

European Market Briefing:

PV and Residential Storage in Europe

Saif Islam | Senior Consultant | EUPD Research
Ees Forum | Munich, Germany | 14 June 2023



About EUPD Research

▶ EUPD Research – Research, Certification, Consulting

EUPD Research

Market Research

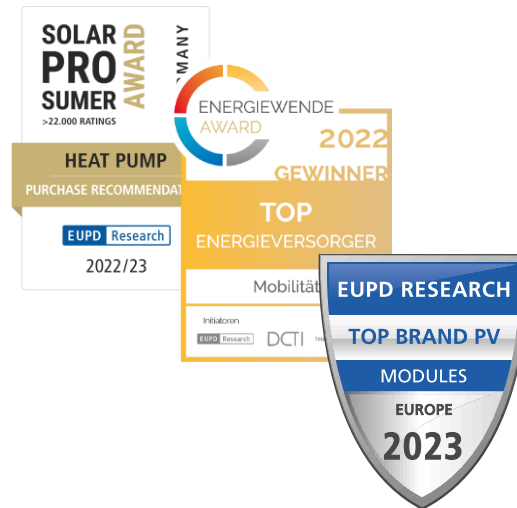
- Market analyses
- Competition analyses
- Product analyses
- Price analyses



EUPD Cert

Certification

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



EUPD Consult

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

EUPD RESEARCH | REFERENCES (EXTRACT)



EU-27 : Status Quo & Outlook

PV

▶ Key facts: PV markets in EU-27 | 2022

~ 39 GWdc

Installed PV capacity in EU-27 markets in 2022

Top 8 – GW PV (2022)

- Germany
- Spain
- Poland
- Netherlands
- France
- Italy
- Austria
- Greece

Germany

Largest PV market in Europe with 7.6 GW in 2022

206 GW

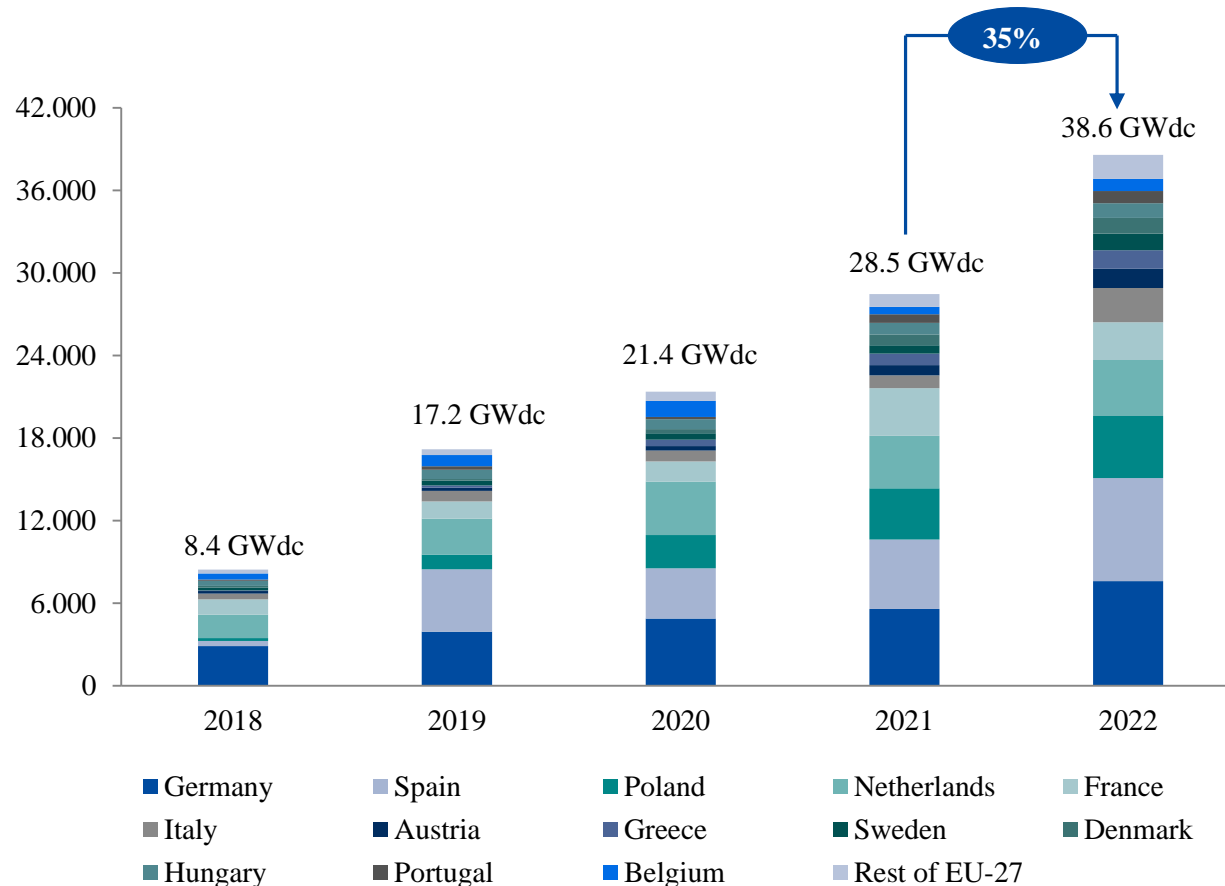
Cumulative installed PV capacity in Europe until end of 2022

