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Executive Summary

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Introduction

1. This follow-up performance audit aims to report on the progress registered in the exploitation of renewable energy sources in Malta. This study was undertaken by the National Audit Office (NAO) as was requested by the Parliamentary Public Accounts Committee (PAC) during its deliberations of the performance audit report: *Renewable Energy and Energy Efficiency in Malta*, which was published in September 2009.
2. For the purpose of this review, the NAO focused on the following audit objectives from its 2009 study, namely to:
 - i. evaluate the process adopted in the development of Malta's energy policies.
 - ii. determine Malta's progress with regards to the renewable energy programme.
3. Issues related to encouraging more energy efficiency practices were considered to be beyond the scope of this review. However, it is to be pointed out that the Malta Resources Authority (MRA) is obliged to report to the EU Commission, by end June 2011, on progress registered by Malta in this regard.
4. This follow-up audit was carried out during the period September – December 2010, and entailed determining the extent to which recommendations proposed in the NAO's 2009 publication have been implemented. For ease of reference, this Executive Summary reproduces the key recommendations made in the report referred to in this paragraph as marginal notes in green text. The degree of progress registered in connection with these recommendations is presented adjacent to the proposals.

The Policy Formulation Process

5. The Ministry for Resources and Rural Affairs (MRRA) has ownership of the energy policy and the responsibility to make policy in this field. However, in order to optimise the utilisation of available expertise in Malta, Government assigned the energy policy-drafting role to the MRA.

Efforts are to be sustained to ensure that Malta's energy efficiency and renewable energy policies are updated to reflect current circumstances and envisage future developments.

6. During the period under review, plans were drafted to restructure and augment human resources at the MRA. Such plans have been referred to the Ministry of Finance, the Economy and Investment (MFEI) for clearance. It is envisaged that the MRA's organisation structure will include specific units for policy drafting and regulation. This should enable the Authority to better carry out its diverse functions.
7. The process to finalise Malta's energy policy, which embraces energy from renewable sources, has continued.

During the follow-up audit period two major milestones were achieved in the energy policy.

8. The first milestone in the policy development was the completion of the revised Proposal for an Energy Policy for Malta (PEPM) launched in April 2009. The revision of the energy policy proposal reflected changes in related EU legislation, particularly Directive 2009/28/EC.
9. The second milestone related to the commencement of the Strategic Environmental Assessment (SEA) of the revised Energy Policy Proposal. This is required under Legal Notice 418/2005 and the SEA Directive 2001/42/EC.
10. Following scheduling revisions and the recent appointment of the SEA audit team, this process is now expected to be concluded in August 2011. Upon conclusion of the SEA process, Government will be in a position to consider formally endorsing Malta's energy policy.
11. Biofuel regulations were also developed during the period under review. Two legal notices became effective in 2010. Legal Notice 553/2010 stipulates that biofuel produced and imported for the local market must adhere to sustainability criteria defined therein.
12. Legal Notice 556/2010 lays out greenhouse gases emissions standards by conventional fuel. The latter Legal Notice stipulates that a proportion of biofuel, up to the permissible standards laid out by the European Union (EU) and the Malta Standards Authority, can be premixed with petroleum products. However, currently, suppliers may opt for the higher levels of bio-element permissible in premixed petroleum fuel. The potential consequence of such action relate to the extent of suitability of the existent fleet of Maltese vehicles to run on the higher mixes permissible of biofuel in conventional petroleum products.
13. An additional legal notice – “Petroleum for the Inland (Wholesale) Fuel Market (Amendment) Regulation, 2011”, which is still in draft form, is expected to become effective shortly. This Legal Notice will mandate the gradual premixing parameters of biofuel in all petroleum products consumed in Malta by the transport sector. The main objective of these provisions is to stimulate the uptake of biofuel in Malta. Moreover, this Legal Notice will cancel out the potential side-effects, brought about by LN 556/2010 discussed in the preceding paragraph.
14. Policy developments relating to the attainment of Malta's EU obligations with regards the use of renewable energy within the transport sector also encompassed the use of electric cars. It is expected that a strategy in this respect will be published in the coming weeks.
15. The MRA considers that, at a national level, the strategic plans supporting the implementation of Malta's renewable

The appropriate strategic and operational plans are to be drafted and communicated to all stakeholders.

energy policy are deemed to be the National Renewable Energy Action Plan (NREAP) and National Energy Efficiency Action Plan (NEEAP).

