

# The future of BESS & other highly dynamic resources

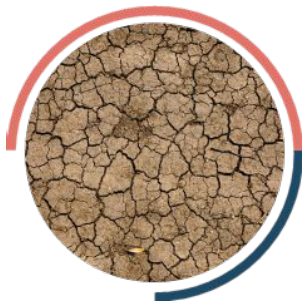
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CEO & Founder - Sympower

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Enspired - November 2022



# The effects of the climate crisis are impacting Europe



Rate of **temperature** increase over **×2 global average**



**8600 ha** of forest burnt by wildfires in 2022, breaking historic **record in 9 EU countries**

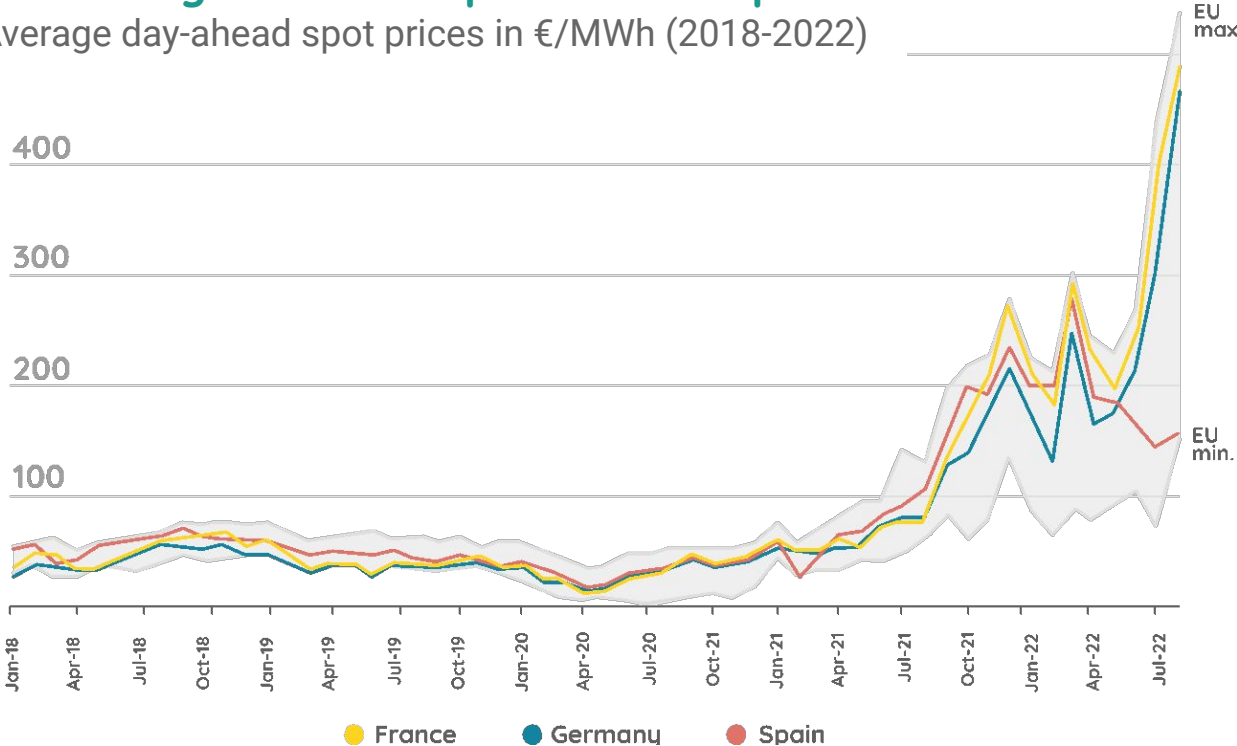


**>500k people** **directly affected** by extreme weather events<sup>1</sup> incl. **hundreds of fatalities**

# Europe is also witnessing an unprecedented energy crisis

## Electricity wholesale price in Europe

Average day-ahead spot prices in €/MWh (2018-2022)



A man wearing a yellow hard hat and a high-visibility safety vest is looking at a tablet computer. He is standing in a solar farm with rows of solar panels in the foreground and wind turbines in the background under a clear blue sky.

