

7000 Acres

7000 Acres Response to the Gate Burton Energy Park Ltd Application on the subject of:

Human Health and Wellbeing

Deadline 2 Submission – 8 August 2023

Executive Summary:**Human Health and wellbeing**

Health and wellbeing has been described more in terms of construction and decommissioning, with very little substance as to the sixty-year gap, that being the operators cycle where potentially the biggest impact will be to the health and wellbeing of the people that live and work in Gainsborough and its surroundings. The definition of health and wellbeing is important to understand within the context of this written representation.

Legislation and Policy:

Much of the guidance is around urban development and not much is in place to guide the issues faced in rural development around health and wellbeing. The Development Consent order (DCO) refers to WHIASU (Welsh Health Impact Assessment Support Unit). Their Quality Assurance Framework document outlines the importance of understanding clearly that the DCO should outline a clear understanding around physical and mental (holistic), and includes the social(wider) determinants of health. It includes a reference to identifying the people and vulnerable groups. We feel this DCO document lacks substantial clarity around this.

Deprivation

This DCO document fails to recognise Gainsborough town as the four LSOAs (Local Authorities and Lower Super Output Areas) within West Lindsey District which is in the top 10% most deprived LSOAs in England. Gate Burton Energy Park borders on this town and is inextricably linked to it, and therefore this document is failing in its duty to understand how the scheme will directly impact on human health and wellbeing as part of its surroundings. This has the potential to widen health inequalities. This was highlighted in the Director of Public Health report 2022 as an urban industrial centre with high levels of economic inactivity and low social mobility. Two papers written for the energy sector state that these solar energy farms are more likely to be passed in areas of deprivation and where communities of lower social capital exist.

Qualitative data

The only qualitative data provided was outdated ONS (Office of National Statistics) data from 2011. We argue that the only way to obtain this data is through a widened qualitative feedback survey following a well-informed process. This would highlight whether or not there are issues around the impact of health and wellbeing on how this scheme makes us feel emotionally, physically and mentally. Much of this is subjective and needs exploring.

Physical, mental and social

Rural communities on the whole tend to be healthier than urban. However, rural areas tend to have much older people with a higher life expectancy. There is natural outward migration of younger people from rural communities, and with schemes like this making it less attractive for young people live and settle in, because of field industrialisation, areas could be left with older people with no workforce attraction to prop up health and social care within these communities. This would compromise the vulnerable and has the effect of increasing loneliness and isolation.

There is a failure in this document to use well established Quality and Outcomes Framework (QOF) data to understand health in this area. For example, there is a higher modelled prevalence of

respiratory disease in Gainsborough, in an area that has poor air quality as compared to the rest of Lincolnshire. In many of the other disease profiles (e.g., stroke, coronary heart disease and cancer), these are higher than the National and Lincolnshire prevalence. The higher the deprivation, the greater the multimorbidity.

Mental health and the environment are linked in health outcomes and wellbeing. Many people gain benefit for their mental health by living in the countryside. Depression in our communities is increasing and particularly in rural farming where this has been well recognised. The impact of these schemes has the potential to worsen mental health because they take away the very fabric of what rural life is about.

Rural vs Urban

There is a real concern, that as cities and towns heat up with climate change “heat islands”, that the rural environment should be preserved to provide areas for the people from urban areas to come out into rural areas to cool down. By developing forests and woodlands, this would enable rural shade, carbon sinks as well as providing nature-based therapy. People in urban areas seek out the natural environment to connect with nature as a means to helping them cope with life.

Noise and light pollution

Rural communities on the whole have little exposure to traffic noise. In rural communities, there is very little light pollution. This scheme has the potential to increase noise generated from transformers, inverters and battery cooling fans. Perimeter fence lights have the potential to increase light pollution. This is an issue to those residents who border the scheme. Both noise and light pollution could potentiate sleep deprivation, worsening mental health, and eventually poor physical health.

