

South Muskham & Little Carlton Parish Council
c/o The Clerk
1 Village Way
Farndon
Newark
Notts
NG24 4SX
Email: clerk@smlcpc.org

To: The Planning Inspectorate

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Elements Green Trent Ltd (the Applicant) for an Order granting Development Consent for the Great North Road Solar Park (the Proposed Development)

Scoping Opinion: Consultee South Muskham & Little Carlton Parish Council ('the Council')

1. Introduction

It is proposed by Elements Green Trent Ltd ('the Applicant') to construct and operate Great North Road Solar Park (GNR) ("the Development"), a proposed solar photovoltaic (PV) electricity generating facility. This is contained within the boundaries of Newark & Sherwood District Council, north of Newark in the county of Nottinghamshire.

When built, the Development would have an anticipated solar electricity generation capacity of approximately 1,120 megawatts (MW) Direct Current (DC) to be connected into the existing National Grid Staythorpe Substation.

Members of South Muskham & Little Carlton Parish Council have considered the document circulated by the Planning Inspectorate and the following represent their views of what should be scoped into the eventual Environmental Impact Assessment (EIA) and subject to examination. We are grateful to the Planning Inspectorate for being included as a consultee.

2. Site Description

It is not intended to provide a detailed description of the site. It is sufficient to say that the Development extends over a vast expanse of farmland currently used for food production involving land contained within 18 parishes.

It should be considered relevant that, in addition to currently operational solar farms in the Newark and Sherwood District, there are a number of planning applications for Battery Energy Storage Systems (BESS) and PV solar farms currently undergoing the various stages of the planning process. These sites are co-located in the same general areas of this proposed development.

The Council would wish to see scoped in a detailed report on how the applicant would secure decommissioning of the site and is of the opinion that a financial bond should be part of that scoping in exercise.

3. Cumulative Assessments

This is addressed in Section 4.1.6 of the Scoping Report (SR) and as far as paragraphs 131- 141, **the Council would wish these to be scoped in.**

Paragraph 138 seeks to set distance limits to other proposed developments that should be included in the cumulative assessment. Paragraph 138 lists four criteria for inclusion in cumulative assessment. Concerning the second criterion, the majority of proposed solar farms with a maximum theoretical output not exceeding 50MW alternating current (AC) would not require an Environmental Impact Assessment (EIA). Further, the majority of BESS developments escape the need for an EIA, as they do not generate electricity and would mostly fall to Schedule 3. It is possible that such developments as the last two could be classed as '*major*' and therefore be captured. But '*major*' is subjective.

The PINS Advice Note 17 is noted by Council, and the findings in the High Court judgement *Pearce v Secretary of State for Business, Energy, and Industrial Strategy* [2021] EWHC 326 (Admin). The parameter of projects being '*reasonably foreseeable*' should be the assessment criterion. Therefore, **The Council would wish that all approved and undetermined applications for PV farms and BESS within 10km of the Order Limits be included in cumulative assessments. It would be sensible to attach a minimum capacity size to projects to be included. It is hoped that expert guidance could advise on this, but one suggestion might be that for ground mounted PV farms, a maximum output of 3MW AC and for a BESS maximum storage of 20MW could be starting points for inclusion.** In general though, the Council accept the Assessment methodology at 14.2 of the SR.

4.1 Landscape and Visual Impact Assessment (LVIA) -RVAA

The inclusion of a Residential Visual Amenity Assessment (RVAA) within the LVIA is welcomed by Council and this should be scoped in.

The Applicant has suggested that the following PV solar farm components will be included:

- fixed or single axis tracker panels with a suggested height of approximately 4m.
- Deer fencing with a height of up to 2.5m. Deer fencing has a lesser visual impact than security fencing. Within the industry there is a gradual move away from deer fencing to security fencing given a spate of thefts from solar farms.
- CCTV and lighting poles with no height given. It is considered that CCTV poles could be around 2.5m–3m with lighting poles higher.

At point 5.8 of the SR the statement is made that solar developments are of limited height. Council considers that the 4m height limit is not low and the effect of long lengths of 10 foot fencing add to the reduction in visual amenity, in an area that currently has vistas across swathes of open countryside.

