ommunity Council Meeting with Zenobe Energy Limited
20 July 2023 @ 6.30pm
Chaired by Bob Hope (BH), Chair of the Leitholm Eccles & Birgham Community Council

Attendance: 40 members of the Community Council and members of the public attended. All of our elected members were invited however, none were in attendance.

Welcome

BH introduced, from Zenobē Energy:

- Jack Hulme, Project Development Senior Associate
- James Smith, Head of Project Development
- Sam Sykes, Project Development Senior Associate

and welcomed attendees.

Introduction by the Chair

Battery Electric Storage Systems are a critical part of the Scottish Government's strategy for achieving environmental targets.

The principle is simple: wind farms generate electricity almost constantly irrespective of demand. Through battery storage it will be possible to capture this energy during periods of low demand and feed it back into the grid during periods of high demand.

Battery Electric Storage systems need to be sited close to key electricity sub-stations. Eccles sub-station is one such station.

Leitholm Eccles and Birgham Community Council is broadly supportive of the concept of BESS and supported the first application and did not object to the second from Zenobē. These applications were received as our Community Council was being re-established post Covid and the full implications were not picked up.

This is new technology and to a large extent, we are ignorant as to what is involved and the implications for our communities and rural landscape. One thing we are now very aware of is that these applications, one of which has passed and the Zenobē application which is likely to pass soon, is that these are the tip of the iceberg. We have learned that there is no Government strategic plan for the development in our area which is likely to be ad-hoc with various companies acquiring land from land owners and applying for permission.

The purpose of tonight's meeting is to learn as much as we can about the process from Zenobē to allow us to support our community through any development process by working in partnership with companies for whom permission is granted and where appropriate coordinating objections to further developments.

Zenobē Introduction

Zenobe was formed in 2017. It is a purely battery focused company with an aim to help advance net zero targets through the efficient use of batteries. It has three business areas:

1. Large scale battery storage sites, such as that proposed for Eccles.
2. Converting conventional vehicles into electric vehicles (EVs) and providing the charging infrastructure required by EVs. They have been responsible for around 1/3 of the EV charging infrastructure for buses in the UK.
3. Recycling/upcycling of degraded batteries for further use, e.g. to replace diesel generators at events.

Zenobe is heavily invested in Scotland with around £750m currently being invested in their large scale static battery storage sites. Eccles, at 400 megawatts is one of the largest.

There are also 2 x 300 MW sites at Blackhillock and Kilmarnock.

The reason Eccles has been selected is that for the sites to work, they need to be located close to a sub-station. National Grid also identified this substation as part of their Phase 2 Pathfinder incentive as a substation that requires the critical stability services that this infrastructure will provide. Zenobe won a contract from National Grid to provide these services at Eccles.

With wind and solar power, there is intermittency between generation and demand The wind is not always blowing and the sun is not always shining and batteries are of the few technologies that are able to balance and stabilise the network to not only ensure we have a reliable system, but also speeds up the uptake of renewable sources of generation.

When you look at the National Grid infrastructure between Scotland and the rest of the UK, there are two main links - a cable running down the East (between Eccles to Newcastle) and another to the West (between Coalburn and Carlisle. These transmit the renewable energy generated in Scotland to areas of demand across the rest of the UK. There is also an offshore interconnector which runs between Ayrshire and Merseyside and several proposed offshore interconnectors which will connect north east Scotland and eastern England. The two connections act as a bottleneck, they can only take so much power from Scotland to the rest of the UK and National Grid identified several substations along these routes that would benefit

from battery storage to allow greater flexibility , and the Eccles substation is one of those locations.

Zenobē was fortunate to win a contract with the National Grid and secured land and submitted a planning application to the Scottish Government. Scottish Borders Council (SBC) was consulted about the application, and took it to the Planning Committee in February 2023 and raised no objections, subject to planning conditions being met. The planning application is due to be considered by the Scottish Government.

Questions & Answers

1. **Safety of Battery Storage**: we understand the concept that your batteries will capture and store power from renewable energy during periods of low usage and return it to the grid when required. Given that there are massive amounts of electricity involved in the process can you outline the research which has been done to ensure that there is minimal/no risk to the community?
    a. We have been aware of reports in the past of cancer clusters in the vicinity of high voltage electricity systems: is this a risk associated with your project?
    b. What are the major risks associated with battery storage and what steps are being taken to mitigate them? For example, explosions, fire, discharge of toxic waste, terrorism.
    c. We understand that the complex will be protected by 'blast walls': why are they required?

