

# Warrington BC

## APSE – Big Energy Summit 2019

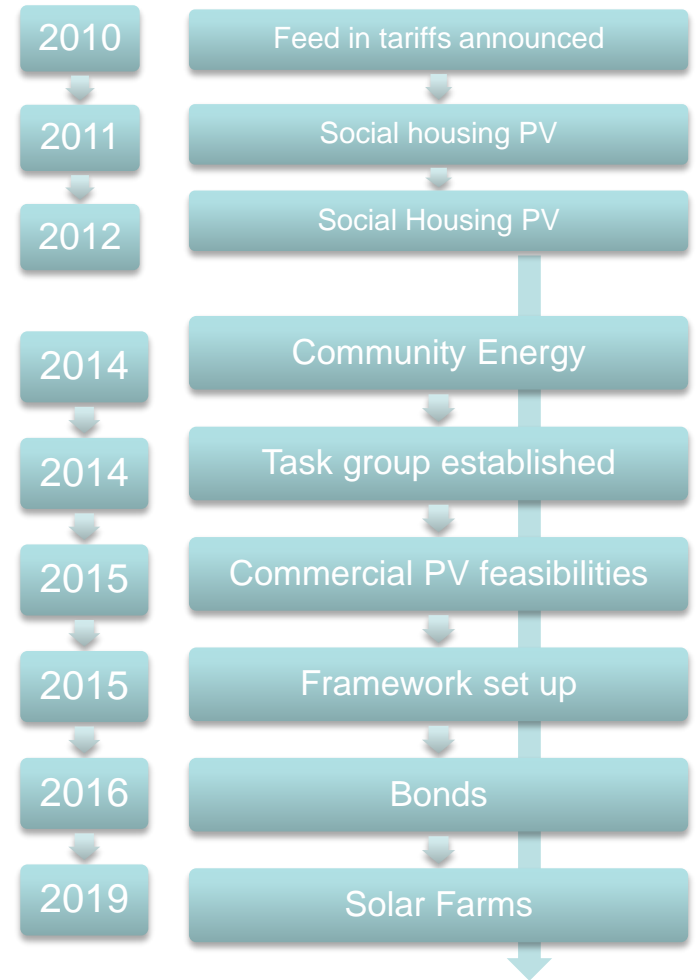
14<sup>th</sup> March 2019

**Danny Mather**  
**Head of Corporate Finance**



# Overview

- WBC
- Approach
- Progress to date
- York & Hull
- Future
- Q&A



# WBC

- 205k population
- High economic growth
- 2018/19 Budget: £132.9m
- Low funding base
- £1.3bn Capital Programme