The Guidelines for Landscape and Visual Impact Assessment (3rd edition) -Landscape Institute/ Institute of Environmental Management and Assessment (2013) [GLVIA3] stipulates that a key matter for any LVIA would be to scope and address the main receptors, i.e., those persons who can view the development and the changes to the landscape it brings about and are affected by the changes. (S3)

The Residential Visual Amenity Assessment Guide (TGN 02/19 Landscape Institute 2019) is quoted by the applicant. That guide defines Residential Visual Amenity as:

The overall quality, experience and nature of views and outlook available to occupants of residential properties, including views from gardens and domestic curtilage. It represents the visual component of Residential Amenity.

The applicant states that 50m from the solar array boundary is typically used as standard when deciding the distance for the study area, but goes on to extend to 100m for the purposes of the SR. Despite lengthy research it has not been possible to yet find another solar farm LVIA which used 50m or even 100m.

As examples, four nearby solar farm LVIA s have been checked and the distances used are below:

- Weston 1km
Kelham Solar Farm 500m (panels are only 2m high)
- Foxholes Solar Farm nr Norwell – Assessed properties over a 1km away
- Knapthorpe Assessed isolated properties over 2km away.

The above four applications were to the Local Planning Authority. Council considers, therefore, that there is merit in seeking corroboration from LVIAs submitted as part of an application for an NSIP solar farm. The following quotes are from LVIAs such as these:

Quote 1

“The 1km Study Area: This is for the area extending as a radius for the Visual Assessment of the Residential Properties (the ‘Residential Receptors’) and for the Transport Receptors and is based on the visibility of the Scheme. This radius is considered appropriate for the residential receptors and transport receptors...”

The source document for this quote is also helpful in that it suggests a 500m study area for residential properties for the cable route corridors.

Quote 2

“The 0.5km Study Area for the Cable Route Corridor.....This radius is considered appropriate for the Cable Route Corridor, since this involves the construction phase only, which is short term and temporary.”

Quotes 1 and 2 are taken from LVIA for the West Burton Solar project. A separate NSIP solar farm project at Cottam (which is also being developed by Island Green Power UK Ltd) uses identical wording.

Different developers are behind the Mallard Pass solar farm NSIP application. Their LVIA considered dwellings situated over 700m away from the development there. The argument that the development site is of a dispersed nature is not grounds to devalue loss of visual amenity.

Invariably with other NSIP solar farms, impacted dwellings often do not have sight of the whole development either. But they are still assessed.

Therefore, the Council do not agree with the proposed scoping out of residential properties more than 100m away from the development. It does not agree with the assertion that the industry standard is 50m. **The Residential Visual Amenity Assessment should scope in all impacted residential premises within 1km of the solar arrays, infrastructure and the BESS and all residential premises within 500m of the outer edge of the cable corridors.**

4.2 Landscape and Visual Impact Assessment (LVIA) -Landscape

The Council would wish that a landscape study area of 5km from the solar arrays be scoped in but would accept that fields at the extremities of the Order Limit which are only being used for underground cabling, need not be the start point for the 5km measuring point.

5. Traffic and Access

The Council agrees this matter should be 'scoped in' and appropriate assessments included as part of the Environmental Statement (ES).

Table 5.1 outlines the 'Proposed Viewpoint Locations'. **The Council believe that, in relation to South Muskham, the view from viewpoint 21 would be insufficient and irrelevant for any gainful purpose. It would wish the viewpoint to be moved further north along the B6325, relative to the last row of houses in the village on the east side of the road. It would also want scoping in viewpoints to be from the 1st floor of residential properties, not the ground floor. Additionally, viewpoint 23 needs to be from the rear of the residential properties to the north of Bathley Lane in Little Carlton, and scoped in from 1st floor level too. The Council would also want scoping in an additional viewpoint from the A1 bridge to the north of South Muskham, particularly in relation to glint and glare.**

Figures at 11.1 of the SR show the proposed construction key access routes. It is accepted that detailed scrutiny of any Construction Traffic Management Plan (CTMP) will occur at a later stage. Paragraph 548 states that the Traffic and Access Chapter will report the assessment of likely transport effects. It limits the Fear and Intimidation effects to pedestrians. When assessing the suitability of mainly narrow country lanes chosen as site access routes, **the Council believe that a Fear and Intimidation Assessment (comparable with the weighting system included in the 2023 IEMA Guidelines) should include cyclists and equestrian traffic and this should be scoped in.**

