Great North Road Solar and Biodiversity Park

Statement of Common Ground with Norwell Solar Steering Group

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The Infrastructure Planning (Examination Procedure) Rules 2010

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Revision History

Revision	Revision Date	Authorised By	Position	Comment
Issue 1	2/12/25	ES	Head of Planning	1st draft for NSFSG review

1 INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

1.1.1 This Statement of Common Ground (SoCG) has been prepared to support an application (the Application) for a Development Consent Order (DCO) from the Secretary of State (SoS) for Energy Security and Net Zero under Section 37 of the Planning Act 2008 (PA 2008) for the proposed Great North Road Solar and Biodiversity Park Development (the Development). The Application has been submitted by Elements Green Trent Limited (the Applicant).

1.1.2 This SoCG has been produced to confirm to the Examining Authority (ExA) where agreement has been reached between the Parties, and where agreement has not (yet) been reached, in relation to the assessment of the effect of the Development on climate change.

1.1.3 SoCGs are an established means in the planning process of allowing all Parties to identify and focus on specific issues that may need to be addressed during the examination. This SoCG will be revised and updated as discussions between the Parties progress during the Examination.

1.2 PARTIES TO THIS STATEMENT OF COMMON GROUND

1.2.1 This SoCG has been prepared by (1) Elements Green Trent Limited as the Applicant and (2) Norwell Solar Farm Steering Group (collectively, 'the Parties').

1.3 TERMINOLOGY

1.3.1 In the table in the Issues section of this SoCG:

- "Agreed" (Green) indicates where the issue has been resolved;
- "Under discussion" (Amber) indicates where a matter is the subject of ongoing discussion; and
- "Not Agreed" (Red) indicates a final position.

1.3.2 Where Norwell Solar Farm Steering Group expresses agreement, it does so only in so far as it has considered the issue and on the basis of the information provided by the Applicant. Agreement is offered without prejudice to the submissions of other interested Parties who may have greater knowledge of technical or site-specific issues.

1.4 RECORD OF RELEVANT CORRESPONDENCE

1.4.1 The Applicant has undertaken consultation and engagement with Norwell Solar Farm Steering Group at and following the statutory pre-application consultation process. This process afforded Norwell Solar Farm Steering Group the opportunity to provide responses to the information provided at the statutory consultation stage of the pre-application process.

1.4.2 Table 1-1 identifies the key meetings and consultation that has taken place between the Parties to date.

Table 1-1 Record of Correspondence

Date	**Type (meeting, etc.)**	**Topic**
09/12/2024	E-mail correspondence	Number of homes calculation by the Applicant
31/01/2025	Public consultation event, Carlton-on-Trent	Climate change assessment and the basis for the calculations of embodied carbon emissions and avoided carbon emissions savings

1.4.3 It is agreed that this is an accurate record of the key meetings and consultation undertaken between the Parties in relation to the issues addressed in this SoCG.

2 CURRENT POSITION OF THE APPLICANT AND NORWELL SOLAR FARM STEERING GROUP

2.1 PARAMETERS FOR ASSESSMENT

Table 2-2 Development Parameters for Assessment

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
2.1.1	Post-hearing submission	The export capacity of the grid connection	Is 800 MW (AC)	Agreed	Agreed
2.1.2	Post-hearing submission	The overplanting ratio (i.e., the sum of solar PV capacity (DC) divided by the grid export capacity)	Is 1.4	Agreed	Agreed
2.1.3	Post-hearing submission	The sum of capacity of the solar PV modules	Is 1,120 MWp (800 MW x 1.4)	Agreed if theoretical is added as in column 3.	Under discussion
2.1.4	Post-hearing submission	Inclusion of BESS in proposals	The BESS is included in proposals, assumed in ES Chapter 15 to be 440 MW, 2-hour	Disagreement about whether it should be included, but acknowledgement that currently it is proposed	Under discussion

