

# Velkommen til afterwork om batterier

Mesh, Oslo 10.mars 2026



# Medlemmer i Batteriforum

 **Hitachi Energy**

 **SIEMENS energy**

 **ABB**

 **Norsk Industri**

 **MORROW**

 **nordic batteries**

 **eInnor.**

 **Vianode**

 **eInnor.**

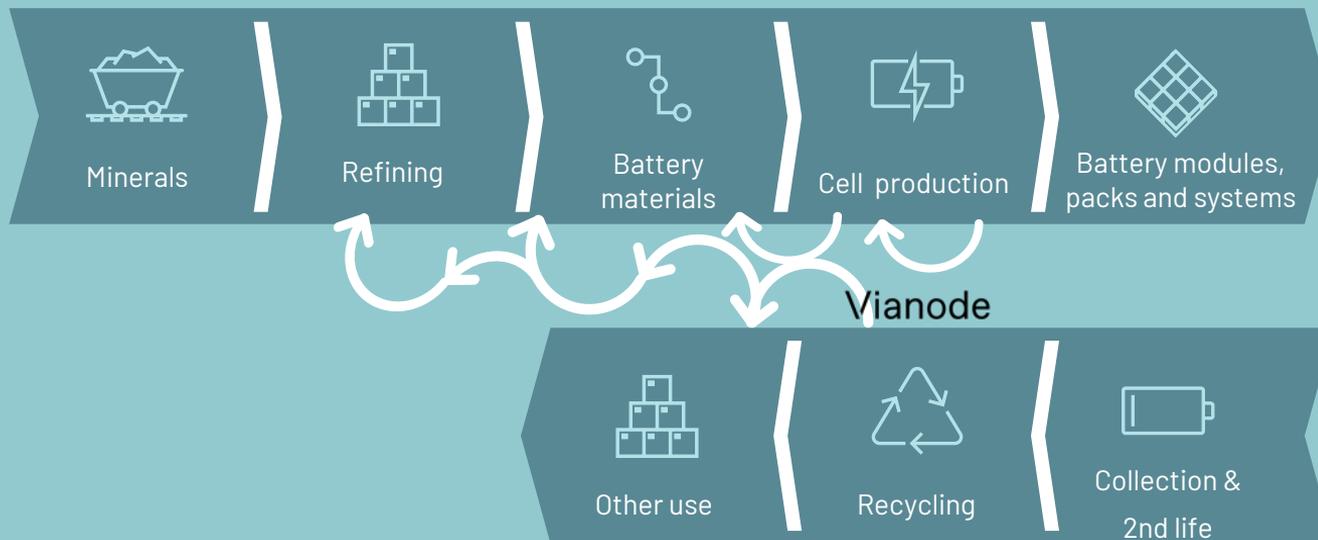
 **Corvus Energy**

 **CENATE**

 **BEYONDER**

 **BEYONDER**

Battery Value Chain



UTNYTTELSE & BRUK



Vehicles



Industry



Maritime



Grid

Samarbeidspartnere:



Fornybar Norge



NHO Elektro



Battery Norway

**FME BATTERY**



FME SOLAR



Fornybar  
Norge



Norsk Industri

# Program for dagen

**16.00** Velkommen.

**16.05** Åpning av Siri Martinsen, Statssekretær Nærings- og fiskeridepartementet (Ap)

**16.10** Samtale om status og veien videre for batterier.

Harald Solberg, adm. direktør i Norsk Industri og Bård Vegar Solhjell, adm. direktør i Fornybar Norge.

**16.25** Hva skjer på batterifronten - teknologi, marked og kostnader. Jonas Erraia, Menon

**16.40** Panel 1: Hva er muligheter innen bruk av batterier i kraftsystemet og andre sektorer?

**17.10** Panel 2: Står vi foran et europeisk batteri-comeback? Hva betyr det for Norge?

**17.40** Politikersamtale med Siri Martinsen og Kari Sofie Bjørnsen, Energi- og miljøkomiteen (H)

**18.00** Tapas og drikke





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# Åpning

**Siri Martinsen**, Statssekretær Nærings- og fiskeridepartementet (Ap)





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# Status og veien videre for batterier

**Harald Solberg**, administrerende direktør Norsk Industri

**Bård Vegar Solhjell**, administrerende direktør Fornybar Norge

**Trine Kopstad Berentsen**, direktør sol og batteri, Fornybar Norge



# Battery industry - technology, market and costs

Presentation 10.03.2026

# Agenda

**1**

**Introduction**

**2**

**Global market trends and drivers**

**3**

**Growth and forecasts in Europe**

**4**

**EU's role for developing a value chain**

# About us

## Knowledge for better decisions

Menon Economics is a leading consultancy firm based in Oslo, specialised in economic analysis, evaluation and advisory services. We provide relevant and accurate knowledge every single day.

We approach everything with dedication and professional expertise.



**Jonas Erraia**

Partner

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The background of the slide is a blurred photograph of an industrial factory floor. Several white robotic arms are visible, positioned over a production line. The lighting is cool and blue-toned, creating a modern, high-tech atmosphere. A semi-transparent white horizontal band is overlaid across the middle of the image, containing the main title.

