Estimate the PV deployment potential of the Solar Mandate

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Public report by: Christophe Lits, Melicent Rouméas

SolarPower Europe

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Table of Contents

Executive Summary 3

Methodology 4

Public buildings over 2,000 m², 750m², and 250 m² 5

Existing non-residential building with useful floor area larger than 500 m2 undergoing major renovation 8

Roofed car parks physically adjacent to buildings 10

New public and non-residential buildings over 250 m² 11

New residential buildings 12

Results 13

European Union 14

Poland 18

Italy 22

France 26

Executive Summary

The analysis carried out under T4.1 assesses the solar PV deployment potential enabled by the implementation of the EPBD Solar Mandate across pilot countries. Using detailed building stock data from several Member States, the task evaluates the suitability of public, residential, and non-residential buildings for rooftop PV, building-integrated photovoltaics (BIPV), and balcony PV installations. By quantifying the achievable solar capacity and examining the practical constraints that may affect deployment, the analysis provides a robust evidence base to support policymakers and market actors in accelerating solar integration within Europe's building stock and advancing the transition towards zero-emission buildings.

Methodology

The revised Energy Performance of Buildings Directive (EPBD) progressively requires solar installations on suitable buildings, where technically appropriate and economically and functionally feasible. The deadlines vary by building type and size:

Existing buildings

- **By 31 December 2027:** non-residential buildings over 500 m² undergoing major renovation.
- **By 31 December 2027:** public buildings over 2,000 m².
- **By 31 December 2028:** public buildings over 750 m².
- **By 31 December 2030:** public buildings over 250 m².

New buildings

- **By 31 December 2026:** public and non-residential buildings over 250 m².
- **By 31 December 2029:** all residential buildings.
- **By 31 December 2029:** roofed car parks physically adjacent to buildings.

The following sections outline the methodology used for each building segment covered by the EPBD to estimate the additional solar PV capacity expected to result from the mandates.

Public buildings over 2,000 m², 750m², and 250 m²

The analysis draws on EUBUCCO, an open database that provides harmonised geospatial information on individual buildings across Europe. More specifically, it uses the 15 GB *eubucco_lat_lon.parquet* dataset.

The dataset is available at https://eubucco.com/data/download/v0.2.

The dataset was processed in QGIS, an open-source geographic information system used to manage, analyse, and visualise spatial data.

It contains building-level attributes, including location, use, height, number of floors, construction year, and footprint area. The fields used in the analysis are summarised below.

Field	Type	Length	Precision	Comment
id	String	0	0	
region_id	String	0	0	
city_id	String	0	0	
type	String	0	0	
subtype	String	0	0	
height	Real	3	1	
floors	Real	3	1	
construction_year	Int16	0	0	
footprint_area	Real	0	0	
lat	Real	0	0	
lon	Real	0	0	

The EPBD thresholds are based on a building's useful floor area. As this variable is not directly available in the EUBUCCO dataset, it is approximated by multiplying each building's footprint area by its estimated number of floors. Although this proxy does not account for differences in internal layout or the share of non-usable space, it provides a consistent estimate across the public building stock.

An initial processing of the file was performed to both compute the useful floor area of each building and make it lighter to ease further processing.

```
SELECT
    region_id,
    type,
    subtype,
    floors,
    footprint_area,
    floors * footprint_area AS usefulFloorArea
FROM eubucco_lat_lon
```

Final file is labelled `preprocessed_EUBUCCO.parquet`. The fields are summarised below.

Field	Type	Length	Precision	Comment
region_id	String	0	0	
type	String	0	0	
subtype	String	0	0	
floors	Real	0	0	
Footprint_area	Real	0	0	
usefulFloorArea	Real	0	0	

Following discussions with the Joint Research Centre team working on the EU Digital Building Stock Model, the team recommended excluding buildings with a footprint below 50 m², owing to greater uncertainty in algorithm-based estimates for smaller buildings.

One can get an overview of the buildings stock for each market with the following request.

```
SELECT
    region_id,
    type,
    subtype,
    COUNT(*) AS building_count,
    SUM(usefulFloorArea) AS total_usefulFloorArea,
    SUM(footprint_area) AS total_footprint

FROM preprocessed_EUBUCCO
WHERE footprint_area >= 50

GROUP BY
    region_id,
    type,
    subtype

ORDER BY
    region_id,
    type,
    subtype
```

Using this estimated floor area, public buildings are assigned to three mutually exclusive EPBD size categories: above 2,000 m², between 750 m² and 2,000 m², and between 250 m², and 750 m². For each region and category, the analysis extracts the number of buildings and their combined rooftop footprint. The SQL query below performs this classification and aggregation directly in QGIS.

```
SELECT
    region_id,

    CASE
        WHEN usefulFloorArea >= 2000 THEN 'over_2000'
        WHEN usefulFloorArea >= 750 THEN '750_to_2000'
        WHEN usefulFloorArea >= 250 THEN '250_to_750'
    END AS segment,

    COUNT(*) AS nb_buildings,
    SUM(footprint_area) AS total_footprint,
    SUM(usefulFloorArea) AS total_usefulFloorArea

FROM preprocessed_EUBUCCO

WHERE subtype = 'public'
  AND usefulFloorArea >= 250
  AND footprint_area >= 50

GROUP BY
    region_id,

    CASE
        WHEN usefulFloorArea >= 2000 THEN 'over_2000'
        WHEN usefulFloorArea >= 750 THEN '750_to_2000'
        WHEN usefulFloorArea >= 250 THEN '250_to_750'
    END

ORDER BY region_id, segment
```

For non-residential buildings, the analysis assumes that 40% of the total building footprint is suitable and available for solar PV installation[1]. This factor accounts for technical and practical constraints such as roof orientation, shading, access requirements, and space occupied by other rooftop equipment.

A uniform power density of 234 Wp/m² is then applied to the usable rooftop area across all EU Member States[2]. This assumption converts the estimated area available for PV into potential installed peak capacity.

Finally, the estimated capacity is allocated over time according to the EPBD implementation deadlines applicable to each building-size segment. This produces the deployment timeline presented below. For modelling purposes, the full capacity associated with each building-size segment is assumed to be installed by the applicable EPBD deadline and is recorded as a single addition in the same year.

[1,2] Kakoulaki, G., Kenny, R., Taylor, N. *et al.* Mapping Europe's rooftop photovoltaic potential with a building-level database. *Nat Energy* 11, 324–333 (2026). https://doi.org/10.1038/s41560-025-01947-x

Existing non-residential building with useful floor area larger than 500 m2 undergoing major renovation

This analysis draws on the same preprocessed_EUBUCCO dataset and processing approach as the previous section.

Public buildings are excluded from this segment to avoid double counting, as they are already covered in the previous section. The SQL request below extracts from preprocessed_EUBUCCO non-residential building with useful floor area larger than 500 m2.

```
SELECT
    region_id,
    COUNT(*) AS nb_buildings,
    SUM(footprint_area) AS total_footprint,
    SUM(usefulFloorArea) AS total_UFA

FROM preprocessed_EUBUCCO

WHERE type = 'non-residential'
  AND subtype <> 'public'
  AND footprint_area >= 50
  AND usefulFloorArea >= 500

GROUP BY region_id
ORDER BY region_id
```

Each year, 1.8% of the eligible building useful floor area is assumed to undergo major renovation, slightly below the EU renovation target of 2%. Once renovated, this area is removed from the stock considered in the following year, so the calculation is applied to a slightly smaller base each year. The effect remains limited over the five-year modelling period. For simplicity, the model also assumes that additions of new eligible buildings are negligible and that no building undergoes more than one major renovation during this period.

The useful floor area renovated each year is then converted in equivalent footprint area by dividing the useful floor area by the average number of floors for the non-residential segment in the market.

The SQL request below extracts from preprocessed_EUBUCCO the average number of floors by segment.

```
SELECT
    region_id,
    type,
    COUNT(*) AS building_count,
    AVG(floors) AS avg_floors
FROM preprocessed_EUBUCCO
WHERE footprint_area >= 50
GROUP BY
    region_id,
    type
ORDER BY
    region_id,
    type
```

Of the footprint renovated each year, 40% is assumed to be suitable and available for rooftop solar PV. This factor reflects practical constraints such as roof orientation, shading, access requirements, and space occupied by other rooftop equipment.

A uniform power density of 234 Wp/m^2 is then applied to the PV-suitable area to estimate the additional peak capacity installed each year.

