

15 June 2021 | 1100 hrs | 106/2021

During 2020, the harvesting of renewable energy from grid-connected PV systems was estimated at 233.1 GWh, an increase of 20.5 per cent over the previous year.

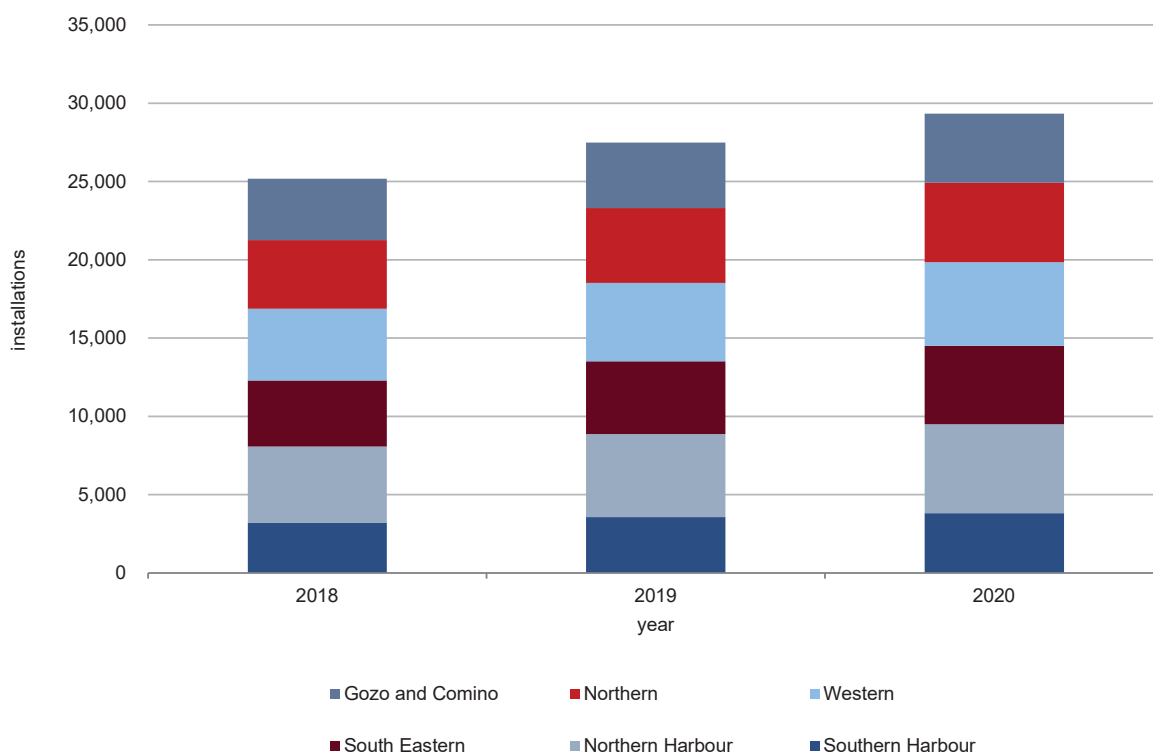
## Renewable Energy from Photovoltaic Panels (PVs): 2020

Cut-off date:  
13 May 2021

### Stock of PVs: 2020

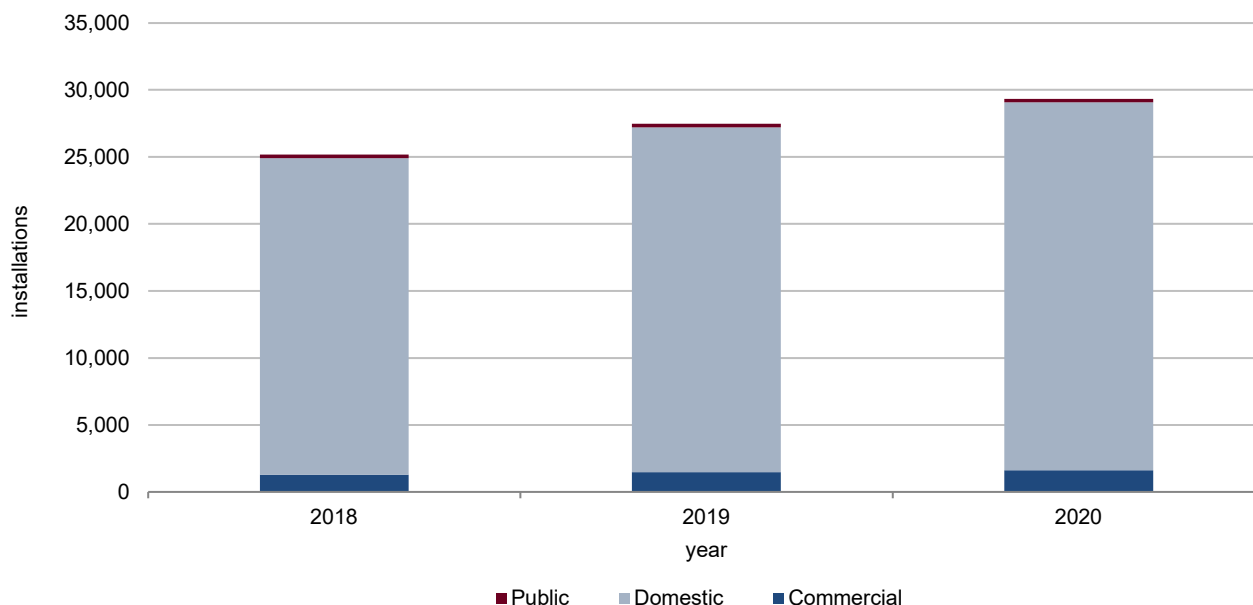
The stock of PV installations amounted to 29,339 of which 85.0 per cent were installed in the region of Malta and 15.0 per cent were in the Gozo and Comino region. The Northern Harbour and Western districts accounted for 37.6 per cent of the total stock of PV installations with 5,692 and 5,339 installations respectively. When compared to 2019, the stock of PV installations increased by 6.8 per cent. The percentage increases were highest in the South Eastern district (7.5 per cent) and lowest in the Gozo and Comino district (5.4 per cent) (Table 1, Map 1).