In Table 11.1 'Sensitive Receptors' no mention is made of South Muskham. **Council would wish that South Muskham be scoped in to this consideration.**

Within 11.2.1 reference is made to the Order Limits being bound by 'A' class roads. **The Council considers it imperative that the B6325 be scoped in to the assessments as it provides a key link between South Muskham to the A1 roundabout at North Muskham and included in Table 11.2. Baseline traffic flows on the B6235 should be scoped in. The Council wishes to emphasise that satellite navigation for both cars and HGVs is geared to send those wishing to travel from the A1 to the west bound A46 and vice versa in large numbers of vehicles, along this route and this needs to be scoped in.**

Paragraph 569 states that "*the operational phase is expected to only generate a very small number of vehicular trips.*" While this may well be true for routine plant and land maintenance, there seems to be an underlying assumption that there will be no need for panel replacement during the lifetime of the project. This may be true, or may not. The SR states this will be assessed in the Traffic and Access ES Chapter. **The Council believe this chapter should assess, quantify and scope in the issue of panel replacement and the traffic plans to so accommodate.**

6. Flooding and Hydrological

The Council agrees this matter should be 'scoped in' and appropriate assessments included as part of the ES. The SR rightly identifies The Beck as one of the relevant tributaries of the River Trent. During periods of substantial rainfall it is prone to flooding at various locations. The villages of Caunton, Cromwell, Norwell and Sutton-on-Trent have all experienced water enter residential properties this year. It is accepted that the Flood Risk Assessment (FRA) will attempt to demonstrate that field run off will not accelerate during the operational phase by using sustainable drainage systems (SuDS). **The Council would wish to see scoped in the level of anticipated water run-off from dry land, and the effect of having less ground to soak rainfall. Further, it would wish to see scoped in the proposed water retention work.**

The applicant seeks to scope out three potential assessments (Table 7.6)

- *Transfer of sediment to surface water resources*
- *Transfer of chemicals to surface water resources during operation*
- *Chemical pollution from damaged PV arrays/ leakage from PV arrays*

The justifications for scoping out are on-site vegetation cover and the physical separation between the arrays and surface water. In many places there is physical separation between the Beck and the arrays. However, at the Eakring site, it is minimal. At Kersall, given the topography, field run off feeds into a stream linking to the Beck. The array north west of Cromwell, at its western perimeter is contiguous to the Beck. The Moorhouse Beck runs straight through several planned arrays. For a large part of the year these sites have on-site vegetation. The quantity and nature of on-site stored chemicals also needs to be quantified and assessed in the ES.

For these reasons, it is contested that the arguments for their 'scoping out' fall and **The Council believe that the transfer of sediment to surface water resources and the transfer of chemicals to surface water resources during operation should be scoped in for assessment.**

The chemical pollution resulting in damage argument for scoping out requires further scrutiny given the materials forming the panels and panel degradation over life. The Applicant's proposed panels may be capable of retaining structural integrity, even towards end of life. The table also only deals with fixed panels and racking even though in the SR there is consideration of both fixed panels and single axle trackers, the latter requiring greater maintenance. At end of life, panels are considered hazardous waste. So Council would ask how safe are they close to end of life? It may be that the applicant is able to allay all fears here but **The Council feel that an evidence based risk assessment of the potential for chemical pollution from damaged/end of life fixed and single axis tracker panels should be scoped in.**

7. Glint and Glare

The Council agrees this matter should be 'scoped in' and appropriate assessments included as part of the ES. No robust analysis of the intended glint and glare methodology is intended here. That can wait for the final report. Glint and glare assessors often rely on a circa 1.5m AGL receptor height assumption. **However, for the purposes of scoping in, The Council believe that the assessment should vary the receptor height when analysing the effects on transport.**

This should be for all major roads frequently used by HGVs. A comprehensive traffic survey by the Applicant will also hopefully identify roads in the study area commonly used by agricultural

vehicles, especially during harvest. This height variance may have always been intended but it is not clear.