**The Energy Transition**

**is the long-term remedy for these crises**

# However, the destabilisation of electricity grids will become a bottleneck to this Energy Transition

Electrification creates higher demand peaks

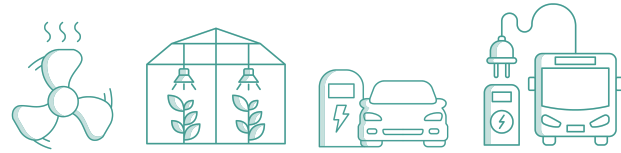
Renewables bring more intermittency in power generation



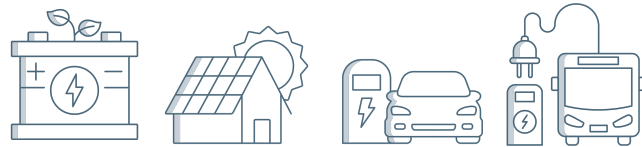
# Distributed flexibility is a sustainable option to relieve pressure on grids and energy markets

Distributed flexibility is a **change in electricity consumption or supply** helping keep the electricity grid in **balance**

Phase consumption at the most needed times

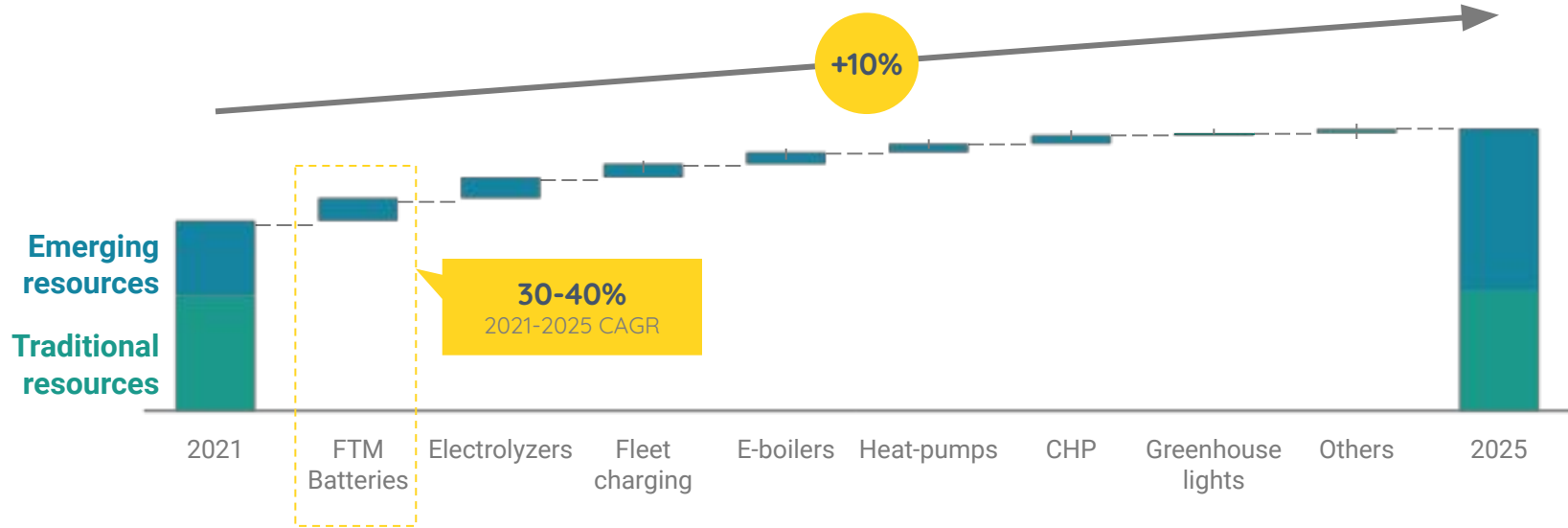


Inject power in the grid when supply can't meet demand



# Distributed flexibility is expected to grow rapidly at 10% YoY by 2025, and FTM BESS grows at 30-40%

## Breakdown of distributed flexibility growth in non-residential sectors



# FTM BESS is experiencing high momentum...

## BESS attributes make it an highly flex asset



Rapid response of <1sec



Able to continuously alter power over extended periods of time



