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| Malta’s Annual Report pursuant to Article 24(1) of Directive 2012/27/EU on Energy Efficiency |
| April 2020 |

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| The Energy and Water Agency, Ministry for Energy and Water Management |

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# Indicative national energy efficiency target for 2020

In December 2019, Malta submitted its final National Energy and Climate Plan in line with the Regulation EU/2018/1999 on the Governance of the Energy Union and Climate Action. In preparation of the Plan, an updated set of macro-economic projections, based on more recent statistical data, has since been developed. The Plan identifies energy intensity as the optimal indicator to benchmark Malta’s ambitions in a scenario of continuous economic growth.

Due to the current situation and the extraordinary times we are facing due to COVID19, the country will be analysing how this is impacting energy consumption as well as macro‑economic factors such as GDP to assess if any new patterns have emerged.

# Indicators

## Indicators for 2018

Annex XIV Part 1 requires Member States to include the indicators listed in Table 1 for year 2018.

Table 1 – List of indicators for 2018

| AR Indicator | Data field | Unit | Source |
| --- | --- | --- | --- |
| Primary energy consumption | 823 | Ktoe | EUROSTAT data |
| Total final energy consumption | 660 | Ktoe | EUROSTAT data |
| Final energy consumption - industry | 56 | Ktoe | EUROSTAT data |
| Final energy consumption - transport | 387 | Ktoe | EUROSTAT data |
| Final energy consumption – households | 87 | Ktoe | EUROSTAT data |
| Final energy consumption - services | 120 | Ktoe | EUROSTAT data |
| Gross value added – industry | 1,503.50 | Million euro, Current prices | EUROSTAT data NACEs (B‑F) |
| Gross value added – services | 9,296.9 | Million euro, current prices | EUROSTAT data (NACEs G‑U) |
| Disposable income for households | 6,303 | Million euro | National Statistics Office, 2017‑2018 Statistics on Income and Living Conditions report. EU-SILC 2017-2018 |
| Gross domestic product (GDP) | 11,642.20 | Million euro, chain-linked volumes (2015) | Eurostat, table nama\_10\_gdp |
| Electricity generation from thermal power generation | 151.6 | Ktoe | The Energy and Water Agency |
| Electricity generation from CHP | 0.685 | Ktoe | Regulator for Energy and Water Services, Cogeneration report |
| Heat generation from thermal power generation | 1.16 | Ktoe | Regulator for Energy and Water Services, Cogeneration report |
| Heat generation from CHP | 0.44 | Ktoe | Regulator for Energy and Water Services, Cogeneration report |
| Fuel input for thermal power generation | 5.291 | Ktoe | The Energy and Water Agency *(Does not include natural gas input for thermal power generation)* |
| Population | 493,559 | Persons as at 1 January 2019 | Eurostat, table tps00001 |

## Analysis of changes in energy consumption

In accordance with the requirements expressed in Annex XIV Part 1, this section analyses the reasons for changes in energy consumption in 2018 in relation to 2017 levels. The following energy consumption indicators are discussed in this note:

1. Primary energy consumption;
2. Total final energy consumption;
3. Final energy consumption by transport sector;
4. Final energy consumption by industrial sector;
5. Final energy consumption by services sector; and
6. Final energy consumption by residential sector.

In 2018, the Gross domestic product (GDP) in Malta stood at €10.51 billion in terms of 2010 prices, up from €9.80 billion in 2017. The annual real GDP growth of 7.3% was underpinned by a 3.8% increase in total population and an improvement in employment figures which registered an annual increase of 6.2%. This socio-economic situation was accompanied by an increase in primary energy consumption of 1.8% in 2018 over 2017, and a 6.1% increase in total final energy consumption.