Roofed car parks physically adjacent to buildings

No sufficiently robust data are currently available for roofed car parks adjacent to buildings. This category is therefore excluded from the analysis; however, its omission is expected to have only a limited impact on the overall deployment estimate.

New public and non-residential buildings over 250 m²

The analysis uses Eurostat's annual *Building permits by type of building* dataset to estimate the floor area of new construction. The selected indicator reports the useful floor area covered by building permits, expressed in million square metres. Unadjusted annual data are used, with results extracted by building type and country.

Here is the link to download the exact dataset used in our analysis.

https://ec.europa.eu/eurostat/databrowser/view/sts_cobp_a__custom_23428680/

The dataset reports the useful floor area authorised through building permits from 2021 to 2025, with separate values for residential and non-residential buildings. We assume that the "non-residential" category of Eurostat encompasses both "non-residential" and "public" from EPBD categories.

For each country, the analysis uses the average annual useful floor area authorised through non-residential building permits between 2021 and 2025 as a proxy for the useful floor area constructed each year over the modelling period.

The corresponding annual building footprint is estimated by dividing this useful floor area by the average number of floors in the relevant segment of each country's existing building stock.

For each country, the share of total non-residential useful floor area accounted for by buildings exceeding 250 m² is calculated from the existing building stock and applied to new construction as a proxy for the share covered by the mandate.

A further factor of 90% is applied to account for the share of permitted building footprint that is actually constructed.

Of this adjusted annual footprint, 40% is assumed to be suitable and available for rooftop solar PV, allowing for constraints such as roof orientation, shading, access requirements and space occupied by other equipment.

Finally, a uniform power density of 234 Wp/m² is applied to the PV-suitable footprint to estimate the additional solar PV capacity associated with new non-residential buildings each year.

Additional solar PV capacity associated with new buildings is recorded in the year of construction.

New residential buildings

The analysis uses Eurostat's annual *Building permits by type of building* dataset to estimate the floor area of new construction. The selected indicator reports the useful floor area covered by building permits, expressed in million square metres. Unadjusted annual data are used, with results extracted by building type and country.

https://ec.europa.eu/eurostat/databrowser/view/sts_cobp_a__custom_23020117/default/table

The dataset reports the useful floor area authorised through building permits from 2021 to 2025, with separate values for residential and non-residential buildings. All figures are expressed in million m².

For each country, the analysis uses the average annual useful floor area authorised through residential building permits between 2021 and 2025 as a proxy for the useful floor area constructed each year over the modelling period.

The corresponding annual building footprint is estimated by dividing this useful floor area by the average number of floors in the relevant segment of each country's existing building stock.

A further factor of 90% is applied to account for the share of permitted building footprint that is actually constructed.

Of this adjusted annual footprint, 25% is assumed to be suitable and available for rooftop solar PV, allowing for constraints such as roof orientation, shading, access requirements and space occupied by other equipment.

Finally, a uniform power density of 234 Wp/m² is applied to the PV-suitable footprint to estimate the additional solar PV capacity associated with new residential buildings each year.

Results

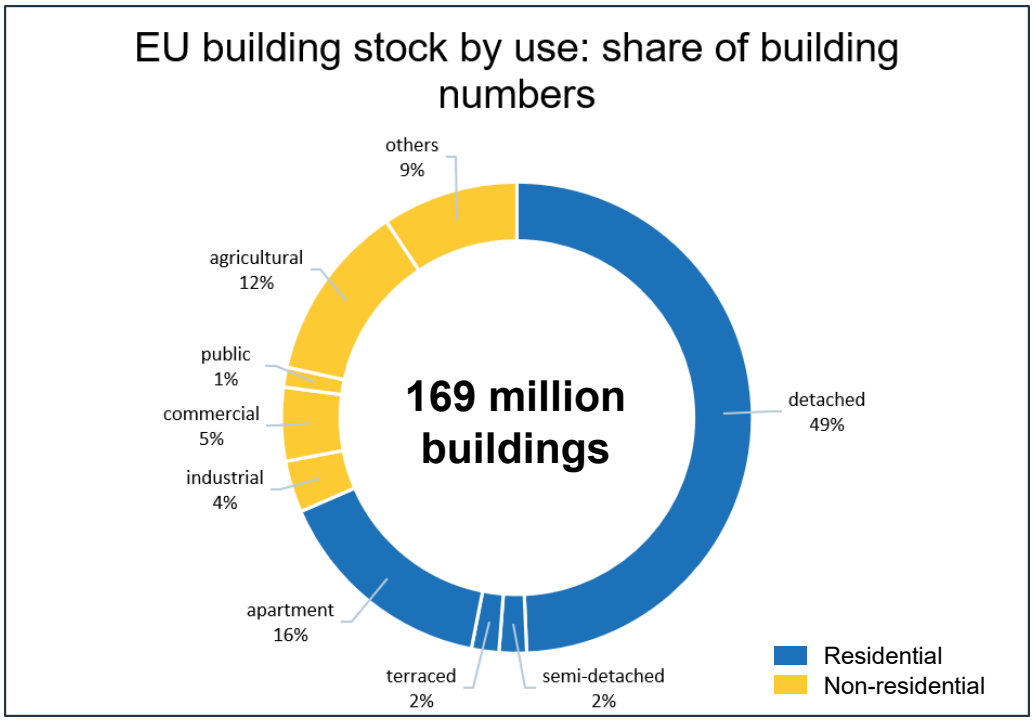
The following sections outline the results of our analysis.

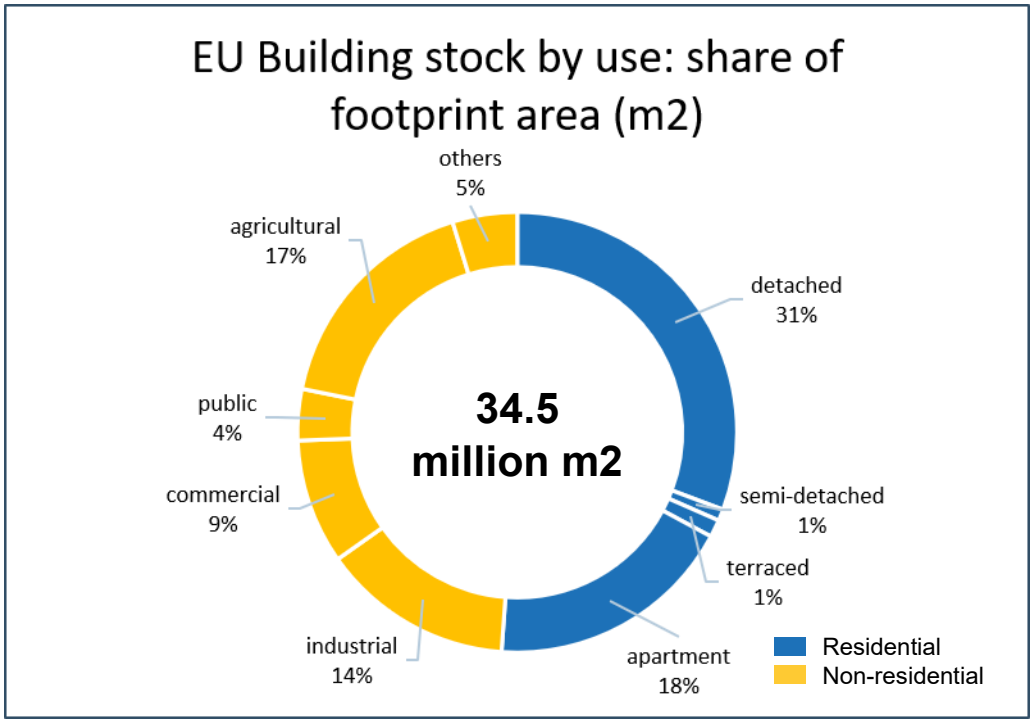
These results represent theoretical deployment potential rather than a forecast of actual installations. Across all markets analysed, implementation delays, different national exemptions from the requirements and constraints on installer capacity may limit or postpone deployment.

The modelled annual additions should therefore not be interpreted as capacity expected to be installed in those specific years.

European Union

Residential buildings account for around two-thirds of the EU building stock analysed, yet only about half of its total footprint. Non-residential buildings are fewer but larger on average, giving them a comparable footprint. Detached houses dominate residential building numbers, while apartment buildings account for the largest share of residential useful floor area. Agricultural and industrial buildings provide the largest non-residential footprints.





Source: EUBUCCO (2026). *EUBUCCO v0.2 - European Building Stock Database*. https://eubucco.com/data/download/v0.2; SolarPower Europe.

