



Country profile – Malta

The section 'Key climate- and energy-related data' was prepared by the EEA. It includes the latest data available as of 31 July 2014

The section 'Climate and energy policy framework' was prepared by eclareon and Ecologic Institute, Germany. It includes the latest information on national policies and measures available as of 31 May 2014.

For methodological details and other country profiles, see www.eea.europa.eu/themes/climate/country-profiles.

Key climate- and energy-related data — Malta

Key data on GHG emissions	2005	2011	2012	2013	EU 2012
Total GHG emissions (UNFCCC, Kyoto Protocol) (Mt CO ₂ -eq.)	3.0	3.0	3.1	2.7	4 544.2
GHG per capita (t CO ₂ -eq./cap.)	7.4	7.3	7.5	6.4	9.0
GHG per GDP (g CO ₂ -eq./PPS in EUR)	409	336	340	285	350
Share of GHG emissions in total EU-28 emissions (%)	0.1 %	0.1 %	0.1 %	0.1 %	100.0 %
EU ETS verified emissions (Mt CO ₂ -eq.)	2.0	1.9	2.1	1.7	1 848.6
Share of EU ETS emissions in total emissions (%)	66.2 %	63.8 %	65.4 %	62.6 %	40.7 %
ETS emissions vs allowances (free, auctioned, sold) (%)	- 5.5 %	- 10.9 %	- 4.9 %	+ 50.3 %	- 14.1 %
Share of CERs & ERUs in surrendered allowances (%)	n.a.	0.0 %	52.2 %	n.a.	26.4 %
Non-ETS (ESD) emissions, adjusted to 2013–2020 scope (Mt CO ₂ -eq.)	1.0	1.1	1.1	1.0	2 566.6
Key data on renewable energy	2005	2010	2011	2012	EU 2012
Share of renewable energy in gross FEC (%) () = including all biofuels consumed in transport	(0.3 %)	(0.4 %)	0.7 %	1.4 %	14.1 %
Share of renewable energy for electricity (%)	0.0 %	0.1 %	0.6 %	1.1 %	23.5 %
Share of renewable energy for heating and cooling (%)	4.7 %	4.3 %	7.8 %	13.0 %	15.6 %
Share of renewable energy for transport (%) () = including all biofuels consumed (%)	(0.0 %)	(0.0 %)	0.0 %	1.0 %	5.1 %
Key data on energy consumption	2005	2010	2011	2012	EU 2012
Primary energy consumption (Mtoe)	1.0	0.9	0.9	0.8	1 584.8
Primary energy consumption per capita (Mtoe/cap.)	2.4	2.3	2.2	2.0	3.1
Final energy consumption (Mtoe)	0.4	0.5	0.5	0.5	1 104.5
Final energy consumption per capita (Mtoe/cap.)	1.0	1.1	1.1	1.1	2.2
Efficiency of conventional thermal electricity and heat production (%)	26.4 %	31.4 %	31.0 %	30.4 %	50.0 %
Energy consumption per dwelling by end use	2005	2009	2010	2011	EU 2011
Total energy consumption per dwelling (toe/dwelling)	0.54	0.54	0.52	n.a.	1.42
Space heating and cooling (toe/dwelling)	0.16	0.17	0.19	n.a.	0.96
Water heating (toe/dwelling)	0.09	0.09	0.10	n.a.	0.18
Cooking (toe/dwelling)	0.08	0.07	0.09	n.a.	0.08
Electricity (lighting, appliances) (toe/dwelling)	0.26	0.23	0.20	n.a.	0.20

Progress towards GHG targets (under the Effort Sharing Decision, i.e. non-ETS emissions)

2013 ESD target (% vs base year)	+ 6.1 %	2020 ESD target (% vs base year)	+ 5.0 %
2013 ESD emissions (% vs base year)	- 3.8 %	2020 ESD projections WEM (% vs base year)	+ 4.0 %
		2020 ESD projections WAM (% vs base year)	+ 2.0 %

Based on approximated emission estimates for 2013, emissions covered by the Effort Sharing Decision (ESD) (i.e. in the sectors which are not covered by the EU ETS) are expected to be below the annual ESD target in 2013. Projections also indicate that 2020 ESD emissions are expected to be below the 2020 ESD target, with the current existing measures.