16. During the period under review, the NREAP was formulated and referred to the EU Commission in July 2010. This is in accordance with Malta's EU obligations as stipulated in Directive 2009/28/EC.
17. On the other hand, the NEEAP is being updated to reflect ongoing changes in the energy sector. The updated NEEAP should be submitted to the EU Commission in June 2011, as required.
18. Operational plans regarding wind farms and biomass related projects have been developed by the implementing entities. Plans related to the development of the proposed onshore and offshore wind farms sites indicate that these facilities will be able to generate 255 GWh or 39.7 per cent of Malta's RES target by 2020. Additionally, operational plans related to waste to energy generation, the other major RES contributing to Malta's RES targets, indicate that by 2020 approximately 156 GWh will be generated, or 25 per cent of Malta's renewable energy targets.

Exploiting Renewable Energy in Malta

19. Malta's Energy Policy Proposal sets out that Malta will seek to achieve its renewable energy biannual trajectory and EU 2020 targets namely by generating energy from wind, solar and biomass (waste) sources, and by increasing the use of biofuel.

In view of the continuous technological advancements, sustainability assessments of the effectiveness and environmental impacts of large-scale wind energy farms are to be made.

20. The initiatives undertaken regarding the exploitation of wind energy during the period under review complied with the milestones noted in the NREAP. Generally, the activities undertaken by the Ministry for Resources and Rural Affairs (MRRA) during this period related to studies for planning permission purposes.
21. In addition to the planning permission related assessments, Site Specific Wind Measurement studies are being carried out at the three major wind farm sites. The Sikka l-Bajda study was published in February 2011. The other studies relating to the other wind farm sites are expected to be completed shortly.
22. In order to enable the exploitation of renewable energy through micro wind turbines, the Malta Environment and Planning Authority (MEPA) Board has approved new planning guidance for the installation of such equipment. Despite the fact that consumers of micro wind turbines benefit from rebate schemes, the uptake of this equipment remains marginal.
23. During the period under review various initiatives, aimed at converting biomass to energy, were undertaken by WasteServ Malta Ltd. (WSM) and the Water Services Corporation (WSC).

Efforts to implement waste to energy related projects should be intensified.

24. The NREAP envisaged that by 2010, about 1.1 GWh of biomass energy would be generated through landfill gases. By the date indicated, this target was exceeded since 1.8 GWh of energy through landfill gases was generated from Ta' Zwejra and Maghtab landfill. The latter landfill sites are expected to be fully operational by the first and fourth quarter of 2011, respectively.
25. It is envisaged that three Mechanical Biological Treatment (MBT) plants will be operational by 2014. The MBT plant at St. Antnin is in its commissioning phase following minor delays. This plant is expected to generate 27.5 GWh of electrical and thermal energy annually. It is expected to be operating at full capacity by mid 2011. Planning and design initiatives regarding the Malta North and Gozo plants were subject to minor delays due to tendering related issues. Nevertheless, WSM envisages that this delay will only marginally impact the projected implementation date of these projects. These MBT plants are expected to generate 33 GWh of electrical energy annually.
26. The project at Ta' Barkat, which converts sewage sludge to energy, is proceeding in accordance to the timeframe indicated in the NREAP. This project is expected to generate 16 GWh of energy annually.
27. Grant schemes aimed at stimulating the exploitation of solar energy through Photovoltaic (PV) systems offered both the Domestic and Industrial sectors improved 'rebate' conditions. Together with improvements in the feed-in tariffs, these schemes were positively viewed by consumers in both the targeted sectors. In fact, the uptake of PV systems through the applicable grant schemes during the period under review was almost double the projections indicated in the NREAP. These schemes were funded through national funds and European Regional Development Fund programmes. The total funds allocated for the PV grant schemes amounted to €17 million.
28. Up to end 2010, the PV systems installed through these grant schemes generated an estimated 11 GWh of electricity. This implies that the estimated average cost of 1 kWh of energy produced through these PV grant schemes was €0.05 and €0.09 for the Domestic and Industrial sectors respectively. This is considerably less than the current minimum retail price of electricity for these sectors.
29. Even when the applicable feed-in tariffs are taken into consideration, together with the PV Grant Schemes, the Government measures to promote the use of PV systems still render value for money. The cost to Government for promoting the use of a unit of energy generated through PV systems ranges between €0.14 and €0.15, for the Domestic and Industrial sectors respectively. This is less than the assumed current cost of producing electricity through conventional means. Such costs are based on the assumptions that the current cost of conventional electricity

Financial incentives and other forms of encouraging consumer investment in renewable energy technologies (such as photovoltaic) are to be revised and inclined towards technologies necessitating a relatively high initial capital outlay.

production and current feed-in tariffs will remain constant throughout the lifetime of the PV system.

