ASHRAE Hellenic Chapter

INTERNATIONAL CONFERENCE

ENERGY IN BUILDINGS ATHENS

ΥΠΟ ΤΗΝ ΑΙΓΙΔΑ ΤΕΕ

SATURDAY
NOVEMBER 15, 2025

HELLENIC ASSOCIATION OF PHOTOVOLTAIC COMPANIES
ΣΥΝΔΕΣΜΟΣ ΕΤΑΙΡΙΩΝ ΦΩΤΟΒΟΛΤΑΪΚΩΝ

PANAGIOTIS MOURTOPALLAS

CO-FOUNDER & CEO - MGD ENERGY

«THE ROLE OF PHOTOVOLTAIC SYSTEMS IN THE ENERGY TRANSITION OF BUILDINGS»

09:00-18:00 | @ DIVANI CARAVEL HOTEL, ATHENS

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ΣΥΝΔΕΣΜΟΣ ΕΤΑΙΡΙΩΝ ΦΩΤΟΒΟΛΤΑΪΚΩΝ

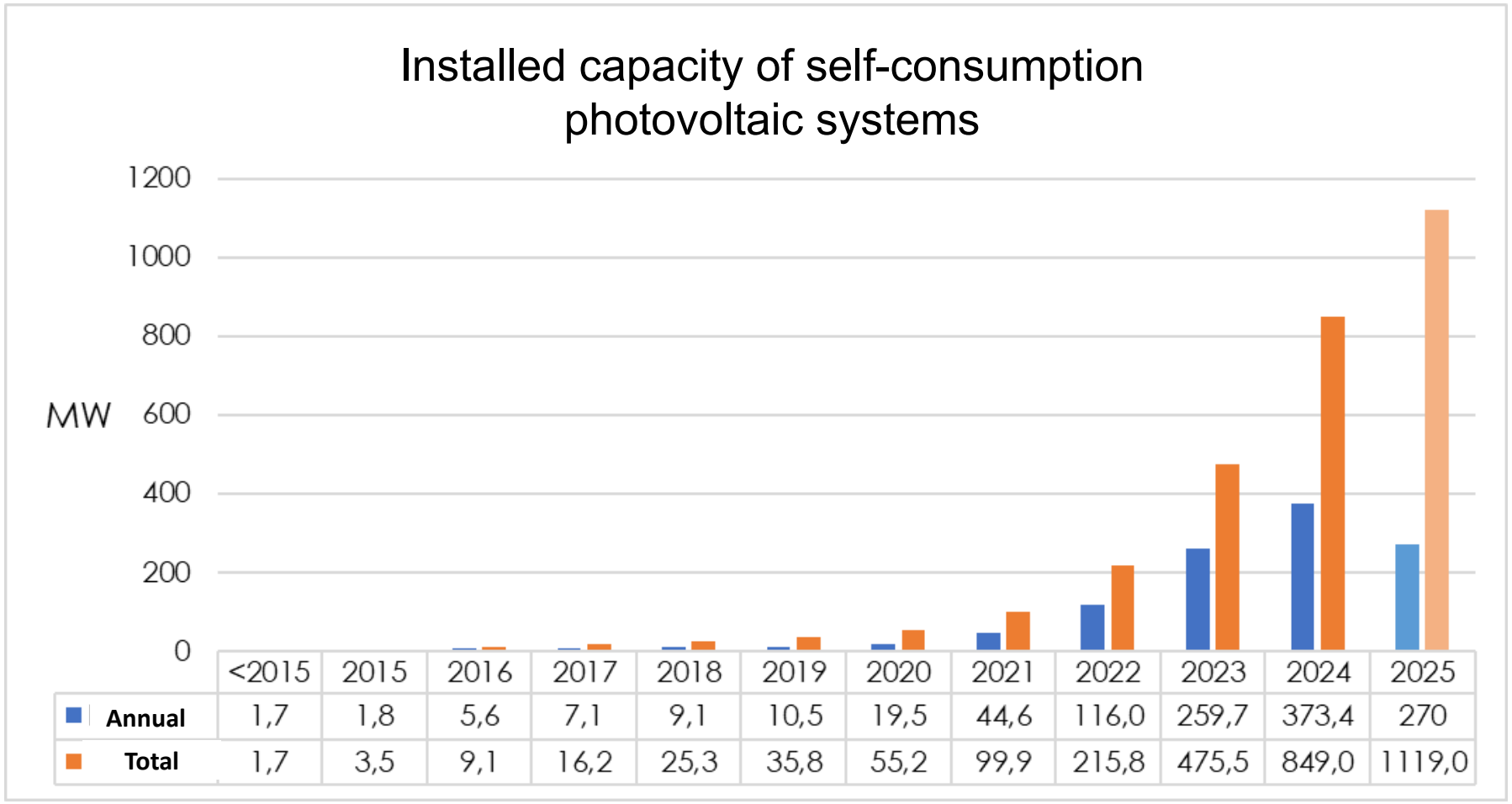
The Role of Photovoltaic Systems in the Energy Transition of Buildings

