



An ambitious EU solar mandate for buildings: a springboard for a more resilient, decentralised, and secure energy system

Factsheet

We have a unique opportunity of adopting a solar mandate for buildings in the EU covering all solar installations including rooftop solar PV, building integrated, and solar thermal. With soaring energy bills, growing energy poverty in the midst of the cost of living crisis, and the urgent need to wean off fossil fuels, there has never been a better time to turbocharge solar energy deployment on buildings under an ambitious solar obligation. A win-win-win for the climate, people, and Europe's energy security.

[European Solar Rooftops Initiative](#) as part of the [REpowerEU](#) together with the [legal proposal](#) amending the Energy Performance of Buildings Directive (EPBD) puts forward a proposal for an EU-wide mandate¹. Solar mandates are already being implemented in some EU countries² despite being widely scattered in terms of scope and implementation. It is time to bring these patchwork mandates under one EU solar obligation.

CAN Europe highly welcomes this initiative by the Commission and urges to increase the ambition and scope of the mandate for a meaningful and impactful delivery across the EU.

¹ all new public and commercial buildings with useful floor area larger than 250 m² by 2026; -all existing public and commercial buildings with useful floor area larger than 250 m² by 2027; -all new residential buildings by 2029.

² Including France, 9 out of 16 Federal States in Germany, Greece, Netherlands, Belgium.

Commission Proposal (Article 9a of EPBD)	CAN Europe Proposal
<p>By 2026: all new public and commercial buildings with useful floor area larger than 250 m²</p>	<p>By entry into force of the Directive: All new buildings (public, residential and non-residential) and all buildings undergoing fundamental roof renovation. In the absence of such a definition, Member States shall use ‘major renovation’ which looks at the whole building envelope as an additional trigger point.³</p> <p>-Regulatory frameworks in MS enabling the exploitation of the EU solar roof potential</p>
<p>By 2027: all existing public and commercial buildings with useful floor area larger than 250 m²</p>	<p>By 2027: Existing non-residential (commercial, and public buildings) and bigger parking lots</p> <ul style="list-style-type: none"> - Expected remaining roof lifetime > 20 years⁴ - Roof size > 500 (or 1000) sqm
	<p>By 2028: Existing non-residential (commercial and public buildings) and parking lots</p> <ul style="list-style-type: none"> - Expected remaining roof lifetime > 20 years - All roof sizes (> 20 sqm usable roof space)⁵

³ In accordance with the definition of ‘major renovation’ in [Directive 2010/31/EU](#), renovation works shall cover the whole building envelope, and in light of the solar mandate, also (and especially) the roof.

An adequate definition of fundamental renovation should be implemented. One possible definition for a fundamental roof renovation could be at least 50% of the water-bearing layer (roof membrane) is renewed. (Based on the Berlin Solar mandate)

⁴ The expected time until the roof needs to be substantially renovated should in any case exceed the payback time of the solar installation, as installation costs have become a large part of the total costs (in Germany approx. 50%) and hence re-installation after a roof renovation should be avoided. For an adequate business case the payback time of a solar installation should not exceed 20 years.

⁵ Regarding the size we recommend a de-minimis regulation excluding small roofs (e.g. below 20 sqm usable space) from the obligation. This is based on the solar mandate in Baden-Wuerttemberg Germany.

<p>By 2029: all new residential buildings by 2029</p>	<p>All new residential buildings should be addressed in the first phase by the entry into force of the Directive. CAN Europe believes existing residential buildings that are not currently undergoing fundamental roof renovation should not be obligated to install a solar system, but Member States are required to create the conditions to ensure that all building owners are incentivised to equip their roofs with a solar installation, with a special focus to low income and vulnerable households</p>
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Why an EU solar mandate now?

Every solar panel protects citizens from the fossil fuel crisis, while helping to fight the climate crisis, reduce energy bills and develop a secure energy supply for Europe independent of Russian fossil gas⁶- and all fossil fuels. Solar is one of the cheapest energy sources as the costs of solar photovoltaic (PV) have fallen radically in the last decade. It is the fastest growing energy source⁷ and the most accessible one for households, and is already shielding millions from energy price shocks⁸.