Netherlands

Highest per capita installation 1,080 W/capita

PV market in EU-27 countries – overview

Newly installed PV capacity 2018-2022 (MWdc)



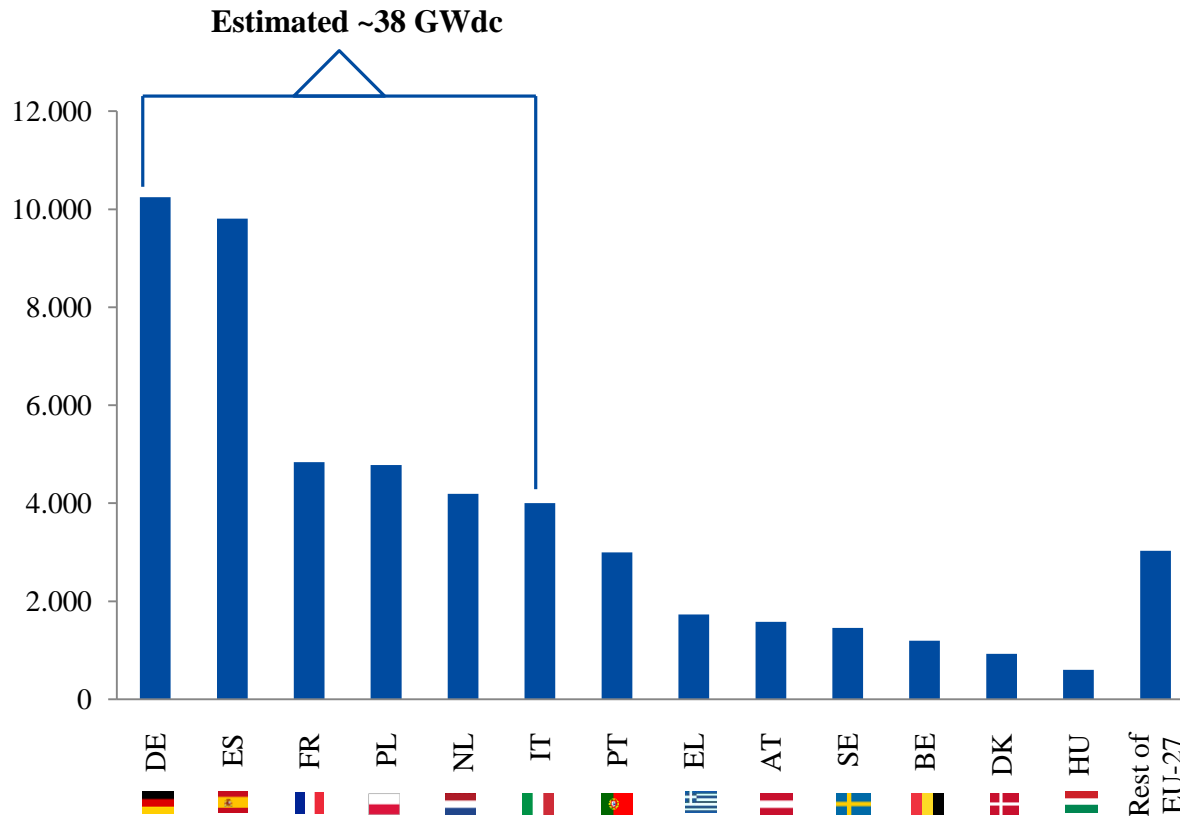
PV status

- 2022 was a record year for EU PV installations with the market installing a total of around **39 GWdc**, an **increase of ~35% Y-o-Y**. This record number can mainly be attributed to high energy prices and geopolitical tensions
- **Germany followed by Spain, Poland Netherlands and France** were the top 5 PV markets in the European Union in 2022 with total newly installed capacity of ~ **26.5 GWdc** in just these markets. **Italy** follows in sixth place with around 2.5 GWdc.
