



Residential Energy Storage Update Europe

„Residential Energy Storage Briefing“
09 December 2021

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Agenda

- ❖ About EUPD Research
- ❖ The European EES Market
- ❖ the EndCustomerMonitor 11.0

About EUPD Research

EUPD Research: The B2B Specialist for International Market Research

EUPD Research

Market Research

- Endcustomer Monitor
- Global PV InstallerMonitor
- Business/Industry Monitor



EUPD Cert

Certification

- Customer Satisfaction
- Top PV Supplier
- Top Brand PV



EUPD Consult

Exclusive Consulting

- Customer Satisfaction
- Market Analysis
- Workshops

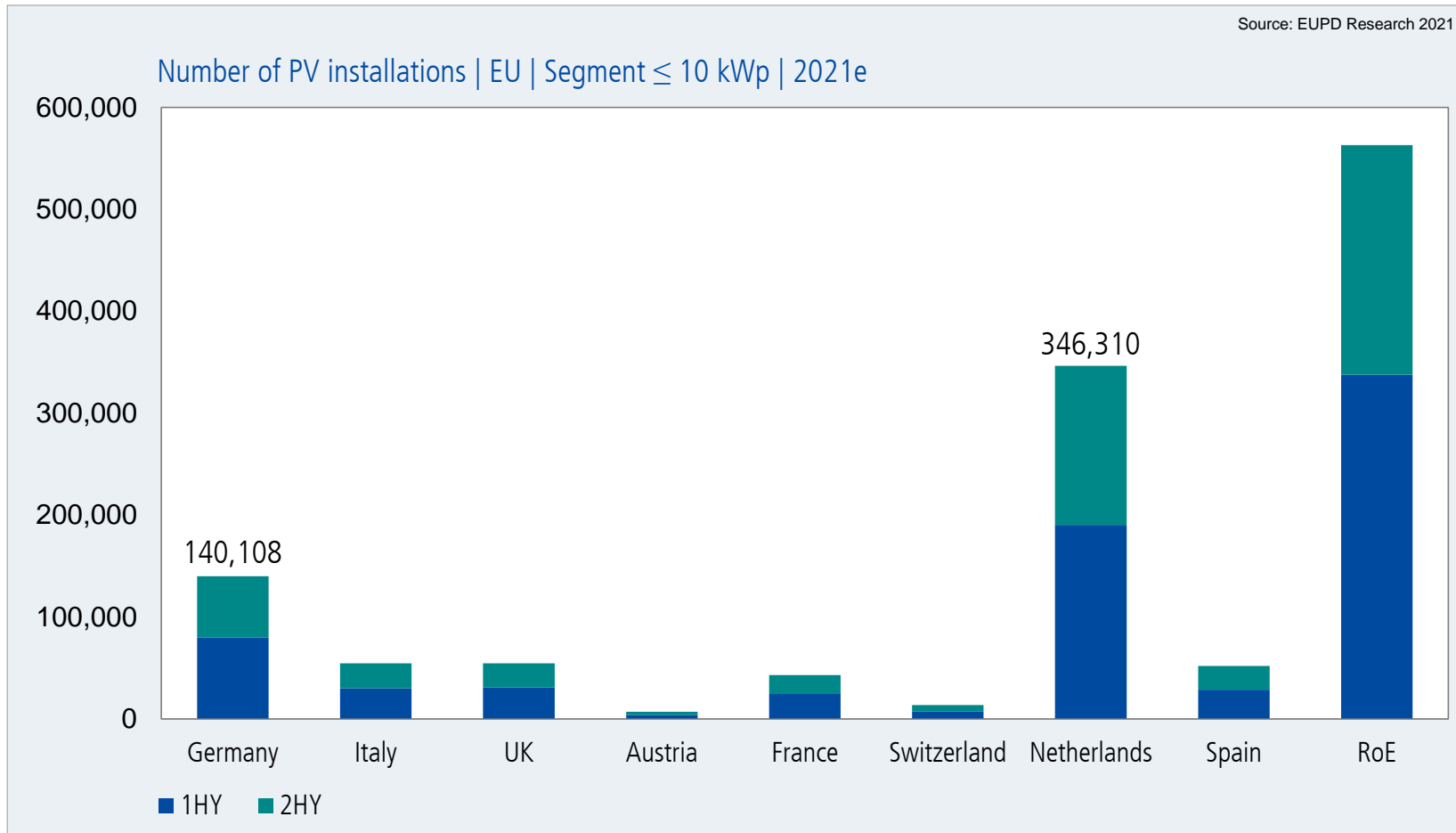


EUPD Research: References (Extract)



