REF: [redacted]

Response from Shaun Woodward – Local resident and IP 01/09/2026

To

East park energy responding to REP 4-077 Other interested parties – Table 10

Dear [redacted]

I thank you for accepting my previous submission and for the applicant's responses to my questions delivered in table 10 of their 'Response to Deadline 4 and 5 submissions'.

I wish to further comment on their responses

These are specifically in EPE's responses directly to me in Table 10.

Your sincerely

Shaun Woodward

In order, within Table 10:

Ref: SW-D5-06

The applicant states I do not understand this point. To clarify, I was stating that under the old rules for NSIP's a 20% replacement of panels would not so long ago, itself be regarded as an NSIP. Only a recent government classification change altered this. My point is that 20% of 695,760 panels still represents 139,152 panels (…that's 5200 tonnes of PV panels!) which can hardly be described as an insignificant solar scheme, in its own right, even just for replacement of degraded panels. It will require significant cost, traffic and a construction workforce. In total 5 x 20% replacement is no different in many respects to replacing over a shorter period say one year. The total number of vehicles, and movements will be the same.

The foundations of Historic buildings such as those at the 'Town' in Great Staughton don't realise the difference between HGV's travelling past whether over one year of five. 139,152 panels represents 281 articulated truck loads to deliver, and the same to remove the old panels from the site.

139,152 panel delivery and removal is not "occasional HGV traffic" in any ordinary sense. Even if spread over a year, it potentially represents a substantial logistics operation.

I think it is highly unlikely the same vehicles will remove the degraded panels. At present, there is no firm recycling point stated for the for discarded panels, only a vague 100km journey from site quoted for GHG calcs to a fictional non-existent recycling plant. If the old panels are to be removed in the same containers as delivered it is most likely they will be transported back to China where they came from where recycling will perhaps be more developed in 20 years time. If this is the case and in light of no credible current source of recycling in the UK or Europe, perhaps mitigation should be made now in the DCO for the 'worst case' of sending to China and applied to the current GHG calculations. The same applies at 40 years which should also be included in the 'Cradle to grave' GHG calcs for the scheme.

SW D5-07

My question related to the applicants point that sub 20% replacement of panels in any 12mth period would be regarded as 'maintenance' allowing open use of the local road system to all vehicles. The justification being the traffic load would be spread over a longer period and vehicles could operate use the roads without the timing and access limitation of the construction phase. I questioned why EPE were seeking this? It's purely to make it more efficient and cost effective for them, as it does not require all commuting and vehicular traffic to access the site via the contolled site 'D' main entrance, or be restricted by specific timing. Convenience for developers, not so good for the locality who would prefer 281 articulated lorries delivering panels plus those delivering and removing invertors, transformers and the commuting workforce to still be controlled by the construction phase DCO limitations. I do not believe the self-administered approach.

"Operational and replacement traffic would not have unrestricted use of local roads. The oOEMP controls vehicle types, delivery bookings, routing, timing, parking, queuing and interaction with PRoWs, and requires deliveries passing Great Staughton Primary School to avoid peak periods and school arrival and departure times. A Traffic Coordinator has also been added to the Site team. Any Major Replacement Campaign submission must identify staff, delivery, collection and waste movements, vehicle types, routes, accesses, booking arrangements and traffic-management measures, and must be approved in writing before the works commence."

I note that in EPE's Technical Note. It expressly says that the oOEMP requires notification only **"where more than 20% of solar panels are to be replaced in any one calendar year"**, it calls this a **"Major replacement campaign."** The technical Note specifically says that it assesses **replacement of up to 20% of panels, for which prior notification would not be required**.

It seems EPE are seeking open road networks for their replacement activities. Their response above means nothing as 20% pa approach will not activate the 'controls' stated in their response to me above.

I would be grateful if the inspector would consider this point again and insist on tight traffic controls and road access for the 20 year and 40 years stages in the DCO, as well as the initial construction phase to protect all our local villages.