**Chart 1. Stock of PV installations by district (LAU 1) and year**



The domestic sector accounted for 93.6 per cent of the total stock of PV installations, followed by the commercial and public sectors, accounting for 5.5 and 0.9 per cent respectively. Most increases in new PV installations resulted from the domestic sector. The Northern Harbour district had the highest stock of PV installations in the domestic sector (Table 2 and Maps 2, 3).

**Chart 2. Stock of PV installations by sector and year**

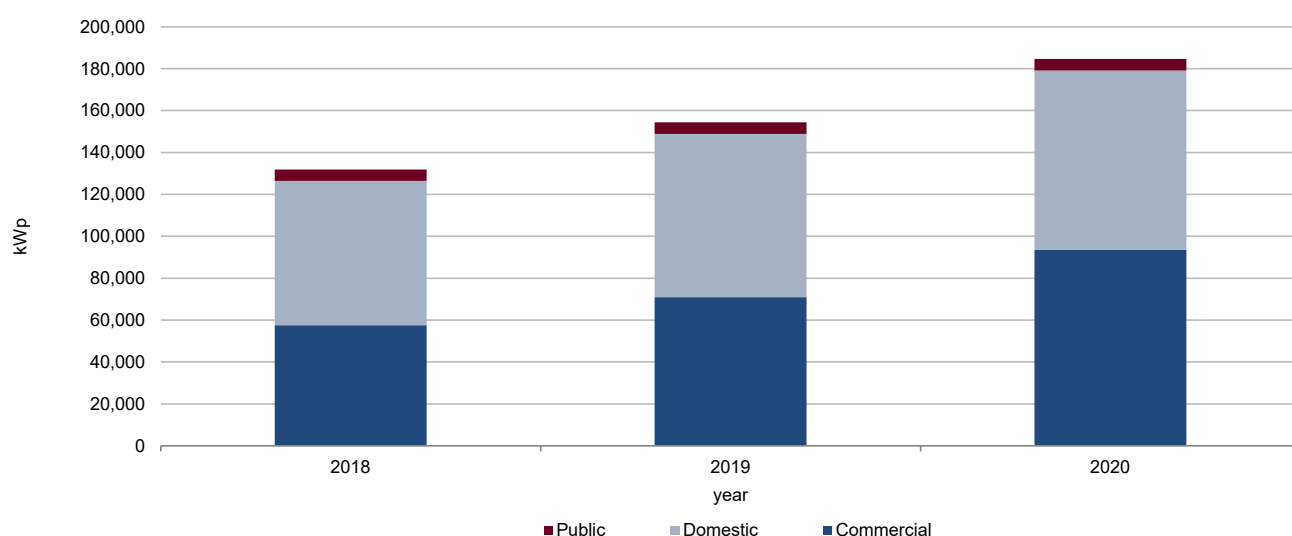


Maps 1 to 3 illustrate the concentration of grid-connected PVs, featuring point data on 250m<sup>2</sup> grid cells. Map 4 illustrates the spread and intensity of domestic PV installations per 1,000 population by locality, indicating that the top 10 localities were in the region/district of Gozo and Comino. When analysing the results by district, Gozo and Comino district had an average of 119 domestic installations per 1,000 population, followed by the Western and South Eastern districts at 80 and 63 installations respectively. The lowest ratio was registered in the Northern Harbour district, with 31 installations per 1,000 population.

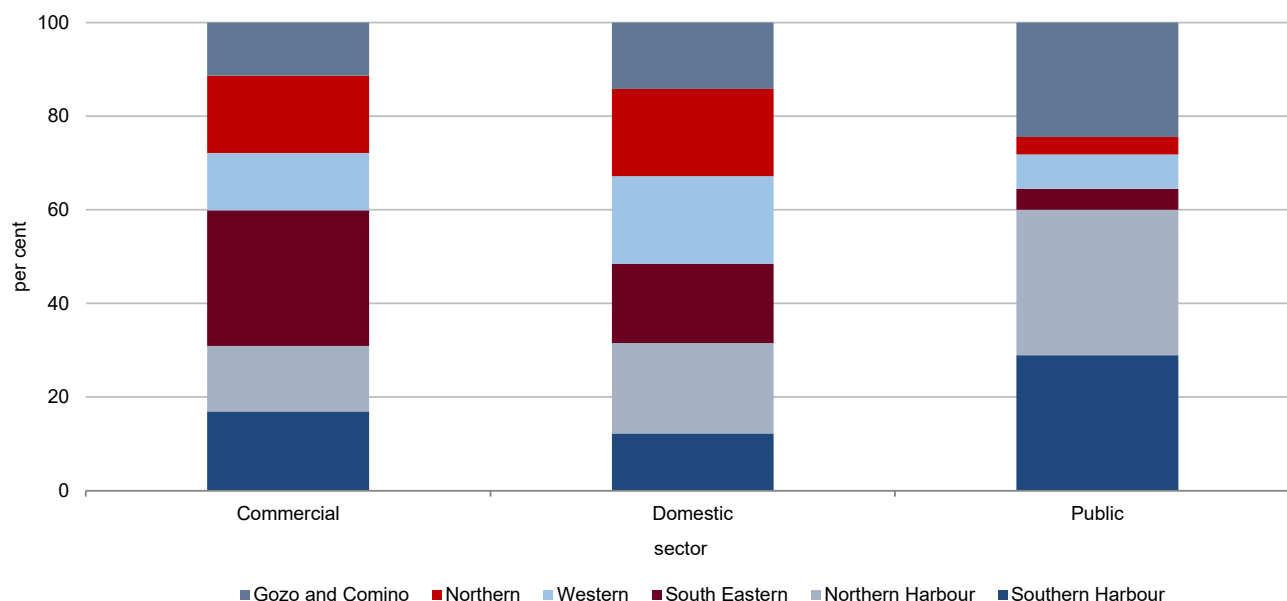
### Production of energy from PVs: 2020

Total kWp amounted to 184,563.7, an increase of 19.6 per cent over 2019. The commercial sector amounted to 50.6 per cent of total kWp, followed by 46.4 and 2.9 per cent in the domestic and public sectors respectively. The peak power rating of an average PV system in the domestic sector stood at 3.1 kWp, whereas that for the commercial and public sectors amounted to 57.7 and 20.6 kWp respectively (Table 3 and Map 5).