Full Written representation: Human Health and Wellbeing Gate Burton Energy Park

For the purpose of this written representation, this paper will only focus on where the Gate Burton Energy Park (Solar Park) Scheme is situated, namely Gainsborough and its surrounding areas. This written representation will focus on the above Environmental Statements as referenced in the Gate Burton Energy Park Development Consent Order (DCO) submitted.

To understand the impact this scheme will have on health and wellbeing, it is important to understand the definition of health and wellbeing.

The World Health Organisation (WHO) describes the definition of health in their constitution as “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.”

From a paper, Health and Quality of Life Outcomes by Ruggeri et al. (2020) 18:192, wellbeing has been defined as “the combination of feeling good and functioning well; the experience of positive emotions such as happiness and contentment, as well as the development of one's potential, having some control over one's life, having a sense of purpose, and experiencing positive relationships”

The definitions define the context in which the environmental impact chapter on Human Health and Wellbeing should be written. Instead, the authors of this document concentrate mainly on the commissioning and decommissioning, with very little written around the operators gap of sixty years and how this will impact on our local communities.

A. Environmental Statement Volume 3: Appendix 14-A: Health and Wellbeing Legislation and Policy

This appendix describes the legislation, policy and supporting guidance relevant to Human Health and Wellbeing set out in Chapter 14 of the Environmental Statement Volume 1, as relevant to the application.

In this appendix, reference is made to **the National Policy statement for Overarching Energy (EN-1) (2011)**, which sets out the proposed project and its impact on human health, especially identifying adverse health impacts. The referenced **draft NPS-EN-1 (2021)** mentions the importance of identifying the indirect impacts affecting health and wellbeing, as well as promoting local improvements to encourage health and wellbeing. This includes potential impacts on vulnerable groups of people. This document has led the applicant to identify the major risks to health as being, noise, vibration, increased traffic (air pollution), and exposure to dust, as the major impact to the communities affected both in the construction and decommissioning phase. We will not touch on the effects of EMF (separate written representation).

The **National Policy Framework (NPPF) (2021)** is referenced. This applies more to urban than rural areas. Our rural communities are already safe and we benefit from a healthy environment that does not need further promotion of healthy, inclusive safe places within this planning policy. The construction threatens the very existence of our communities.

The referenced **Planning Practice Guidance (2019)**, offers guidance on planning and covers the role of health and the links between health and wellbeing as part of the process. It suggests planners should consult with the Director of Public Health to ascertain likely impacts. It is obvious this has not

been carried out as the documents submitted would have referenced some of the major health issues faced by Gainsborough and its surrounding areas (local population) and the impacts this and the cumulative effect of all the schemes combined. Again, much of this guidance references urban area planning, and not rural, and therefore the applicant should request input from Public Health (through a Health Impact Assessment), and the local NHS (Lincolnshire Integrated Care Board) who serve Lincolnshire, and really understand the issues we face in this County in areas such as Gainsborough and its surroundings. This will be elaborated on further in this written representation. In fact, para 1.2.8 statement in the applicants submitted DCO prompts planners to work with public health. If in para 1.2.9, the applicant references, and we quote “health, safe communities and positive planning on healthier communities and how the design to blend in the built and natural environments, including green infrastructure, are major determinants in health and wellbeing” as a key point, then precisely, that is why people choose to live in rural communities to enjoy what the natural environment offers. Industrialising our fields with solar panels, destroying our visual impacts, changing our ecosystems for years will have long term consequences on health and wellbeing which will be elaborated on later within the written representation. Again, this Planning Policy is written around urban planning.

The other referenced documents relating to health, the **Long-Term Plan (LTP) (2019) (NHS)** for Lincolnshire, and the **PHE: Spatial planning for Health: An evidence resource for planning and designing healthier space (2017)** were referred to. There is an assumption that by referring to these documents that health and wellbeing issues have been covered. Much of the PHE document refers to urban areas, and not rural, on how to assess impact. Some of the statements 1.2.16 around “*natural and sustainable environments*” have been taken out of context in favour of the climate change agenda on environments, when in fact this refers to environments and how they affect health and wellbeing particularly around mental health. The **Long-Term Plan (2019)** now superseded by the **NHS Lincolnshire Joint Forward Plan (2023 -2028)**, and which incorporates the **Health and Wellbeing Strategy for Lincolnshire**, outlines the ambitions for the people of Lincolnshire to have the best possible start in life, and be supported to live, age and die well. These documents recognise that some of Lincolnshire has some of the most affluent and some of the most deprived areas. This development borders on one of the most deprived towns in Lincolnshire, namely Gainsborough. Further reference to this will be made later in the written representation. Our environment plays a huge role in living well, and many older people retire to rural from urban areas to get the benefit of aging well.

