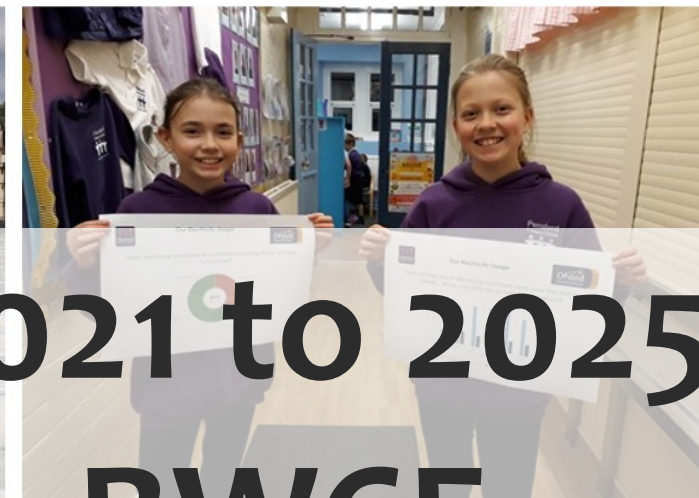




**Bath & West  
Community Energy**  
Generating local energy



# BWCE Business Plan 2021 to 2025

## Peter Capener: MD, BWCE



# Outline

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## 1. Context

- Energy Market
- Last Business Plan Review 2017-2021

## 2. BWCE delivery

- Mission, Goals & Objectives 2021-2025
- Strategic Milestones & Potential Growth Scenarios

## 3. Finance

- Financing strategy
- Community benefit



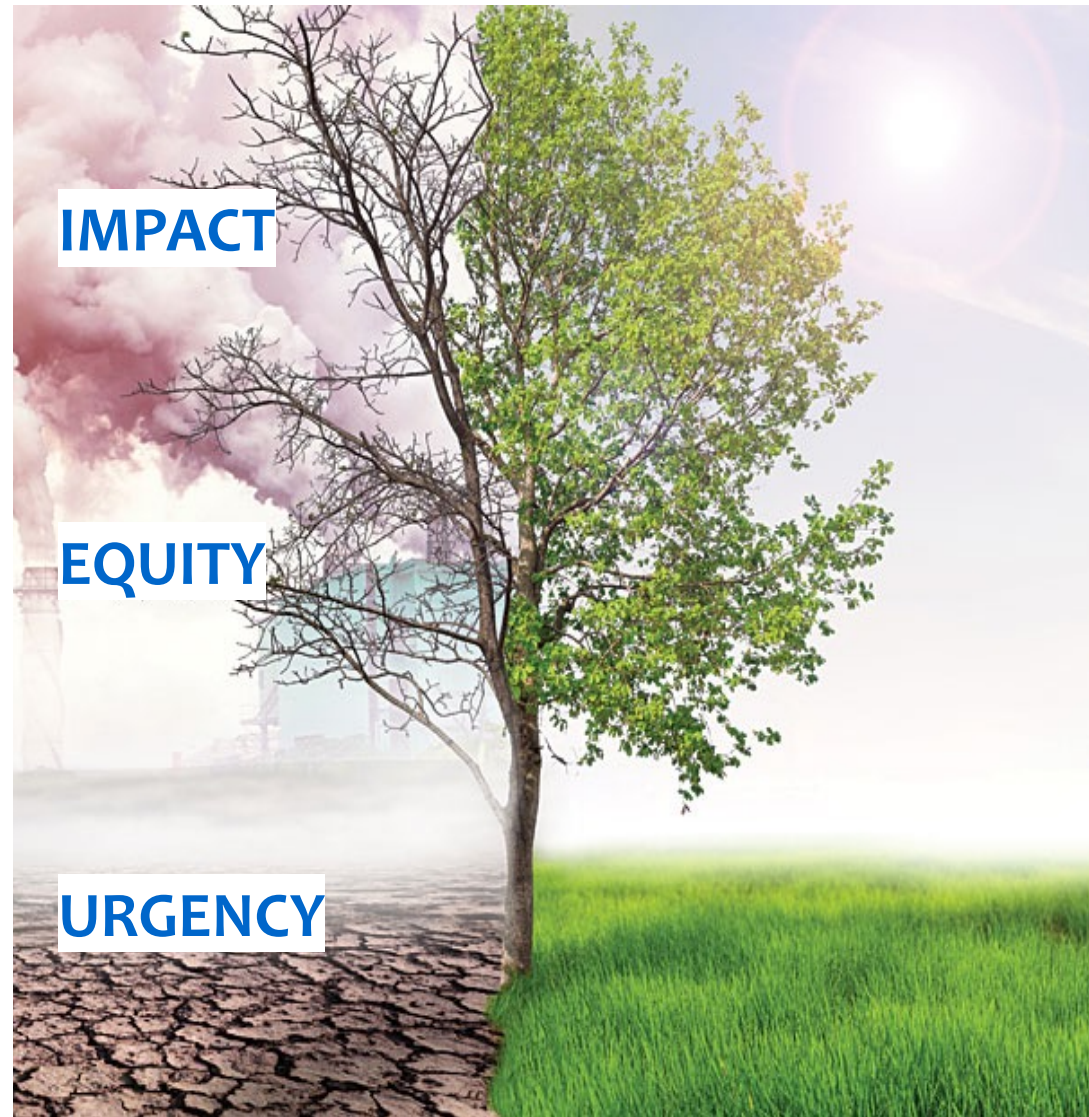
# Climate Change is Happening Now ...



