



Our revised proposal for generating Broughton's own sustainable, low-cost electricity

September 2026



Solar Power for Broughton

Our proposal for sustainable, locally owned, low-cost electricity

12p/kWh

Electricity tariff

Our target, not the confirmed price

2,500 tonnes

CO₂ saved each year

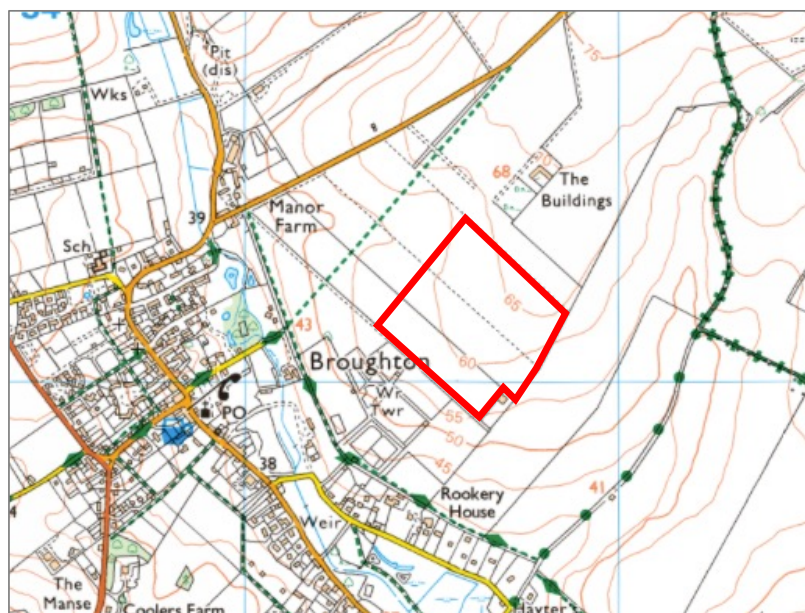
Compared to a gas-powered generation

Solar generation + storage

10,800 solar panels
7.2 MWp peak output
7 GWh annual power
2-4 MWh battery

Manor Farm

25-30 acres
On low-productivity land



The proposed site

Owned by village residents

Not-for-profit
A Community Benefit Society
One member, one vote

Financially viable

£5m capital investment
£160k annual operating cost
Financing: 60% debt, 40% equity
Viability is marginal under some scenarios

All figures are proposal estimates and/or targets

Community benefits



Inclusive access: An opportunity for everyone to benefit from clean, low-cost renewable energy, including those with properties that aren't suitable for installing solar PV, or who can't afford the up-front investment.



Affordable electrification: Lower-cost electricity, thereby increasing the viability of electrifying heating systems.



Improved energy resilience: Storage makes our local electricity network more resilient.



Community ownership: Increased agency and a stake in our own electricity generation company, thereby increasing community engagement and cohesion.



A model for others: Pride in providing a blueprint for other communities to act.

Power and energy – a quick reminder to help make sense of the numbers

Power

The rate at which energy is used or generated

Measured in Watts (W)

1,000 W = 1 kilowatt (kW)

1,000 kW = 1 Megawatt (MW)

1,000 MW = 1 Gigawatt (GW)

Example powers:

LED downlight	5W
Electric kettle	3 kW

Peak Power (p) is the maximum power that can be generated. E.g., a solar farm at midday in June.

Eveley Solar Farm (located between Broughton and Stockbridge)	50 MWp
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Energy

Energy = Power (W) x Time (h)

Measured in Watt-hours (Wh)

1,000 Wh = 1 kilowatt-hour (kWh)

1,000 kWh = 1 Megawatt-hour (MWh)

1,000 MWh = 1 Gigawatt (GWh)

1 kWh of energy = 1 kW of power for 1 hour

In our house, we use an average of 20 kWh of electricity each day.

A standard domestic electricity tariff is 26p per kWh.