# Global market trends and drivers

# Two main drivers affect demand for batteries



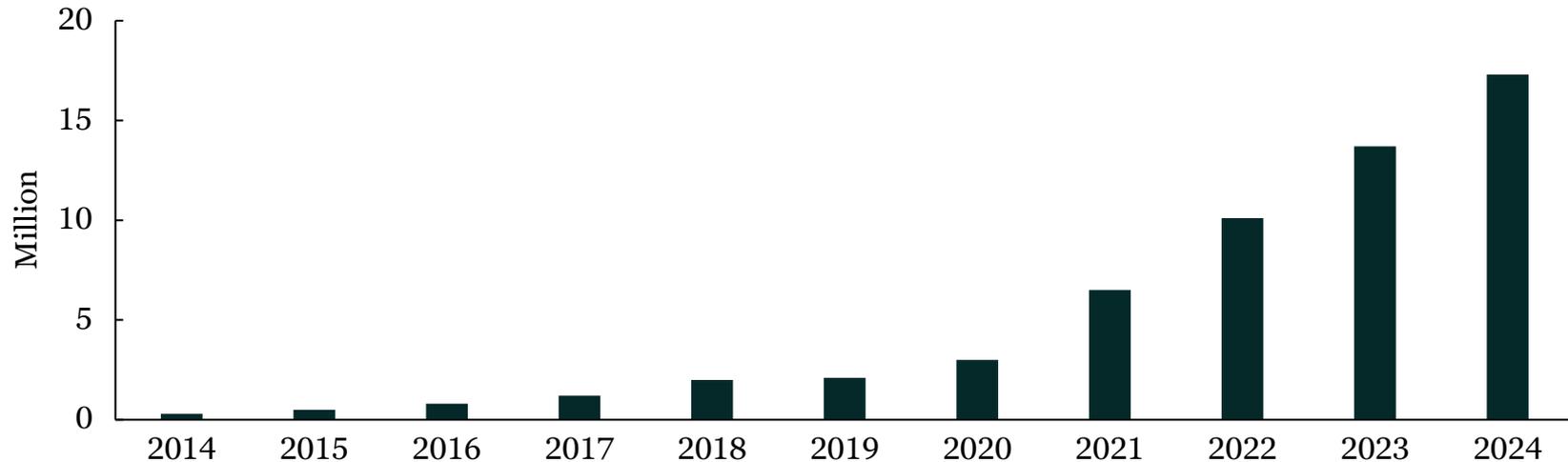
Electric Vehicles (EV)



Battery Energy Storage System (BESS)

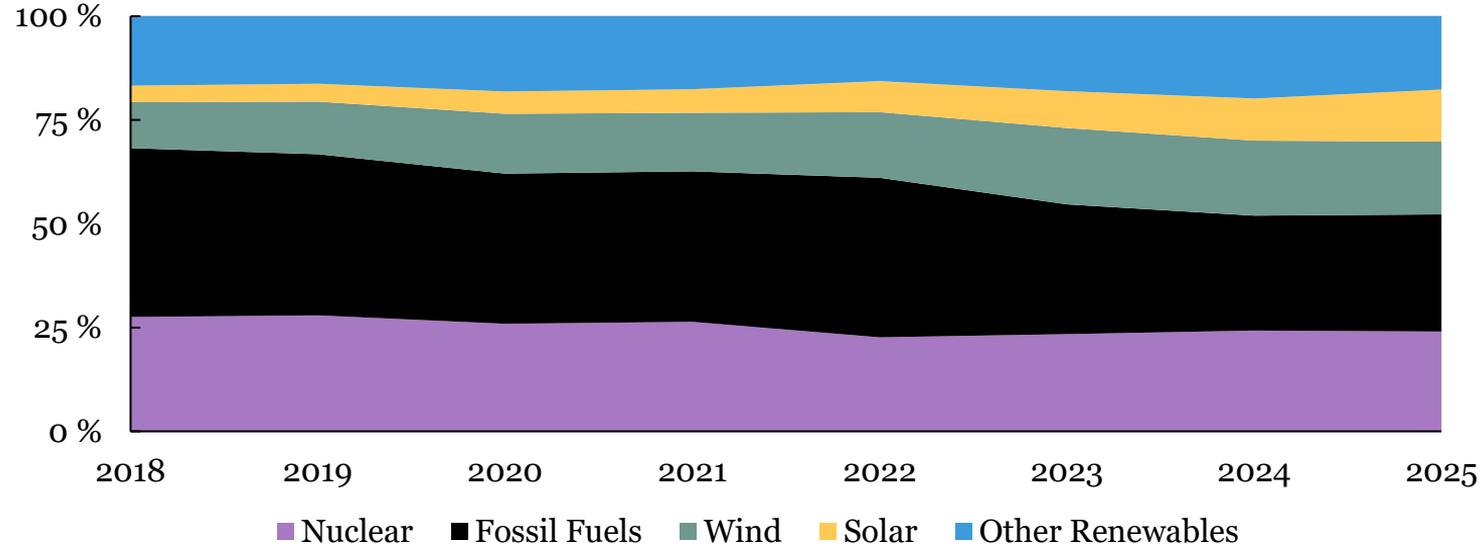
# EV sales are growing rapidly

Global sales of battery electric vehicle and plug-in hybrid vehicle. Source: IEA.



# Renewables are an increasingly larger share of the electricity mix in Europe

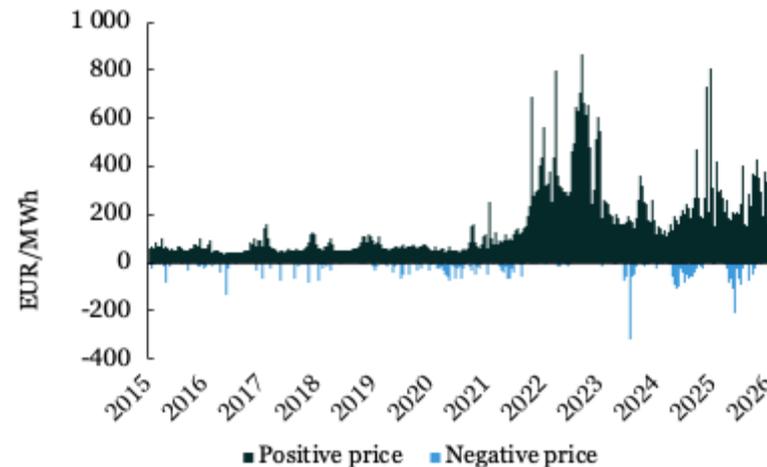
Shares of different power production technologies in the European power system



