

*Europe's Energy Storage Ambition:
Charging Towards 2030 Targets*



LCP Delta provides...

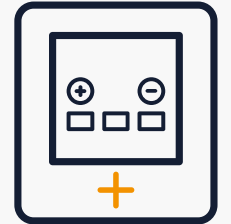
The best advice, support and tools to enable the energy sector to drive the energy transition

Subscription research services



Our portfolio of subscription research services offer in-depth insights across the energy transition landscape. We have been undertaking primary research with organisations active in the energy transition since 2004 – we have an unparalleled international network of contacts we can draw on. Each service focuses on a particular aspect of the energy transition.

Market and strategic advisory consulting



We provide support across the full energy value chain with bespoke research, insight, forecasts and advice tailored to them. Our consultancy offerings draw on expertise and data from across LCP Delta, from strategic market entry analysis through to detailed half-hourly revenue forecasting.

We support our clients in four ways

Technology & data



Data integration and analysis is at the heart of the energy transition. However, sourcing and navigating complex, wide-ranging datasets is challenging. At LCP Delta, we combine and curate proprietary and public datasets to provide you with a single source of truth across the energy spectrum and make this data interactive using our cutting-edge technology.

Training & masterclasses



Our training helps professionals quickly develop their new energy knowledge, accelerating their impact for organisations who want to capture opportunities. We provide meaningful, concise and easy to understand short courses, workshops, seminars and masterclasses.

How we work with our clients

Use a combination of our subscription research services, bespoke consultancy projects and training services to gather the information you need to ensure your business's success in the energy transition.

Consultancy

Bespoke information, insight and support from energy experts.



Energy Storage Service
Capturing the best opportunities for distributed energy storage.



New Energy Business Model Service

Understand, identify and implement the most promising commercial opportunities from the increasing disruption in the energy sector.



Hydrogen Intelligence Service
How the global hydrogen sector is developing.



Gas Heating Service

What is the future of gas in buildings and how can you best capture the opportunities and respond to the threats?



Heating Business Service
How to evolve from selling individual products and commodities to become a successful home energy solution provider.



Flexibility Service

Capturing opportunities in the growing demand side flexibility market.



Choose the research you need for your new energy success



Distributed Power Service
How to succeed in the global distributed power market



EV Charging Service
How to best develop position and activities to succeed in the rapidly growing eMobility market



Energy Insights+ Service
How can we best use energy insights to enhance residential customer engagement and create value for us and our clients?



Energy Transition Training
Courses to better understand the energy transition



Electrification of Heat Service
Identify and capture the increasing range of opportunities from growing electrification of heat



Home Energy Management Service
What's happening in the HEM space and what opportunities are there for all the companies potentially involved?



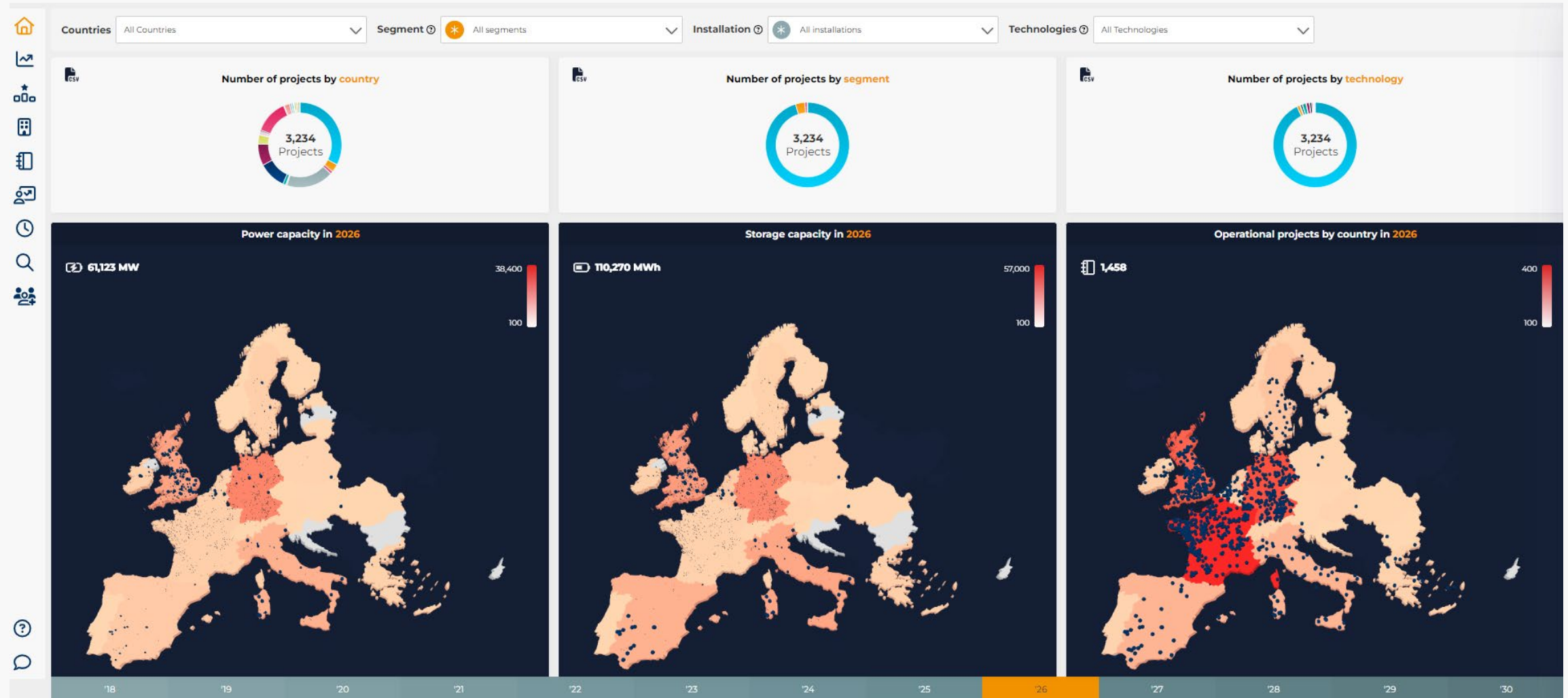
Solar PV Service
How has the current state of the Solar PV market in Europe evolved, what the current trends are, and what opportunities show the most promise



Connected Home Service
The opportunities in the growing connected home market and how to capture them

Track energy storage projects with STOREtrack

Europe's leading one-stop view of BESS projects



Request a demo: <https://delta.lcp.com/technology-data/storetrack/>

About EASE



The **European Association for Storage of Energy (EASE)**, established in 2011, is the leading member-supported association representing organisations active across the entire energy storage value chain.

EASE **represents over 70 members** including utilities, technology suppliers, research institutes, distribution system operators, and transmission system operators.

EASE **supports the deployment of energy storage** to enable the cost-effective transition to a resilient, carbon-neutral, and secure energy system.



