

CIPFA



Building the Business Case for Renewable Energy

21 July 2021

Webinar

The Chartered Institute of
Public Finance & Accountancy

Speakers

- Sheryl French – Assistant Director, Climate Change and Energy Services, Cambridgeshire County Council
- Dr Daire Casey – Energy Services Manager, West Sussex County Council
- Alastair Mumford – Corporate Energy Manager, Devon County Council/Regional Programme Manger for the South West Energy Partnership
- Joseph Holmes – Executive Director (Resources), West Berkshire Council.

CIPFA/ADEPT - **Setting the scene**

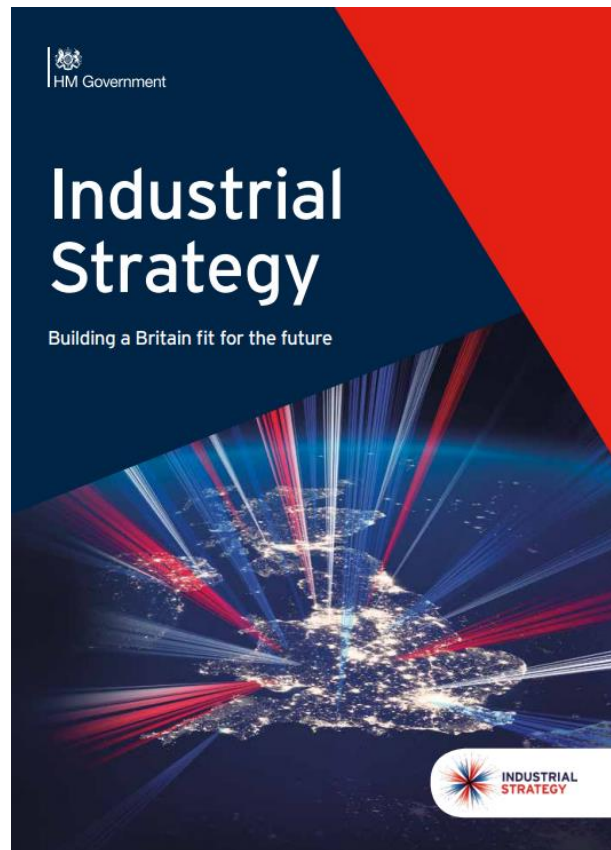
Building the business case for renewable energy