Broughton Community Energy Steering Group



Adam
Boulton



Andrew
Illingworth*



Dan
Payne*



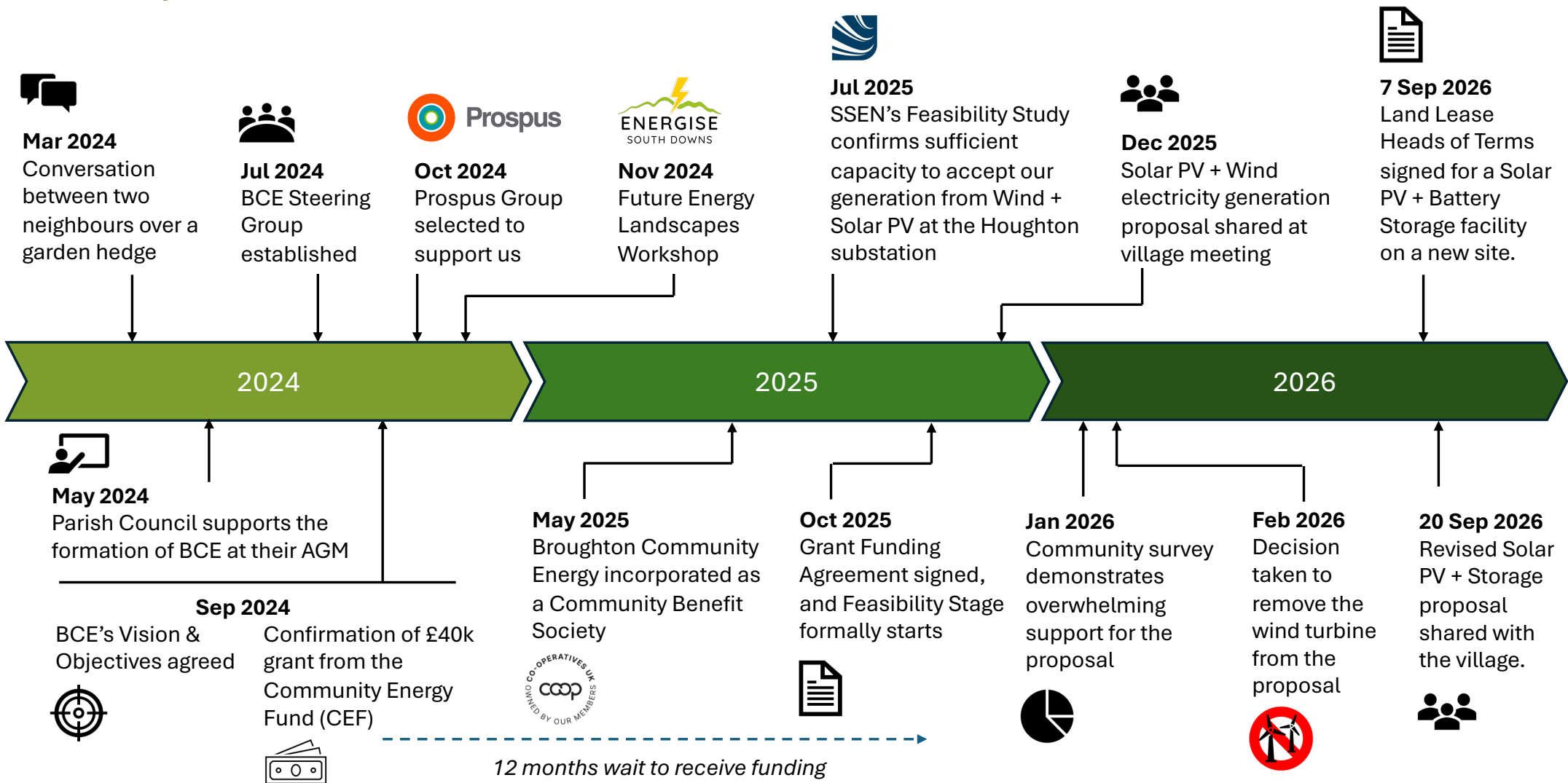
James
Hodgson*



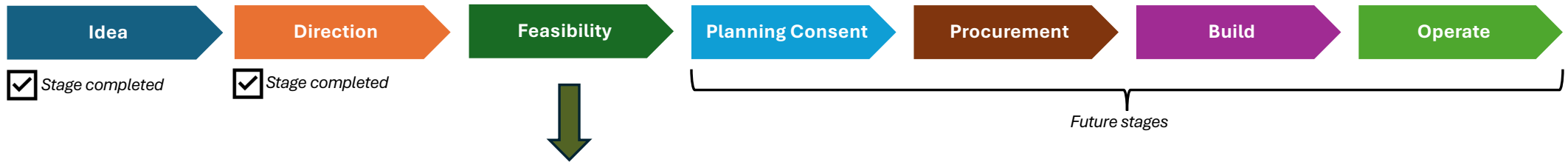
Pauline
Dahne

* A Director of Broughton Community Energy Limited

The story so far...



We are nearing the end of the project Feasibility Stage

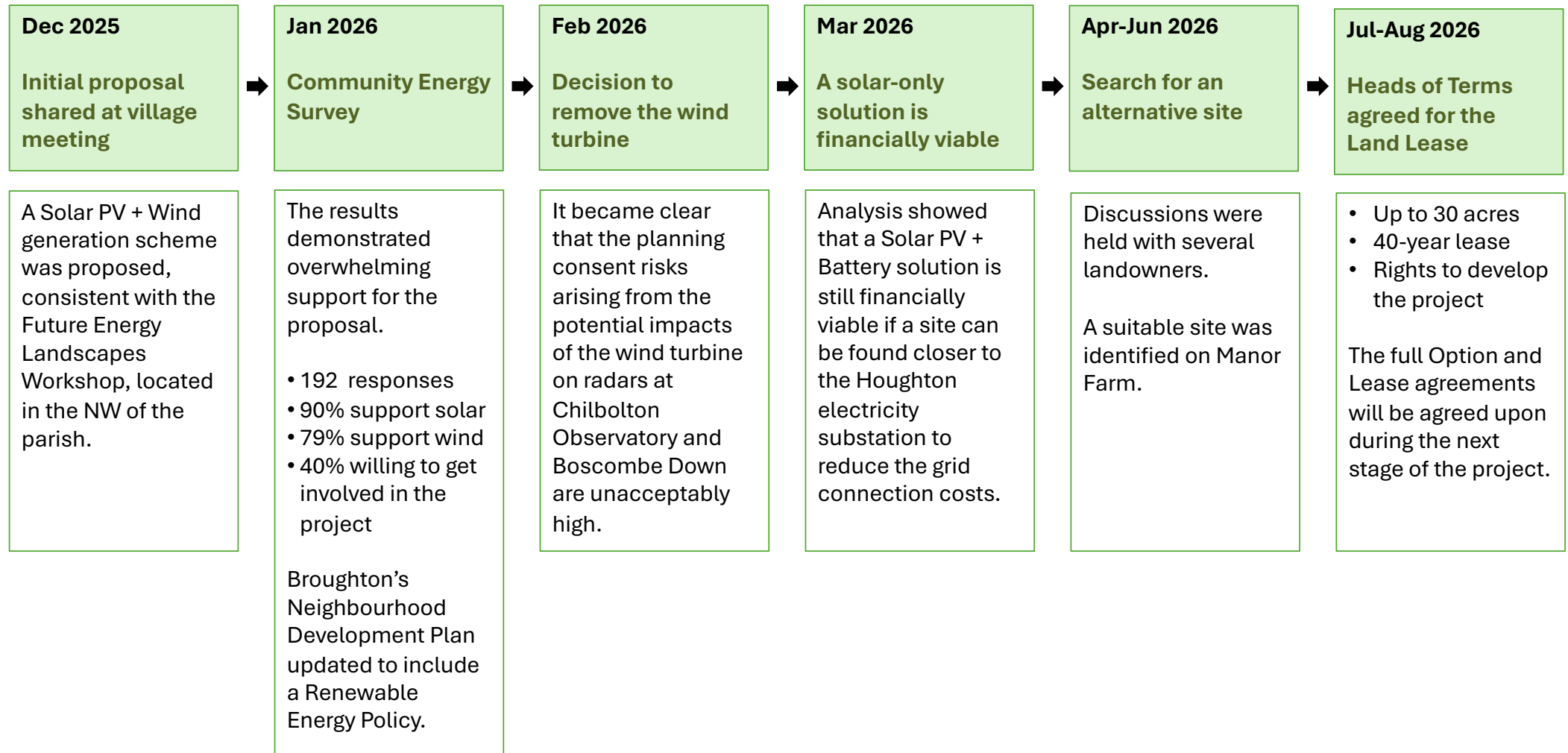


Feasibility Stage Outputs

- ☒ The proposed **Conceptual Design** for the generation site
- ☒ A thorough understanding of the **planning consent risks**
- ☒ Confirmation that the scheme is **financially viable**
- ☒ Confirmation that sufficient **grid connection capacity is available**
- ☐ A good understanding of **how our community feels** about the proposed scheme
- ☐ **Pre-Planning Application** submitted to TVBC
- ☐ **Application** submitted for the **Stage 2 GBECF grant (up to £100k)**

This document is the proposed Conceptual Design. The accompanying questionnaire will capture your views. **We will only submit the Pre-Planning Application and apply for the Stage 2 grant if there is significant support for the proposal.**

A lot has happened since we presented our initial proposal in December 2025



Broughton's draft Neighbourhood Development Plan (NDP) includes a Renewable Energy Policy

ENERGY POLICIES (ENP)