30. Similarly to the strategies adopted for PVs, the uptake of solar water heaters within the Domestic and Industrial sectors was based on improved rebate rates over previous grant schemes. The 2009 grant scheme was wholly funded through national funds. Another two grant schemes were co-financed through the ERDF programme and national funds. The total funds allocated to the solar water heaters grant schemes amounted to €1.6 million.
31. Despite the fact that during the period under review there were various schemes aimed at the sectors indicated in the preceding paragraph, the overall response resulted in the generation of around 30 per cent of the 29.3 GWh of energy indicated in the NREAP. This situation could have potentially materialised since a number of applicants were excluded through the relative financial means test criteria applicable to the ERDF financed grant schemes. Moreover, potential applicants could have perceived a better rate of return on their capital on if they invested in PV technology rather than solar water heaters.
32. During the period 2009 – 2010, various initiatives aimed at reversing the declining trend of biofuel penetration in the Maltese market were undertaken.
33. Most of these initiatives focused on the further development and strengthening of the biofuel legal framework, as discussed above in this Executive Summary. In turn, these developments are seen to enable the further penetration of biofuel within the local market.
34. By 2020, it is envisaged that the renewable energy targets relating to the transport sector will mainly be achieved through the increased uptake of biofuel. However, issues relating to the pricing mechanism for consumers in cases where biofuel is premixed with conventional fuel are yet to be fully resolved. Similarly, the extent of suitability for the local market of bioethanol and bio-ETBE as part substitutes of unleaded petrol is still being studied by the MRA.
35. Through the recent changes to the regulatory framework, the MRA is in a better position to obtain information from operators about biofuel related activities. Such information will strengthen the MRA's monitoring and enforcement functions demanded through its regulatory role.
36. Government policy dictates that Malta should consider alternative renewable energy technologies, as long as in the long term these will be of benefit to the energy sector and further extend Malta's potential on alternative energy sources.

Evaluate the feasibility of increasing the market penetration of biodiesel within the transport and industry sectors through pre-mixes of biodiesel as already undertaken in various other EU Member States.

The monitoring and enforcement of biofuel producers by the Regulator is to be strengthened.

Research studies should also focus on emerging technologies related to the exploitation of renewable energy sources. Such research may, in the long run, serve to provide other renewable energy opportunities in addition to those currently being considered.

37. Government is currently evaluating the proposals of projects intended to develop innovative technologies relating to renewable energy as well as carbon capture and storage projects. This call is funded under the NER 300 initiative. The NER300 project preferences are also in conformity with Malta's Energy policy.
38. Government is also conducting preliminary work, related to potential studies, on emerging technologies. Currently, such work has focused on the potential applicability and benefits of wave and geothermal energy. Moreover, further studies are being undertaken to enable the eventual investigations of possibilities on new technologies addressing wind farms in deep seas.

Overall Conclusions

39. This follow-up audit has shown that current initiatives and plans devised by various Governmental entities, intended to further stimulate the use of renewable energy in Malta, appropriately address the recommendations proposed by the NAO in 2010. These RES initiatives, which are ultimately intended to mitigate climate change, are also directed towards ensuring that Malta fulfils its national and EU obligatory renewable energy targets.
40. Despite delays, significant progress was registered in matters relating to renewable energy policy, including the broadening and strengthening of the biofuel operational and legal framework. Additionally, initiatives relating to renewable energy projects are now gathering momentum.
41. Delays registered have resulted in Malta progressing only to one third of its 2010 projected RES targets, as indicated in the NREAP. This is not considered to be detrimental to Malta attaining the EU 2020 targets. The progress registered to date and revised plans indicate that Malta will be in a position to fulfil its EU trajectory targets – the first of which falls in 2012 – and ultimately exceed its obligatory 2020 EU renewable energy targets. This is, however, dependant on the current drive being maintained in order to minimise project implementation delays. Moreover, the attainment of Malta 2020 targets remains critically dependent on the feasibility of major projects and that they exploit renewable energy in accordance with the relative projections.