Awareness raising



Information-sharing



Market design



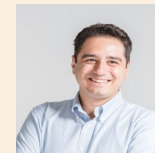
Agenda

- **Introduction**
- **Market Monitor**
- **EU Policy Analysis**

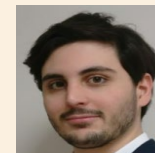
Webinar presenters



Jon Ferris
Head of Storage & Flexibility
LCP Delta

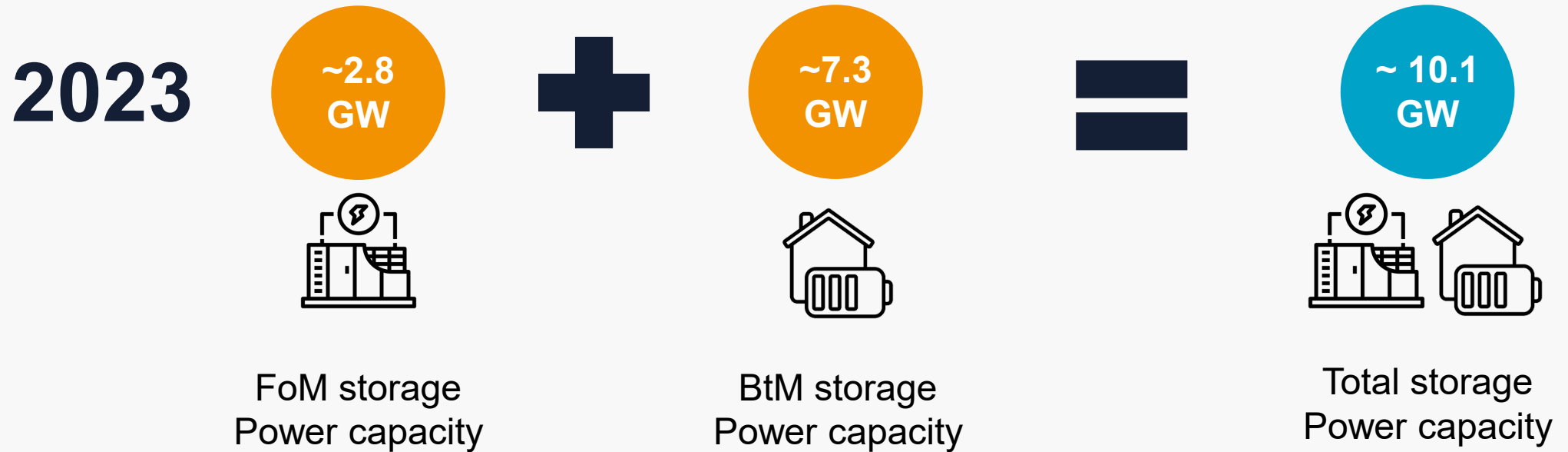


Silvestros Vlachopoulos
Energy Storage Research Service Manager
LCP Delta



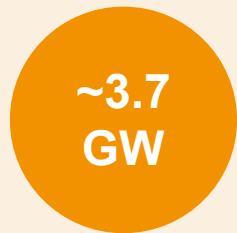
Jacopo Tosoni
Head of Policy
EASE

How much capacity was added in 2023?



What is the difference between what was actually deployed and our EMMES 7 forecasts?

FoM Storage



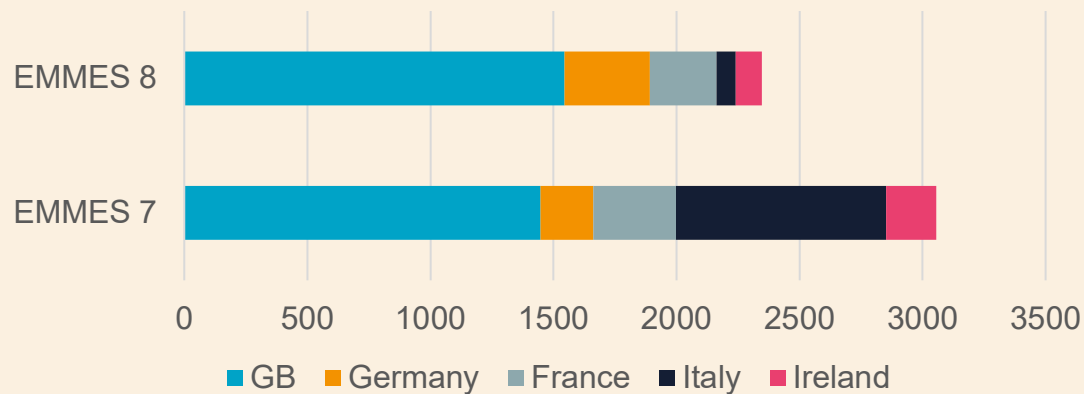
EMMES 7



EMMES 8

Project delays are pushing capacities further into the future

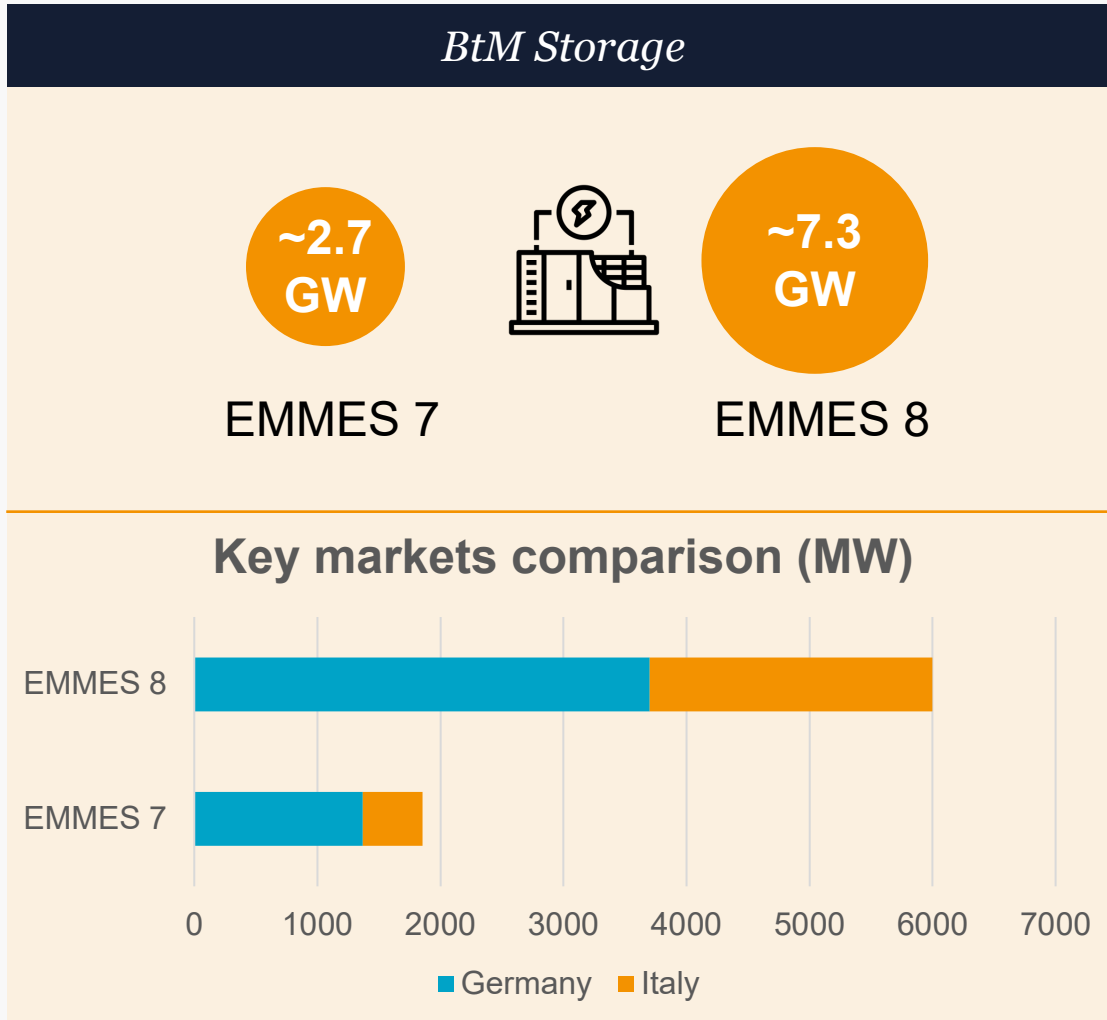
Key markets comparison (MW)