## David Attenborough – UN Security Council, Feb 2021

“There is no going back - no matter what we do now, **it's too late to avoid climate change** and the poorest, the most vulnerable, **those with the least security, are now certain to suffer.**”

“If we bring emissions down with sufficient vigour **we may yet avoid the tipping points** that will make runaway climate change unstoppable.”

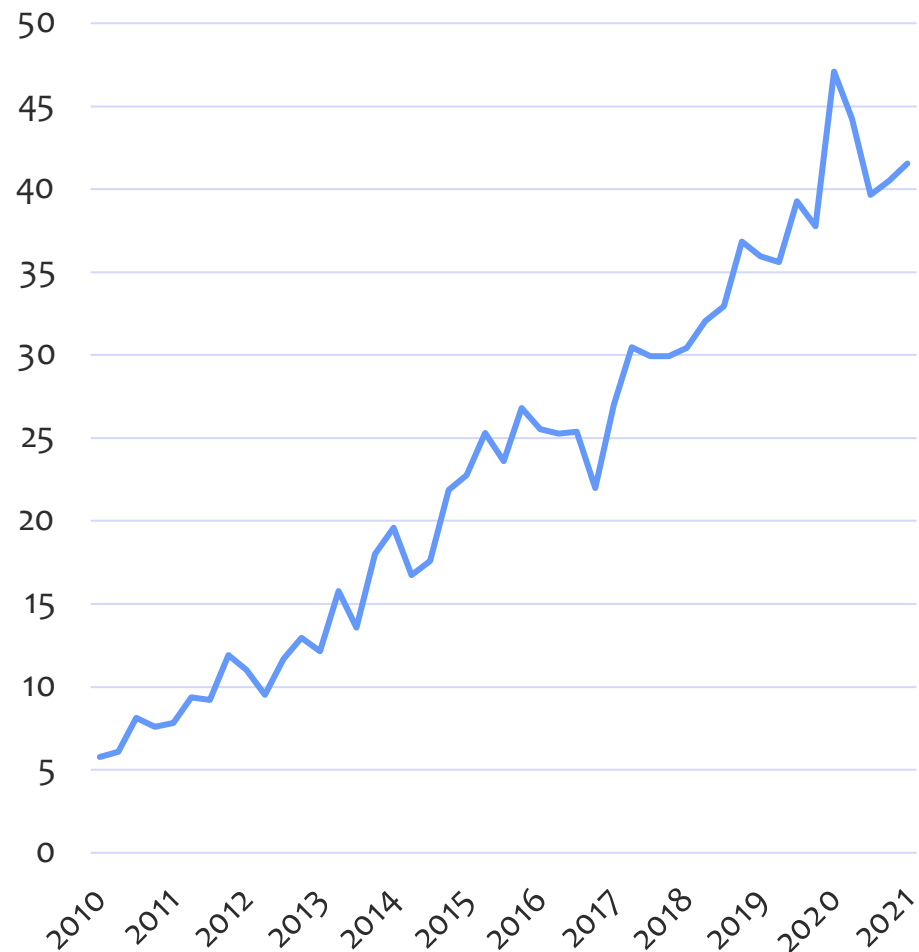


# Energy Transition in 2021



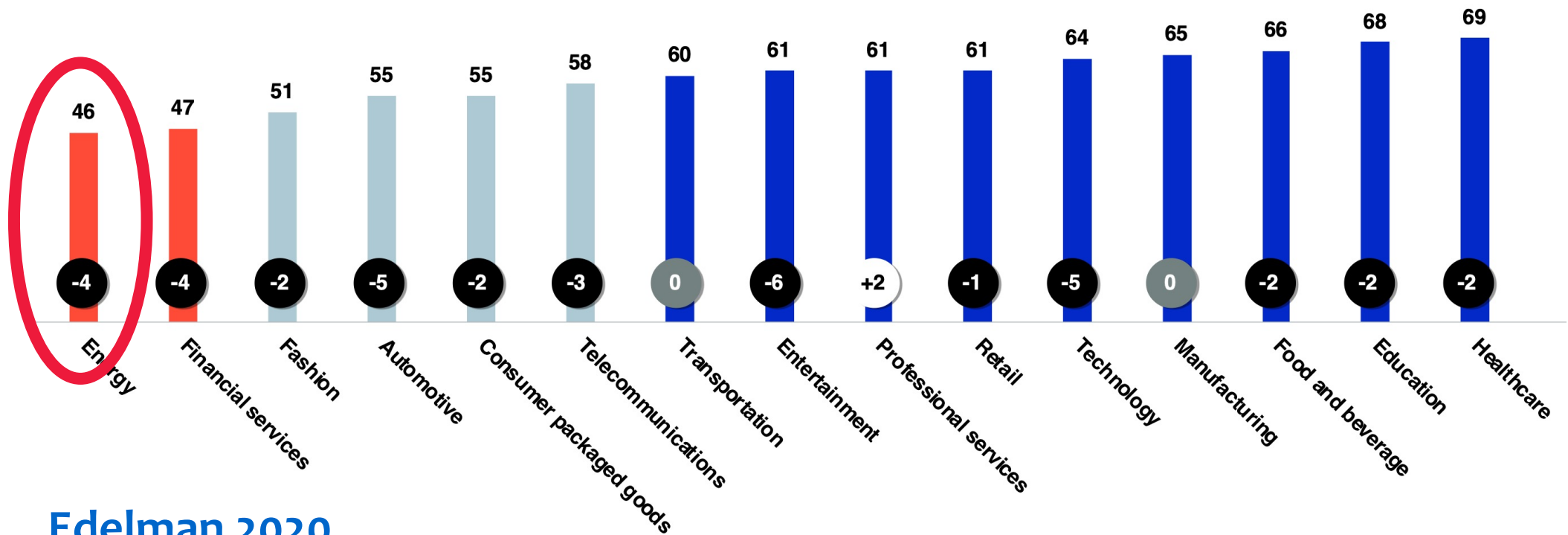
- Legally binding targets to net zero by 2050
- Renewables up to over 40% of UK electricity from 6% in 2010
- National Grid committed to being able to manage a zero carbon grid by 2025
- So far relatively easy ...
- Need increased electricity demand to decarbonise heat and transport
- Need to increase system 'flexibility' – impact on us

**Quarterly Growth in Contribution to UK Electricity Generation from Renewables (%)**





# Trust in Most Sectors of the Economy 'To Do What Is Right' is Falling



Edelman 2020



# Since 2010 BWCE has raised £20 million to build 12.35 MW of Community Renewables



## Ground mount solar

- 5 ground mount systems ranging from 250kW to 5MW

## Roof top solar & hydro

- 15 roof top systems on schools and community buildings ranging from 10 to 50kW
- 1 small modern water wheel

## Wind turbines

- Currently seeking sites



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**Reasonable return paid to members & over £220k to community fund**





# Last Business Plan Review – 2017-2021



## Results

- No new renewables projects
- Collapse of local supply offer after failure of energy supply partner
- But built 15MW pipeline of new projects in development
- Developed and funded pilot projects on domestic solar & battery storage and demand side response
- Increased staff capacity and reduced project costs