**B: Environmental Statement: Volume 1, Chapter 14 Human Health and Wellbeing Document
Reference: EN010131/APP/3.1**

This document recognises its failure around data (as referenced in 14.4.1) to assess the significant effects on Human Health and Wellbeing. There has been no attempt to engage with Lincolnshire Public Health and NHS Lincolnshire to understand the possible Health and Wellbeing impacts this scheme will have on the surrounding areas and Gainsborough its nearest town. There might be health issues in the construction and decommissioning phase as identified by the applicant, however the applicant fails to recognise the significant impact it will have to the communities over the sixty-year period (operators).

The study area identified within the document, aimed to look at the direct and indirect impacts in five wards, two within Nottinghamshire and three within Lincolnshire. For the purpose of our written representation, the assessment impact in Nottinghamshire (spared of land use for panels) will not be

discussed, however, we will focus on the Lincolnshire impact (100% panel land use). The study area has excluded the town of Gainsborough where 2 neighbouring wards (Gainsborough SW and Gainsborough East) have some of the worst deprivation in the County. They are next door to Lea ward. It does not contextualise the cumulative impact this scheme will have with the other proposed NSIP's schemes planned. This will need to be taken into consideration, as health and socio economics are inherently linked. The study only concentrates on local health in proximity to the scheme, which makes this assessment poor as they do not consider the impact this will have on the town of Gainsborough. In fact, there is no reference to Gainsborough town within their documents which is worrying. The applicant referenced in 14.7.29, that four of the LSOA's (Local Authorities and Lower Super Output Areas) are within the top 10% most deprived LSOA's in England. A LSOA is a geographic area where the populations are between a 1000 and 3000. The Director of Public Health report 2022 "The Diverse Communities of Greater Lincolnshire" designated Gainsborough as one of the three urban industrial centres in Lincolnshire. Urban areas tend to have strong pockets of employment as opposed to the urban industrial centres where there are higher levels of economic inactivity and low social mobility. These areas tend to have a younger than average age profile, with over 60% of the population aged under 50 years and almost a quarter under 19 years of age. The article states that within these urban industrialised centres "*inequalities in health life expectancy are stark*". Given this, we are surprised that Gainsborough town is not highlighted in the applicants DCO submitted.

Ward	Population	IMD (Index of multiple deprivation)
Gainsborough SW	5213	40.2%
Gainsborough East	7357	51.2%
Trent PCN	39923	24.7%
Lincolnshire	800000	15.5%

By population breakdown, Trent Care Primary Care Network (this is the Primary Care Network that covers the study area), has 37.5% in the most deprived quintile compared to only 15.5% in Lincolnshire overall. In this quintile, this is the second highest in Lincolnshire. The expected population growth in Trent Care PCN is 3.1% by 2025, and 6.6% by 2035. In the older population 65+, there is a predicted increase of 45.7%, and the over 85+ by 117%.

We believe this scheme (including the others) has been strategically placed in this area which has significant deprivation. We argue that areas of deprivation are targeted for these developments because of an easier acceptance. Two papers written for the energy sector "*identify that solar farms are 15% more likely to be approved in more socially and economically deprived areas*" and that "*demographic variables such as social deprivation can also influence the extent to which residents take action on renewable energy projects proposed in their local area; communities with higher social capital are more likely to engage in official planning processes due to their higher capacity, agency and access to networks*". Is this bias towards areas of deprivation being selected because of the ease of approving them and because of less wealth in the area to object against the projects. We believe this is the case and needs further explanation. Not referencing Gainsborough town is deliberately misleading.