Regulatory and revenue uncertainty impacts projected deployment rates

Growth in projects co-located with renewables

What is the difference between what was actually deployed and our EMMES 7 forecasts?



Stock availability for PV and batteries massively increased in 2023

Subsidies are going away in some key markets creating a rush for projects

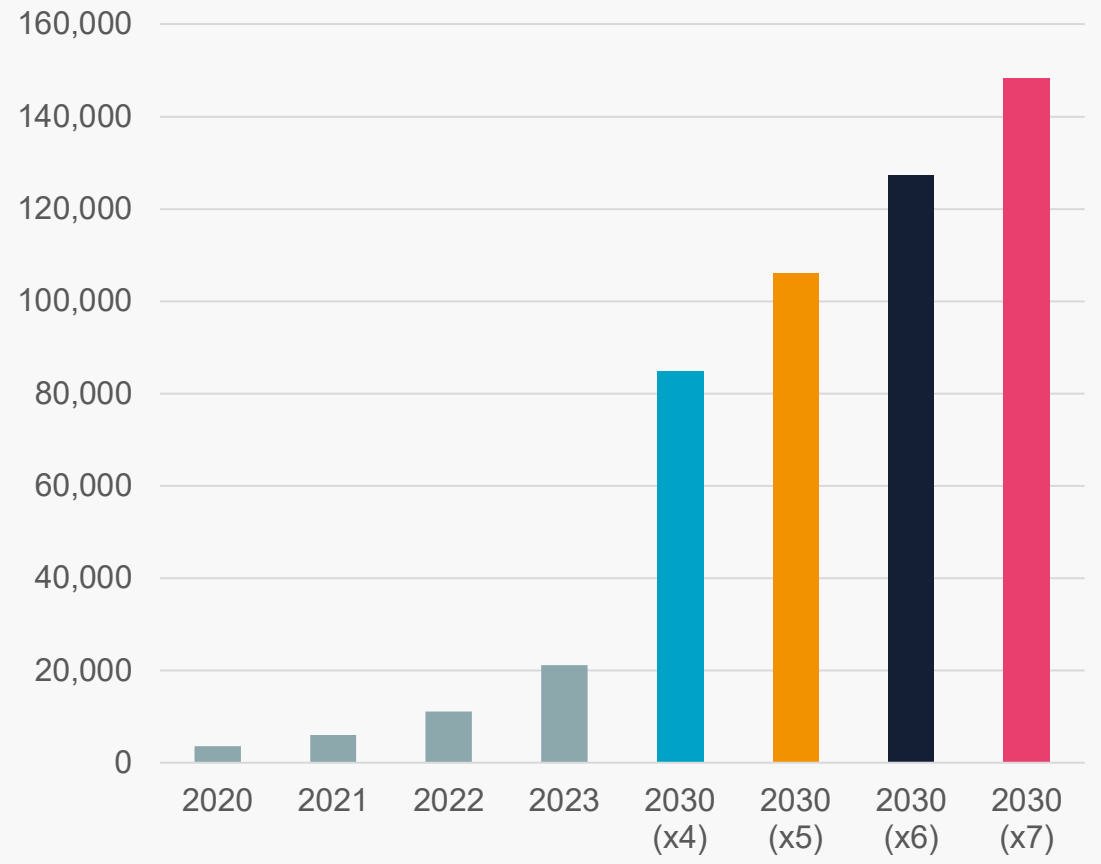
Some markets are seeing unique drivers for C&I storage, leading to increased growth rates

Poll

How much do you think the installed base of electrochemical will grow by 2030?

