Norwell Solar Farm Steering Group

Application by Elements Green Trent Limited for an Order Granting Development Consent for the Great North Road Solar and Biodiversity Park (GNR Project)– project ref. EN010162

Unique Number – [redacted]

(Our ref NSG/6)

Deadline 2: Number of households that can be powered.

1 Introduction and Background.

1.1 In the Group's first submission (our reference NSG/1), it was calculated that the annual AC MWh that could be produced from an 800MW AC generating station was 736,344MWh, without any degradation to the solar panels. The Group will later revise this figure now that the Applicant has very recently changed the panel choise from 650Wp monofacial panels to bifacial 740Wp panels. The Applicant and this Group utilised an historic typical annual domestic electricity consumption figure of 2.7MWh to arrive at differing totals for how many households could be powered. This figure was not the average UK domestic consumption figure. The Group can now revise our calculations based on more recently released data. This document does contain hyperlinks but only to gov.uk sites, as per the Inspectorate's guidance on submissions.

1.2 According to the Applicant on page 54 of their *"Written Summary of Oral Submissions from Issue Specific Hearing 1 and Responses to Action Points* ", the 2.7MWh figure was sourced from ofgem published figures (found here and accessed 12/12/2025). It is the middle figure of three broad levels of domestic electricity consumption. It gives the impression of being the latest data. However, these figures were drawn from ofgem's May 2023 publication *"Decision on revised Typical Domestic Consumption Values for gas and electricity and Economy 7 consumption split"* (found here and accessed 12/12/2025). This decision letter addresses changes in the Typical Domestic Consumption Values (TDCVs). It also explains:-

> *"1.1 ...The TDCVs are used to derive the typical bills quoted in the publication of price cap and Energy Price Guarantee (EPG) updates. The TDCVs are also used by suppliers and price*

comparison websites in the absence of individual consumers' data."

1.3 The Decision letter does fairly include questions posed about their adopted methodology. The purpose of the TDCV is not to show average domestic consumption. A TDCV made it easier for suppliers and price comparison sites to estimate annual fuel costs given the size of a particular house.

2 Recalculation two years later on.

2.1 Earlier this year (2025), the Department for Energy Security and Net Zero (DESNZ) published its "*Review of the average annual domestic gas and electricity consumption levels"* which can be found here (accessed 10/10/25). The methodology used in this publication is more data based. In its simplest terms, it provides the actual national aggregate annual consumption of a fuel, divided by the number of metered dwellings. In this way, one is provided with the actual average consumption for dwellings-the average house.

2.2 This document updated the mean domestic consumption figures for gas and electricity as below:

> *"...therefore from the March 2025 QEP, bills tables were presented for the first time using the revised fixed mean consumption levels of:*
>
> - ***11,200kWh*** *for Gas*
> - ***3,400kWh*** *for Standard Electricity*
> - ***4,800kWh*** *for Economy 7 Electricity"*

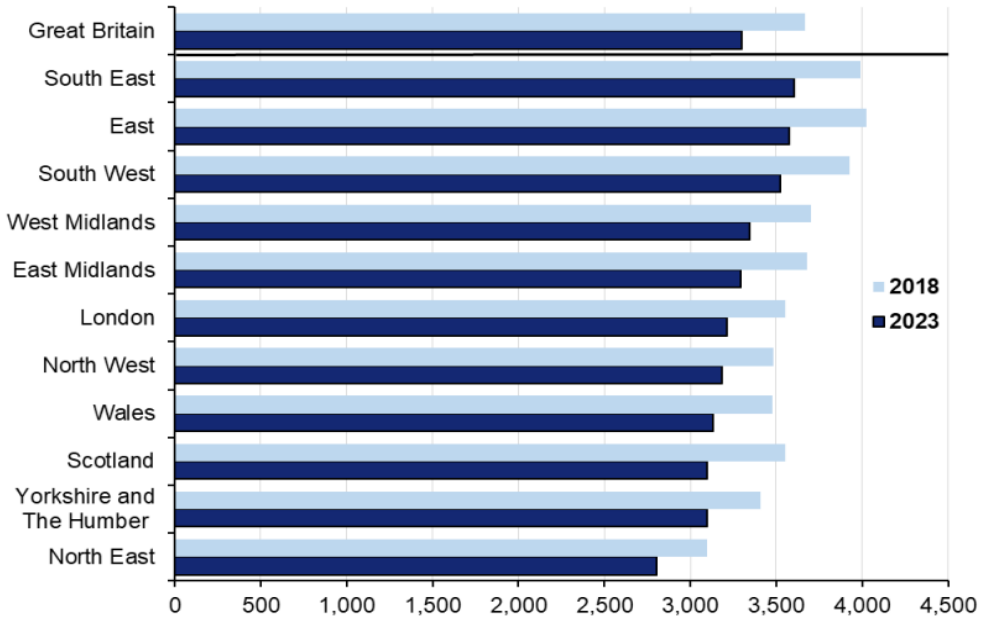
2.3 The data in the document shows the number of households using standard electricity as just over 25 million and 3.3 million for Economy 7. For the purposes of this report, Economy 7 households are disregarded, given the generation profile of solar farms and the much lower number of customers using Economy 7. Table 3a from that document is copied below:

Table 3a - Calculating the standard consumption level for Standard Electricity data

Year	Consumption (GWh) ECUK Derived	Customer numbers (000s) ECUK Derived	Average (Mean) consumption level (kWh) Calculated	Rounded consumption level (kWh) Calculated
2013	89,136	22,187	4,017	4,000
2014	88,416	22,369	3,953	4,000
2015	87,140	22,813	3,820	3,800
2016	87,161	23,025	3,785	3,800
2017	85,797	23,308	3,681	3,700
2018	84,904	23,764	3,573	3,600
2019	83,732	24,140	3,469	3,500
2020	88,744	24,317	3,649	3,600
2021	91,829	24,647	3,726	3,700
2022	81,927	24,845	3,297	3,300
2023	78,460	25,008	3,137	3,100
Three year average			3,387	**3,400**

2.4 The above figures were predictable by February 2024 when DESNZ published figures in its "*Subnational Electricity and Gas Consumption Statistics Regional and Local Authority, Great Britain, 2023"* (found here and accessed 12/12/25). Below is Chart 5 from that document:

Chart 5: Mean domestic electricity consumption (kWh per meter) by country/region, Great Britain, 2018 and 2023



2.5 The use of the DESNZ numbers is not new or revolutionary. It is common in solar applications in calculating the number of homes that could be powered. The number of homes figures serve as a rough guide so that comparisons can be made between different projects. Examples of other NSIP projects including this information are below:

- Mallard Pass Solar Farm EN010127, in the Applicant's submission REP8-021 (page 15), stated the average annual houshold consumption to be 3.76MWh.
- Byers Gill Solar EN010139 used 3.509MWh for the average home (as detailed on page 11 of REP2-010)
- Heckington Fen Solar Park EN010123 in APP-203 (page 1) used 3.709MWh
- The Helios Renewable Energy Project EN010140 used 3.717MWh for the average home consumption as detailed on page 2 of APP-162

2.6 In light of these updated figures and the common choice by developers to use the DESNZ numbers, the Group would wish to revise their estimate of the number of homes that could be powered by this project. In its best year, the 736,344MWh AC annual production would be capable on average of powering **216,571 households.** This may be revised slightly upwards dependant on future recalculations arising from bi facial panel deployment.

2.7 The Applicant has always maintained that in its best year, the arrays would produce 1,112,147MWh arrived at by using the combined MWp

panel ratings. To arrive at 400,000 homes, this annual figure was divided by the out of date 2.7MWh figure. The Group have always challenged the relevance of this MWp STC total for real world calculation. However, if the MWp is used, then given the Applicant's own figures, the number of homes on average that could be powered would be 327,102.

3 Conclusion

The adoption of more up to date data sheds new light on the supposed public benefit of the development with the number of households on average that could be powered approaching half of what the Applicant states. It is strongly argued that more accuracy and a fairer comparison are achieved by using average domestic consumption as opposed to the TDCV middle range.

12th December 2025