The table below details this breakdown by building type and footprint area, the basis for estimating rooftop area, which determines the applicable EPBD thresholds.

	Number of buildings	*Total footprint area (m2)*
All	169,569,471	34,535,169,760
residential	116,127,319	17,663,074,209
detached	83,657,117	10,606,971,650
semi-detached	3,193,689	292,610,099
terraced	3,187,849	443,473,138
apartment	26,088,664	6,320,019,321
non-residential	53,442,152	16,872,095,552
industrial	6,016,090	4,862,641,725
commercial	8,564,443	3,168,908,389
public	2,305,755	1,301,460,853
agricultural	20,711,553	5,895,044,161
others	15,844,311	1,644,040,423

The average number of floors, also extracted from the EUBUCCO database, is used to compute the useful floor area in our analysis. It is higher for residential buildings (1.675) than for non-residential buildings (1.309), as shown below.

Market	**Average number of floors**	**Residential average number of floors**	**Non-residential average number of floors**
European Union	1.560	1.675	1.309

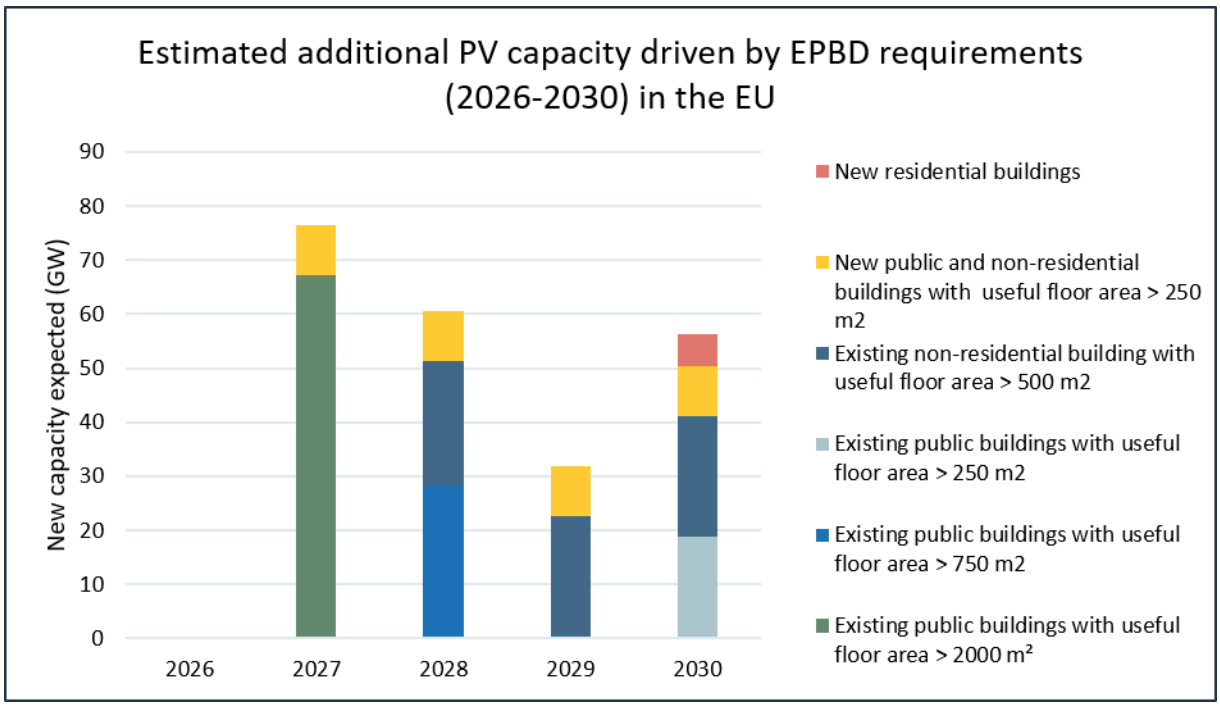
The resulting useful floor areas are detailed by segment in the table below.

	Total useful floor area (m2)
All	62,544,175,721
residential	34,374,380,167
detached	15,386,173,505
semi-detached	484,065,136
terraced	827,511,049
apartment	17,676,630,476
non-residential	28,169,795,554
industrial	8,687,095,907
commercial	6,344,441,080
public	3,229,031,115
agricultural	7,688,257,366
others	2,220,970,086

Beyond the existing stock, building permits statistics, retrieved from Eurostat, provide the basis for estimating new construction. The table below shows a sharper decline in residential authorised floor area over 2021-2025 (million square metres). The model uses five-year averages to smooth annual fluctuations, although these exceed 2025 levels in both segments.

	2021	2022	2023	2024	2025	5-year average
Residential	235.6	217.	169.2	163.1	170.7	191.12
Non-residential	175.3	173.6	165.8	165.2	161.7	168.32

The model estimates around 225 GW of additional EU solar PV potential by 2030. Annual additions peak at 76 GW in 2027, driven by large public buildings, before falling and rising again in 2030 as smaller public buildings and new homes enter the scope. These deadline-driven peaks represent theoretical potential, not an installation forecast.

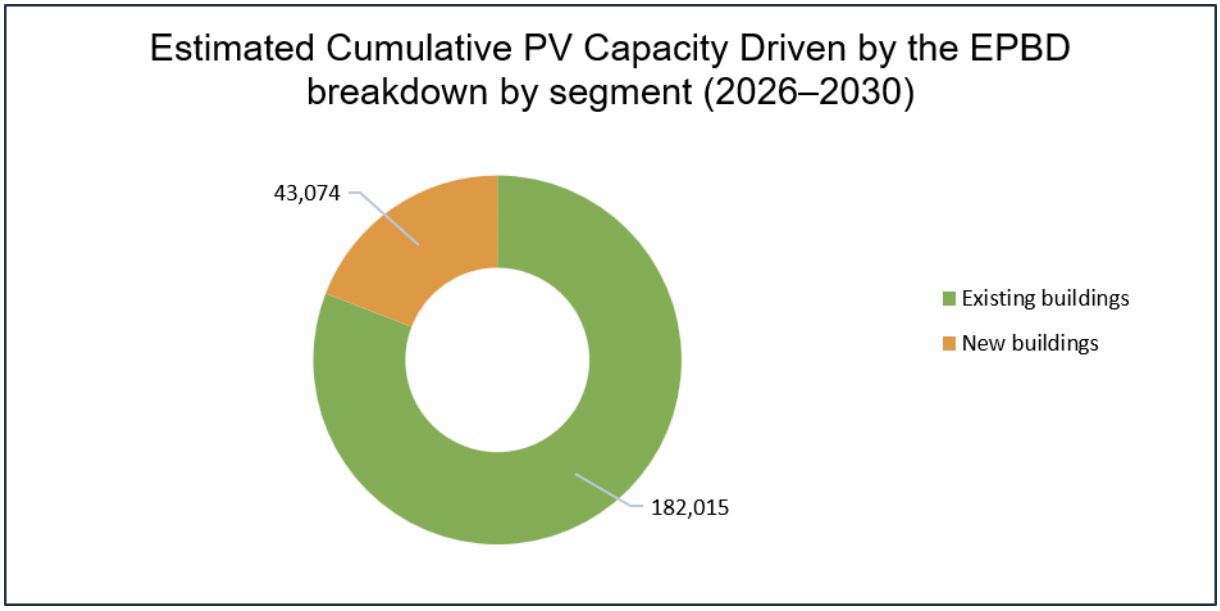


Source: SolarPower Europe

The table below details this annual potential by building category (MW). Renovated non-residential buildings contribute around 22-23 GW annually from 2028, while new public and non-residential buildings provide a steady 9.3 GW per year from 2027.

