

## **Bretherton Energy Partnership**

### **Bi-Monthly Update – September 2022**

#### **1. Introduction**

GA are circulating this second bi-monthly update to all those who attended the launch of “Our Mutual Journey to Net Zero” at Plocks Farm on 20<sup>th</sup> May 2022, to keep you fully informed as to what is happening.

This is an update note produced by GA, and confirms the position as GA understands it to be, and does not purport to be the views of any other party.

#### **2. Working Party of Bretherton Parish Council**

GA have been working closely with the Working Party of Bretherton Parish Council, together with their appointed consultants, Communities for Renewables.

We have developed the attached “Declaration of Understanding”, which sets out the relationship between the parties, and seeks to explain the roles and responsibilities that will exist between GA and Bretherton Energy Co-operative (BEC). It explains how residents of Bretherton that wish to take part in the scheme will need to become members of the Bretherton Energy Co-operative, that will govern and manage the distribution of the energy in conjunction with an appointed energy supplier.

#### **3. Assessments and Current Progress**

The following section gives an update on the current assessments being undertaken;

##### **i) Ecology – Wild Bird Survey – Winter Ground Feeding**

Avian Ecology have been asked to undertake the continued ecological and ornithological survey work undertaken by Pennine Ecological. They will undertake a full winter ornithological survey of the site, and two potential mitigation site survey, together with a bat, breeding bird, and extend the phase 1 survey. This will take to next Summer 2023 before completion.

##### **ii) Culture and Heritage Assessment**

Pegasus Heritage Specialists have been asked to assess the heritage and cultural baseline for Asland Walks and the surrounding area. Once the design for the site has been fixed in terms of wind and solar, they will be able to assess the impacts of the proposed scheme on the assessed heritage and cultural assets. The assessment will identify any potential mitigation with a view to reducing any identified effects.

The residual effect will then be set out and this will be expressed in terms of the level of harm, ie. substantial or less substantial, so that the decision maker knows the correct policy to apply. Pegasus are keen to have community engagement on what is important before finalising their report, which they will do.

iii) Landscape Assessment

An assessment has been prepared identifying the current landscape and features. This assessment is available at [www.brethertonenergy.co.uk](http://www.brethertonenergy.co.uk) under the “Resource” tab.

This assessment will assist in the design for future landscape hedge, shrub and tree planting and pathways for both pedestrian and cycle routes that could improve the overall access of the Energy Park. It is hoped to be able to undertake the landscape planting during winter 2022, so this can become well established before any potential construction work commences.

iv) Flood Risk Assessment

Tetra Tech have been commissioned to undertake this work.

v) Agricultural Land Classification

This assessment has been undertaken by ADAS and the results are available at [www.brethertonenergy.co.uk](http://www.brethertonenergy.co.uk) website. The classification has identified grade 1, grade 2 and grade 3b agricultural land.

vi) Noise, Shadow Flicker, Glint and Glare Assessment

GA has invited TNEI, specialist acoustic engineers who focus on the renewable energy industries, to assess the noise from the wind turbine, and the inverters used on the solar arrays. The wind turbine noise assessment needs to be undertaken in conjunction with the wind speed monitoring, as the turbine is at its most noisy when there are higher wind speeds.

It is therefore necessary to install a Light Detection and Ranging (LIDAR) System, which effectively measures the particles carried on the wind turbine to determine the wind speed, so that the wind speed and noise levels can be monitored simultaneously.

The LIDAR will remain in place over the next two years to fully assess the wind speeds at Asland Walks.