Sheryl French

Power and heat our buildings and
transport with 100% renewable energy



Long term policy framework in place to deliver Net-Zero carbon emissions by 2050





Developing the business case for solar and battery storage projects

Daire Casey

Energy Services Manager

West Sussex County Council

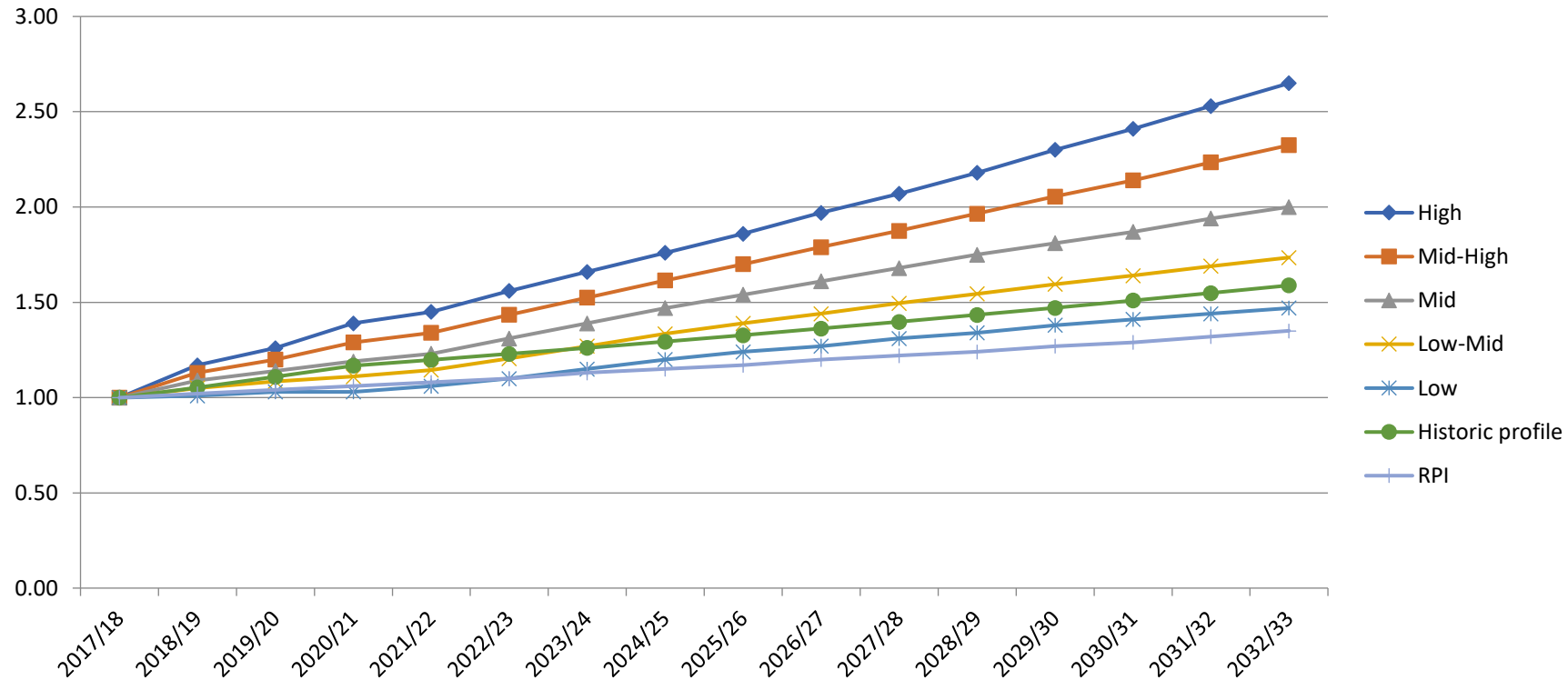
Overview

- Understanding your organisation
- Understanding the opportunity
- Developing the concept
- Health Warning : Battery Storage

Understanding your organisation

- Asset Register showing Ownership status and use
 - Brownfield sites
 - Buildings with occupiers
 - Wayleaves/Easements/Tenancies
 - Proximity to electrical infrastructure
- Energy strategy, costs and procurement approach
 - Strategic commitment to action on climate change or renewable energy
 - Current electricity prices (commodity & non-commodity)
 - Flexibility of existing Procurement contracts (with suppliers and TPIs)
 - Corporate view of future electricity price inflation

Understanding your organisation



Understanding your organisation

- In house capability & capacity
 - Capital Projects
 - Democratic Services
 - Estates
 - Energy Management
 - Finance
 - Legal
 - Procurement & Contract Management
 - Sustainability
- Intelligent Client Capability Framework (Institute of Civil Engineers)

Understanding your opportunity

- Do you have a Project or a Programme?
 - Scale of each individual opportunity (solar panel or solar farm)
 - Replicability (one off or cookie cutter)
 - Complexity (Fit & Forget or Operate & Maintain)
 - Risk tolerance (Market risk, Policy risk, Technology risk)
- Inform your Strategic Outline Case (SOC)
- Can you build in-house resource to deliver?
 - Energy Services function
 - Estates/Finance/Legal/Procurement

Understanding your opportunity

- Do you have a favoured technology?
 - Solar
 - Wind
 - Battery Storage
 - Heat Pump technology
- How will you realise value from your investment?
 - Make a financial saving on corporate energy costs
 - Sell electricity to a 3rd party (i.e. occupier of your buildings)
 - Sell electricity through a Power Purchase Agreement (PPA)
 - Sell electricity on the open market

Developing the concept

- Concept Note
 - Developed internally
 - Informs the Strategic Outline Case
- Pre-Feasibility Study
 - Developed with external support
 - Updates the SOC and informs the Outline Business Case (OBC)
- Feasibility Study (inc. Energy Market advisory reports & Planning)
 - Developed with extensive external specialist support
 - Updates SOC & OBC and informs Full Business Case

Developing the concept - Finance considerations

- Capital Expenditure (CAPEX) for system (Wholesale or As built)
- Grid connection costs (Contestable or Non-Contestable)
- External Project Management costs
- Contract Administration/Clerk of Works costs
- Contingency
- Asset replacement costs
- Decommissioning costs
- Insurance / Business rates
- Planning Conditions
- Operation and Maintenance (Site & Asset)
- Lifecycle costs
- Expected Inflation
- Energy purchase/sale price & inflation
- Asset degradation profile
- Expected Borrowing rates
- Sensitivity analysis

Health Warning: Battery Storage

- Potential to add value to a solar PV project
- Variety of Use Cases
- Different type of grid connection