	2026	2027	2028	2029	2030	Cumulative
Total	-	76,400	60,511	31,857	56,322	225,089
Existing buildings	-	67,133	51,244	22,590	41,048	182,015
Existing public buildings with useful floor area > 2000 m²	-	67,133	-	-	-	67,133
Existing public buildings with useful floor area > 750 m2	-	-	28,240	-	-	28,240
Existing public buildings with useful floor area > 250 m2	-	-	-	-	18,865	18,865
Existing non-residential building with useful floor area > 500 m2	-	-	23,004	22,590	22,183	67,777
New buildings	-	9,267	9,267	9,267	15,273	43,074
New public and non-residential buildings with useful floor area > 250 m2	-	9,267	9,267	9,267	9,267	37,068
New residential buildings	-	-	-	-	6,007	6,007

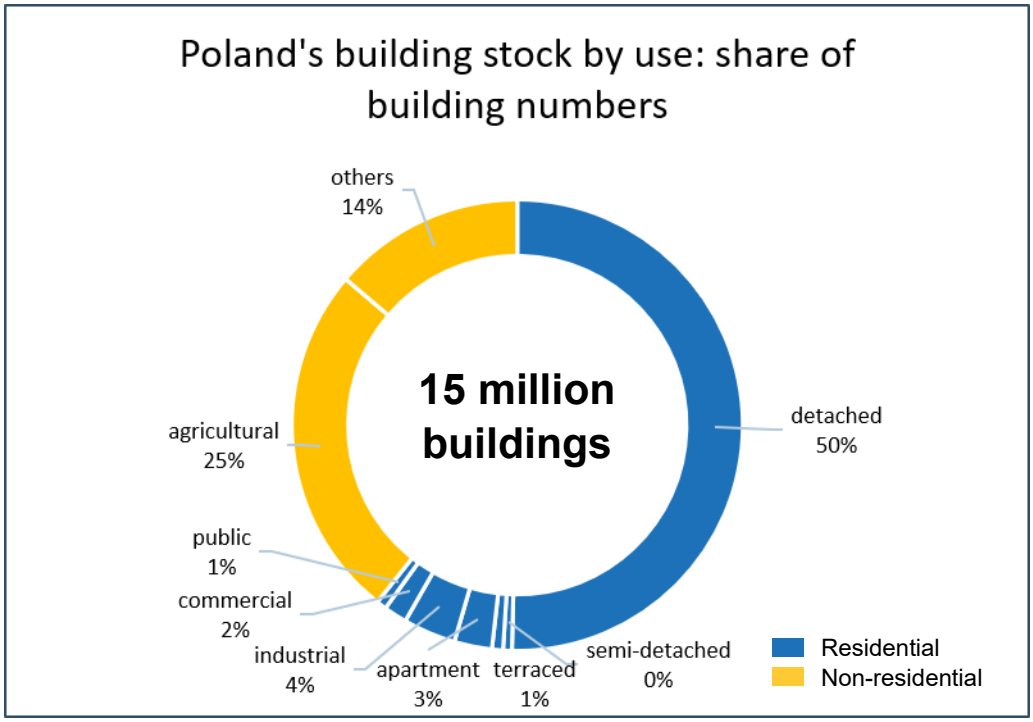
The cumulative breakdown highlights the dominance of existing buildings, which account for around 182 GW of the 225 GW total. New construction contributes a smaller share by 2030 but provides a recurring source of additional capacity as buildings continue to be constructed.

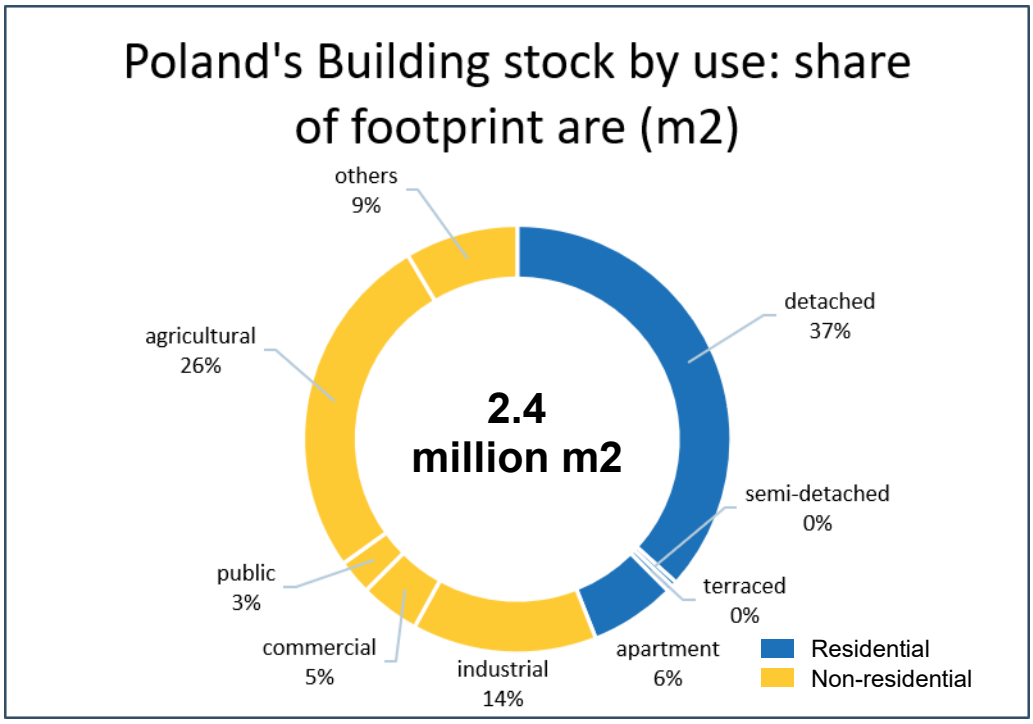


Source: SolarPower Europe

Poland

Residential buildings represent around 55% of Poland's analysed building stock but only 44% of its footprint. Non-residential buildings therefore offer a larger combined rooftop footprint despite being fewer in number. Detached houses dominate the residential stock, including its useful floor area, while agricultural buildings provide the largest non-residential footprint.





Source: EUBUCCO (2026). *EUBUCCO v0.2 - European Building Stock Database*. https://eubucco.com/data/download/v0.2; SolarPower Europe.

The table below details this breakdown by building type and footprint area, the basis for estimating rooftop area, which determines the applicable EPBD thresholds.

	Number of buildings	*Total footprint area (m2)*
All	15,099,700	2,441,830,435
residential	8,230,815	1,074,930,530
detached	7,607,172	895,687,101
semi-detached	95,233	9,854,639
terraced	119,631	11,171,556
apartment	408,779	158,217,234
non-residential	6,868,885	1,366,899,905
industrial	569,088	340,748,503
commercial	251,484	110,736,477
public	107,927	64,085,343
agricultural	3,860,116	642,739,540
others	2,080,270	208,590,042

The average number of floors, also extracted from the EUBUCCO database, is used to compute the useful floor area in our analysis. It is higher for residential buildings (1.579) than for non-residential buildings (1.141), as shown below.

Market	**Average number of floors**	**Residential average number of floors**	**Non-residential average number of floors**
Poland	1.380	1.579	1.141

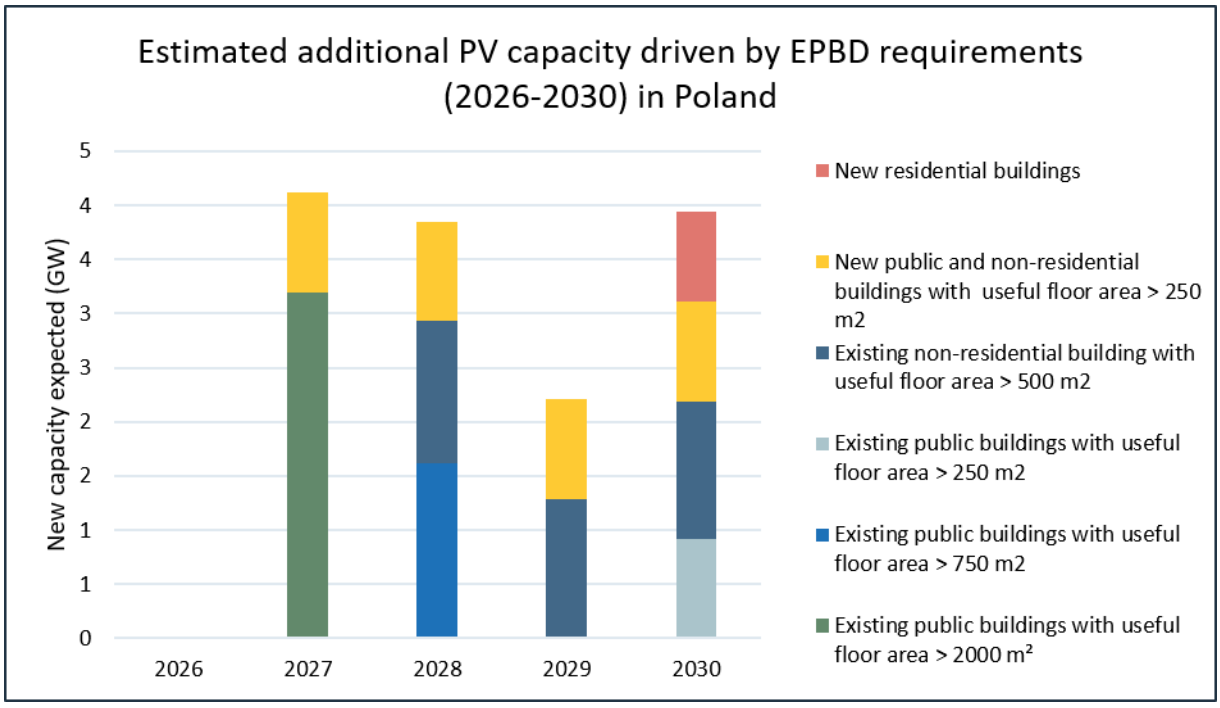
The resulting useful floor areas are detailed by segment in the table below.