**Chart 3. Total kWp of grid-connected PVs by sector and year**

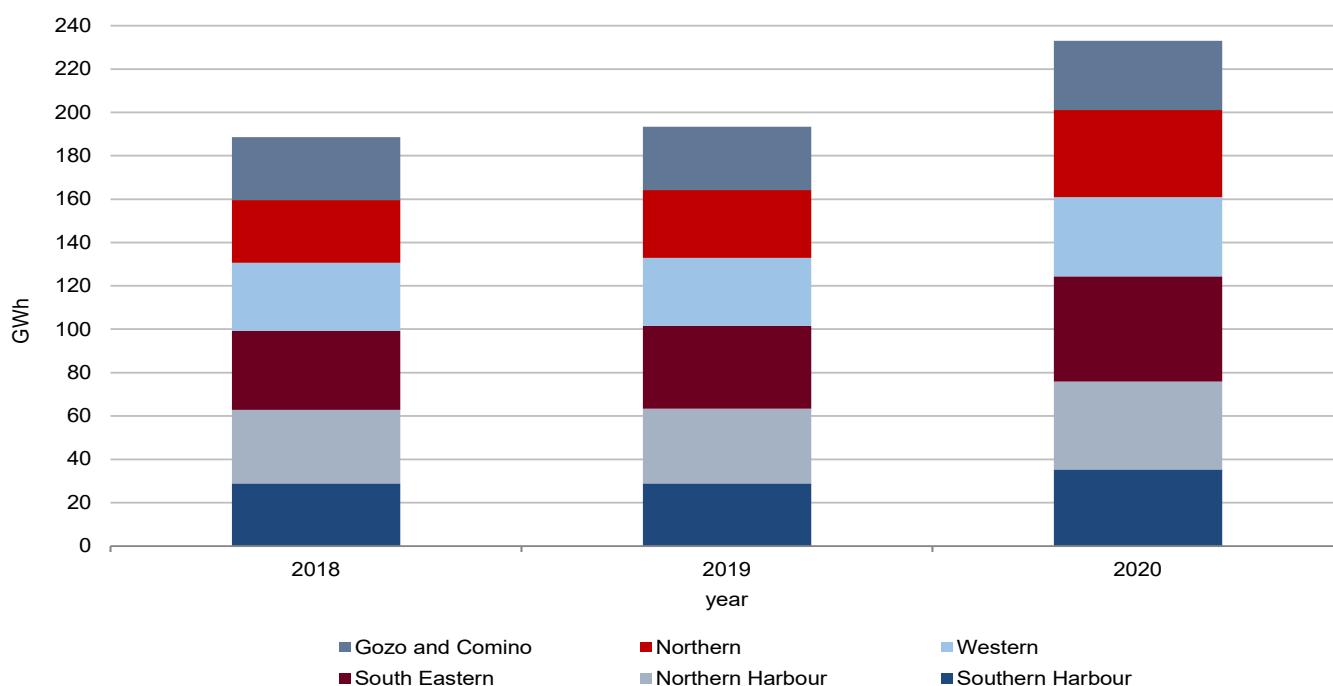


**Chart 4. Distribution of total kWp of grid-connected PVs by sector and district (LAU 1): 2020**



When compared to the situation in 2019, generation of energy from grid-connected PVs increased by 20.5 per cent, totalling an estimated value of 233.1 GWh. Most energy was generated in the South Eastern and Northern Harbour districts at 20.8 and 17.3 per cent of the total GWh respectively. Increases were highest in the Northern district (28.4 per cent) and lowest in the Gozo and Comino district (9.6 per cent) (Table 4 and Map 6).

**Chart 5. Estimated total output in GWh from grid-connected PVs by district (LAU 1) and year**



**Table 1. Stock of PV installations by region (NUTS 3), district (LAU 1) and year**

Year	National	MALTA						
	NUTS 3	Malta						Gozo and Comino
	LAU 1		Southern Harbour	Northern Harbour	South Eastern	Western	Northern	Gozo and Comino
2018		<b>25,177</b>	21,262	3,214	4,861	4,220	4,578	4,389
2019		<b>27,478</b>	23,303	3,563	5,308	4,657	5,010	4,765
2020		<b>29,339</b>	24,938	3,816	5,692	5,007	5,339	5,084

Source: Regulator for Energy and Water Services

**Table 2. Stock of PV installations by sector, region (NUTS 3), district (LAU 1) and year**

Year	National	MALTA						
	NUTS 3	Malta						Gozo and Comino
	LAU 1		Southern Harbour	Northern Harbour	South Eastern	Western	Northern	Gozo and Comino
<b>Commercial</b>								
2018		<b>1,287</b>	1,079	183	249	189	224	234
2019		<b>1,463</b>	1,236	211	284	221	247	273
2020		<b>1,621</b>	1,373	238	314	251	276	294
<b>Domestic</b>								
2018		<b>23,626</b>	19,967	2,963	4,548	4,000	4,322	4,134
2019		<b>25,752</b>	21,852	3,285	4,960	4,405	4,731	4,471
2020		<b>27,455</b>	23,350	3,511	5,314	4,725	5,031	4,769
<b>Public</b>								
2018		<b>264</b>	216	68	64	31	32	21
2019		<b>263</b>	215	67	64	31	32	21
2020		<b>263</b>	215	67	64	31	32	21