Why Self-Consumption

The promotion of electricity self-consumption through photovoltaic systems is not only a **necessary component of the energy transition** but also an **extremely useful** tool for the **national economy**, **businesses**, and **citizens**. This approach:

- **Reduces demand** on the grid.
- Limits **energy losses**.
- **Saves costs** for all consumers.
- Contributes to **energy self-sufficiency**.
- Mobilizes **private capital.**
- Enhances **business competitiveness**.
- Creates **new jobs**.
- **Strengthens employment** in the regions.
- Increases **social acceptance of the green transition**, as citizens and small and medium-sized enterprises gain, as producers defined by EU Directives, an active role in the energy system.

9% of the photovoltaic market

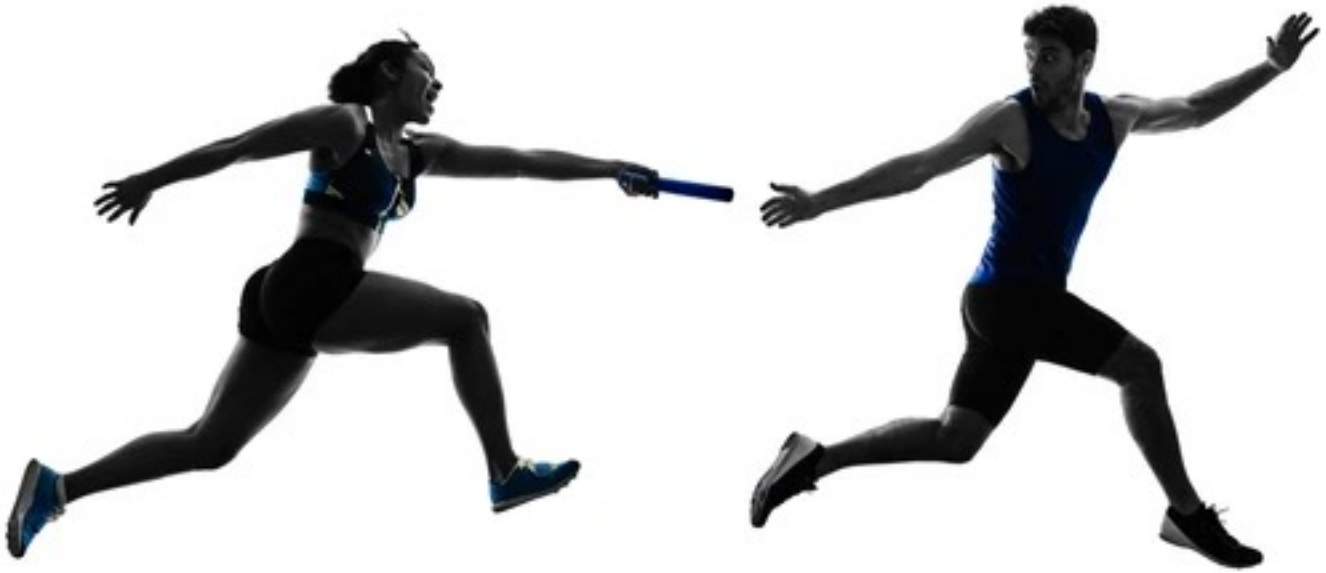


	<2015	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Annual	1,7	1,8	5,6	7,1	9,1	10,5	19,5	44,6	116,0	259,7	373,4	270
Total	1,7	3,5	9,1	16,2	25,3	35,8	55,2	99,9	215,8	475,5	849,0	1119,0

Technical Potential of Rooftop PV Systems in Greece

Categories of Roofs	Technically Available Potential (GWp)
Residential – Small Commercial Sector	**12.15**
• Single-family houses (main residences)	4.05
• Holiday homes	3.60
• Apartment buildings	2.10
• Other – mixed uses	2.40
Services	**0.38**
• Schools	0.18
• Hospitals	0.10
• Hotels	0.10
Agricultural storage buildings	**0.30**
Industrial – Commercial roofs	**11.25**
TOTAL	**24.08**