Under the impact assessment methodology, there is reference to various best practice principles. These assessments tend to have a methodology for assessing urban areas and town planning, and not good methodologies to plan larger scale projects in rural areas. This document refers to the Wales Health Impact Assessment Support Unit (WHIASU), which they used to identify which health determinates are relevant. The only qualitative data they referenced is outdated ONS data from 2011 (Self-Assessment of Health, Self-Assessment of Long-Term Health or Disability). In fact, there is no satisfactory qualitative assessment within this document e.g., how it makes us feel emotionally, physically, and mentally. We would suggest such feedback, but this would require an informative approach to ensure well-balanced feedback. We would expect this survey to capture the human needs of freedom, understanding, equity and fairness, security and of course mental and physical health. It should include the determinants of wellbeing, that of personal value, our emotions and intelligence, social support, community involvement, friends and family, social relationships, and liveable environments. In that way we gather information on what we are about. This should have been the qualitative data assessed by the applicant to evaluate our opinions around this scheme and the others planned. Wellbeing is subjective and about quality of life.

Referring to the document, the Wales Health Impact Assessment Support Unit (WHIASU) which they used to identify their health determinants, the WHIASU Quality Assurance Review Framework specifically refers to framing around a definition of health and wellbeing that is holistic (physical and mental) and should include the social (wider) determinants of health. This DCO applicants Health and Wellbeing document has very little reference to any of this.

It is a known fact that people in rural communities tend to be healthier than urban, and that people in rural areas tend to be older. They have a higher life expectancy and a lower number of potential years of life lost (PYLL) from cancers, coronary heart disease and stroke. However, these will present when people reach a very much older age. This can be attributed to the quality-of-life people in rural communities live by, where social cohesion, rural networks, lifestyle factors and the environment, all create a healthy way of life. However, young adults tend to migrate out of the countryside for further education to the larger cities and towns, whereas older adults (some with children) tend to move in. Therefore, communities tend to have above average middle-aged and older people. There is a concern that if our environment is altered (industrialised farms with solar panels), both this scheme and the cumulative impact of others stretching from Saxilby to above Gainsborough, will have the effect to possibly drive more younger people out (outward migration) leaving a more vulnerable older population. This would increase the risk of social isolation and loneliness due to networks breaking down. The consequences of this would be on social care, which is mainly supported by a younger population. A recent Defra article "Delivering for rural England – the second report on rural proofing" (April 2022), states clearly there are concerns for health and social care needs in rural areas, because of the disparity of an increased older population in rural areas compared to urban. It also recognises that it is becoming more difficult to recruit healthcare professionals to work in rural areas. Who will look after the older population, the unpaid carer? We already have 11.1% unpaid carers in this area (2017). Our healthcare system is already overstretched and this will place further demands on workforce recruitment.

When we look at physical health, it is important to obtain local Quality Outcome Framework (QOF) data to understand the impacts that this and the other schemes might pose to health outcomes and wellbeing e.g. QOF data from NHS digital shows that there is a higher modelled prevalence of Chronic Obstructive Airways disease (chest disease) in the Gainsborough area. This would highlight disease prevalence e.g., cardiovascular, respiratory, musculoskeletal conditions, diabetes, chronic kidney disease, cancer incidence, obesity as well as mental health. Data from this area in many cases

shows significant increase to the England average e.g., Stroke, Cardiovascular disease and COPD. ONS data from 2011 showed in the Gainsborough and surrounding areas 20.7% of people with a limiting long-term illness or disability. In this area, there is a higher premature mortality rate than the Lincolnshire rate, +/- 973 deaths per 100000 patients which is the third highest in Lincolnshire and higher than the Lincolnshire average. The higher the deprivation, equates to an increase in multimorbidity.