Source: Regulator for Energy and Water Services



**Table 3. Total kWp of grid-connected PVs by sector, region (NUTS 3), district (LAU 1) and year**

Year	National	MALTA						
	NUTS 3	Malta						Gozo and Comino
	LAU 1		Southern Harbour	Northern Harbour	South Eastern	Western	Northern	Gozo and Comino
<b>Commercial</b>								
2018	<b>57,509.8</b>	49,019.2	9,811.4	8,965.9	14,133.4	8,517.0	7,591.5	8,490.6
2019	<b>70,893.1</b>	61,486.7	12,701.2	11,328.0	17,192.3	10,309.9	9,955.3	9,406.4
2020	<b>93,454.9</b>	82,818.2	15,780.8	13,063.3	27,108.6	11,422.0	15,443.5	10,636.7
<b>Domestic</b>								
2018	<b>68,936.0</b>	58,582.4	8,291.0	13,123.6	11,497.7	12,909.5	12,760.6	10,353.6
2019	<b>77,988.0</b>	66,682.0	9,535.5	14,884.3	13,145.4	14,663.4	14,453.4	11,306.0
2020	<b>85,678.7</b>	73,486.6	10,476.8	16,518.4	14,458.7	16,076.5	15,956.2	12,192.1
<b>Public</b>								
2018	<b>5,433.6</b>	4,102.5	1,574.8	1,685.1	243.0	401.2	198.4	1,331.1
2019	<b>5,430.1</b>	4,099.0	1,571.3	1,685.1	243.0	401.2	198.4	1,331.1
2020	<b>5,430.1</b>	4,099.0	1,571.3	1,685.1	243.0	401.2	198.4	1,331.1
<b>Total</b>								
2018	<b>131,879.4</b>	111,704.1	19,677.2	23,774.6	25,874.1	21,827.7	20,550.5	20,175.3
2019	<b>154,311.2</b>	132,267.7	23,808.0	27,897.4	30,580.7	25,374.5	24,607.1	22,043.5
2020	<b>184,563.7</b>	160,403.8	27,828.9	31,266.8	41,810.3	27,899.7	31,598.1	24,159.9

Source: Regulator for Energy and Water Services

**Table 4. Estimated total GWh produced by grid-connected PVs by region (NUTS 3), district (LAU 1) and year**

Year	National	MALTA						
	NUTS 3	Malta						Gozo and Comino
	LAU 1		Southern Harbour	Northern Harbour	South Eastern	Western	Northern	Gozo and Comino
2018	<b>188.6</b>	159.6	28.9	33.9	36.5	31.3	29.0	29.0
2019	<b>193.4</b>	164.2	28.9	34.5	38.2	31.3	31.3	29.2
2020	<b>233.1</b>	201.1	35.4	40.4	48.6	36.5	40.2	32.0

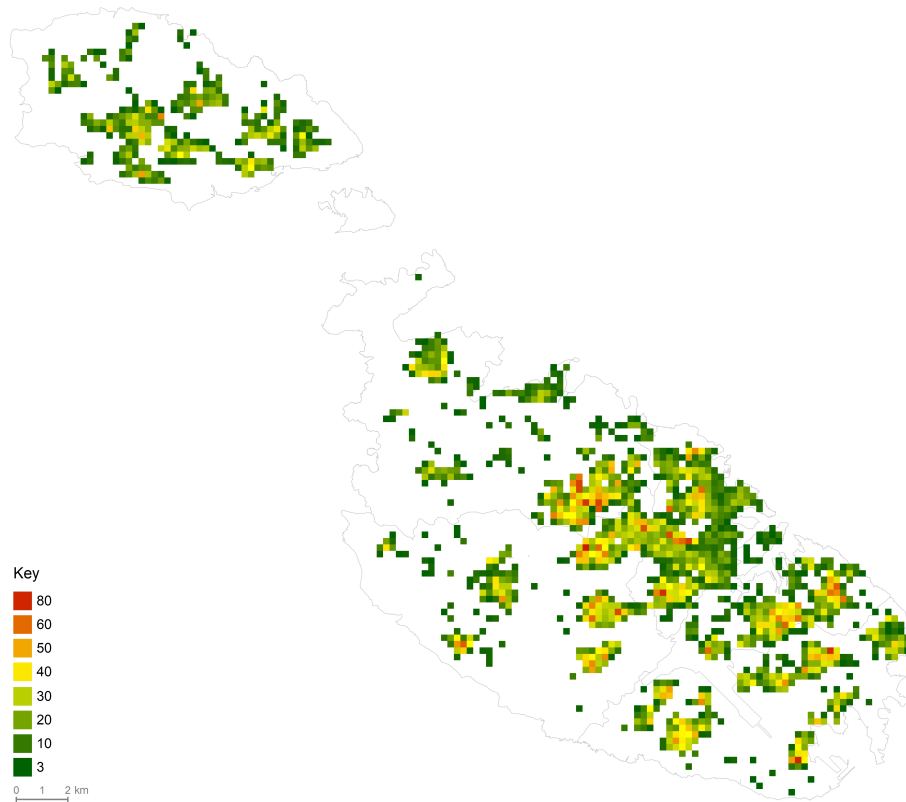
**Notes:**

1. Estimated output (GWh) for MALTA was based on data provided by the Energy and Water Agency based on PV meter readings. Estimated output (MALTA) was based on the relation between actual data (kWh) provided by Enemalta plc. to the Energy and Water Agency and the kWp installations as provided by the Regulator for Energy and Water Services.

2. Estimated output for regions (NUTS 3), districts (LAU 1) and localities (LAU 2) was estimated on the basis of the corresponding kWp effectively connected to grid.

Source: NSO estimates based on actual data provided by the Energy and Water Agency

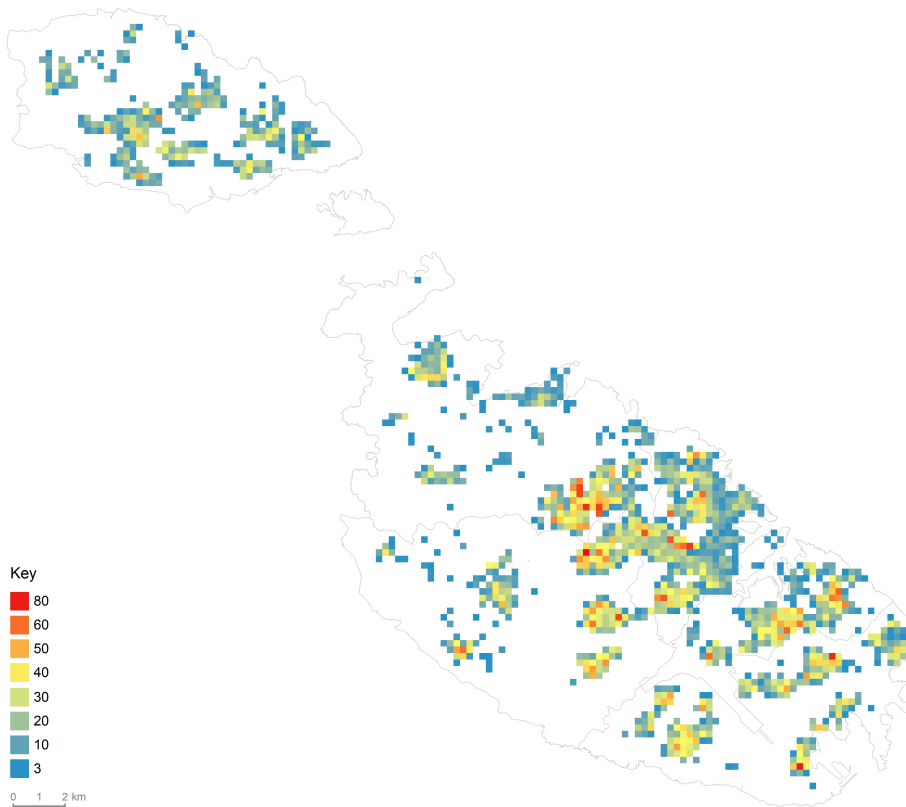
**Map 1. Total PV installations using 250m<sup>2</sup> grid cells: 2020**