	Total useful floor area (m2)
All	3,900,671,498
residential	1,985,246,792
detached	1,337,131,030
semi-detached	19,152,194
terraced	21,212,796
apartment	607,750,772
non-residential	1,915,424,706
industrial	556,413,065
commercial	247,198,943
public	159,250,853
agricultural	696,709,043
others	255,852,803

Beyond the existing stock, building permits statistics, retrieved from Eurostat, provide the basis for estimating new construction. For new construction, Poland's permitted residential floor area fell from 31.7 million m² in 2021 to 23.3 million m² in 2025, compared with a decline from 20.4 to 17.4 million m² for non-residential buildings. The five-year averages used in the model, 25.08 and 18.5 million m² respectively, are above the 2025 levels.

	2021	2022	2023	2024	2025	5-year average
Residential	31.7	26.2	20.3	23.9	23.3	25.08
Non-residential	20.4	20.4	17.4	16.9	17.4	18.5

The model estimates around 14.1 GW of additional solar PV potential in Poland by 2030. Annual additions peak at 4.1 GW in 2027, driven by large public buildings, fall to 2.2 GW in 2029, then rebound to 3.9 GW in 2030 as smaller public buildings and new homes enter the scope. These deadline-driven peaks represent theoretical potential, not an installation forecast.

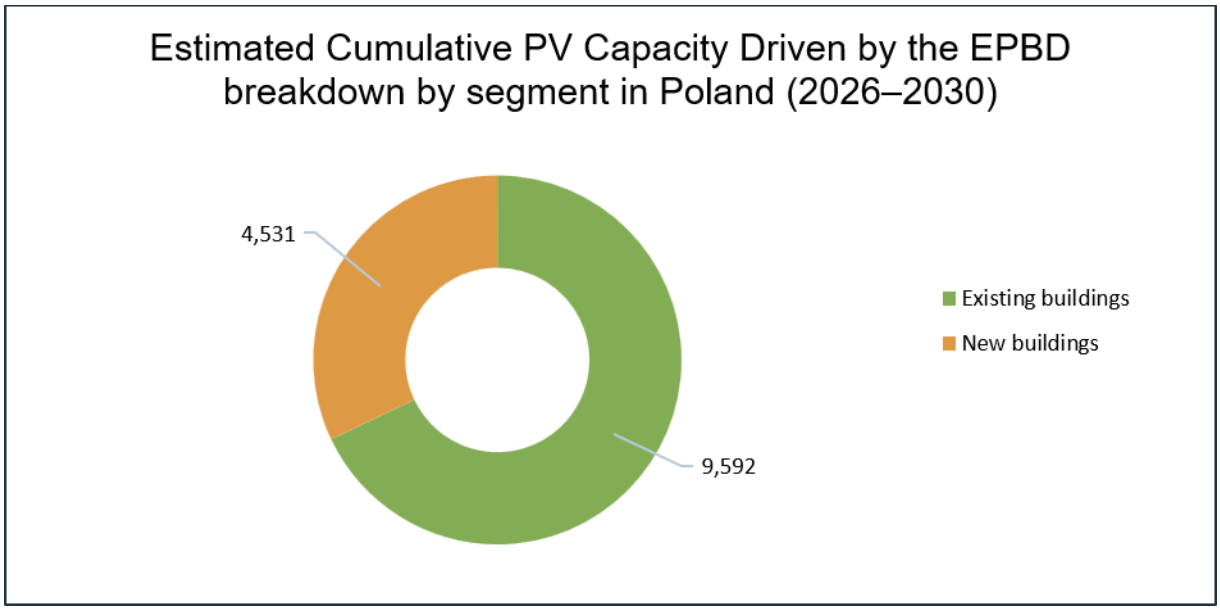


Source: SolarPower Europe

The table below breaks down this annual potential by building category (MW). Renovated non-residential buildings contribute around 1.3 GW per year from 2028, while new public and non-residential buildings provide approximately 924 MW annually from 2027.

	2026	2027	2028	2029	2030	Cumulative
Total	-	4,117	3,852	2,211	3,943	14,123
Existing buildings	-	3,193	2,928	1,287	2,183	9,592
Existing public buildings with useful floor area > 2000 m²	-	3,193	-	-	-	3,193
Existing public buildings with useful floor area > 750 m2	-	-	1,617	-	-	1,617
Existing public buildings with useful floor area > 250 m2	-	-	-	-	919	919
Existing non-residential building with useful floor area > 500 m2	-	-	1,311	1,287	1,264	3,863
New buildings	-	924	924	924	1,760	4,531
New public and non-residential buildings with useful floor area > 250 m2	-	924	924	924	924	3,695
New residential buildings	-	-	-	-	836	836

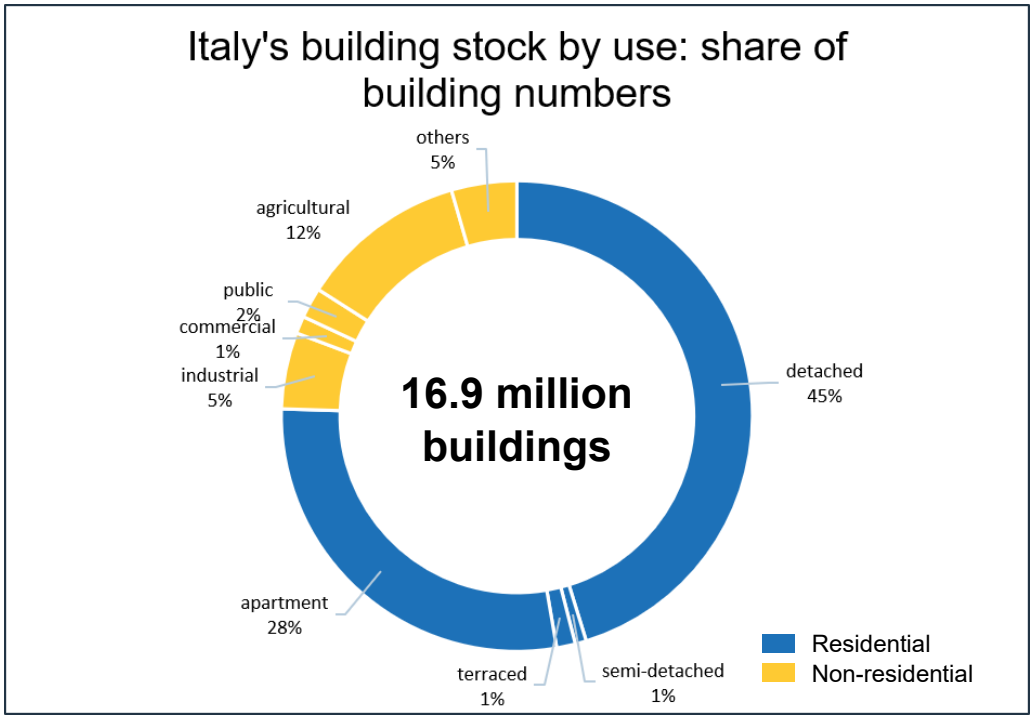
Existing buildings account for around 9.6 GW, or 68% of Poland's cumulative potential, with public buildings contributing approximately 5.7 GW and non-residential renovations 3.9 GW. New construction adds a further 4.5 GW, including 0.8 GW from new homes in 2030, and provides a recurring source of capacity beyond the existing stock.