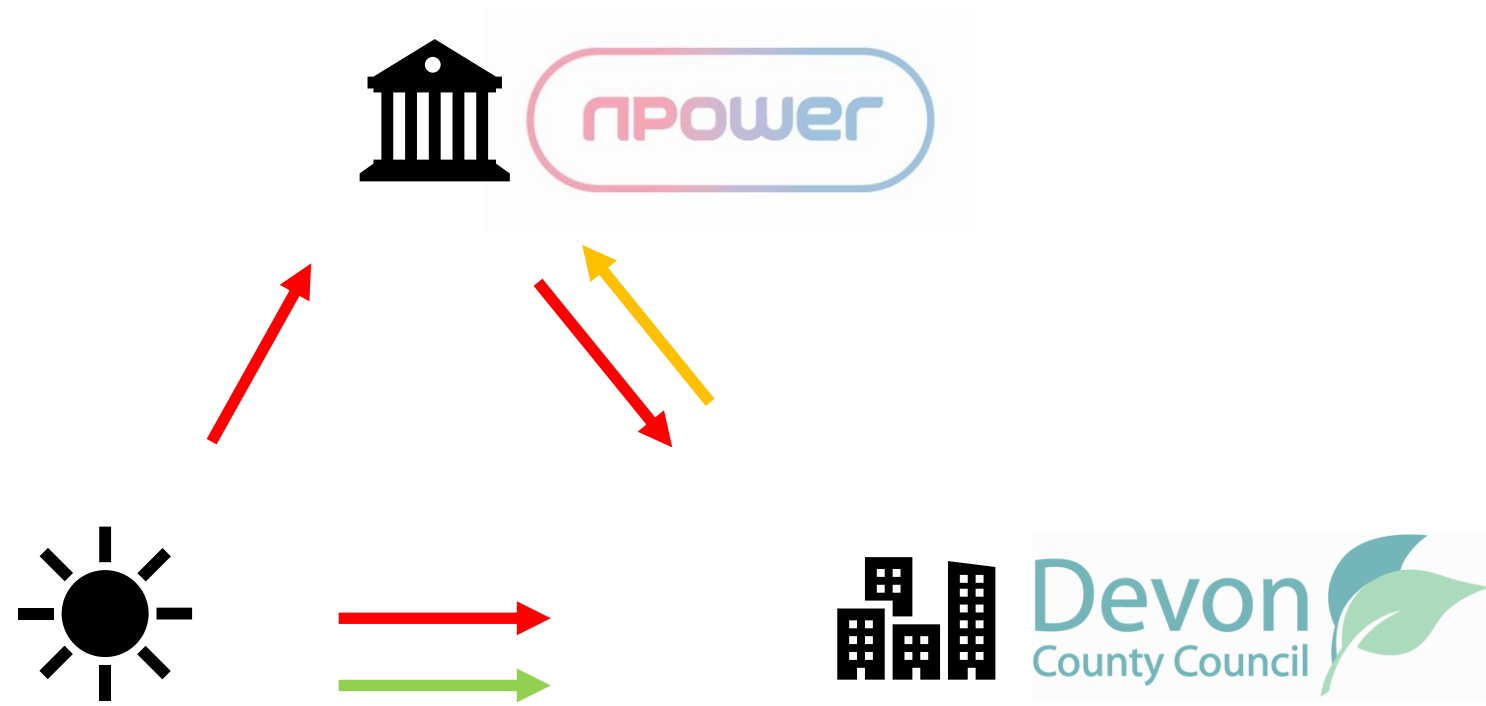
- Flexibility / Balancing / Capacity / Containment services all complex and external specialist support is critical
- Higher financial risk than solar




- Significant requirement for client to upskill and support informed decision-making by aggregator (provider of Demand Side Response (DSR) Services)