# Growing arbitrage opportunities for BESS

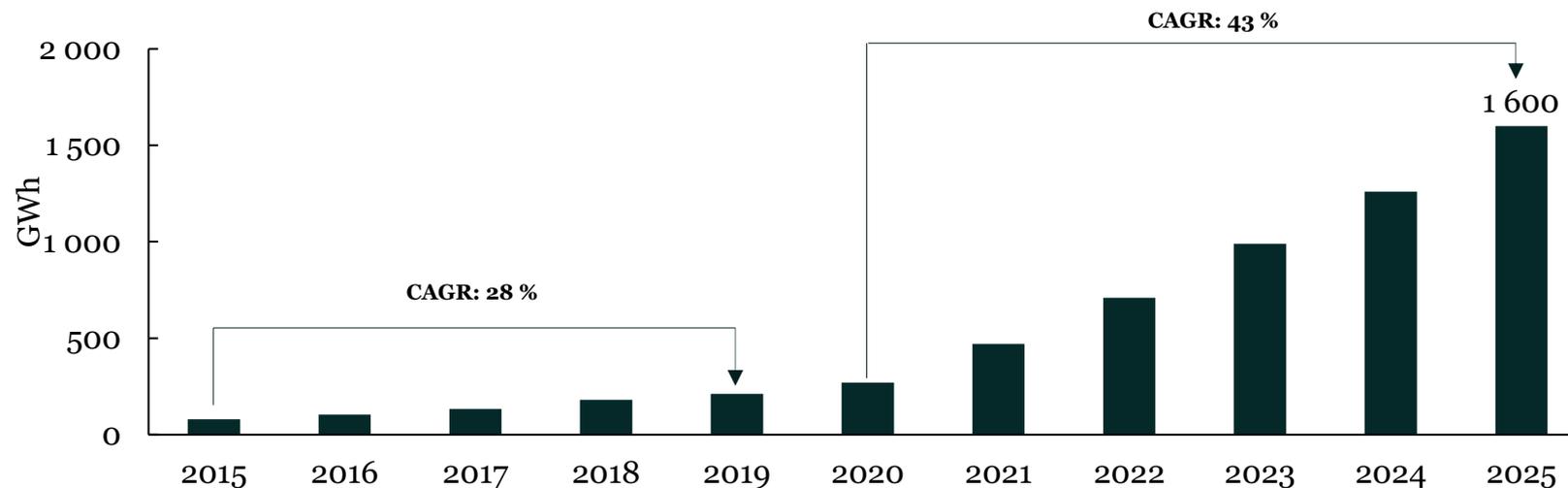


Hourly spot prices in Germany. Source: Ember.



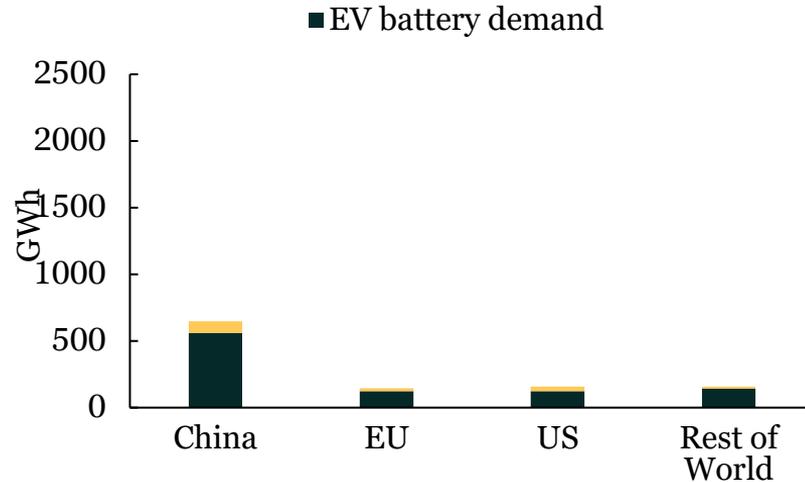
# Demand for batteries

Global demand and supply of Li-Ion batteries. Source: IEA.



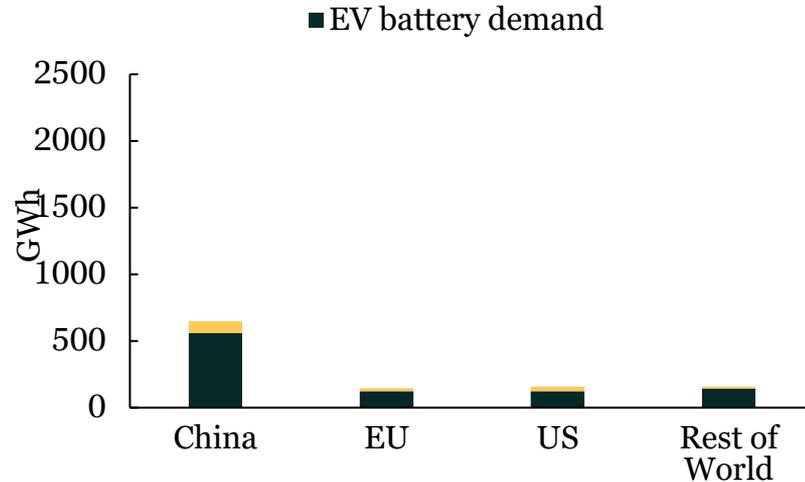
# China dominates demand and (over)supply of batteries

Demand for batteries by region in 2024. Source: IEA.