In addition, when the design is finalised, TNEI will assess the Shadow Flicker from the wind turbine and the Glint and Glare from the Solar Array.

vii) Aviation Risk Assessment

Pager Power have produced an Aviation Risk Assessment for the site. A fully copy is available at [www.brethertonenergy.co.uk](http://www.brethertonenergy.co.uk). The analysis carried out shows that an impact upon the Ministry of Defence’s infrastructure is predicted and will likely require mitigation for both Primary Surveillance Radar and RAF Warton Obstacle Limitation Surface. Impacts upon Blackpool Airports Instrument Flight Procedure Infrastructure are not predicted; however, Blackpool Airport might require a detailed Instrument Flight Procedure Impact Assessment to be carried out. Further discussion with the MOD and Blackpool Airport is required.

viii) Telecommunication Link Assessment

The wind turbine could possibly have an effect on the existing telecommunication link of Electricity North West. Discussions are ongoing about the appropriate stand off from the link with distances ranging from 42m to 264m. This has a significant impact on the location of the wind turbine, but it will be ensure that siting of the wind turbine will take place to avoid any telecommunication link impacts

ix) Solar Array Configuration

The drawing below shows how the potential Solar Array may be directed to the west and to the east as illustrated. This will flatten the electrical generation peak in comparison to a south facing array, but increase the available time and quantity of electrical generation for optimal energy availability and use



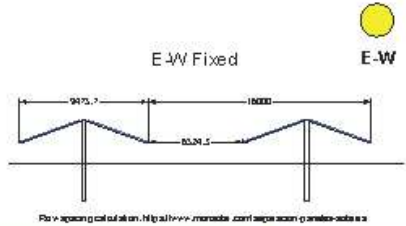
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PROJECT INFO	
CLIENT	GA Pafalada Ltd
ADDRESS	A30, Ffynnon PFA 3/0 PFA 3/0
PROJECT	1310 5-A Pafalada
TITLE	Block Plan-Pafalada Valley Energy Park
SCALE	1:250 @ A3

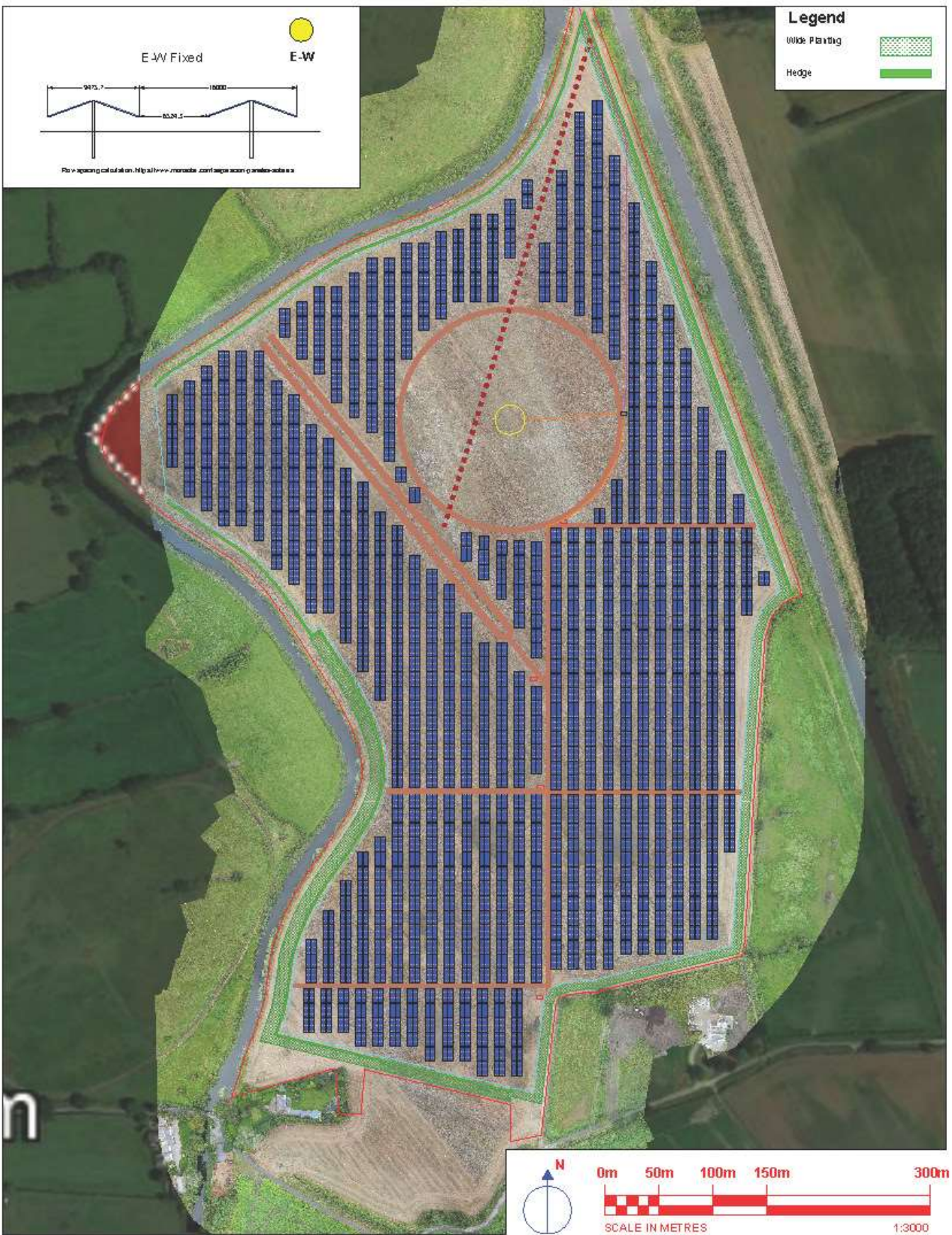
TECHNICAL INFO	
Panel manufacturer	Rosen
Model	RSM 32-3-60060C
Panel dimensions	1.7584 x 1.0303 m
No. Panels	42,300 (761 E-W   Annular E-W)
Total Power (MWp)	27.430