Zenobē: *Looking first at cancer clusters, this development does not contribute any further to the electromagnetic radiation than what is already given off by the sub-station. All cabling and connections will be underground.*

We're aware that there at lots of articles on the internet about battery safety. In the UK, incidents are very rare. There was one in Liverpool a few years ago. Lessons have been learned from that and the technology has moved on. We follow very strict procedures which are required for our insurance cover or we can't get funding for our projects. All of our sites are designed with safety in mind. We ensure separation between the battery units to reduce the risk of fire spread. The battery units are held in fire-proof containers with inbuilt fire suppression systems. There is 24/7 monitoring of the site and any change in temperature causes the batteries to shut down.

We work closely with the relevant Fire & Rescue Service to educate them about how to deal with incidents. We have already engaged with the Scottish F&RS about our sites in Blackhillock and Shetland. We will consult with Coldstream F&RS too.

In relation to blast walls, part of the development will include two high voltage transformers – like those which are already part of the sub-station. The transformer manufacturers stipulate that these must be enclosed by blast walls.

In relation to terrorist threat, the security fence enclosing the site will be monitored 24/7 just like with any other critical infrastructure.

2. **Planning Application Process**: Despite your best efforts, many of those living adjacent to your site were unaware until recently of your planning application. What steps did you take to consult with the community?

Zenobē: This was not something we did in the first instance. There is no statutory guidance that requires us to do it. We were coming out of Covid and we didn't do it. We have discussed this with Energy Consents Unit within the Scottish Government and we were advised there was no statutory obligation on us to do it. But we are here now. . We recognise we should have been here over a year ago before the planning application was submitted and continued throughout the process and, if the project is consented, the community engagement will continue throughout the project.

3. **Disruption during implementation phase**: Clearly, there will be a large volume of additional heavy goods traffic on our roads and large construction vehicles involved in preparing the site.
    a. What steps are you taking to mitigate disruption to our community and our rural environment? What about the impact on house prices?
    b. What will the ongoing disruption be to our community post development stage.
    c. What noise will be generated by the battery storage once in situ given that there are homes within a few hundred metres of the site?

Zenobē: At worst, the maximum number of daily traffic movements on the local road network will be approximately 80 per day, spread over a ten hour working day. Traffic will arrive at site from the north (avoiding Coldstream) and the south.

We are obliged to submit a Noise Impact Assessment which incorporated tested data. We used the nearest 8-9 houses which covers quite a large area. The Environmental Health Officer (EHO) was satisfied that there was no significant and no adverse impact. We were advised that the site doesn't require acoustic fencing given the results of the Noise Impact Assessment. If the application is consented, there is a planning condition on noise which sets limits and these are restrictive. All detailed noise modelling has been carried out and we can achieve the required noise limits without acoustic barriers. We will make sure that whatever

solution/manufacturer is chosen for the facility, that it complies to the restrictive condition implemented by the Environmental Health Officer.

The intention is that in the construction phase, work would be carried out from 8am to 6pm only and not on Sundays or public holidays.

In relation to light pollution, there is a planning condition in relation to lighting. We are required to submit a lighting plan to the EHO and we are required to use all downfacing lighting which is motion activated, so is unlikely to go off at night unless people are working on the site or there is intrusion. Wildlife would not be able to set off the lighting as the site will be fully enclosed by fencing.

4. How long will it take to complete the site and what will it look like on completion?

   If consented, there will be a period of approximately 9-12 months to discharge planning conditions, undertake detailed design works, and initiate procurement and financing. The construction of the site is likely to take up to 2 years, and works could commence late 2024.

5. Studies have shown that houses in close proximity to windfarms suffer a reduction in property values. Presumably, the same will apply to battery storage. Are there any plans to compensate householders so affected?

   Zenobē: There is no evidence to support a conclusion that there will be a negative impact on property values in the area. Studies have been done over twenty years in relation to similar infrastructure sites and there is no evidence of devaluation of properties.

6. What is the full potential for battery storage in our area? Are we likely to see further applications from either yourselves or other companies?

   Zenobē: We don't anticipate there being many more applications however we can't guarantee this. The biggest constraint is there is only so much power that can go through the sub-station as it stands. We don't anticipate another application that involves grid connection and that is essential to a site like this. It could be tried but it could be as late as 2040 before a grid connection could be achieved.

   BH noted that the sub-station could be expanded and pylons and lines upgraded, which is currently being done.