Li-ion BESS durations range between 0.5-4hrs

## Why is this flexible asset seeing high momentum now?

- 1 Increasing flexibility needs of the system (increased RE penetration) → need for highly flexible assets
- 2 Improving policy frameworks (in part contributed to current energy crisis)
- 3 Reduced costs of BESS components
- 4 Mainstreaming of project development phases

## A highly flex asset can participate in many flexibility markets

Balancing markets

Wholesale markets

Capacity markets

Congestion markets



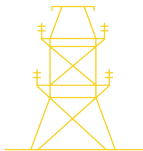
# ...but the business model for BESS developers still holds great uncertainty



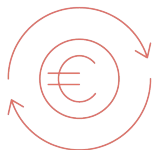
Nascent BESS regulations



Income not guaranteed and subject to fluctuating prices



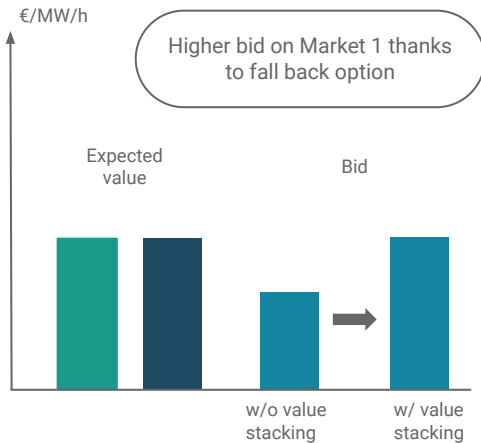
Grid connection challenges



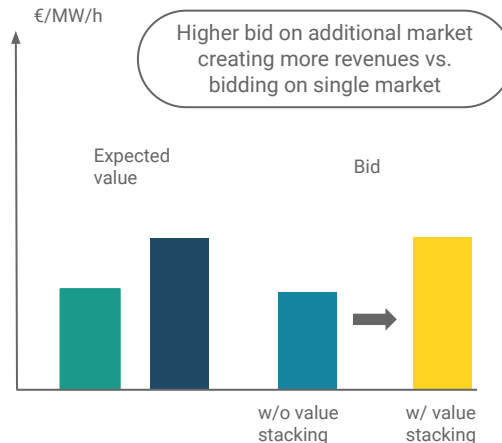
Limited track record - typical ROI ~10 years

# Value stacking across markets maximizes value for resource owners

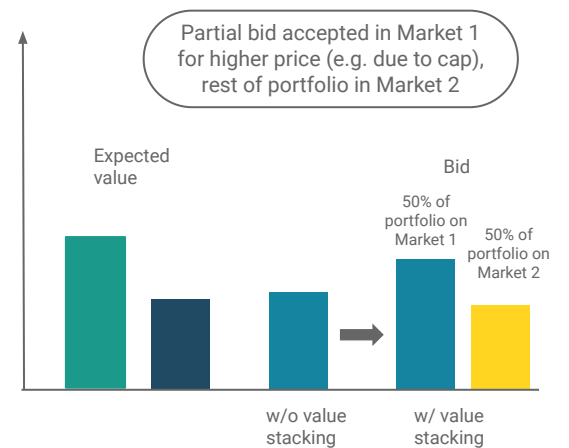
**Case 1:** Ability to bid less conservatively on balancing markets when there is a fall back



