

In 2016, 5.6 per cent of electricity generation was derived from renewable sources.

Electricity Generation: 2007-2016

Over the past decade energy generation amounted to an annual average of 2.2 million megawatt-hours. In 2016, the generation of electricity decreased by 0.4 per cent compared to a year earlier. The data shows that the highest power generation was recorded in 2007, with 2,296,296 megawatt-hours followed by 2008 with 2,275,892 megawatt-hours. Approximately 30 per cent of the electricity generated in a year occurs between July and September. During 2016, a total of 1.5 million megawatt-hours or 67.9 per cent were imported through the interconnector (Table 1).

July and August feature the highest electricity demand, both registering an average of 402 and 403 megawatts respectively during the period 2007-2016. The highest annual average demand was registered in 2007 with 363 megawatts. On the other hand, the lowest annual average demand was registered in 2010 and amounted to 328 megawatts (Table 2).

During the last four years, generation of energy from renewable sources has registered a substantial increase, from 35,447 megawatt-hours in 2013 to 133,419 megawatt-hours in 2016. During the latter year, the majority of renewable energy (93.7 per cent) was produced from photovoltaic cells, while the remainder was derived from other sources (Table 3).

In 2016, emissions from power plant sources dropped by 34.8 per cent over 2015, mainly due to the use of the interconnector (Table 4) ■