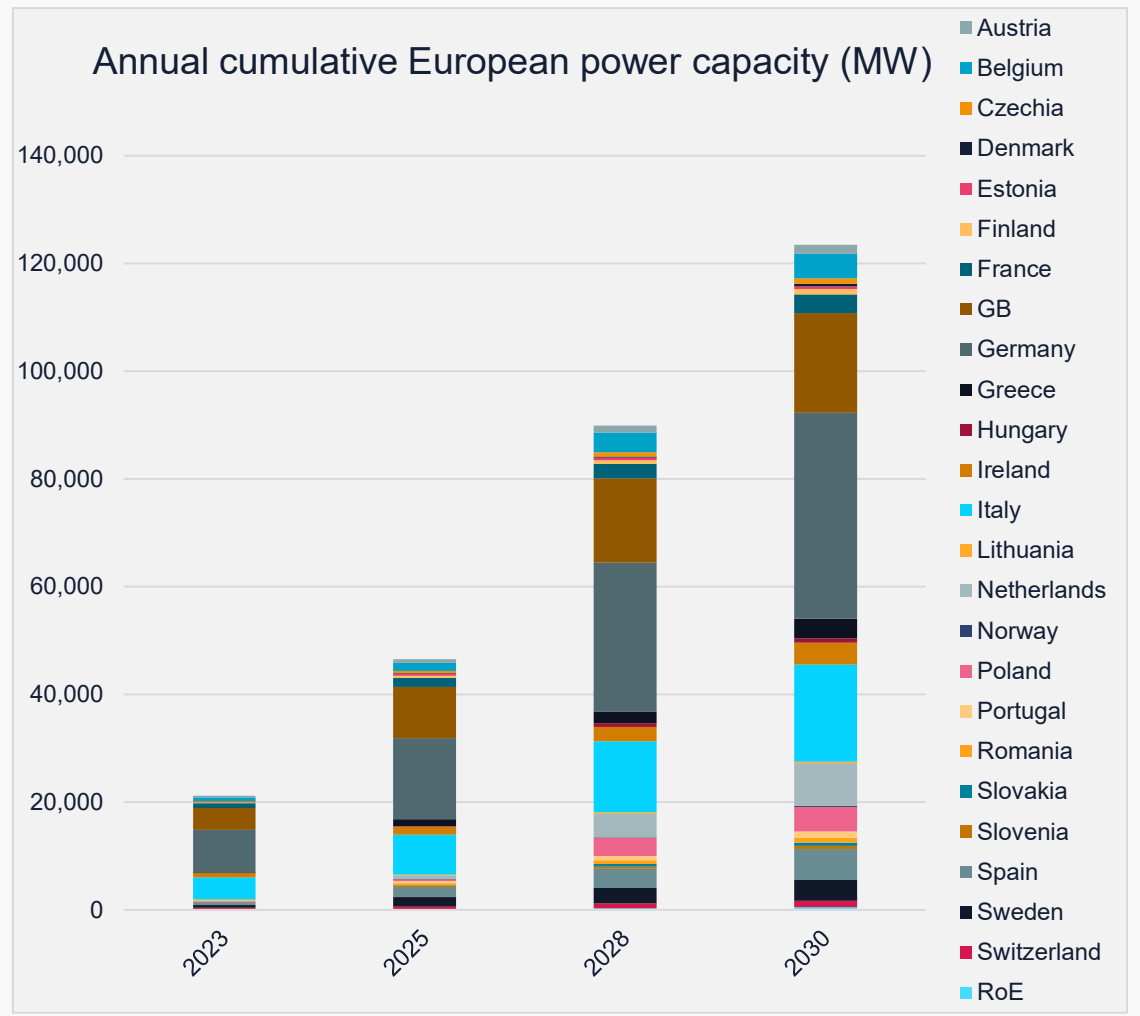
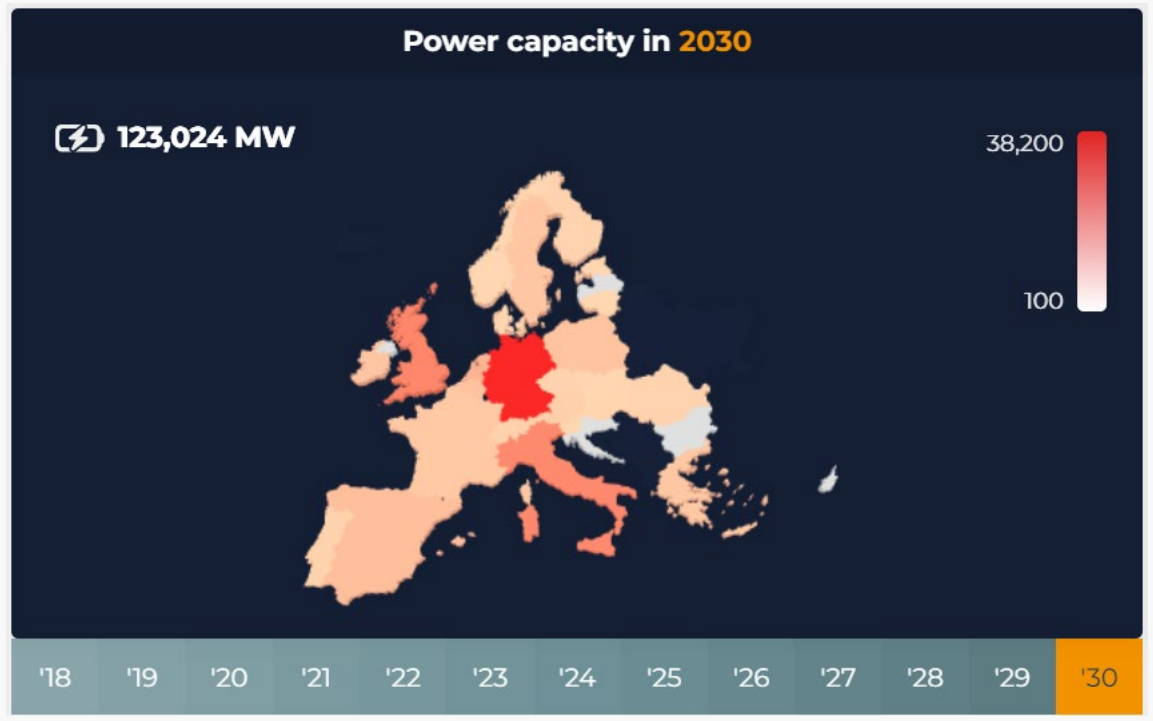


Annual cumulative European power capacity (MW)