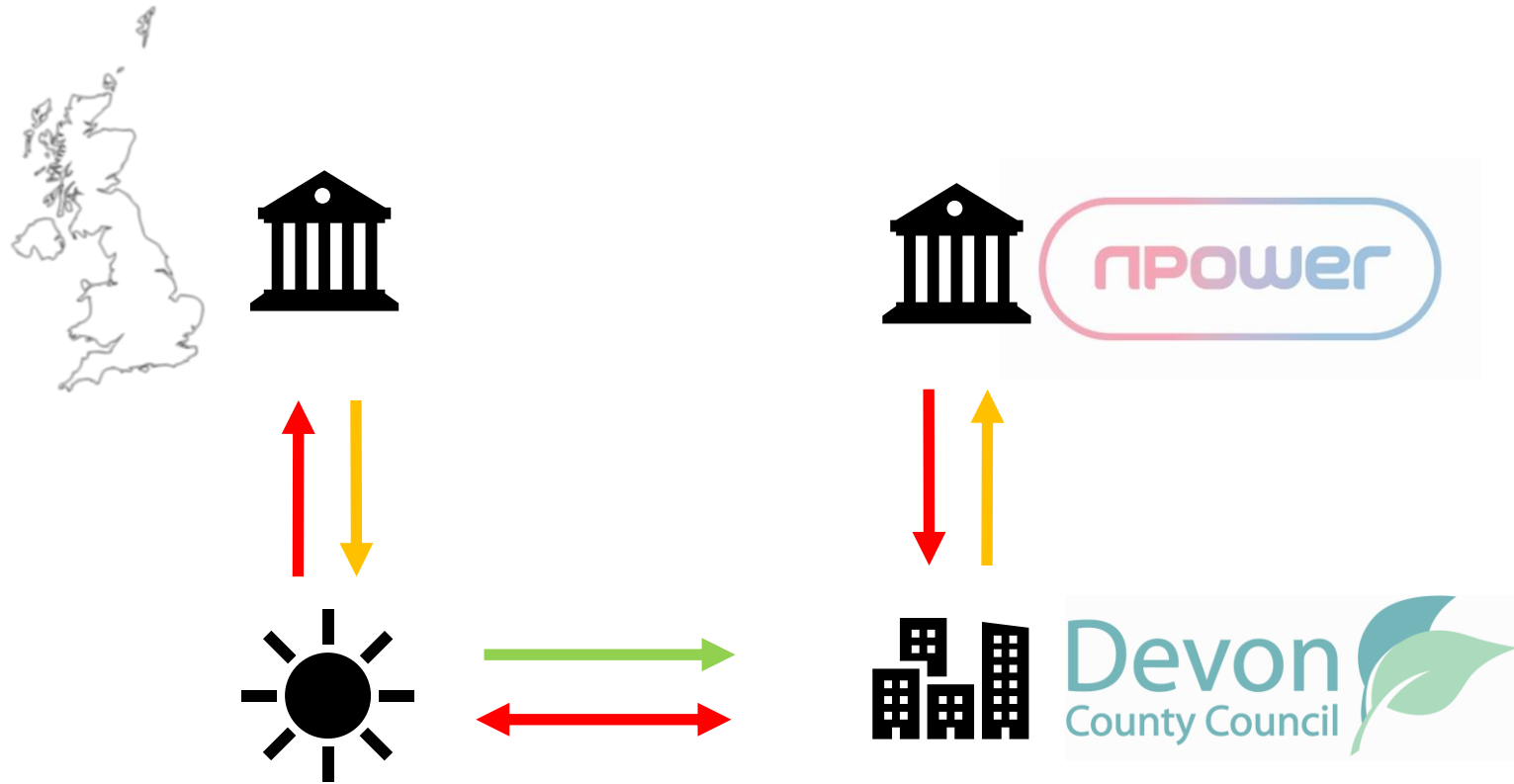
SPPAs: supporting the community energy sector to provide local authorities with locally-generated green power