From net-metering… to net-billing



net-metering net-billing

Not Without Problems

Unfortunately, the existing institutional and operational framework for self-generation presents significant distortions and obstacles, resulting in a system that functions neither fairly nor effectively.

Ambiguities, delays, unjustified limits, and technical criteria that lead to dead ends - along with a large number of pending applications - have caused citizen frustration and investment inertia.

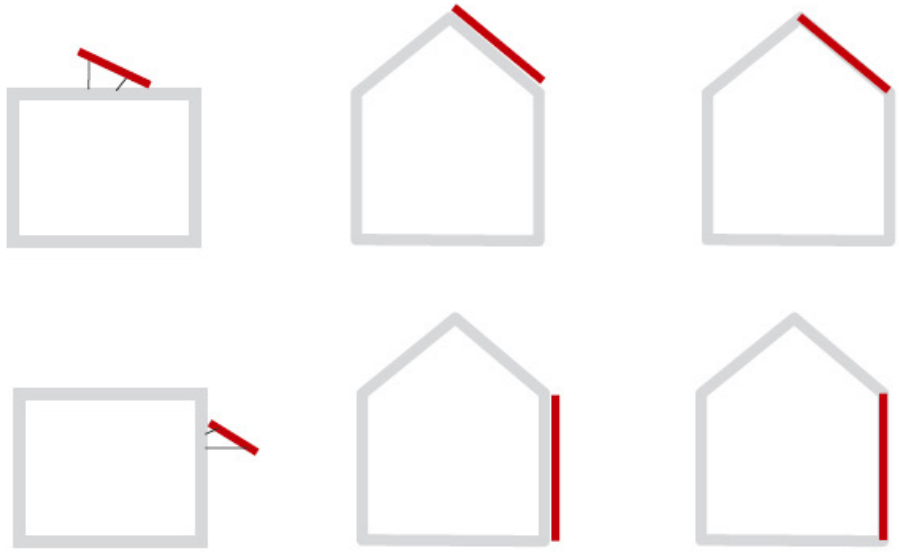
Instead of promoting the expansion of self-consumption, in practice it is being hindered.

The Hellenic Association of Photovoltaic Companies (HELAPCO) has submitted specific proposals to make self-consumption functional and effective.

PV System Placement Options

Photovoltaic systems can be installed on buildings (on the roof or terrace), on veranda/balcony shelters, pergolas (on the roof or in uncovered areas of the property), on façades and shading structures, as well as on auxiliary building spaces such as storage areas and parking spaces.

They can also be installed on the ground, including solar tracking systems mounted on the ground.



Environmental & Urban Planning Framework

Urban Planning

- For installation on a building and up to 100 kW, no permit is required.
- For installation on the ground or on a building above 100 kW, a building permit and Approval of Small-Scale Construction Works are required.