SW D5-08

I questioned the applicants claim that a five man team could replace 420 panels per day. I questioned all associated handling movements such as the 420 old panels and the time required to remove seized fixings and deal with other unexpected problems. which will occur to any structure after 20 years. I queried building storage capacity and security, and 'just in time' deliveries and the potential offsite storage and double handling with respect to greenhouse gases and carbon footprint.

The applicant's response it's far from convincing. They quote automated replacement rigs which lift and position panels being increasingly common. They suggest this will speed up replacement. I suggest these will not speed up replacement but remove the physical difficulty of the currently proposed two man team repeatedly lifting 38 kg panels onto raised structures at the rate of one a minute for an entire working day.

I suggest my original comments on this rate of replacement and staff requirements are understated. Please could the inspector ask the applicant to provide practical real-world evidence of a five man team bringing 420 panels from Site D, changing 420 degraded panels and replacing with 420 new panels then making them operational, whilst loading and removing 420 degraded panels, to evidence their point. This is not an arbitrary figure so they must have arrived at it from some source or other. It does not cover replacement of any damaged or defective cabling, or transformers or invertors which are all stated to be replaced at 20 years. What mitigation has the applicant put in place for this?

The applicant again refers to a major replacement campaign but the draft DCO seeks 20% (or under) replacement of panels would not trigger a major replacement campaign so is immaterial.

Anyone who has worked on removing old bolts and fixing which have been subject to weathering over 20 years will know that problems can occur. Even galvanised fixings corrode over time especially where the zinc coating has been damaged by the ordinary tightening of fixings, from securing bolts, and with inevitable frame movement over 20 years from temperature and weather. The applicant is being optimistic to believe this will not create a future issue and affect the 'one panel per minute' rate when replacing many panels.

The applicant describes my comments on deliveries, storage capacity and double handling as 'speculative'. They state it does not reflect the supply chain and phased

delivery that would be established for a replacement campaign. They do not however say how this would be achieved. I am more pragmatic.

To illustrate, 420 new panels per day is roughly in line with one load which will contain 495 panels per 40 foot high cube container, according to the Canadian solar panel specification sheet provided by EPE.

To replace 20% of the panels requires 281 articulated loads (HQ Containers). 139,152 panels weigh 5148 tonnes. The applicant suggests these will be delivered to various teams around the site via two 18 tonne rigid vehicles, but how will this work in practice?

I have experience of the supply chain of goods in containers from China.

The chain is as follows:-

a) Ship arrives Felixstowe – Unloads 281 containers (...or a proportion of, if orders are split – Say 140 containers on two shipments, 70 containers on 4 shipments etc).

b) The containers, after selective customs checking are released in a few days, after which the port charges the importer for demurrage (storage costs).

c) This means within a few days the 281/140/70 containers will all need moving from port by a haulier.

d) If they are not to be delivered directly to EPE in site 'D' in containers from port then they must be dropped at a third party holding area (a large one!).

e) If they are to be delivered as needed and dropped daily on site in 18 tonne fixed vehicles as stated by EPE, they must first be unloaded from the shipping containers, and reloaded into 18 tonne vehicles which means there must be a sizeable secondary depot.

This involves additional traffic movements, adds to the carbon footprint and GHG calcs for loading/reloading and extra transport if more miles are needed to access the depot than a direct run from port. They are still part of 'Cradle to grave costs' for the scheme even though they are off site and should be calculated and included in GHG Carbon calculations.

SW-05-09

Again, regarding the 20 year replacement stage. 20% panel replacement or less per annum as is being sought by the by applicant would allow FULL road access, as it would NOT trigger a 'Major Replacement Campaign', so not require LA involvement and overview.

I also dispute the numbers of staff required for this stage and suggest there would be additional traffic which would concentrate at particular times of day, if not fully controlled within the DCO. This was my point, and I request the inspector examines the

traffic claims carefully. Please remember 854 workers max during construction phase, (average about 600 for three years), but only a few teams of five workers are stated for replacing 420 panels to transport, replace, make operational, and dispose of 420 panels per day only taking a few months? What about transformers, inverters, wiring faults, and BESS replacement at the same time?

I also dispute that leaving degraded panels in situ for years as fall out from the 20% approach is commercially ineffective, hence I don't believe this strategy.

