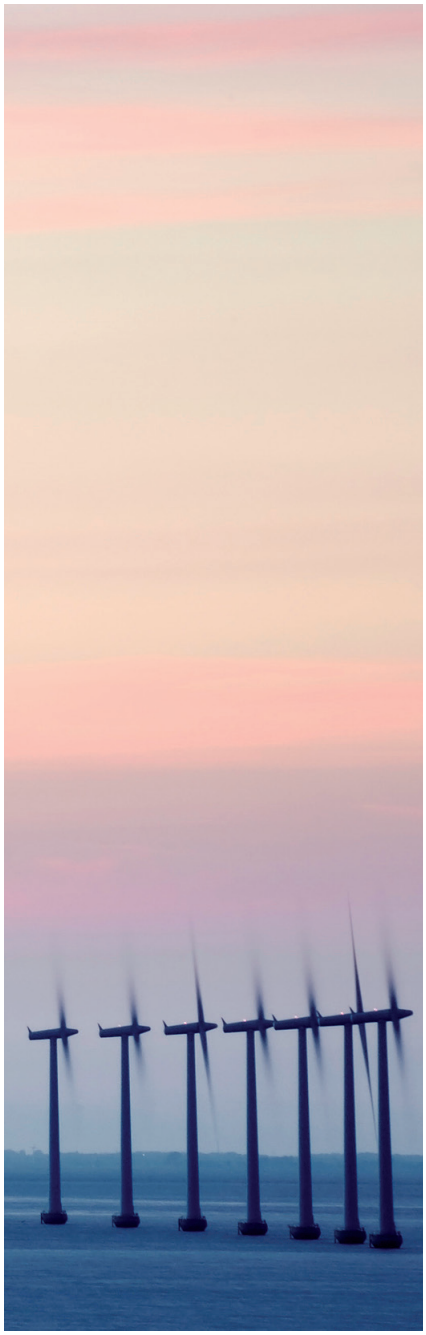
Table 4: Potential financial penalties in the presumed worst case scenario

Periodic penalty payment		Lump sum payment	
Daily penalty flat-rate *(Bfrap)*	€600	Daily penalty flat-rate *(Bfrap)*	€200
Member State factor *(n)*	0.36	Member State factor *(n)*	0.36
Coefficient of seriousness *(Cs)* [ranging from 1 – 20]	20	Coefficient of seriousness *(Cs)* [ranging from 1 – 20]	20
Coefficient of duration *(Cd)* [ranging from 1 – 3]	3	Non-compliant days (dy)	365
Daily penalty [*Dp = (Bfrap* x *Cs* x *Cd)* x *n*]	€12,960	Lump sum on daily basis	€1,440
Year periodic penalty payment [DP x 365 days]	€4,730,400	Lump sum penalty on a yearly basis [*Ls = Bfrap* x *Cs* x *n* x *dy*]	€525,600
5-year periodic penalty [DP x 365 x 5 years]	€23,652,000	Lump sum payment based on a 5 year period	€2,628,000
Fine for the shortfall in renewable energy generation per MWh	€42.27	Fine for the shortfall in renewable energy generation per MWh	€4.70

reflect the amount that Malta would have had to invest to fulfil its obligations.

2.5.3 Additionally, the non-generation of renewable energy may also derail the attainment of carbon dioxide emissions obligations. A report commissioned by Government indicates that the potential penalties for failing the CO_2 emissions targets may range between €90 and €100 per tonne emitted above these targets.[12]

[12] Climate Change Committee, (2009), *The National Strategy for Policy and Abatement Measures Related to the Reduction of Greenhouse Gas Emissions.*



Chapter 3

Statistical Transfers

Chapter 3 – Statistical Transfers

Malta's contingent liability can be estimated through the cooperation mechanisms and measures indicated by Directive 2009/28/EC (Paragraph 1.2.4 refers). These initiatives are intended to compensate for the shortfall from the mandatory level of generation of renewable energy. The initiatives which will be considered in this Chapter relate to the costs incurred to procure statistical transfers.

It is to be noted that the purchase of statistical transfers does not encompass the physical delivery of energy. This option, in practice, could only be considered as an interim measure until Malta manages to reach its renewable energy targets through other means.