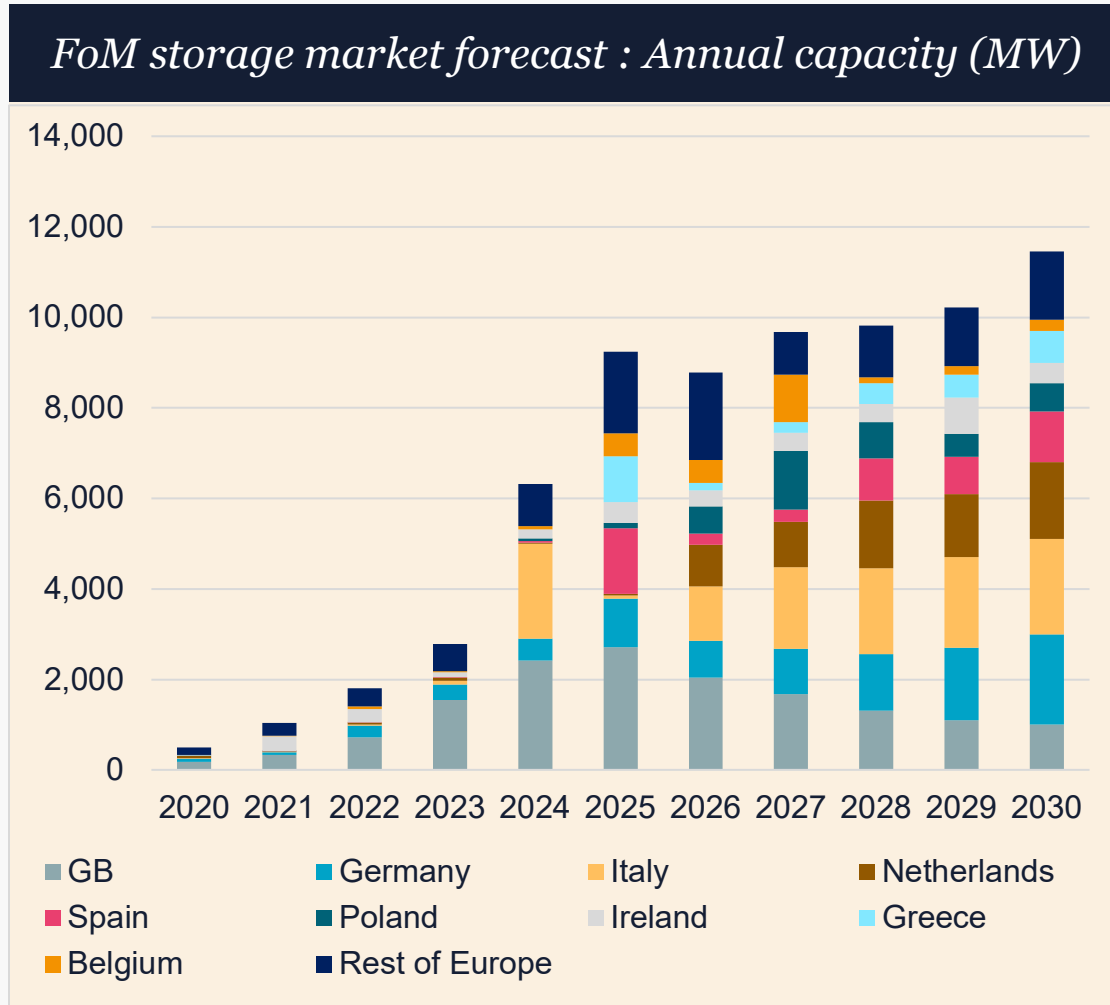


The installed base will grow x6 times in terms of power capacity

Extract from LCP Delta's STOREtrack database



FoM European market forecast



Support schemes and storage auctions

MACSE scheme to drive the volumes in Italy by 2030

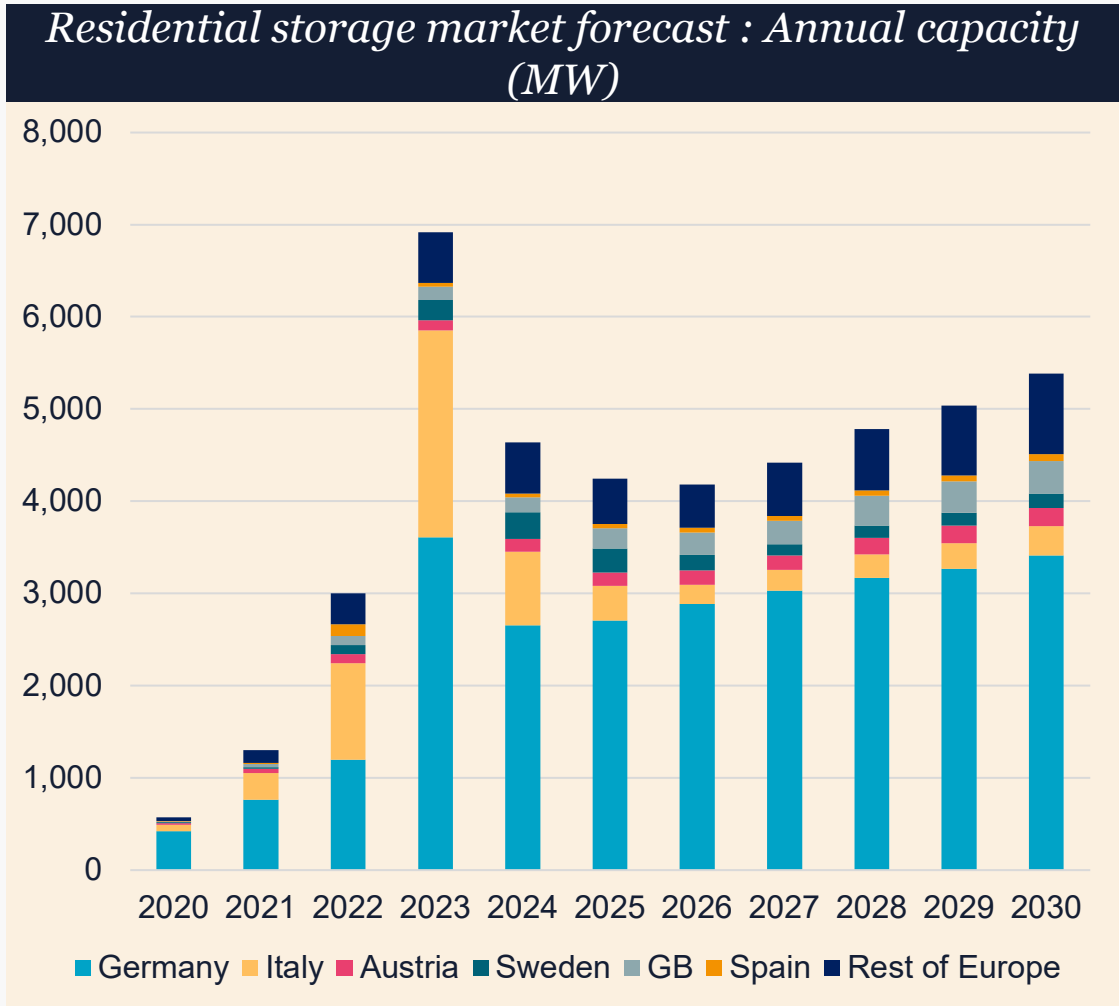
Improved market conditions and capacity markets

Revenue saturation stalling market growth

Focus countries

- Spain
- Greece
- Germany
- Italy
- Poland
- Netherlands
- Hungary
- Romania
- Bulgaria
- UK
- Sweden

Residential European market forecast



Reduced deployment in Europe's key market

Removal of subsidies in key markets

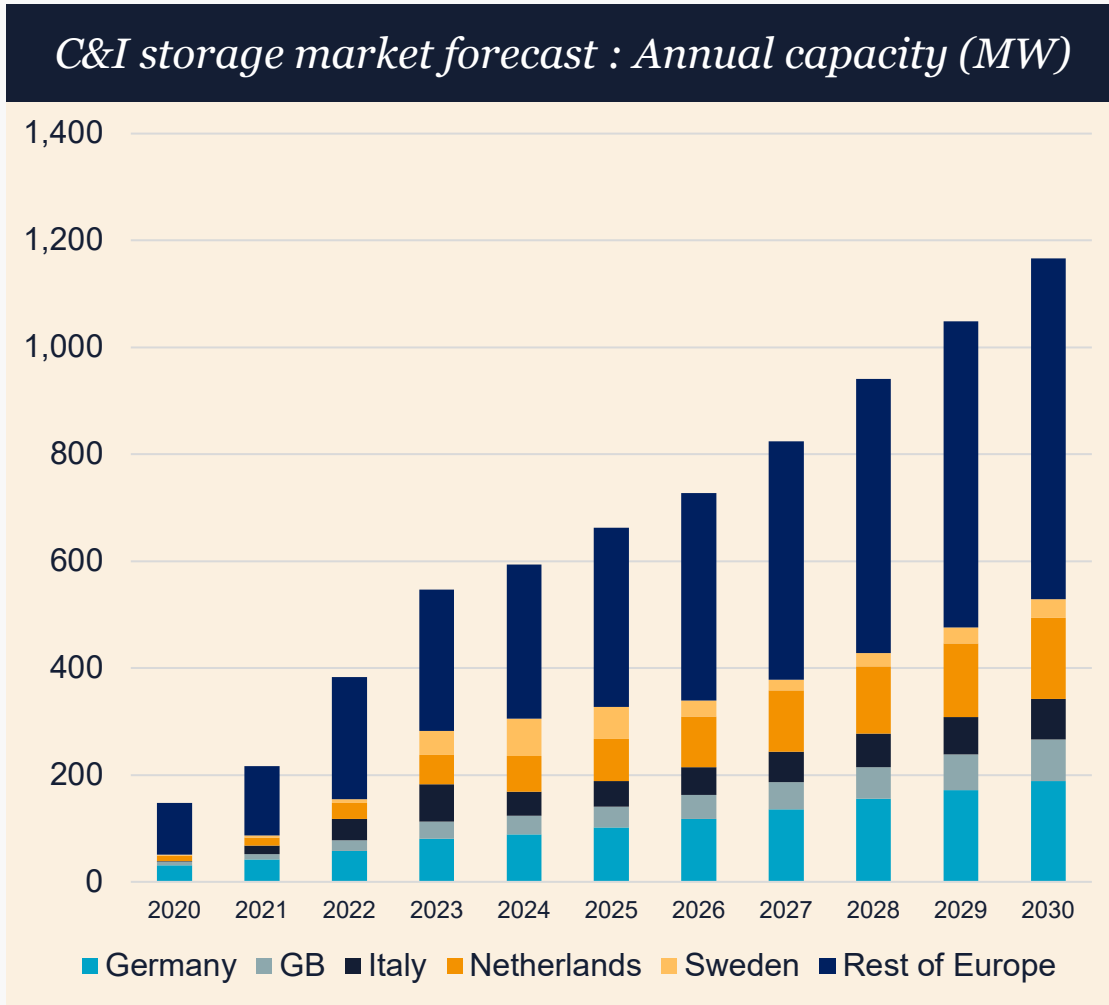
PV market developments affecting long-term deployment