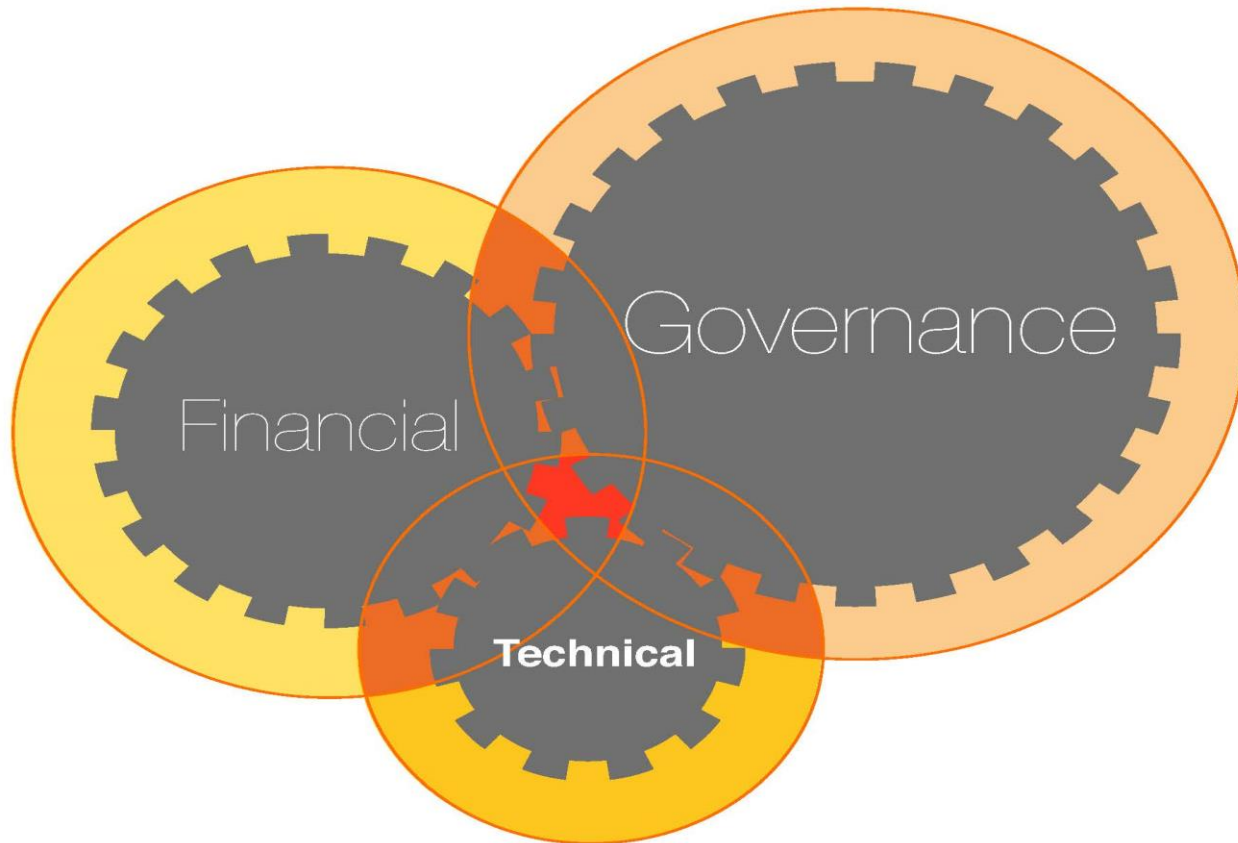


# Objectives

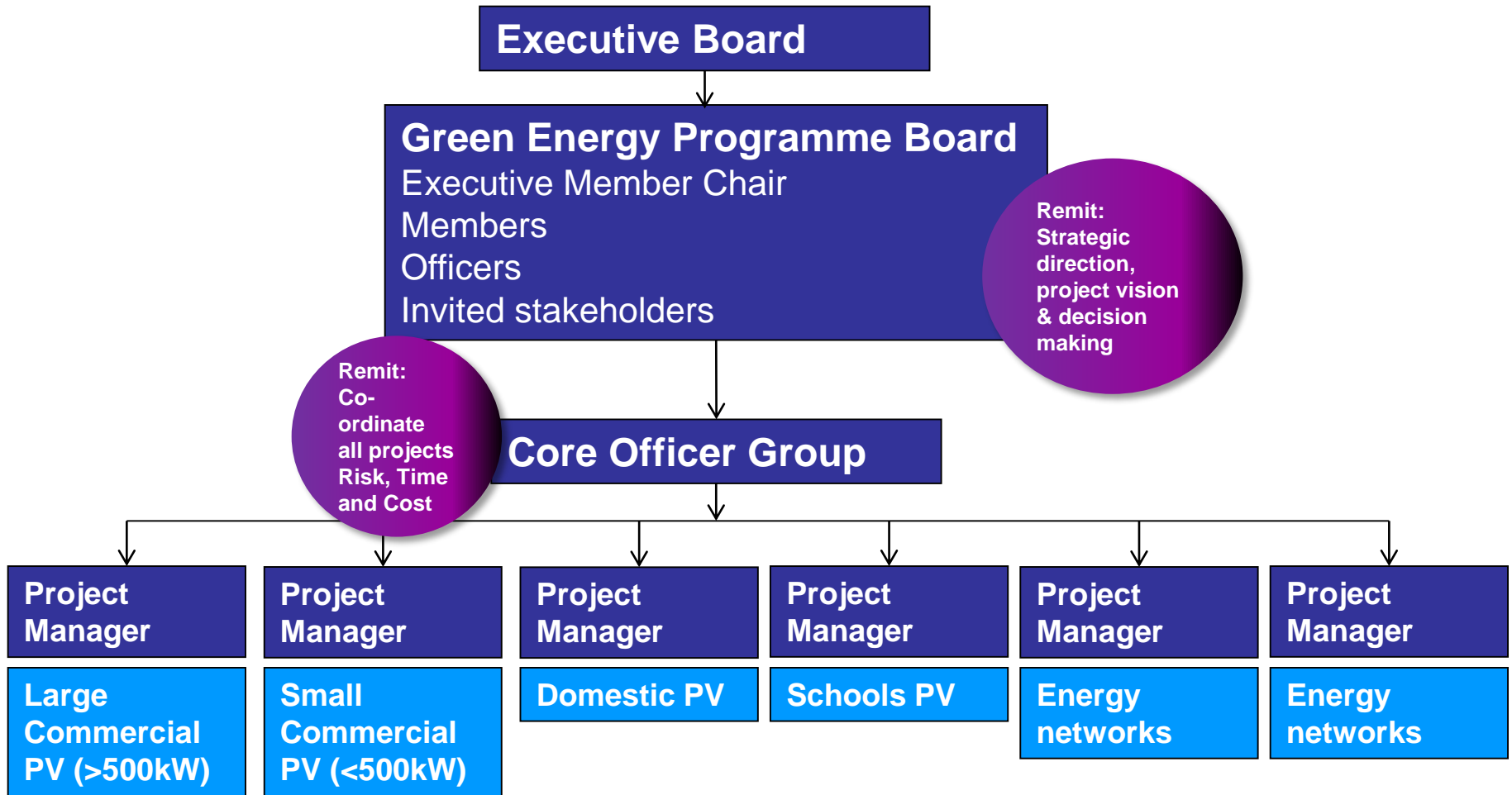
- Affordability – Fuel Poverty
- CO<sub>2</sub> emissions reduction
- Security of supply
- Regeneration
- Revenue generation
- Sustainability