Progress towards renewable energy targets

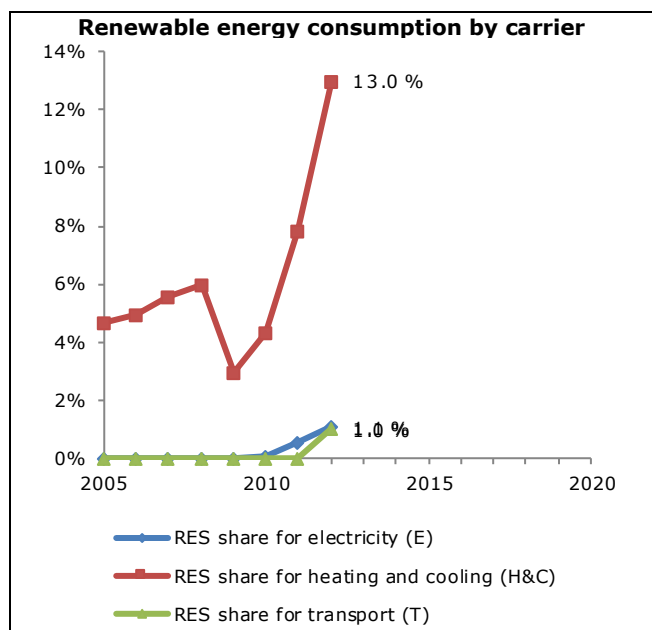
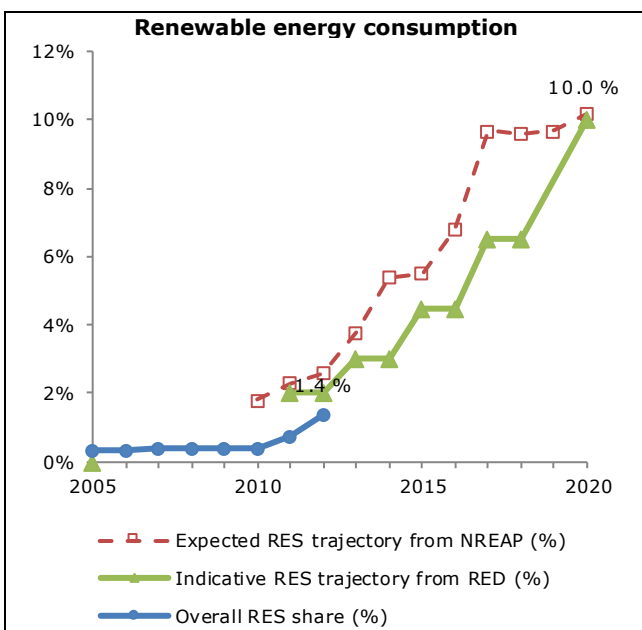
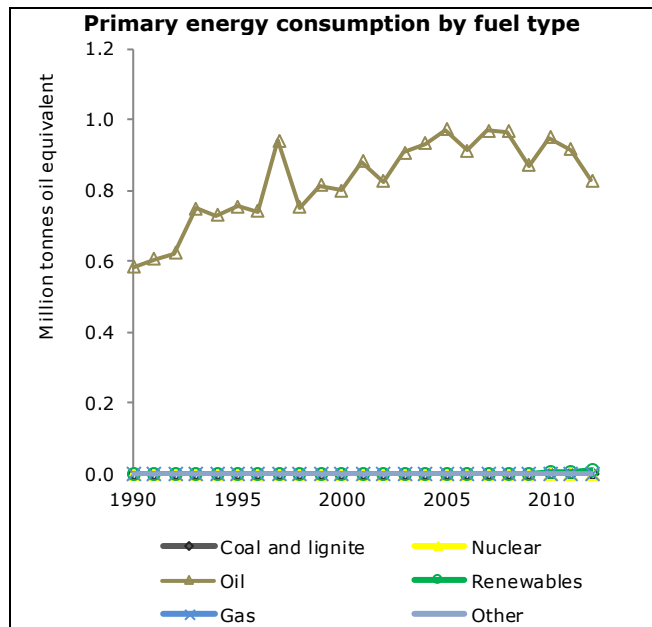
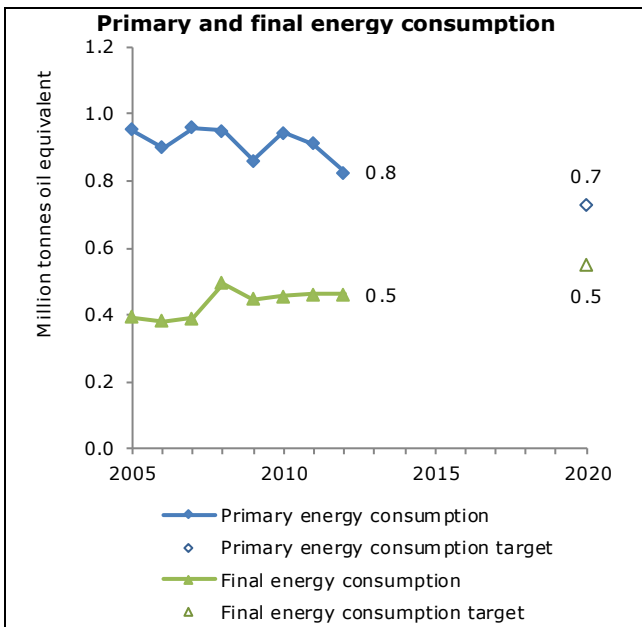
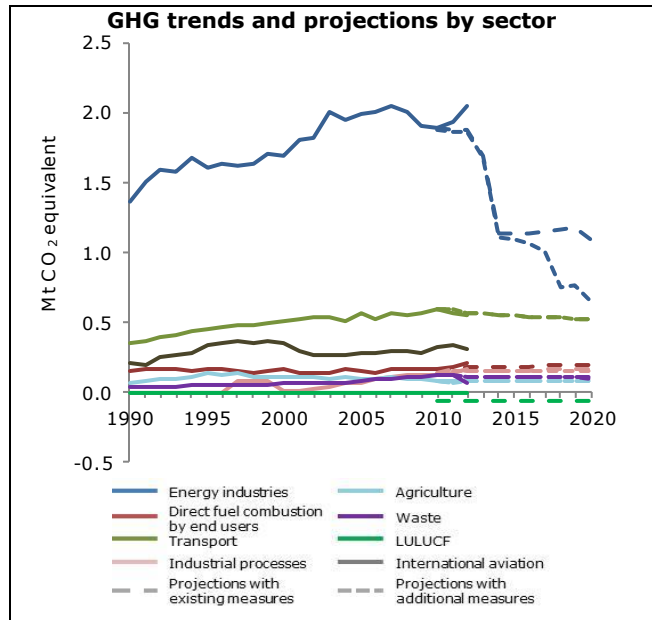