1. Renewable Energy (ENP1)

ENP1 – RENEWABLE ENERGY

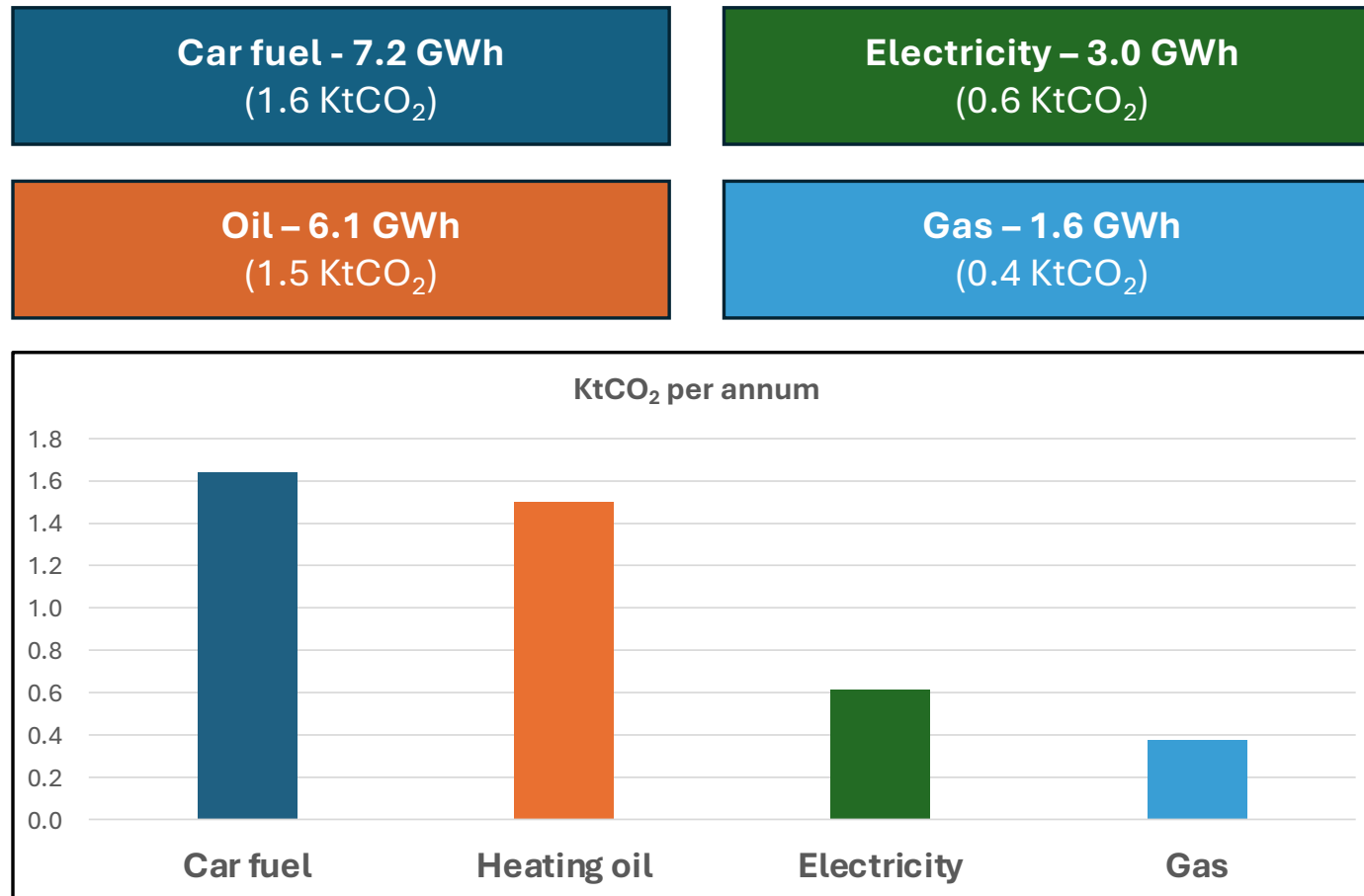
New developments should align with the Parish's ambition to meet its energy needs through creation and use of its own renewable sources. The use of renewable, decentralised and/or low carbon energy generation technology will be supported where appropriate.

The Reasons for this Policy

Broughton Community Energy Limited (BCEL), a Community Benefit Society, was incorporated in May 2025, after an initial steering group was established in July 2024. It is strongly supported by the Parish Council and the residents of the Parish. Therefore, it is important that development proposals:

1. Include a requirement to *recognise* and *cooperate* with BCEL in pursuing its vision of a village that “*is fuelled and powered entirely by sustainable, secure, zero-carbon energy, ensuring affordability and fairness for all*”.
2. Be designed to *minimise* greenhouse gas emissions and incorporate measures in respect of energy and water efficiency and climate change adaptation.
3. Have eco-efficiency as a *demonstrable* feature of new builds.

The annual energy consumption and CO₂ emissions of our village



We emit **4.1 ktCO₂** each year, which would fill **140 million party balloons**.
We would need to plant **200,000 trees** to absorb it.

Our objectives



Environmental

- ▶ Reduce our CO₂ emissions



Economic

- ▶ Lower our energy costs
- ▶ Reduce energy poverty in our community



Community

- ▶ Elevate community cohesion
- ▶ Provide a blueprint that inspires other communities to act

The UK can only achieve energy security and move towards net zero through electrification - using electricity that's generated sustainably

Oil and gas heating systems



Electric heat pumps will replace oil and gas-fired boilers

Heat pumps (air or ground source)



Petrol and diesel cars



Electric vehicles will replace petrol and diesel cars

Electric vehicles



Broughton currently uses 3-4 GWh of electricity each year. We estimate this will rise to 8 GWh once the transition is complete, even though electricity is more efficient than fossil fuels.



Our Vision

Our village is fuelled and powered entirely by sustainable, secure, zero-carbon energy, ensuring affordability and fairness for all.

The strategic activities needed to realise our vision



Our revised proposal focuses on local generation and a low-cost electricity tariff for the village.

Our proposed solar and storage systems

Solar PV: 7.2 MWp



Battery storage: 2-4 MWh, 2 MWp



We will generate **7 GWh of electricity per year**, exceeding **Broughton's current consumption of 3 GWh** and approaching the projected **future demand of 8 GWh**.

Battery storage will help balance supply and demand, enabling generated electricity to be used when the sun isn't shining.

Instantaneous output will be limited to < 5 MW to avoid lengthy delays from NESO* impact assessments.

* NESO is the National Energy System Operator that operates Great Britain's national electricity and gas grids.

