



# Appendix 2.2 Net Gain Assessment

Longhedge Solar Farm

30/11/2022



**Disclaimer**

*Neo Environmental Limited shall have no liability for any loss, damage, injury, claim, expense, cost or other consequence arising as a result of use or reliance upon any information contained in or omitted from this document.*

**Copyright © 2022**

*The material presented in this report is confidential. This report has been prepared for the exclusive use of Renewable Energy Systems (RES) Ltd. The report shall not be distributed or made available to any other company or person without the knowledge and written consent of Renewable Energy Systems (RES) Ltd or Neo Environmental Ltd.*

Neo Environmental Ltd	
<p><b>Head Office - Glasgow:</b>            Wright Business Centre,            1 Lonmay Road,            Glasgow.            G33 4EL            T 0141 773 6262            E: <a href="mailto:info@neo-environmental.co.uk">info@neo-environmental.co.uk</a></p>	
<p><b>Warrington Office:</b>            Cinnamon House,            Crab Lane,            Warrington,            WA2 0XP.            T: 01925 661 716            E: <a href="mailto:info@neo-environmental.co.uk">info@neo-environmental.co.uk</a></p>	<p><b>Rugby Office:</b>            Valiant Suites,            Lumonics House, Valley Drive,            Swift Valley, Rugby,            Warwickshire, CV21 1TQ.            T: 01788 297012            E: <a href="mailto:info@neo-environmental.co.uk">info@neo-environmental.co.uk</a></p>
<p><b>Ireland Office:</b>            Johnstown Business Centre,            Johnstown House,            Naas,            Co. Kildare.            T: 00 353 (0)45 844250            E: <a href="mailto:info@neo-environmental.ie">info@neo-environmental.ie</a></p>	<p><b>Northern Ireland Office:</b>            83-85 Bridge Street,            Ballymena,            Northern Ireland,            BT43 5EN.            T: 0282 565 04 13            E: <a href="mailto:info@neo-environmental.co.uk">info@neo-environmental.co.uk</a></p>

**Prepared For:**

Renewable Energy Systems (RES) Ltd




**Prepared By:**

Louis Maloney BSc (Hons) MSc

Thomas Hill MEnv (Hons)



	Name	Date
Edited By:	Louis Maloney	30/11/2022
Checked By:	Thomas Hill	30/11/2022
	Name	Signature
Approved By	Paul Neary	

## Contents

Introduction .....	5
Legislation, Planning Policy and Guidance.....	6
Methodology.....	9
Net Gain Assessment.....	10

## INTRODUCTION

### Background

- 2.1. Neo Environmental Ltd has been appointed by Renewable Energy Systems (RES) Ltd (the “Applicant”) to complete a Net Gain Assessment for a proposed 49.9MW solar farm with associated infrastructure (the “Proposed Development”) on lands between Hawksworth and Thoroton, circa 15.5km east of Nottingham, Nottinghamshire (the “Application Site”).

### Development Description

- 2.2. The Proposed Development will consist of the construction of a 49.9MW solar farm. It will involve the construction of bi-facial ground mounted solar photovoltaic (PV) panels, new access tracks, underground cabling, perimeter fencing with CCTV cameras and access gates, 2x temporary construction compounds, substation and all ancillary grid infrastructure and associated works.
- 2.3. The Proposed Development will result in the production of clean energy from a renewable energy resource (daylight) and will also involve additional landscaping including hedgerow planting and improved biodiversity management.

### Site Description

- 2.4. The Application Site is located in a semi-rural setting on lands between the settlements of Hawksworth (0.1km west) and Thoroton (0.2km southeast), circa 15.5km east of Nottingham, Nottinghamshire. (See **Figure 1** of **Volume 2: Planning Application Drawings** for further detail).
- 2.5. Centred at approximate Grid Reference E476129, N343467, the Proposed Development Site comprises nine fields covering a total area of c. 94.24hectares (ha), although only 37.7ha of this area is required to accommodate the solar arrays themselves, with the remaining area being used for ancillary infrastructure and mitigation and enhancement measures. The Proposed Development Site covers low lying lightly undulating agricultural land with an elevation range of c. 20m to 25m AOD. Internal field boundaries comprise, hedgerows, tree lines and several linear strips of woodland shelter belt. External boundaries largely consist of mature to lower hedgerows with individual trees and some evident gaps. In terms of existing infrastructure; electricity pylons extend north-south through fields 5, 6 & 8, whilst electricity lines pass northwest to southwest through fields 4, 5, 6 & 9.
- 2.6. The Application Site will be accessed via the creation of a new entrance off the linear public highway Thoroton Road. The vegetation is set back from the road verge by a few metres and therefore visibility will not be an issue. Appropriate visibility splays are included within the CTMP.

