

Bretherton Energy Partnership Summary report

March 2023



Contents

1. Bretherton Energy Partnership background
2. Scope of work delivered
3. Bretherton Energy Partnership Proposal
4. Community benefit model and case – local supply model and 5% revenue share
5. Community survey
6. Parish Council decision and next steps

1/ Bretherton Energy Partnership background

GA Pet Food Partners have put forward plans to develop a wind turbine and solar field to generate green electricity for the GA factory at Plocks Farm and Bretherton Parish. The proposed wind turbine and solar field would be on land between the River Douglas and the Leeds to Liverpool Canal, to be known as the Asland Walks Energy Park. GA Pet Foods have proposed a potential partnership with the Bretherton community which could, in the long term, help to reduce energy bills and generate income to support community projects in the parish.

The proposed wind turbine and solar field, and potential Bretherton Energy Partnership, would have a number of implications for the village:

- The proposed wind turbine will be up to 150m high, and visible from parts of the parish. For comparison, the turbines at Cliffs Farm on Mawdesley Moss are 55m high.
- The proposed solar field will be up to 80 acres of panels.
- The Asland Walk Energy Park, which is currently publicly accessible green space and well used by the local community, will continue to be open to the public and allow the community to still enjoy the area.
- Under the proposed Bretherton Energy Partnership, the wind turbine and solar field could provide reduced cost electricity to local households, subject to the viability of the 'Energy Local Club' and community battery which is being explored.
- If the local supply model is not technically or economically feasible, GA have committed to a 5% revenue share which could generate significant income to support community-led energy and net zero transition projects in the parish.
- The wind turbine and solar field would help GA Pet Foods, and the parish, transition to low carbon energy and achieve 'net zero'.
- The wind turbine and solar field would help GA Pet Foods reduce and stabilise its energy costs and make the business, which is a large local employer, more resilient.

For more information on the proposed wind turbine and solar field and the proposed Bretherton Energy Partnership, please visit www.brethertonenergy.co.uk

2/ Scope of work delivered

Local energy advisors [CfR CIC](#), working with community engagement specialists [Locality](#), were commissioned by the North West Net Zero Hub to help Bretherton Parish Council understand and engage in the proposed Bretherton Energy Partnership proposal.

Over a 12 month period from March 2022 to March 2023, we carried out the following work:

- Reviewed technical and planning feasibility work commissioned by GA.
- Produced an estimate of Bretherton's electricity, heat and transport consumption and how this could change in future with a shift to heat pumps and electric vehicles.
- Produced a simulation (half hourly over 12 months) of how much of Bretherton's electricity consumption could be met by 5% of the output of the proposed wind turbine and solar array.
- Supported the Energy Working Group to negotiate the terms of the Bretherton Energy Partnership, defined in signed Declaration of Understanding and supporting document setting out the contracts required to implement it.
- Re-drafted the Bretherton Energy Partnership website to provide information on the proposal to the local community.
- Produced a survey to seek views and feedback from the community, and a steer on whether and how the parish council should engage in the proposed Bretherton Energy Partnership.
- Commissioned battery specialists StorTera to do an outline design and costing for the battery that would be needed for the local supply model.
- Developed a basic financial model to illustrate the business case and potential local benefits of the local supply model and fall-back 5% revenue share model proposed in the Bretherton Energy Partnership.

This document provides a summary of the work carried out. Further information is provided in a number of supporting documents:

- The Bretherton Energy Partnership declaration of understanding between GA and the Parish Council. A supporting document setting out the legal agreements required to implement the partnership was produced by GA's legal advisors.
- BEP illustrative business case model (excel spreadsheet)
- Assessment of Bretherton's current and future electricity consumption, and comparison to 5% of the output from the Asland Walks Energy Park (report and excel spreadsheet).
- Bretherton Energy Partnership community survey and report on results.
- StorTera battery feasibility study.
- Bretherton Energy Partnership website text.

2/ Bretherton Energy Partnership



Asland Walks Energy Park
4.2MW wind turbine
27MW solar array



Wind turbine



Capacity	4.2 megawatts (MWp)
Size	138m rotor 150 – 180m to tip
Annual generation	c.25,000,000 kWh
Planning considerations	Landscape Ecology Flood risk Land grade Green belt Heritage Aviation Telecoms links Noise Shadow flicker NPPF

Solar array

Capacity	27 megawatts (MWp)
Land area	c.100 acres
Annual generation	c.26,000,000 kWh
Planning considerations (generic)	Landscape Ecology Flood risk Land grade Green belt Heritage



3/ Community benefit model

The Bretherton Energy Partnership Declaration of Understanding between GA Petfoods and Bretherton Parish Council (signed Sept '22) sets out the basis of community benefit model.