Dynamic tariffs will provide more incentives in the future, but electrification may undercut some potential

Focus countries

- Germany
- Italy
- Spain
- Belgium

C&I European market forecast



Electrification driving unique use-cases for storage

Accessibility to flexibility revenues

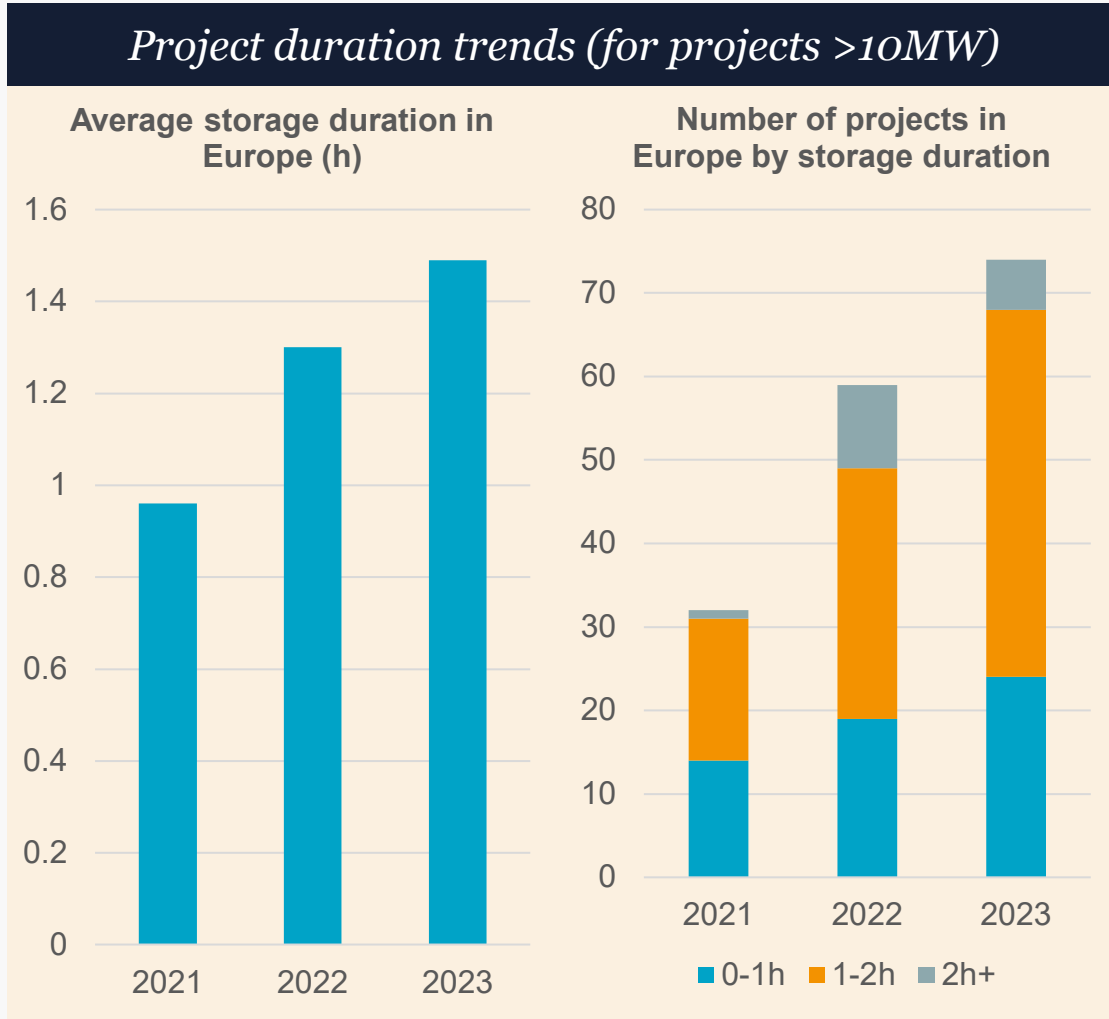
PV deployment affects growth rates, especially in smaller systems

Improved outlook for the majority of the market drivers by 2030

Focus countries



Other trends: Duration



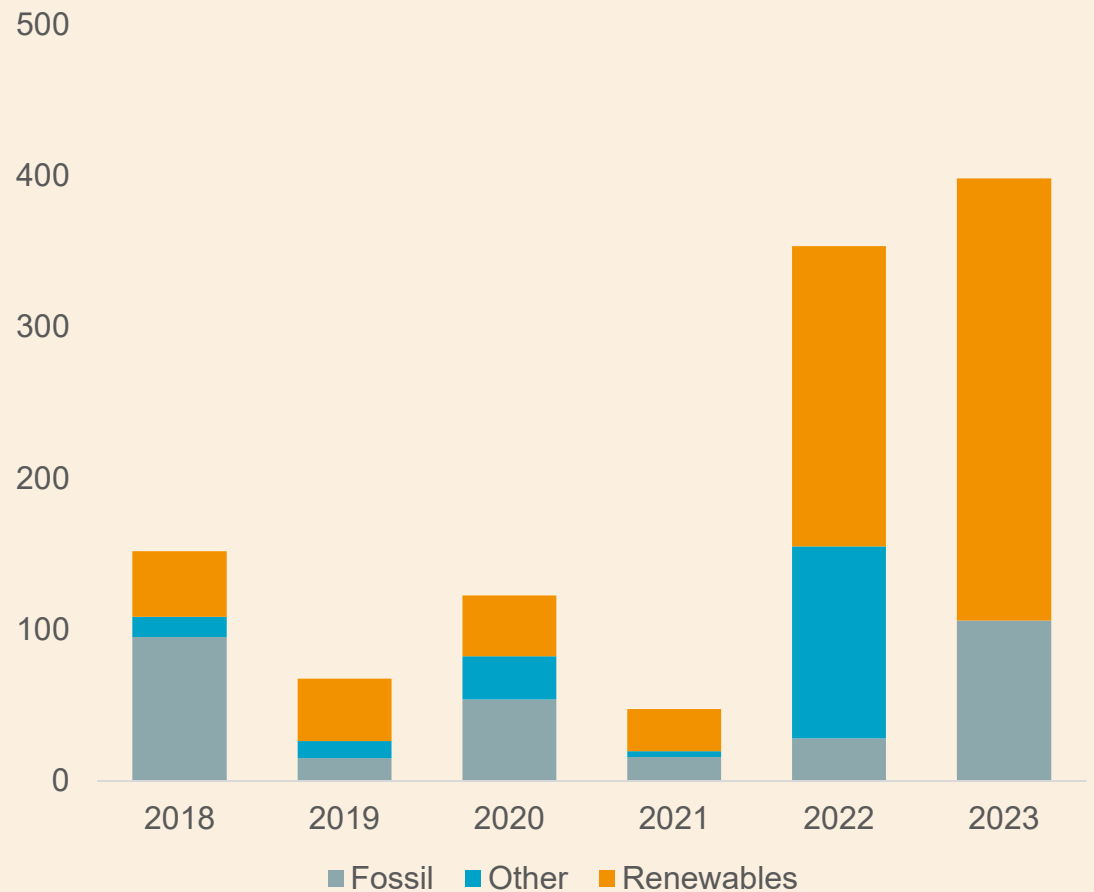
Duration is typically influenced by the targeted revenue stack or regulatory requirements