Making solar installations on buildings mandatory will be a game changer in the transition to a decentralised, resilient, sustainable and secure energy system:

- **Enormous potential and massively available space:** The building stock offers enormous solar potential, for example on the roof or on the building envelope. Prioritising solar deployment on artificial and built surfaces such as buildings and parking lots will avoid additional land use. A European Joint Research Centre (JRC) analysis showed that rooftop solar PV in the EU could potentially produce 680TWh of solar electricity annually, representing one fourth of electricity consumption.⁹ An EU-wide obligation for solar installations on buildings will be instrumental to fully unleash the solar potential of rooftops.
- **Power into people's hands:** Rooftop solar PV enables households and all consumers to become active actors within the energy transition, shifting their role from passive victims of volatile fossil fuel prices to empowered participants of a

⁶ [EMBER \(2022\). EU's record solar summer helps avoid €29bn in gas imports](#)

⁷ [Eurostat \(2022\) Renewable energy statistics](#)

⁸ [According to calculations by Solar Power Europe, in 2021 households equipped with solar panels saved an average of 60% on their monthly electricity bills.](#)

⁹ Based on 2016 level. Bodis, K., Kougiyas, I., Jaeger-Waldau, A., Taylor, N. and Szabo, S. (2019), A high-resolution geospatial assessment of the rooftop solar photovoltaic potential in the European Union, RENEWABLE and SUSTAINABLE ENERGY REVIEWS, ISSN 1364-0321, 114,, p. 109309, JRC113070.

renewable energy revolution. Combined with heat pumps or solar thermal systems, solar installations on buildings are crucial for decarbonising building heating, and support households over the coming winters. Solar energy on buildings is a huge public demand while the majority of Europeans support requiring all new buildings to have solar panels on their roofs, according to a YouGov polling.¹⁰

- **Maximum synergies with energy efficiency in buildings:** It is critical that the installation of solar systems occur at the same time as construction, fundamental roof renovations. To ensure that no time is wasted, Member States shall utilise as an additional trigger point major renovation¹¹ of buildings. Everytime a building undergoes major renovation, the whole envelope¹², including (and especially) roofs, must be taken into account. This will ensure that resources and capacities are saved and maximised, making the construction and renovation measures more efficient¹³. Regulatory instruments that enable more, well-planned and deeper holistic energy renovations of buildings (i.e. Minimum Energy Performance Standards), the right enabling conditions at Member States level to ensure that the solar mandate is made accessible and just (via i.e. technical support, financial incentives etc.) for all consumers, will ensure that the right combination of (demand/supply-side driven) measures is carried out, at the right time. This approach will unlock multiple benefits of renovations (such as, among others, cleaner energy, lower energy bills, comfort etc.), all in respect of the EU short-term and long-term energy and climate commitments.

5 key recommendations for a successful EU solar mandate

1. Start the solar mandate **as soon as the entry into force** of the Directive and **address all new buildings** (residential, non-residential, and public), and buildings undergoing fundamental roof renovation, and new parking lots.
2. Target the **full suitable space of individual roofs** to exploit potentials faster and more efficiently. The mandate should only involve roofs with an expected lifetime of at least 20 years, so that the roof outlasts a maximum payback time of the solar installation.
3. The **obligation for existing buildings** should follow the first phase and address all **commercial buildings and public buildings** with a staggered approach targeting bigger roofs first. This phased approach could enable an early start of the mandate while simultaneously the needed workforce could be trained and the necessary infrastructure for the material could be ramped up.
4. All new residential buildings should be addressed in the first phase by the entry into force of the Directive. **Existing residential buildings** that are not currently undergoing major renovation or attic roof renovation should not be obligated to install a solar system by the EU-wide mandate, but Member States are required to

¹⁰ Yougov (2021) [Europeans support new wind and solar projects in their local area](#)

¹¹ In accordance with the definition of 'major renovation' in [Directive 2010/31/EU](#)

¹² In accordance with the definition of 'building envelope' in [Directive 2010/31/EU](#)

¹³ WWF Germany (2022) [Erneuerbare auf und unters Dach Umfassende: Solarpflicht mit „grüner“ Heizungsoffensive verbinden](#)

create the conditions to ensure that all building owners are **incentivized to equip their roofs with a solar installation**, with a special focus on low income and vulnerable households

5. Several accompanying measures including putting in place **strong regulatory frameworks** for adequate payback times, ensuring **skilled workers** and sufficient **materials**, **one stop shops**, adequate **support mechanisms**, and **financing** are needed in Member States to enable a successful implementation of an EU-wide solar obligation.

The full-briefing, *Recommendations for an ambitious EU-wide solar mandate*, written by the Oeko-Institut and commissioned by CAN Europe can be read here:

https://caneurope.org/content/uploads/2022/10/Oeko-Institut_2022_CAN-Policy-Brief_EU-solar-mandate.pdf