**Case 2:** Maximise value for flexibility for customer



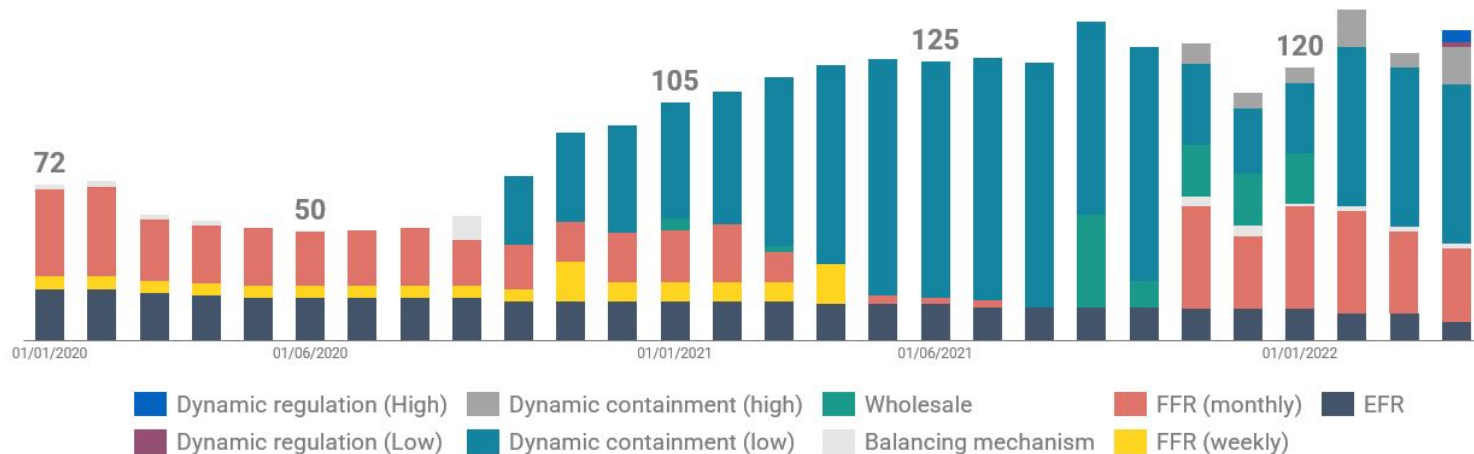
**Case 3:** Maximise value for flexibility for total portfolio



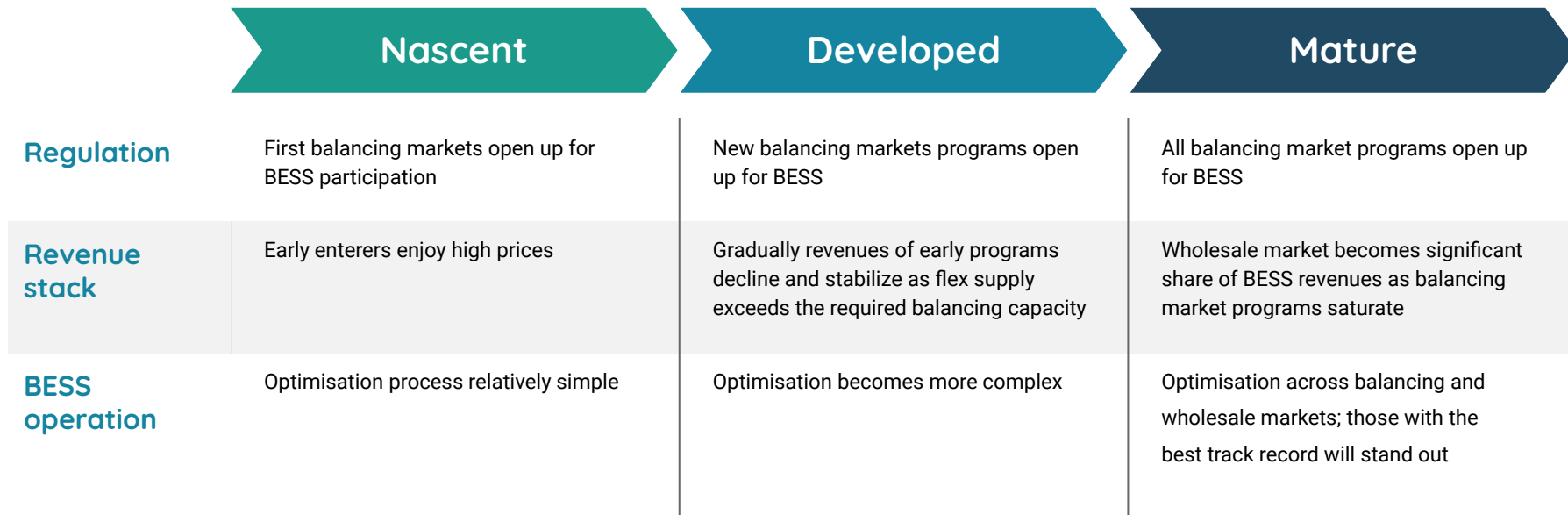
As markets evolve, saturate and become more complex, value stacking becomes increasingly important...