3.1 Statistical Transfers

3.1.1 Member States producing excess renewable energy relative to their mandatory renewable energy target may make arrangements with other Member States to transfer a specified amount of renewable energy through the purchase of statistical transfers. This arrangement enables Member States to transfer the excess renewable energy produced in the form of statistical transfers and to be accounted for the transferee's national target.

3.1.2 By February 2010, in accordance with Article 4(3) of Directive 2009/28/EC, all Member States have submitted documents to the European Union (EU) Commission communicating the use, if any, of the cooperation mechanisms contained in the Directive. These documents note the expected share of imports or exports of renewable energy, as statistical transfers, necessary to meet the interim and final mandatory targets. In Malta's case 10 percent of final energy consumption must emanate from renewable sources. The price mechanism of statistical transfers is widely expected to depend on the demand of statistical transfers by Member States necessary to meet their EU obligations and on the supply of the excess renewable energy produced by other member countries.

3.1.3 Based on the renewable energy forecast documents submitted by the EU members, the overall EU target of 20 percent share of renewable energy from final energy consumption by 2020 is projected to be exceeded by around 0.3 percent. The excess share is, however, to be interpreted cautiously as in the reports submitted to the EU Commission most Member States note that the trajectories and targets require further infrastructure and energy efficiency measures.

3.1.4 At least 10 Member States are predicting a surplus of renewable energy production in 2020 vis-à-vis their binding targets, which implies that other member countries falling short of their target may consider purchasing. The extra renewable energy generated is estimated to amount to 5.5 Mtoe. In absolute terms, Spain and Germany forecasted the largest surplus, with 2.7 Mtoe and 1.4 Mtoe respectively. On the other hand, five EU Member States require to buy renewable energy from other countries in order to attain their renewable energy obligations. The total shortage is projected to be around 2 Mtoe, with Italy predicting the largest shortfall of 1.2 Mtoe in absolute terms. Appendix 2 refers.

3.1.5 The Malta Resources Authority (MRA) forecasts that Malta will exceed the interim trajectories and final mandatory renewable energy targets. It is to be noted that the recently drafted NREAP (2010) envisages that 3.5 percent of renewable energy in 2020 will be generated through the proposed offshore wind-farm. It is expected that the offshore wind-farm will be in operation in 2016. Table 5 illustrates Malta's expected progress against the national 2020 obligatory and relative trajectory targets.

Statistical transfers cost estimation

3.1.6 In estimating the cost of purchasing statistical transfers sufficient to enable the attainment of Malta's renewable energy obligation, this study considered a number of assumptions. As a result, estimations of costs

Table 5: National 2020 target and estimated trajectory targets

	2011-2012	2013-2014	2015-2016	2017-2018	2020
RES minimum trajectory	2.0%	3.0%	4.5%	6.5%	10.0%
Projected renewable energy share	2.6%	5.8%	7.3%	10.0%	10.2%

Source: Malta Resources Authority (2010), Draft National Renewable Action Plan.

presented in this Section are to be interpreted with great caution.

3.1.7 As stipulated in Directive 2009/28/EC, Malta may purchase statistical transfers only from Member States whose targets have been met and exceeded. However, since the first renewable energy trajectory is in two years time, no market for statistical transfers exists yet. Accordingly, the NAO is assuming that the price of Tradable Green Certificates (TGCs) would reflect the cost of statistical transfers per MWh. This assumption is based on the fact that both the TGCs and statistical transfers are tradable commodities proving that a specified quantity of electricity is generated through renewable energy sources. This implies that Malta still needs to generate electricity in order to meet its own demand. It is to be noted that such an assumption was also resorted to by consultants commissioned by the MRA to study the feasibility of increasing Malta's renewable energy credentials.[13]

3.1.8 Nevertheless, this approach did not prove unproblematic. A number of 'energy authorities' across Europe did not publish the prices of TGCs. Although, references to such prices were quoted in a number of studies, the NAO was not able to confirm their source. Consequently, the NAO resorted to the prices referred to in a MRA commissioned study in 2009.[14] Additionally, the limited data available relating to the historic prices of TGCs hindered the NAO from attempting to forecast future green certificate prices. One reason for the limited availability of data relates to the fact that the green certificate market is still in its developing stage.