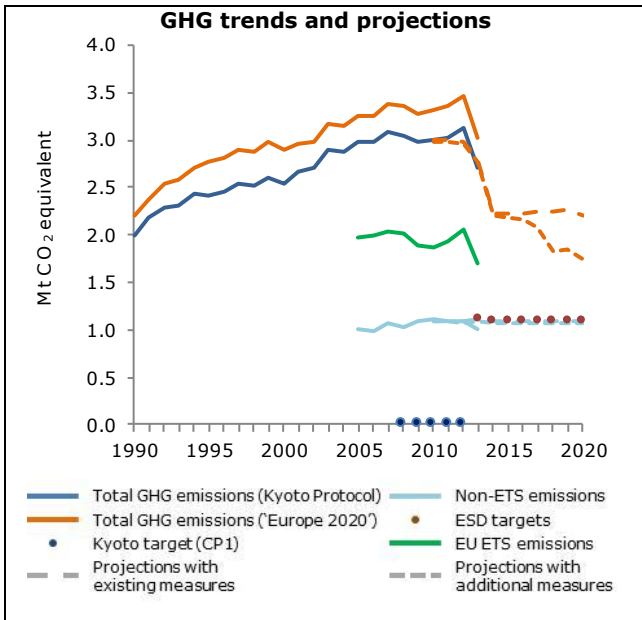
2012 RES share in gross final energy consumption (%)	1.4 %	2011–2012 indicative share from RES Directive (%)	2.0 %
2020 RES target	10.0 %	2012 expected share from NREAP (%)	2.6 %