- Germany was the largest PV market in Europe installing around 7.6 GWdc in 2022

Source: EUPD Research 2023

PV market in EU-27 countries – 2023 forecast

Newly estimated installed PV capacity 2023 (MWdc)



PV forecast

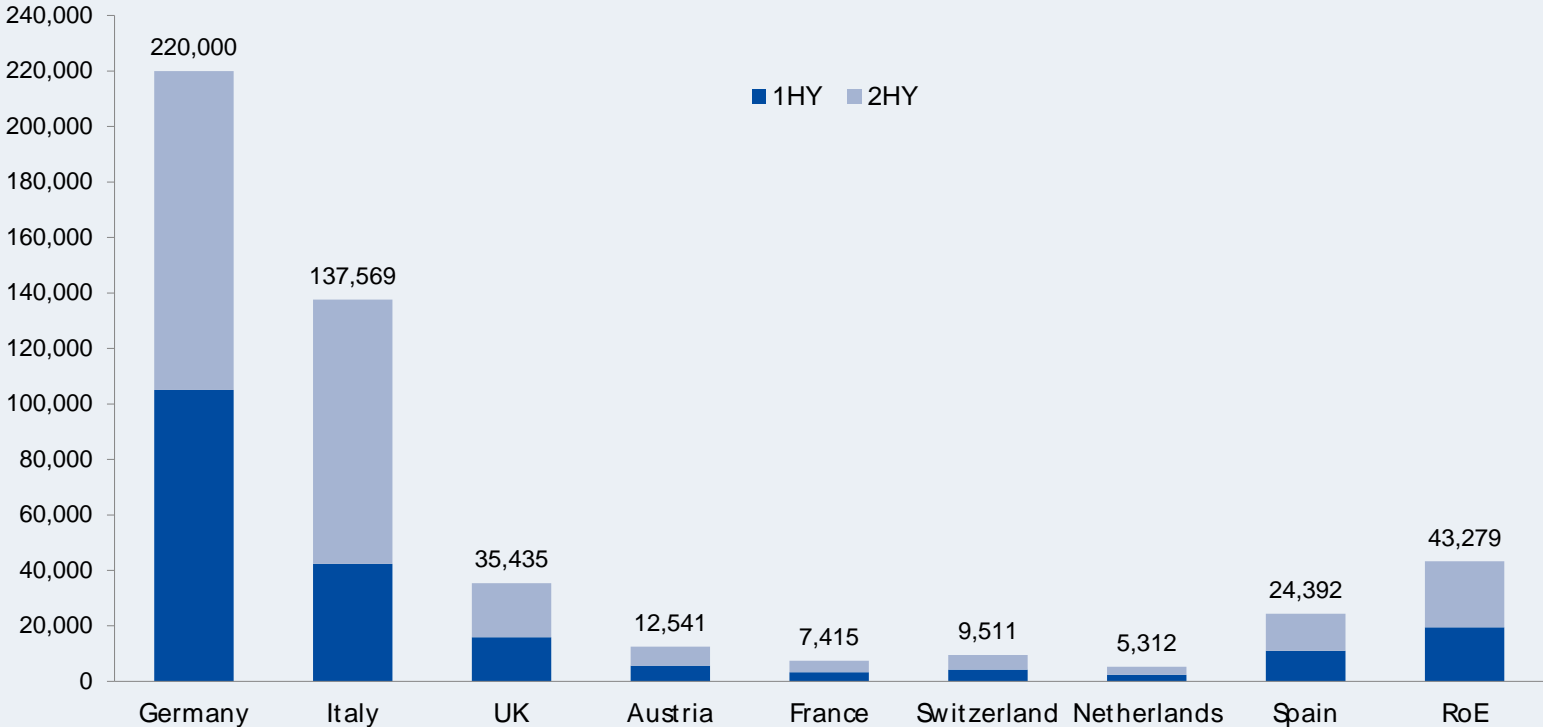
- According to EUPD Research estimates, EU-27 countries are likely to install around **51.4 GWdc of PV capacity in 2023**, Y-o-Y increase of ~34%
- **Germany followed by Spain, France, Poland, Netherlands and Italy** are likely to be the top 6 PV markets in the European Union in 2023 with total newly installed capacity of **~ 38 GWdc in just these markets**
- Germany and Spain are likely to reach **10 GWdc mark in 2023**