- 2.7. The haul route will be from the A46 to the southwest of the Application Site. The vehicles will exit the A46, signposted A6097 (Mansfield), take the 4th exit at the roundabout onto Bridgford Street followed by the 1st exit at the next roundabout onto Fosse Way. Vehicles will travel along this road for approximately 1.5km to the next roundabout, where they will take the 2nd exit onto Tenman Lane. This road will be travelled on in an eastern direction for approximately 3.2km before taking a left hand turn onto Hawksworth Road and vehicles will travel along here for approximately 2km before taking a right hand turn onto Thoroton Road. Vehicles will travel in a southeast direction for approximately 0.9km before turning left into the Application Site.
- 2.8. There is one recreational route located within the Proposed Development Site (Bridleway 1 & 6 that pass through the northern fields), and several located close by (**See Figure 3 of Vol 2: Planning Drawings**). National Cycle Network (NCN) route 64 shares the minor road on the east side of the Proposed Development Site.
- 2.9. The Proposed Development Site is mostly contained within Flood Zone 1 (at little or no risk of fluvial or tidal / coastal flooding), however there are some areas of Flood Zone 2 and 3a which follow the watercourse/drains within the site and have been carefully considered during the design phase.

## Statement of Authority

- 2.10. The assessment has been conducted by qualified ecologists. Louis Maloney was the main senior ecologist involved in the production of report. Additionally, senior ecologist (Thomas Hill), also provided specialist input. This Ecological Assessment has been carried out in line with the relevant up to date professional guidance: CIEEM's Guidelines for Ecological Impact Assessment.<sup>1</sup> and Ecological Report Writing<sup>2</sup>.
- 2.11. Louis Maloney has four and a half years of professional ecological experience. This includes terrestrial habitat and marine ecology surveys, and the management of Environmental Impact Assessment ("EIA") and Natura Impact Statement ("NIS") reports in Ireland. He holds a BSc in Marine Science from the National University of Ireland, and an MSc in Conservation Behaviour – Marine and Terrestrial Science. Louis is in the process of applying for an Associate level membership with CIEEM.
- 2.12. Thomas Hill, who performed part of the survey work, and assisted with the reporting for this Proposed Development, has four years of experience as an ecologist in a mixture of field and office-based work. Thomas has experience in many surveys and assessments including phase 1 and UK habitat surveys, bat, badger, otter and water vole alongside other protected species surveys. He has worked on projects of varying scales, from simple residential extension developments up to national scale transport infrastructure projects. Thomas is currently working towards CIEEM membership.

---

<sup>1</sup> CIEEM (2019) Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. Version 1.1.

<sup>2</sup> CIEEM (2017) Guidelines for Ecological Report Writing

## LEGISLATION, PLANNING POLICY AND GUIDANCE

### National Legislation

#### Environment Act 2021

- 2.13. This Act creates a requirement for developments in England to achieve a minimum 10% **net gain for biodiversity**. The Bill is expected to lead to secondary legislation specifying e.g. how this should be implemented at the local authority level.

### Planning Policy

#### National Planning Policy Framework (2021)

- 2.14. The National Planning Policy Framework (NPPF)<sup>3</sup> sets out the government planning policies for England and how they should be applied. With regards to ecology and biodiversity, Chapter 15 “Conserving and Enhancing the Natural Environment”, paragraph 174, states that planning policies should:

- Minimise impacts on, and provide **net gains** in, biodiversity.
- Recognise the wider benefits of natural capital and ecosystem services.

- 2.15. Under these aims, paragraph 175 stresses the need to plan for natural capital at a catchment or landscape scale, across local authority boundaries. Paragraph 180 sets out the principles that local planning authorities should apply when determining planning applications. These include refusing planning permission if significant harm cannot be avoided, adequately mitigated or compensated, and requiring design to incorporate biodiversity improvement opportunities in and around developments (especially where this can secure **measurable net gains** for biodiversity).