Notes:  
 1. Dimensions are approximate and indicative only.  
 2. Based on survey information.

REVISIONS				
REV.	REV. INFO	DATE	DESIGNER	CHECKER
001	Block Plan	17/11/23	JLW	JLW
002	Block Plan	22/11/23	JLW	JLW
003	Quotation	06/12/23	JLW	JLW
004	Block Plan	16/02/24	JLW	JLW



Legend	
Wide Planting	
Hedge	



x) Social and Economic Assessment for residents of Bretherton

The Working Group of Bretherton Parish Council have appointed Communities for Renewables and Locality to fully assess the benefits to Bretherton residents. Locality will be undertaking a detailed consultation with Bretherton residents during the Autumn/Winter 2022, to assess the support and concerns residents may have for the proposed scheme.

xi) Industrial Energy Transformation Fund

GA is competing for a 50% grant being £15,000 from the £7m Industrial Energy Transformation Fund, working jointly with Spirax Sarco, UK's steam specialists, to study the feasibility of using the surplus electrical energy to boil water to make steam and hold the steam at 235°C at 30 Bar pressure in what is known as a 'Thermal Battery'. This technology is twice as efficient as a lithium/Ion battery. This would assist GA in decarbonising and reducing its natural gas thermal consumption. GA currently uses twice as much thermal energy, in the form of gas, in comparison to electrical energy. 60% of which is used to generate steam.

The latest figures released by Lancashire County Council show GA emitting 24.6% of the total CO2 emissions of Chorley Borough's industrial energy. With Chorley Council having declared a Climate Emergency it is vital that GA and the residents of Bretherton play their part in helping to reduce their carbon emissions.

4. Conclusion

All parties continue to work hard to advance "Our Mutual Journey to Net Zero", however there are many assessments that need to be concluded to fully assess the risks and impacts that will determine what is and is not possible.

The reports will be made available at [www.brethertonenergy.co.uk](http://www.brethertonenergy.co.uk) under the Resource Tab as they emerge, but there are still many barriers and hurdles to overcome, not least National Planning Policy, but we are making mutual progress in advancing the scheme, and how it would operate.

We will send another update in November 2022.

