

The PV Market in the UK - through the eyes of the installers

Insights from the PV InstallerMonitor[©] 2022/2023 UK



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Country report United Kingdom

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About EUPD Research



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EUPD Research – Research, Certification, Consulting

EUPD Research

Market Research

- Market analyses
- Competition analyses
- Product analyses
- Price analyses





Certification

- Top Brand
- Customer Satisfaction Seal
- Energy Transition Award
- SolarProsumerAward





Exclusive Consulting

- Within the scope of strategic consulting projects, we focus on the review, further development or redevelopment of the company's orientation, we rethink concepts, measures or the positioning within the competitive environment and shape growth paths and business models
- Our future-oriented consulting services analyze both the corporate environment and the fundamental objectives of the client



In addition to various surveys, EUPD Research also offers a platform for PV data:

Global Energy Transition (GET) Matrix

Market intelligence and data analytics platform to gain insights into the latest developments in 50+ global PV markets Further information about the study can be viewed <u>here</u>







In addition, EUPD Research also collects data from installation companies on the topic of charging stations.

Market Monitor Charging Stations for Electric Vehicles 2022/2023[©]

Primary survey of installation companies for charging stations in the European key markets (DE, AT & CH, UK) Further information about the study can be viewed <u>here</u>

The study offers exclu	sive insights regarding:	The study provides added value for the implementation of:			
Market players	Drivers & Barriers	Efficient marketing campaigns Comprehensive market overview			
Products	Market structures	Service packages tailored to the target groups			
Distribution channels		Optimal product positioning in the portfolio of retailers and installers			





In addition, EUPD Research also collects data from German solar prosumers.

SolarProsumerMonitor[©] 2022/2023

Renewable Energy for Residential Buildings from the Perspective of Photovoltaic System Owners and Planners Survey results of 4,500+ prosumers

Further information about the study can be viewed here







Market overview

PV market overview – United Kingdom

Cumulative PV capacity 2019-2022



Please note that after 2019 there are discrepancies in solar PV installed capacity estimates provided by GOV.UK and Solar Energy UK. For the years 2020, 2021 and 2022, PV installed capacity numbers are sourced from Solar Energy UK.



PV status

According to EUPD Research estimates, the cumulative installed solar PV capacity in the UK increased from 13.4 GW in 2019 to 15.8 GW in 2022. In 2022, the country is estimated to have added a total of 1,120 MW of PV capacity, which marks the highest addition after 2016.

After the closure of Renewable Obligation (RO) scheme and FITs, the growth of the solar PV sector in the UK experienced a slowdown. However, in 2021 and 2022, the solar PV sector again picked up the growth.

Solar PV sector will be important for the country to reach its net-zero target by 2050. The government's Energy Security Strategy, released in April 2022, expects a five-fold increase in deployment of solar PV by 2035, which roughly translates to 70 GW of installed capacity.

Source: EUPD Research GET Matrix 2023; GOV.UK; Solar Energy UK



PV market overview – United Kingdom

Newly installed PV capacity 2019-2022





PV developments

United Kingdom is estimated to have added 1,120 MW of solar PV capacity in 2022, of which 412 MW was added in the Industrial & Utility (I&U) segment, 260 MW in the commercial segment and 448 MW in the residential segment. After the closure of FITs in 2019, the sector's growth is driven by the residential segment (< 10 kW), the commercial segment (50 kW to \leq 5 MW) and the utility-scale segment (> 25 MW). EUPD research predicts that this trend will continue in the future. The utility segment, however, is expected to grow faster after 2023. This is due to the commercialization of projects from the fourth round of the Contracts for Difference (CfD) scheme (2.2 GW awarded). Starting from 2023, CfD auctions will be held annually.