7. It is anticipated that your application will be approved. As a Community Council we are keen to work in partnership with your company throughout the process:
    a. How can we assist you in liaising with our community throughout the process?
    b. Is your company open to suggestions regarding working practices/noise/disruption which may be raised by our community?
    c. How else can we assist you to make the implementation and future working process as amicable as possible?
    d. How can your company assist us to deliver on our communities' wider objectives?

Zenobē: We want to work as much as we can with the local community. First, we need to have planning permission. If we get it, we will appoint a Community Liaison Officer who will be the first point of contact between the community and our team. We want to have close engagement with local stakeholders.

BH: is there another site where we could speak to the Community Council there?

Jack Hulme, Zenobē: I'll take this as an action to find out and come back to you.

BH: how could you assist our community, either financially or practically?

Zenobē: We want to help the community and prioritise local workforces. We don't want to isolate ourselves. We accept that we are here later than we should have been.

Questions from Residents

RQ = question from local resident

Kevin Mills: lives in house closest to the proposed site at Fernyrigg. I have been researching this for some time and have with me various print-outs from the Energy Consents Unit and the EHO reports.

The Energy Consents Unit has a good practice guide on consultation and you have not followed it. The other company did, to an extent. It is amazing to me that my property is listed in all of these reports yet no-one thought to speak to me or consult me about it. SBC is only a consultee in this process and the decision completely rests with the Scottish Government. The situation is appalling. The good practice guidance requires publication of the planning application in both national and local newspapers and two consultations. This was not done. While I am grateful that you are here today, can you imagine how I feel? Can you imagine how it feels when I meet a friend in the

supermarket and he asks me if I'm going to get compensation because they're going to build a battery storage site next to my house and I know nothing about it?

KM reads from EHO report/noise impact assessment: this does identify low background levels of noise at night, which could be harmful and disruptive. Is that contained in your plan?

Zenobē: yes. There has been a lot of communication between the EHO and the ECU and those noise limits will be included in a planning condition. The limits are NR30 for daytime and NR20 for nighttime. NR20 is the limit inside a bedroom to protect sleep. It's equivalent to 20 decibels. The lowest background noise we measured was 23 decibels. We need to ensure that the noise from the site is not above 20 decibels inside a bedroom at night. The outside noise limit is 30 decibels, assuming an open window.

BH: is the noise at site 0 decibels at the moment, given it's a rural area?

Zenobē: no, it's quiet at the moment , background noise levels during the survey were 23 decibels.

The position on lack of consultation is that we were not told not to do it but we were not encouraged to do it by the ECU. This is something that could be taken up with the ECU. But it should have been done and we apologise for that.

Seonaid Blackie: I have collated various questions from local residents who have raised concerns with me.

Q: What happens to the batteries when their life runs out?

Zenobē: batteries do degrade over time. To keep the site operating at the required level we would look to replace the semi-degraded batteries from site and replace them with new ones. These can then be recycled to be used in a similar way to diesel generators to e.g. provide power at events and construction sites. When installed on site, the batteries are brand new and when they degrade, they are removed from site. At the end of the site's life, there is a full decommissioning process and everything is removed from site and the site is returned to how it was. The term of the site is 40 years.

Q: The field at Fernyrigg floods. What can be done about that? Electricity and water don't mix well.

Zenobē: The whole site will be drained and a drainage system will be installed. We have carried out a flood risk assessment and we have a drainage strategy. We also need to

ensure as part of that, that we don't make any flooding worse. We will use Sustainable Urban Drainage Systems (SUDS) to ensure that this does not happen.

Q: Will all cabling be underground?

Zenobē: Yes.

Q: Without compensation for the reduction in house prices, no-one will want to live there. Other people will think the same. What is currently our family home that we intended to leave to our son, will no longer be our family home and we will move away and won't be able to leave it to him. I'm sure you wouldn't want this at your backdoor either. I don't believe our house will now sell because of this. We chose to live here because it is beautiful and quiet and this site will destroy people's wellbeing. It is just a money making exercise with no consideration for the impact on people.

BH: we do need to bear in mind that there is a balance to be struck – Zenobe is only here at the invitation of the Scottish Government because of the pursuit of net zero/decarbonization targets and the move to renewable energy.

SB: they should be called out on this. It's going to ruin the area.

Zenobē: we understand your point. But we have to be near a sub-station, this substation was identified by National Grid as a key constraint on the network, and that is why the site was chosen.

RQ: what are the planning conditions you've referred to?