Alastair Mumford, Devon County Council





-  Energy flow
-  Renewable certificates
-  Cash flow

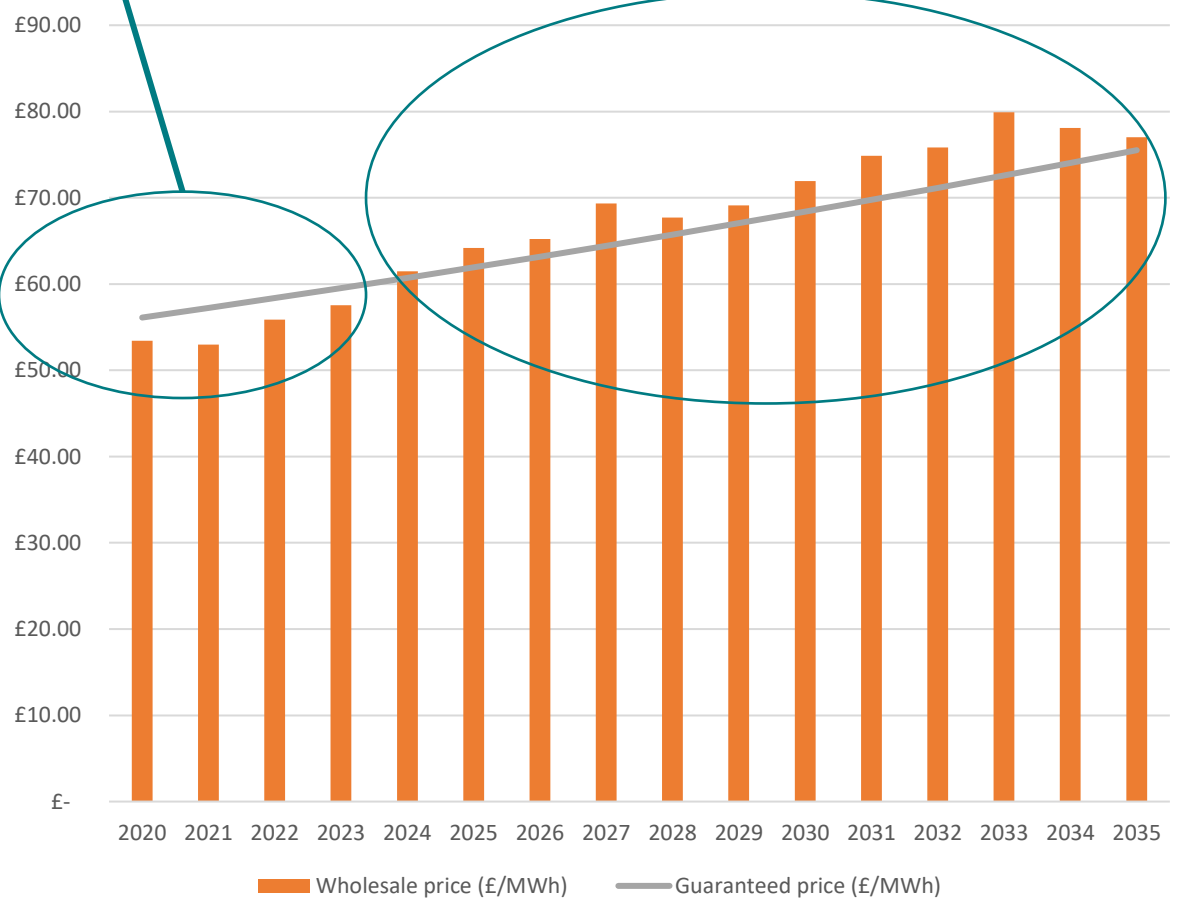


- Energy flow
- Renewable certificates
- Cash flow

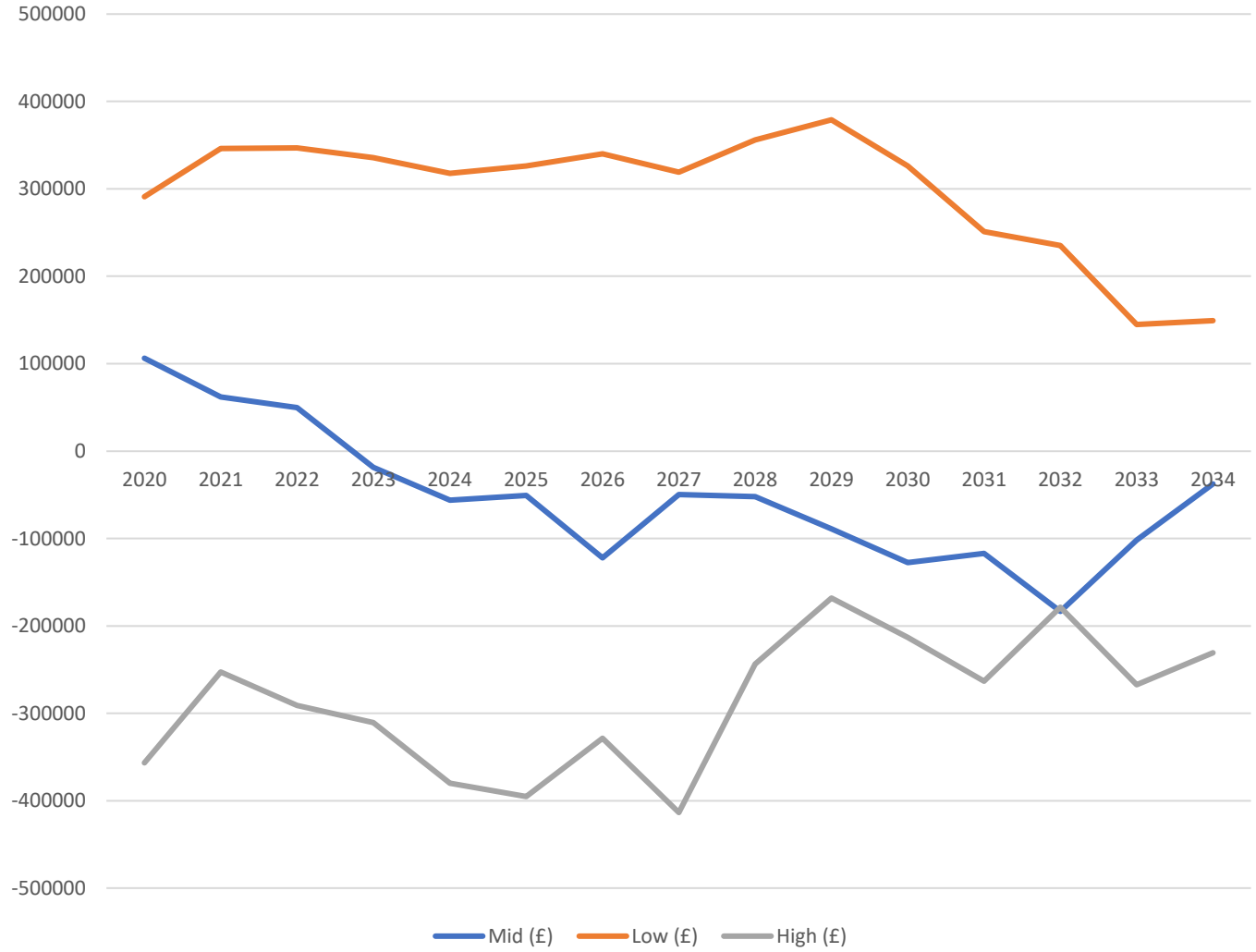
DCCs pays developer

Developer pays DCC

Guaranteed price and projected wholesale price



Carbon offsetting: Renewables Cost/Saving based on BEIS scenarios



Benefits

- Secure local, community-owned energy
- Cost effective carbon offsetting
- Partial hedge

Community Energy

- MEAT
- Long-term assurance

Carbon offsetting

1. Source
2. Attribute
3. Additionality

Next steps

- Subsidy Analysis
- Sign off
- Reference price
- Payment
- Build partnership



Community Municipal Investment

July 2021 – ADEPT / CIPFA

Building the business case for renewable energy

Joseph Holmes - Executive Director (Resources)