Source: EUPD Research 2023

Residential Storage

Number of residential storage installations – 2022

Number of ESS installations | EU | Segment ≤ 20 kWh | 2022



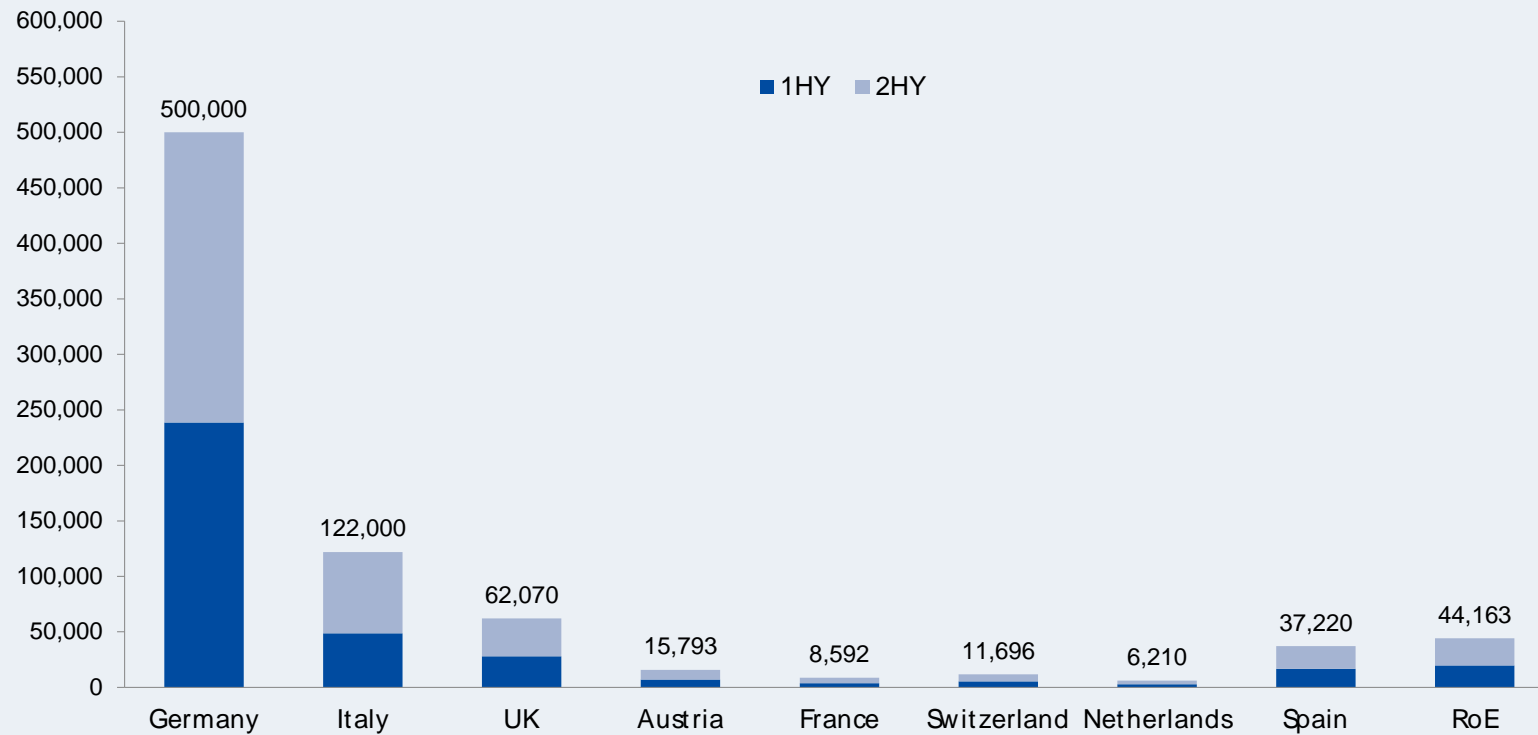
In 2022, Germany is the largest market for residential storage systems, followed by Italy, the UK and Spain.

France and the Netherlands play a minor role in the storage segment in 2022.