Our search for an alternative site was based on a clear set of requirements

Location requirements

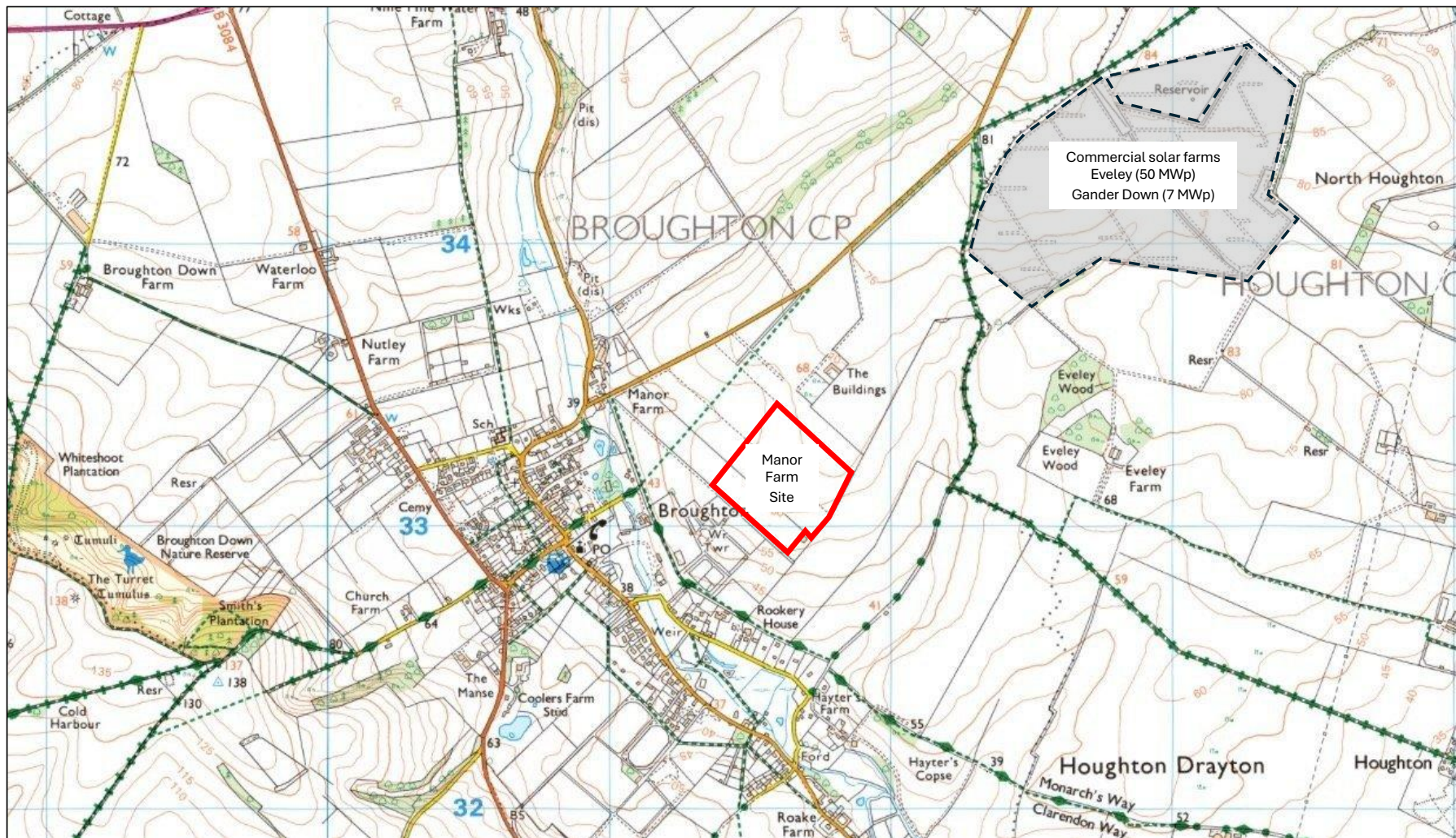
- Good solar irradiance
- A viable cost-effective cabling route to Houghton
- Minimal visual impacts
- Good access

Land requirements

- Low agricultural productivity (class 3b or lower)
- Not environmentally sensitive
- Avoids heritage and archaeological impacts