3.1.9 For the purpose of this study, NAO is assuming three different prices as referred to in the report 'Feasibility Study for Increasing Renewable Energy Credentials'. Table 6 refers.

3.1.10 In addition to the prices quoted in Table 6, the same Government commissioned report, published in January 2009, concluded that a conservative price estimation for statistical transfers would be in the region of €90 MWh.[15]

3.2 Presumed Scenarios

3.2.1 The following presumed best and worst case scenarios provide the basis for estimating the potential costs to be incurred by Malta to purchase statistical transfers in order to ensure compliance with the EU's mandatory renewable energy targets. These potential costs will represent the ensuing contingent liability.

Best Case Scenario

3.2.2 In this presumed scenario it is assumed that nine percent of Malta's final energy consumption in 2020 is produced from renewable energy sources and hence only one percent of statistical transfers will need to be purchased. In absolute terms, Malta would be required to purchase 5.35 Ktoe, that is, 62,174 MWh, in order to attain its renewable energy obligation.

3.2.3 Additionally, the NAO is assuming the following:

- Malta purchases all the required statistical transfers necessary to comply with the obligatory renewable energy targets at one point in time.
- The certificates procured will have one year validity from their issuing date.
- The cost estimations presented relate to the attainment of the 2020 renewable energy target.

Table 6: Average tradable green certificate prices

Member countries	Range of dates considered	€/MWh
Sweden	2003 – 2008	€ 18.23
UK	2002 – 2008	€ 51.42
Italy	2002 – 2008	€ 104.46

Source: Mott MacDonald (2009), Feasibility Study for Increasing Renewable Energy Credentials.

[13] Mott MacDonald (2009), Feasibility Study for Increasing Renewable Energy Credentials.

[14 & 15] Ibid.

Table 7: Cost of Statistical Transfers in the presumed best case scenario

Share of energy from renewable sources in gross final consumption of energy in 2020 (%)	10%
Renewable energy target in MWh	621,740
Assumed progress towards the 2020 renewable energy targets	9%
Statistical transfers required to meet target requirement	1%
Renewable energy in MWh required to meet target	62,174
Sweden at €18.23/MWh	€1,133,432
UK at €51.42/MWh	€3,196,987
Mott MacDonald estimation at €90/MWh	€5,595,660
Italy at €104.46/MWh	€6,494,696

3.2.4 Table 7 implies that in the presumed best case scenario Malta may incur costs ranging between €1.1 million and €6.5 million if the statistical transfers are bought from Sweden and Italy respectively.

Worst Case Scenario

3.2.5 In the worst case scenario, it is presumed that by 2020 Malta produces only one percent of renewable energy out of the final energy consumption. In this presumed scenario, the cost of statistical transfers will be considered as Malta's contingent liability.

3.2.6 As in the best case scenario, in this presumed situation the assumptions listed above in Paragraph 3.2.3 will again be considered. This presumed scenario assumes that all the required statistical transfers necessary to comply with the obligatory 2020 renewable energy targets will be procured at one point in time. Since this option implies that interim trajectory targets would not be attained, then Malta would be obliged to submit revised NREAP to the Commission, outlining the intended course of action which will enable obligations to be fulfilled. If the Commission agrees with the revised NREAP, then the quantity of statistical transfers which would need to be procured will be equivalent to enable the attainment of the mandatory 2020 target only.

3.2.7 Alternatively, Table 8 indicates that the cost of statistical transfers incurred for the purpose of fulfilling the 2020 mandatory target only would range between €10.2 million and €58.4 million. Such a situation assumes that Malta would need to revise its' NREAP following the non-attainment of the indicative trajectory targets.