Environmental

- For installation on a building, no permit is required.
- For installation on the ground, a Certificate of Exemption from Environmental Terms Approval is required.

Additional Secured Electrical Capacity

The Network Operator provides an additional absorption capacity of **10 MW per Substation**, beyond the existing available margin, exclusively for the installation of RES (Renewable Energy Source) stations by: self-consumers, self-consumers under Net Billing, as well as those applying Virtual Net Billing (for biogas and small wind turbines, also applicable to energy sales).

This 10 MW is distributed as follows:

- **3 MW** for residential self-consumers (up to 10.8 kWp per connection)
- **3 MW** for farmers (up to 50 kWp per connection)
- **3.8 MW** for the secondary–tertiary sector, Energy Communities, and biomass/biogas stations (up to 200 kWp per connection or 100 kW for biomass/biogas stations)
- **0.2 MW** for small wind turbines

Self-Consumption with Energy Storage

In self-consumption installations with Net Billing, the installation of a stationary or mobile (i.e., electric vehicle) battery system for electricity storage is permitted, following an application to the competent Network Operator.

The storage system constitutes part of the Internal Electrical Installation of the self-consumer, and its installation must comply with the relevant national and international standards and regulations.

The Zero Feed-In Option

- According to current legislation, **a self-consumer with Zero Feed-In** does not sign a net-metering contract. Thus, they are exempt from the long-term procedures associated with such a contract (which normally lasts for twenty years). The only interaction required is with the Distribution Network Operator (HEDNO), to record the system and ensure the implementation of the zero feed-in policy.

- In a zero feed-in setup, it is strongly recommended to add a battery, in order to increase the synchronization rate, i.e., self-consumption. The main benefit for the self-consumer comes from direct energy self-use, and only secondarily from selling any surplus energy.

National Climate Law

Article 17 of Climate Law 4936/2022 (Government Gazette 105A/27.5.2022):

For applications for building permits for the construction of new buildings or additions to existing buildings submitted **from January 1, 2023**, **special buildings** referred to in paragraph 21 of Article 2 of Law 4067/2012 (A' 79), excluding tourist accommodations and places of worship, **with a surface area greater than 500 m²**, are **required** to install **electricity generation systems from photovoltaic or solar thermal systems**, covering **at least thirty percent (30%) of the roof area**.

Mandatory Installation on Buildings

According to **Directive 2024/1275** on the **energy performance of buildings** (dated **April 24, 2024**), the installation of **photovoltaic systems** will become **mandatory** for the following categories of buildings:

By 31.12.2026	All new public and non-residential buildings with a usable floor area of at least 250 m²
By 31.12.2027	All existing public buildings with a usable floor area greater than 2,000 m².
	All existing non-residential buildings with a usable floor area greater than 500 m², for building permit applications related to major renovation, roof works, or extensions.
By 31.12.2030	All existing public buildings with a usable floor area of at least 750 m².
By 31.12.2029	All new residential buildings.
	All covered parking spaces that are adjacent to buildings.
By 31.12.2030	All existing public buildings with a usable floor area of at least 250 m².

Heat Pumps and Photovoltaics

- A review of the National Energy and Climate Plan (NECP) reveals numerous references to the promotion of heat pumps as a replacement for fossil fuels in heating applications. Special emphasis is placed on their combination with photovoltaic systems, allowing consumers to meet their electricity, heating, and cooling needs.

- There are also subsidy programs, such as “I Change My Heating and Water Heating System”, which provide grants of up to 50% for the installation of heat pumps. When combined with a photovoltaic system, this ensures payback of the total investment within a reasonable timeframe. Alternatively, consumers can benefit from tax deductions available for a five-year period, achieving a similar economic outcome.

Commercial Net-Billing

Commercial type	Indicative payback period (years)
20 kWp (e.g. low-voltage commercial store)	3,6
650 kWp (e.g. medium-voltage logistics warehouse	4,5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Q & A
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