# Approach



# Governance - Internal Delivery

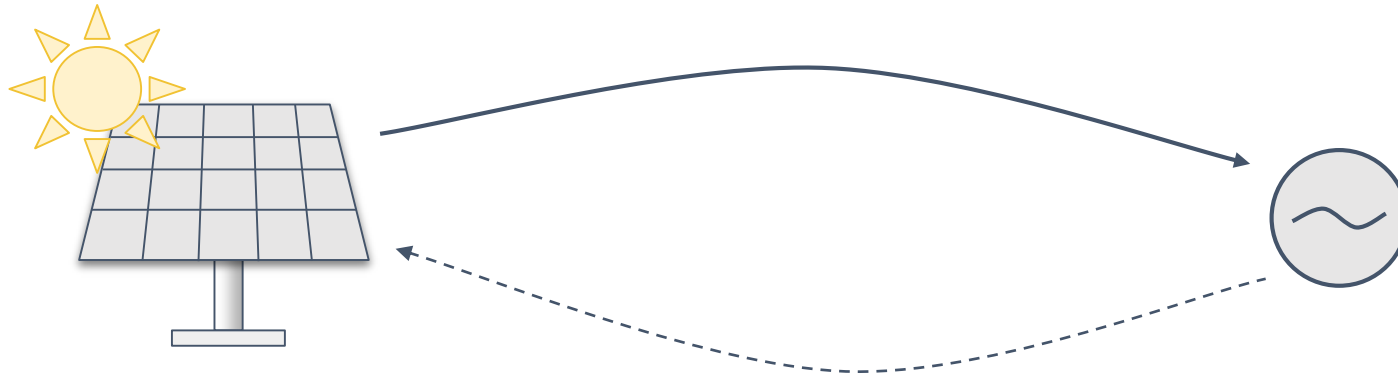


# Progress to Date

---

- Solar on 2,500 Properties
- Community Energy
- Commercial Arrays
- Warrington Wolves Stadium
- Solar Investments
- In Borough sites identified
- York & Hull Solar Farms