Chart 1. Electricity generation by year

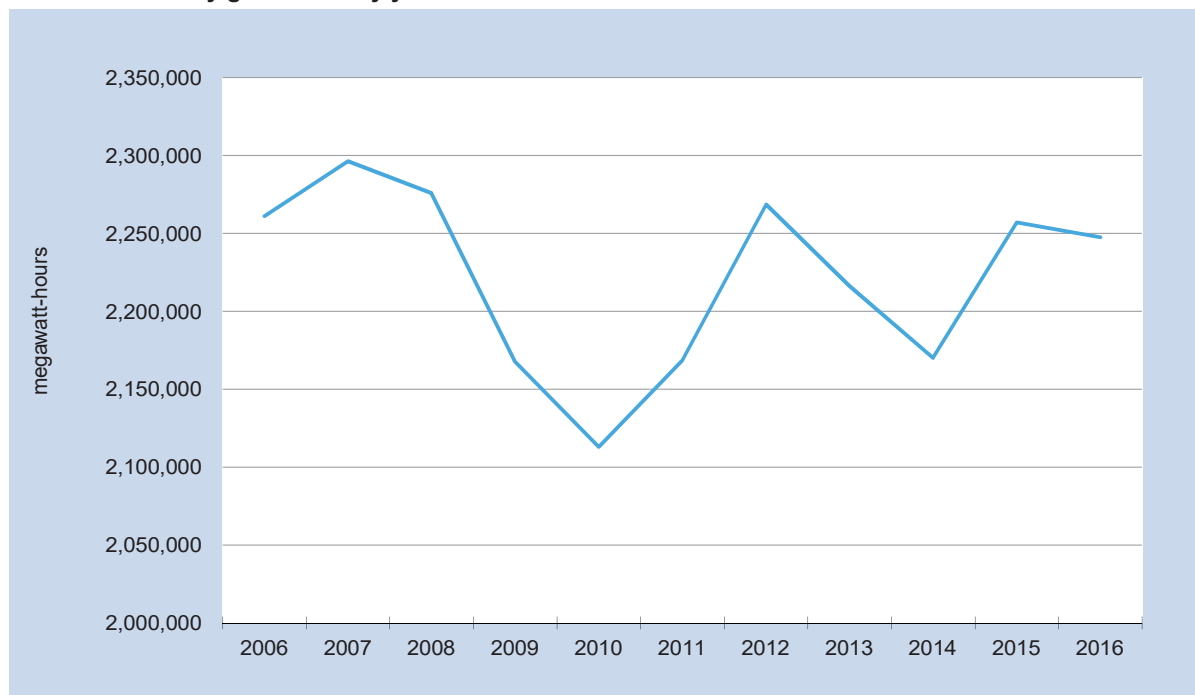


Table 1. Electricity generation from power plants and interconnector by year

megawatt-hours

| Month | 2007 | 2008 | 2009 | 2010 |
|--------------|------------------|--|------------------|--|
| January | 180,484 | 191,504 | 175,673 | 169,996 |
| February | 163,140 | 183,599 | 163,516 | 153,978 |
| March | 177,618 | 178,957 | 169,586 | 162,568 |
| April | 164,451 | 172,613 | 156,629 | 152,877 |
| May | 177,057 | 179,504 | 168,350 | 161,707 |
| June | 200,405 | 162,638 | 183,332 | 174,532 |
| July | 232,255 | 242,991 | 222,045 | 220,690 |
| August | 237,344 | 236,165 | 231,631 | 222,289 |
| September | 204,716 | 213,413 | 198,169 | 190,065 |
| October | 192,899 | 183,656 | 175,875 | 177,227 |
| November | 175,633 | 164,018 | 158,076 | 161,046 |
| December | 190,294 | 166,834 | 164,758 | 166,137 |
| Total | 2,296,296 | 2,275,892 | 2,167,640 | 2,113,112 |
| Month | 2011 | 2012 | 2013 | 2014 |
| January | 171,416 | 181,343 | 178,061 | 177,157 |
| February | 158,511 | 176,492 | 162,713 | 156,869 |
| March | 170,118 | 170,613 | 167,395 | 168,762 |
| April | 157,549 | 158,327 | 159,500 | 158,192 |
| May | 167,758 | 170,874 | 170,481 | 165,704 |
| June | 181,076 | 195,451 | 181,179 | 185,462 |
| July | 222,627 | 238,887 | 223,081 | 212,929 |
| August | 224,596 | 244,999 | 234,506 | 218,933 |
| September | 201,814 | 199,163 | 204,163 | 208,316 |
| October | 178,417 | 193,675 | 193,737 | 185,792 |
| November | 165,061 | 167,772 | 167,444 | 163,708 |
| December | 169,610 | 171,031 | 172,540 | 168,401 |
| Total | 2,168,553 | 2,268,627 | 2,214,800 | 2,170,225 |
| Month | 2015 | <i>of which through interconnector in 2015</i> | 2016 | <i>of which through interconnector in 2016</i> |
| January | 186,105 | 0 | 180,575 | 118,017 |
| February | 170,282 | 0 | 164,074 | 116,448 |
| March | 175,315 | 6,738 | 169,727 | 123,760 |
| April | 157,604 | 58,546 | 160,056 | 117,418 |
| May | 168,322 | 85,679 | 169,637 | 129,483 |
| June | 181,548 | 111,109 | 188,627 | 134,620 |
| July | 236,843 | 140,248 | 226,039 | 144,444 |
| August | 237,526 | 145,570 | 224,405 | 138,191 |
| September | 210,226 | 139,195 | 205,132 | 130,432 |
| October | 190,369 | 122,797 | 200,588 | 129,957 |
| November | 167,954 | 130,177 | 175,814 | 121,159 |
| December | 175,124 | 113,922 | 182,850 | 122,760 |
| Total | 2,257,218 | 1,053,981 | 2,247,523 | 1,526,689 |

Note: Data refers to the total generation including own use.
Source: Enemalta.

Table 2. Electricity maximum demand by year

| megawatts | | | | | |
|----------------|------------|------------|------------|------------|------------|
| Month | 2007 | 2008 | 2009 | 2010 | 2011 |
| January | 337 | 359 | 332 | 316 | 327 |
| February | 341 | 370 | 350 | 318 | 331 |
| March | 336 | 335 | 326 | 302 | 318 |
| April | 307 | 316 | 283 | 274 | 279 |
| May | 320 | 317 | 321 | 282 | 287 |
| June | 418 | 386 | 347 | 339 | 349 |
| July | 434 | 412 | 389 | 400 | 414 |
| August | 426 | 411 | 403 | 399 | 388 |
| September | 376 | 424 | 390 | 361 | 395 |
| October | 345 | 327 | 332 | 326 | 312 |
| November | 345 | 323 | 298 | 297 | 308 |
| December | 366 | 314 | 315 | 323 | 333 |
| Average | 363 | 358 | 341 | 328 | 337 |
| Month | 2012 | 2013 | 2014 | 2015 | 2016 |
| January | 336 | 335 | 337 | 368 | 355 |
| February | 368 | 347 | 334 | 361 | 335 |
| March | 327 | 322 | 339 | 347 | 338 |
| April | 288 | 288 | 290 | 302 | 299 |
| May | 286 | 286 | 291 | 295 | 295 |
| June | 375 | 349 | 340 | 318 | 344 |
| July | 427 | 408 | 359 | 397 | 380 |
| August | 429 | 403 | 374 | 426 | 371 |
| September | 354 | 375 | 383 | 384 | 372 |
| October | 359 | 349 | 353 | 354 | 359 |
| November | 314 | 325 | 313 | 317 | 326 |
| December | 334 | 329 | 350 | 338 | 345 |
| Average | 350 | 343 | 339 | 351 | 343 |

Source: Enemalta.