Table 2 - Changes in themainenergy consumption indicators in 2018 from 2017 levels, Sources: Eurostat

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indicators | 2017Level | 2018 Level | 2018-2017 Absolute change | 2018-2017 Percentage Change |
|  | **Ktoe** | **Ktoe** | **ktoe** | **%** |
| Primary energy consumption | 807 | 823 | 15 | 1.8% |
| Total final energy consumption | 622 | 660 | 38 | 6.1% |
| Final energy consumption - transport | 347 | 387 | 40 | 11.5% |
| Final energy consumption - industry | 58 | 56 | ‑2 | ‑3.4% |
| Final energy consumption - services | 124 | 120 | ‑4 | ‑3.2% |
| Final energy consumption - residential | 85 | 87 | 2 | 2.3% |

Table 3. Changes in socio-economic indicators in 2018 from 2017 levels

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indicators | Units | 2017 Level | 2018 Level | 2017-2018 Percentage Change |
| Real Gross Domestic Product | 2010 € 000 | 9,796,312 | 10,512,836 | 7.31% |
| Population (end of year) | Number | 475,701 | 493,559 | 3.75% |
| Employment (4-quarter average) | Number | 195,710 | 207,832 | 6.19% |
| Final Expenditure Consumption of Households | 2010 € 000 | 4,852,926 | 5,268,739 | 8.57% |
| Gross Value Added of Industry (NACEs B-F) | €000 | 1,380,000 | 1,503,500 | 8.9% |
| Gross Value Added of Services Sector  (NACEs G-U) | €000 | 8,554,700 | 9,296,900 | 8.7% |
| Number of Vehicles (4-quarter average) | Number | 367,089 | 380,578 | 3.67% |
| Total Aircraft Movements through MIA | Number | 42,987 | 48,737 | 13.38% |
| Tourists Arrivals | Number | 2,273,837 | 2,598,690 | 14.29% |
| Total Cargo Movements through MIA | tonnes | 16,177 | 17,684 | 9.32% |

Source: Eurostat, NSO; Malta International Airport (MIA)

Out of the 1.8% increase in primary energy consumption, 0.4 percentage points are due to an increase in primary energy used for the supply of electricity. The energy included under this purpose consists of fuels used for transformation, net electricity imports and electricity generation from renewable sources. The remaining 1.4 percentage point increase in primary energy is due to growth in the national consumption of all other liquid fuels.

To better understand the growth in primary and final energy consumption resulting from the increase in electricity consumption, the latter is broken-down into consumption by end-user as shown in 4 below.

Table 4. Changes in the final electricity used by sectors in 2018 from 2017 levels

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Indicators** | **2017 Level** | **2018 Level** | **2018-2017 Absolute change** | **2018-2017 Percentage Change** |
|  | *GWh* | *GWh* |  | *%* |
| Total final electricity consumption | 2,320 | 2,390 | 70 | 3.02% |
| ***Final electricity consumption by sector:*** | **2017 Level** | **2018 Level** | **Share of Growth** | **Percentage Change** |
|  | *GWh* | *GWh* | *%* | *%* |
| Industry | 459 | 480 | 30.0% | 4.6% |
| Services | 1,093 | 1,118 | 35.7% | 2.3% |
| Residential | 728 | 756 | 40.0% | 3.8% |
| Agriculture and Fishing | 13 | 12 | -1.4% | -7.7% |
| Other | 27 | 25 | -2.9% | -7.4% |

Source: Eurostat - Supply, transformation and consumption of electricity [nrg\_cb\_e]

The annual increase of 70 GWh in the final electricity consumption level is primarily driven by the residential sector, which contributed to 40% of the absolute growth, followed by the services sector with a 36% share of growth, and industry with a share of 30%.

The increase in electricity demand is attributed to the increase in population coupled with strong growth in economic activity. Growth in electricity consumption in 2018 at 3% is substantially lower than the growth registered between 2016 and 2017 (at almost 10%), in part explained by the milder winter and summer conditions in 2018 when compared to 2017.

A sectoral analysis of the final energy consumption shows that more than 100% of the absolute annual increase in final energy use is attributed to growth in energy used in the transport sector. An increase in economic activity is expected to generate increased movements reflecting themselves into higher use of transport and thus, energy demand for this purpose. This movement has generated an increase in energy used by the transport sector of 11.5% in 2018 in relation to 2017.