## **Declaration of Understanding – Our Mutual Journey to Net Zero**

We, GA Pet Food Partners (GA) and the Working Group of Bretherton Parish Council (BWG) as the body authorised to review Renewable Energy proposals for the village of Bretherton (referred to as the “Parties”), hereby declare and agree: -

1. The Parties will seek to work together under the banner of “Bretherton Energy Partnership” (BEP).
2. The BEP will work together on the concepts of “Our Mutual Journey to Net Zero”.
3. The Parties to this Declaration fully accept that some key details which could affect the commercial and technical viability of the scheme are yet to be established. The Parties agree to work together to achieve the concept of “Our Mutual Journey to Net Zero” The Parties have agreed some key principles on how this could be achieved, as set out below.
4. The BEP will seek to advance the commission from BWG to assess the GA proposal, and consult the residents of Bretherton and produce a final report. This report, if the outcome is positive and accepted by BEP, will be used to promote the scheme both nationally, in terms of the Energy Strategy Consultation, and locally with Chorley Council and Lancashire County Council and Bretherton Parish Council
5. Attached to this Declaration of Understanding in Appendix A is the agreed schedule of Legal Documents required which helps to formulate the structure and relationship between the proposed parties. Attached in Annex A is an outline as to how the 5% of the electrical energy generated will be apportioned with BEC.
6. Either party to this Declaration may withdraw, at any time, on giving a written notice to the other party of their wish to do so.

### **Agreed principles of ‘Our Mutual Journey to Net Zero’**

- GA will develop, finance, own and operate the Asland Walks Energy Park. Initially, GA will seek to install a single large (i.e. 4MW) wind turbine and c.20MWp of solar PV. GA will develop further renewable generation in future to achieve its net zero objectives with increasing energy demand.
- Up to 5% of the output of the Asland Walks Energy Park (calculated in 4-week settlement periods over 12 months) to be supplied to a battery owned by BEC at zero cost to sell to local residents at a discounted rate via a local tariff. BEC will also receive a ‘revenue share’ payment for the net of the electricity not consumed locally up to 5% of the generation at the rate GA would receive for exporting the power to the grid. If BEC consumes more than 5%, only available after GA has fulfilled its requirements, of the power generated they will pay for it at the rate GA would receive for exporting it to the grid. The details of the settlement mechanism are set out in Appendix B.

- The Parties recognise that BEC needs to generate a surplus income from power sales to Bretherton Residents to cover:
  - The cost of administering the Energy Local club and any other admin costs for BEC (accounts, insurances, book-keeping, comms, annual reports etc.);
  - The operating costs of the battery (service and maintenance, insurance, business rates if applicable, metering and comms, replacement reserves etc.)
  - The finance costs of the battery;
  - To generate surplus income to invest in further net zero initiatives in the parish, or other parish related activities.
  
- The battery will be required for regulatory and grid compliance. BEC will fund and own the battery, or secure a funding partner to deliver the battery.
  
- GA will fund the cable and connection infrastructure to connect the Asland Walks Energy Park to the battery.
  
- All parties recognise the Energy Local supply model will achieve the best benefits for the community, in terms of direct benefit to households from reduced cost electricity and income to BEC to fund the battery, cover the running costs of BEC and generate surplus income to support the parish’s transition to net zero. If the Energy Local supply model is not technically or economically viable, the parties will work together to establish an alternative local supply model. As a fall-back, the community will receive a revenue share equal to 5% of the generation at the rate GA would receive for exporting the power to the grid.
  
- Bretherton Parish Council, with support from CfR and Locality, agree to work with GA and Energy Local to consult the parish community on the proposed Asland Walks Energy Park and local benefit model. If the results of the community consultation are positive, Bretherton Parish Council support the project and will work with GA and Energy Local to deliver it. This will include supporting GA to secure planning permission for the Asland Walks Energy Park via one of more of the potential routes to planning set out below:
  - Proposing the Asland Walks Energy Park to be designated for wind and solar generation in the Bretherton Neighbourhood Plan to be launched later this year.
  - Supporting GA’s proposal that the Asland Walks Energy Park to be designated for wind and solar generation in the Central Lancashire Local Plan.
  - Supporting a proposal for Asland Walks Energy Park to be progressed under a new onshore wind policy to be consulted on later this year. As announced in the Energy Security Strategy the Government intends to support ‘developing local partnerships for a limited number of supportive communities [in England] who wish to host new onshore wind infrastructure in return for benefits, including lower energy bills.’