In the 25-year environment plan, it states clearly that *“the natural environment, resident or visitor, improves our mental health and feelings of wellbeing by reducing stress, fatigue, anxiety and depression”*. It even includes an ambition to explore the potential offered by environmental therapies and the benefits of nature. The WHO recognises that depression is one of the leading causes of illness and disability among adolescents and adults. They also state that mental health illness will become a major issue globally over the next 20-30 years. The Lincolnshire Joint Strategic Needs Assessment, has shown that there will be a predicted increase in depression in the 65+. Depressive disorders are the second top cause of years lived with disability for adults in Lincolnshire. The ONS (via NOMIS) showed the mortality rate (per 100,000 population) due to mental health conditions (2017) in Lincolnshire to be above the national average. Our depression rates in Lincolnshire are above average at 10%, this compares to 9% nationally. As part of the 2017 Joint Strategic Needs Assessment (JNSA) listening event held in Gainsborough town, mental health in adults was identified as one of the top 5 priorities. Changing our environment has the potential to further increase depression rates, because, those who live in the countryside, many out of choice, do so, to gain benefit to their mental health. The link between green space and health outcomes has been well researched and validated. From the PHE paper Improving Access to green space: A new review for 2020, exposure to green space has huge benefit to physical and mental health, which in turn improves health outcomes with reduced mortality, stroke, coronary heart disease as well as reducing stress and decline in cognitive function (dementia). There is huge benefit in reduction of depression, anxiety, and fatigue in greener environments, however the paper points out the beneficial effects are greatest for socioeconomically disadvantaged groups in improving mental wellbeing. Something we should think about for Gainsborough town and its use of rural surroundings to provide this.

Furthermore, it is well recognised that there is poor mental health in farming communities. In the UK there is a high suicidal rate amongst farmers, and the impact of this and these developments needs to be fully recognised as a possible impact on the farmers in the area that farm to make a living and are let down by those who have opted to place solar panels on their fields. There is a disadvantage inequality in wealth.

To counter balance this, there is growing evidence of the social benefits of forestry and woodlands. This is particularly important as an environment for improving health and wellbeing. By creating forests and woodlands on the peripheries of towns and cities, creating shaded areas could help to manage the intense “heat islands” in urban areas where people could go out and cool down if extreme heat due to climate change occurs. Also, trees are natural, and serve the purpose of “carbon sinks”. Local forests around Lincoln have served as therapeutic places to help improve mental health patients’ (e.g., Hill Holt Woods which provides a nature based therapeutic service). From the Defra article “Delivering for rural England – the second report on rural proofing” (April 2022), it was interesting to note under wellbeing in rural areas, that the Government is investing in £ 5,8 million through a Green Social Prescribing Programme introduced to prevent and tackle mental health issues, through engagement in nature-based activities. The largest solar farm in the world is Bhadla Solar Park in India (14000 acres). This has been strategically placed in a desert with no human inhabitants around it. The cumulative size of all four proposed schemes from Saxilby to above

Gainsborough, makes it one of the biggest in the world. We question why such a large scheme be placed around our communities without Public Health involvement from the start?

Rural communities overall have very little exposure to noise. A separate written representation on this topic has been submitted. There is also very little light pollution. A recent session from the House of Lords described both artificial sources of light and noise as neglected pollutants. If both excessive or unwanted, they will have impacts on human health and wellbeing. It is presumed that light pollution has the potential to disrupt sleep. This has been neglected within the applicants DCO, because this is not a reported requirement within the Environmental Impact Assessment. Our rural community has minimal light pollution, so perimeter lights around the scheme could potentially have a health and wellbeing impact, similar to noise.

References:

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4. **Green and Blue Spaces and Mental Health New Evidence and Perspectives for Action WHO Global Office for Europe (2021)**
5. **H M Government A Green Future: Our 25 Year Plan to Improve the Environment (Chapter 3) (2018)**
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10. **Delivering for rural England – the second report on rural proofing Department for environment, food and rural affairs April 2022**

- 11. The diverse communities of Lincolnshire Director of Public Health report 2022**
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- 15. Health Impact Assessment in spatial planning A guide for local authority public health and planning teams PHE October 2020**
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- 17. PHE: Improving access to greenspace A new review for 2020**
- 18. The neglected pollutants: the effects of artificial light and noise on human health House of Lords Science and Technology Committee 2nd report of Session 2022-2023**