West Berkshire Council

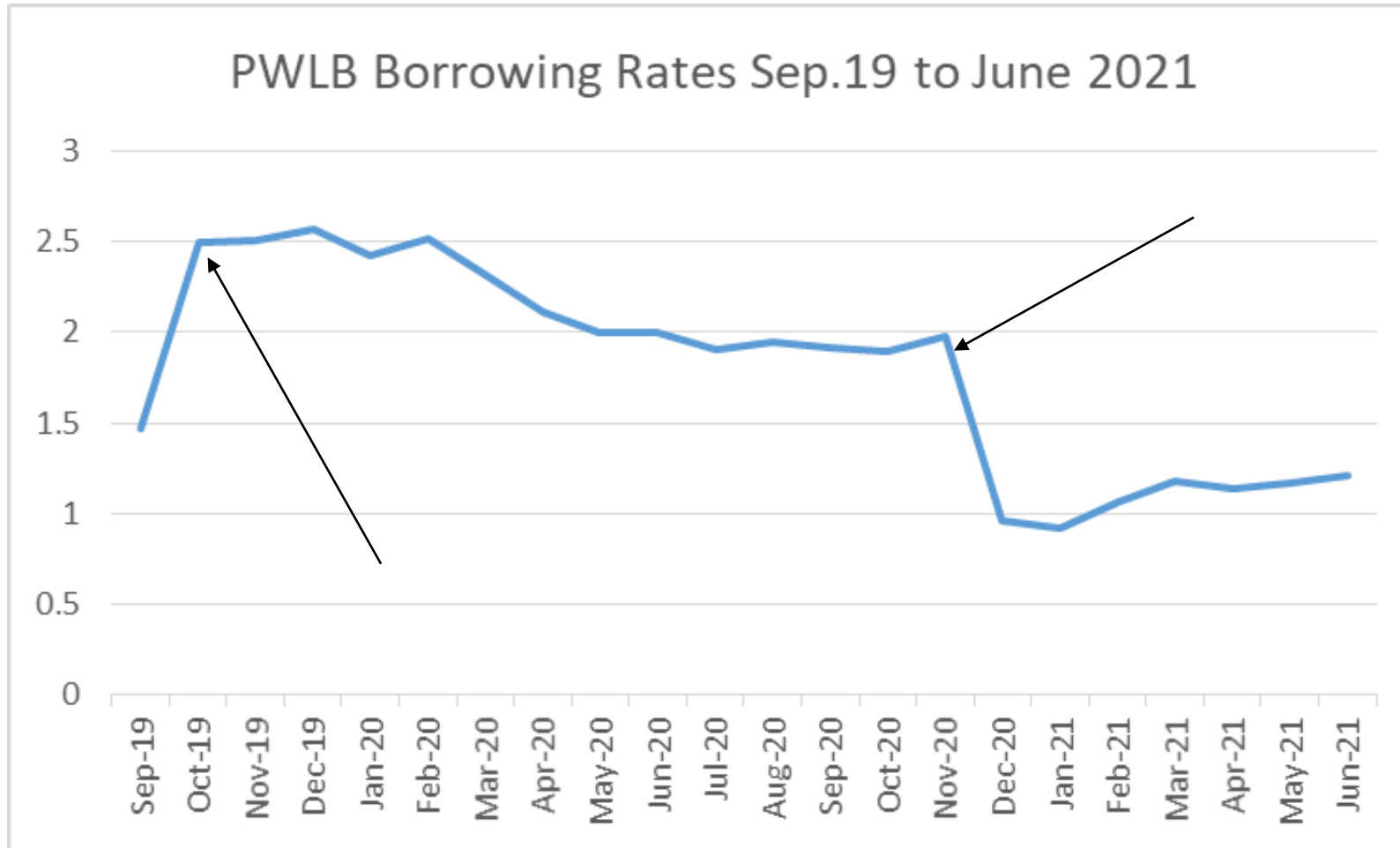
West Berkshire



Why a Community Municipal investment? (Bond)

- Declared a Climate Emergency in Summer 2019
- Main source of borrowing is the Public Works Loans Board (PWLB) – through the Treasury
- Are other forms of borrowing available e.g. bonds to the financial markets, private finance, income strips, etc

PWLB Rates – 2019/20



Why we were interested

- Borrowing rates have increased – anything lower than PWLB rates net of fees reduces costs to all taxpayers
- Method of financing schemes that we control
- Want to invest in our Environment Strategy
- Greater engagement with our residents
- Independent research to be completed on what the impact has been

What is this scheme?

- We have an underlying need to borrow @15m p.a.
- Enables residents to invest in the Council and receive a return on their investment through a bond
- Minimum investment of £5
- WBC is working with an organisation called Abundance to administer the scheme
- Initial offering of a £1m bond
- Part of a pilot with external funding for local authorities

What happened?

- UK's first scheme like this
- Launched in mid July
- 3 months end date
- Aim for £1m
- Achieved this by early Oct
- Lot of engagement locally and nationally

Councils tap small investors to fund local green projects



The Phoenix Centre in Newbury is one of six sites where solar panels are being installed with the help of local investment
YOUTUBE

What have we done with the funds

- Since the launch, we have successfully begun implementing schemes from our [Environment Strategy](#)
- This includes £520k for six solar PV roof-based projects
- The remaining £0.5m has been used for a variety of schemes including:
 - Berkshire, Buckinghamshire, Oxfordshire Wildlife Trust (BBOWT) Capital Improvements
 - Urban Tree Planting
 - New footpaths and rural access schemes
 - Active travel infrastructure improvements
 - Tree planting and habitat creation as part of flood alleviation projects
 - Energy efficiency upgrades for traffic signals and street lighting

Our Solar PV Project

- Project cost £520k
- Six council-owned sites were identified to be fitted with solar panels
- Sites included schools, leisure centre, care facility, and council offices
- They will generate around 395,000 kWh of power in the first year, enough energy to power the equivalent of 105 homes for a year



