

**Malta's annual monitoring report for 2015 under Article 24(1) of
'Directive 2012/27/EU of the European Parliament and of the Council of 25
October 2012 on energy efficiency, amending Directives 2009/125/EC and
2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC'**

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1) Introduction

Article 24(1) of Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (the EED) requires monitoring reports to be submitted each year, in the first place by 30 April 2013 (first EED monitoring report).

In accordance with Part 1 of Annex XIV to the EED, the reports are to contain the following information:

- 1) a list of certain monitoring indicators in the year X-2, X being the current year (2013 for this report);
- 2) in sectors where energy consumption remains stable or is growing, Member States analyse the reasons for such stability or growth and attach their appraisal to the estimates (relevant for subsequent reports);
- 3) the second and subsequent reports also include points (b) to (e).

2) Primary energy targets, primary energy consumption projections

The indicative target for 2020 is based on primary energy consumption for Malta, capped for aviation in the same manner as the target for renewable sources of energy. It is based on national models of energy consumption projections, and assumes primarily that the energy end use savings envisaged in the NEEAP are achieved and that the new interconnector with Sicily is commissioned.

Indicative National Energy Efficiency target 2020: **264,282** toe in primary energy (equivalent to 27% of the primary energy consumption in 2020 under a BAU scenario).

The basis for this target is that aviation is capped at 4.12% in line with Directive 2009/28/EC on the promotion of the use of energy from renewable sources. The business as usual scenario assumes the power station conversion efficiency of **30.31%** as in 2009 remaining unchanged.

3) A list of certain monitoring indicators in the year n-2 (2013), n being the current year (2015 for this report);

The list of monitoring indicators in the year n-2 is found in annex 1.¹ It should be noted that some of the data provided in this report does not match the data provided by EUROSTAT. An effort is being done with the various entities mainly NSO (National Statistics Office), MRA (Malta Resources Authority) and SEWCU (Sustainable Energy and Water Conservation Unit) to consolidate all the data gathered in line with the EUROSTAT codes as suggested in the Draft guiding table. NSO will also revise the data reported to EUROSTAT.

4) In sectors where energy consumption remains stable or is growing, Member States analyse the reasons for such stability or growth and attach their appraisal to the estimates (relevant for subsequent reports);

¹ The reported data follows as much as possible the format as proposed in the *Draft guiding table for Annual Reports Article 24(1) EED* sent for comments on the 27th March 2015.

During 2013, the Maltese economy continued to display remarkable resilience. This contributed to a real GDP growth rate of 2.4 per cent in 2013, up from 0.6 per cent recorded during 2012. This performance was also reflected in developments registered in the main labour market indicators for 2013. The unemployment rate remained relatively stable at 6.5 per cent, while the number of employed persons increased by 2.8 per cent in the last quarter of 2013. Consequently, the employment rate rose to 61.1 per cent in the fourth quarter of 2013, up from 59.5 per cent recorded in the corresponding period of 2012.

During 2013 there was a 2% increase in final energy consumption in the transport sector when compared to 2012. This change is due to the increase in the aviation sector which showed a percentage increase of the aviation final energy consumption of 5%. The scheduled and non-scheduled aircraft movements at Malta International Airport in 2013 were 30,752 as compared to 28,197 in 2012². This was due to an increase in the tourism sector and in 2013 the tourist increased by 138,739 over 2012.

The primary energy consumption decreased by 11% from the previous year. One factor responsible for this decrease is due to the reduction of fuel consumption for thermal power generation. This reduction is attributed to the entry in commercial operation of new Diesel Engine Combined Cycle plant at Delimara Power Station in December 2012. The conversion efficiency of this plant is of 48% and it replaced older plant at Marsa Power Station which had a conversion efficiency of 24%. The overall effect was an increase of 5% on the conversion efficiency of all the power generation in Malta.

The utilization of 'heat' generated from thermal power generation has increase from zero to 47GWh in 2013. This is due to the putting into commercial operation of the Diesel Engine Combined Cycle plant at Delimara Power Station (DPS) in December 2012. This plant utilises waste heat from the diesel engine cooling water to produce distilled water from seawater. The amount of distilled water produced in 2013 was of 230,011 m³. This water is used in the station as makeup in the whole of DPS. Prior to the installation of this plant this water was produced by other evaporators which utilized steam produced by conventional boilers as a source of heat input.

5) The second and subsequent reports also include points (b) to (e).