GA will develop, finance and own the Asland Walks Energy Park including a 4MW wind turbine and 27MW solar array.

5% of the electricity generated will be given the Bretherton community to benefit in two ways:

1/ To support a local electricity supply via an Energy Local Club

2/ For electricity not consumed by the Energy Local Club, or if the club is not technically or economically viable, GA will pay a revenue share to the community equivalent to the value of the electricity being sold to an energy supplier.

To date, the community benefit model has only considered Bretherton Parish. However, other communities (such as Sollom) will be impacted by the proposed turbine.

Local supply via Energy Local Club

How would it work?:

- A private cable would connect the Asland Walks Energy Park to containerised battery banks at each of Bretherton's 2 sub-stations.
- GA would fund the cost of the cable, but the community would need to fund and own the batteries and connection infrastructure.
- Bretherton sets up an Energy Local Club, with the support of Energy Local.
- To join the Energy Local Club, households will need to sign up to Energy Local's partner supplier (Octopus or GEUK), have a smart meter installed, and go onto a time of use tariff.
- The club will be supplied up to 5% of the generation from the Asland Walks wind turbine and solar array for free, and sell it to local households at a local tariff rate. The rate needs to be lower than consumer market prices but high enough to cover the running costs of the club and the operating and finance costs of the batteries.
- When community consumption is less than 5% of the output of the energy park (which would be most of the time when the wind and solar are up and running), customers will pay the club rate. Top up power is supplied by the partner supplier at market prices under a time of use tariff.
- Surplus generation not used (up to 5% of the generation) to be sold to the grid by GA, and the revenue generated given to the community.

www.energylocal.org.uk

Local supply via Energy Local Club

Summary of what's involved

GA Agreements

Agreement for the supply of power at zero cost from Alsand Walks wind turbine and solar array to the community battery
5% revenue share agreement

Cable

Wayleaves for cable route
Planning consent
Financed by GA

Battery

Planning consent
Land lease
Grid connection agreement
c.£2.9million investment to be raised by community

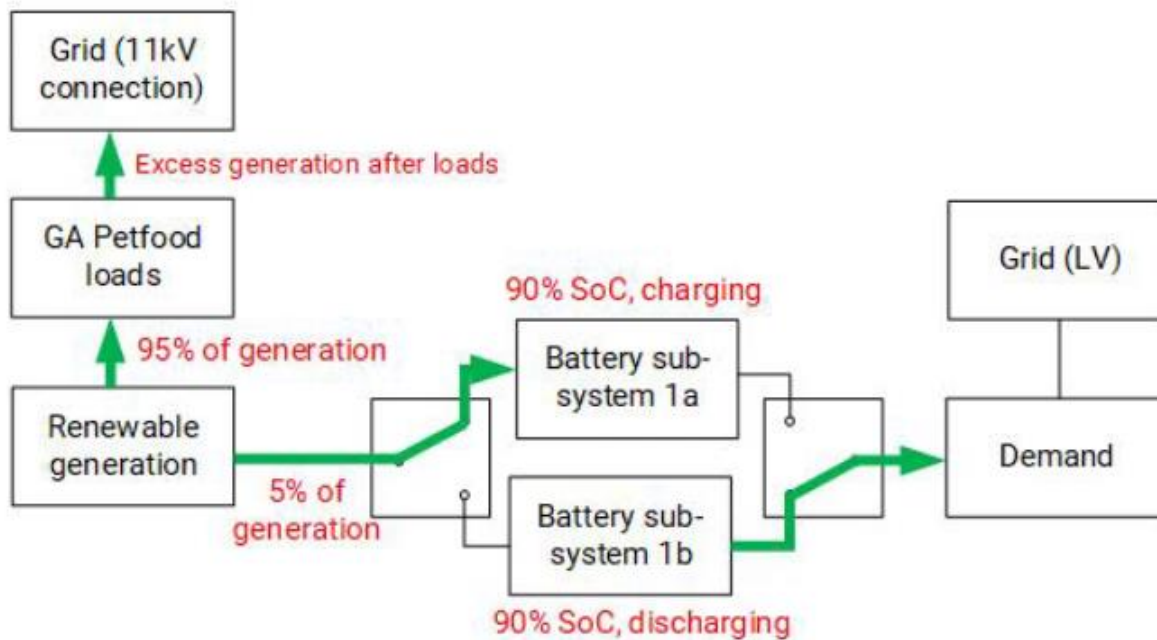
Local supply

Energy Local Club set up and household sign-up
Smart meters installed in each house and households switch to partner supplier