Adopting the cumulative effects details outlined in Section 3 above, the proposed elevated carriageways for the A46 at Newark should fall into the category of 'reasonably foreseeable' projects which might be affected by the development's glint and glare, depending on what panel type is deployed. Figure 5.2 (Zone of theoretical visibility South east area) demonstrates little impact likely on the current road. However, with the prospect of flyovers in the future, an assessment is needed to identify any future impact.

On a similar theme, the receptor height must be varied when assessing the potential effects on some users of the A1 (especially HGVs) and the East Coast mainline. This must include, but not be restricted to, the stretch of the A1 at North Muskham where there is little existing mitigation. For the East Coast mainline, this must include, but not be restricted to, any stretch of line approaching track side signals. Furthermore, the actual height of the track and the A1 must be used as baselines, as opposed to the rough height taken from online mapping. This is particularly important for the rail track which in many places is raised above surrounding ground levels. This exercise may not be possible just using a desk-based assessment.

The Applicant was intending a 200m gap between sample receptor points. It is possible that the Applicant intended more thorough and less distanced sampling when it is stated there will be *a sequential assessment as receptors move along these routes* (the A1 and the mainline). If that is the case the gap argument here is a moot point. However, it is ambiguous. So for the sake of certainty, **The Council believe that sample points covering the A1 northbound carriageway and the East Coast mainline should be significantly closer than 200m apart and their data should be scoped in. It also believes that the glint and glare assessment should include proposed future height changes in the A46 carriageways.**

Included in the glint and glare section in paragraph 604 is:

“Risks associated with electrical infrastructure such as from lightning strikes are removed or reduced through inbuilt control systems and are therefore proposed to be scoped out of the assessment.”

Considerable international research has been published on the subject of lightning damage to PV modules and associated electrical infrastructure. The South African Institute of Electrical Engineers has reported that more than 32% of damages to solar panels are caused by lightning, placing atmospheric discharges as the first cause of deterioration. As previously stated, the Applicant has stated that the chosen PV modules will retain their structural integrity if damaged. There are methods of reducing the likelihood of lightning damage, some more expensive than others. It is accepted that there are also ways to protect other parts of the development grid from collateral damage. But, **the Council believe that these lightning damage protection methods should be scoped into the technical specifications of the ES.** The reason is that damaged PV modules can pose an environmental risk.

8. Noise and Vibration

The Council agrees these matters should be 'scoped in' and appropriate assessments included as part of the ES. In general, the Council agree with the SR methodology to address noise and vibration, though that is not to say that it fully agrees with its contents. At paragraph 378, the Applicant correctly refers to [Design Manual for Roads and Bridges \(DMRB\) Volume 11](#). This is the La 111 revision 2 version and the Applicant adopts the suggested construction noise study area sizes for the purposes of the SR.

Table 9.7 later attempts to scope out assessment of vibration caused by construction traffic. The justification relies on a quote from DMRB:

".. that normal use of the buildings such as closing doors, walking on suspended wooden floors and operating domestic appliances can generate similar levels of vibration to those of road traffic."

This is a quote not from the above current version but from [an old withdrawn version](#). The above guidance is not in the current version. But if that version is still going to be considered, what was not quoted from that old version from the same section (section 6.2) is the following:

"Occupants of hospitals, educational establishments and laboratories or workshops where high precision tasks are performed may well be affected to a greater extent than residents of domestic dwellings."

Hospitals can be excluded here clearly. But the outdated guidance, taken as a whole, revises the criteria for assessment. There also remains the possibility that on any of the proposed CTMP routes, there may be designated heritage assets, not usually exposed to heavy passing traffic (either because of weight restrictions or the general location) and whose ability to cope with sustained HGV vibration is less than a standard dwelling.

Therefore, **the Council would wish to replace the scoping out with:**

that an assessment as to potential vibration effects from construction traffic should be made and scoped in for any of the following if they are situated on any final CTMP suggested route:-

- **any designated heritage asset**
- **any educational premises**
- **laboratories**
- **workshops or other premises where high precision tasks are performed.**

9. Socio-Economics, Tourism and Recreation

The Council agrees this matter should be 'scoped in' and appropriate assessments included as part of the ES. Paragraph 461 attempts to summarise the likely environmental effects of the development. It includes the phrase:

"Creation of long-term employment opportunities once the Development is operational including, consideration of any existing employment uses on-site (principally related to agricultural land use);"