**Notes:**

1. Each grid cell represents an area of 250m<sup>2</sup>.
2. Each grid cell shows the total number of PVs installed in that particular area. Grid cells containing less than three PV installations are omitted.

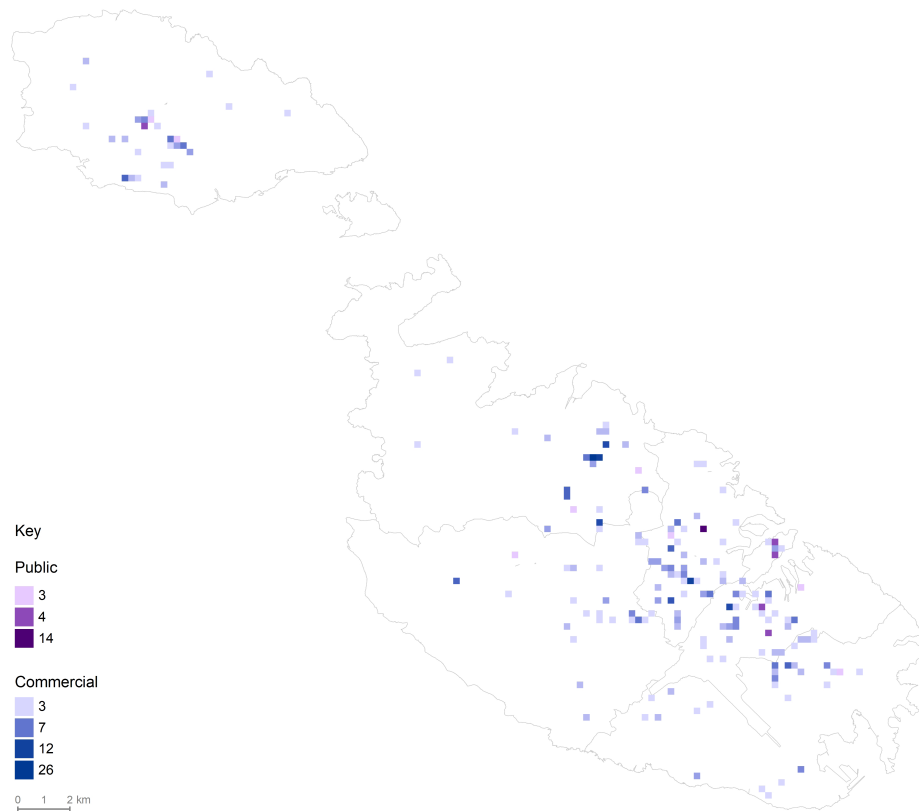
**Map 2. Domestic PV installations using 250m<sup>2</sup> grid cells: 2020**



**Notes:**

1. Each grid cell represents an area of 250m<sup>2</sup>.
2. Each grid cell shows the total number of PVs installed in that particular area. Grid cells containing less than three PV installations are omitted.

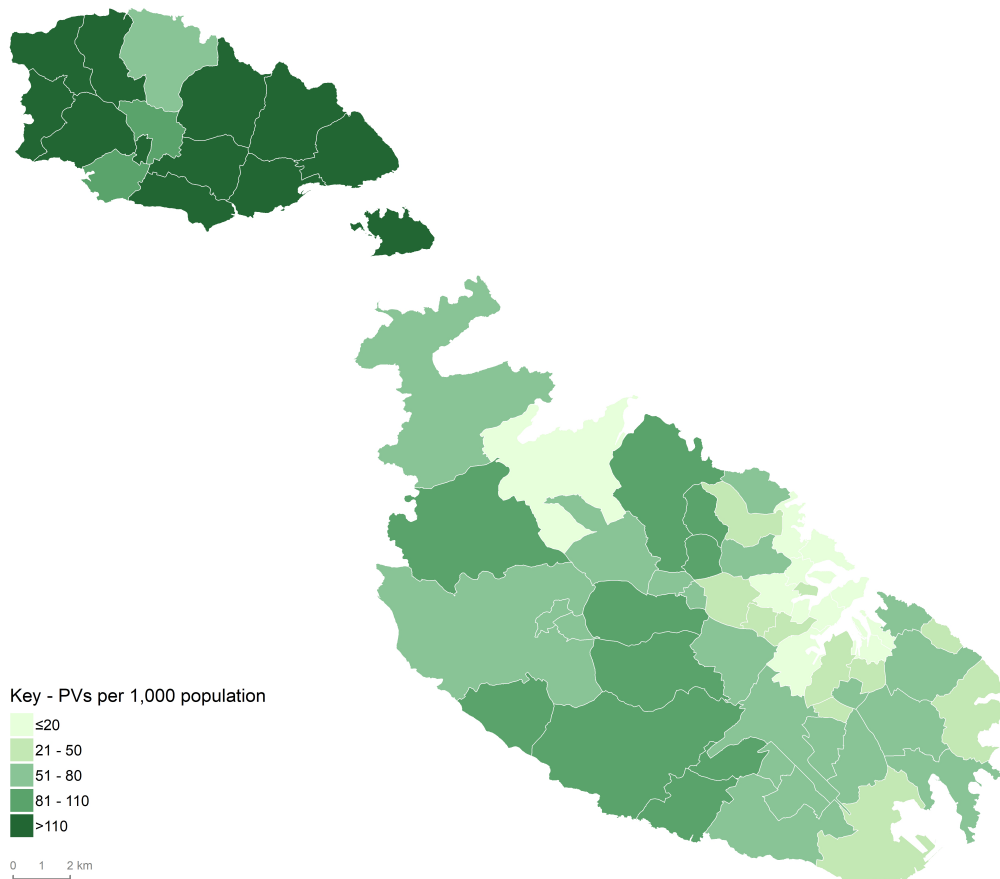
**Map 3. Public and commercial PV installations using 250m<sup>2</sup> grid cells: 2020**



