Bozmaps

Product sheet · November 2026

Solar Rooftop Analysis

Find the roofs worth fitting with solar panels. We map every roof across a town, a property portfolio or a whole country, and give each one its suitable area, indicative peak power and yearly generation. In the UK and across Europe, including Serbia and the Western Balkans.



Novi Sad, Serbia: roofs of 1,000 m² or more, brighter = more indicative peak power.
Buildings: Overture Maps Foundation, © OpenStreetMap contributors, Microsoft building footprints (ODbL).

1,910
buildings screened roof by roof from 1 m LiDAR in one run (Great Baddow, Chelmsford)

790
roofs of 1,000 m² or more mapped in 28.5 km² of Novi Sad, Serbia, from open data

26%
more yearly output per kWp in Novi Sad than in London, for the same 10° south-facing frame (PVGIS)

semir@bozmaps.com

WHAT IT IS

Which roofs are worth it, and what could each one generate?

Roofs are the easiest place to add solar: the building is already there, the power is used on site and no land is taken. The hard part is knowing which roofs are worth a visit. We apply one method to every building, combining building outlines, the shape of each roof where a surface model exists and solar yields from the European Commission's PVGIS, and rank every roof by what it could generate, with a plain note of what was assumed.

What you get

- A ranked list of roofs with suitable roof area, indicative peak power (kWp) and yearly generation (kWh), each with a low to high range
- Building use where it is recorded (factory, warehouse, school, offices, flats), so you can filter to the roofs you work with
- Roof suitability by pitch and direction when a 1 m surface model is available
- The same data as a GeoPackage for QGIS or ArcGIS, and as a spreadsheet
- An interactive web map to share with your team, investors or clients
- A short report: method, data sources, assumptions and limitations

Who it is for

Solar installers · Solar developers · Commercial landlords · Property portfolios · Councils · Housing associations · Schools and universities · Energy consultants · Investors

Where it works

The UK and Europe, including Serbia, Bosnia and Herzegovina and the rest of the Western Balkans. PVGIS covers all of Europe and open building outlines cover most of it; we check coverage for your area before we start.

HOW IT WORKS

Three stages, each ending in something you can use

1

Area screen

Every roof in a city, region or country, from building outlines and PVGIS yields. Large flat roofs (factories, warehouses, schools, retail) hold most of the power and screen well without 3D data, so this works even where there is no national LiDAR.

You'll see: a ranked roof list and a map of the whole area.

2

Roof by roof

The pitch and direction of every square metre of roof, from 1 m LiDAR (free across England) or a surface model made from aerial or satellite stereo imagery. South, east and west faces, flat roofs and unsuitable parts, with shading from nearby buildings and trees as an option.

You'll see: a roof suitability map and figures for each building.

3

Site report

For the buildings you want to pursue: a detailed roof survey (a drone survey flown by a partner drone operator where needed), usable area around plant, skylights and edges, an indicative panel layout and yield, and the checks still needed on roof structure and grid connection.

You'll see: a site report per building, ready for your installer's design.

WORKED EXAMPLE 1 · UNITED KINGDOM

Great Baddow, Chelmsford: every roof, from 1 m LiDAR

Our Rooftop Solar Screening model worked out the pitch and direction of every roof cell inside 1,910 building outlines from the Environment Agency's 1 m LiDAR, then gave each building its suitable roof area, indicative peak power and yearly generation.



Orange: south-facing pitched roof. Light yellow: east or west facing. Blue: flat. Grey: north-facing, too steep or roof edge. Part of the 1.2 km² test area, model run 10 November 2026; data credits on the map.

5.4 s
to screen all 1,910 buildings in the 1.2 km² test area

22.7 m²
suitable roof on the typical (median) house, about 4.1 kWp

37%
of all suitable roof faces south (23,489 of 63,334 m²)

10,100 MWh
a year if every suitable square metre carried panels (an upper bound)

Settings: 0.18 kWp per m² of suitable roof, 950 kWh per kWp a year, east and west roofs 17.5% lower. Shading and roof structure were not modelled in this run. The same model is sold in the Bozmaps shop for anyone who wants to run it themselves.

Data we use

Layer	United Kingdom	Serbia and the rest of Europe
Building outlines	OpenStreetMap, Ordnance Survey where licensed	Overture Maps (OpenStreetMap and Microsoft building footprints), national cadastre where licensed
Roof shape	Environment Agency 1 m LiDAR (England), national LiDAR in Scotland and Wales	National LiDAR where it exists and can be licensed, stereo satellite or aerial imagery, drone surveys
Solar yield	PVGIS 5.3 (European Commission Joint Research Centre), checked for every location	

WORKED EXAMPLE 2 · SERBIA

Novi Sad: an area screen from open data

Serbia has no free national LiDAR, so we screened from building outlines alone. In 28.5 km² of Novi Sad, 790 of 16,604 buildings have roofs of 1,000 m² or more, and 320 of those are non-residential, with 0.97 million m² of roof between them.



Indicative peak power = footprint × 0.10 kWp per m² (screening factor). Buildings: Overture Maps Foundation, © OpenStreetMap contributors (ODbL), Microsoft ML Building Footprints (ODbL), downloaded 13 November 2026.

68 to 116 MWp
indicative peak power on the 320 non-residential roofs (0.07 to 0.12 kWp per m²)

79 to 135 GWh
a year at 1,162 kWh per kWp, before structure, shading and grid checks

1,155 to 1,184
kWh per kWp a year across Belgrade, Novi Sad, Subotica and Niš, against 920 in London

An area screen is an upper bound: it assumes the roof can carry panels and is not shaded. Stage 2 measures each roof and stage 3 adds the real obstructions. No stage replaces an installer's structural survey or the grid operator's connection offer, and every report says so.

Start with your area

Tell us the area, the buildings or the portfolio, and what you need to decide. Every job is priced for your project: one fixed price agreed in writing before any work starts, with no hidden fees.

semir@bozmaps.com
bozmaps.com/services/solar-rooftop-analysis
Book a call: bozmaps.as.me

Yields: PVGIS 5.3 (European Commission JRC), SARAH3 radiation data, 14% system losses, 10° south-facing frame, queried 13 November 2026.