It is hoped the meaning of the second part of this sentence means that this includes a quantifying of the long term lost employment opportunities in agricultural and leisure businesses and their related supply chains, due to the change of land use. If it does not **the Council would wish this to be scoped in.**

It would then follow that methodology in Table 10.3 should be amended in the *people in employment or seeking employment* section with the method used now to include the word 'net'. **The Council believe that the ES should also include an assessment of the economic impact the loss of arable farmland and crop production would have during the operation of the development and a comparison of this to the economic benefits/gains identified. This should be an individual assessment and also a cumulative one, encompassing all other proposed schemes within or in proximity to the order limits.**

To fully satisfy these requirements, it will of course necessitate an assessment covering the operational phase and not just construction and decommissioning. Great care should be taken when making these assessments if they are to include shepherds and others associated with caring for sheep. It is noted that this project is yet another PV farm proposal which suggests possible dual use – PV panels and sheep grazing. It is noted however that DEFRA's latest figures (*"Livestock populations in England at 1st June 2023"*) shows yet another reduction in the number of sheep nationally. During the last six years, the number of sheep nationally has declined in all but one year (2022). **The Council believe that the sheep argument for dual use here should be backed with scoped in evidence of significant local demand for extra grazing land.**

The Council feel that the Inspectorate must satisfy themselves that this can be secured as part of any proposal to ensure this proposed mitigation measure to off-set or compensate for the loss of arable land is realistic.

Paragraph 462. Is unclear on this-

Both direct and indirect effects will be assessed for both the construction and operation phases of the Development. The operation phase will consider tourism only.

So for clarity's sake, the Council would wish scoped in assessments of effects for construction, operation and decommissioning including effects on tourism for all three phases.

10. Land Use

The Council agrees this matter should be 'scoped in' and appropriate assessments included as part of the ES. **The Council considers that the land in question is of significant agricultural value, within Grades 2 and 3a.**

The development will require the removal of a significant amount of topsoil to facilitate the construction of access roads and tracks and the then likely replacement with sand and aggregate. It is accepted (though not clear) that this might be addressed by paragraph 507 -

"It will consider the method and activities of the construction phase and the impacts and effects that this would have on soil qualities."

As this development will be temporary and the stated intention is to return the land back as much as is possible to its original state, **the Council believe that details should be scoped in of how and where the removed topsoil is to be stored and the long term effect of such storage on its quality.** It is accepted that full details could be included in any site waste management plan.

11. Waste

Paragraph 621 states:

“The production of waste during the operational phase of the Development will be minimal and is proposed to be entirely scoped out of the EIA.”

Given that the site will have to include large areas of grassland (for the sheep), the operational phase will require a grass management strategy for the 40 years of operation. It would seem essential that mowing will be required.

Biogas largely consists of methane (CH₄), produced during the natural decomposition of organic material in an airtight environment. Ordinary lawn clippings yield one of the highest volumes of biogas per ton. Methane is a potent greenhouse gas—about 28 times more powerful than carbon dioxide at warming the Earth, on a 100-year timescale, and more than 80 times more powerful over 20 years.

If the cuttings from this site grass mowing during spring and summer were not transported off site but left to rot in piles, this would lead to anaerobic digestion, producing methane. Aerobic digestion, as happens when plant matter is incorporated into soil, leads to carbon capture. Without a submitted waste management plan as part of the ES covering this point, it is impossible to evaluate the costs and benefits of the planned grassland.

Therefore, the Council believe that the management of 'waste' grass cuttings on-site during the operational phase should be scoped in.

12. Ecology, Ornithology and Biodiversity

There are three areas that have not been considered by the applicant in this section, relative to South Muskham & Little Carlton. These are Smeatons Lakes, the South Muskham Fishery (A1 pits) and the lakes owned by Nottingham Piscatorial Society on Great North Road. **The Council considers these areas contribute significantly to ecology, ornithology and biodiversity in the locality, providing vital wildlife corridors, and should be scoped in.**

12. Other Assessments.

The Council agree with the Applicant and believe the following should also be scoped in for assessment:

Cultural Heritage and Archaeology
Human Health
Climate Change

The Council submits the above for consideration.

South Muskham & Little Carlton Parish Council
6th December 2023