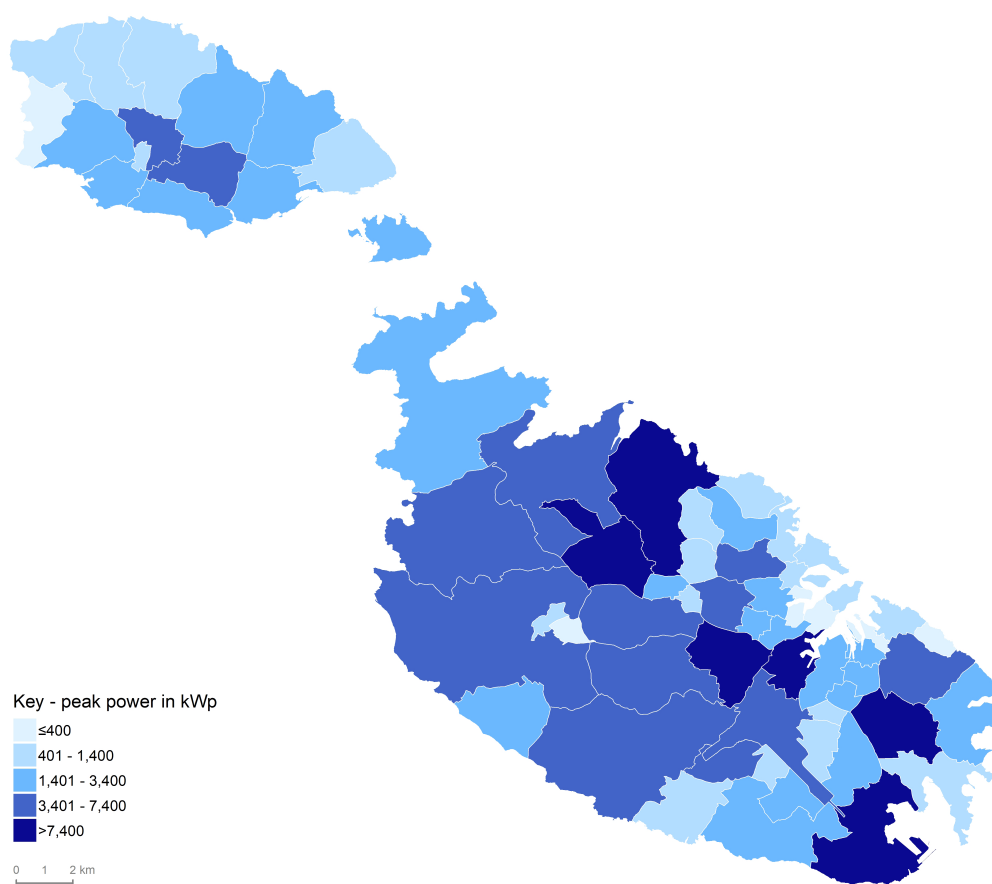
**Notes:**

1. Each grid cell represents an area of 250m<sup>2</sup>.
2. Each grid cell shows the total number of PVs installed in that particular area. Grid cells containing less than three PV installations are omitted.

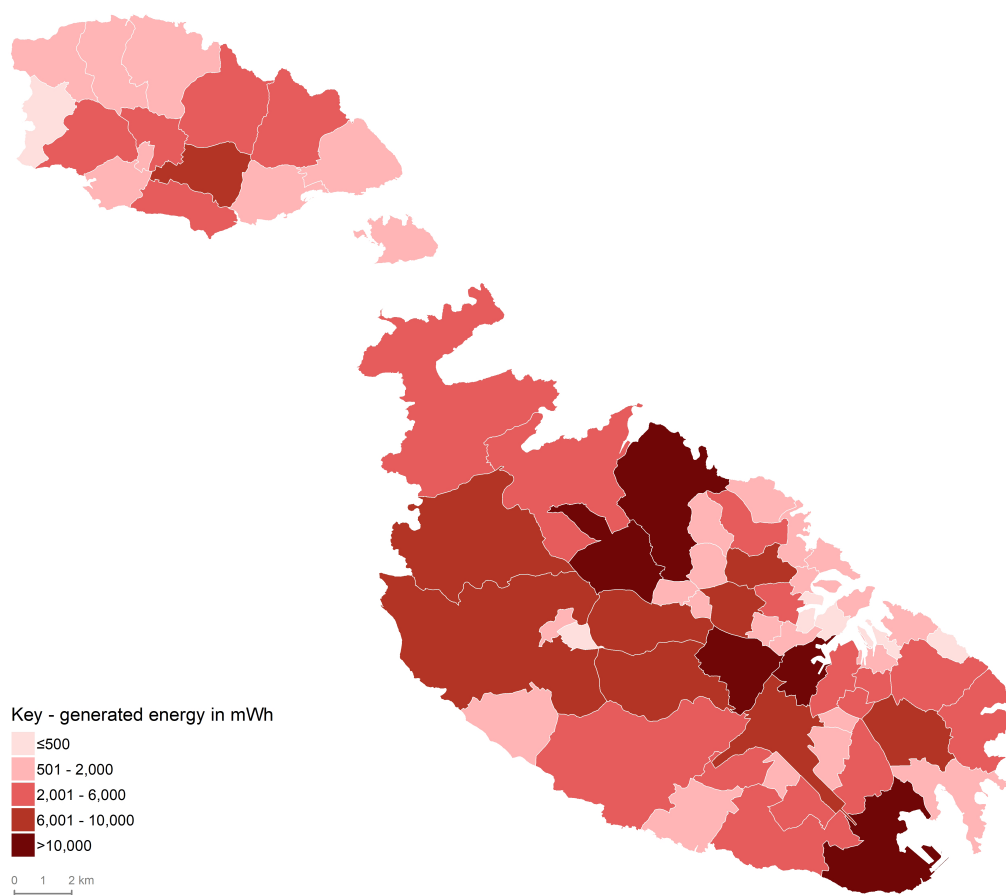
**Map 4. Total PVs installed in the domestic sector per 1,000 population: 2020 (LAU 2)**