## Learning

- Demand for renewable energy is strong – capital costs & grid capacity are still limiting factors
- Community interest is growing
- Project development takes a long time
- Shift towards service delivery changes demand for staff capacity and skills
- Facing multiple opportunities going forward but state of flux in sector creates uncertainty around which opportunities will be most influential



# BWCE Mission & Goals – 2021-2025



Mission	Goals	Purpose
<b>BWCE is putting people at the heart of the zero-carbon transition ...</b>  <b>... by placing ownership and control of energy in the hands of consumers ...</b>  <b>... through clean energy projects that actively involve and benefit local communities</b>  <b>Clean Local Energy, Community Owned for the Common Good</b>	Maximise Community Renewables	Maximise local benefit, increase support for renewable energy and motivate greater action on climate change
	Enable Local Energy Supply	Strengthen the link between supply and demand and maximise the financial viability of community renewables projects
	Increase Electricity Demand Flexibility	Reduce fuel bills, increase potential for local renewables and create new community energy business models
	Increase Recognition of BWCE & the Community Energy Model	Create a foundation on which BWCE can more rapidly deliver its goals and aspirations.

# Objectives



Goals	Objectives
<b>Maximise Community Renewables</b>	<ol style="list-style-type: none"><li>1. Develop roof top &amp; ground mount solar PV and wind turbines</li><li>2. Develop community scale renewable heat pilot</li><li>3. Increase the flexibility of community generation e.g. co-located hydrogen electrolysis or battery storage</li></ol>
<b>Enable Local Energy Supply</b>	<ol style="list-style-type: none"><li>4. Establish long term Power Purchase Agreements with large consumers</li><li>5. Deliver peer to peer trading pilot &amp; test viability of community model</li><li>6. Maximise value of community generation, e.g. exempt supply, local supply tariffs</li></ol>
<b>Increase Demand Side Flexibility</b>	<ol style="list-style-type: none"><li>7. Deliver flexibility pilot and test viability of community model</li><li>8. Support flexible electrification of transport and heat with installation of electric vehicle (EV) charge points and heat pumps</li><li>9. Increase involvement in flexibility markets from all parts of society</li></ol>
<b>Increase Recognition of BWCE &amp; the Community Energy Model</b>	<ol style="list-style-type: none"><li>10. Broaden and deepen reach with new and existing audiences</li><li>11. Operate existing renewables projects efficiently and tell our stories more effectively</li><li>12. Strengthen strategic partnerships with key local stakeholders</li></ol>