# Business as usual: PV only



## Advantages

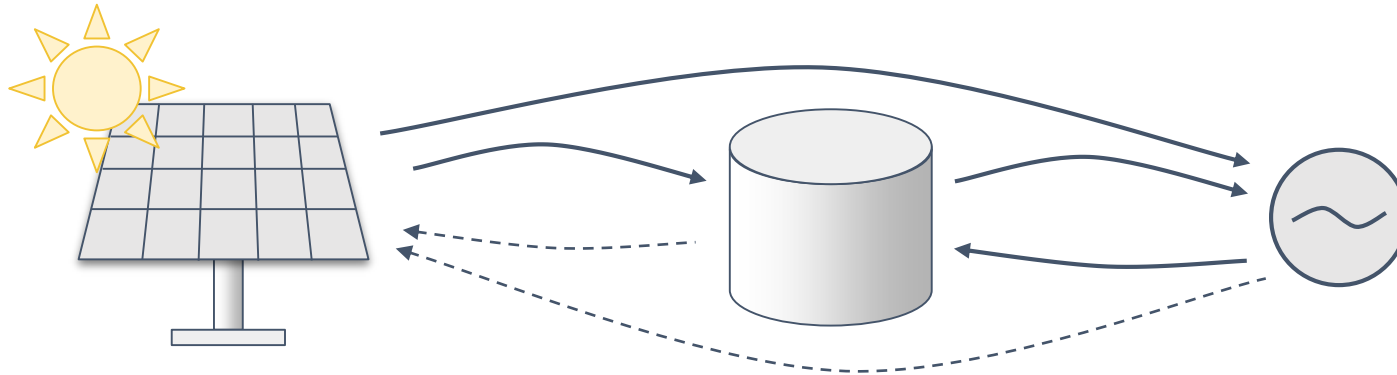
- Straightforward
- Lowest cost

## Challenges

- Dependant on real-time market prices (excluding sleeving)
- No ability to optimise revenue streams
- Lower ROI



# Hybrid Solution: PV + Battery Storage



## Advantages

- PV base case remains straightforward, and in place
- Optimisation of PV income streams now possible
- Additional income streams available with short, medium, and long-term contracts (Energy Trading, Capacity Market, FFR, STOR, BM, Reactive Power, EV charging, Black Start... and future proofed for others over time)
- Higher ROI

## Challenges

- Batteries are less well known
- Requires active management for revenue optimisation
- Requires replacement of battery cells during project lifetime

# York Solar Farm



Courtesy of NEXTracker

## Key Facts

198 acres of poor quality farmland

35m/w

91,392 Bifacial solar panels

Produce enough energy to power 10,000 Homes

Saves 15k tones of carbon

c30,000kWh of Energy Storage – equivalent to 750 Electric Cars

Phase 2: Electric Forecourt®

# Hull Solar Farm



Courtesy of NEXTracker

## Key Facts

131 acres of poor quality farmland

26 m/w

67,890 Bifacial solar panels

Produce enough energy to power 8,000 Homes

10j tones of carbon

Phase 2:

Battery Storage  
\_Electric Forecourt®

# Structure

---

- Purchasing two SPVs when farms complete
- Interim finance supplied by Leapfrog & Investec
- Hull to be held in a Teckal Company
- York a separate company
- Initial £185k donation to community company followed by £85k per annum