Ongoing costs

Battery operating costs (maintenance, component replacement, insurance, rates, asset management etc)
Battery finance costs
Club administration and organisational costs

Local supply via Energy Local Club



Above - Schematic of how the wind and solar would be connected to GA factory and Bretherton parish via the twin batteries.

Right – 2MWh containerised battery system.

See StorTera battery feasibility study for details.



Local supply via Energy Local Club

Some key considerations:

- The Local Energy Club could provide significant energy cost savings to local households, but there is a lot of development work and risk involved in getting it up and running.
- Viability is dependent on getting a high level of sign-up (e.g. 2/3rd of houses in the parish) and both the wind turbine and solar array going ahead.
- The legislative framework on which the Energy Local Club model is based, requires the batteries. The batteries are also required to avoid the Asland Walks Energy Park being connected directly to the local electricity network in 2 places, which Electricity North West would not allow.
- An outline design for the battery system has been produced by StorTera battery consultants. The design is based on two battery banks at each of the two sub-stations. At any one time, one of each of the battery banks will be charging from the wind and solar and the other discharging to supply the community.
- Energy Local Club model will only apply to households supplied by the two substations. The community could make a payment to provide the equivalent benefit to the households that can't access the club.
- Energy Local has clubs up and running, but is seeking formal confirmation for the legislative basis on which it works through a process with [Elexon](#) (an industry body that manages the UK's electricity balancing and settlement process). The decision, which needs to be approved by the regulator Ofgem, is expected summer '23.

Local supply via Energy Local Club

Illustrative business case

Capital - £2.9million

Raised through community investment and/or loan to fund the installation of the battery, connection and control infrastructure.

Revenue – c.£350,000 per year decreasing over time with reducing power prices

c.45% of generation sold via Energy Local Club to local households at 30% discount to consumer market price.

c.55% surplus generation sold to an energy supplier at market rates.

Operating costs – c.£45,000/year

Battery operations and maintenance, component replacement, security, comms, insurance, asset management, company admin.

Finance costs - c.6% with capital repaid over 20 years.

1MWh = 1,000kWh	Annual generation MWh	5% of annual generation
4.2MW wind turbine	26,000	1,300
27MW solar	25,000	1,250
Total	51,000	2,550
Sold via Energy Club		45%
Surplus sold to supplier		55%

Local supply via Energy Local Club

Illustrative electricity value and savings

	2025 estimate	Illustration of how could change over time
Consumer market price	30p/kWh	Decreasing to 21p/kWh by 2035
Club price (30% discount)	21p/kWh	Decreasing to 15p/kWh by 2035
Export value	14p/kWh	Decreasing to 5p/kWh by 2035

Local benefit

Local supply model (when wind and solar up and running) could save an average Bretherton house c.£490/year on their electricity bill in 2025.

If 2/3rd of Bretherton's 256 homes signed up the tariff, total local benefit could be £83,000/year + over £900,000 over 20 years (NPV).

Revenue share

How would it work?:

- No physical infrastructure or capital investment required by the community.
- Bretherton sets up a charity or community interest company to receive and manage the income.
- GA makes a revenue share payment to the community equal to the value of 5% of the annual generation from the wind turbine and solar array if it was sold to an energy supplier at market rates.
- The community could use the income to help reduce energy bills in the parish by (for example):
 - Providing advice, support and grants and zero/low interest loans to help local households make their homes more energy efficient
 - Subsidising energy bills for low income households
 - Funding for community low carbon infrastructure such as electric vehicle charging points

Bretherton Energy Partnership could start on the basis of the revenue share and use some of the income to develop the battery and local supply model once risks addressed and deemed technically and economically viable.

Revenue share

Summary of what's involved

GA Agreements

5% revenue share agreement

Ongoing costs

Community company administration and organisational costs
Employing a parish energy manager to help identify and delivery projects?