Source: EUPD Research 2023

Number of residential storage installations – Forecast 2023

Number of ESS installations | EU | Segment ≤ 20 kWh | 2023e



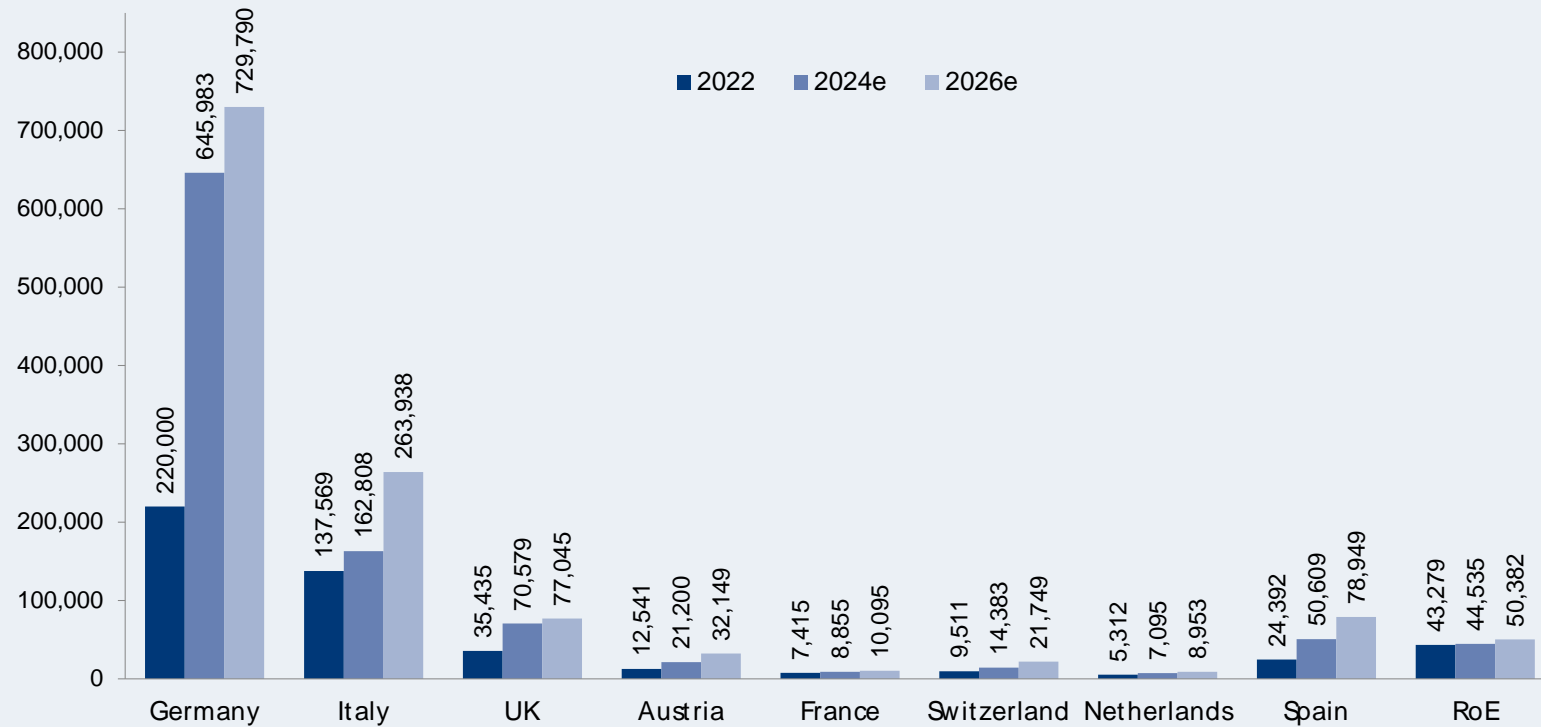
Due to favourable framework conditions in Germany, residential storage installations are expected to more than double by 2023.

The slight decline in residential storage installations in Italy is due to the discontinuation of the “Superbonus”, an attractive subsidy programme, that expired at the end of 2022.