EPE state *"any reduction in efficiency due to dust or dirt accumulation is usually negligible"*.

But on EPE's 433GWh/yr figure, a 1% loss is 4.33GWh, and using say £75 per MWh = an annual loss ois £325,000. This is significant and means panels must be kept clean. Removing only 20% per annum (100% replacement over 5 years) makes no commercial sense as some blocks of panels will be removed 2.5 years before they are fully degraded, and others will be left for up to 2.5 years working at full degradation.

Simply swopping out individual panels (up to 20% per annum) for new to replace the most degraded in an array I don't think will work. Logic suggests in 20 years the panel model and design will have changed and is unlikely to be compatible if mixed in with older degrading panels. I sense whole connected blocks will require replacement together along with their upgraded inverters and transformers.

SW-05-10

I questioned water security for BESS.

I questioned how requirements can have been met when the detail design of the BESS plant is not known. Details matter here. Failure events may be rae but they do happen, and when they do they can be catastrophic. Recent field fires like the one in Pertenhall last week could also create an unexpected problem. How will the applicant mitigate for events such as this?

There is a major gas main running very close to the proposed site. Irrespective of any 'technical mitigation' to be included at a later design stage it seems totally crazy in an open landscape to even consider placing such a risk anywhere near a major gas main.

The storage of water for the fire-fighting tanks which is claimed will be supplied by rainwater sourced from building run off… How long will these take to fill before completely full? They represent only 2 hrs of hosed water. What happens after that? BESS fires sometime reignite days after cooling, and take days of hosing to control, not simply 2 hours at 1900 ltrs per hour.

SW-D5-11

I questioned the water usage for cleaning the panels, and that water usage and traffic, diesel use and GHG effects should be included. The stated site diesel usage used for the GHG calcs has still not been qualified.

The applicant suggested that natural rainfall would predominantly clean the panels, but also that once installed site-specific conditions would be monitored and panels cleaned as required. This is a reasonable approach, but if the 'site specific conditions' are found to be as follows (I know they will be because of the airborne dust created on our cars and homes during harvest), then significant intervention and cleaning will be required. The applicant states:

Natural weather generally keeps the panels clean
Reduction in efficiency from dust/dirt is "usually negligible"
Site-specific conditions may affect the need for cleaning
Annual cleaning is said generally not to be cost-effective

EPE assumes cleaning **every two years as a precautionary worst-case scenario** and it may ultimately prove necessary **less frequently than every two years**.
They also state cleaning would take place at night when the panels are cool.

There are issues with this.

Firstly, EPE has not confirmed it will only clean once every two years (on which its GHG calcs etc are based), only suggested it's a worst case. I believe this is highly optimistic.

Secondly, night cleaning means potential noise and light pollution disruption for residents, particularly those nearest or surrounded by the panels. Multiple vehicles equipped with 5m rotary brushes will be required for speedy effective cleaning after a layer of harvesting dust and chaff is laid down or leaves in autumn.

Cleaning will be important for EPE efficiency despite claims to minimise it. In addition panels which sustain bird droppings can 'cement' to the glass if left, or leaves. Both can create panel hotspots, damaging the panel or activating fail-safes to switch the individual panel off for protection.

If the panels are to be 'monitored', this will require someone to inspect each panel on a regular 450km journey each trip, and either clean bird droppings or leaves as they find them, or record them for future cleaning. It's ironic that the applicant is claiming additional animal, bird and plant biodiversity, planting thousands of hedge plants and trees to attract more birds and create more droppings, leaves, seeds and pollen alongside the harvesting dust, chaff and dry soil dust.

How does the client intend to resolve this? If for example panels are inspected every month, that is 12 x 450km journeys minimum per annum by vehicle, further adding to diesel use and GHG calculations.

Cleaning only small sections of the site on a rotational basis will not overcome the dust drop of harvest or autumn leaf fall, leaving thousands of panels dirty and underperforming for months. Rotary brushes may not remove engrained bird droppings if left to 'cement' without soaking.

Research shows a 'state of the art' rotary brush vehicle moves at a speed of about 2Kmph.