The European EES Market

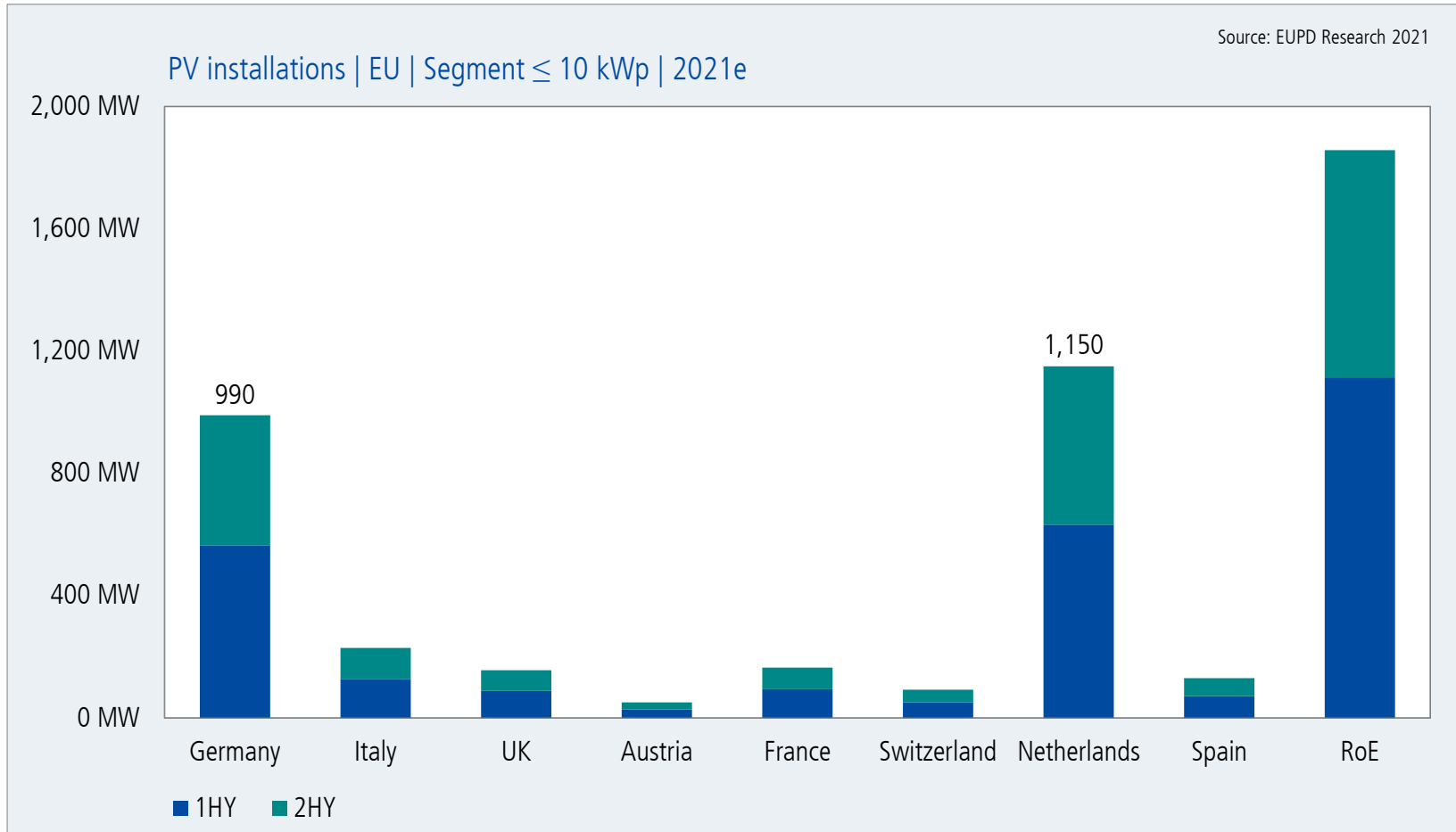
The European EES Market



All over Europe around 1.3 million new residential PV installations are expected by the end of 2021.

Based on the number of new residential installations, the Netherlands are going to be the front-runner ahead of Germany.

The European EES Market



In regards to the installed capacity of residential systems, the Dutch market again is slightly in front of the German market.

All over Europe, a total capacity of 4.8 GW of new residential installations are expected by the end of 2021.



Framework conditions

Residential PV systems

- Several PV support schemes in place: investment support, tax rebates, net metering

Home energy storage

- Households send surplus energy back to the grid receiving a credit
- in max. case, the energy bill is reduced to zero

Impact

- The net metering scheme is the major driver being responsible for the strong residential PV growth in the Netherlands

- The net metering scheme was recently maintained until 2023 under current conditions, which massively lowers incentives for energy storage

Outlook

- Net metering will be phased out until 2031 including gradually lower tariffs from 2023 ongoing
- In long-term perspective the fiscal incentives for residential PV are expected to be gradually reduced encouraging self-consumption
- Overall, the residential PV segment is expected to see further growth
- Due to the net metering developments residential energy storage will initially be a niche but is expected to become more relevant from 2023 ongoing



Framework conditions

- Rising electricity prices
- Several federal states started investment support schemes for energy storage installations
- PV obligation for new (residential) buildings in some cities & states

Impact

- Level of uncertainty has reduced significantly
- Even better investment conditions for energy storage

Outlook

- Stable and strong growth in residential storage installations
- Especially storage installations alongside former FiT-PV installations could additionally boost the market from 2021 on ('retrofit storage')

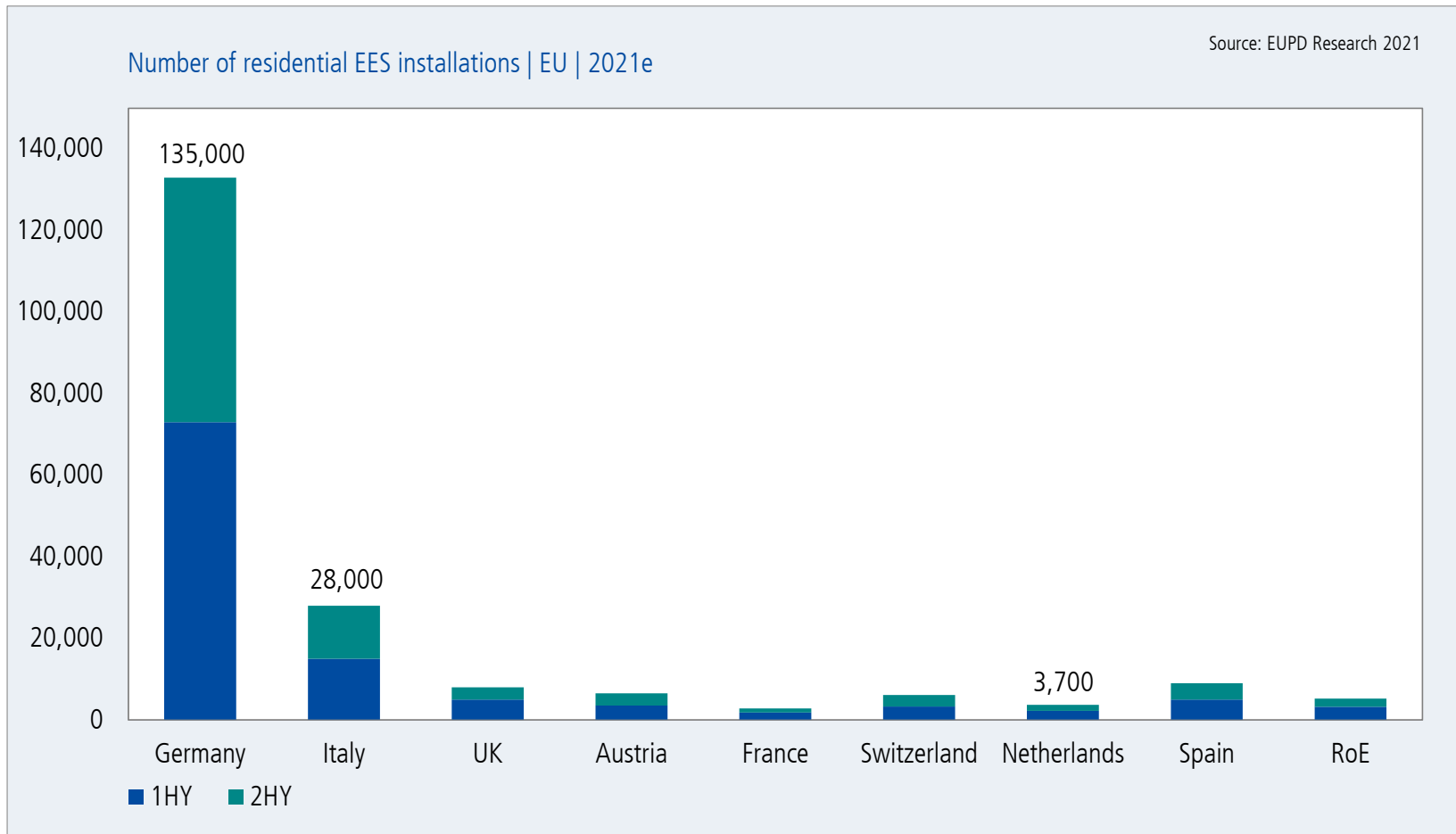
Residential PV systems

Home energy storage

- Expiry of FiT starts in 2021 leading to existing residential PV installations (installed 20 years ago) having to realize new business cases e.g. self-consumption including storage

- Growing demand in the residential storage segment: business case optimization of self-consumption with storage

The European EES Market



Germany is clearly dominating the European market of residential energy storage systems. Italy is going to reach 28,000 EES installations this year. For the Netherlands only a small number of residential EES is forecasted.

the EndCustomerMonitor 11.0

EndCustomerMonitor 11.0 - Description of Head Groups

Data of the EndCustomerMonitor was analyzed and displayed according to different head groups. A total of six head groups were defined with the year of the installation of the PV system as the starting point. The study at hand will present among others analyses with respect to these determined head groups.

