




Battery storage: Opportunities and Challenges

April 2018



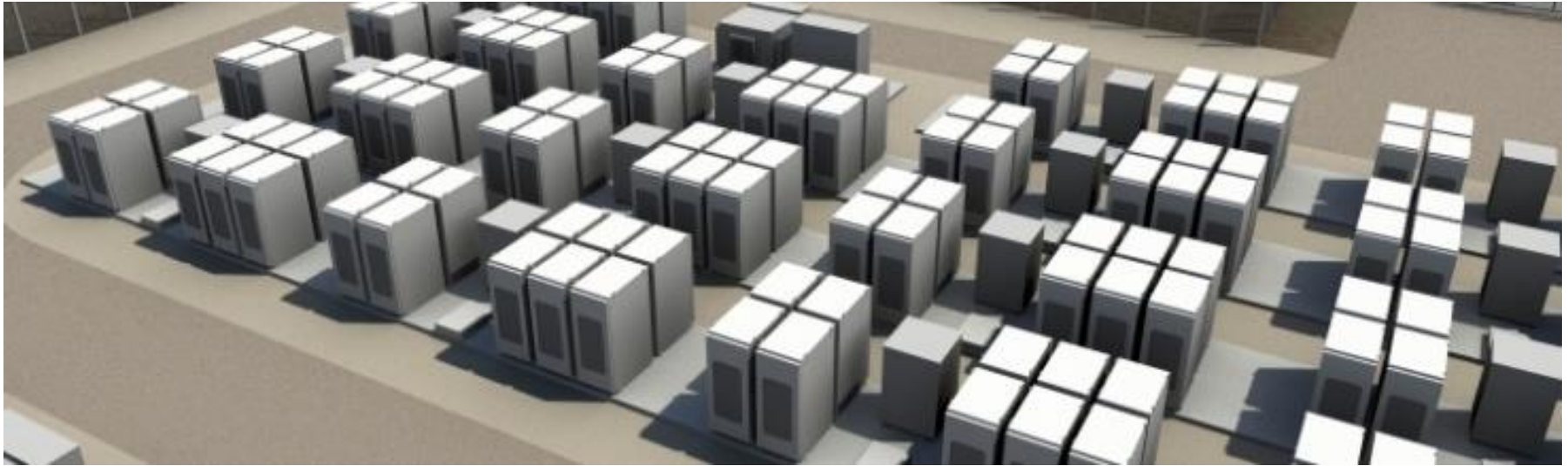
“Local authorities are in a unique position to benefit from the growing demand for electricity storage, with diverse property portfolios and high energy consumption.”

Steve Cains, Head of Power Solutions, PPS

Agenda

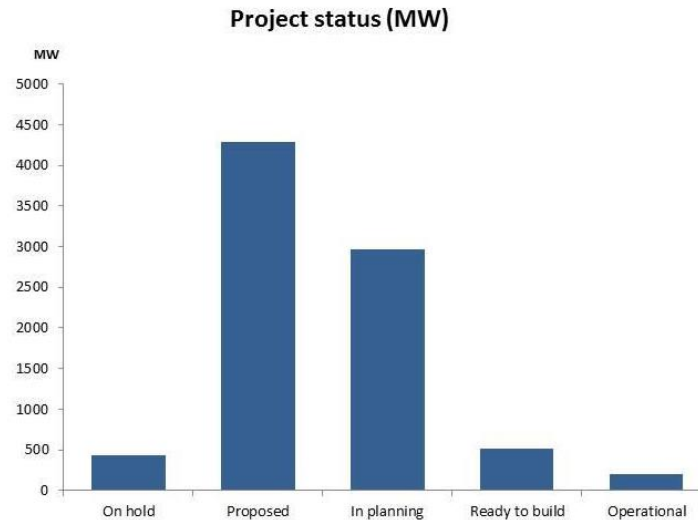
1. The technology and the market
2. Key drivers for (local authorities as) developers
3. Challenges and legal issues, and overcoming them
4. The future...

Battery storage: the technology



- Conversion of energy to potential energy to be stored
- Lithium-Ion dominates the market (for now...)
- Driven by the rise in the number of electric vehicles

The UK market



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Source: UK Battery Storage Project Database report, December 2017

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Image taken from: <https://www.energy-storage.news/blogs/behind-the-numbers-uks-capacity-market-register-pushes-grid-scale-pipeline->

- Capacity auctions – 8GW in the pipeline
- Huge projects such as the Centrica facility, Barrow
- Local authority projects: Swindon, Hounslow (and more)

Centrica Battery Storage Facility



Image taken from: <https://www.centrica.com/news/centrica-start-construction-new-battery-storage-facility-roosecote>

- Former Roosecote Power Station
- 49MW facility
- One of the world's largest
- Power for 50,000 homes

Local Authority Projects

Swindon Borough Council (SBC)

- Public Power Solutions (PPS) is a subsidiary of SBC
- PPS has planning permission for a huge facility
- Maximum output of 50MW with 50MWh storage capacity

London Borough of Hounslow

- First local authority to develop solar plus storage site
- £2m to install 1.73MW
- 6,000 LG panels charging four 60KW lithium-ion batteries
- £250,000 = Total income generated in year 1

Battery storage: Drivers for developers



- Connect to renewables
- National Grid – DSR and EFR (not just big batteries!)
- Cost savings
 - Peak shaving
 - Triad avoidance

Challenges and overcoming them

- **Price**
 - Secure funding and make your money back
- **Regulatory uncertainty (what is storage?)**
 - New licensing condition
 - FCLs should not be double-charged
 - Hope for future clarity...
- **Legal issues – contracts, procurement, land and planning**
 - Get advice early!

Battery storage: the future



- Digitalisation
 - DNOs to DSOs
- Clearer regulatory framework (hopefully!)
- Changing consumer behaviour

Battery Storage: The time is now!

“Batteries hold the key to the future of the power landscape, both in the UK and internationally. Ensuring grid resilience is a necessary step in the growth of renewable generation.”

Russell Hardy, Chairman, VPI Immingham and CEO EMEA, Vitol

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