2h duration projects have become more common over the last 2 years

Some 4h duration projects are expected in the short-term future across Europe

Other trends: Co-location

Project capacity by type of co-located technology (MW)



A lot of the existing co-located capacity is with conventional generation

Of the total installed capacity of projects co-located with renewables, 40% was installed in 2023

Growing application towards 2030, with more co-location schemes added to existing ones

Other trends

Supply availability and battery prices

Battery prices decreased in 2023 and will decrease further in 2024

Price volatility will depend on supply and demand dynamics and will be strongly affected by EV deployment

Increased lithium mining and alternative technologies by 2030

Storage (or flexibility) targets

NECP plan updates brought new renewables and, in some cases, storage targets

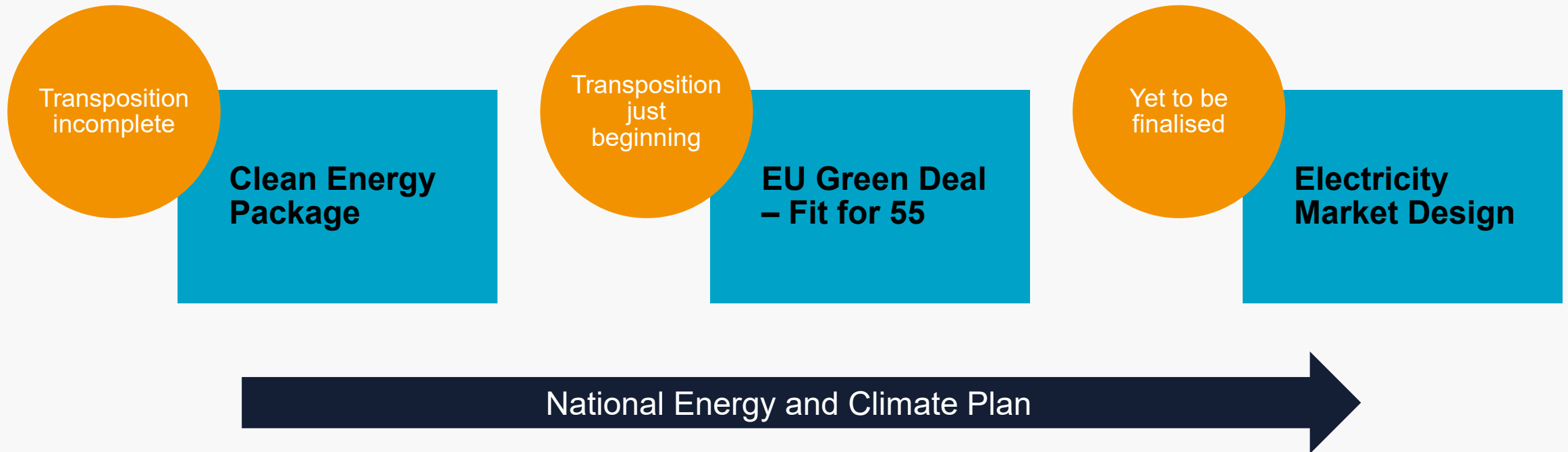
EMD will bring more requirements for targets

Agenda

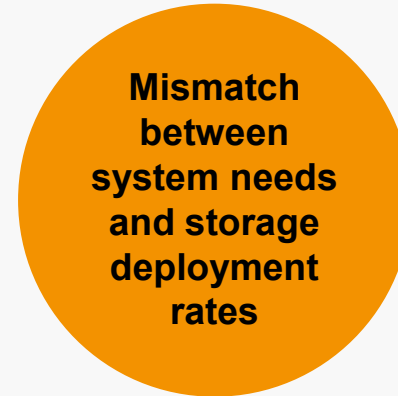
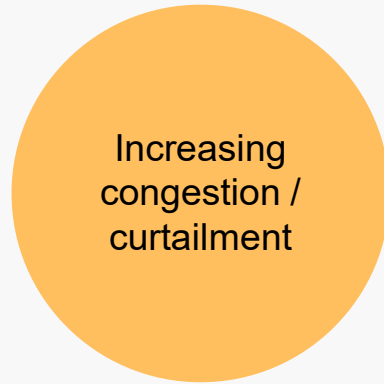
- Introduction
- Market Monitor
- **EU Policy Analysis**

Legislation overview

What legislation will be transposed into national law in the next years?



Policy trends



Setting the basics Efforts of (national) policymakers revolved around defining roles and responsibilities

Market products Focus on strengthening revenue streams by setting up balancing and ancillary services

Attract new market actors New actors are welcome to access the market, from aggregators to prosumers

Security of supply Efforts to ensure sufficient flexibility is available to further integrate renewables – less focus on congestion, decarbonisation

Centralisation Focus on setting capacity markets, auctions, support schemes

Ensuring long-term revenue streams Attempts to strengthen the business case by introducing long-term planning and guarantees

Policy trends - caveats

Market products Ancillary services codified in CEP are still going to be introduced across Europe – e.g. Poland, 2024; new products are foreseen in the EMD revision

Tariffs, fees, taxation Thanks to ETD, EMD revision, and existing CEP provisions, energy storage will be progressively subject to fewer costs

New business models The CEP – strengthened by the EMD – introduce local markets congestion management, peer-to-peer trading, are market that will be progressively untapped in the latter part of the decade

High variability country to country

Significant progress only in the latter part of the decade

So which “policy mix” to expect? What options are at European countries’ disposal?

Removal of **Barriers**,
Strengthening of **Legal
framework**

Introduction/reform of a
Capacity Mechanism

Introduction of
**National ES
Objectives/Strategies**

Introduction of **Support
Schemes**

ES-specific Auctions

What options are at European countries' disposal?