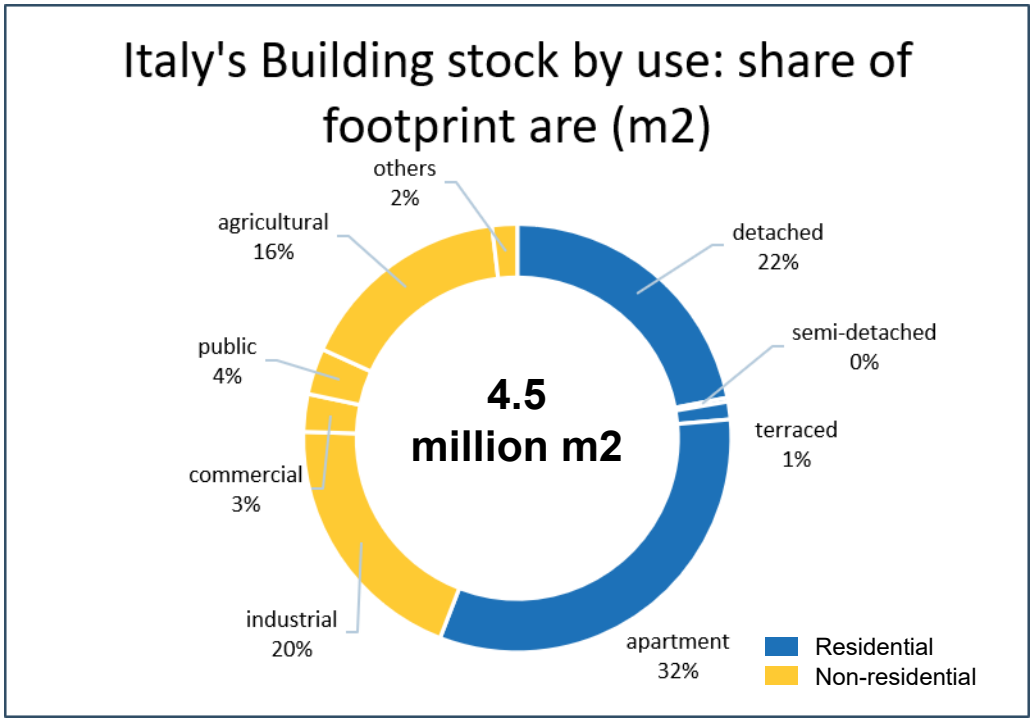


Source: SolarPower Europe

Italy

Residential buildings represent around 75% of Italy's analysed building stock but 56% of its footprint. Non-residential buildings are therefore larger on average and provide a substantial rooftop resource despite their smaller number. Detached houses dominate residential building numbers, while apartment buildings account for most residential footprint and useful floor area.





Source: EUBUCCO (2026). *EUBUCCO v0.2 - European Building Stock Database*. https://eubucco.com/data/download/v0.2; SolarPower Europe.

The table below details this breakdown by building type and footprint area, the basis for estimating rooftop area, which determines the applicable EPBD thresholds.

	Number of buildings	*Total footprint area (m2)*
All	16,924,007	4,585,555,448
residential	12,776,222	2,562,312,028
detached	7,657,222	1,007,137,625
semi-detached	129,241	13,754,691
terraced	218,031	61,100,461
apartment	4,771,728	1,480,319,251
non-residential	4,147,785	2,023,243,421
industrial	888,969	898,652,908
commercial	202,893	130,516,618
public	355,599	159,893,206
agricultural	1,941,674	747,362,232
others	758,650	86,818,456

The average number of floors, also extracted from the EUBUCCO database, is used to compute the useful floor area in our analysis. It is higher for residential buildings (1.629) than for non-residential buildings (1.386), as shown below.

Market	**Average number of floors**	**Residential average number of floors**	**Non-residential average number of floors**
Italy	1.569	1.629	1.386

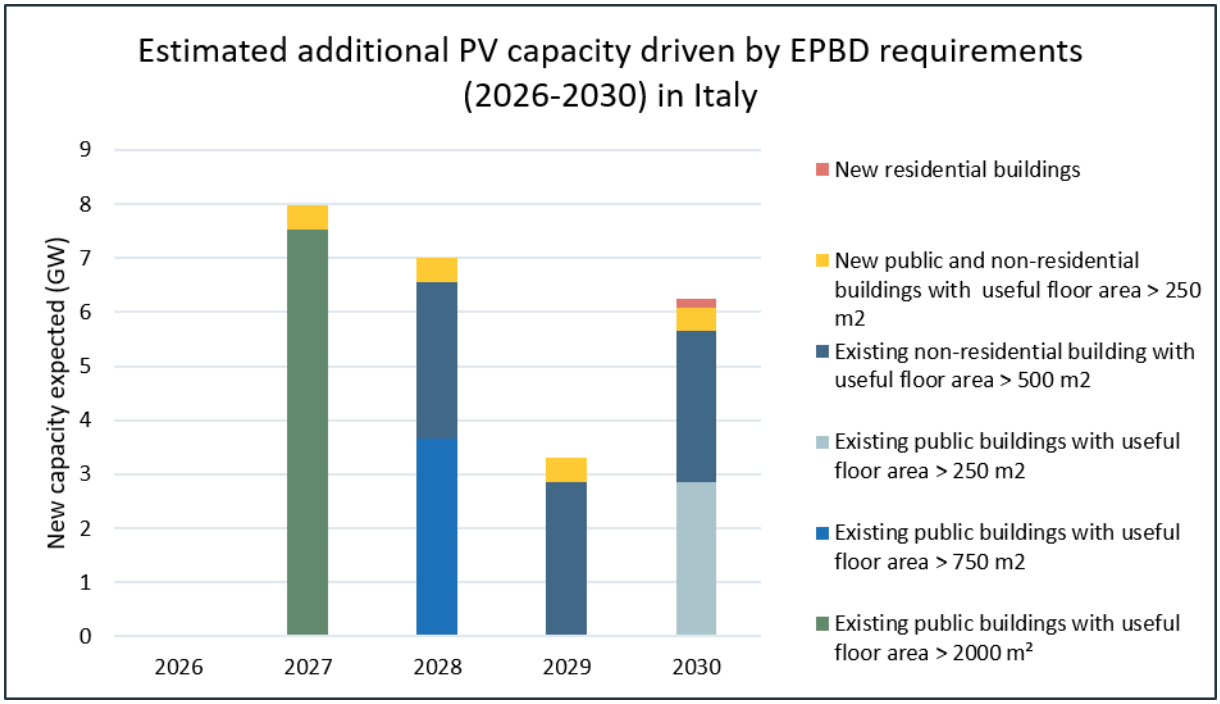
The resulting useful floor areas are detailed by segment in the table below.

	Total useful floor area (m2)
All	8,486,843,902
residential	5,079,699,318
detached	1,366,603,969
semi-detached	22,720,716
terraced	118,157,716
apartment	3,572,216,917
non-residential	3,407,144,584
industrial	1,544,674,267
commercial	277,786,568
public	425,778,206
agricultural	1,040,232,245
others	118,673,298

Beyond the existing stock, building permits statistics, retrieved from Eurostat, provide the basis for estimating new construction. For new construction, permitted residential floor area fell from 5.2 to 4.5 million m² between 2021 and 2025, while non-residential floor area rose from 7.5 to 8.0 million m². The model uses five-year averages of 4.86 and 7.88 million m² respectively, reflecting a larger annual construction base in the non-residential segment.

	2021	2022	2023	2024	2025	5-year average
Residential	5.2	5.2	4.7	4.7	4.5	4.86
Non-residential	7.5	7.9	7.9	8.1	8.0	7.88

The model estimates around 24.5 GW of additional solar PV potential in Italy by 2030. Annual additions peak at 8.0 GW in 2027, driven by large public buildings, fall to 3.3 GW in 2029, then rebound to 6.2 GW in 2030 as smaller public buildings and new homes enter the scope. These deadline-driven peaks represent theoretical potential, not an installation forecast.