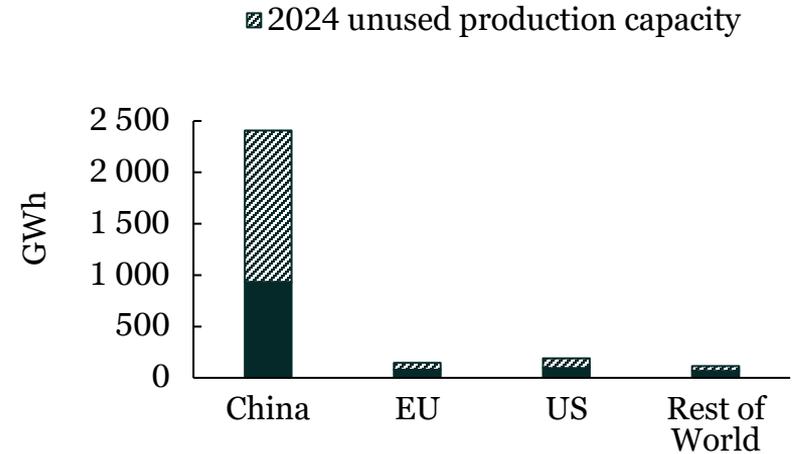


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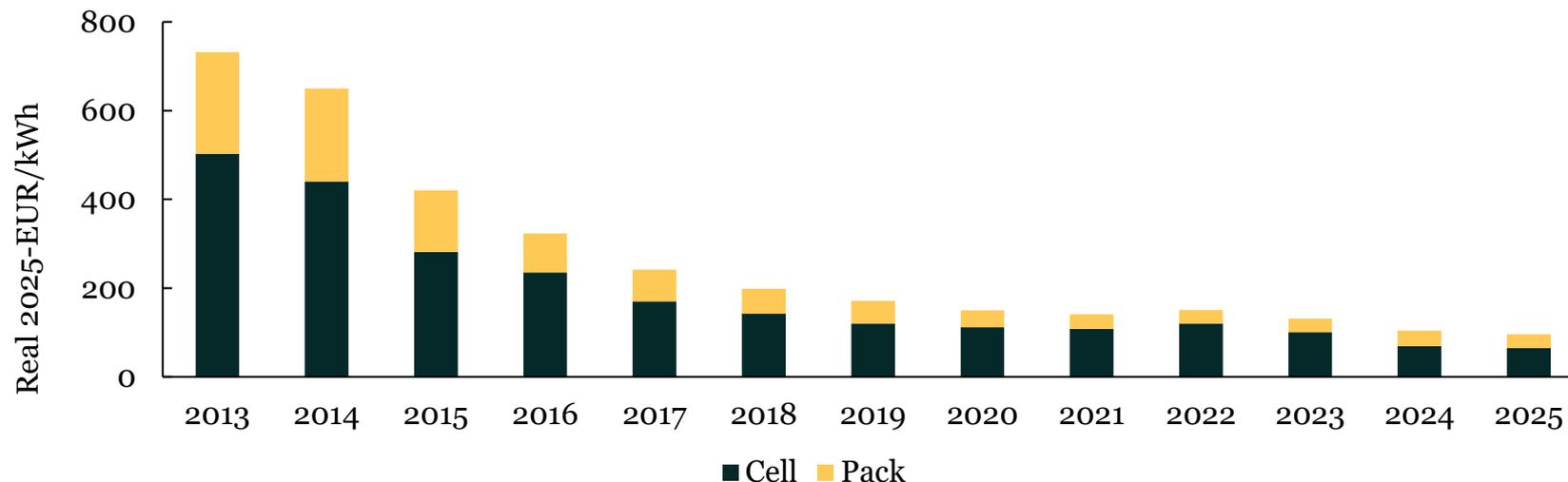


Supply of batteries by region in 2024. Source: IEA.



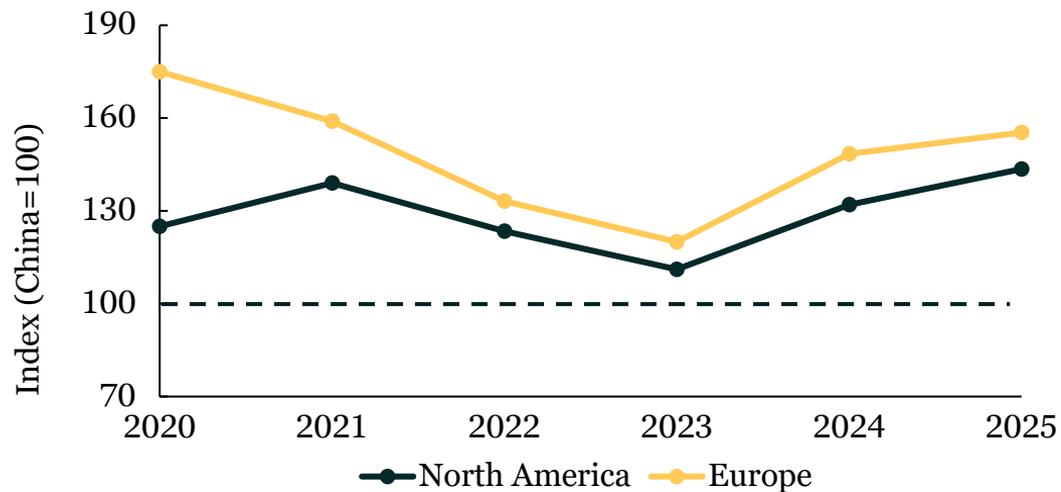
# Battery prices have dropped to under 100 EUR/kWh

Volume-weighted average lithium-ion battery pack and cell price split. Source: BNEF.