Revenue share

Illustrative business case

Capital costs - £0

Revenue

c.£350,000 per year decreasing to £130,000 per year with reducing power prices

Operating costs – c.£62,000/year

Accounts and insurance - £2k

Parish energy manager - £45k?

Administrator (part time) - £15k?

Surplus income

c.£290,000 reducing to £68,000 per year with reducing power prices

Total surplus over 20 years – c.£2,250,000 (NPV discounted at 3.5%)

7/ Community survey

The screenshot shows the Bretherton Energy Partnership website. At the top, there is a navigation bar with 'HOME | CONTACT' on the right and 'WHAT | WHY | HOW | FAQ | RESOURCES | UPDATES' in the center. The Bretherton Energy Partnership logo is on the left. The main heading is 'Powering a greener future' in large green letters against a blue sky background. Below this, a green banner contains the text: 'Welcome to the Bretherton Energy Partnership Website. The purpose of this revised site is to provide information to local residents and interested parties on a proposed local energy partnership, as part of the Bretherton Community Engagement being undertaken during Winter 2022/2023. GA Pet Food Partners (GA) and Bretherton Parish Council are exploring the potential for GA and local residents to join together and begin a mutual journey to change the way we heat and power our homes and businesses transitioning from our current reliance on expensive fossil fuels to the use of locally generated zero-carbon electrical power from low and stable cooling wind and solar. We are at the early stages of exploring this potential partnership. Before going much further we want to find out what local people think of the idea and get your feedback. Please look through the information on this site and respond to the Parish Council survey which can be found on Bretherton Parish Council website: <https://bretherton.org.uk/>' A circular image of a 'WELCOME TO BRETHERTON' sign is on the right. Below the banner is a section titled 'About GA Pet Food Partners' with text: 'GA is a manufacturer of premium quality pet food and a local business which has grown out of local farming roots. GA sources its meat protein ingredients as by products from the human food chain, recycling food that is surplus to human food, so forming a 'good' environmentally sustainable business. However, to cook and recover meat protein from the animal by products, GA uses significant amounts of heat and power, using 17 times more energy than the rest of Bretherton parish together and GA operations account for around 23% of all the industry and commercial carbon emissions from Chorley Borough. GA wants to do everything it can, as quickly as it can, to produce pet food in a sustainable and carbon neutral way. GA has pledged to halve it's carbon emissions every decade in order to reach Net Zero. Shifting to generating it's own zero carbon energy from wind and solar also means they can reduce and stabilise their energy costs and safeguard the future of the business and the local people they employ.'

At the bottom of the page, there is a footer with the Lancashire County Council logo, 'The Rural Community Energy Fund' logo, and a text box: 'In 2020, GA emitted 10,993tCO2e from gas and electrical usage. The total emissions by all industry and commercial in Chorley Borough was 50,30 tCO2e, meaning GA's emissions constituted for 23.5% of all industry and commercial carbon emissions in the borough.' Below the footer are three buttons: 'WHAT', 'WHY', and 'HOW'.

Information about the proposed wind turbine and solar array at Aslands Walk Energy Park and the proposed Bretherton Energy Partnership model provided to the community via the Bretherton Energy Partnership website:

<https://brethertonenergy.co.uk/>

The website text was re-drafted by CfR working in collaboration with GA Petfoods prior to the community survey launch and again following the survey.



4/ Community survey

Headlines:

- Surveys were distributed to all households in Bretherton in December 2022.
- A total of 292 surveys distributed.
- 101 surveys returned – 35%
- All respondents were Bretherton residents, 4 also work in the village.