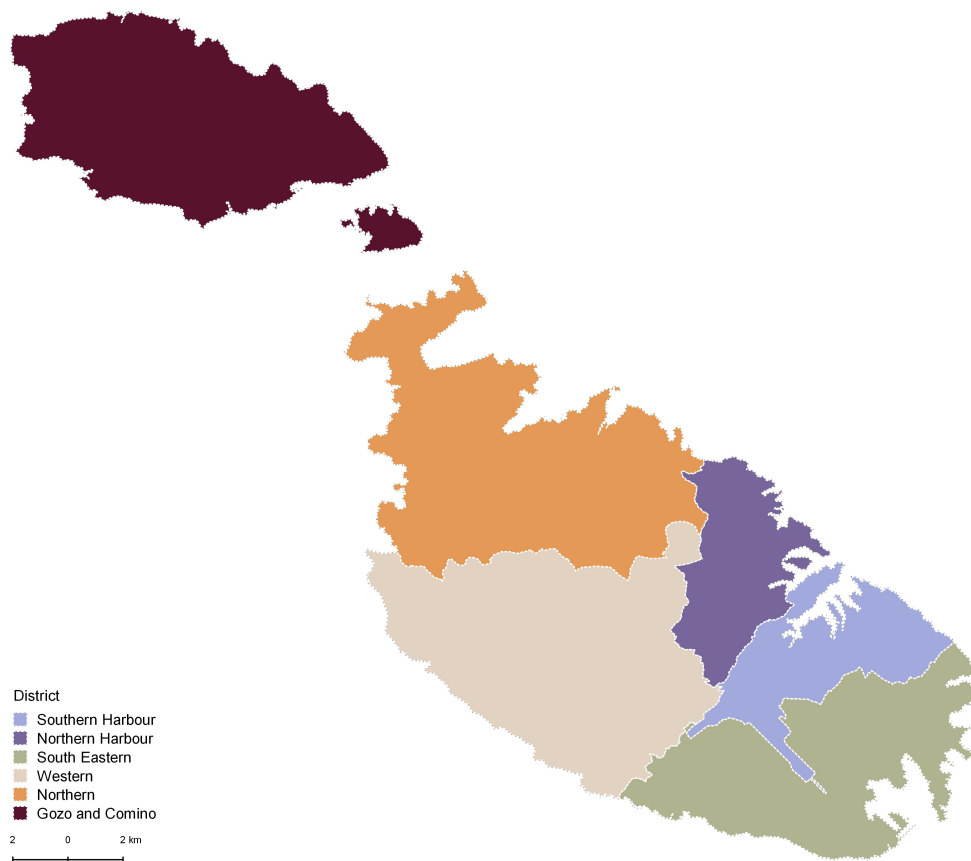
**Map 5. Total kWp of PV installations by locality (LAU 2): 2020**



**Map 6. Total estimated mWh of PV installations by locality (LAU 2): 2020**



## Graphical Illustration of MALTA by NUTS Classification



### Districts classification

#### Southern Harbour

Bormla; Il-Fgura; Floriana; Ғal Luqa; Ғaḏ-Ḑabbar; Il-Kalkara; Il-Marsa; Raḡal Ġdid; Santa Luċija; L-Isla; Ғal Tarxien; Valletta; Il-Birgu; Ix-Xgħajra.

#### Northern Harbour

Birkirkara; Il-Gżira; Ғal Qormi; Il-Ғamrun; L-Imsida; Pembroke; San Ġwann; Santa Venera; San Ġiljan; Is-Swieqi; Ta' Xbiex; Tal-Pietà; Tas-Sliema.

#### South Eastern

Birżebbuġa; Il-Gudja; Ғal Għaxaq; Ғal Kirkop; Ғal Safi; Marsaskala; Marsaxlokk; L-Imqabba; Il-Qrendi; Iz-Ḑejtun; iz-Ḑurrieq.

#### Western

Ғad-Dingli; Ғal Balzan; Ғal Lija; Ғ'Attard; Ғaḏ-Ḑebbuġ; L-Iklin; L-Imdina; L-Imtarfa; Ir-Rabat; Is-Siġġiewi.