## BESS revenue stack evolution in Great Britain

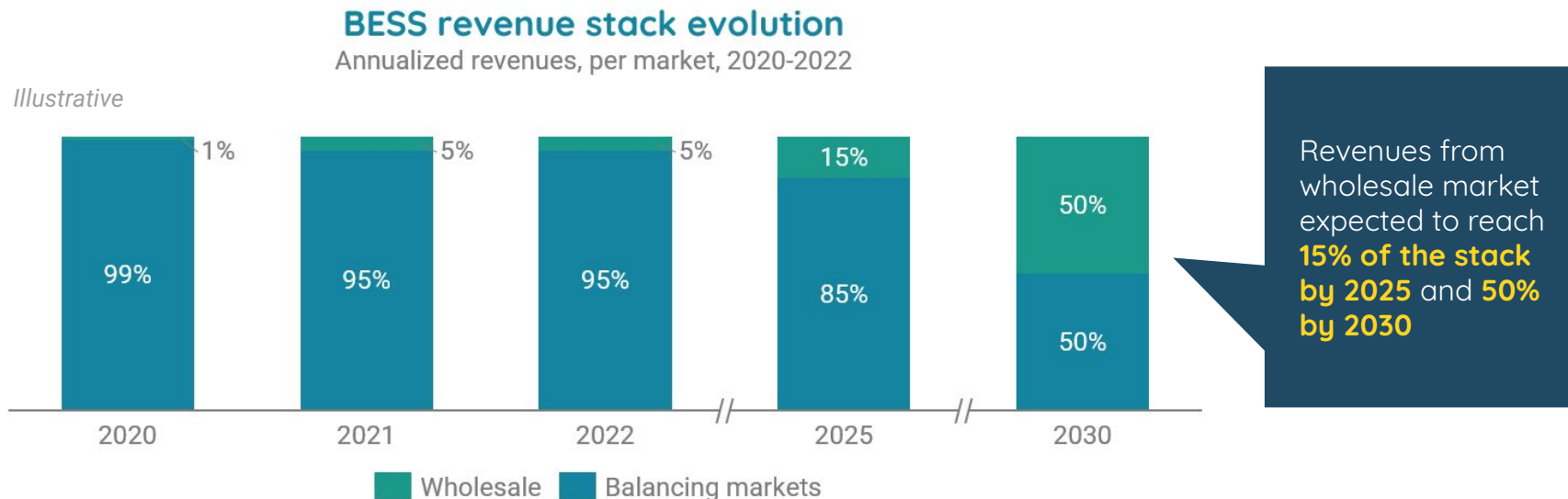
Annualized revenues in GBP/MW, 2020-2022