Signed on behalf of **GA Pet Food Partners (Group) Limited**

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Dated: .....

Signed on behalf of **Working Group of Bretherton Parish Council**

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Dated: .....



**LEGAL AGREEMENTS REQUIRED FOR THE ASLAND WALKS ENERGY PARK**

**Introduction**

This document is an initial attempt to start to formulate the legal documents that will be required to establish the “workings” of the Asland Walks Energy Park.

It is intended that all parties involved can assist in the discussions about these documents, by adding to this word document as appropriate.

This follows on from the 3<sup>rd</sup> April 2022 – Our Mutual Journey to Net Zero – Principals of the Proposed document. A copy of which is attached in Appendix B. This sets out how the proposed was intended to operate in terms of the apportionment of the energy, and this is the evolutionary development of that document.

**The Parties to the Legal Agreements required.**

**1. Chorley Council (CC)**

They are the Planning Authority that are empowered to grant Planning Permission, and enter into a legally binding performance agreement, known as a Section 106 Planning Performance Agreement (S.106). This binds the landowner, and future owners, to undertake the agreed requirements.

**2. Bretherton Energy Cooperative (BEC)**

This is a not-for-profit Co-Operative with an asset lock which restricts how surpluses are distributed, and ensures they are applied to benefit the community of Bretherton rather than for private gain. BEC will be governed by a board of local volunteer directors and membership decisions will be made on a ‘1 member 1 vote’ basis. BEC will be administered under a service contract with a community energy manager or by a local administrator employed by BEC.

BEC’s community purpose is to supply Bretherton residents, businesses and community organisations with low cost, low carbon power and to generate surplus income to support community-led net zero transition initiatives in the parish.

Every household, business or organisation in Bretherton parish is entitled to become a member of BEC. By becoming a member, they entitled to benefit from the local electricity tariff and have a ‘1 member 1 vote’ say in member decision. Members will be bound by the Co-operative’s constitutional rules to support the community purpose of the co-operative.

**3. Energy Local (EL)**

EL provide help and assistance to BEC, for which EL make a charge based on the energy consumed and number of members.

**4. Energy Provider for GA (EP1)**

For GA's 95% renewable generated power allocation, the EP1 buys any surplus generated power from GA under a Power Purchase Agreement. Any additional power GA require for Plocks Farm would be supplied under an Energy Supply Agreement (ES1) which may, or may not be the EP1. ES1 charges GA at the grid market rate.

A PPA for any of the 5% EPG power not used locally by BR is sold on behalf of BEC to the EP1 through the existing large 4.5 MVA GA grid connection, with all of the 5% surplus revenue going to the BEC. The intention of utilising the GA grid connection is to reduce infrastructure and simply the system.

**5. Energy Supplier for BEC and Bretherton Residents (BR) (ES2)**

GA supplies power to the BEC-owned battery under a private power purchase agreement as per Appendix B.

ES2 buys the electrical power from the BEC-owned battery that is not used by local residents under a PPA. It provides a supply contract for power used by the residents and not exported from the battery. It bills for power provided by the battery under the 'Club Rate' local tariff and passes this to BEC.