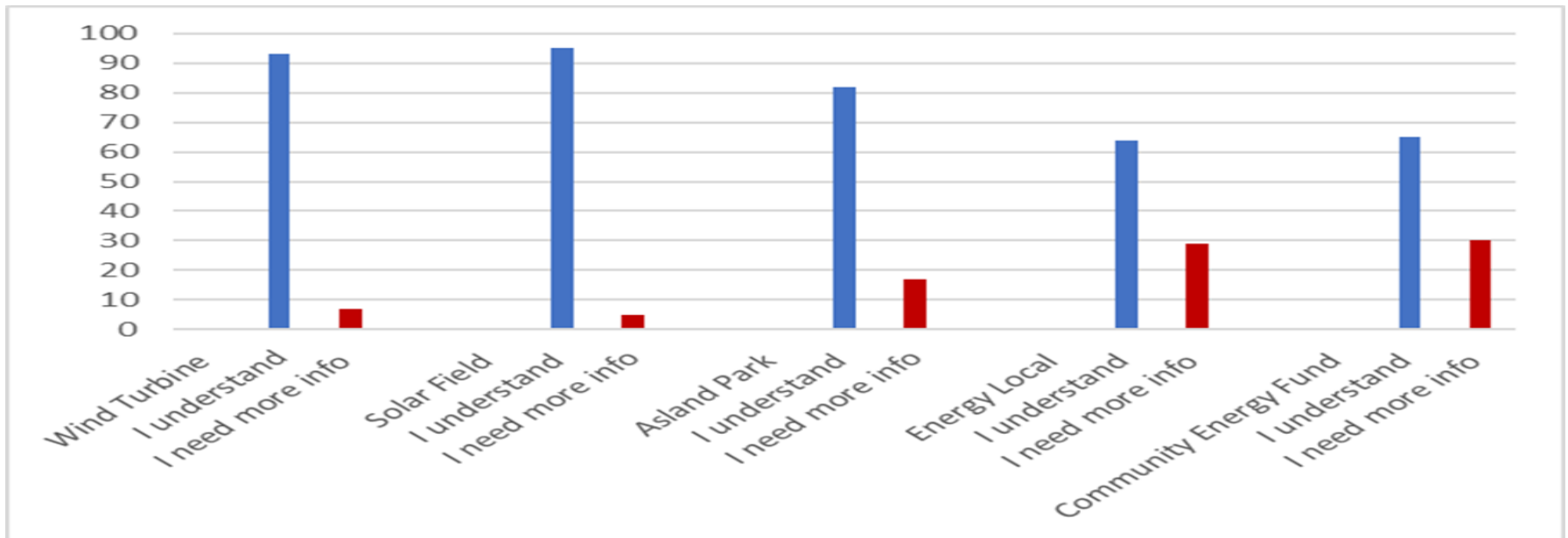
What we wanted to know:

- Understanding of the different elements of the proposed scheme.
- To what extent they support the different elements of the proposed scheme.
- How the Parish Council should support the proposed scheme through the planning process.
- Whether or not the Parish Council should engage with the Bretherton Community Energy partnership.
- How keen respondents would be to be a part of the Bretherton Community Energy partnership.
- How respondents thought surplus money should be invested in the local community.

The full results are provided in Locality's 'Bretherton Community Engagement Survey Report'.

Asland Walk Energy Park - Understanding

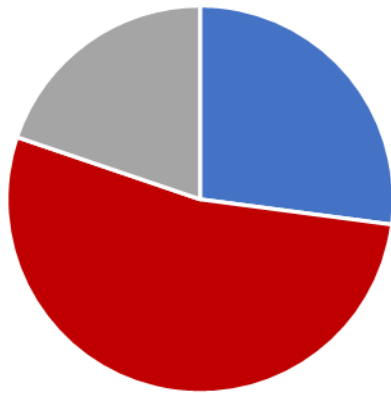
- The majority of respondents understood the proposed wind turbine (94%), solar farm (96%) and Asland Walk Energy Park (83%).
- However there was less understanding of the Energy Local and community battery model (65%) or of the Community Energy fund (66%).



Asland Walk Energy Park – Support

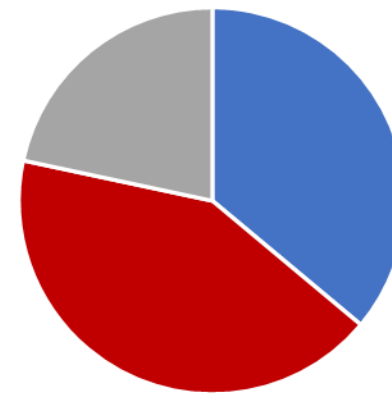
- 26% were fully supportive of the wind turbine and 36% fully supportive of the solar field. More respondents were happy to support these elements if they would provide some clear benefits to the community with 51% happy to support the wind turbine and 43% supportive of the solar field in this instance.

Wind Turbine



■ Fully support ■ Support if community benefit ■ Do not Support

Solar Field



■ Fully support ■ Support if community benefit ■ Do not Support

Parish Council support and community involvement

Parish Council support for the proposal:

- 73% of respondents believe that the Parish Council should support the proposal through the planning process.