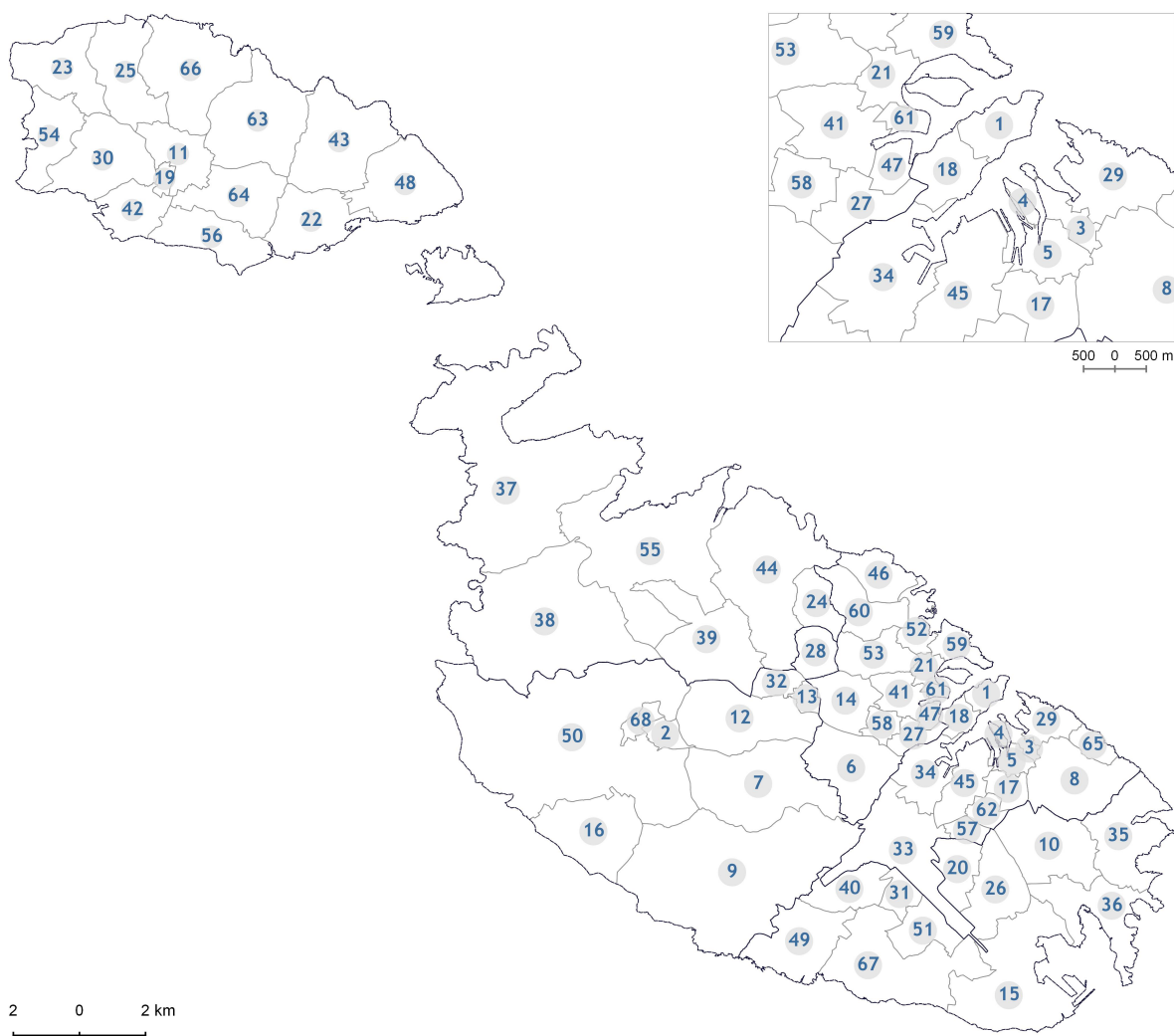
#### Northern

Ғal Għargħur; Il-Mellieḡa; L-Imġarr; Il-Mosta; In-Naxxar; San Pawl Il-Baḡar .

#### Gozo and Comino

Il-Fontana; Għajnsielem and Comino; L-Għarb; L-Għasri; Il-Munxar; In-Nadur; Il-Qala; San Lawrenz; Ta' Kerċem; Ta' Sannat; Ir-Rabat; Ix-Xagħra; Ix-Xewkija; Iz-Ḑebbuġ.

## Graphical Illustration of MALTA by LAU 2 Classification



### Key

1 Valletta	18 Floriana	35 Marsaskala	52 San Ġiljan
2 L-Imdina	19 Il-Fontana	36 Marsaxlokk	53 San Ġwann
3 Il-Birgu	20 Il-Gudja	37 Il-Mellieħa	54 San Lawrenz
4 L-Isla	21 Il-Gżira	38 L-Imġarr	55 San Pawl Il-Baħar
5 Bormla	22 Ġhajnsielem and Comino	39 Il-Mosta	56 Ta' Sannat
6 Ħal Qormi	23 L-Għarb	40 L-Imqabba	57 Santa Luċija
7 Ħaż-Żebbuġ	24 Ħal Għargħur	41 L-Imsida	58 Santa Venera
8 Ħaż-Żabbar	25 L-Għasri	42 Il-Munxar	59 Tas-Sliema
9 Is-Siġġiewi	26 Ħal Għaxaq	43 In-Nadur	60 Is-Swieqi
10 Iż-Żejtun	27 Il-Ħamrun	44 In-Naxxar	61 Ta' Xbiex
11 Ir-Rabat, Għawdex	28 L-Iklin	45 Raħal Ġdid	62 Ħal Tarxien
12 Ħ'Attard	29 Il-Kalkara	46 Pembroke	63 Ix-Xagħra
13 Ħal Balzan	30 Ta' Kerċem	47 Tal-Pieta'	64 Ix-Xewkija
14 Birkirkara	31 Ħal Kirkop	48 Il-Qala	65 Ix-Xgħajra
15 Birżebbuġa	32 Ħal Lija	49 Il-Qrendi	66 Iż-Żebbuġ, Għawdex
16 Ħad-Dingli	33 Ħal Luqa	50 Ir-Rabat, Malta	67 Iż-Żurrieq
17 Il-Fgura	34 Il-Marsa	51 Ħal Safi	68 L-Imtarfa

## Methodological Notes

1. The main source of data is the Regulator for Energy and Water Services. Point data showing the location of PV installations was obtained from Enemalta plc.
2. Statistics for years 2019 - 2020 are provisional and may be subject to revision.

### Definitions:

3. **Photovoltaic (PV) system:** A complete set of components for converting solar radiation into electricity by the photovoltaic process, including the array/s of photovoltaic modules that collect and absorb sunlight for conversion into electricity, inverter/s and associated balance of system components.
4. **kWp:** kilowatt peak - in the solar industry, kilowatt peak means the peak power rating of a panel.
5. **kWh:** kilowatt hour - a unit of energy equal to 1,000 watt-hours. It is normally used as a billing unit for energy delivered to consumers by electricity providers. The units of measurement are as follows:  
  
    **kWh:** kilowatt hour = 1 thousand watt-hours  
    **MWh:** megawatt hour = 1 million watt-hours  
    **GWh:** gigawatt hour = 1 billion watt-hours
6. Commercial sector includes industry.
7. Public sector includes institutional households.
8. The term installation refers to a collection of PV panels installed as one PV system.
9. Installation date refers to the date when the PV system is actually connected to the Feed-in Tariffs grid.
10. Any quotations from this news release are to be cited and/or referenced.
11. More information relating to this news release may be accessed at:  
    Classifications:  
    [https://metadata.nso.gov.mt/classificationdetails.aspx?id=Districts%20\(Local%20Administrative%20Unit\)](https://metadata.nso.gov.mt/classificationdetails.aspx?id=Districts%20(Local%20Administrative%20Unit))
12. A detailed news release calendar is available on  
    [https://nso.gov.mt/en/News\\_Releases/Release\\_Calendar/Pages/News-Release-Calendar.aspx](https://nso.gov.mt/en/News_Releases/Release_Calendar/Pages/News-Release-Calendar.aspx)