**6. GA Pet Food Partners (GA)**

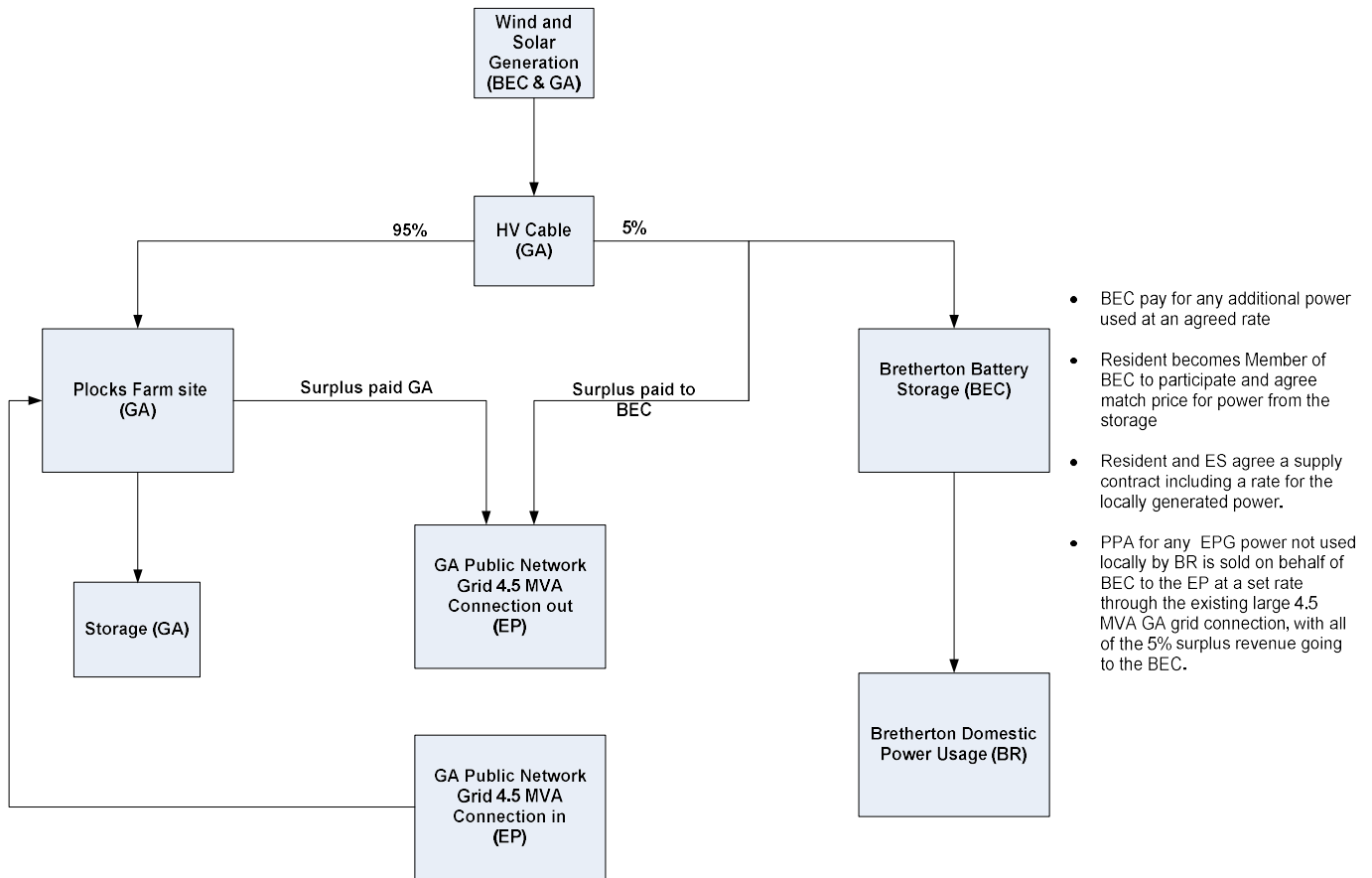
GA is the generator and consumer of electrical power. As a seller of electrical power, it requires a PPA, and works in conjunction with the EP1 to manage the electrical flows. GA also has and needs a PSA for the purchase additional electrical power from a separate third party (ES1).

**7. The Bretherton Resident, Business or Organisation (BR)**

The BR is the consumer of the electrical energy supplied by the ES2.

(In addition to these parties above, GA will also need a connection agreement with the Distribution Network Operator (DNO)). BEC will need a connection agreement with the DNO for the battery.