Source: EUPD Research GET Matrix 2023

PV InstallerMonitor[©] 2022/2023 United Kingdom



Solar PV funding schemes in the United Kingdom

Market overview

EUPD Research





Regulatory framework

In the United Kingdom, the main supporting schemes for solar PV are currently the Smart Export Guarantee (SEG), Tax Credit, Contract for Difference (CfD), and Energy Company Obligation (ECO) schemes.

- The SEG scheme requires electricity suppliers (SEG Licensees) to pay small-scale generators for the low-carbon electricity they export back to the National Grid.
- Solar panels installed in homes are exempted from VAT until March 31, 2027.
- The CfD scheme is an auction system, which is based on the difference between the market price and an agreed "strike price".
- Under the ECO scheme, low-income households are eligible for investment grants on solar PV.

Source: EUPD Research GET Matrix 2023



General survey introduction



Methodical approach

Survey results: evaluation based on the sample

The following research methodology is used:

- Survey type: quantitative CATI survey (computer assisted telephone interviews by an external service provider)
- Target country: United Kingdom
- Survey group: installers of PV systems
- Questionnaire design: open and closed questions

Advantages:

- Cost benefits (e.g., compared to face to face survey)
- Rapidity of execution (data instantly available)
- Relatively low interviewer influence (e.g., gesture, mimic and sympathy)

Primary research

The focus of the study is a comprehensive empirical survey (primary research) with a survey group of companies, which install PV systems.

This year, all questions of the survey related to systems that were installed as rooftop (building-applied) or building-integrated solutions. Ground-mounted PV systems are not part of the survey.

The professional interviews were conducted as quantitative (CATI) survey.

The results of the study were analyzed anonymously in line with the requirements of modern market research.

Research design – Focus country

The EUPD Research Global PV InstallerMonitor[©] 2022/2023 is a comprehensive survey. The sample was drawn from EUPD Research's extensive address database of PV installers. This database is constantly refreshed and updated.

This year, all questions of the survey related to systems that were installed as rooftop (building-applied) or building-integrated solutions. Ground-mounted PV systems are not part of the survey.

EUPD Research reached a total number of 95 interviews in the UK market.

Brands are depicted if they were named at least n=3.



n = number of installers surveyed

Classification of respondents – Two-level scale

The results of the following study are presented according to two types of head groups: trade & size. The individual evaluations are only presented according to the most relevant groups in each case. A two-level scale for trade and size was used to allow a more detailed or extended understanding of the results.

Head groups: trade & size								
Trade: Categorization according to the core business of the company				Size: Categorization according to the installation quantity of the installation company in 2022				
Trade Core business			Size Installation volur		Installation volume			
el scale	Solar installers	Specialized in PV, mainly active in the solar business		el scale	High-volume installers	> 500 kWp		
Two-lev	General installers	Operating in different branches, including the PV sector		Two-lev	Low-volume installers	≤ 500 kWp		



Classification of respondents – Five-level and three-level scales

Furthermore, some of the survey results are presented according to the following two types of head groups, grouped according to a five-level and a three-level scale for trade and size.

Head groups: trade & size

Trade		Core business		
Five-level scale	Solar installers > 500 kWp	Specialized in PV, annual installation volume larger than 500 kWp		
	Solar installers ≤ 500 kWp	Specialized in PV, annual installation volume less than or equal to 500 kWp		
	Electrical installers	Electrical installation companies		
	General installers	Roofers, HVAC companies, building & construction companies, etc.		
	Other	Wholesalers, companies active in the field of renewable resources, etc.		

Size		Installation volume	
High-volume installers		> 500 kWp	
Three-level so	Medium-volume installers	101-500 kWp	
	Low-volume installers	≤ 100 kWp	







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PV InstallerMonitor[©] 2022/2023 United Kingdom







Solar installers account for 79 percent of the survey participants.

81 percent of the installed PV capacity is contributed by solar installers who installed more than 500 kWp in 2022.