(b) Updates on major legislative and non-legislative measures implemented in the previous year (2014) which contribute towards the overall national efficiency targets for 2020:

1. The Government has set up a Sustainable Energy and Water Conservation Unit (SEWCU) in compliance with what was stated in *Report to the Commission as required by Article 7(9) of Directive 2012/27/EU of the European Parliament and the Council on energy efficiency* of the 4th December 2013. SEWCU is a government agency which performs a number of functions including the setting up of national policies related to sustainable energy and water use, the preparation of national plans to meet National and EU targets in the fields of energy and water resources management, overseeing the implementation of measures necessary to achieve these targets, and carry out projects to increase the renewable energy generation, energy efficiency and water conservation within

² Malta International Airport Annual Statistics Summary 2013

government buildings and private sectors.

2. SEWCU is entrusted with the monitoring, reporting and setting of verification protocols specific to each scheme or project as specified in the report for Article 7 of the Energy Efficiency Directive (EED). The Agency is also responsible for the overall implementation coordination and monitoring as well data gathering. Besides cooperating with the National Statistics Authority in gathering relevant information, SEWCU will supplement the work done by the NSA research and analysis to identify needs and trends, and to monitor obligations and measure compliance with targets.
3. The EED has been transposed into Maltese Law *L.N. 196 of 2014 MALTA RESOURCES AUTHORITY ACT (CAP. 423) BUILDING REGULATION ACT (CAP. 513) Energy Efficiency and Cogeneration Regulations, 2014.*
4. The National Energy Efficiency Action Plan for Malta was published in April 2014. The high-level objective of the NEEAP is to: establish a target of energy savings by 2020, which takes into account of national circumstances and is overall a fair share of the EU's effort, to show how the country intends to generate these savings, to demonstrate results achieved so far, to send a strong message to the country in favour of energy efficiency, and to raise awareness of the effectiveness of schemes, incentives and information available from time to time to assist interested stakeholders.
5. In the fourth quarter of 2014 SEWCU organized a conference to inform interested parties of the obligation under Article 8, for non-SME to carry out energy audits every four years or to set up an energy management system. The conference presented the roadmap upon which non-SMEs would be able to attain their obligation. The roadmap included:
 - a. The Government Notice 1302 of 2014 entitled the *Registration of Courses leading to Certification of Installers of small scale biomass boilers & stoves, solar PV & thermal systems, shallow geothermal & heat pumps, energy auditors, energy managers and providers of energy services – G.N. 1302 of 2014*, which establishes training courses for energy auditors and energy managers. Courses for Energy Auditors and Energy Managers are delivered by a private firm under the supervision of the Malta Resources Authority (MRA);
 - b. SEWCU is keeping in touch with non-SMEs through the media and their representatives to maintain an open channel to address any queries which may arise concerning the implementation of this obligation; and
 - c. SEWCU in collaboration with MRA has published a *Guidance Note on the carrying out of mandatory energy audits by non-SMEs pursuant to LN 196/2014 transposing the energy efficiency Directive 2009/27/EU* to guide non-SMEs in the correct implementation of the LN196/2014.
6. SEWCU is working with other ministries and stakeholders in the design and implementation of policies and projects with the public and private sectors to promote energy efficiency in the country.
7. The MRA compiled the Cogeneration Report for 2013. This is included as Annex 2 and Addendum to Annex 2.

(c) the total building floor area of the buildings with a total useful floor area over 500 m² and as of 9 July 2015 over 250 m² owned and occupied by the Member States' central government that, on 1 January of the year in which the report is due, did not meet the energy performance requirements referred to in Article 5(1); and

(d) the total building floor area of heated and/or cooled buildings owned and occupied by the Member States' central government that was renovated in the previous year referred to in Article 5(1) or the amount of energy savings in eligible buildings owned and occupied by their central government as referred to in Article 5(6);

The estimated floor area of buildings owned and occupied by the central government that have an energy consumption higher than 107.5 kWh/m² amount to 31509m² from a total of 158701m² representing about 20% of the total floor area.

The Energy Efficiency Directive in the 'alternative' approach allows for the possibility to count towards the target for a given year the excess savings achieved in previous or following years³. In view of this possibility, Malta will commence works on the implementation of energy efficiency measures in government buildings in 2016. Works are expected to be completed by 2020. The minimum total energy savings achieved in 2020 will be equivalent to that achieved in 2020 by using the 'default' approach.

As can be seen in Figure 1, due to the climatic conditions experienced in Malta, the requirement for heating and cooling is limited and the energy consumption per dwelling is actually the lowest amongst the EU-28. Due to this, improvement in energy efficiency in buildings is limited and investment in RES in the form of PVs and solar water heaters on residential buildings is expected to make a higher contribution to a nearly zero-energy buildings. This is also confirmed by the results of the EPC whereby the installation of PV is the largest contributor to ameliorate the rating of the dwelling. However, not all dwellings lend themselves for the installation of PV or SWH and the housing trend is towards multi apartment blocks with no access to suitable roofspace.