When asked how the Parish Council should do this:

- 43% thought Asland Walk Energy Park should be designated in the Bretherton Neighbourhood plan.
- 41% believed the Parish Council should provide support as a statutory consultee to the planning application.
- 20% thought the Parish Council should support the designation of the Asland Walk Energy Park in the Central Lancashire Local Plan.
- 55% thought the PC should support Bretherton Energy Partnership and 23% saying support should be given if there were clear benefits to the village.

Community involvement in BEP:

- Responses were generally positive but there was also a clear need for further information about the proposal to help residents make fully informed decisions about this process.

When asked if they would be willing to be part of a “one member one vote” community share offer to help fund the community enterprise and installation of the community battery:

- 47% said they were possibly interested.
- 23% felt they needed more information.
- 23% said they would definitely not want to be involved.
- Over 90% of respondents also stated they would be willing to consider installing a smart meter in their homes.

5/ Discussion and next steps

CfR and Locality met the Bretherton Energy Partnership working group (a sub-group of the parish council) and attended a meeting of Bretherton Parish Council on 6th February 2023 to present and discuss the findings of our work. The recommendations of the working group, which were accepted by the parish council, were as follows:

1/ Community survey

- The group concluded the survey results provides sufficient evidence of community support for the Parish Council to continue to engage in the Bretherton Energy Partnership, on the basis of what is set out below.
- The survey report should be published on the parish council website and linked from the Bretherton Energy Partnership website.

2/ Battery and local supply model

- The group recognise the potential benefits of the battery + local supply model to households in the parish, and they wish to continue to explore it. However, the business case currently looks marginal and subject to a number of challenges, including:
 - The cost of the battery, connection and control system (estimated by StorTera at £2.9m) and increased finance costs
 - Our analysis is it would probably only work with 2/3 households in the parish signed up, and both the wind turbine and solar online
 - Grid connection, land lease, wayleaves etc required for the batteries, which are all achievable but need development funding
 - Not all homes are supplied by the 2 sub-stations, so an alternative benefit model would be needed for those households
 - The regulatory risk around the local supply model, which we hope will be clarified this summer
- The business case could be helped by:
 - Innovation grant funding
 - Flexibility services revenue streams and potentially a joint venture funding model for the batteries
- The feedback from the survey showed some people like the idea of the local supply model, but there was also a need for clarifying how it would work and concern about its viability. Deferring the battery and local supply model as an opportunity to develop over time would enable us to simplify the community benefit message and focus on the revenue share, and how that could help local households.

Cont...

Discussion and next steps

3/ 5% revenue share model

The group recognise the 5% revenue share model could bring significant benefits to the parish. The revenue share model could achieve the Bretherton Energy Partnership objectives of helping to reduce energy costs in the parish and the transition to net zero by:

- Supporting fuel poor households with their bills
- Providing some funding to help develop the battery and local supply model over time
- Providing funding for energy efficiency and renewable energy initiatives that could reduce household bills such as: household retrofit surveys, heat pump networks, low/zero interest loans for heat pumps and energy retrofit, bulk buying clubs, solar streets schemes, supporting community low carbon infrastructure such as EV charging and community transport
- Employing a parish energy manager to manage the above

4/ Supporting the Aslands Walk Energy Park proposal

- The group recognises that obtaining planning consent for the wind turbine and solar array is going to be challenging. The recent proposed changes to the NPPF do not remove the site designation requirement for wind. They just add alternative means of site designation which do not help the Aslands Walks wind turbine.
- The parish council has agreed to propose the Asland Walks Energy Park site is included in the draft of the Parish Plan to go to community consultation this Spring. The Parish Plan consultation would then be the next opportunity to consult the community on the proposal. The draft plan consultation would set out the potential benefits of the Energy Park, including as a means of funding some of the other aspirations of the Plan. The community survey highlighted a need for more information on the wind turbine, including photomontages. If there is a big backlash against the inclusion, the Parish Council will have to remove the designation from the final plan as they cannot risk the whole plan being rejected because of opposition to the Energy Park.
- Subject to timing and the outcome of the Parish Plan consultation, the Council are prepared to write in support of the site designation in the Central Lancs Local Plan if and when included in the version for consultation.
- The Parish Council are aware that GA are waiting on the delayed announcement for the Government scheme to support a limited number of onshore wind projects providing local benefits and that we may need to develop a joint proposal and include evidence of community support.

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