# Strategic Milestones

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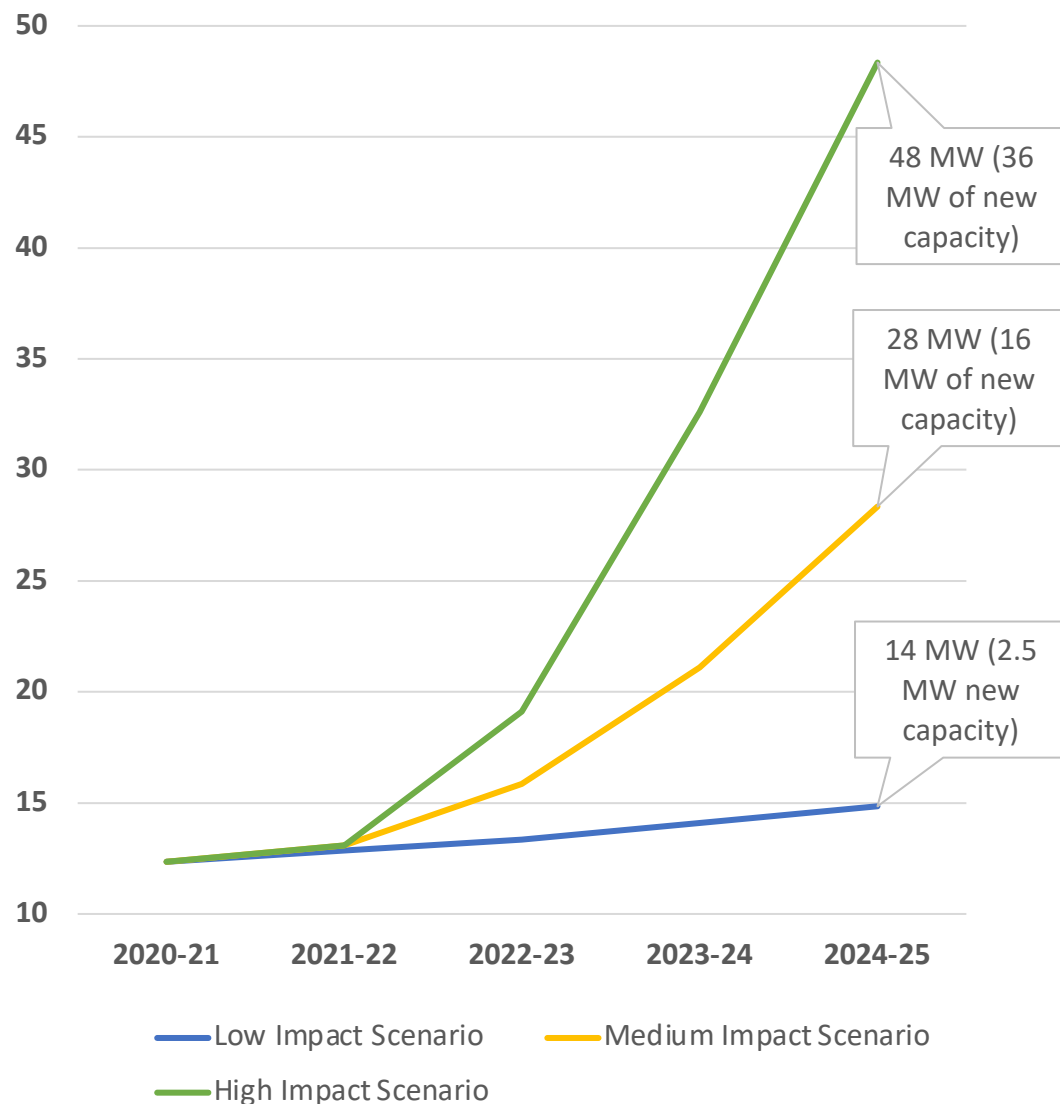


1. **Create Viable Revenue Model for Grid Connected Renewables**
2. **Secure Community Support for Large Solar and Wind Turbines**
3. **See Adoption of Local Plan Policies that Define Areas of Search for Wind Turbines**
4. **Secure Sufficient Grid Capacity**
5. **Establish Partnerships with Large Consumers and Estates**
6. **Successful Innovation on Flexibility, Storage & Community EV chargepoints**

# Future Growth Depends on Achievement of Strategic Milestones



## Potential Renewable Energy Capacity Growth to 2025 (MW)



### High Impact Scenario

- 5MW on site renewables (50-100 solar roof top schemes);
- 6MW wind turbines (3-12 wind turbines);
- 15MW ground mount solar (45-60 acres)
- matching demand from 17% of local households

### Medium Impact Scenario

- 4MW on site renewables (40-80 solar roof top schemes)
- 2MW wind turbines (1-4 turbines)
- 10MW ground mount solar (30-40 acres)
- matching demand from 10% of local households