Owners	Installation until 2008	Owners of PV systems installed until 2008
	2009–2011	Owners of PV systems installed between 2009 and 2011
	2012–2016	Owners of PV systems installed between 2012 and 2016
	2017–2020	Owners of PV systems installed between 2017 and 2020
	Installation in 2021	Owners of PV systems installed or planned to be installed in 2021
Planners	Planners	Planners who intend to invest in a PV system (by 2022, 2023 to 2026, the earliest by 2027)

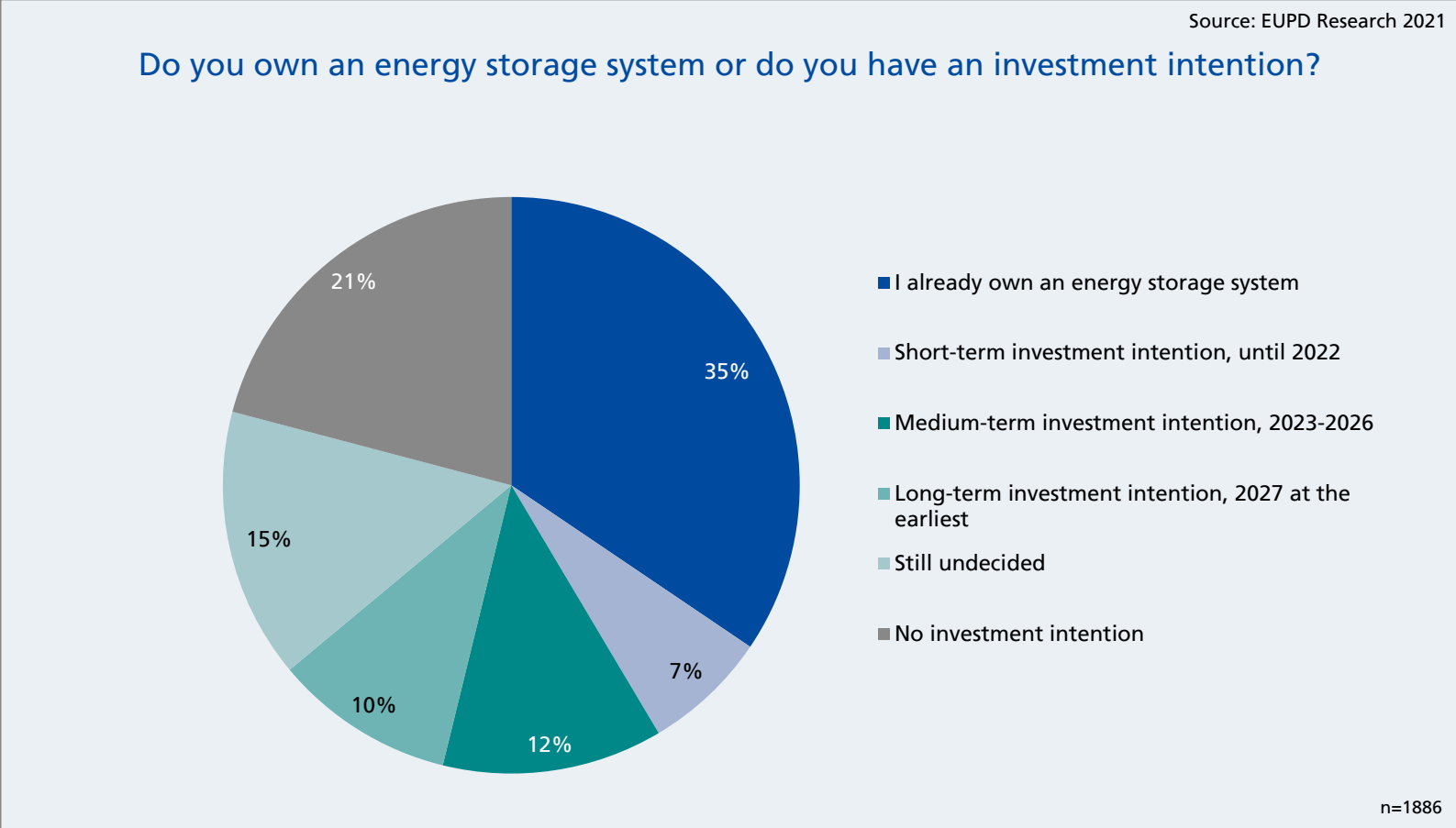


EndCustomerMonitor 11.0 - Energy Storage | Investment Intention

35 percent of the respondents state that they already own an energy storage solution.