Zenobē: these are not top secret. These have been agreed between SBC and the Scottish Government and they are essentially conditions that require us to construct and operate as we have said we will, and include conditions on:

- *Noise*
- *Construction hours*
- *Drainage/flooding*
- *Landscaping*
- *Habitat protection*
- *Lighting*

SBC has posted its recommendations on our application on its website and it will be in the public domain.

RQ: I live at the top of the hill looking down into your site. The photographs accompanying the application miss out the properties at the top of the site, which will be looking directly down into the site. Was this deliberate?

Zenobē: the landscape & visual impact assessment carried out was deemed acceptable by SBC.

RQ: you've mentioned insurance, but insurance is for after the fact. What, if any, will be the insurance for the local population who may be adversely affected by an incident?

Zenobē: all of our sites have public liability/indemnity insurance, as is required by our funding package.

RQ: what is the likely level of transport coming in and out of the site, including weights and routes?

Zenobē: transport can access the site from the North using the A-road. The only transport which will be an abnormal load will be that associated with transporting the two high voltage transformers. All of the rest of the materials and equipment etc. will be delivered by standard HGVs during the site working hours (8am to 6pm). At the height of the development, we have estimated that there will be 82 movements of traffic a day (41 vehicles entering and leaving site).

RQ: I live right next to the site entrance near the speed camera. Are you going to take the speed camera away? The entrance to the site is not a good one.

Zenobē: this was raised during the planning application process. The intention is that, in consultation with the police, we will temporarily remove/move the speed camera and the entrance will be changed to allow easier access.

RQ: there are cables running above the entrance – will these be moved too?

Zenobē: if they need to be moved to allow access, they will be diverted. We will consult with the Highways Agency to design an access to the site that works and meets their standards, so access will be increased and improved. We can move the speed camera and divert cables if they are an issue.

RQ: is there another battery farm proposed for the site?

Kevin Mills: I don't think so – to me it looks like a modification to the existing application.

Zenobē: our understanding is that there are three applications in total: 1 x 500MW (Weaver Power), 1 x 400MW (Zenobe's) and 1 x 50MW and three new entrances are proposed. The other two aren't ours. We understand the three developments will not be happening at the same time. Our application is to the south of the sub-station. Weaver Power's is to the land immediately west of the sub-station. The 500MW site and the 400MW site will connect directly to the transmission system. The 50MW will connect to the distribution system. Those three combined takes up almost all of the system capacity at the moment.

Our development is scheduled to be operational in Q2 of 2026. We can't speak for the other developers.

RQ: there is another application for the extension of the sub-station. Must this be completed before you can connect?

Zenobē: yes. We connect to the new, extended sub-station and we are reliant on that.

RQ: what will be the opportunities for work for the local community?

Zenobē: Battery sites don't need much maintenance. There is generally monthly maintenance by a team of two plus a larger team carrying out annual maintenance. We use a centralised control room with a team there plus people on the ground close to site. The larger potential for work is during the construction phase.

RQ: has the Scottish Government put funding into this development?

Zenobē: no. We have raised all of the funding ourselves.

RQ: question around safety, with particular focus on fires at battery sites. There have been fires at battery sites across the world, some attributable to the monitoring system failing and/or quenching not working. What assurance can you give us that there will be back-up systems and redundancy in the monitoring system?

Zenobē: lessons are always learned following fires. We have built in extra redundancy into the monitoring system and extra levels of security. We operate with safety at the forefront. These are our assets and it's not in our interests to install any equipment that is not of the highest standard.

RQ: but in this area we have very limited access to fire fighters and fire fighting equipment. How do you address that?

Zenobē: all of the batteries are either ~~containerised~~containerized or within some sort of cabinet. The manufacturer advises us on design and separation between the units to avoid fire spread. In the event of a fire, the battery/unit on fire is allowed to burn out and it will not spread as it's designed in that manner. To allow one to burn out normally takes around 6 hours.

RQ: will there be toxic fumes if one goes on fire?

Zenobē: Yes, I imagine so, but I couldn't say what exactly.

RQ: touching again on cumulative effect, if there are several applications and sites – we already have three applications resulting in 1 x 500Mw, 1 x 400MW and 1 x 50MW – is there likely to be mission creep? Is there a finite level of supply and demand?

Zenobē: it's up to the Scottish Government to consider the cumulative effect of any subsequent proposals, and developers of future schemes are obliged to consider the cumulative effect between existing (or consented sites) and their proposals e.g. in relation to noise of any subsequent applications. We can't guarantee there won't be further schemes in the future and there are not other developers out there looking for land and trying to secure grid, but based on the status of the National Grid, it is unlikely any new development could connected before 2035.