### Low Impact Scenario

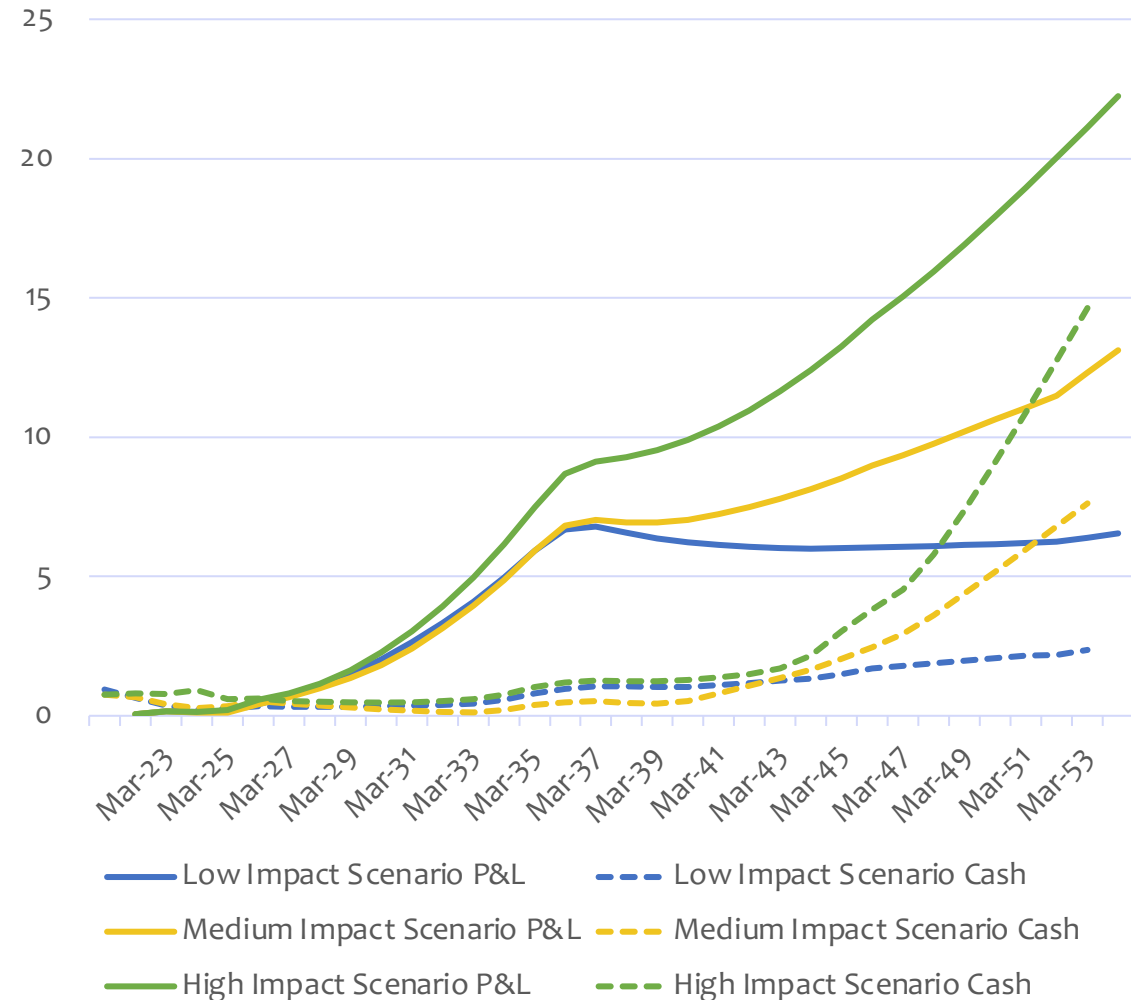
- 2.5MW on site renewables (25-50 solar roof top schemes)
- matching demand from 5.5% of local households

# Finance



- All the scenarios outlined are cash positive throughout projects' life, cover all costs as they fall due. and service and repay all capital investment

Financial Summary by Scenario (£ million)





