

COMMUNITY LIAISON GROUP (CLG) MEETING

9th APRIL 2024 - **AGENDA**

- Apologies
- Project Update
- Guest speaker – Cultural Heritage Expert from SLR
 - Presentation
 - Q&A
- Public Exhibitions
- Grid connection & markets
- Any other business
- Date and time of next meeting



The below questions were received by RES from Ditch the Blair Hill Project on 28/03/24.

One of the display boards produced by RES for the October public consultations at the Macmillan Hall and Wigtown County Buildings included the statement;

“ With the rising cost of living and climate emergency, it is imperative that we deliver electricity efficiently and at the lowest cost to the consumer”

DTBHP agree with this statement, but, having studied the facts that are available to us, we are confident that the Blair Hill project is not capable of delivering low cost electricity to the consumer. Our questions, on Grid Connection, and Net Zero Market Reform give RES the opportunity to produce fresh facts to correct us, if we are wrong.

GRID CONNECTION

DTBHP realise that the local Transmission Operator, SPEN are legally bound to make a “connection offer” to RES for the Blair Hill project should RES request one. However “an offer” could stipulate a date well in the future and be curtailed in capacity to such an extent that it renders investing in the Blair Hill project unviable

In answer to our first grid connection question, RES stated that “they expect to receive an offer from SPEN to connect the project to a substation at Glenlee, about 20km from the site, along a new 132KVA overhead line, following existing grid routes where possible.”

We do not believe that any such offer is very likely to be made for the following reasons.

1) The Glenlee substation is currently being upgraded, the works involved have not been completed because the necessary planning application, first lodged in 2019, has yet to be approved. The site plans drawn up by SPEN for the current Glenlee upgrade indicate that there will be no space left for a third overhead 132KVA circuit to access the substation from the direction of Newton Stewart. The current SPEN KTR plan is to divert the two existing 132KVA overhead lines before reconnecting them to the substation from the west without interfering with the penstock of the Glenlee Hydroelectric Plant. A further expansion and modification of the electrical plant at the substation to accommodate a 132KVA overhead power line from the Blair Hill project would be impossible without relocating the entire

compound, away from the constricted space it currently occupies adjacent to the Drax owned hydroelectric plant and its associated penstock. It is highly unlikely that SPEN would be prepared to even consider reconfiguring the Glenlee site so soon after pleading to the local residents and the relevant authorities that the detailed substation design contained in the KTR project planning application documents had been carefully thought through and was future proofed to be fit for purpose.

2) The 1989 Electricity Act imposes upon SPEN a statutory duty to “have regard to the desirability of preserving natural beauty, of conserving fauna, flora, and geological or physiographical features of special interest”, and, “to do what it reasonably can to mitigate any effects which the proposal would have on the natural beauty of the countryside”.

RES is expecting to be allowed to run a set of 132KVA overhead power lines for a distance of 25km, through the Galloway Forest Park, close to, and parallel to the existing set of 132KVA power lines running from the Newton Stewart substation to Glenlee. According to the provisions of the 1989 Act, and the nationally recognised Electricity Network Standards, SPEN cannot easily permit this.

Before they can even begin to build any new power lines RES must satisfy the planning authorities with both the physical design and the route of the power lines. They must also satisfy the UK Electrical System Operator, the ESO, of the need for the development and they must state the economic case for it and justify the significant additional network integration investment that would be necessary as a consequence of it.

The current KTR project at Glenlee has been in consultation and planning since 2015 and, as mentioned above, has yet to gain planning permission. It can be assumed from this, that it is highly unlikely that the Blair Hill project can be physically connected into the national grid transmission network at Glenlee substation within the next ten or fifteen years

4) It is highly probable, owing to the now frequent requirement of the UK Electrical System Operator to constrain electricity production from wind farms north of the English border (the B6 boundary), that the transmission services required by RES for the Blairhill project are not physically capable of being delivered by SPEN at Glenlee, because SPEN as the local District System Operator is not permitted, under the terms of their licence agreement with the ESO, to enter into any contract which could result in the accepted operational capability limits of the national grid network being exceeded.

In other words, it is very likely, owing to too much electricity already being produced locally from wind turbines on windy days, that there is not enough spare capacity in the Scottish electricity transmission network for the power generated by the Blair Hill project to be safely fed into the national grid network at Glenlee

5) On the 19th March 2024, the ESO published “BEYOND 2030” the national blueprint for a decarbonised electricity system for Great Britain.

BEYOND 2030 is the Official UK Government Policy.

The introduction to BEYOND 2030 states, “ Investment in renewable energy generation has exceeded investment in transmission capacity over the past decade, resulting in bottlenecks on the electricity network. Currently, energy is being wasted as the grid cannot transport it to where it can be used. Because of these bottlenecks, as the system operator, we sometimes have to ask wind farms to switch off to prevent the grid becoming overloaded – wasting cheap, sustainable, home- grown wind power”

Later on, describing the existing situation in Southern Scotland, BEYOND 2030 states, “As the level of energy ambition in Scotland scales up, existing challenges on the electricity network become more dominant. Currently, one of the most congested areas on Great Britain’s electricity network is the area around the border between Scotland and England. This congestion is projected to get worse, and significant investment is required to ensure the system can be run in an economic and efficient manner. Without this investment, this one specific part of the network has the potential to cost consumers across Great Britain hundreds of millions of pounds per year.

This is because, in the absence of the investment recommended, renewable electricity generated in Scotland will not be able to be moved to where it can be used because of these capacity constraints. This means that renewable generators in Scotland will have to be paid to turn off, while additional gas and other non-renewable generation would have to be switched on across the south of the network in order to balance supply and demand - but the recommended investments would heavily reduce the requirement to do this. If network capacity in the region is not improved, the costs to consumers and the amount of renewable electricity generators we would need to pay not to generate will grow year on year.

