

Project No: P305757.001

## Environmental Impact Assessment Scoping Report

Prepared for:

### Bretton Hall Solar Farm

Chester Road  
Bretton  
Flintshire, U.K.  
CH4 0DF

#### Contents Amendment Record

This report has been issued and amended as follows:

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## Acknowledgement

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This report has been prepared for the sole and exclusive use of Ynni Newydd Cyf (Ynni Newydd) in accordance with the scope of work presented in Mabbett & Associates Ltd (Mabbett) Additional Services Letter (M305757.001/LA/SB/sb), dated 17 June 2020. This report is based on information and data collected by Mabbett. Should any of the information be incorrect, incomplete or subject to change, Mabbett may wish to revise the report accordingly.

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## Section 1.0: Introduction

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### 1.1 Introduction

YnNi Newydd (hereinafter referred to as “the Applicant”) intends to apply to the Welsh Planning Inspectorate (PINS) and Cheshire West & Chester Council (CWAC) for the construction and operation of a proposed 30MW solar farm development with associated infrastructure on land at Bretton Hall Farm, Chester Road, Flintshire, CH4 0DF (hereinafter referred to as the “proposed development”). The application site crosses the national boundary; with the northern area lying within the administrative boundary of Flintshire County Council (FCC) and the southern area within the administrative boundary of CWAC.

Mabbett & Associates (Mabbett), on behalf of the Applicant, requests an Environmental Impact Assessment (EIA) Scoping Direction from the Welsh Ministers pursuant to regulation 33(1) of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (hereinafter referred to as the “Welsh EIA Regulations”). In addition, the Applicant also requests an EIA Scoping Opinion from CWAC, pursuant to Regulation 15(1) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (hereinafter referred to as the “English EIA Regulations”), to agree the scope and level of detail to be contained within the Environmental Statement (ES).

### 1.2 The Applicant

The proposed development comprises a community energy project being developed by YnNi Newydd (New Energy), a society with the mission of developing and building community-owned renewable energy developments across Wales. The aim of the proposed development is to generate a source of clean, renewable energy to mitigate climate change and to provide benefits to the local community.

### 1.3 Environmental Impact Assessment

The proposed development falls within Schedule 2, Type 3(a) of both the English and Welsh EIA Regulations for “*industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1)*” with an application site exceeding 0.5-hectares in size.

The Applicant requested an EIA Screening Direction from PINS and an EIA Screening Opinion from CWAC in April 2020 to determine whether the proposed development constitutes EIA development.

PINS issued their EIA Screening Direction in June 2020 (reference: 3251545) which states:

*“The application site is located within a C1 Flood Zone, close to the Scheduled Ancient Monument at Bretton Hall Moated Site and is in close proximity to the River Dee and Bala Lake SAC and the River Dee SSSI; however, the type of development proposed is such that significant effects in relation to those designations are unlikely. Nonetheless, the location of the site, close to the A55 and a number of settlements, the scale of development and the design of the proposed solar panels are such that despite the potential for some level of mitigation, significant visual effects are likely to result from the scheme. For that reason, I conclude that EIA is required in this instance.”*

CWAC issued their EIA Screening Opinion in June 2020 (reference: 20/01492/SCR) which states:

*“Having viewed the criteria, having taken into account all relevant and available evidence, facts and matters pertinent to this development and having considered the provisions of the above Regulations and government guidance, it is proposed that this proposed development is EIA development within the provisions of the above Regulations and accordingly does merit the preparation of an Environmental Statement.”*

Copies of the EIA Screening Direction from PINS and the EIA Screening Opinion from CWAC are contained within Appendix A and Appendix B respectively.

## 1.4 EIA Team

The EIA Team comprises topic specialists, who are recognised as experts in their field. The EIA Team who have contributed towards the completion of this EIA Scoping Report has been identified in Table 1.1 below.

*Table 1.1: EIA Team*

| Topic                                            | Team                 |
|--------------------------------------------------|----------------------|
| EIA Scoping Report production & EIA coordination | Mabbett              |
| Landscape & Visual Impact Assessment             | Mabbett              |
| Cultural Heritage & Archaeology                  | Heritage Archaeology |
| Biodiversity                                     | Mabbett              |
| Transportation & Access                          | Systra               |
| Noise                                            | KSG Acoustics        |
| Hydrology                                        | Hydrogeo             |

## 1.5 EIA Scoping Report

This EIA Scoping Report has been prepared with cognisance of the following:

- Preliminary environmental information available for the application site and surrounding area;
- Comments received from consultees during the EIA Screening process;
- Screening Direction obtained from PINS (Appendix A), and
- EIA Screening Opinion obtained from CWAC (Appendix B).

This EIA Scoping Report is supported by the following Figures and Appendices:

- Figure 1.1: Location Plan;
- Figure 1.2: Aerial Context Plan;
- Figure 4.1: Layout Plan;
- Figure 7.1: Heritage Assets;
- Figure 8.2.1: Ecological Designations;
- Appendix A: PINS EIA Screening Direction;
- Appendix B: Cheshire West & Chester Council EIA Screening Opinion;
- Appendix C: Scoping Questions;
- Appendix D: Glossary of Terms;
- Appendix E: Landscape & Visual Impact Assessment Figures; and
- Appendix F: Ecology Survey Report.