RQ: so Zenobē is not looking for more land here?

Zenobē: no. The National Grid would need to expand before there would be any more capacity at Eccles. There would need to be an expansion of the network in order to get more capacity. 500 + 400 + 50MW is pretty much the capacity of the Eccles sub-station at the moment.

RQ: but once it has become a spoiled landscape, they could just bolt on another one? Why are battery storage sites not located at the site of power generation?

Zenobē: because they need to be next to a sub-station. That is a problem with our electricity system at the moment. We have a centralised system at the moment. Windfarms connect to the distribution system. There is an incredible queue to get connected to the grid. If we look at the whole grid infrastructure, virtually every sub-stations has proposals to connect battery storage site to them.

RQ: what is the acreage of the total site?

Zenobē: 15 acres. The field is more than 15 acres, but the worse case for the site is 15 acres. We will look at landscaping to reduce impact. What has been submitted to planning is the worst case assumption for the size of the site however we will look to reduce it and reduce visual impact as much as possible with landscaping.

RQ: could you discuss that with local residents?

Zenobē: we are now tied to what is on the plan. We need to locate the transformers as close to the sub-station as possible so we are a bit limited as to what we can do with site layout.

RQ: will the switch gear be very noisy? The switch gear at the sub-station is currently very noisy and sounds like a girder dropping.

Zenobē: our switch gear doesn't make that sort of noise at all. We can't comment on the impact on the sub-station itself as it is not our infrastructure. I would imgine it depends on what rate the batteries are operated at and how that triggers the switch gear at the substation. -

RQ: what exactly is a blast wall?

Zenobē: a tall concrete wall about 40cm thick and around 9 metres high. It will surround the high voltage transformers which will be located in the North East corner of the site.

RQ: would it be possible to lower the ground profile to reduce the visual impact of the site?

Zenobē: the site is not flat at the moment. The next step is to look at where the various pieces of equipment will be located in relation to topography in order to minimise the visual impact and also to allow the site to work effectively. We don't have a detailed cross-section at the moment. We will be looking at what can be done to flatten the site because the flatter the better. Where there are opportunities to build bunds and drop taller elements to lower levels, we will look at that.

RQ: what about lightning strikes?

Zenobē: we take the same precautions as are in place at sub-stations and pylons and we will have lightning protectors so it won't blow up.

RQ: do the batteries leak?

Zenobē: batteries do not leak, but degrade over time. We look to replace degraded batteries for brand new ones at certain points in their life cycle so we can maintain the same level of output from the site. The containers also stop the spread of any corrosion/leakage. We can guarantee there would be no leakage into the site. Any degraded battery is replaced. The containers look something like shipping containers and they are racked out inside. The batteries sit inside the containers on the racking/shelving. We therefore don't need to lift the whole container to replace batteries. If anything leaked from a battery unit, this wouldn't meet the health and safety regulations we would need to meet.

RQ: As you anticipate that there will be battery sites located next to most sub-stations going forward and we don't have particularly high demand for power here and most will be transferred down the line to Newcastle, why is this a goal for the Scottish Government? It rather seems to be just a cash cow.

Zenobē: no. We are dealing with the transmission system. We are able to take all of the renewable energy produced in Scotland and transmit that to the main centres of demand.

RQ: looking at the cumulative effect and the future – the sub-station at the moment is at peak capacity and we are on one of two routes of transmission to England. What is the likelihood that this will have to be increased over time to feed higher demand and therefore there will be a need for more battery storage systems?

Zenobē: we can't rule that out. But there are also plans for four high voltage cables offshore e.g. Peterhead to Yorkshire and Torness to County Durham. The idea is rather than just having two onshore cables we would also have several offshore cables. We can't say the sub-station will never be extended again but there are alternatives currently within the industry.

BH: Given the time, I think we can wrap it up here. I would welcome any additional questions and comments by email to the Community Council. However, I'm not sure any objections will make a difference as it appears the Scottish Government has made up its mind.

RQ: were our elected representatives invited to this meeting?

BH: yes – all of them. Councillor John Greenwell is unable to attend as he is unwell. Councillor Donald Moffat is attending the Coldstream Community Council meeting this evening. Councillor Mark Rowley – we understand he exists but have never seen him. Both our MP and MSP confirmed they have other engagements this evening.