We are looking to address this congestion in part by designing a network that provides significant additional capacity using offshore cables (which was recommended, in part, by our previous network planning recommendations), reducing, although not avoiding, the need for new infrastructure throughout the Central Belt and Borders. We are also recommending further upgrades to the existing onshore system and new infrastructure to further increase transmission capacity”

In other words the annual cost of paying wind farms in the south of Scotland not to produce electricity is accelerating in line with the number of new ones being built. Now that this fact has been officially recognised, it is difficult to imagine that the ESO are at all keen for SPEN to make it easy for RES to connect yet another wind farm into the national grid at Glenlee. Especially when BEYOND 2030 does not include any of the transmission bottlenecks that currently exist between Glenluce, Newton Stewart, Glenlee, New Cumnock and the B6 boundary in the long list of grid upgrades that have been prioritised by the ESO in their £58 billion, ten year investment plan for the national grid.

QUESTION 1

HAVE RES ACTUALLY RECEIVED ANY ASSURANCES FROM EITHER SPEN OR OFGEM THAT AN ACTUAL USEABLE AND DELIVERABLE GRID CONNECTION FOR THE BLAIR HILL PROJECT WILL BE OFFERED IF ONE IS REQUESTED ?

NET ZERO MARKET REFORM

In the foreword to the November 2023 fourth phase report of the Net Zero Market Reform, NZMR, review carried out by the Electricity System Operator, the ESO, the Head of Market Development at the ESO, Cian McLeavey-Reville, says;

“The reality is that the current package of market design and policy is no longer fit for purpose, and if left unchanged will result in significant unnecessary costs and will risk GB missing its carbon targets. Evidence of this has continued to mount over 2022 and 2023; for example on 1st July 2023 we incurred a cost of £20.3 million when we had to bid 88 GWh of wind down. These are but a sign of what is yet to come – we believe these trends will only accelerate as the system continues to decarbonise, unless markets and policy undergo fundamental reform”

The report goes on to identify the various issues that have arisen as a result of shortcomings in the design of the current national electricity supply balancing mechanism system, the BM, shortcomings that are crying out to be dealt with urgently. The ESO sees the four key issues involved as;

1. Constraint costs are rising at a dramatic rate
2. Balancing the network is becoming more challenging and requires increasing levels of inefficient redispatch
3. National pricing can sometimes send perverse incentives to flexible assets, that worsen constraints
4. Current market design does not unlock the full potential of flexibility from supply and demand.

Further on in the report the BM, in its current form, is criticised for distorting the market by having created a situation where “ bidding is based on lost subsidies” and that there is, “a perverse incentive for generators to locate where congestion exists”

The conclusions from the Stage Four Report of the NZMR are:

“The ESO consider cost-reflective, granular temporal and locational signals are ultimately needed in the wholesale market to provide real-time transparency of system needs across supply and demand and to maximise flexible resources’ arbitrage revenues. As discussed in our Phase 3 report, we consider these signals would be most effectively deployed via shorter settlement periods and locational energy pricing.

Considerable investment will be needed in flexible resources to meet the changing system needs in all timescales driven by growth in weather-dependent renewables. Locationally and temporally accurate market signals are needed to incentivise flexible assets to locate and dispatch where they can minimise whole system costs”

In the earlier Phase 3 Report the conclusions reached were:

“Our analysis shows that the status quo will not deliver net zero cost effectively, as current market design creates inefficient behaviours, particularly in dispatch, resulting in dramatic and rising costs for consumers.”

“The most efficient solution to this is real-time dynamic locational signals, and our assessment of the three locational market design options finds that neither national nor zonal pricing can deliver these effectively.”

“ Our analysis shows that a nodal pricing market with central dispatch has the potential to deliver significant consumer benefits through facilitating efficient dispatch of generation, demand and flexible assets; and optimising siting decisions across the whole electricity system.”

“It creates the opportunity for consumers and industry to access low-cost, low-carbon electricity when and where it is abundant.”

“We think it is credible to implement nodal pricing and central dispatch within 5 years. There are some key questions that need to be answered, such as what are the additional market reforms required to complement nodal pricing, and to what extent should consumers be exposed to locational price signals.”

From these conclusions it can be safely assumed that:

The ESO is intent that new legislation will soon be introduced and that nodal pricing will replace national pricing sometime around 2030.

Clearly, if RES end up gaining planning permission for the Blair Hill project and then go on to build it, they will not be able to benefit from the current single nationally priced system of constraint payments that have allowed similarly, poorly located wind farms to prosper up until now. The “perverse incentive to locate where congestion exists” will have gone by the time Blair Hill is ready to be commissioned. The wind farm will have to operate under a new nodally priced market system where electricity generators are rewarded for being located where energy is needed and paid for providing energy at the time it is required as opposed to being paid compensation for not producing energy when it is not needed.

The node that will determine the price of electricity generated at Blair Hill will be in south west Scotland, home to the most congested part of the UK transmission network on windy days. As a consequence, regardless of the exact location of the node, once the nodal pricing system is introduced, the price that the market will be prepared to offer Blair Hill for wind generated electricity; or offer them to constrain generation, will be much less than it would be if the current single national pricing system were to remain in place.

If RES don't ditch the Blair Hill project they will be “locating where congestion exists”, having made a “suboptimal siting decision” through failing to realise the financial implications that the imminent reform of UK energy markets will have for weather dependent generators on the wrong side of the transmission bottlenecks in South West Scotland.

QUESTION 2

ARE RES AWARE OF THE SCALE OF THE FINANCIAL IMPACT THAT “NET ZERO MARKET REFORM” WILL HAVE ON THE VIABILITY OF BLAIR HILL PROJECT ?