Table 8: Cost of Statistical Transfers in the presumed worst case scenario

Assumed progress towards the 2020 renewable energy targets	1%
Statistical transfers required to meet target requirement	9%
Statistical transfers required to meet target requirement (MWh)	559,566
Sweden at €18.23/MWh	€10,200,888
UK at €51.42/MWh	€28,772,883
Mott MacDonald estimation at €90/MWh	€50,360,940
Italy at €104.46/MWh	€58,452,264

3.3 Contingent Liability based on Statistical Transfers

3.3.1 This Chapter sought to estimate Malta's contingent liability in the event that statistical transfers are procured as an interim measure to enable compliance with renewable energy targets. Such transfers would be similar to a tradable certificate scheme whereby only the benefits associated with renewable energy generation is sold. Thus, statistical transfers do not encompass the physical delivery of energy. Hence, the cost associated with the presumed scenarios presented in this Chapter will be over and above the costs of energy production prevailing in Malta at the time. The calculations indicated that in a situation where Malta purchases statistical transfers at the highest rates quoted in this Chapter, results in costs of €6.5 million for every one percent shortfall in the mandatory renewable energy targets.

3.3.2 Moreover, the non-attainment of renewable energy targets potentially exposes Malta to further non-compliance costs, in terms of other EU Directives. One such example would be that if the practice of utilising conventional fuel for energy production persists, the risk increases that Malta would also fail to comply with its CO_2 emissions targets stipulated in Directive 2001/81/EC. It has been estimated that, in the event that a shortfall of eight percent in the renewable energy target materialises, Malta may suffer an opportunity cost of €36.2 million over an eight year period, excluding any penalties which may be imposed by the ECJ regarding the non-attainment of the renewable energy target.[16]

3.3.3 The estimates presented in this Chapter are to be considered as hypothetical. These calculations have to be reviewed against future potential changes in the price and demand for energy, fluctuations in the price of fuel oils, the effectiveness of undertaking certain projects, in particular the offshore wind-farm, and technological advancements in the generation of energy, including that from renewable sources.

[16] Climate Change Committee, (2009), "The National Strategy for Policy and Abatement Measures Related to the Reduction of Greenhouse Gas Emissions", Appendix IV p. xxxv.

Chapter 4

Cooperation Agreements in New Renewable Energy Projects

Chapter 4 – Cooperation Agreements in New Renewable Energy Projects

The flexible mechanisms stipulated in Directive 2009/28/EC enable Member States to attain their renewable energy targets through different joint measures. In particular, Member States may cooperate on joint projects to produce energy from renewable sources in one of the participating member countries or with a third country, the latter with certain conditions. The share of renewable energy produced is distributed between the Member States participating in the joint project according to the agreed proportions. The renewable energy share distributed counts towards the national overall mandatory target.

This Chapter aims to estimate Malta's contingent liability in the event that renewable energy targets are not attained with the potential costs incurred with respect to a cooperation agreement with one or more European Union (EU) Member States as outlined in the preceding paragraph.

This report will not be considering the potential costs incurred through joint projects and support schemes with third countries for the purpose of estimating Malta's contingent liability. This position has been taken since, at the time of drafting this report, no plans in this regard had been concluded by Government.

4.1 Cooperation Agreements in New Renewable Energy Projects

4.1.1 Article 11 of Directive 2009/28/EC enables two or more Member States to cooperate on joint projects relating to the production of electricity, heating and cooling from renewable sources. The generation of renewable energy through such projects contribute towards the respective national obligatory targets of the participating Member States.

4.1.2 It is to be noted that the energy generated from renewable sources through these projects is not physically transferred to the participating states. Physical importation of green electricity only counts if the renewable energy is produced outside the EU Member States and is transferred to the EU community via a physical linkage.

4.1.3 Malta's participation within a joint project is assumed to be based on the presumption that such involvement would increase the level of generation and consumption of renewable energy within the EU, but not necessarily contributing to Malta's consumption requirements. In addition, Malta's role is considered to be solely limited to the fulfilment of the renewable energy obligations.

4.1.4 Consequently, in financial terms, Malta's contingent liability would be equivalent to the cost of the cooperation agreement based on the level of participation necessary to make up for the shortfall in attaining the renewable energy targets. If such an agreement was to be made it would be similar in concept to 'statistical transfers' but in this case it would also encompass the physical component of the electricity - whether consumed in Malta or in the EU market. Consequently, it is being assumed that Malta would not contribute towards the capital expenditure necessary for the commissioning and implementation of the joint projects. Such a contribution would be made indirectly since the energy tariff would incorporate fixed, variable and capital depreciation costs incurred to produce renewable energy. Thus, Malta would be potentially investing in a share of a new renewable energy generation plant, which would retrieve revenue from electricity sold with the possibility to claim the Renewable Energy Sources (RES) certificates of the electricity consumed in the EU community.