The main contributor to this increase is the automotive industry, which brought about 60% of the absolute growth in final energy used by the transport sector. In 2018 the stock of licensed motor vehicles stood at a level of 380,578, recording a growth of 3.7% over 2017. A significant increase of 2,723 motorcycles was also registered in 2018, generating almost one-fifth of the absolute increase in vehicles. Such growth was mainly stimulated by the continuation of incentives introduced in 2016, which served to encourage the use of motorcycles. Another one-fifth of the absolute increase in vehicle registrations mainly ensued from an increase in the number of leased passenger cars and goods-carrying vehicles. Furthermore, the majority of the increase, over 50%, is attributed the ‘other’ forms of passenger cars which include ride-pooling form of services. The overall increase in energy use in road transport is therefore noted to be driven by a positive economic turnout led by increase in consumption, production and tourism.

On the other hand, the aviation industry is responsible for 43% of the absolute growth in final energy used by the transport sector. In 2018, the aviation industry registered a 13.4% annual growth rate in the total number of aircraft movements through the Malta International Airport (MIA). This increase was driven by an annual growth rate of 14.2% in tourist arrivals, in addition to an increase of 9.3% in the total cargo weight moved through MIA[[1]](#footnote-1).

In the industry and services sectors there is a trend of relative decoupling between final electricity consumption and economic activity, because the positive growth rate in final electricity use, is less than the growth rate of the gross value added (GVA) of the corresponding sector. Whilst the GVA of the industrial sectors increased by 8.9%, its electricity consumption has increased by 4.6%. This indicates that manufacturing activities in Malta are shifting towards more energy-efficient technologies.

A similar pattern is observed in the services sector. Whilst its economic activity, measured in terms of GVA, grew by an annual rate of 8.7% in 2018, the electricity consumption used by this sector increased by 2.3% per annum. Service-based economies, including ICT, arts and entertainment are generally dependent on low energy-intensive activities. Growth in this sector, is in part explained by the growth in the number of tourist arrivals, which between January and December 2018, stood at 2.63 million, accounting to an absolute increase of more than 319,000 inbound tourists over the same period in 2017.

As for the residential sector, the energy household consumption increased by 3.8%. This occurred in a context of annual growth of 8.6% in total household expenditure and 3.8% in total population level mainly driven by net immigration. The share of electricity consumption from total final electricity consumption remains stable at 31%.

# Major legislative and non-legislative measures

A list of updates on major legislative and non-legislative measures implemented in 2019 which contribute towards the overall national efficiency targets for 2020 are listed below.

***Legal Notices:***

* *LN 2 of 2019 – Feed in Tariffs Scheme (Electricity Generated from Solar Photovoltaic Installations) (Amendment No 2) Regulations, 2019*
* *LN 171 of 2019 – Feed in Tariffs Scheme (Electricity Generated from Solar Photovoltaic Installations) (Amendment No 2) Regulations, 2019*

*-* The above amendments refer to updates to the feed-in tariffs scheme.

L.N. 336 of 2019 ‑ Energy Efficiency and Cogeneration (Amendment) Regulations, 2019

***Government Notices:***

* *Government Notice 120 of 2019*

Government Grant on the Purchase of Environment-friendly Vehicles

* *Government Notice 192 of 2019*

A Grant on the Purchase of Photovoltaic Systems in the Domestic Sector –  Call 2016/PV

* *Government Notice 368 of 2019*

Energy Efficiency Scheme for Sport Organisation

* *Government Notice 599 of 2019*

A grant on the purchase of Systems for Domestic Use that Reduce the Consumption of Energy  –  Call 2018/RIDG

* *Government Notice 1090 of 2019*

Scheme for the Promotion of Renewable Energy Sources for Voluntary Organisations

* *Government Notice 1573 of 2019*

Government Grants Scheme for the Purchase of Electric Vehicles, Electric Motorcycles, Electric Mopeds, Electric Tricycles and Pedal Electric Bicycles (Pedelec) for Private Individuals, Local Councils,

* *Government Notice 1593 of 2019*

Government Scheme to Incentivise more Autogas Powered Vehicles

* *Government Notice 1623 of 2019*

Notice of Renewal of Scheme Established by means of Government Notice No. 408 of 2018

* *Government Notice 1643 of 2019*

Extension of Scheme Established by Means of Government Notice No. 527 of 2018

* *Government Notice 1644 of 2019*

Extension of Scheme Established by Means of Government Notice No. 529 of 2018.