# Financing Strategy



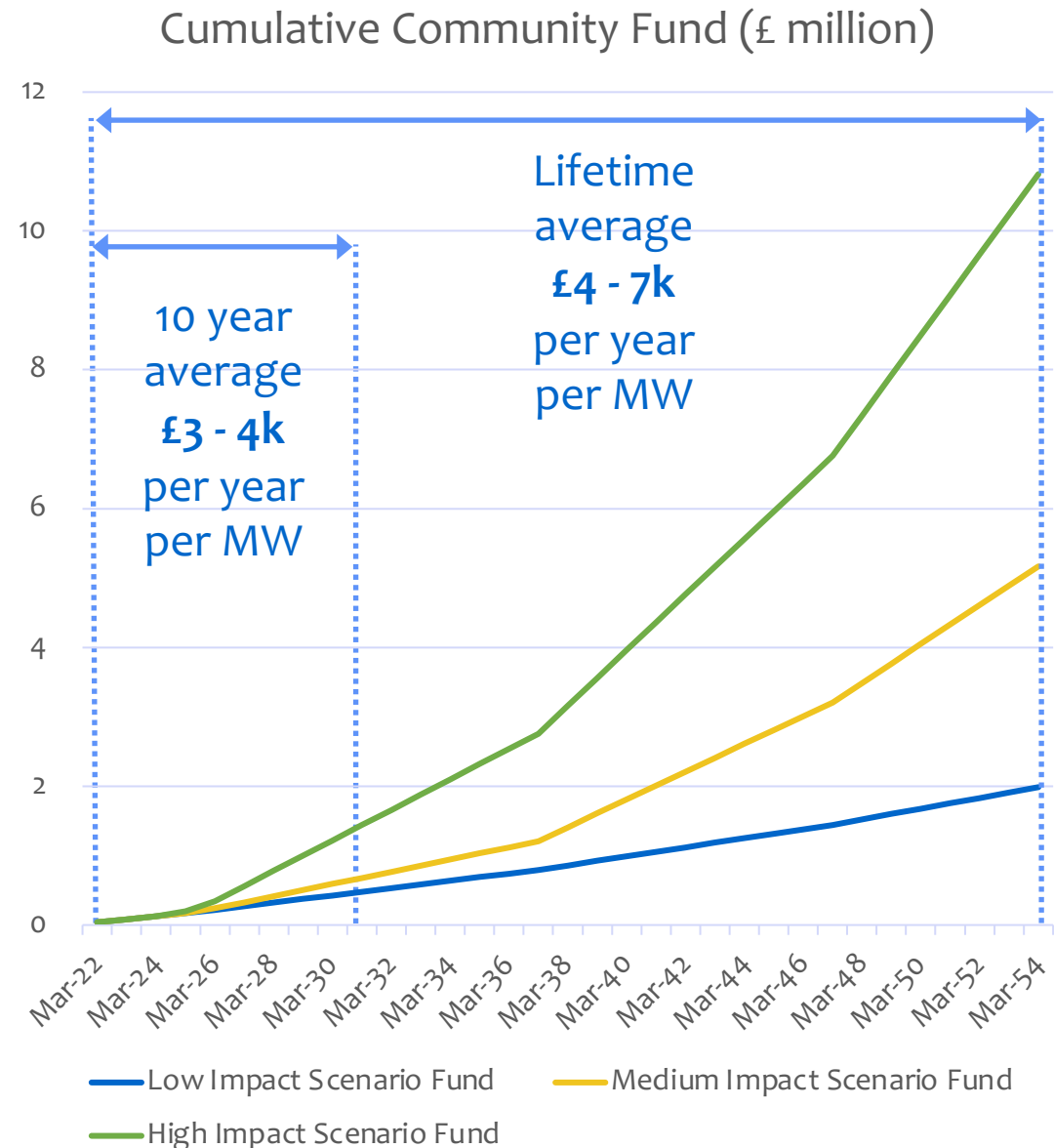
- Need to raise between £2.2 million and £25.5 million by 2025
- Up to £17 million from community investment, with balance from bank debt
- Raised this amount in the first 5 years of BWCE's existence through 8 share offers and 2 bond offers
- Local share offer – increase local membership
- National bond offer
- Sale of existing out of area projects?



# Community Benefit



- Projects could generate between £2 million and £11.3 million for recycling back into communities as grants via BWCE's community fund
- **10-20 times more benefit than traditional commercial model**
- Total community benefit = Community Fund plus investment in community business plus closing cash
- Overall, could generate between £6.1 million and £27.8 million of community benefit over the projects' life



# Summary

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Climate change is here now, and affects the most vulnerable the greatest

To decarbonize the grid, we need new renewables and a more flexible system

BWCE needs to be ambitious but responsive and focused on adding value

We have four goals – (1) maximise community renewables, (2) enable local supply, (3) increase demand flexibility and (4) increase profile

There are six key milestones that will determine the scale of our impact – (1) revenue security, (2) grid capacity, (3) community support, (4) local planning policy, (5) local partnerships, (6) innovation success

By 2025, we believe we can increase our renewables capacity by **up to 400%** to meet the annual electricity demand from **17% of local households**, retain **up to nearly £1.5 million** of revenue within the West of England and recycle **up to £140,000** of surplus as grants back into supporting local community action on carbon reduction and fuel poverty

Created community energy 2.0 that lays the foundation for expansion to 2030



# Q&A

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ANY QUESTIONS?

## Contact Details

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