# China has the most competitive prices

Price development of batteries in North America and Europe relative to China. Source: IEA.

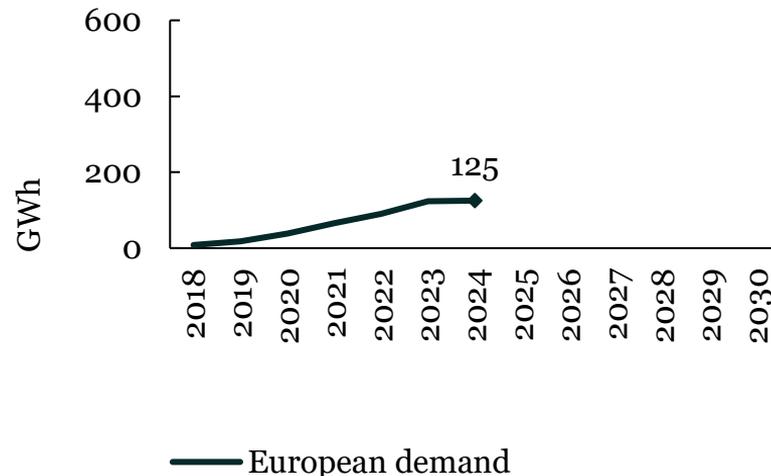




# Growth and forecasts in Europe

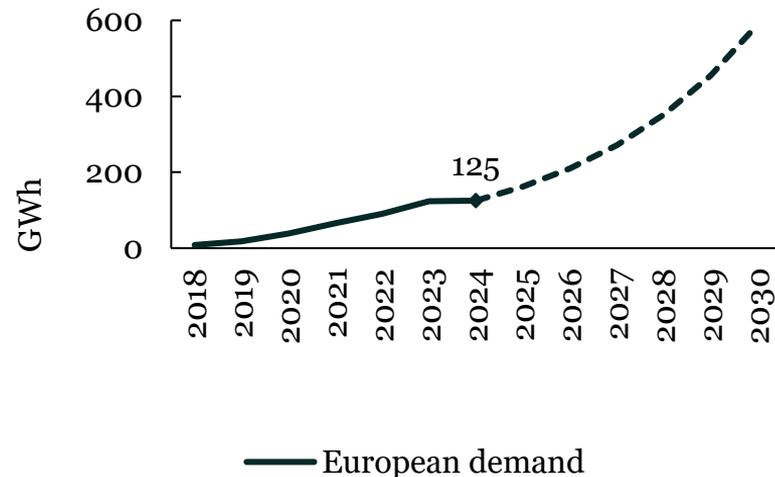
# Yearly demand for EV-batteries and BESS in Europe

Europe annual EV-battery demand. Source: IEA.



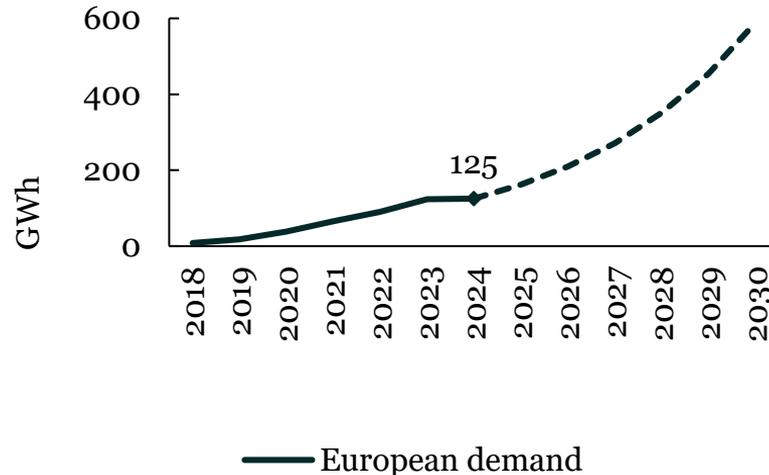
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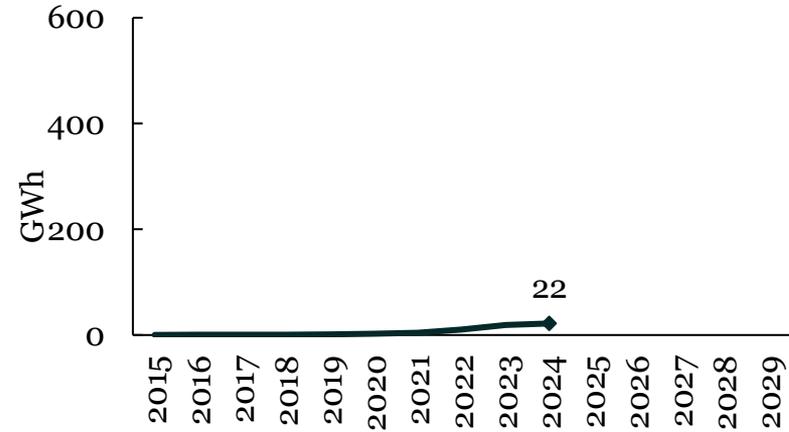


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Europe annual EV-battery demand. Source: IEA.