# Central government buildings – Article 5

1. Total building floor area [m2] of the buildings with a total useful floor area over 250 m2 owned and occupied by the Member States’ central government on 1 January 2020; 167,166m²
2. Total building floor area [m2] of the buildings with a total useful floor area over 250 m2 owned and occupied by the Member States’ central government on 1 January 2020, which did not meet the energy performance requirements; 49,715 m²
3. Total building floor area of heated and/or cooled buildings owned and occupied by the Member States’ central government that was renovated in 2019 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); 7,604m² with 216712 annual energy saving kWh.

# Energy savings – Article 7

Energy savings achieved through the national energy efficiency obligation schemes referred to in Article 7(1) and alternative measures adopted in the application of Article 7(9) are listed here below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Energy savings achieved in **2018** (savings achieved from measures and notified under Article 7(2)c) and (d) shall not be part of this table) | | Policy measure | Savings achieved in 2018 [ktoe] expressed in final energy\* | | |
| Total **annual** end-use savings achieved [ktoe] in 2018  (amount of savings from new actions implemented from **2014 to 2018** that delivered savings in 2018) | **thereof** savings achieved [ktoe] in 2018 only from **new** actions that were implemented in 2018 | Total **cummulative** end-use savings achieved [ktoe] from **2014 to 2018** |
| 44-1 | EEOS | Energy Efficiency Obligation Scheme | 0.35 | 0.35 | 2.66 |
| 44-2 | Alternative measure 1 | Public Sector Leading by Example | 0.67 | 0.22 | 1.91 |
| 44-3 | Alternative measure 2 | Financing Schemes and instruments and fiscal incentives | 8.33 | 0.73 | 28.14 |
| 44-3 | Alternative measure 2 | Regulations and Voluntary Agreements | 5.77 | 3.97 | 14.54 |
|  |  | **Total** | **15.12** | **5.27** | **47.26** |

1. **Energy Efficiency Obligation Scheme**

Enemalta plc has achieved a total annual end-use savings of 4,088 MWh during 2018 through the progressiveness of the domestic residential household tariff system and the incentive towards energy efficiency in the tariff structure (eco-reduction). The domestic residential household tariff system adopts a rising block tariff while the energy efficiency incentive provides a financial reward to households with consumption levels below a stipulated level.

1. **Alternative Policy Measures**

*Public Sector leading by Example*

A total annual end-use savings of 7,838 MWh were achieved in 2018 through measures falling in the category ‘Public Sector leading by Example’. These included savings stemming from retrofitting of energy efficient measures in public schools, retrofitting of energy efficient measures at St Vincent de Paule – Rehabilitation Centre and Old Peoples’ Home, retrofitting of energy efficient measures at Malta Police Force Buildings, street lighting retrofitting in Gozo and Malta, the energy efficiency project at tal-Qroqq National Pool, energy efficient lighting at University and Junior College, energy efficiency measures at MFSA offices, energy savings as a result of teleworking by government employees and savings as a result of the provision of free school transport.

*Financing Schemes and Instruments and Fiscal Incentives*

A total annual end-use savings of 96,830 MWh were achieved in 2018 through measures falling in the category ‘Financing Schemes and Instruments and Fiscal Incentives’. These included savings stemming from projects carried out in order to improve energy efficiency in Government-owned industry, savings as a result of incentives schemes for double glazing, roof insulation and solar water heaters, energy efficiency measures in low-income households, savings as a result of grant schemes to improve vehicle fleet efficiency and energy which is generated by PV installations and consumed on-site.

*Regulations and Voluntary Agreements*

A total annual end-use savings of 67,094 MWh were achieved in 2018 through measures falling in the category ‘Regulations and Voluntary Agreements’. This category includes energy efficiency measures undertaken by non-SMEs under voluntary agreements as well as energy savings resulting from excise duties on motor fuels exceeding EU’s minimum levels.