Table 3. Estimated electricity generated from renewable sources by year

megawatt-hours

| | 2013 | 2014 | 2015 | 2016 |
|---|---------------|---------------|----------------|----------------------------|
| Estimated renewable electricity generated | 35,447 | 74,890 | 101,693 | 133,419^P |
| <i>of which generated from:</i> | | | | |
| Photovoltaic cells | 29,470 | 68,380 | 94,990 | 125,054 ^P |
| Other sources * | 5,977 | 6,510 | 6,703 | 8,365 ^P |

^P Provisional

* renewable energy produced from micro wind and Combined Heat and Power (CHP) plant.

Source: Energy and Water Agency within the Ministry for Energy and Water Management.

Table 4. CO₂ equivalent emission from power plants by year

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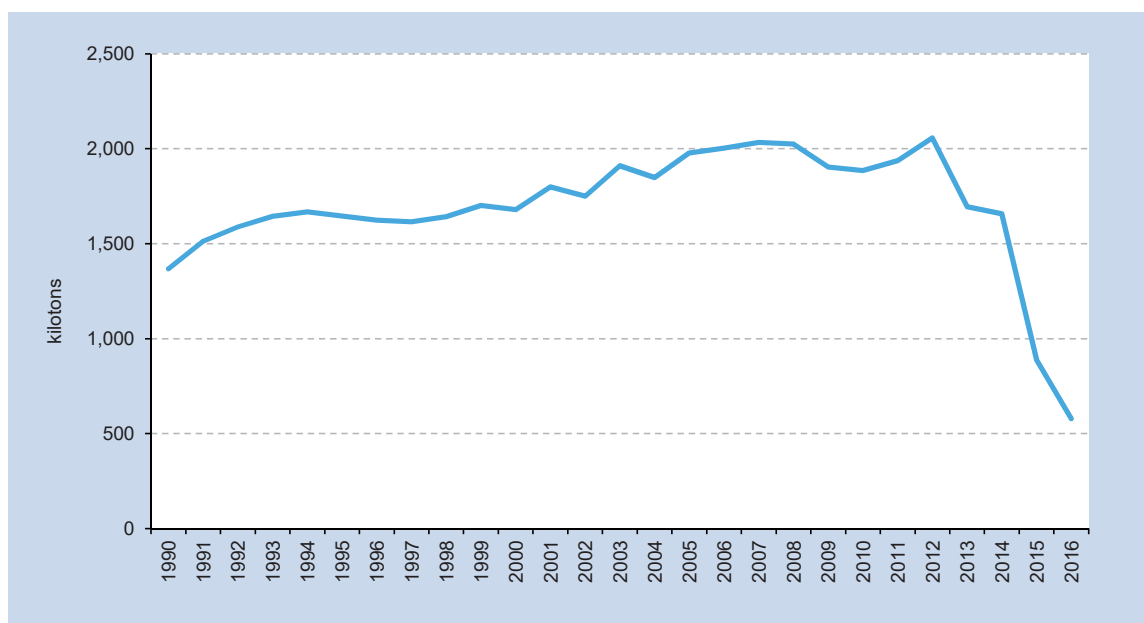
| Year | CO ₂ equivalent |
|------|----------------------------|
| 2007 | 2,034 |
| 2008 | 2,025 |
| 2009 | 1,903 |
| 2010 | 1,885 |
| 2011 | 1,938 |
| 2012 | 2,057 |
| 2013 | 1,695 |
| 2014 | 1,657 |
| 2015 | 887 |
| 2016 | 578 ^P |

^P Provisional

Sources:

1. Data prior to 2016 is taken from the UNFCCC [GHG Inventory](#).
2. Data for 2016 is taken from the approximated [GHG Inventory](#).

Chart 2. CO₂ equivalent emissions from power plants by year



Methodological Notes

1. The figures in Tables 1 and 2 represent the combined totals of the Delimara and Marsa power stations and the interconnector.
2. **Definitions:**
 - **Megawatt-hour (MWh):** it is equal to 1,000 kilowatts or one million watts of electricity produced by a power plant that runs continuously for one hour.
 - **Maximum electricity demand:** the highest amount of electricity consumed at any one point in time across the entire network system.
 - **Renewable energy:** energy that is obtained from resources which are continually replenished on a human timescale. Such resources include sunlight, wind, rain, tides, waves and geothermal heat.
 - **Photovoltaics (PV):** a method of generating electrical power by converting solar radiation into direct current electricity using semiconductors that exhibit the photovoltaic effect. Photovoltaic power generation employs solar panels composed of a number of solar cells containing photovoltaic material.
 - **CO₂ equivalent:** it is a metric measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.
3. More information relating to this news release may be accessed at:
Statistical Concepts: <http://nso.gov.mt/metadata/concepts.aspx>
Metadata: <http://nso.gov.mt/metadata/reports.aspx?id=19>
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