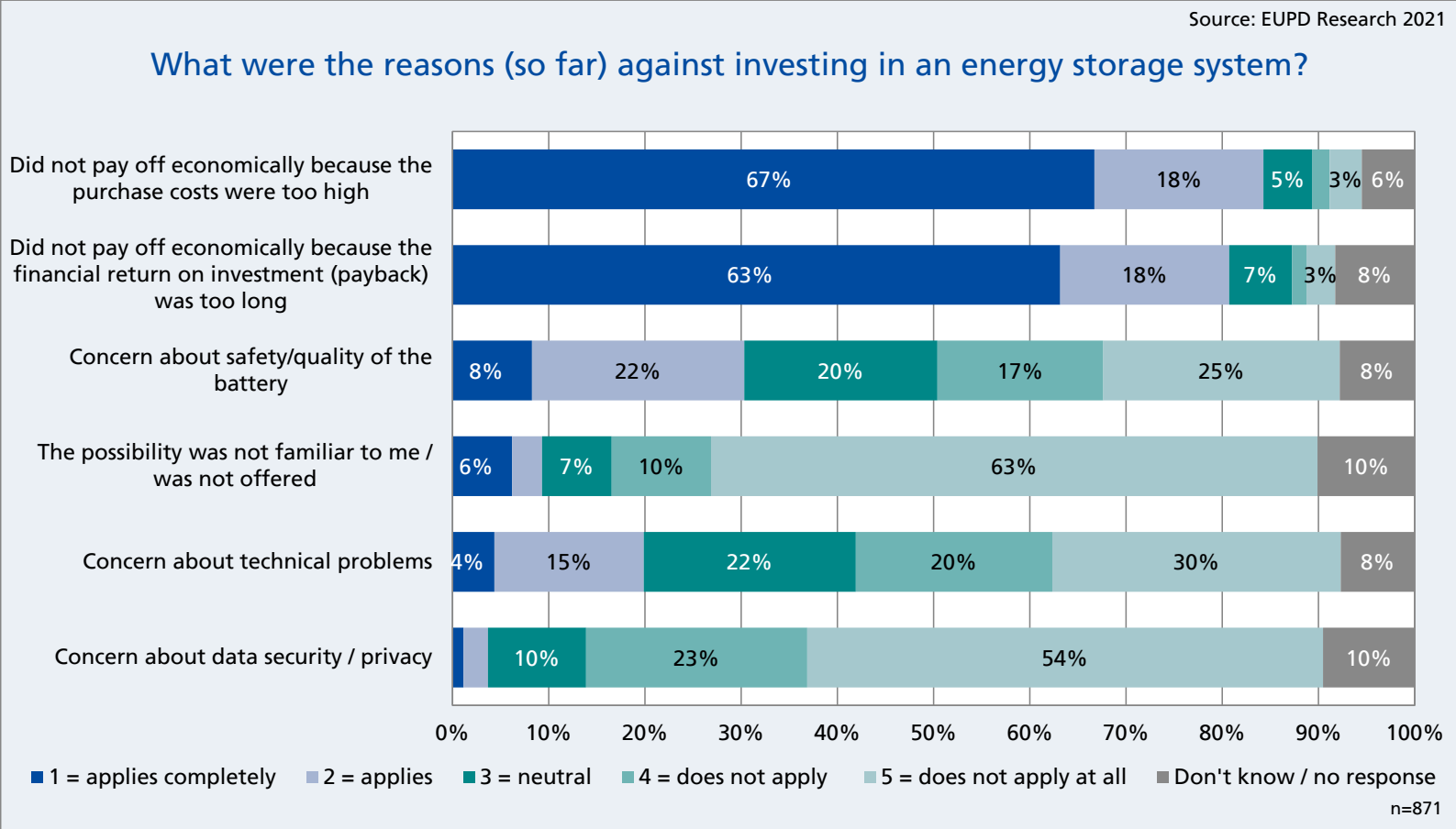
A further seven percent of end customers intend to install a storage system by 2022.

21 percent of the respondents have no interest in an energy storage system.



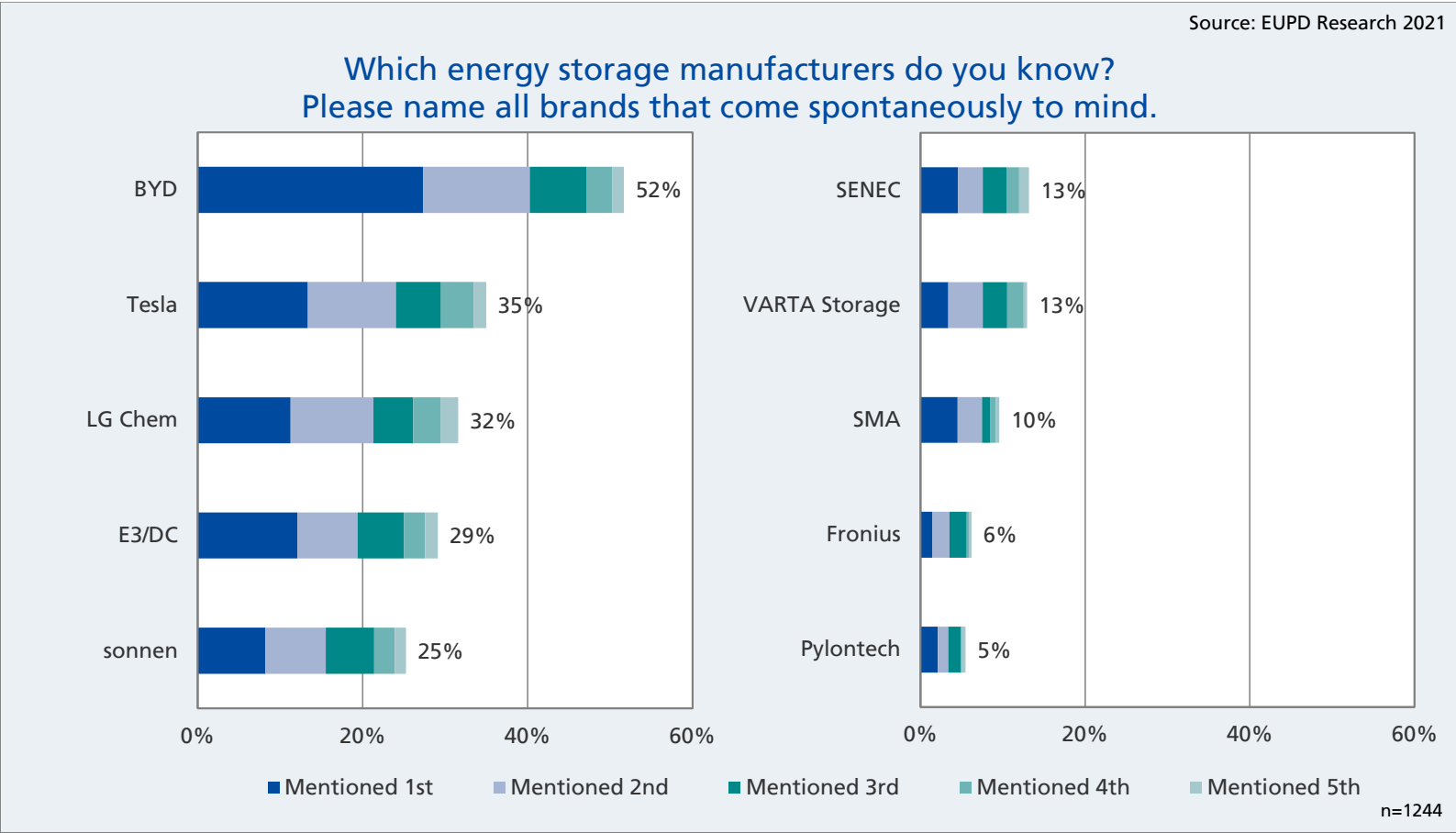
EndCustomerMonitor 11.0 - Energy Storage | Purchase Barriers

The lack of economic efficiency are the main reasons given against investing in a storage system. Concerns about the safety of the battery are marginal, but still the third most important issue.