To clean every array (arrays of 2 panels stacked 'portrait') is a journey of around 450Km plus travel between sites and field compounds. Therefore, this represents a minimum of 225 hrs per cleaning run = 32 x 7.5 hr working days for one machine with no stops for water replenishment, or travelling between arrays, fields and between block or sites. Using only 500ml of water per sq metre of panel uses over one million litres of water per each wash, but EPE state :

Solar PV Cleaning 0.09 million litres per annum (0.180 million each 2 yr clean)

This also includes water for welfare facilities , and other operational uses, plus 0.50 million litres for Landscaping giving a total of 0.59 million litres per annum or 23.6 Million litres over 40 years. This is understated.

The cleaning water alone I believe will amount to two cleans per year, = 2.2million litres pa.

In addition, there is no water allowance isolated for making concrete or cement. I calculate the following additional water use, which although used off site still forms part of the overall 'Cradle to grave' calculation and should be included.

EPE's GHG assessment says it will use **26,400 tonnes of concrete** and **17,500 tonnes of cement-bound sand**.

It also identifies **Eastern Concrete Limited** as the assumed supplier, with ready mixed concrete transported from the supplier to the site.

26,400 tonnes of concrete is approximately **11,000 m^3 of concrete** Using EPE's density of 2,400 kg/m^3.

A typical ready-mix concrete requires roughly **150–200 litres of mixing water per m^3**, depending on mix requires an additional **1.65–2.20 million litres** not accounted for at the construction phase.

The sand cement mix depends on mix design for water usage, but a reasonable average for **17,500 tonnes would be approx 2.0 million litres of water** based on 120 litres of water per tonne of dry material.

Total unaccounted water usage for Concrete and cement = approx 4 million litres.

It would be helpful if the inspector could question why construction water appears so understated, even allowing for harvested rainfall from the building roofs. Harvested water is not always reliable and although the calculations show a potential of 1.1 million litres pa with a 610mm rainfall from roof collection, it may not be available when it's needed (similar to solar energy).

Overall, I would be grateful if the inspector would ask the applicant to recheck these figures and provide clear responses and calculations to prove I am incorrect, or make adjustments.

And to add further GHG carbon input where needed.

In addition to my responses above I have some further points to add:-

1/. Unresolved Traffic management

I do not believe there has been a satisfactory response to how traffic and commuting workers will be controlled in real world conditions at all stages, particularly the construction phase. How will the applicant mitigate this and offer an infallible solution to avoid traffic using the entire road network? Once underway this requires independent third-party monitoring and should not be left to local people to police it.

2/. Access for site traffic to the AI travelling south

There is still no satisfactory solution to large number of HGV's and commuting traffic accessing the A1 South. What plans have developed to mitigate this?

3/. More about Solar Panel Recycling

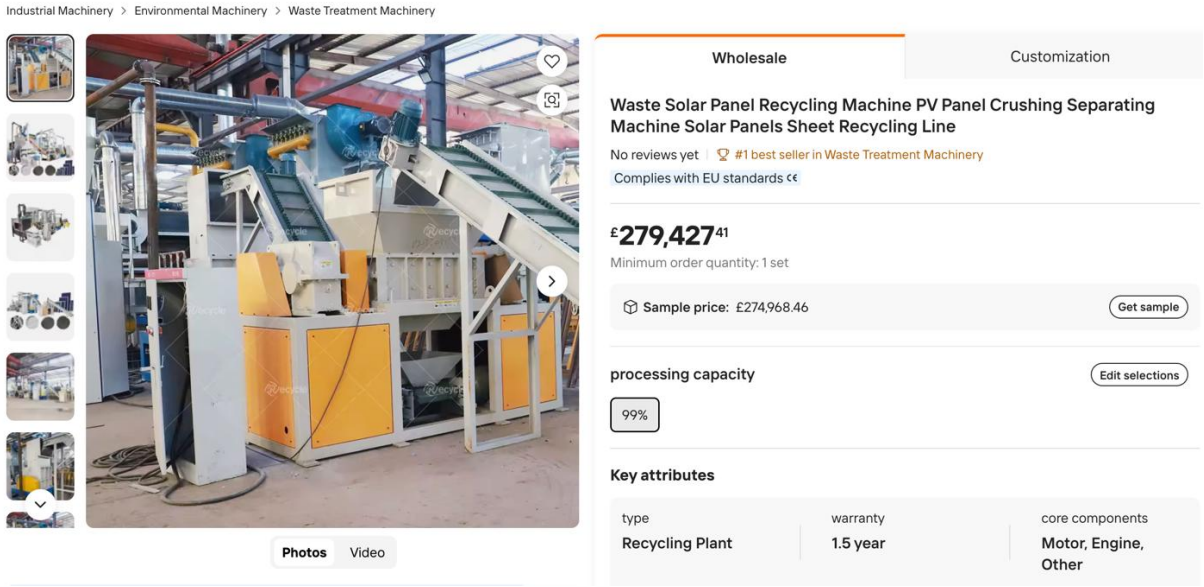
I am still unconvinced that the applicants plans for recycling at the 20 and 40 year point are credible, or correctly reflected in the schemes GHG Carbon calculations.