Energy consumption ratings as calculated by the EPC are higher than actual measured consumption figures indicating that assumptions taken in the EPC may not totally reflect actual conditions.

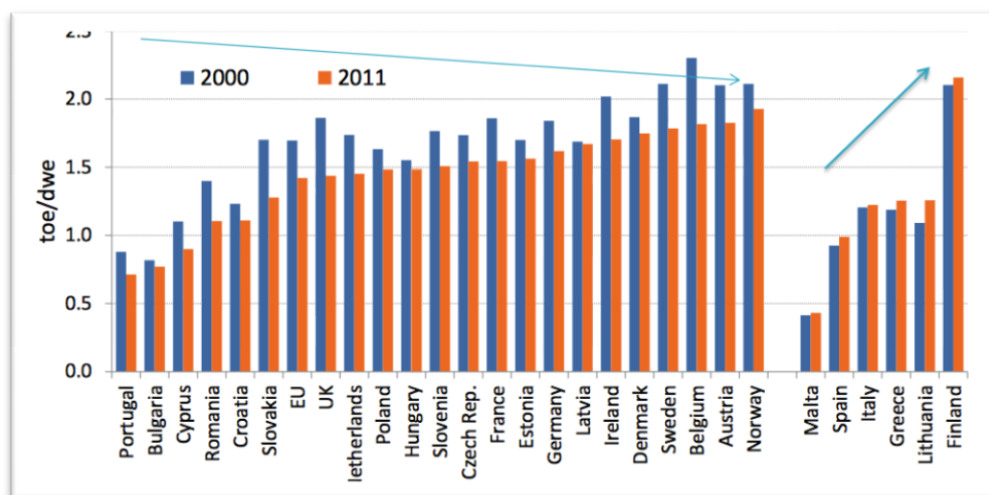


Fig 1: Household energy consumption per dwelling⁴

³ Interpretative note on Directive 2012/27/EU on energy efficiency, amending Directives 2009/125/EC and 2010/30/EC, and repealing Directives 2004/8/EC and 2006/32/EC Article 5: Exemplary Role of Public Bodies' Buildings – paragraph 14

⁴ Enerdata

e) Energy savings achieved through the national energy efficiency obligation schemes referred to in Article 7(1) or the alternative measures adopted in application of Article 7(9) for the year n-1 (2014)

- i. Measures under the obligated party, Enemalta plc:

Enemalta is currently undergoing a restructuring process, an event that is expected to bring about deep changes in its management and operations. Enemalta is also implementing very ambitious infrastructural projects which will significantly increase the generation efficiency. Enemalta's domestic tariff for electricity consumption is designed to promote energy efficiency amongst its consumers. In the effective period of the obligation, Enemalta adopted a rising block tariff. The tariff structure also incorporates an 'eco-mechanism' which is a measure that rewards households with consumption levels below a stipulated level. The tariff is designed to yield the target revenue (cost-recovery, return on capital investment, etc.) and so higher consumption is relatively penalised. The savings stated to be achieved by these measures have been estimated top down by calculating the effect of price elasticity on household demand.
- ii. Street lighting retrofitting (Gozo):

This project involves the substitution of the street lighting lamps to LED lamps. The savings for 2014 estimated from this project take into consideration a staggered approach whereby not all lamps will be installed in 2014. This project is in progress, however the savings have not been quantified as yet.
- iii. Retrofitting of Energy Efficient Measures at St. Vincent De Paul Rehabilitation Centre and Old Peoples' Home (SVDP):

This project involves the implementation of energy efficient measures at SVDP. Amongst the measures there are the installation of high efficiency gas boilers and other equipment. The savings associated with this project allow for a staggered deployment commencing in 2014. The implementation of this project is ongoing; however the savings have not been quantified as yet.
- iv. Residential Buildings:

Under this heading there are listed savings from incentive schemes for building envelope improvement to be undertaken in the residential buildings. The schemes listed for 2014 comprise: incentive schemes for installation of double glazing, installation of roof insulation, and for installation of solar water heaters. The uptake of these incentive schemes was better than expected and the savings calculated from the outcome of these schemes in 2014 is of 675,120kWh.
- v. Grant Scheme to Improve Vehicle Fleet
The car scrapping scheme was quite successful and the number of vehicles scrapped under this scheme in 2014 was of 656 cars resulting in a calculated savings of 1,171,415 kWh.
- vi. Retrofitting of Energy Efficient Measures at Malta Police Force Buildings
The Malta Police Force has started renovation of the Head Quarters following the recommendations of the energy audits carried by the Energy Agency. This renovation has resulted in 1,145kWh savings in 2013. Under Article 7 this renovation was planned to start in 2016.