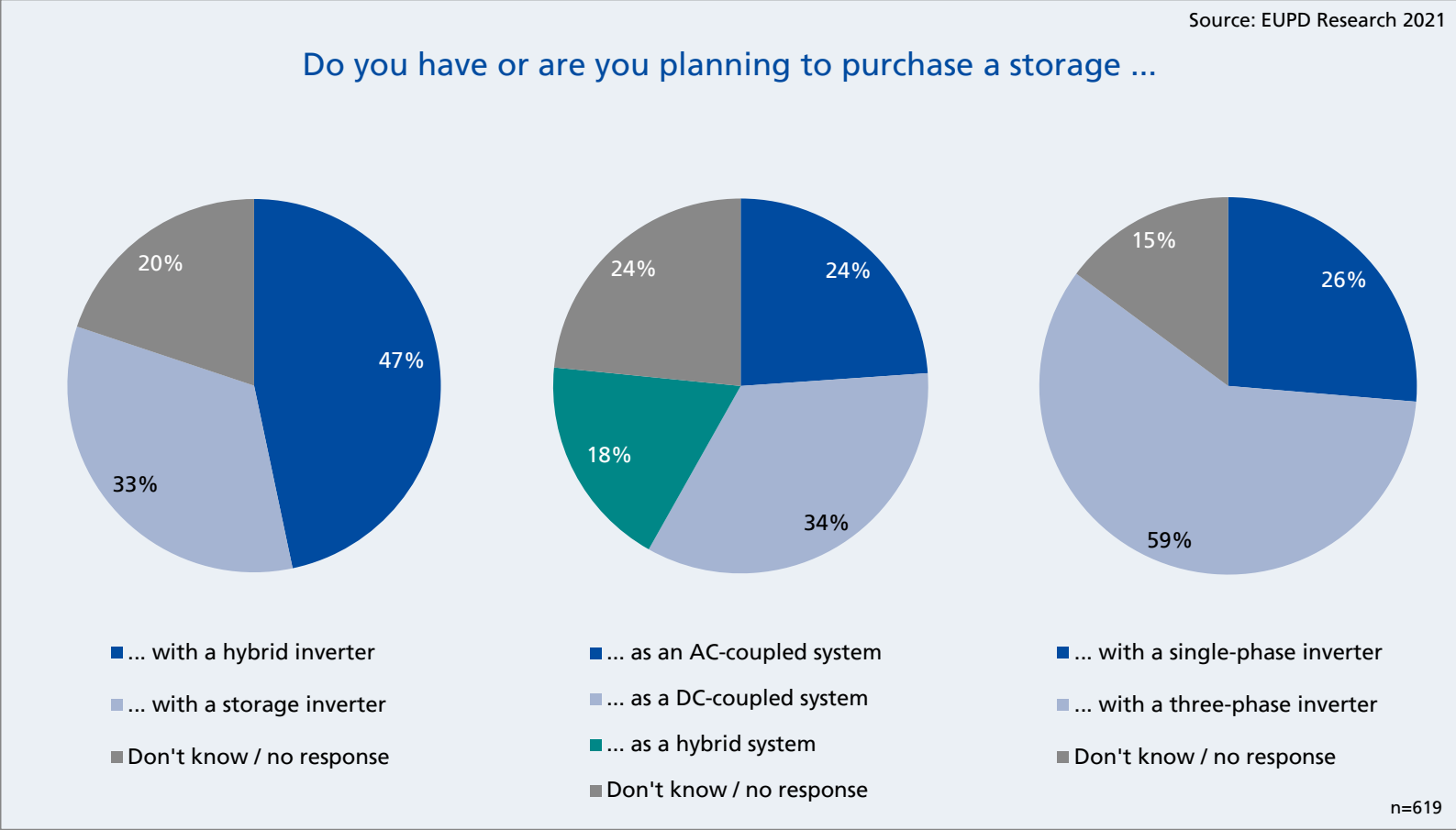
EndCustomerMonitor 11.0 - Energy Storage | Unaided Brand Awareness

Among all respondents, BYD leads in terms unaided brand awareness for electric storage systems, followed by Tesla and LG Chem. The renowned German brands have decreased in awareness



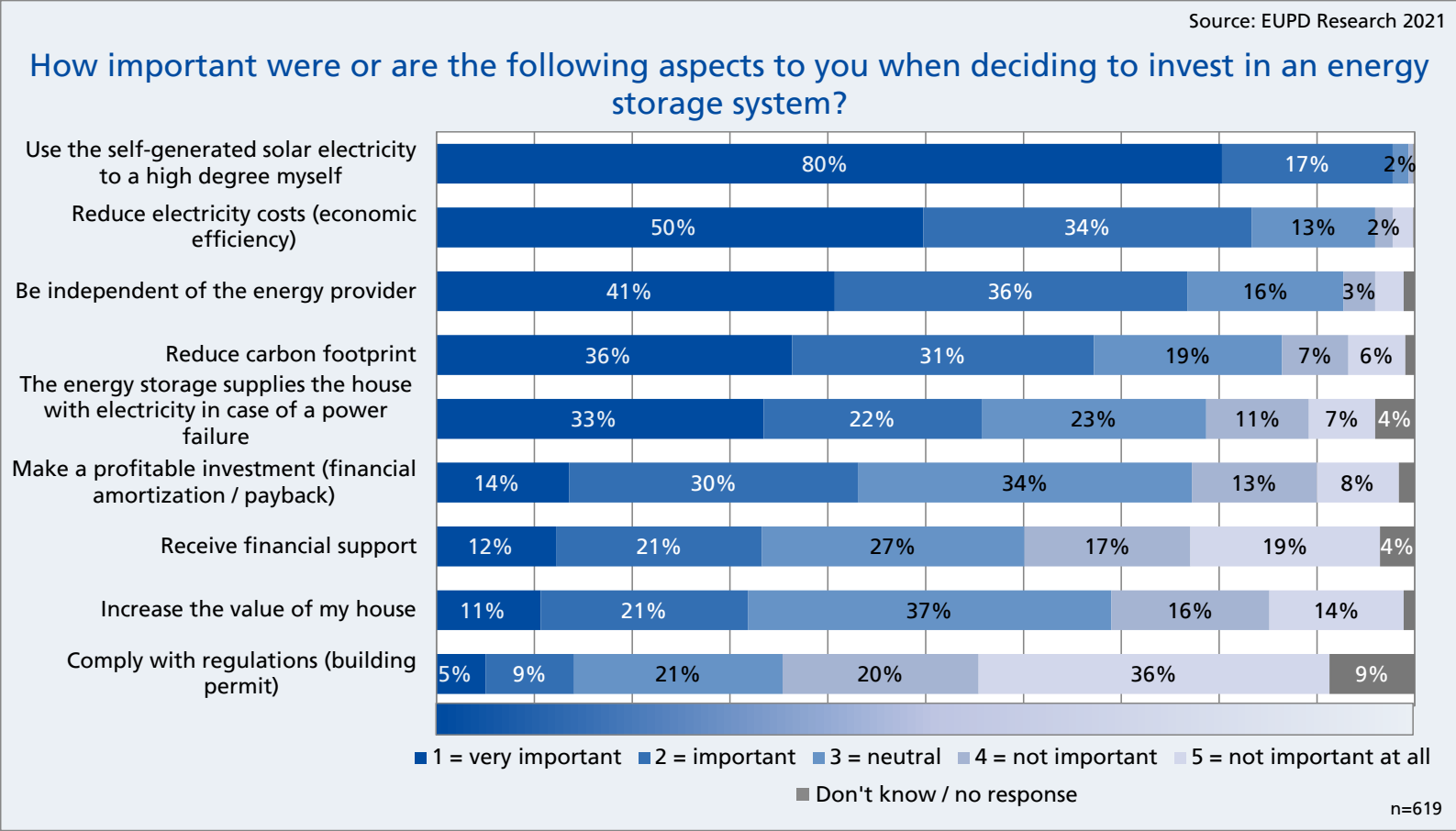
EndCustomerMonitor 11.0 – Energy Storage | System Type

Almost half of the surveyed storage owners and planners until 2022, have or are planning a storage system with a hybrid inverter. DC-coupled systems and 3-phase inverters outweigh AC-coupled as well as hybrid systems and 1-phase inverters.