The average share of renewable sources in gross final energy consumption for 2011–2012 was 1.1% (4 ktoe), which is lower than the indicative RED target for 2011–2012 (2.0%). At the same time, the share of renewables in 2012 (1.4 %) is lower than the expected 2012 NREAP target (2.6 %). Over the period 2005–2012 the observed average annual growth rate in renewable energy consumption amounted to 23.4%. In order to reach its 2020 NREAP target, Malta needs an average annual growth rate of 35.5% in the run-up to 2020. In absolute terms, this is equivalent to 13.4 times its cumulative effort so far.

Progress towards energy efficiency targets

Primary energy consumption:		Final energy consumption:	
2005–2012 average annual change	- 2.0 %	2005–2012 average annual change	+ 2.4 %
2012–2020 average annual change to target	- 1.6 %	2012–2020 average annual change to target	+ 2.2 %

Between 2005 and 2012, primary energy consumption decreased at a faster pace than is necessary to meet the 2020 reduction target on primary energy consumption, however final energy consumption grew at a faster pace than is necessary to achieve the 2020 positive target on final energy consumption, in particular in the transport and industry sectors. In 2014, Malta reduced its target for final consumption compared to the one announced in 2013. Energy efficiency improvements, in particular in the vehicle fleet and in the industry sector, could contribute to achieving this target.



Climate and energy policy framework

Challenges and opportunities

As an island, Malta depends almost entirely on fuel imports for its energy supply, and the cost of these is rising. The spending on fuel/lubricants imports increased from about EUR 300 million in 2005 to more than EUR 2 700 million in 2012 (NSO, 2013a), contributing to a negative trade balance. Currently, around 60 % of these imports are consumed in the transport sector ⁽¹⁾. Transport is not only responsible for the majority of fuel imports but also the second largest emitter, following electricity generation. From 1990 to 2011, emissions from transport doubled, mainly as a result of an increasing number of vehicles and longer distances travelled. Thus, transport entails significant potential to tackle energy imports and energy dependence and at the same time reduce greenhouse gas (GHG) emissions. The majority of the residual of fuel imports (after deduction of transport fuels) is used for the two oil-based power plants currently covering the bulk of electricity provision in Malta. The grid interconnection to Sicily has the potential to reduce dependence on oil imports and to lower GHG emissions, since it will enable the import of electricity with a higher share of lower-carbon energy sources. Additionally, the extended exploitation of local renewable energy sources (such as through photovoltaic (PV) systems) could reduce energy imports and the related expenditure, leading to an improvement of the trade balance. Moreover, it could reduce GHG intensity of energy supply significantly. However, so far domestic renewable energy potentials are almost not being utilised and the achievement of the Maltese renewable targets for 2020 is at risk.

Climate and energy strategies

In 2009, the National Strategy for Policy and Abatement Measures relating to the reduction of GHG emissions was introduced to implement the national 2020 climate and energy targets and articulate actions to be adopted relating to climate change mitigation as well as adaptation. Moreover, the Strategy prioritises actions on the basis of financial cost and economic impact, feasibility and environmental impact. The 2012 Energy Policy for Malta is based on the objectives of security of supply, competitively priced energy services and environmental responsibility. These objectives are addressed through policies targeting energy efficiency and affordability, security of supply, diversification, flexibility and sustainability. A main focus is the reduction of energy dependence from oil imports and of emissions from energy generation. The Pre Budget Document for 2013 generally states that the government will make efforts to develop a plan for green jobs and provide training for young people to be qualified to work in environment-related sectors (Government of Malta, 2013).

Renewable energy

Malta rather lags behind regarding the development of renewable energy in comparison to the other Member States and major actions are required to reach the 2020 goal of 10 %. Renewable electricity is promoted through a feed-in tariff for domestic PV installations, as well as grants covering 50 % of investment costs and up to EUR 2 500 for domestic PV installations. Offshore wind energy was planned to make up 5.5 % of energy consumption by 2020 but the government withdrew from this plan due to environmental concerns and high investment costs. Instead, it is planned to have a larger number of small installations of technologies that are already available in Malta, such as PV, solar water heaters and micro wind (EC, 2013a).

Renewables in heating and cooling are supported through grants for solar water heating systems for domestic use, covering 40 % of the total costs up to EUR 400. Additionally, in 2014 the European Regional Development Fund (ERDF) will allocate EUR 25 million to the promotion of 14 projects for clean energy use.

Energy networks

The Maltese electricity grid will be connected to Sicily with project costs of approximately EUR 183 million, partially funded by the European Energy Programme for Recovery. The implementation of the project has the potential to lower Malta's GHG emissions, since it would enable Malta to import electricity instead of generating it through its own oil-based power stations. Moreover, the interconnection will improve security of supply through a diversification of energy imports. The interconnector is expected to be commissioned towards the end of 2014 (Enemalta, 2014).

Energy efficiency

So far, there is no long-term strategy addressing energy efficiency, but a project conducting studies for the National Energy Efficiency Action Plan will be running throughout 2014 and will inform the transposition of the Energy Efficiency Directive in Malta. Energy **taxation** is rather high with the level of excise duties being well above the EU average. There are exemptions for gas and oil for maritime commercial activities.