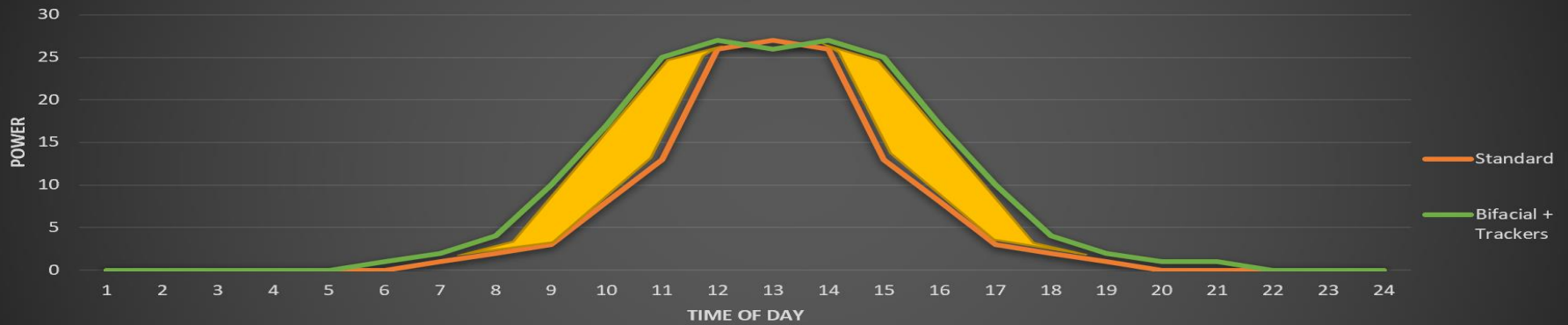
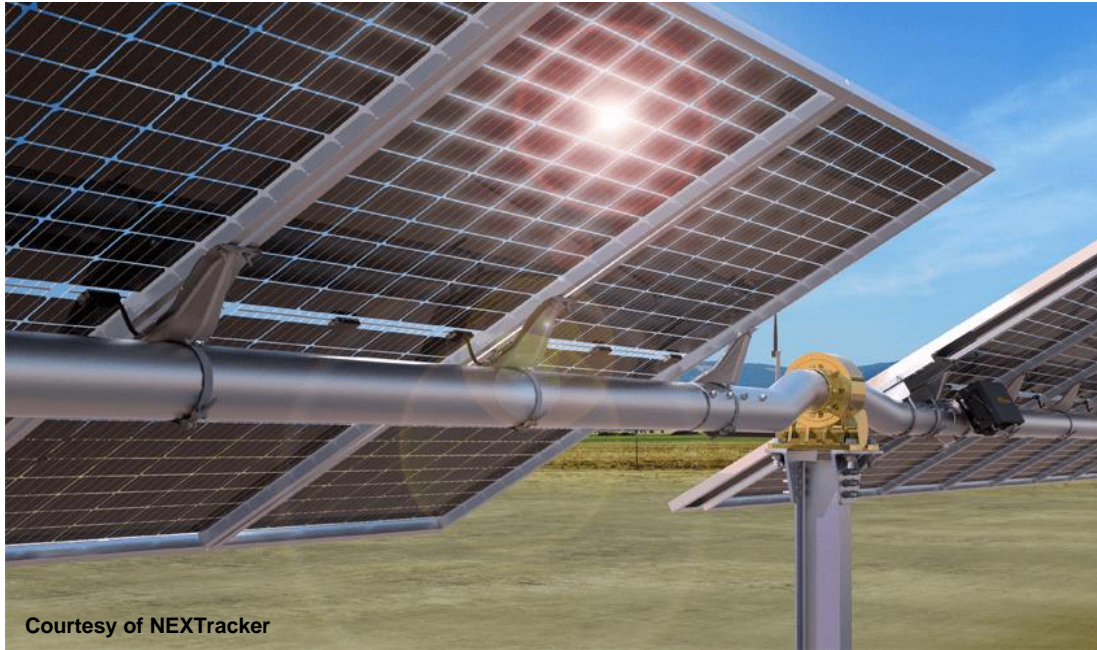
# NEXT GENERATION SOLAR PANELS