4.1.5 The potential costs incurred by Malta will be based on the shortfall of renewable energy vis-à-vis the target and the corresponding energy tariff agreed to between the joint project participating Member States.

Table 9: Potential cooperation agreement costs in the presumed best case scenario

	Offshore wind energy prices (2010)	
	Minimum	Maximum
RES deficit in MWh	62,174	62,174
Offshore wind power feed-in tariff per MWh	€50	€580
Total cooperation agreement costs	€3,108,700	€36,060,920

4.2 Presumed Scenarios

4.2.1 As in the previous Chapters of this study, similar best and worst case scenarios were presumed to provide the basis for estimating the potential joint project costs. In these presumed scenarios, the NAO will be considering the minimum and maximum scheduled 2010 prices of energy produced from off-shore wind-power. Such prices ranged from €50 to €580 MWh.[17] The median rate quoted amounted to €90 per MWh.

Best Case Scenario

4.2.2 In this presumed scenario it is assumed that nine percent of Malta's final energy consumption in 2020 will be produced from renewable energy sources. Hence, Malta's participation in the project is assumed to be equivalent to the shortfall from the EU target, that is, one percent of the final energy consumption. In absolute terms, Malta's costs in the joint project would be based on the 5.35 Ktoe, that is, 62,174 MWh, required to make up the target shortfall.

4.2.3 Table 9 indicates that, in the presumed best case scenario where Malta attains nine percent of energy from renewable sources, the potential costs to be incurred through the cooperation agreement in the project would range from around €3.1 million to €36.1 million. This amount would be equivalent to the contingent liability in a presumed best case scenario.

Worst Case Scenario

4.2.4 In the presumed worst case scenario, it is assumed that renewable energy would only amount to one percent of the final energy consumption in 2020. This implies that Malta's 'share' in the Project would be equal to the potential costs of 48.11 Ktoe, that is 559,566 MWh.

4.2.5 In the worst case scenario, it is being presumed that the cooperation agreement would only extend to enable Malta to comply with the obligatory renewable energy targets at one point in time, that is, in time to attain the 2020 target. Since this option implies that interim trajectory targets would not be attained, then Malta would be obliged to submit revised NREAPs to the Commission, outlining the intended course of action which will enable obligations to be fulfilled.

4.2.6 Table 10 indicates that in this presumed scenario the potential costs incurred by Malta through the Project to comply solely with the 2020 targets, range from €28 million to €324.5 million.

Table 10: Potential cooperation agreement costs in the presumed worst case scenario

	Offshore wind energy prices (2010)	
	Minimum	Maximum
RES deficit in MWh	559,566	559,566
Offshore wind power feed-in tariff per MWh	€50	€580
Total cooperation agreement costs	€27,978,300	€324,548,280

[17] Source: Retrieved from http://www.energy.eu/#feedin (Accessed on 16 June 2010).

4.3 Contingent Liability based on Participation in a New Joint Project

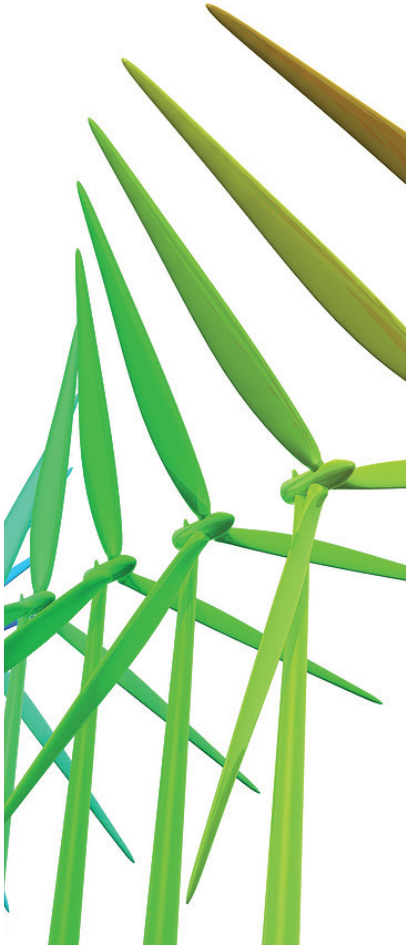
4.3.1 This Chapter sought to estimate Malta's contingent liability through the undertaking of a cooperation agreement related to participation in a new renewable energy generating project with one or more Member States. The renewable energy generated through this project counts towards the respective national mandatory target according to the agreed distribution between the participating Member States.