For the Inspectors assessment I submit the following information, and request the applicant comment on this. What mitigation has been considered for the recycling, other than *'Lets wait and see if technology catches up…'* and how is this accurately reflecting in 'Cradle to grave' GHG Carbon calculations?

About panel recycling.

From research I found a current off the shelf Chinese made recycling (production) line can process 300kgs to 1000 Kgs of panels per hour. Cost £279,000 for one line. Not including the acid leach machinery required to remove the silver from the ground up cell material. The recycling recovery of materials is worth about £27 per panel, based on a realistic 90% recovery of materials, but silver accounts for around 30% of this figure so if the recycling plant cannot recover this the value is nearer £14. This does not include processing costs. Most plants do not include silver recovery because it currently

requires a separate acid leaching process using the ground-up cell aggregate to extract it. Other new processes are developing but not yet at an industrial scale (ref: Newcastle University).



For EPE:

Canadian solar panels are 27.8KG each. As they are bifocal, they will be at the lower end of the process speed range (Bi-focals include two glass panels, not one) however if the fastest recycle speed of 1000kg/hr or 27 panels per hour is used = 648 pieces each day with a plant running 24hrs.

Therefore, for EPE alone – 695,760 panels will require 1074 days running 24hrs for one processing line which realistically is 3 years, if general down time and maintenance is factored in.

Two lines will take 537 days = 1.5 years to recycle EPE panels

Ten lines will take 107 days = 3 months to recycle EPE panels

Cost of machines alone without installation, transportation from China to site and construction of suitable buildings

Two lines - £594,000

Ten lines - £2,970,000

BUT , For UK NSIP's in total

Replacement of all UK NSIP solar projects in 20 years = 20 to 30 million panels (This depends if every project is accepted) So assume 25 million panels. All will be shed in a

short time frame of maybe five years if all are granted DCO at a similar time. Panels will therefore be shed over a similar timescale as they degrade at the same rate :-

25,000,000 divided by 648 panels per day per recycling line = 38,580 days to recycle.

With one recycling line = 38,580 days or 105 years to recycle - Plant cost £297,000

Using ten recycling lines = 3,858 days = 10.5 years to recycycle – Plant cost £2,970,000

Using a hundred recycling lines = 385 days = 1.05 years – Plant cost £ 29,700,000

These recycling stages are not accounted for in any CO2 or carbon calcs but will create significant additions when adding in the energy consumption, construction of machinery, warehouse buid to house the machines, transport and spare parts (all cutters and shredding blades will need regular replacement).

The calculations are based on 24hr 365 day per year running. Realistically this will drop to maybe 11 months when holidays, down time and maintenance are introduced.

All of this should be included in Carbon calcs, it's energy intensive, uses lots of acid, heat, steam etc.

I would welcome the inspector giving weight to this aspect and their mitigation for the disposal of 695,760 panels (twice) plus 10% for general failure.

Please note : AI helped me with some calculations in this document