The Manor Farm site meets these requirements

The proposed site at Manor Farm



Site layout

Up to 30 acres of land

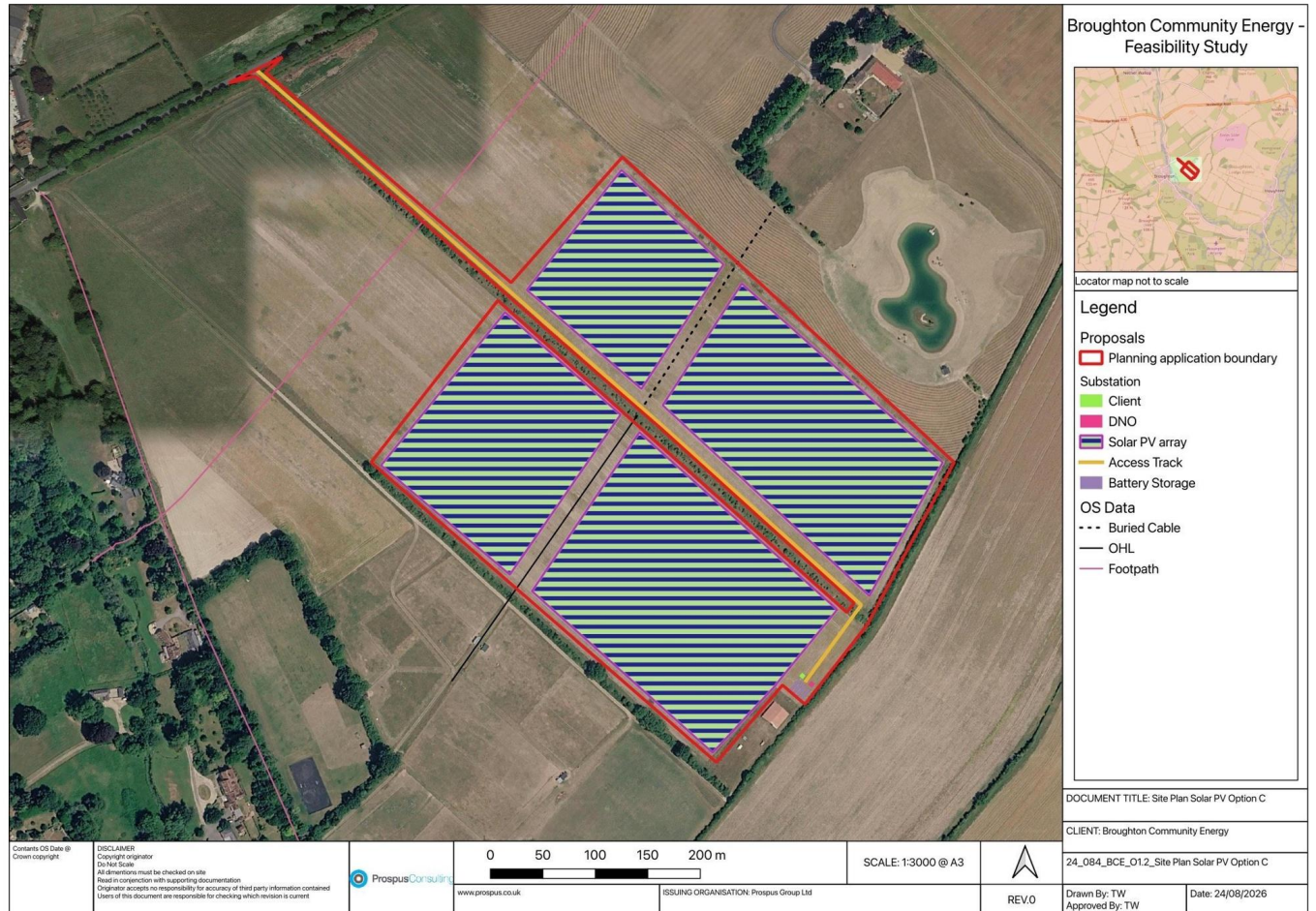
Solar PV

Solar panels	10,800
DC output	7.2 MWp
AC output limit	4.9 MWp
Annual generation	7 GWh

Capping the AC output at 5 MW only
curtails annual output by 1-2%.

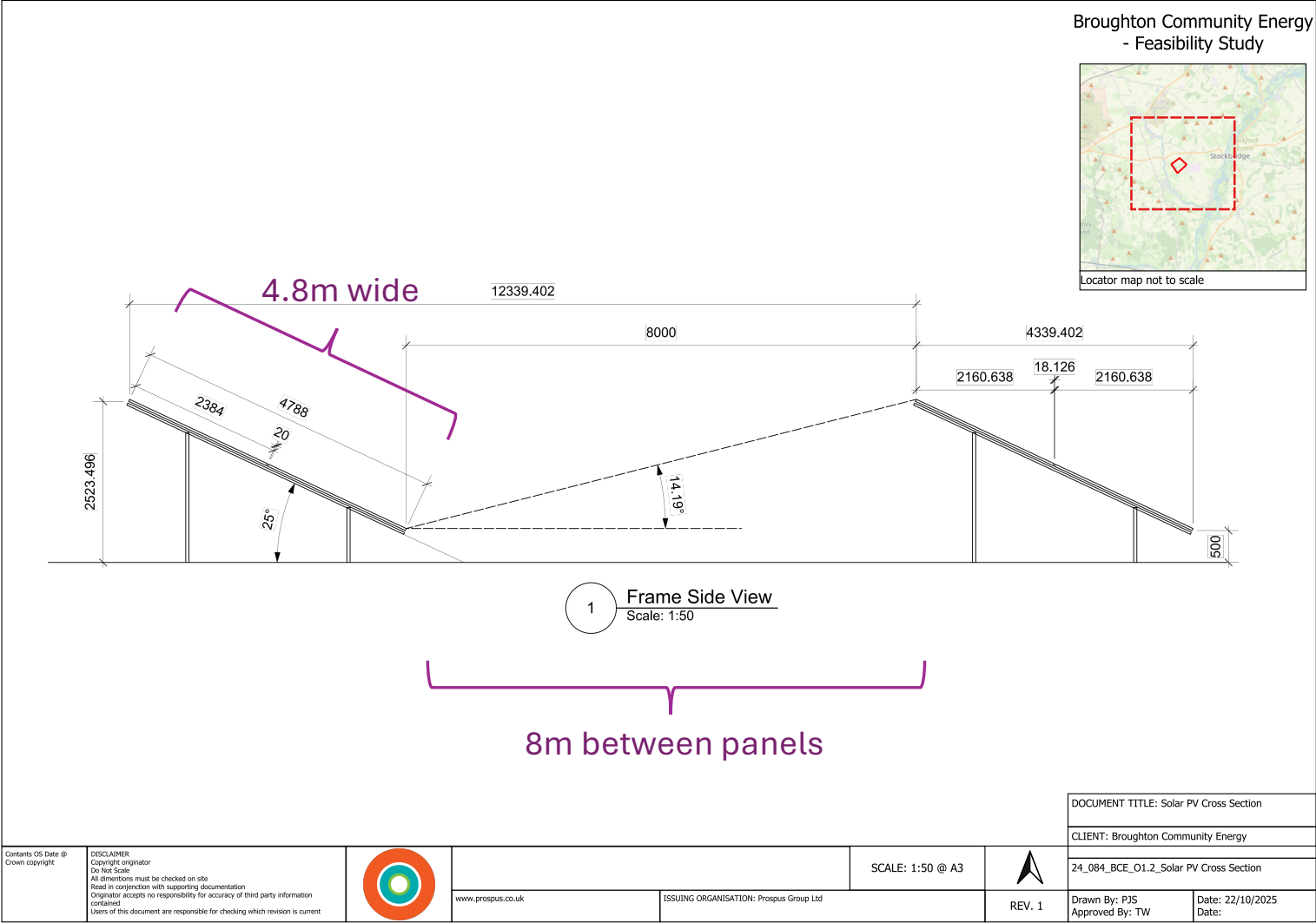
Battery storage

Capacity	2-4 MWh
Power output	1-2 MWp
Grid import limit	0.5 MW



Cross-section of the solar panels

2.5m high



Potential storage benefits

Match local usage

Store power generated during the day and release it at peak demand, especially in the winter months when the sun sets early.

Avoid output curtailment

Store electricity when the output is >5 MW and export it later.

Improve our PPA

The Power Purchase Agreement (PPA) to purchase our excess power may be more valuable if the output profile can be optimised using storage.

Price arbitrage

Store electricity when prices are low, from the solar PV array or from the grid at night and export it when prices are higher.

Flexibility & balancing services

Release or store electricity in response to signals from flexibility service providers. Helps SSEN to avoid/delay the high costs of grid reinforcements and stabilise grid voltage.