2.2 ILLUSTRATIVE ELECTRICITY GENERATION

Table 2-3 Illustrative Electricity Generation

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
2.2.1	Post-hearing submission	The principle of quoting a number of homes is illustrative of the generation capacity of the Development	The principle of quoting a number of homes is illustrative of the generation capacity of the Development as opposed to suggesting where the electricity will be used.	Agreed	Agreed
2.2.2	Post-hearing submission	Calculation of the number of homes equivalent of electricity that would be generated by the Development	The Applicant has stated that the figure is approximately 400,000 homes. The calculation of the energy production of the Development is not yet agreed between the parties.	The Group's position is that it is 272,720 homes.	Under discussion
2.2.3	Post-hearing submission	The average annual figure to be used for domestic electricity use in the calculation	2.7 MWh/y AC, this being the figure previously published by Ofgem.	Agreed	Agreed

2.3 GREENHOUSE GAS ANALYSIS

Table 2-4 Greenhouse Gas Analysis

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
2.3.1	Post-hearing submission	Use of the carbon intensity to be used as the baseline comparator for export of solar PV-generated electricity	It is agreed that the use of the grid carbon intensity at the 2024 figure (as shown in Tables A15.1.20 and A15.1.4) should not be used to inform the conclusions of the assessment for solar PV as it is not worst-case, and that the long-run marginal carbon intensity for generation (as shown in Tables A15.1.19 and A15.1.5) should be used to inform the assessment for solar PV. This is different to most previous solar DCO applications (e.g., Stonestreet, Tillbridge, Byers Gill, Gate Burton), which have used the CCGT carbon intensity as the baseline comparator, so the approach taken in	The Group does not agree that the carbon intensity used in Table A15.1.21 should be used. This is the pegged 0.365 figure. It agrees that table A15.1.20 should not be used.	Under discussion

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
			the Development ES is a major departure from previous assessments. This was raised in the Secretary of State's decision letter on Gate Burton Solar Park (Planning Inspectorate project reference EN010131).		
2.3.2	Post-hearing submission	Method for apportioning electricity export between the solar and the BESS	The BESS is assumed to charge from 15% capacity to 100% capacity once each day, and then export that electricity to get back to 15%. That electrical energy is assumed to come out of the total generated by the solar PV modules. The remaining electrical energy generated by the solar PV modules is assumed to be discharged directly to the grid. This is a conservative approach; any import from the grid to the batteries would lead to additional carbon savings,	The Group do not agree that the BESS will only be charged once during any 24 hour period. It may be charged once a day from the panels but our position is that it will also charge overnight from the grid. It agrees that there may initially be an emissions savings from using overnight grid charged battery energy at morning peak but given the national BESS pipeline and the number of BESS ahead of GNR in the queue, there will quickly be less need for gas peaker generation. This is very difficult to calculate as the 2030 action plan for some reason sets targets in GW as opposed to GWh.	Under discussion

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
			because of the greater carbon intensity of the grid at times of peak demand compared to non-peak demand.		
2.3.3	Post-hearing submission	Uncertainty in the future baseline	The carbon intensity of electricity generation in the absence of the Development (that would be avoided by the operation of the Development), particularly from the batteries, is the largest element of uncertainty in the assessment of savings in greenhouse gas emissions.	Agreed.	Agreed
2.3.4	Post-hearing submission	The baseline carbon emissions from electricity supplying future peak electricity demand periods	In the absence of any predictions of future grid peak-time carbon intensity, Chapter 15 and TA A15.1 use displaced CCGT as the emission saving arising from export from the BESS, as this is what happens currently.	This reflects the current position. The second paragraph explains why the Group do not agree in 2.3.1 above.	Under discussion

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
			Previous Secretary of State decisions for solar projects do not comment on peak-time carbon intensity. NSFSG argue that this leads to unrealistically high carbon intensity over the 40 year operational period, and propose two alternative scenarios for decreasing carbon intensity at peak times over that period.		
2.3.5	Post-hearing submission	Calculations of the savings of emissions of greenhouse gases as set out in ES TA A15.1 (APP-285), Table A15.1.19	The following are the major items not yet agreed: • Calculation of the energy production of the Development (as per 2.2.2) • Operational life of key components of the Development: solar PV modules, batteries, and transformers	This reflects the current position, The Group would also add thermal sand after concrete but in general these are the major items.	Under discussion