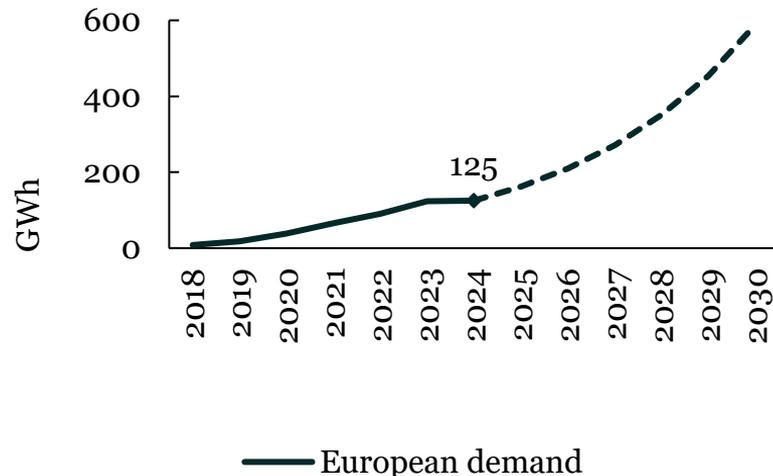


Europe annual BESS capacity demand. Source: Solarpowereurope.

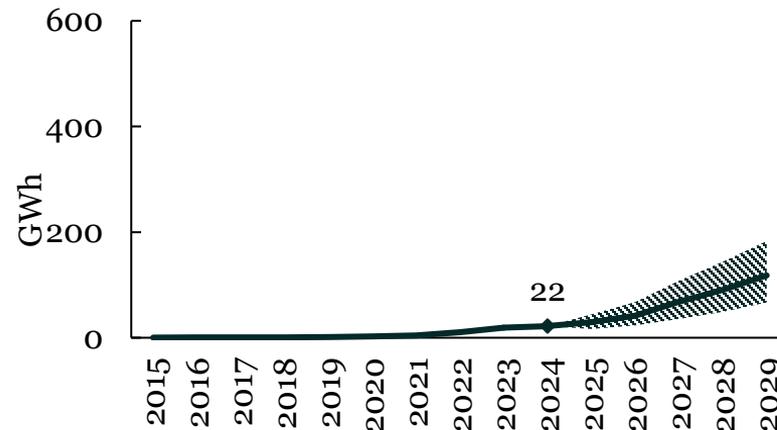


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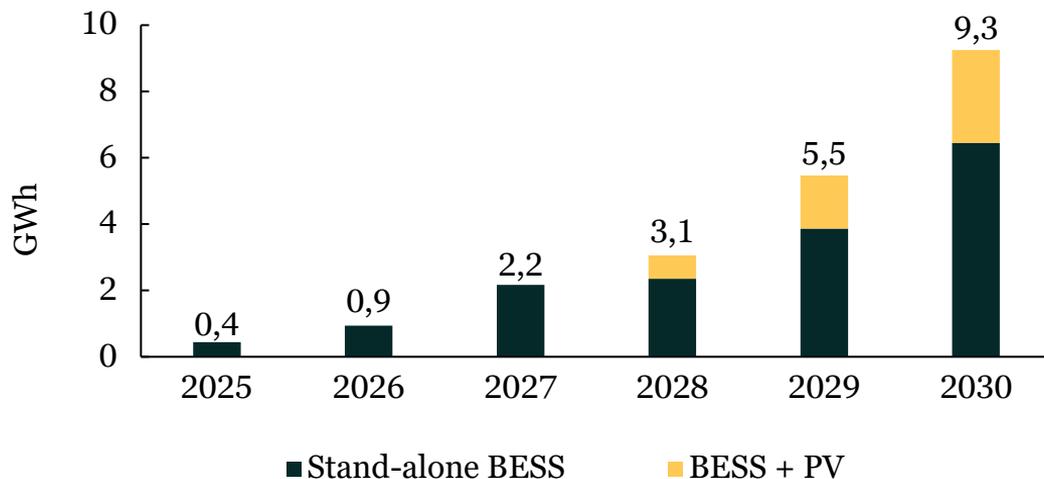


Europe annual BESS capacity demand. Source: Solarpowereurope.



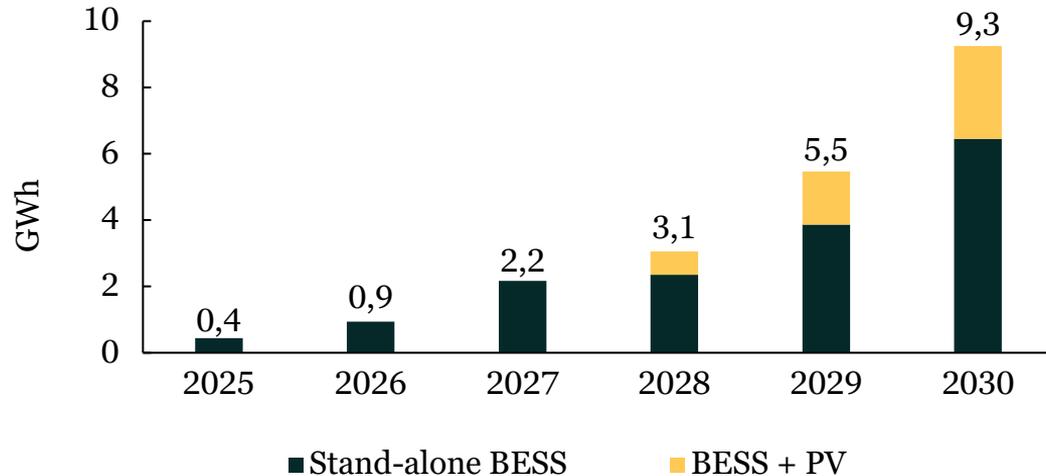
# Nordics: BESS projections in Denmark

Projected installed capacity of Danish BESS fleet towards 2030. Source: Energistyrelsen.



# Nordics: BESS projections in Denmark

Projected installed capacity of Danish BESS fleet towards 2030. Source: Energistyrelsen.