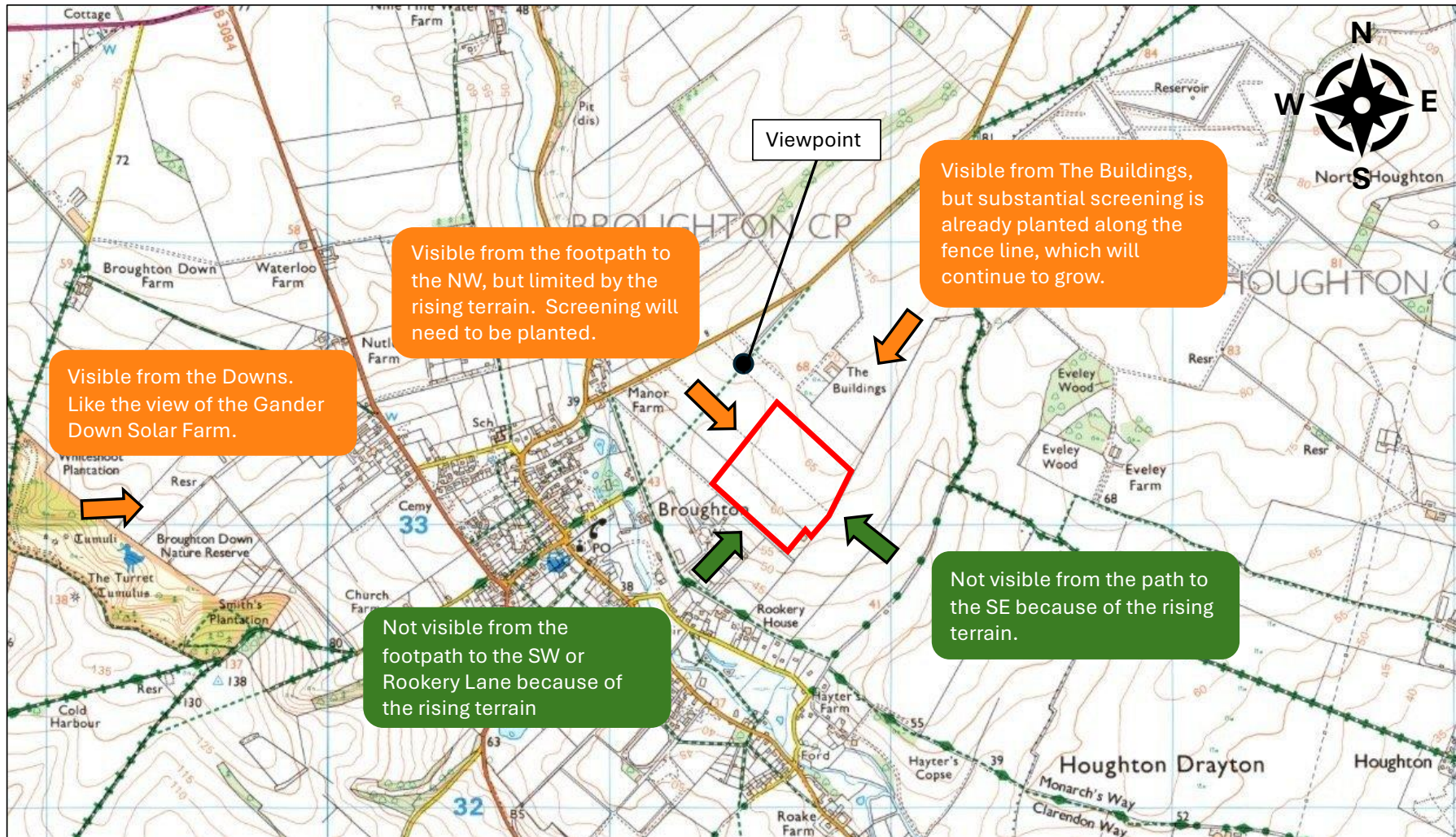
Improve local grid resilience

The battery can help restore power to Broughton more quickly during outages.

Security of supply: Unfortunately, for safety reasons, current regulations don't permit continued electricity supply to Broughton if there's an outage upstream of the Houghton substation (e.g., between Winchester and Houghton).

Opportunities will be explored in more detail during the next stage of the project and used to optimise the storage design.

Visual considerations



Looking SE across the proposed site from the viewpoint marked on the previous slide



The dashed line estimates how far the solar panels will extend towards the viewpoint.
Screening will need to be planted.

Screening is already planted along the fence to the SW of The Buildings



This will continue to grow during the intervening years.

An impression of the site from the Downs



Note: this is a worst-case representation. In practice, planting to the west of the site and on each side of the central access track will reduce the visual impact.

Increasing the biodiversity of the site



Planning legislation will require the project to deliver a Biodiversity Net Gain of at least 10%.

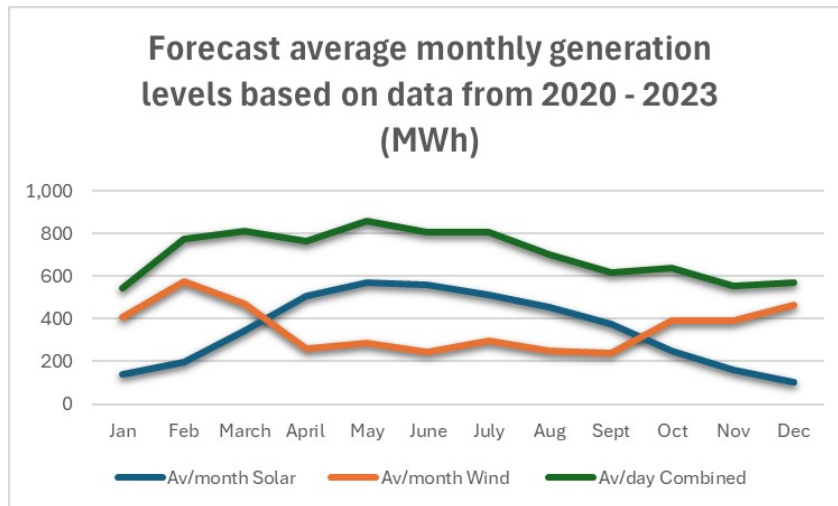
Measures will typically include:

- Sowing species-rich meadows, grass and flowers around and between the panels
- Planting new hedgerows and trees
- Introducing water features
- Installing bird and bat boxes
- Introducing beetle banks for insects
- A land management framework with no fertilisers and pesticides

The main impact of removing the wind turbine from the scheme is uneven generation throughout the year

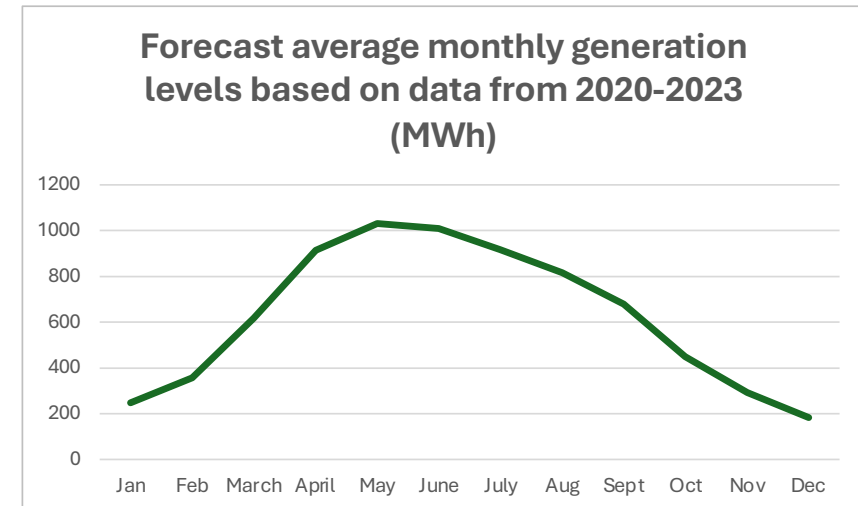
Dec 2025 proposal

Solar PV (4.1 MWp) + Wind turbine (2.3 MWp)