## ...and optimisation across markets becomes a key success factor



# BESS value stack expected to become increasingly balanced between balancing and wholesale markets



# BESS developers need an optimiser to successfully operate their assets over the project's lifetime



# Maximising revenue for asset owners drives energy costs reduction and CO<sub>2</sub> emissions abatement



## Reduce energy sourcing costs

€4.7trillion annual energy sourcing costs reduction potential<sup>1</sup>



## Contribute to decarbonisation

6.7Mt annual direct CO<sub>2</sub> emissions reduction potential<sup>1</sup>



# Sympower is a mission-driven team

Providing flexibility services to create a sustainable future

Founded in 2015  
as an **independent  
aggregator**

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Managing **~1GW** of  
distributed flexible  
resources

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Working collectively with  
more than **110** people,  
with **30+** nationalities

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Latest round of **€22M**  
in July 2022 led by  
Activate Capital

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Certified



Corporation



# Sympower is live in 5 countries in Europe and expanding to 7 others

Working with more than **~200 commercial and industrial businesses** with assets including BESS, HVAC, industrial electric boilers, CHP, greenhouse lighting, etc.



# Sympower is an expert in optimising portfolios of flexible resources, including BESS, across Europe

## FlexScan

Providing expertise and insights to determine the **flex opportunity and value** of the resources at the customer site

## FlexConnect

**Connecting, Configuring and Operating** the resources by unlocking them to our platform

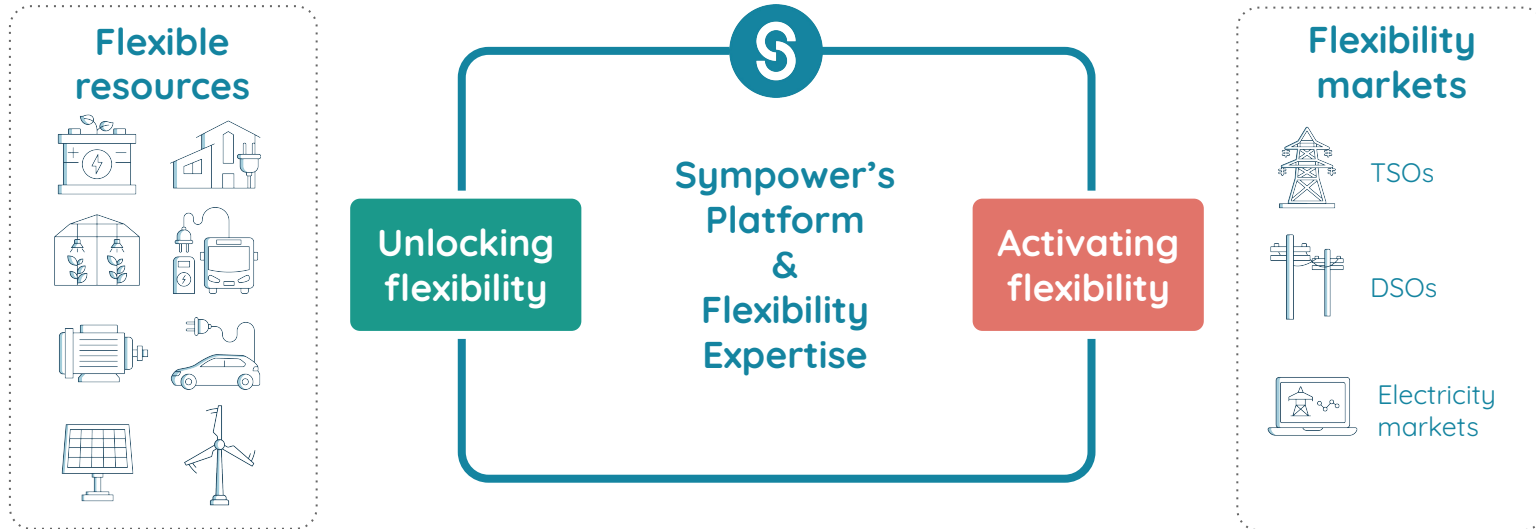
## FlexPortal

Providing **insights, real time reporting and resource management** for our customers via the interface (portal) of the platform

## FlexManagement

Creating customer value with the flexibility of the resources via **daily management, forecasting, bidding and optimisation**

# Sympower provides a sustainable solution to stabilize the current & future electricity system





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