*“There is currently unprecedented interest in building grid energy storage facilities in Finland with more than **30 000 megawatts of energy storage** requests for connection to the grid. This is approximately double the amount of **Finland’s** all-time peak electricity consumption. Fingrid has already signed contracts to connect energy storage facilities to the grid for around 1 800 megawatts, and significant amounts of energy storage connections to distribution networks have also been agreed.”*

**+6 GW i kØ i DK**

**+3.5 GW i kØ i SE**

The background of the slide is a photograph of several European Union flags waving in front of a building with large windows. The flags are blue with twelve yellow stars arranged in a circle. A semi-transparent white horizontal band is overlaid across the middle of the image, containing the main title text.

# EU's role for developing a value chain





Menon  
Economics





Fornybar  
Norge



Norsk Industri

# Hva er muligheter innen bruk av batterier i kraftsystemet og andre sektorer?

**Erik Marstein**, IFE/FME Solar

**Jon Erik Ur Gjerde**, RME

**Kine Ryberg**, Eidsiva Vekst, PeakShaper/Eidsiva

**Carl Chr Strømberg**, EnergiSmart Norge

**Ola Johannes Jordal**, Corvus Energy

**Trine Kopstad Berentsen**, Fornybar Norge– Moderator



# Batterier i kraftsystemet

Erik Stensrud Marstein

Direktør – Norsk forskningssenter for solkraft (FME SOLAR)

# Det grønne skiftet trenger fleksibilitet!

- Batterier bidrar til å løse to hovedutfordringer
  - Lønnsomhet
  - Nettintegrasjon
- Kontrollerbare sol- og vindkraftverk en gamechanger

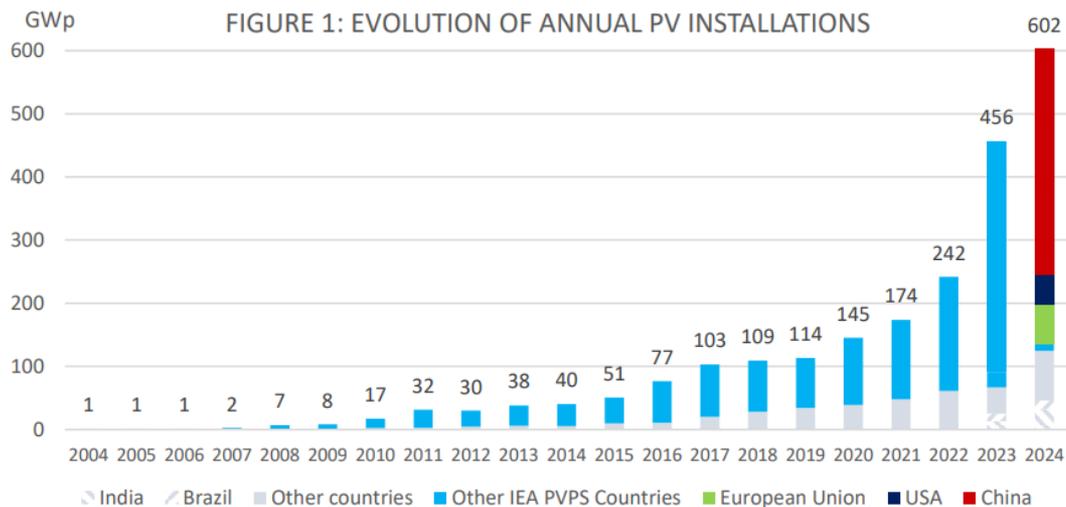
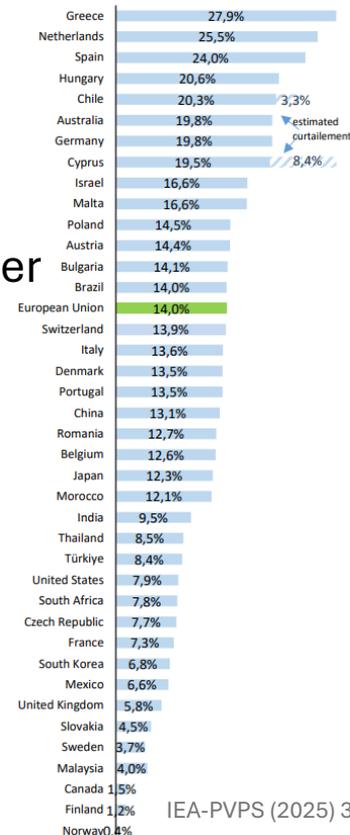