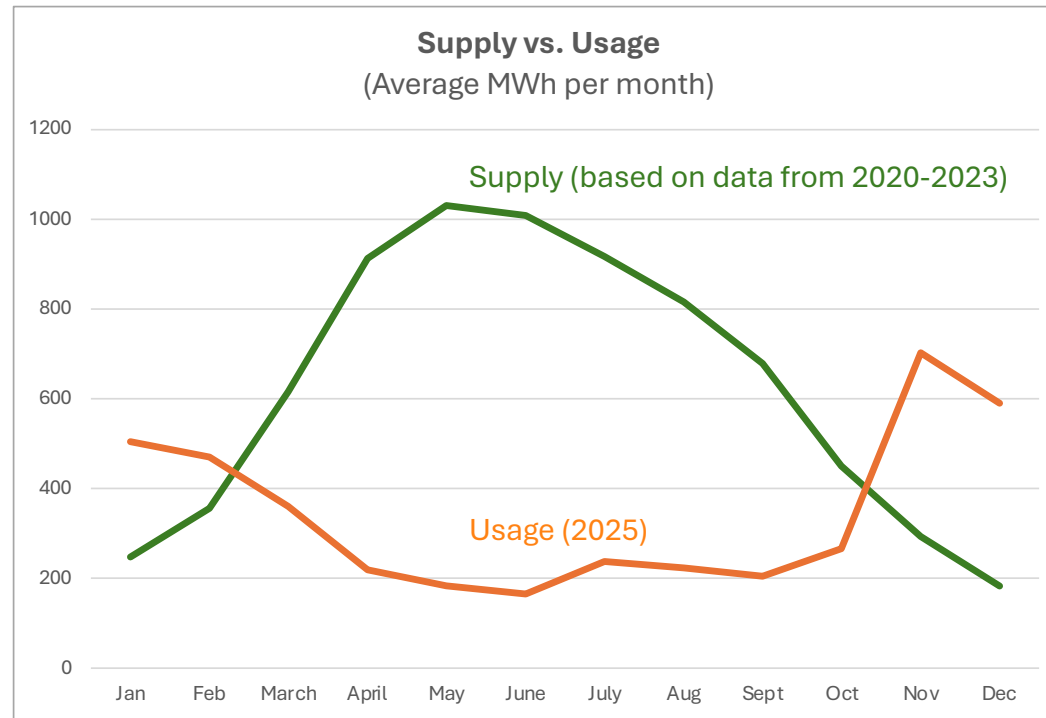
Revised proposal

Solar PV only (7.2 MWp)



The annual power generated is similar, but the profiles are different.

The supply will still exceed Broughton's usage for 8 out of 12 months



The excess electricity will be exported for sale via the PPA.

Broughton's 2025 usage was obtained from SSEN's data portal.

Our target community tariff is 12p/kWh

How can we reduce electricity costs?

When generation matches Broughton's usage, we can avoid costs that electricity suppliers charge to customers because the electricity is not carried on the regional distribution and national transmission networks.

Costs avoided:

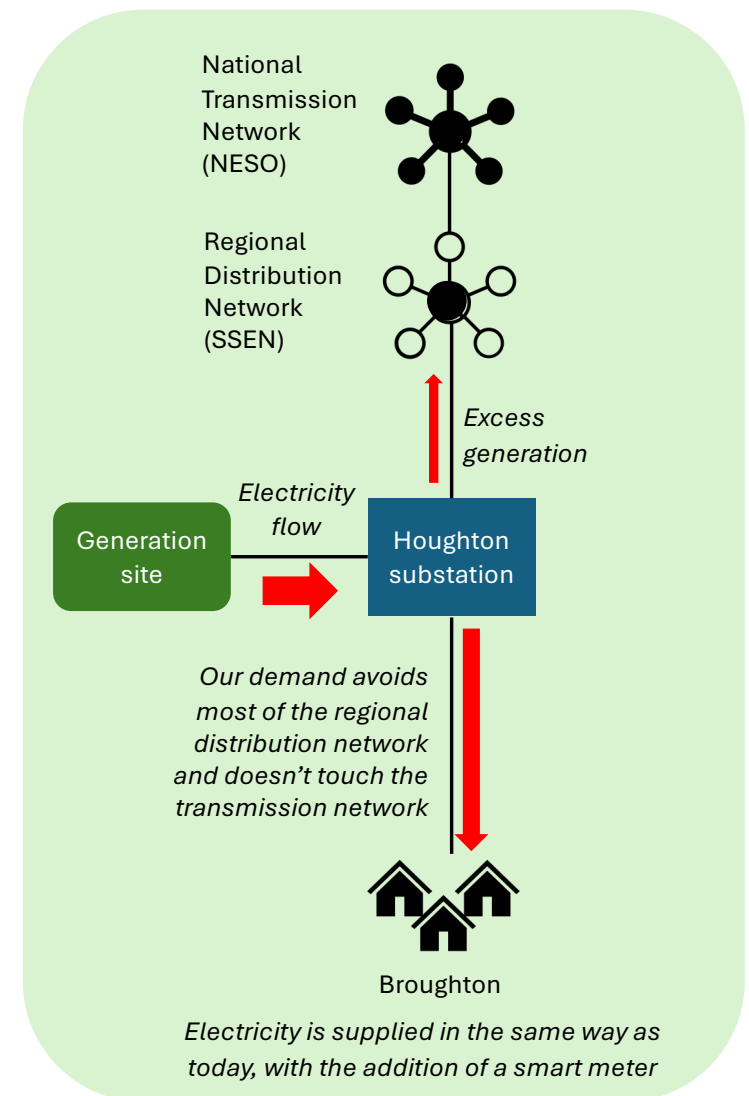
- Transmission Network Use of System (TNUoS) charges
- Balancing Services Use of System (BSUoS) charges

How are the rules changing to formalise this opportunity?

Permission to offset local generation with demand is currently being formalised in the rules that underpin the UK's wholesale electricity market. Competition is expected to increase among suppliers to participate in these schemes.