Source: EUPD Research 2023

Number of residential storage installations – Forecast 2022-2026e

Number of residential ESS installations | EU | Segment ≤ 20 kWh | 2022-2026e



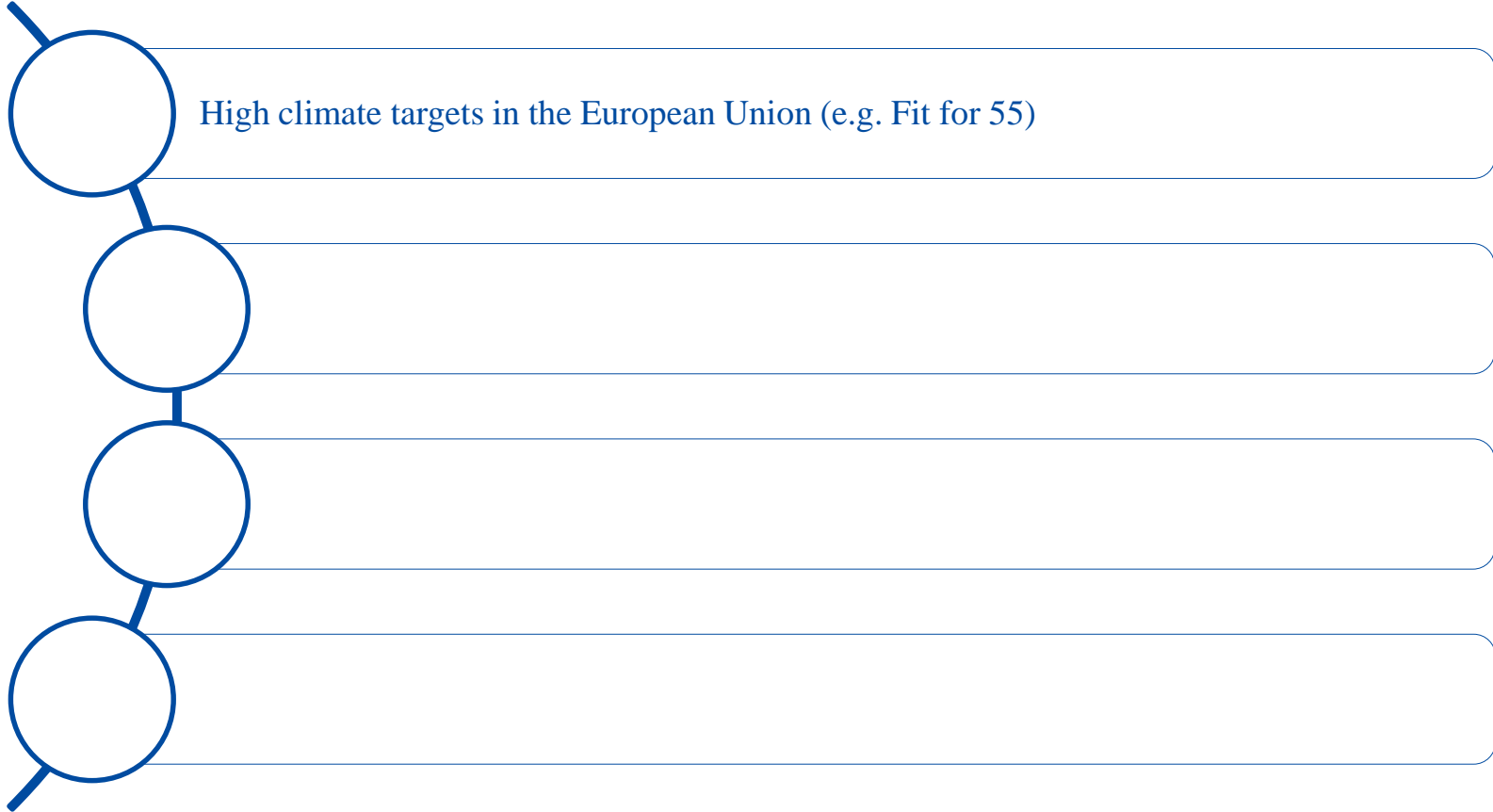
In the medium term, Germany is also the strongest market for residential storage installations.

Source: EUPD Research 2023

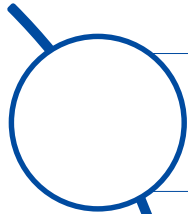
Drivers & Barriers for Residential Storage

Drivers

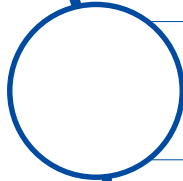
Drivers for Storage Solutions in Europe (Excerpt)



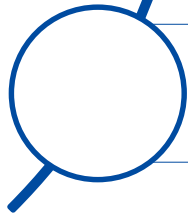
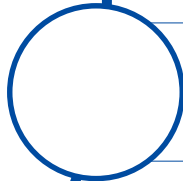
Drivers for Storage Solutions in Europe (Excerpt)



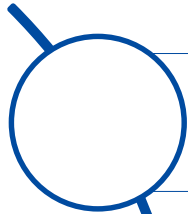
High climate targets in the European Union (e.g. Fit for 55)



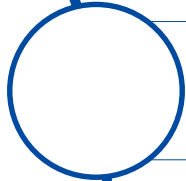
Increasing electricity requirement due to new technologies powered by electricity (e.g. electric cars, heat pumps)



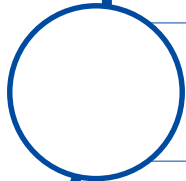
Drivers for Storage Solutions in Europe (Excerpt)