FIGURE 8: THEORETICAL PV PENETRATION 2024



# Batterier i kraftsystemet

## NETTSTØTTE

- Frekvensstøtte
- Spenningsstøtte

## NETTINTEGRASJON

- Firming
- Smoothing
- Ramp rate controls

## NETTAVLASTNING

- Redusert nettbelastning
- Effektiv nettutnyttelse

## OPTIMALISERT DRIFT

- Redusert komponentslitasje



## OFFGRIDSYSTEMER

### HYBRIDKRAFTVERK

#### BEREDSKAP

- Øydrift
- «Black start»
- Back-up

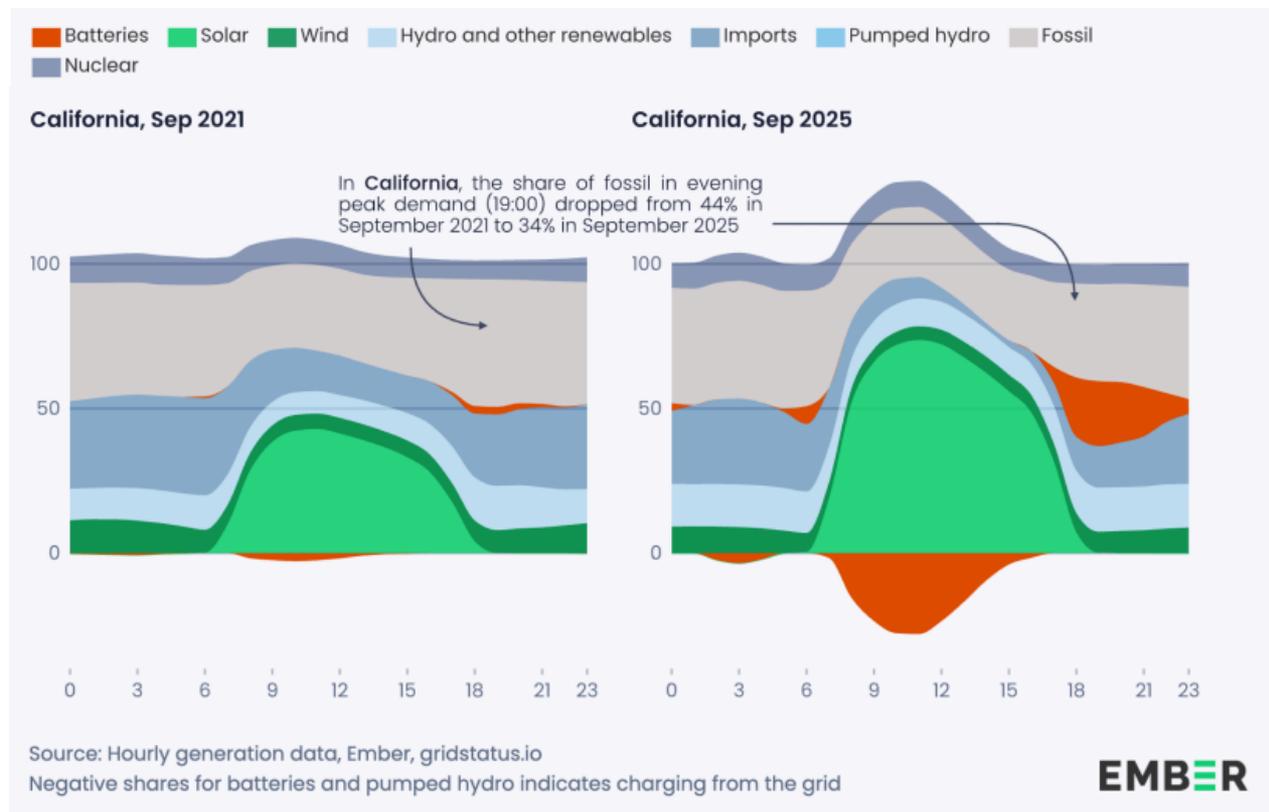
#### MARKEDSOPERASJONER

- Arbitrasje
- Day-Ahead og Intra-Day
- Ubalansekostnader
- Kapasitetsmarkeder
- Reservemarkeder

#### BÆREKRAFT

- Økt egenforbruk
- Redusert produksjonstap

# Batterier i kraftsystemet





RME

# Batterier i strømmettet

Hva er behovet for reguleringsendringer i møte med nye teknologier?

Jon Erik Ur Gjerde

Rådgiver, RME

10. mars 2026

# Avdekking av behov

- RMEs sommerprosjekt 2025: [Regulatoriske utfordringer for batteriaktører](#)
  - Historisk lavere behov for reservemarkedstjenester pga. vannkraft; i ferd med å endres
  - Flere bruksområder og kan tilby ulike tjenester (verdistabling)
  - Uavklarte spørsmål om tariffutforming. Mulig fordel med standardisering i form av regulering.
  - Strengt og til dels uklare krav for å kunne delta i reservemarkedene
  - Markedsatferd; gjelder forbudet mot fysisk og økonomisk tilbakeholdelse for BESS?
  
- Uenighetssaker mellom og henvendelser fra markedsaktører
  - Måkaknuten – *krav til måling for avregningsformål*
  - Pixii og GridCore Energy Storage – *prekvalifisering og markedsdeltagelse*
  - Workshops, samtaler og andre bransjefora – *tariffing, markedsadgang og vilkår, behov for tilpasset tilknytningsprosess og målekrav*
  
- Batterier har positive egenskaper for kraftsystemet

## RMEs fokus på batterier i 2026

- RME skal se på reguleringen i 2026, men scope er ikke avklart ennå
- Aktuelle tema kan være, men er ikke begrenset til:
  - Markedsadgang, tilknytningsvilkår og –prosess med særlig fokus på frittstående batterier, batterier samlokalisert med produksjon og hybridisering av kraftverk
  - Tariffering
  - Avklaring av når RME stiller krav til omsetningskonsesjon med vilkårssett for nettvirksomhet
    - Betydning for krav til måling for avregningsformål
- NVE har fått et oppdrag fra ED om rammeverket for konsesjonsbehandling og håndtering av batterianlegg



RME

## Ta kontakt

Navn: Jon Erik Ur Gjerde

E-post: [jeg@nve.no](mailto:jeg@nve.no)



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# Står vi foran et europeisk batteri-comeback? Hva betyr det for Norge?

**Sonia G. S. Rathscheck**, CVX Ventures, tidligere Freyr

**Viviane Johnson**, Morrow Batteries, tidligere Northvolt

**Andreas Forfang**, Vianode - moderator





# Are we facing a European battery comeback? What does that mean for Norway?

EU Clean Industrial Deal policies relevant for batteries

## RESourceEU

Action plan to reduce  
supply-chain dependency

## Battery Booster

Strategy to improve  
business case for batteries  
in Europe, including  
funding

## Industrial Accelerator Act

Boosting competitiveness  
for strategic industries via  
Made In Europe



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## Politikersamtale

**Siri Martinsen**, statssekretær Nærings- og fiskeridepartementet (AP)

**Kari Sofie Bjørnsen**, Energi- og miljøkomiteen (H)

**Arne Eik**, Norsk Industri - moderator





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**Og straks....tapas & noe godt i glasset!**