> n=95 Source: EUPD Research 2023





11 to 20 years 40% 4 to 5 years 13% 6 to 10 years 17%

Years in PV business

Years & employees in PV business



Number of employees in PV business

40 percent of the surveyed companies have been in the PV business for at least eleven years. Small companies with one or two employees make up a quarter of respondents. 31 percent of companies have three to five employees and 28 percent have 6 to 10 employees in their PV business.

> n=95 Source: EUPD Research 2023





Solar installers (n=75) 68% 14% 4% 13% General installers (n=20) 58% 13% 29% 0% 20% 40% 60% 80% 100%

■ 51 to 250 kWp systems

Systems over 250 kWp

16 to 50 kWp systems

Segmental focus | Grouped by trade

Both solar and general installers mainly install PV systems up to 15 kWp.

It should be noted that this year, all questions of the survey referred to systems that were installed as rooftop or building-integrated solutions, and that the smallest system category was increased to 15 kWp as compared to 10 kWp in the previous reports.

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Systems up to 15 kW

Source: EUPD Research 2023

n=95



High-volume installers 64% 7% (n=38) Medium-volume installers 83% 4% (n=35) Low-volume installers 98% (n=22) 0% 20% 40% 60% 80% 100%

Segmental focus | Grouped by size

35 percent of the PV capacity installed by high-volume installers in this survey are systems above 15 kWp.

Low-volume installers almost entirely focus on residential installations up to 15 kWp.

Source So

n=95 Source: EUPD Research 2023







Additional applications

78 percent of surveyed installers offer solutions for electric mobility in addition to photovoltaics.

Out of the remaining 22 percent, more than half do not plan to include electric mobility solutions in their portfolio by the end of 2022. Conversely, 29 percent say they plan to include it.

Source: EUPD Research 2023





Catchment area for rooftop PV installation orders (starting from the head office) Installations are carried out within a radius of ...



56 percent of the surveyed installers report that their catchment area for PV installations extends beyond 100 kilometers (approx. 62 miles).

High-volume installers tend to have a larger catchment area than lowvolume installers.

Up to 50 km

50-100 km

100-150 km

150-200 km

200-250 km

Over 250 km

Source: EUPD Research 2023





Average waiting periods for customers

On average, how long did a new customer in 2022 have to wait for the installation of a residential PV system after initial contact with your company? (n=95) If the waiting time was longer than 4 month: What are the reasons for the waiting period? (mutiple answers, n=10)



Eleven percent of the installers state that customers had to wait at least four months for the installation after the initial contact.

These installers were asked about the reasons for the waiting period. The long waiting times for components are the most frequently mentioned reason.

Source: EUPD Research 2023







Availability of specialist staff for the installation of PV systems

Only six percent state that their employees have capacities beyond the current order levels.

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n=95

Procurement management



Sourcing of PV modules





Distribution channels | Not weighted by installed capacity

This graph shows the distribution of procurement channels, not weighted by installed capacity.

On average, the survey participants procure 96 percent of their PV modules indirectly, for example via wholesalers.

Both high-volume and low-volume installers procure PV modules usually indirectly.

n=95 Source: EUPD Research 2023



Distribution width of wholesalers – Modules



Segen is the leading wholesaler for Segen 68% PV modules. 68 percent of surveyed Midsummer Energy 40% installers purchase from Segen. Edmundson Electrical 22% CCL Components 19% 12% 4% 4% 4% 4% 3% 3% 0% 10% 20% 30% 40% 50% 60% 70% 80% n=91 Solar installers General installers Source: EUPD Research 2023

Surveyed installers purchase modules from... | Grouped by trade



Distribution depth of wholesalers – Modules



Wholesalers' exclusiveness | Modules | Sorted alphabetically



Exclusive: almost no other wholesaler (proportion \ge 95%)

- **Dominator:** wholesaler dominates installer's portfolio (proportion \geq 50%)
- Complementary: wholesaler supplies without dominating (proportion $\geq 25\%$)
- Space-filler: wholesaler supplies only small proportion (proportion > 0%)