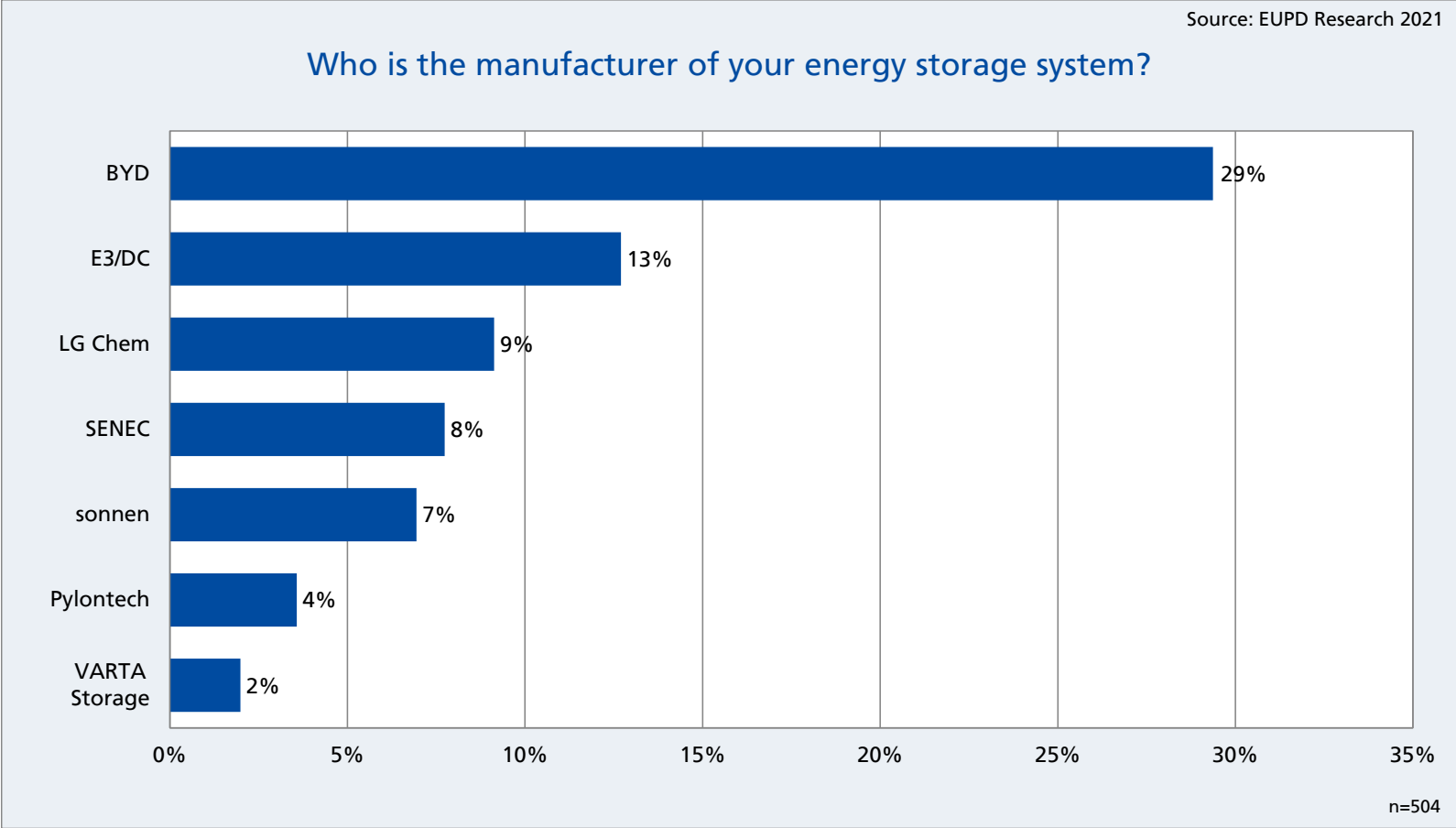
EndCustomerMonitor 11.0 - Energy Storage | Important Aspects

80 percent of the storage owners and planners until 2022, consider the aspect of self-consuming the solar electricity in the investment decision making process for an energy storage system.