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
			• Use of concrete/foundation material and its carbon footprint		
2.3.6	Post-hearing submission	Calculations of the embodied emissions of greenhouse gases as set out in ES TA A15.1 (APP-285) – solar PV	The carbon emissions associated with the production and transportation of the solar PV modules is based on a peer-reviewed journal publication, which included in its calculations the embodied emissions from the mounting structures and inverters. The ES assessment included calculations of the embodied emissions of the mounting structures and inverters in addition to the solar PV modules, because of variability in types of mounting structure and inverter, and hence uncertainty in whether the values in the peer reviewed journal would be appropriate for the	The Group do not agree that our reworked PV transportation figures (which were mathematically wrong in TA15) are a substantial over estimate. Given the illustrative design for inverters and the ES citing a Sungrow string inverter, the Group's calculations for inverters is a more representative emissions figure. However, the Group are examining whether its calculations for inverters and transformers should now be revised to include the 6.05m long central inverters as per the Applicant's illustrative design. There needs to be further discussion about the embodied carbon for the mounting structures. Having checked with other sources on embodied carbon for the panels, the Group would not accept there has been a substantial over-estimate though	Under discussion

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
			Development. The calculated embodied emissions from the mounting structures and inverters was c. 583 kteCO2e (more than 15% of the total embodied emissions). The estimate of emissions associated with the production and transportation of the solar PV modules is therefore likely to be a substantial over-estimate, but in the absence of more specific (and yet worst-case) data, has been used in the assessment.	the panel production emissions factor of 701kgCO_2/kWp chosen by the Applicant is slightly higher than the research recently examined by the Group. A review of the EPDs for 9 (mainly Chinese) major panel manufacturers over 5 recent years would suggest that 670kgCO_2/kWp is a more up to date figure. This would represent a 4% reduction in emissions which is not substantial. The Group would agree however that there has to be some degree of uncertainty. As for transportation for panels, the Group's calculations for container transportation under-report emissions as data has now been obtained which revises the number of containers required.	
2.3.7	Post-hearing submission	Calculations of the embodied emissions of greenhouse gases as set out in ES TA A15.1 (APP-285) – component replacement	Carbon emissions associated with the production and transportation of replacement components, expected to be more than 15 years after the start of the Development's operational phase, will be	The Group would accept that if global decarbonisation does actually take place then that will affect some production emissions. The major production emissions are in the supply chains abroad and China, from where the major transportation emissions also stem. Unlike UK decarbonisation	Under discussion

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
			substantially less than the emissions associated with the components used in the construction phase, due to global decarbonisation. The extent of this is not well predicted in literature, and hence the assessment in the ES assumes emissions for replacement (which represents c. 800 kteCO2e, i.e., c. 25% of the total embodied emissions) would be the same (per component) as at construction, which will be a substantial over-estimate of emissions, but in the absence of more specific (and yet worst-case) data, has been used in the assessment.	reduced emissions modelling by the DESNZ, there is far less certainty about how this will move globally or in the foreign supply chains. There is significant doubt about the anticipated progress in decarbonisation in developing countries which source many of the raw materials required for this project. The Group agree that in the absence of any reliable data, embodied carbon figures used might be a worse case but it is impossible to tell. This course of action would be 'Rochdale compliant'.	
2.3.8	Post-hearing submission	Calculations of the embodied emissions of greenhouse gases as set out in ES TA A15.1 (APP-285) – other parameters	The assessment of emissions from other parameters (i.e., excluding those listed in 2.3.5, above) is agreed to within	Further discussions required.	Under discussion

Ref	Relevant Documents	Description of Matter	Applicant's Position	Norwell Solar Farm Steering Group's Position	Status
			c. 10% (or less) of the total carbon emission of the Development. I.e., to within c. 300,000 teCO2e.		

3 SIGNATURES

3.1.1 The above SoCG is agreed between the Applicant and Norwell Solar Farm Steering Group, as specified below.

Duly authorised for and on behalf of **Elements Green Trent Limited**	Name Job Title Date Signature
Duly authorised for and on behalf of **Norwell Solar Farm Steering Group**	Name Job Title Date Signature