Source: EUPD Research 2023



Modules



Unaided brand awareness – UK 2022







Distribution width of module manufacturers



JA Solar 65% 8% Trina Solar 41% 8% Jinko Solar 29% 5% 26% 4% 24% 4% DMEGC 3% 21% 14% Panasonic (Sanyo) 3% 14% SolarEdge 3% 10% 20% 30% 40% 50% 60% 70% 10% 20% 30% 40% 50% 60% 70% 0% 0% Solar installers General installers Source: EUPD Research 2023

PV modules in installers' portfolios | Grouped by trade



n=95

Distribution depth of module manufacturers



Brands' exclusiveness | Sorted alphabetically (I/II)



- Exclusive: almost no other brand in installer's portfolio (proportion \geq 95%)
- Dominator: brand dominates installer's portfolio (proportion ≥ 50%)
- Complementary: brand influences the portfolio without dominating (proportion \geq 25%)
- Space-filler: brand has an inferior position in the installer's portfolio (proportion > 0%)

Source: EUPD Research 2023





Portfolio management



For how long have you been carrying the mentioned brand(s) in the portfolio? | Sorted alphabetically (I/II)



Source: EUPD Research 2023





Portfolio management



How long did you have to wait for the products on average? | Sorted alphabetically (I/II)



A significant proportion of installers state that the modules they order are delivered within one week of ordering.

Thus, delivery times in the UK are relatively short, when compared to other European countries.

Source: EUPD Research 2023





Inverters



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VALE

V

Inverter types



Shares* of 1- and 3-phase inverters | Grouped by trade & size





Unaided brand awareness





Unaided brand awareness

n=95 Source: EUPD Research 2023



Distribution width of inverters



The most common inverter brand of Solis (Ginlong) 61% 12% in the UK is Solis (Ginlong). 61 percent of respondents have Solis in SolarEdge 47% 7% their product range. SolaX Power 32% 7% 24% 6% 18% Sunsynk 6% 17% Fimer (ABB) 4% 14% Sofar Solar 4% 14% 0% 20% 40% 60% 80% 0% 20% 40% 60% 80% Solar installers General installers

Inverters in installers' portfolios | Grouped by trade





Storage systems



Installers' portfolios





Do you offer storage solutions? | Total & grouped by trade

■ Yes, we offer storage solutions for PV systems

No, but we are planning on offering them in 2023

97 percent of the survey participants in the UK offer storage solutions, while three percent said they plan to start offering them in 2023.

The percentage of installers offering storage solutions is almost equally high among both solar and general installers.

Source: EUPD Research 2023



Installed storage systems



Installation types & system sizes



What percentage of the storage solutions you installed in 2022 is divided into the following size classes?

6 Up to 15 kilo watt bours

Up to 15 kilo watt hours
More than 15 kilo watt hours
Don't know / no answer

Installers state that on average 92 percent of storage systems are installed along with a new PV system, and eight percent are retrofit systems.

96 percent of the installed storage systems have a capacity of up to 15 kWh.

> n=92 Source: EUPD Research 2023



Installed storage systems



Shares of installed AC-systems and DC-systems | Total & grouped by trade



59 percent of the installed storage systems are DC-systems. This proportion is consistent for both solar and general installers.

Source: EUPD Research 2023



Installed storage systems



Shares of high-voltage and low-voltage systems | Total & grouped by trade



On average, 61 percent of the storage systems installed in 2022 were low-voltage systems, while 34 percent were high-voltage systems. The share of high-voltage systems is higher among general installers.

Source: EUPD Research 2023



Unaided brand awareness





Unaided brand awareness



Distribution width of storage systems



Storage systems in installers' portfolios | Grouped by trade







> EUPD Research — Dataset with further potential

Company-specific analysis of the PV InstallerMonitor[©] 2022/2023 – Contact us for Your further questions









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