Energy savings data (total annual savings, new savings and cumulative savings) for 2014 – 2017 achieved through the national energy efficiency obligation schemes referred to in Article 7(1) and alternative measures adopted in the application of Article 7(9) are listed here below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TOTAL ANNUAL SAVINGS** | | |  |  |  |  |
| Energy savings achieved (savings achieved from measures and notified under Article 7(2)c) and (d) shall not be part of this table) | | Policy measure | Total annual end-use savings achieved [ktoe] **in 2014** | Total annual end-use savings achieved [ktoe] **in 2015**  (amount of savings from actions implemented from **2014 to 2015** that delivered savings in 2015) | Total annual end-use savings achieved [ktoe] **in 2016** (amount of savings from actions implemented from **2014 to 2016** that delivered savings in 2016) | Total annual end-use savings achieved [ktoe] **in 2017** (amount of savings from new actions implemented from **2014 to 2017** that delivered savings in 2017) |
| 44-1 | EEOS | Energy Efficiency Obligation Scheme | 0.73 | 0.84 | 0.35 | 0.39 |
| 44-2 | Alternative measure 1 | Public Sector Leading by Example | 0.00 | 0.13 | 0.56 | 0.55 |
| 44-3 | Alternative measure 2 | Financing Schemes and instruments and fiscal incentives | 2.69 | 4.34 | 5.19 | 7.60 |
| 44-3 | Alternative measure 2 | Regulations and Voluntary Agreements | 0.83 | 1.31 | 2.59 | 4.05 |
|  |  | **Total** | **4.24** | **6.62** | **8.69** | **12.58** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TOTAL NEW SAVINGS** | |  |  |  |  |  |
| Energy savings achieved (savings achieved from measures and notified under Article 7(2)c) and (d) shall not be part of this table) | | Policy measure | **S**avings achieved [ktoe] **in 2014** only from new actions that were implemented in 2014 | **S**avings achieved [ktoe] **in 2015** only from new actions that were implemented in 2015 | **S**avings achieved [ktoe] **in 2016** only from new actions that were implemented in 2016 | **S**avings achieved [ktoe**] in 2017** only from new actions that were implemented in 2017 |
| 44-1 | EEOS | Energy Efficiency Obligation Scheme | 0.73 | 0.84 | 0.35 | 0.39 |
| 44-2 | Alternative measure 1 | Public Sector Leading by Example | 0.00 | 0.13 | 0.43 | 0.00 |
| 44-3 | Alternative measure 2 | Financing Schemes and instruments and fiscal incentives | 2.69 | 1.66 | 0.85 | 2.41 |
| 44-3 | Alternative measure 2 | Regulations and Voluntary Agreements | 0.83 | 0.48 | 1.40 | 2.53 |
|  |  | **Total** | **4.24** | **3.11** | **3.03** | **5.33** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TOTAL CUMMULATIVE SAVINGS** | | |  |  |  |
| Energy savings achieved in 2018 (savings achieved from measures and notified under Article 7(2)c) and (d) shall not be part of this table) | | Policy measure | Total **cummulative** end-use savings achieved [ktoe] **from 2014 to 2015** | Total **cummulative** end-use savings achieved [ktoe] **from 2014 to 2016** | Total **cummulative** end-use savings achieved [ktoe] **from 2014 to 2017** |
|
| 44-1 | EEOS | Energy Efficiency Obligation Scheme | 1.57 | 1.92 | 2.31 |
| 44-2 | Alternative measure 1 | Public Sector Leading by Example | 0.14 | 0.70 | 1.24 |
| 44-3 | Alternative measure 2 | Financing Schemes and instruments and fiscal incentives | 7.03 | 12.22 | 19.82 |
| 44-3 | Alternative measure 2 | Regulations and Voluntary Agreements | 2.13 | 4.73 | 8.77 |
|  |  | **Total** | **10.86** | **19.56** | **32.14** |

1. [↑](#footnote-ref-1)