**Bifacial Solar Panels**

**... up to 20% Extra Energy Generation**

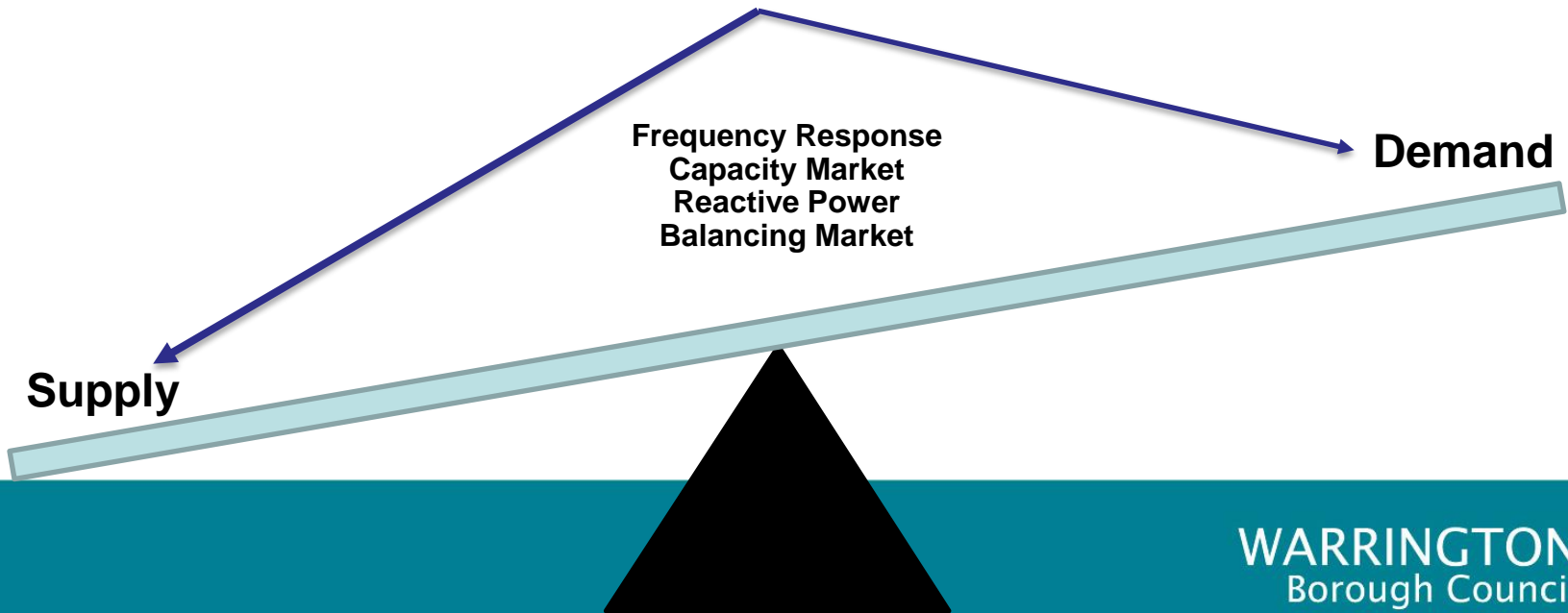
# MOUNTING STRUCTURE: TRACKERS



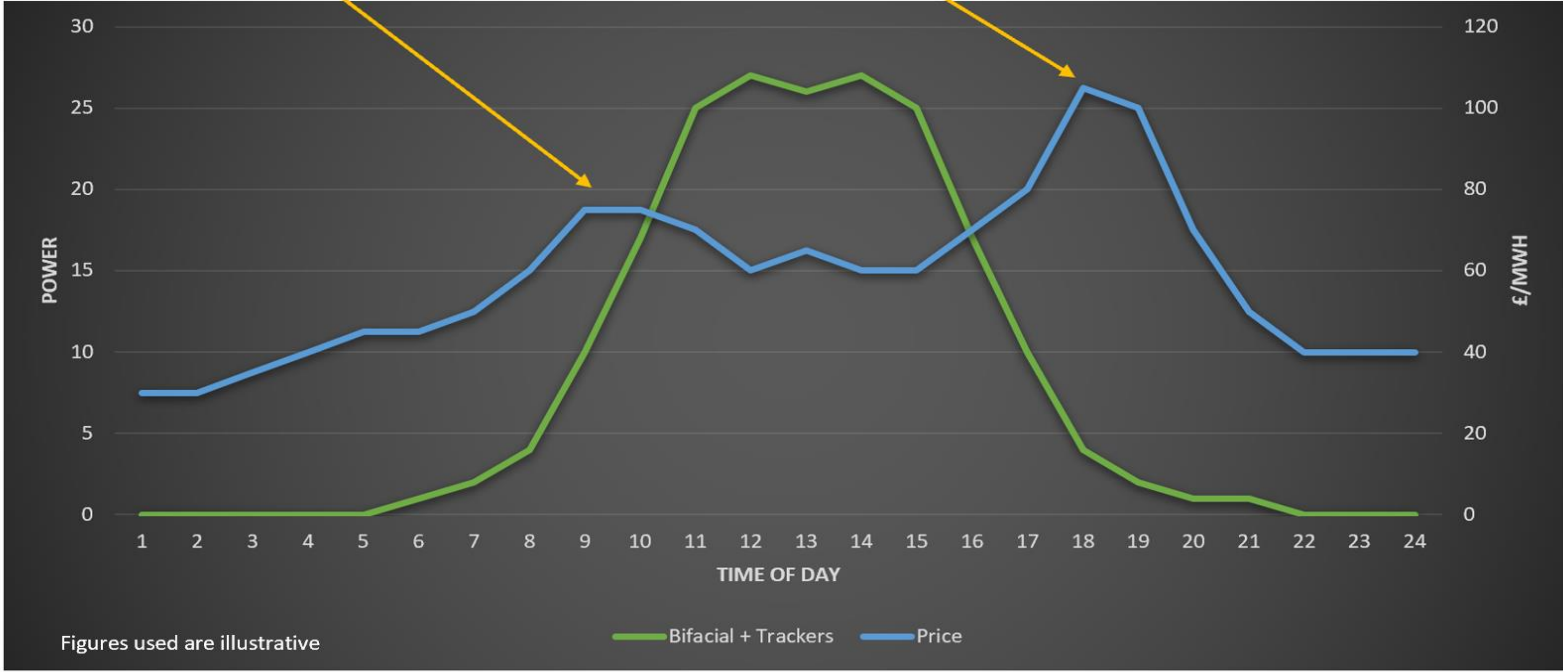
# BATTERIES – SERVING THE GRID



SAMSUNG SDI



# BATTERIES – MAXIMISING VALUE OF SOLAR ENERGY





# FROM YORK AND HULL >> WARRINGTON



## **“SLEEVING” CONTRACT**

1. POWER PURCHASE FROM SOLAR
2. SUPPLY TO COUNCIL



**WARRINGTON**  
Borough Council