Discussed in EMD? ✓

**Removal of Barriers,
Strengthening of
Legal framework**

**European
Commission
Recommendations**

The European Commission issued a series of recommendations in March 2023 aimed at national government, regulators, and regulated entities to target energy storage barriers

**ACER
Recommendations**

The Agency of European Regulator published in December 2023 a paper documenting existing barriers for energy storage and issuing recommendations

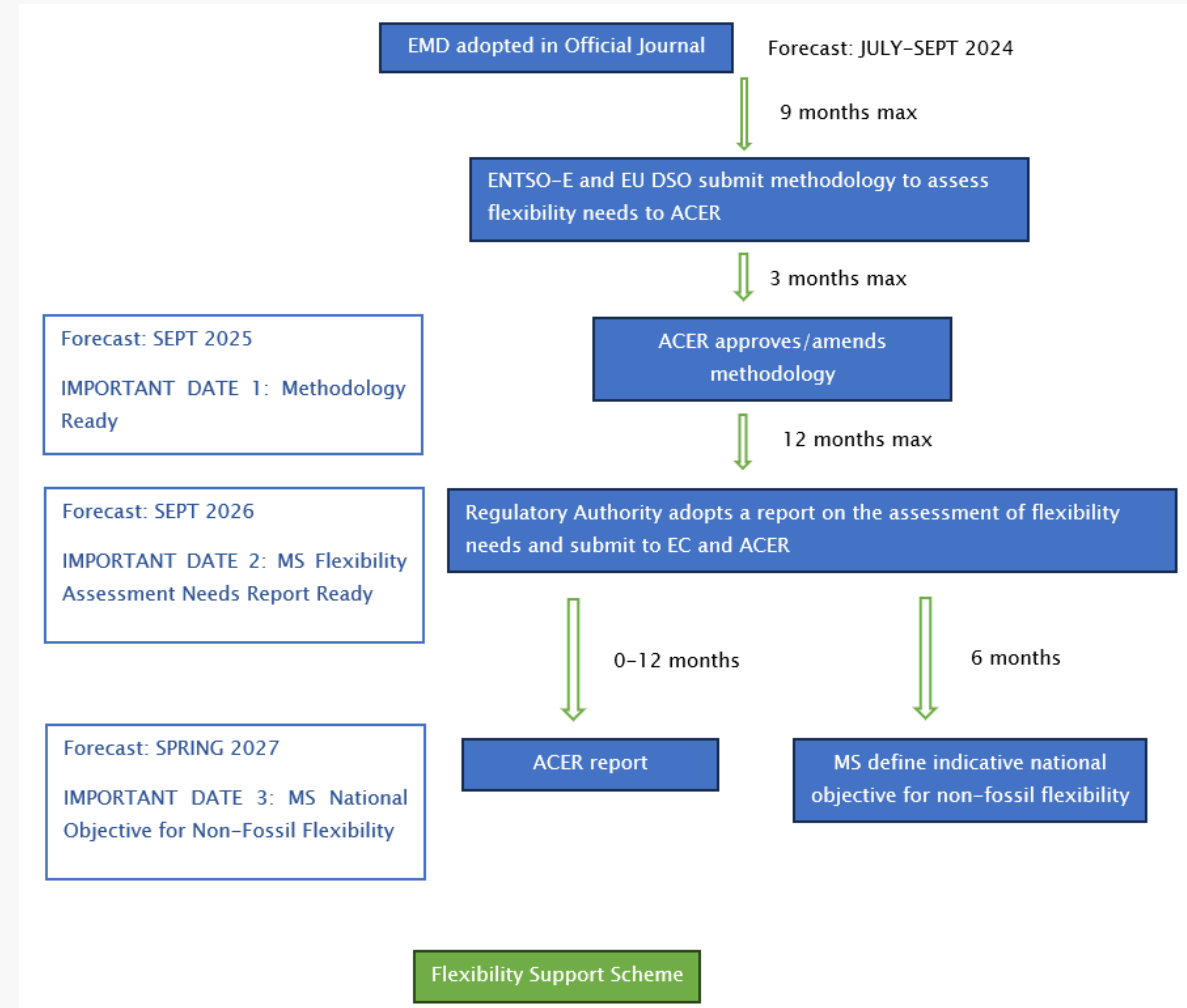
**Electricity market
design revision**

The electricity market design aims to solve barriers e.g. in the context of grid fees

What options are at European countries' disposal?

Discussed in EMD? ✓

Introduction of National ES Objectives and Strategies



What options are at European countries' disposal?

Discussed in EMD? ±

Introduction of
Support Schemes

1. Non-flexibility support scheme

2. Temporary Crisis Transition Framework

3. Treaty on the Functioning of the European Union/Climate, Energy and Environmental Aid Guidelines

4. Non-EU mechanism

What options are at European countries' disposal?

Discussed in EMD? ±

Introduction of Support Schemes

- *Name:* Non-flexibility support scheme under the Electricity Market Design Revision.
- *Introduction year:* 2027 (forecast).
- *Objective:* Mobilise investments in cleantech deployment.

Example:

TBC

1. Non-flexibility support scheme

- ✓ Must be utilised **to fulfil national goals**.
- ✓ Restricted to new investments in non-fossil flexibility resources such as demand side response and energy storage.
- ✓ Flexibility support schemes are only for non-fossil resources and new investments.
- ✓ **Deployed by:** 2027 onwards

What options are at European countries' disposal?

Discussed in EMD? ±

Introduction of Support Schemes

- *Name: Temporary Crisis Transition Framework*
- *Introduction year: 2023*
- *Objective: Reduce the EU's dependence on imported fossil fuels by loosening EU State Aid rules under*

Example:



2. Temporary Crisis Transition Framework

Expiring 31 December 2025

- ✓ Section 2.5 TCTF covers state aid for accelerating the rollout of renewable energy and **energy storage (electricity and thermal storage)**.

What options are at European countries' disposal?

Discussed in EMD? ±

Introduction of Support Schemes

- *Name: Treaty on the Functioning of the European Union*
- *Objective: EU constitutional basis; framework for public authorities to support the European Green Deal objectives.*

Example:



3. Treaty on the Functioning of the European Union/Climate, Energy and Environmental Aid Guidelines

- ✓ The new CEEAG **explicitly cover energy** storage as defined in the Electricity Market Directive (2019/944)
- ✓ CEEAG envisions 13 different categories that justify the approval of State aid
- ✓ **Deployed by:** Hungary, Slovenia, and Slovakia have schemes focusing on energy storage facilities.

What options are at European countries' disposal?

Discussed in EMD? ±

Introduction of Support Schemes

- *Name: (e.g.) UK LDES cap and floor scheme*
- *Introduction year: TBC*

Example:



4. Non-EU mechanism

- ✓ Support schemes developed outside the EU, e.g. the UK LDES one, appear to be in line with EU rules on competition, and to be similar to instruments under development within EU Member States (e.g. Estonia)
- ✓ **Deployed by:** e.g. UK

What options are at European countries' disposal?

Discussed in EMD?	✓
ES-specific Auctions	

A state aid measure compliant with CEEAG

Measures of this kind have been approved in the past approved by European Policymakers

Ability to auction significant capacity and dramatically reshape the market

The MACSE Auction in Italy is expected to deploy more than three times the 2023 capacity by 2030

Quick turnaround between political decision to deploy this scheme and first auction

Compared to other State Aid schemes such as CfDs, this tool could be deployed in a shorter time.

Example:



Conclusions

Different countries: Different drivers.

- Policy trends suggest that in the next few years many markets will develop, especially after 2026.
 - While at the moment some national energy storage markets are almost inexistent due to unsatisfactory legal framework, this will have to change due to EU legal obligations,
 - The more mature markets, e.g. ITA, DE, UK will also accelerate their deployment rates by relying on different support/adequacy instruments.
- Drivers and business case will differ even more from state to state, as policy approaches will become more and more different from country to country.

Contact us



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