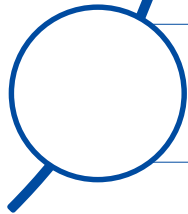
High climate targets in the European Union (e.g. Fit for 55)



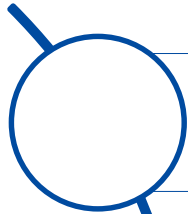
Increasing electricity requirement due to new technologies powered by electricity (e.g. electric cars, heat pumps)



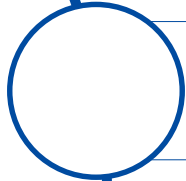
Uncertainties due to missing gas supplies (due to Ukraine-Russia conflict)



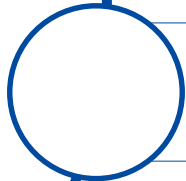
Drivers for Storage Solutions in Europe (Excerpt)



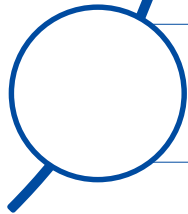
High climate targets in the European Union (e.g. Fit for 55)



Increasing electricity requirement due to new technologies powered by electricity (e.g. electric cars, heat pumps)



Uncertainties due to missing gas supplies (due to Ukraine-Russia conflict)



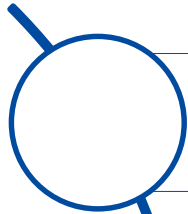
Storage systems promote sector coupling through integrated energy management software

Barriers

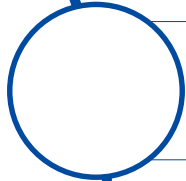
Barriers for Storage Solutions in Europe (Excerpt)

- Critical consideration of battery production and use of rare resources (environmentally questionable production)
-
-
-

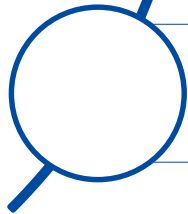
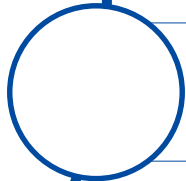
Barriers for Storage Solutions in Europe (Excerpt)



Critical consideration of battery production and use of rare resources (environmentally questionable production)



Delivery bottlenecks and scarcity of resources (components and workforce)



Barriers for Storage Solutions in Europe (Excerpt)

- Critical consideration of battery production and use of rare resources (environmentally questionable production)
- Delivery bottlenecks and scarcity of resources (components and workforce)
- Overall rising cost of living (restricts willingness to invest)
-

Barriers for Storage Solutions in Europe (Excerpt)

- Critical consideration of battery production and use of rare resources (environmentally questionable production)
- Delivery bottlenecks and scarcity of resources (components and workforce)
- Overall rising cost of living (restricts willingness to invest)
- High investment costs and question of profitability

Thank You Very Much For Your Attention!

EUPD Research Sustainable Management GmbH

Adenauerallee 134

53113 Bonn, Germany

Phone +49 (0) 228-971 43-0

Fax +49 (0) 228-971 43-11

welcome@eupd-research.com

www.eupd-research.com

Contact

Saif Islam | Senior Consultant |

s.islam@eupd-research.com



For further information, please visit www.eupd-research.com



Thank You Very Much For Your Attention!

EUPD Research Sustainable Management GmbH

Adenauerallee 134

53113 Bonn, Germany

Phone +49 (0) 228-971 43-0

Fax +49 (0) 228-971 43-11

welcome@eupd-research.com

www.eupd-research.com

Contact

Saif Islam | Senior Consultant |

s.islam@eupd-research.com



For further information, please visit www.eupd-research.com



Thank You Very Much For Your Attention!

EUPD Research Sustainable Management GmbH

Adenauerallee 134

53113 Bonn, Germany

Phone +49 (0) 228-971 43-0

Fax +49 (0) 228-971 43-11

welcome@eupd-research.com

www.eupd-research.com

Contact

Saif Islam | Senior Consultant |

s.islam@eupd-research.com



For further information, please visit www.eupd-research.com