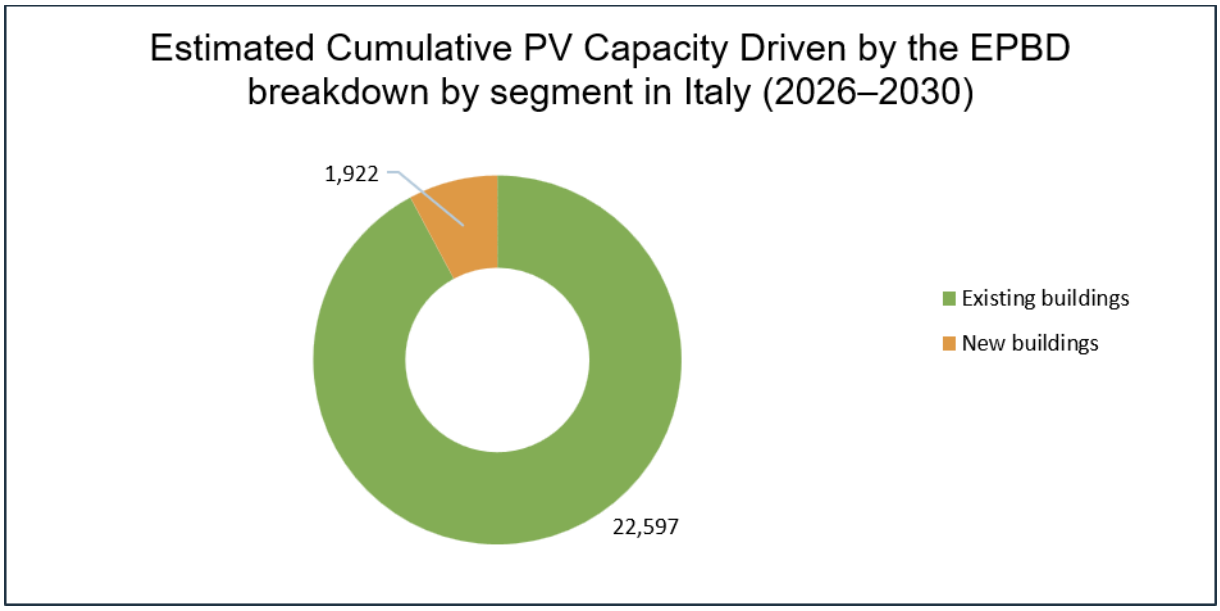


Source: SolarPower Europe

The table below breaks down this annual potential by building category (MW). Non-residential renovations contribute around 2.8 - 2.9 GW annually from 2028, while new public and non-residential buildings add approximately 441 MW per year from 2027.

	2026	2027	2028	2029	2030	Cumulative
Total	-	7,973	6,999	3,299	6,248	24,519
Existing buildings	-	7,532	6,558	2,858	5,650	22,597
Existing public buildings with useful floor area > 2000 m²	-	7,532	-	-	-	7,532
Existing public buildings with useful floor area > 750 m2	-	-	3,648	-	-	3,648
Existing public buildings with useful floor area > 250 m2	-	-	-	-	2,844	2,844
Existing non-residential building with useful floor area > 500 m2	-	-	2,910	2,858	2,806	8,574
New buildings	-	441	441	441	598	1,922
New public and non-residential buildings with useful floor area > 250 m2	-	441	441	441	441	1,764
New residential buildings	-	-	-	-	157	157

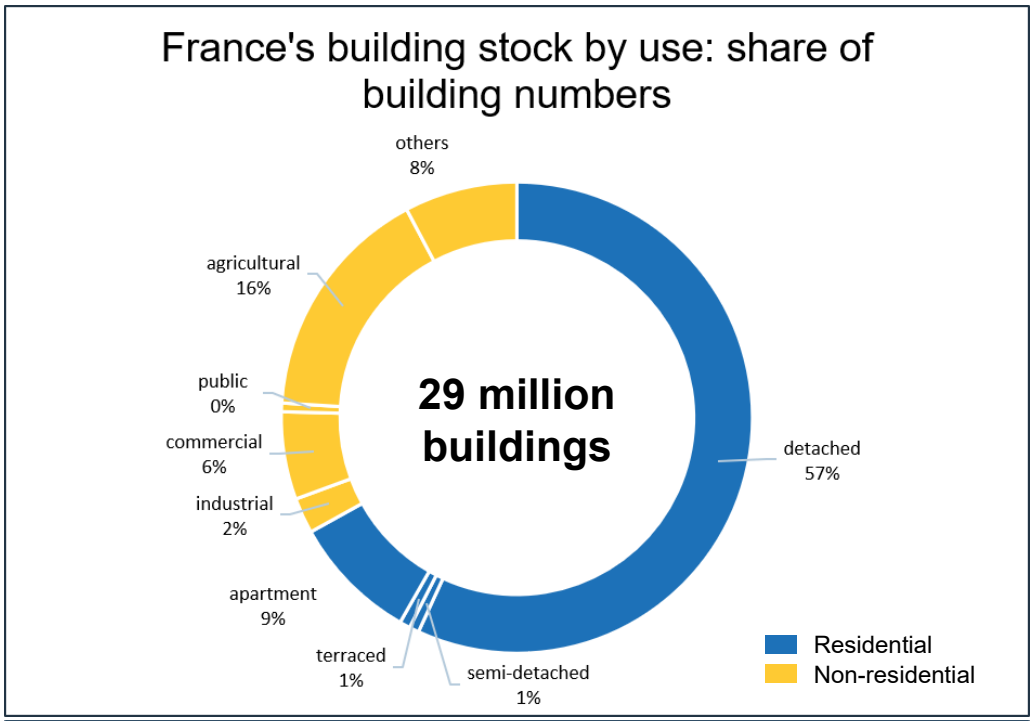
Existing buildings dominate Italy's cumulative potential, contributing around 22.6 GW, or 92% of the total. Public buildings account for approximately 14.0 GW and non-residential renovations 8.6 GW. New construction contributes a smaller 1.9 GW by 2030, but remains a recurring source of additional capacity.

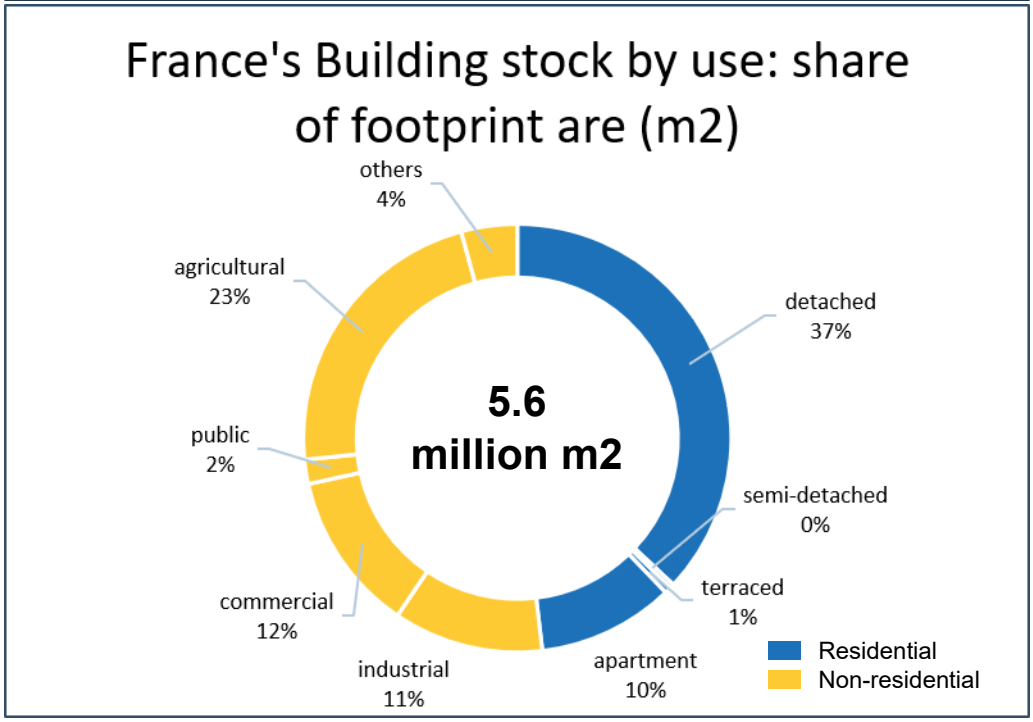


Source: SolarPower Europe

France

Residential buildings represent around 67% of France's analysed building stock but only 48% of its footprint. Non-residential buildings therefore provide a slightly larger combined rooftop footprint despite being fewer in number. Detached houses dominate the residential stock, accounting for most of its footprint and useful floor area, while agricultural buildings provide the largest non-residential footprint.





Source: EUBUCCO (2026). *EUBUCCO v0.2 - European Building Stock Database*. https://eubucco.com/data/download/v0.2; SolarPower Europe.

The table below details this breakdown by building type and footprint area, the basis for estimating rooftop area, which determines the applicable EPBD thresholds.