**Schools**

**Street Lights**

**Offices**



# Electric Forecourt Visualisation





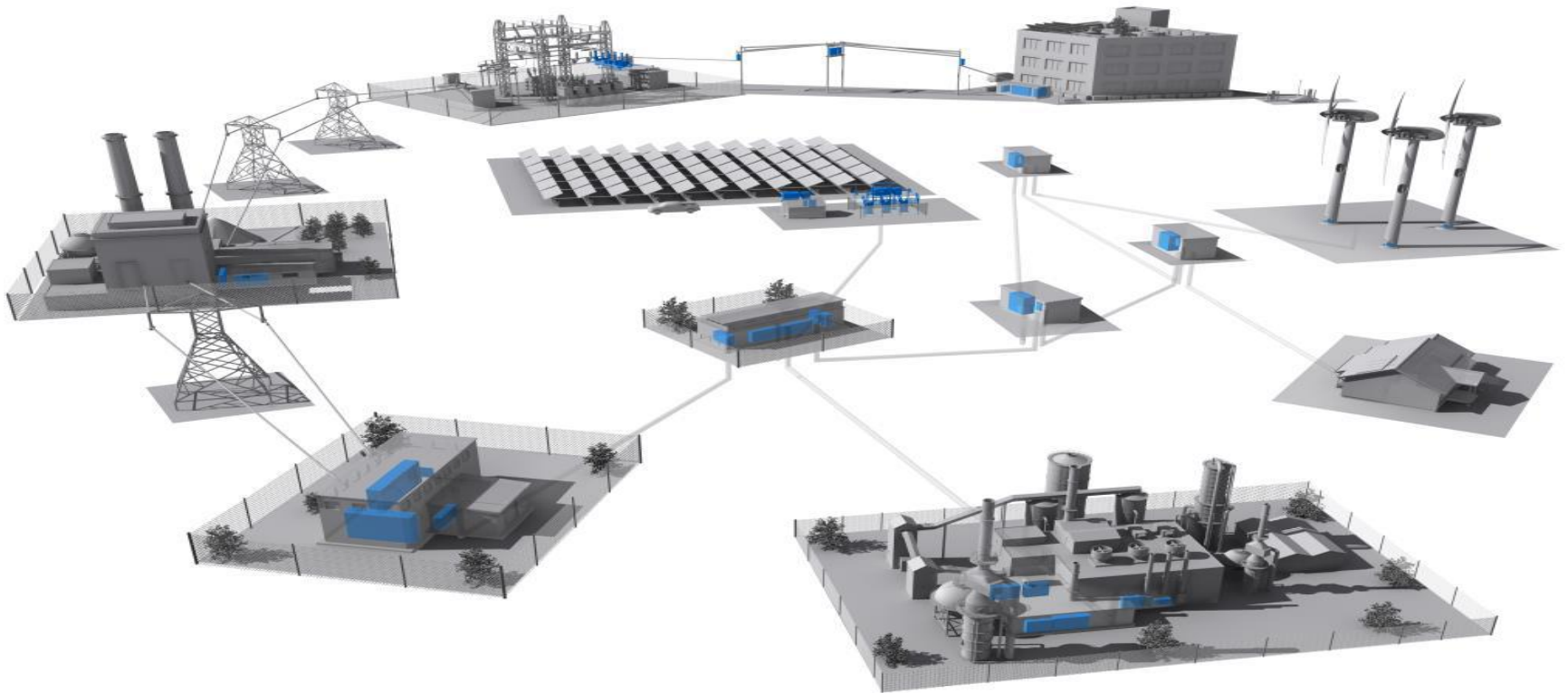
# Public Sector Social Impact Fund



A Public  
Sector & City  
Partnership

# Energy Supply Company

---



# Energy Vault 3D Simulation



# Q&A

---

## **Danny Mather**

Head of Corporate Finance

T: 01925 44 2344

E: [dzmather@warrington.gov.uk](mailto:dzmather@warrington.gov.uk)