Energy market operators are required to provide energy audits and information on energy intensity. Energy efficiency improvements in **industry** and for small and medium-sized enterprises are supported through investment support, as well as through energy audits.

In the **building sector**, minimum energy performance standards have been introduced; energy performance certificates are mandatory but not common so far. For residential buildings, a subsidy scheme for building envelope improvement supports roof thermal insulation and double glazing by providing grants on investment costs of 15.3 % of total costs and a maximum amount of EUR 1 000. Besides financial support, Maltese households will be given the opportunity to receive an energy audit. Moreover, automatic meter management systems with smart electricity meters have been implemented, in order to improve demand management of consumers. In addition, various pilot projects regarding energy efficiency in schools or an exchange of street lights with LEDs are funded by the Maltese government and co-funded by EU funds (MFIN, 2013).

⁽¹⁾ Own calculations based on energy consumption given in Eurostat (2013, tsdpc320), and under the assumption that about 100 % of energy consumed in Malta is coming from imported fuels (Eurostat, 2013, tsdcc320: Gross inland energy consumption, by fuel; and EC, 2013b).

Transport

In Malta, a major issue is the increasing number of private cars, which offset the achieved efficiency increases (average emissions for newly registered cars are the 5th lowest in the EU) (Eurostat, 2013): for 2012, 748 vehicles per 1 000 total inhabitants were estimated (NSO, 2013b), which is one of the highest figures in the European Union (Eurostat, 2014; World Bank, 2014). Incentives for efficient driving and the purchase of efficient cars include the registration tax, which is based on value, carbon dioxide (CO₂) emissions, EURO standard, fuel type and length for passenger cars or weight, and EURO standard for heavy goods vehicles. The ownership tax is based on fuel type and particulate matter, as well as on CO₂ emissions for passenger cars, and on number of axles and weight for lorries, respectively. The ownership tax increases after 5 years (ACEA, 2012). A Scrapping Scheme was launched in 2014 offering every person who replaces a 10-year-old or an older M1 passenger vehicle and registers a new M1 passenger vehicle with a CO₂ emissions value of less than 150 g/km a one-time grant of between EUR 500 and 900. The budget of EUR 300 000 for 2014 was increased in April 2014 by another EUR 200 000 but is since May 2014 exhausted. Altogether 656 vehicles have benefited from the scheme (Transport Malta, 2014).

Diesel and petrol are taxed around EU average (European Commission, 2013). Renewables are promoted through the Substitution Obligation stipulating a blending quota for importers/wholesalers of fuel, rising from 1.5 % based on energy content in 2011 to 10 % by 2020 (MRA, 2010). The MODUS programme, introduced in 2011, includes several measures aiming to shift the mode of land transportation to reach a higher share of public transport such as an upgrade of the national bus system, including more routes, more frequent service and also night services. In addition, new bus terminals, vehicles and information services are planned. A new parking management, regulating parking opportunities and car access restrictions, as well as infrastructure improvements for pedestrians and cyclists are also planned.

Agriculture

Climate effects of and on agriculture are addressed in the National Strategy for Climate Change and Adaptation, published in May 2012. The Strategy outlines different action plans and policies concerning agriculture. Among others, they aim at securing synergies between mitigation and adaptation strategies and vitalising agricultural activity. Furthermore, the Strategy points out the importance of information and advisory support on climate-related matters to farmers and works with the rural community to encourage them to adopt sound land management practices essential for soil conservation. The 2011 Nitrates Action Programme aims to reduce nitrates pollution of water bodies, air and soil by nitrates, and imposes stringent requirements on manure management from livestock (storage and disposal) and control of fertiliser use. It also requires the users of organic and/or inorganic fertilisers to register at the responsible authority. It is accompanied by the InfoNitrates campaign to inform and train farmers to comply with the EU Nitrates Directive and the Nitrates Action Plan.

Waste

Malta mainly aims to reduce the waste going to landfills, for example through higher recycling rates, as well as to reduce emissions from landfill sites: since 2008, landfill gas extraction with combustion of extracted methane has been introduced together with rehabilitative works to improve stability and prepare the site for eventual alternative uses in the future. Old landfills have been replaced with new engineered ones featuring waste mass caps and gas extraction for flaring or energy generation. Biological waste is separated for biogas generation in a cogeneration plant at Sant'Antnin Waste Treatment Plant in the island's south. Similar plans exist for other regions (UNFCCC). Additionally, three wastewater treatment plants were constructed, upgrading the national wastewater infrastructure.

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