	Number of buildings	*Total footprint area (m2)*
All	29,499,238	5,686,691,278
residential	19,748,717	2,737,059,735
detached	16,773,417	2,103,605,302
semi-detached	196,953	18,274,932
terraced	214,268	28,167,965
apartment	2,564,079	587,011,536
non-residential	9,750,521	2,949,631,543
industrial	720,723	644,546,554
commercial	1,774,191	688,171,671
public	174,926	104,324,325
agricultural	4,794,733	1,272,424,076
others	2,285,948	240,164,917

The average number of floors, also extracted from the EUBUCCO database, is used to compute the useful floor area in our analysis. It is higher for residential buildings (1.650) than for non-residential buildings (1.172), as shown below.

Market	**Average number of floors**	**Residential average number of floors**	**Non-residential average number of floors**
France	1.492	1.650	1.172

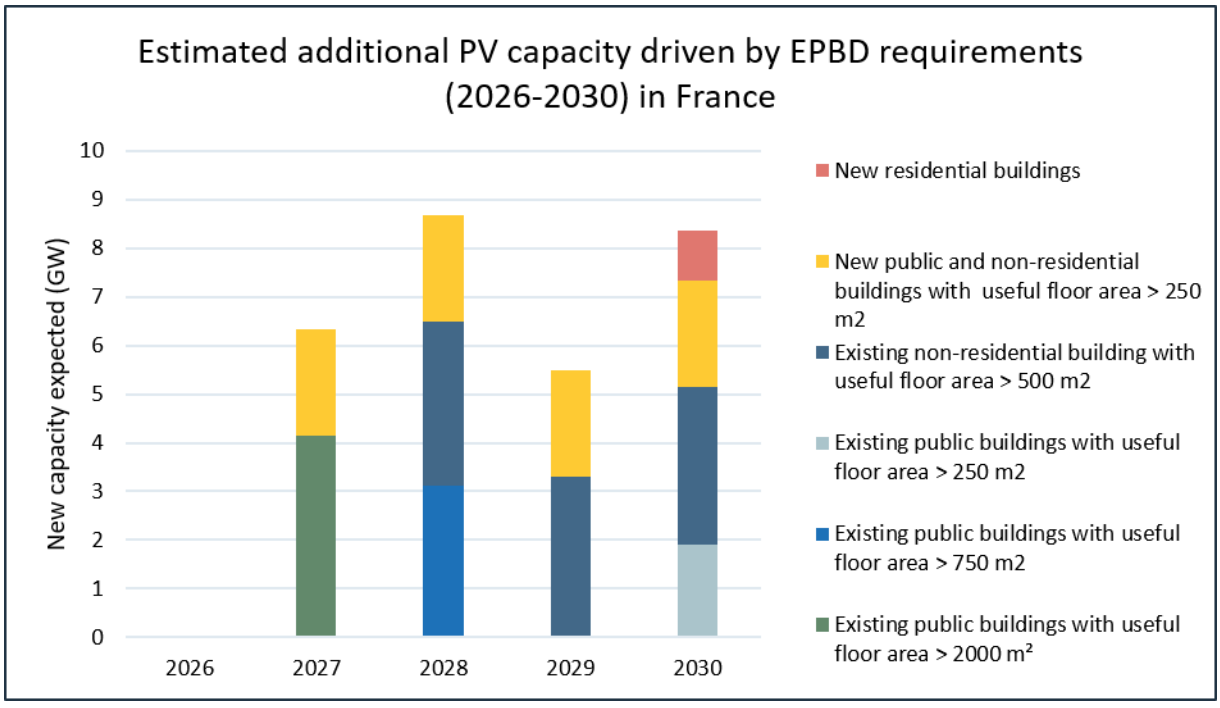
The resulting useful floor areas are detailed by segment in the table below.

	Total useful floor area (m2)
All	8,905,254,045
residential	5,016,662,592
detached	3,042,186,572
semi-detached	32,127,686
terraced	47,391,440
apartment	1,894,956,894
non-residential	3,888,591,453
industrial	906,716,492
commercial	1,054,338,732
public	179,544,716
agricultural	1,463,339,132
others	284,652,381

Beyond the existing stock, building permits statistics, retrieved from Eurostat, provide the basis for estimating new construction. For new construction, France's permitted residential floor area fell from 40.0 to 27.7 million m² between 2021 and 2025, despite a recovery in 2025. Non-residential floor area remained broadly stable at around 37 - 39 million m². The model uses five-year averages of 32.46 and 37.72 million m² respectively, with a larger gap above 2025 levels in the residential segment.

	2021	2022	2023	2024	2025	5-year average
Residential	40.0	40.3	29.6	24.7	27.7	32.46
Non-residential	37.5	39.3	37.1	37.5	37.2	37.72

The model estimates around 28.9 GW of additional solar PV potential in France by 2030. Annual additions peak at 8.7 GW in 2028, when non-residential renovations combine with the next public-building deadline, fall to 5.5 GW in 2029, then rebound to 8.4 GW in 2030 as smaller public buildings and new homes enter the scope. These deadline-driven peaks represent theoretical potential, not an installation forecast.

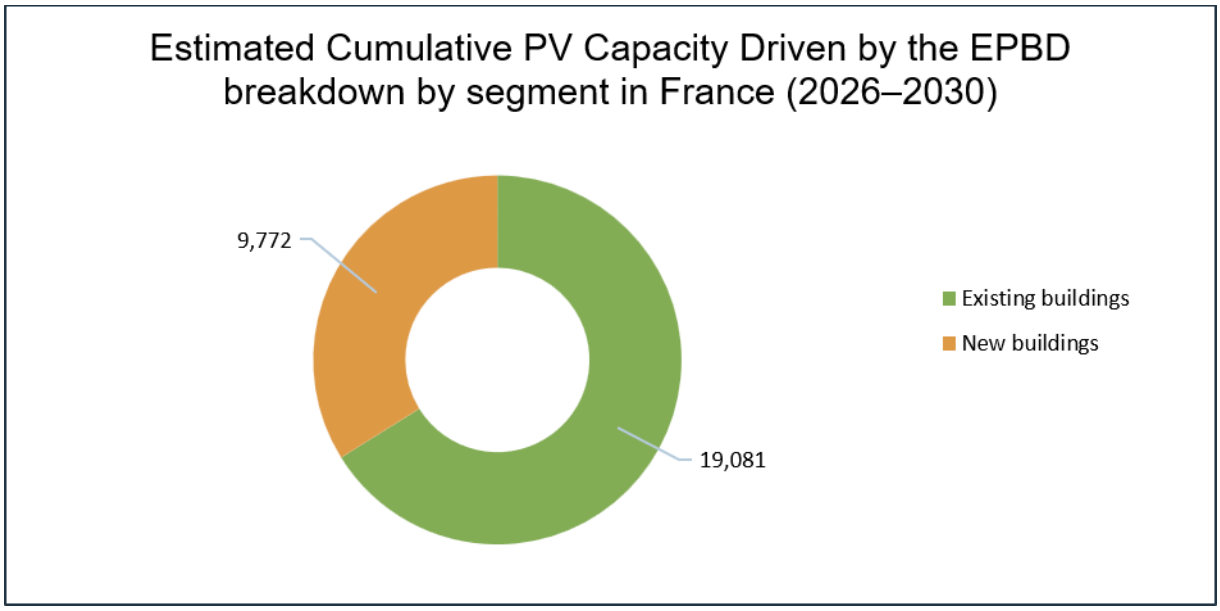


Source: SolarPower Europe

The table below breaks down this annual potential by building category (MW). Non-residential renovations contribute around 3.2 - 3.4 GW annually from 2028, while new public and non-residential buildings add a steady 2.2 GW per year from 2027.

	2026	2027	2028	2029	2030	Cumulative
Total	-	6,330	8,666	5,485	8,372	28,853
Existing buildings	-	4,146	6,482	3,301	5,152	19,081
Existing public buildings with useful floor area > 2000 m²	-	4,146	-	-	-	4,146
Existing public buildings with useful floor area > 750 m2	-	-	3,120	-	-	3,120
Existing public buildings with useful floor area > 250 m2	-	-	-	-	1,910	1,910
Existing non-residential building with useful floor area > 500 m2	-	-	3,362	3,301	3,242	9,905
New buildings	-	2,184	2,184	2,184	3,220	9,772
New public and non-residential buildings with useful floor area > 250 m2	-	2,184	2,184	2,184	2,184	8,736
New residential buildings	-	-	-	-	1,036	1,036

Existing buildings contribute around 19.1 GW, or 66% of France's cumulative potential, with non-residential renovations providing 9.9 GW and public buildings 9.2 GW. New construction accounts for the remaining 9.8 GW, including 1.0 GW from new homes in 2030, and remains a recurring source of additional capacity.



Source : SolarPower Europe