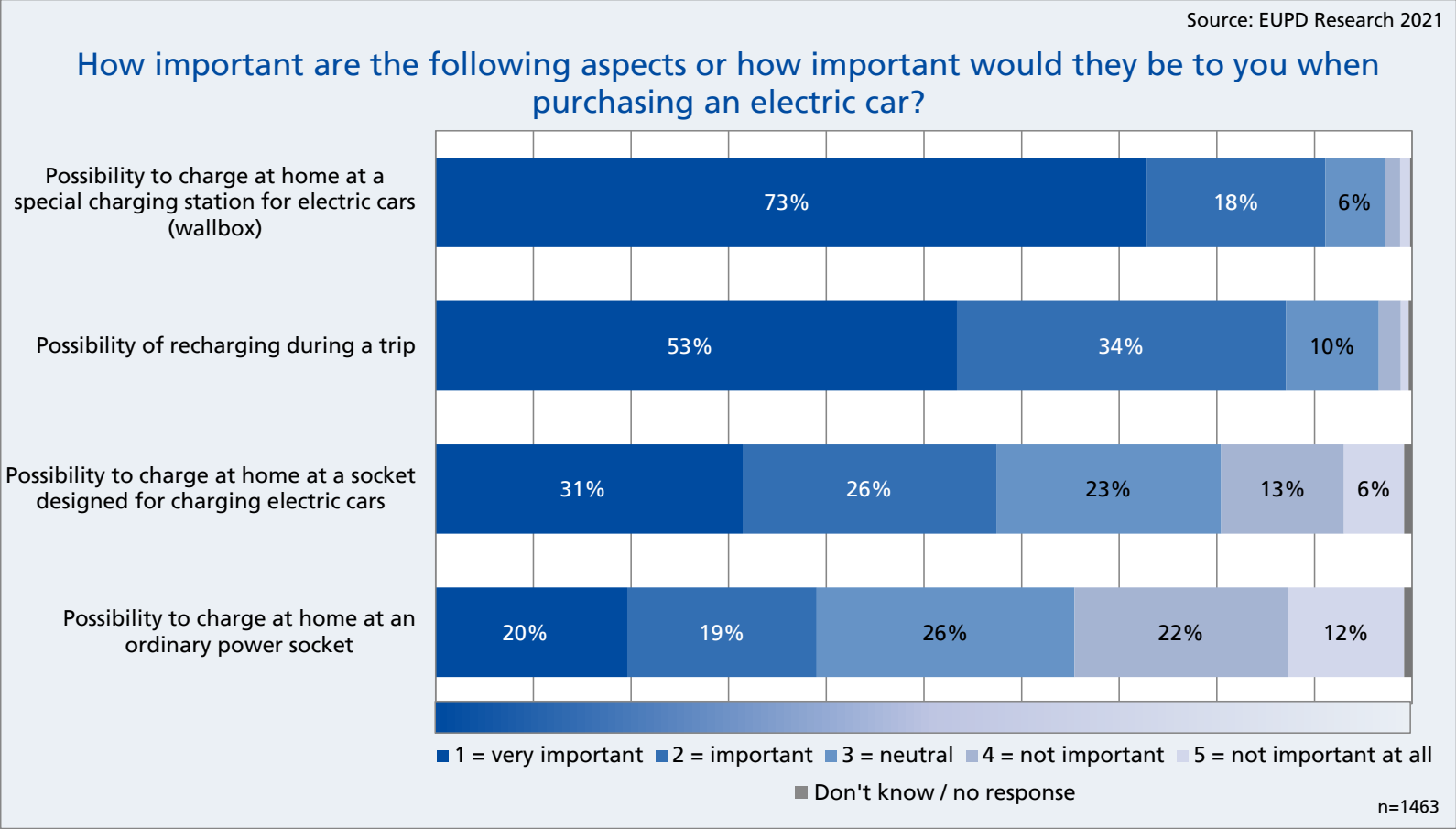


EndCustomerMonitor 11.0 – Energy Storage | Brand Purchase

29 percent of the respondents who own an energy storage, have a system from BYD. Tesla, despite its high brand awareness, is not featured amongst the most purchased storage solution providers.

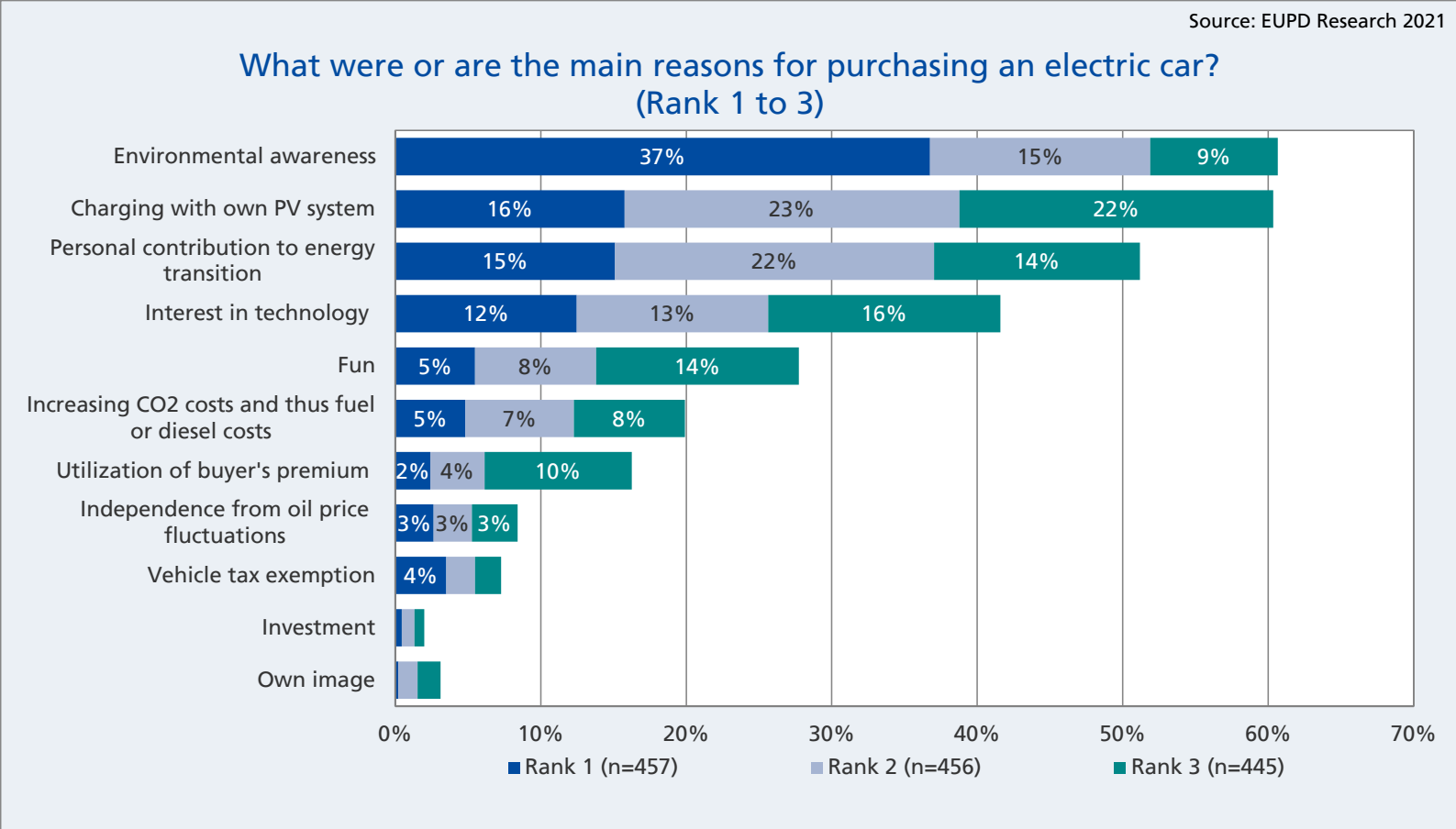


73 percent of those respondents who are interested in an electric car or already own one, state that the ability to charge at home with a wallbox would be or is a very important aspect for purchasing an electric car.