#### Rushcliffe Local Plan

- 2.16. The *Rushcliffe Local Plan Part 1: Core Strategy*<sup>4</sup> was adopted in December 2014 and is the current Local Plan for the borough in which the Application Site falls. In support of the Core Strategy, development management policies with additional details are set out in the *Local*

---

<sup>3</sup> Department for Housing, Communities and Local Government (2021). National Planning Policy Framework

<sup>4</sup> [9 Local Plan Part 1 Rushcliffe Core Strategy.pdf](#)

*Plan Part 2: Land and Planning Policies*<sup>5</sup>, adopted in October 2019. The relevant policies set out within the Plan include the following ecological provisions:

- Core Strategy Policy 16: Green Infrastructure, Landscape, Parks and Open Spaces
- Core Strategy Policy 17: Biodiversity
- Local Plan Part 2 Policy 16: Renewable Energy
- Local Plan Part 2 Policy 21: Green Belt
- Local Plan Part 2 Policy 34: Green Infrastructure and Open Space Assets
- Local Plan Part 2 Policy 36: Designated Nature Conservation Sites
- Local Plan Part 2 Policy 37: Trees and Woodlands
- Local Plan Part 2 Policy 38: Non-Designated Biodiversity Assets and the Wider Ecological Network.

---

<sup>5</sup> [Rushcliffe LP Part 2 Adoption version.pdf](#)



## METHODOLOGY

- 2.17. Net gain assessment is currently carried out using DEFRA's Biodiversity Metric 3.0<sup>6</sup>. According to Natural England (the DEFRA agency responsible for creating the biodiversity metric assessment methodology):

The Biodiversity Metric 3.0 provides a way of measuring and accounting for biodiversity losses and gains resulting from development or land management change. Biodiversity Metric 3.0 updates and replaces the original Defra biodiversity metric. Biodiversity Metric 3.0 has been developed with input from a wide range of environmental NGOs, developers, land managers, Government agencies and other interested parties.

*The metric comes with a free calculation tool designed to simplify and speed-up the whole calculation process.*

*The Biodiversity Metric 3.0 encompasses both area (e.g. grasslands) and linear (such as rivers and streams) habitats.*

- 2.18. This report uses the methodology and calculation tool referenced above. Broadly speaking, the metric assessment involves calculating scores for 'biodiversity units' (indicators of site's biodiversity value) pre- and post-development. Each score is based on the area (or, for linear habitats, the length) of different habitats present or proposed, their ecological distinctiveness, connectivity, condition, how long they take to create, and how likely it is that any proposed habitat creation will succeed.

## Limitations

- 2.19. An Extended Phase 1 habitat survey of the Application Site was undertaken on 24<sup>th</sup> April 2021 by Kevin Johnson BSc Pgd PGCE MCIEEM. After this survey, an amendment to the Proposed Development boundary was made in late April 2022 and the ecological assessment was reassigned to a new project manager. The additional areas within the new Proposed Development boundary were surveyed using the UK Habitats Classification system during January of 2022.. The additional area was surveyed using the UK Habitats Classification system during January of 2022. For consistency, and to allow the completion of the net gain assessment the results from the initial survey were translated from Extended Phase 1 to the UK Habitats Classification system. Any conversions which were not deemed accurate were double checked for accuracy during the July 2022 UK Habitats survey.

---

<sup>6</sup> Available at <http://publications.naturalengland.org.uk/publication/5850908674228224>

## NET GAIN ASSESSMENT

- 2.20. Biodiversity unit calculations for the habitats within the Application Site pre-construction are given in the accompanying **Biodiversity Metric Calculations** document.
- 2.21. Further details of the proposed habitat creation and enhancement can be found in **Appendix 2.2: Biodiversity Management Plan** and **Figure 1.12 of Volume 3, Technical Appendix 1: Landscape and Visual Appraisal**.
- 2.22. This highlights a **187.13% gain** in area habitat units. Such a gain well exceeds the 10% requirement of the Environment Act. This should be considered an excellent level of compensation for the loss of mostly arable and improved agricultural grassland habitat.
- 2.23. Further to the **187.13% gain** in area habitat units, a **24.68%** gain in hedgerow units is predicted. This is again well in excess of 10%, showing that the Proposed Development is expected to lead to **significant biodiversity net gain**.