## Possible Energy Partnership Infrastructure



## Legal Agreements Required for the following parties:-

### **1. Bretherton Resident (BR) and Bretherton Energy Coop (BEC)**

Bretherton Residents (BR) have to be a member of BEC to benefit from the Club Rate local tariff. Membership of BEC provides formal structure under which BEC operates, including setting the Club Rate and allocated surpluses to local community-led net zero transition projects. Note that this is a membership rather than a contract.

### **2. Bretherton Energy Coop (BEC) and Energy Local (EL)**

EL helps BEC to manage its affairs and acts as a consultant to BEC. It charges a levy according to number of customers/power consumed.

**3. Bretherton Energy Coop (BEC) and Energy Supplier (ES2)**

BEC enter into an PPA with ES2 with an Energy Local clause in it to administer the club. BEC may potentially wish to sell to ES2 ~~(or EP2)~~ any amount up to the EPG if local residents have not used it. Any amount not sold by BEC to ES2 ~~(or EP2)~~ up to the EPG, would be paid by GA.

**4. Bretherton Resident (BR) and Energy Supplier (ES2)**

BR has to sign up to the appointed Energy Supplier (ES2) nominated by BEC to supply their electric power needs, for the two tariff levels: -

- i) The Energy Local Club Rate local tariff
- ii) The Full Market Rate,

**5. GA Pet Food Partners (GA) and Energy Supplier (EP1)**

GA to enter into a Power Purchase Agreement (PPA) with EP1, to buy electrical power at GA's connection to the network.

**6. GA Pet Food Partners (GA) and Bretherton Energy (BEC)**

There needs to be a power purchase agreement between GA and BEC, to supply power via the private 11kV cable from Plocks Farm to the battery and manage the following: -

- i) Each period there is a requirement to have a reconciliation between the Estimated Period Generation (EPG) and the Actual Period Generation (APG) at the Contract Buy Price.
- ii) This period-by-period reconciliation then builds into an annual assessment. This will keep a running total of the amounts accrued during the year.
- iii) If 5% is not stored in the battery, then the difference will be paid by GA to BEC at the rate agreed by GA for its PPA with EP1
- iv) From this running total, there shall be deducted the Bretherton Additional Demand, (being any amount taken above the EPG) so that any additional electrical energy provided is deducted from a surplus. This amount is only made available if there is renewable energy available from AWEF. GA receive payment from BEC for this at the EP1 PPA price.
- v) At the anniversary of the agreement, the period-by-period reconciliation will be reviewed. Should this be in surplus, then GA to pay the surplus to BEC. Should it be in deficit, then BEC will pay the amount owing to GA.

**7. Chorley Council (CC) and Bretherton Energy (BEC)**

CC to enter into an undertaking from BEC to manage and administer the S.106 Agreement obligations.

CC authorise BEC to administer and deliver the benefits to the residents of Bretherton.

**8. Chorley Council (CC) and GA Pet Food Partners (GA)**

There will be a legal agreement between Chorley Council (CC) and the freeholder of the site, to bind the land in terms of the operation of the generation permitted by the Planning Permission.

This Legal Agreement, known as a S.106 Agreement must be signed before the planning permission is granted.

The agreement confirms and ensures the payments under the document in Appendix B.

5<sup>th</sup> July 2022

Attached Document - Appendix B

**Our Mutual Journey to Net Zero**

**1. Principals of the Proposal**

- i) Residents to have the first 5% of all electrical energy generated, as a “top slice” of the electrical energy generation. This 5% is based on being twice the total electrical energy consumed by the village when the scheme is complete.
- ii) Residents to have a 4 week “bucket” of known energy available for them to consume at any time of day, if there is wind or solar available.
- iii) Any unused “surplus” energy at the end of a year to be sold, to generate income.