Partnership working: Wildlife Trust

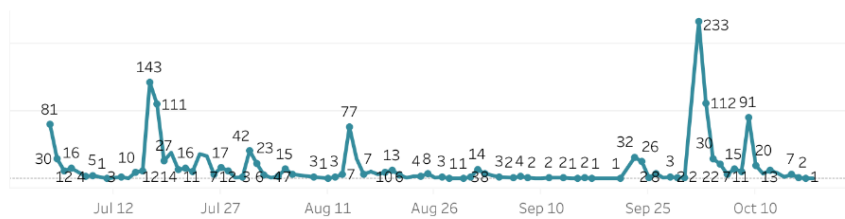
- The bond fully-funded £100k of work in our country parks through our partnership with Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (BBOWT):
 - Habitat restoration
 - Capital improvements
 - Access improvements
- In April 2021, 1 in 6 investors donated their returns back to us to be further invested into our [Wildflower Verge project](#)
 - This project is already creating a network of wildlife-friendly habitats along roadsides which will support crucial pollinators like bees and butterflies



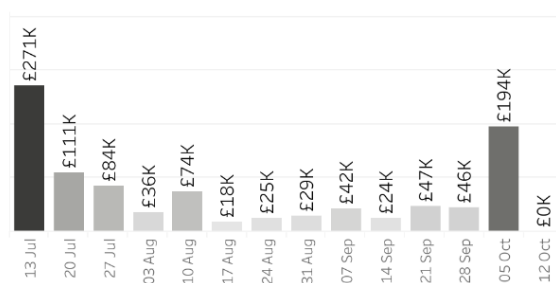
Investors

Number of investors	Total investment	Average investment
640	£1,000,000	£1,563
Local investors	Local investment	Average investment
65	£225,832	£3,474

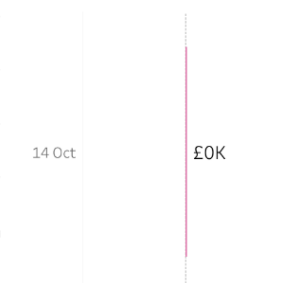
Visits from WestBerks.gov.uk



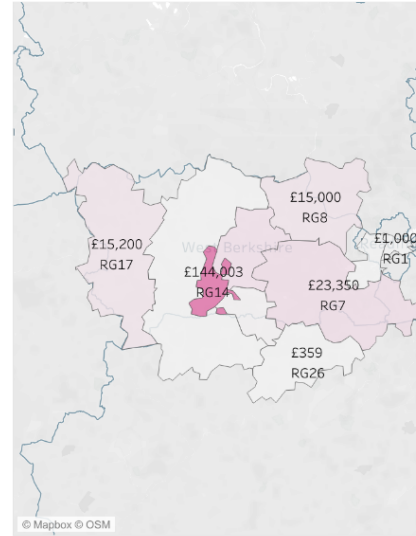
Investment by week



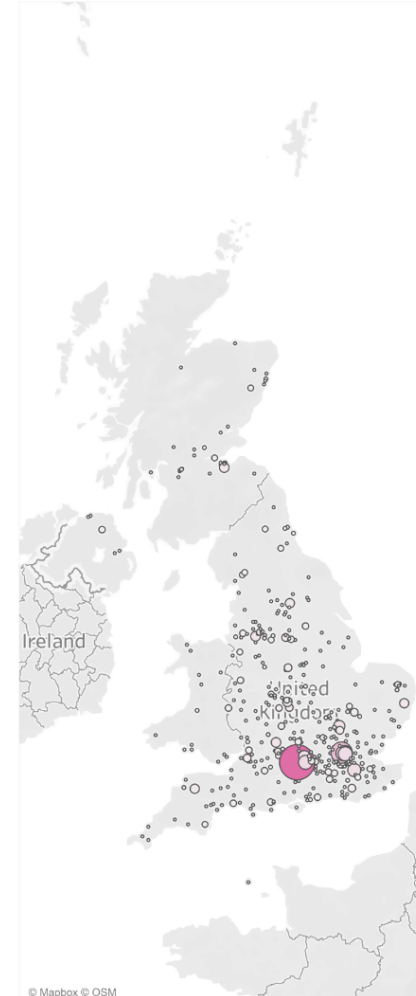
Investment by day



Where has the local investment come from?



Where has the national investment come from?



Investment amounts

	# of customers	Investment
Less than £100	163	£7,312
£100 - £499	199	£44,416
£500 - £999	93	£54,045
£1000 - £4999	192	£355,901
>£5000	55	£541,526
Grand Total	640	£1,000,000

Donation option – additional 2,300 wildflower seeds



Reflections

- Considering next steps and applicability for other areas of activity e.g. housing
- Appears to work well for shorter term borrowing – 5/10 years
- Does take longer time to get the funding vs PWLB
- We will still need PWLB / other forms of borrowing for longer periods
- Commercial outlook / due diligence
- Very useful different tool to have

Thank you