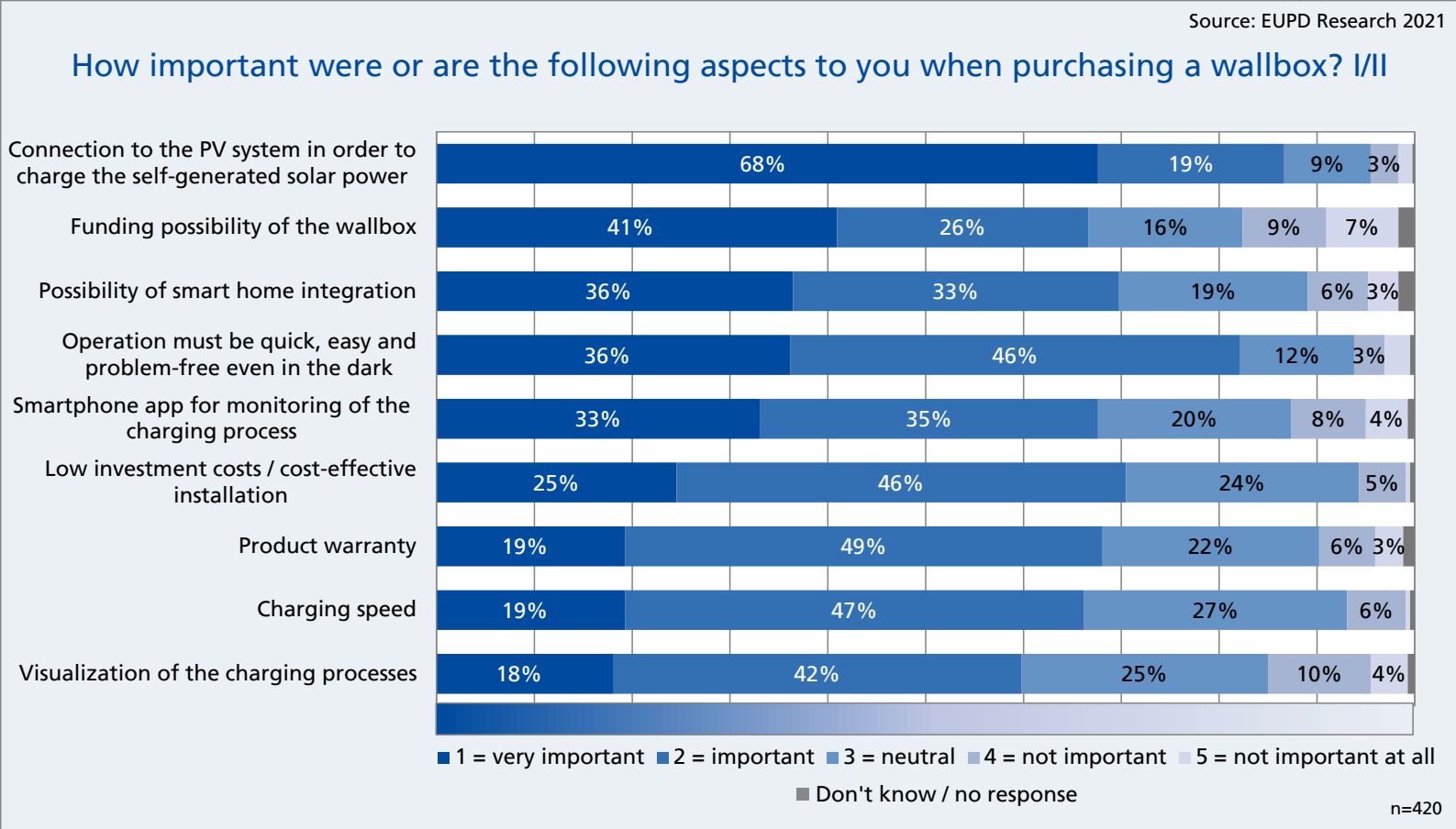


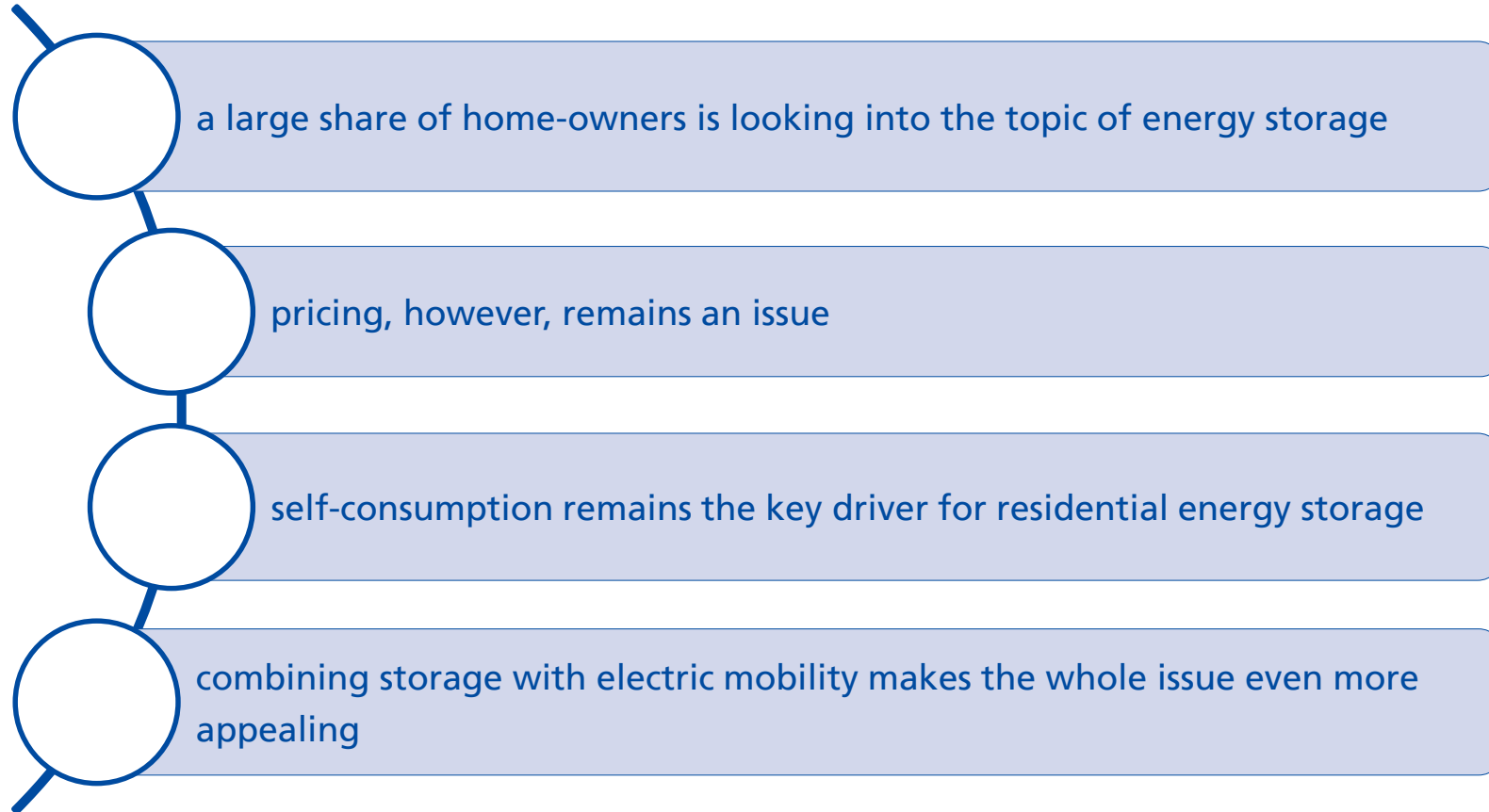
EndCustomerMonitor 11.0 - Electric Vehicle | Purchase Motives

Environmental awareness and technological aspects are the most frequently named reasons for purchasing an electric car, and significantly outweigh monetary aspects.



For 68 percent of the respondents who already own a wallbox or are interested in a wallbox, charging their own PV electricity was or is very important when buying a wallbox.





Thank You Very Much For Your Attention!



**EndCustomerMonitor
11.0**

The PV market from an end customer's perspective:
Survey of 1,886 PV owners and planners in Germany,
Austria and Switzerland

Focus: Battery storage, electric mobility and energy
management

EUPD Research | Multi Client | November 2021

20+
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