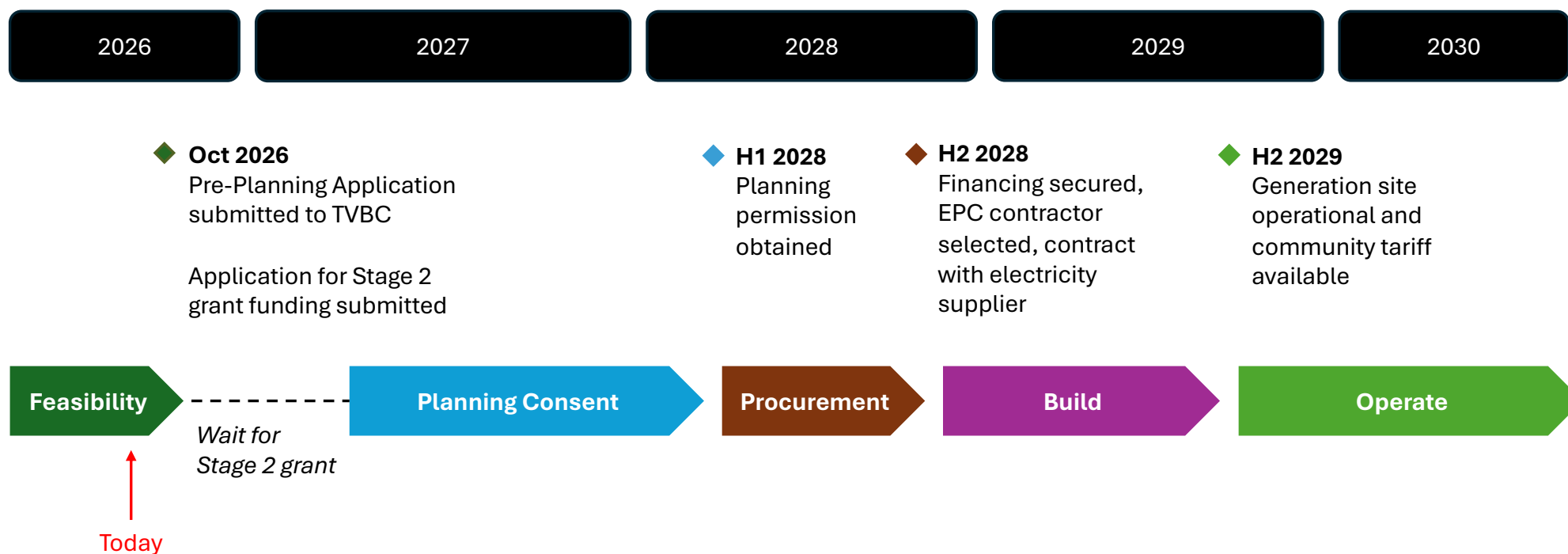
The steps involved

1. BCE partners with a licensed supplier (e.g., Octopus, British Gas, etc.)
2. The supplier creates an exclusive community tariff for Broughton
3. Households switch to the supplier
4. A smart meter is installed to enable matching in 30-minute intervals
5. Electricity costs are reduced during intervals when demand can be matched by generation



The anticipated timeline

Many uncertainties remain, so it's hard to predict, but the scheme is unlikely to be operational before 2029.



Financial viability and project funding

Our modelling shows the project is financially viable

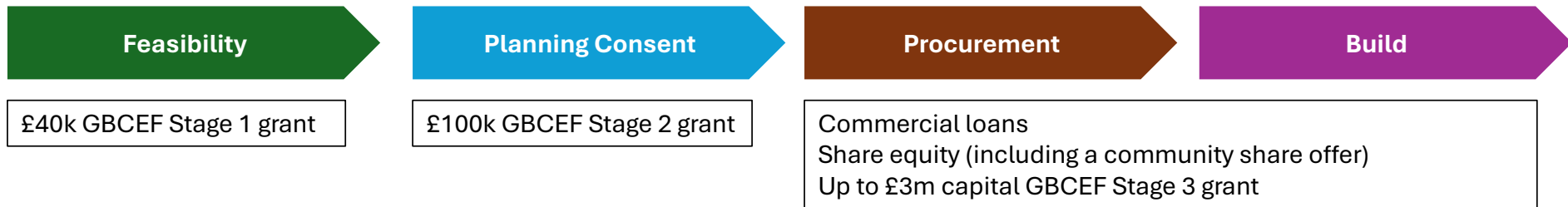
Cost estimates

Initial capital investment	£5m
Operating costs	£150k/year

Revenues*

Electricity revenue	£580k/year
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Project funding by stage



* The potential upsides from battery storage and the community electricity tariff have not been included in this base case estimate.

Our community will control how Broughton Community Energy operates

BCE Limited is incorporated as a Community Benefit Society (CBS) regulated by the Financial Conduct Authority (FCA)



Key characteristics of a CBS

- Community focus
- Open membership
- One member, one vote
- Profits must be reinvested in the community
- The ability to raise capital (including issuing shares)

What this means in practice

- Membership will be open to everybody in our village
- A Board of Directors will be elected by the members at the first AGM
- The directors will operate the company on behalf of the members
- Members will vote on key decisions, including setting the Community Electricity Tariff

Key risks

We don't get planning consent from TVBC

Community support is essential to obtain planning consent.

The Renewable Energy Policy in Broughton's Neighbourhood Development Plan should carry some weight.

We can't secure the capital investment

Financing community-scale generation projects is challenging. We will continue validating our financial model assumptions with potential investors as the project progresses.

The generation capacity available at Houghton is used before we secure it

We can't secure the connection until we receive the Stage 2 GBCEF grant. Our business case depends on exporting all the electricity we generate.

We will continue to mitigate risks as the project progresses.

Next steps

To be completed by the end of October 2026

1. Summarise the responses from the Community Questionnaire and share the results.

If the questionnaire demonstrates strong community support:

2. Submit our Pre-Planning Application to TVBC.
3. Apply for the Stage 2 £100k grant from the Great British Energy Community Fund (GBECF).

Please complete the questionnaire



Broughton Community Energy Electricity Generation Survey

This survey is to understand your views about Broughton Community Energy's (BCE) **revised proposal** to generate our own sustainable electricity and offer a low-cost community electricity tariff. The **wind turbine** has been **removed**, and the **site location** has **changed**.

Thank you for taking part. Your opinions are important and will help shape the project.

Privacy Notice
The information you provide will be used solely for this survey and related community planning. Responses are stored securely and only accessed by the survey team. We will not share personal data with third parties. Any published results will be anonymised. If you provide contact details, they will only be used for the purposes that you have requested.

To gauge community support for this revised proposal, **please complete the short survey**.

You can find this proposal and a link to the survey on our website

www.broughtoncommunityenergy.org/documentlibrary.html

Please also encourage your family and friends to complete it.

Thank you!



Join more than 100 of your neighbours on our WhatsApp group and never miss an update



Get involved

This is your project, and we want it to reflect the priorities of the whole village.

If you'd like to contribute ideas or learn more, please get in touch.



info@broughtoncommunityenergy.org



Join our WhatsApp group:



www.broughtoncommunityenergy.org