**2. How will this work?**

**Generation**

- i) The Asland Walks Energy Park will be constructed in phases, as the demand and the finances permit.
- ii) Residents will receive 5% of the Estimated Annual Generation (EAG), based on each phase commissioned.
- iii) This will be compared, at the end of the year, against the Actual Annual Generation (AAG) to allow for adjustments and annual updates of the figures, so the estimates become more accurate.
- iv) The EAG will be broken down into 13No. four weekly periods, to allow monitoring during the year. Each of the 13No. periods will be seasonally adjusted for the differences in generation that are anticipated to be experienced during the year. They will be known as the Estimated Period Generation (EPG) which in due course will be reconciled with the Actual Period Generation (APG) on a period-by-period basis to identify the period “surplus”. This surplus is then sold to GA or the grid. This enables income to be generated by the Bretherton Energy Partnership.
- v) If there is renewable electrical generation available, from the Wind or Solar sources, then residents will be able to consume it up to the defined quantum in the EPG, at any time of day, in each of the 4 weekly periods. Therefore, effectively, residents have a four weekly “bucket” of energy that they consume at a time of their choosing, provided there is physical generation from the scheme. When the scheme is complete, this should represent twice the electrical energy needs of residents.

- vi) At the anniversary of the agreement, the EAG would be compared with the AAG. The EAG for the year ahead to be adjusted, up or down, to better accord with the average of the AAG that is experienced over the years. This will allow the EPG to be amended and updated to better accord with the APG, as knowledge and data is gained.
- vii) GA will make no additional charge to residents if the EAG exceeds the AAG in any one year, on the basis the residents should know at the start of the year the amount available. GA to determine the EAG in discussions with residents.

### **Consumption**

- i) The four-weekly bucket of electrical energy will be made available for residents to consume when they wish to do so, from the Asland Walks Energy Park, up to the maximum of the EPG.
- ii) When the solar and wind scheme is complete, this should be twice as much energy as required by the residents of Bretherton.
- iii) This defined “bucket” of energy separates GA’s consumption from Bretherton’s consumption. The residents will therefore no longer be concerned with GA’s proposed operations including Thermal Storage or other energy efficiency schemes, as residents will have their own known quantity of electricity available.
- iv) Effectively, GA is acting as the “buffer” and is underwriting the EPG being available for residents to use at any time of their choosing.
- v) If residents use up all the EPG, then they could purchase additional renewable energy from the scheme, after GA has fulfilled its own electrical requirements. The purchase price to be similar to the surplus price. If there was no additional renewable electrical energy available, residents would pay the full market price.
- vi) Each period, the EPG is compared with the APG to give a running total. If the APG exceeds the EPG, then this adds to the annual surplus. However, once the maximum EPG has been reached, residents can only purchase additional energy at the grid price, once GA has met all its needs.
- vii) The amount paid by GA for the surplus (if the GA sale price varies) would be the weighted average of the sale price received by GA. So that if the price varies due to the time of day or the days of the week or month, then the price will be adjusted accordingly to accord with the period surplus unused by residents.
- viii) In other words, the Bretherton Energy Partnership receive the price that GA receives, on average, during the period based on the sales achieved by GA.
- ix) Should GA not sell any electricity during a period, the price for any surplus generated would be a weighted average price that would have been achieved if it had been sold.

### **3. Conclusion**

- i) This gives residents the first call on any renewable generation, as if the Wind and Solar was theirs.
- ii) Residents have a 4 weekly “bucket” of energy that they can use. The “bucket” contains twice the volume needed to satisfy their needs.
- iii) As the project continues to develop the bucket becomes larger.
- iv) As the project develops over time, residents will convert to energy storage systems that allow them to make the most of the energy when available, for example, charging electrical vehicles and Heat Pumps.
- v) Any surplus, unused energy is sold to the grid, and residents receive the full value for it.
- vi) The “surplus” provides income for the Bretherton Energy Partnership allowing it to install batteries and facilities to maximise the use of available energy.
- vii) Residents can purchase any additional energy over the EPG, if unused by GA, at the grid sale price, being substantially less than the market price.

**Roger Bracewell**

5<sup>th</sup> July 2022