4.3.2 Participation in such a project is based on the presumption that Malta would contribute towards the increase in generation and consumption of renewable energy within the EU. Accordingly, Malta's role is considered to be solely limited to the fulfilment of the renewable energy obligations. Hence, this approach is similar to that undertaken with regards statistical transfers as Malta would not be importing any physical energy produced from the renewable energy plant.

4.3.3 On the basis of the estimated costs incurred through cooperation agreements, based on the maximum scheduled rates of renewable energy for 2010, Malta's contingent liability would amount to €36.1 million for every one percent shortfall of the renewable energy target.[18]

4.3.4 This approach indicated that Malta's contingent liability is estimated to vary according to the level of target shortfall and projected green energy prices. Estimates may also vary as in Paragraph 3.3.3. Furthermore, in this presumed scenario, Malta may incur additional costs relating to the CO_2 emissions target as referred to in Paragraph 3.3.2.

[18] If the median scheduled price is used for the basis of this calculation, then Malta's contingent liability would amount to €50.4 million. This would amount to €5.6 million for every one percent shortfall from the renewable energy target.



Appendices

Appendix 1 - Judgments by the ECJ

Case	Infringement	Penalty Payment	Lump sum
Judgment in Case C-387/97 Commission vs. Greece of 4 July 2000	Failure to ensure that waste disposed of in the area of Chania did not endanger human health and harm the environment in line with Directive 75/442/ EEC. In addition, no plans for waste disposal (inc. toxic and dangerous waste) were drawn as requested by Directive 75/442 and Directive 78/319/EEC.	€ 20,000 (daily)	-
Judgment in Case C-287/01 Commission vs. Spain of 25 November 2003	Inshore waters did not conform to the limit values laid down under Directive 76/160.	€ 624,150 (yearly)	-
Judgment in Case C-304/02 Commission vs. France of 12 July 2005	Failure to carry out activities and measures relating to fishing control.	€ 57,761,250 (every six months)	€ 20,000,000

Source: Memo/05/482, Brussels December 2005, EU Directorate General Communication.

Appendix 2 - Renewable Energy Targets Forecasts

Member States	Projections against 2020 targets	
Austria	34.0%	(⇔)
Belgium	12.3%	(↓ 0.7%)
Bulgaria	18.7%	(↑ 2.7%)
Cyprus	13.0%	(⇔)
Czech Rep.	13.0%	(⇔)
Denmark	28.0%	(↓ 2.0%)
Finland	38.0%	(⇔)
France	23.0%	(⇔)
Estonia	25.1%	(↑ 0.1%)
Germany	18.7%	(↑ 0.7%)
Greece	20.0%	(↑ 2.0%)
Hungary	13.0%	(⇔)
Ireland	16.0%	(⇔)
Italy	16.0%	(↓ 1.0%)
Latvia	40.0%	(⇔)
Lithuania	23.3%	(↑ 0.3%)
Luxemburg	5% - 10%	(↓6.0% - 1.0%)
Malta[19]	9.2%	(↓0.8%)
Netherlands	14.0%	(⇔)
Poland	15.5%	(↑ 0.5%)
Portugal	31.0%	(⇔)
Romania	24.0%	(⇔)
Slovenia	25.0%	(⇔)
Slovak Rep.	15.2%	(↑ 1.2%)
Spain	22.7%	(↑ 2.7%)
Sweden	50.2%	(↑ 1.2%)
UK	15.0%	(⇔)
EU-27	20.3%	(↑0.3%)

Source: EU Commission (2010), Summary of the Member State Forecast Documents.

[19] In its most recent update of the NREAP, dated June 2010, the MRA indicated that the 2020 mandatory target of 10 percent is envisaged to be marginally surpassed.

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