## Section 2.0: EIA Process & Methodology

---

### 2.1 Introduction

EIA is the process of systematically identifying and assessing all the likely significant effects of a proposed development upon the environment, both beneficial and adverse. The EIA process allows for significant effects to be understood and allows for the identification of mitigation or enhancement measures to minimise or avoid likely significant effects.

Part 4 of the EIA Regulations define the EIA process as consisting of:

- Preparation of an Environmental Statement (ES);
- Any consultation, publication and notification required by, or by virtue of, these Regulations or any other enactment in respect of EIA development; and
- The steps required under regulation 26 of the English EIA Regulations or regulation 25 of the Welsh EIA Regulations.

Although EIA itself is not a decision-making tool, it allows the determining authority to make an informed decision on an application for planning consent with the knowledge of likely significant effects.

As the application site crosses the national boundary between Wales and England, the EIA will be undertaken in accordance with both the Welsh EIA Regulations and the English EIA Regulations.

### 2.2 EIA Scoping

EIA Scoping is the process by which the key likely significant effects of the project are identified and, furthermore, methodologies identified for how these should be assessed. The EIA Scoping process allows for the following:

- Identification of key issues to be considered;
- Identification of those matters which can either be scoped out or which need not be addressed in detail; and
- Discussion and agreement of appropriate methods of impact assessment, including survey methodology where relevant.

The EIA Scoping Report is intended to facilitate discussion between the Applicant, officers of PINS and CWAC and their consultees to help ensure areas of significance are identified prior to the planning applications being submitted. This will be achieved by inviting PINS, CWAC and consultees to:

- Specify aspects of the environment and issues relating to these that should be considered and addressed in the EIA;
- Comment on the proposed approach to the EIA;
- Comment on and/or recommend where appropriate, assessment methodologies including study areas, or receptors to be assessed, and
- Identify other relevant bodies or organisations that may have an interest in the proposed development or be able to provide relevant information.

In accordance with Regulation 15(2) of the English Regulations, this EIA Scoping Report includes the following:

- *“a plan sufficient to identify the land;*
- *a brief description of the nature and purpose of the development, including its location and technical capacity;*
- *an explanation of the likely significant effects of the development on the environment; and*
- *such other information or representations as the person making the request may wish to provide or make.”*

In accordance with Regulation 33(2)(d) of the Welsh Regulations, this EIA Scoping Report also includes

*“a statement that the request is made in relation to a development of national significance for the purposes of section 62D of the 1990 Act.”*

### **2.3 Existing Baseline Conditions**

Part 3, Schedule 4 of the EIA Regulations requires the ES to include a *“description of the relevant aspects of the current state of the environment (baseline scenario)…”* The baseline scenario provides a description of the current status of the environment in and around the application site, relevant to each specialism.

The baseline conditions form the basis of the EIA process, as the Regulations require aspects of the environment which are likely to be significantly affected to be defined within the ES. Therefore, it is necessary to gather information on the current conditions, in the absence of the proposed development.

The collation of information pertinent to the baseline conditions of the application site and surrounding area has commenced, including through desk-based assessments and site surveys.

### **2.4 Assessment of Effects**

Part 5, Schedule 4 of the EIA Regulations requires the ES to include a description of the likely significant effects, including: *“the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.”*

It is important to identify terminology, as the terms impact and effect can often be interchanged in the EIA process.

A potential impact refers to a change in a particular aspect of the environment attributable to the application site, such as the water environment. The effect refers to the implication of any changes to the baseline conditions. The assessment of significance to these changes is based upon the magnitude of the impact and the sensitivity of the receptor. Therefore, impacts are measurements of change against an aspect of the environment and effects are how significant the change will be upon the sensitive receptor. Each technical specialism will follow specific guidance and methodologies for defining the magnitude of effects and the sensitivity of receptors.

Residual effects are those which remain following the implementation of any recommended mitigation measures. In certain circumstances, significant residual effects may be considered to be acceptable, if they are outweighed by the overriding benefits of the proposed development.

### **2.5 Mitigation Measures**

In general, the EIA process seeks to mitigate against significant adverse effects, in order to reduce the level of significance of the residual impact. Mitigation measures can be embedded into the design of a proposed development or as additional measures which need to be adhered to. The ES will contain a ‘Schedule of Mitigation’ in the concluding chapters, to identify mitigation measures which have been recommended throughout the EIA process.

### **2.6 Environmental Statement**

The ES will comprise studies on each of the aspects of the environment likely to be significantly impacted by the proposed development. The purpose of this EIA Scoping Report is to identify those aspects to be scoped into the EIA process, and those to be scoped out.

Following the EIA Screening process and collation of preliminary environmental information pertinent to the application site, it is considered that the proposed development may have the potential to give rise to significant effects in the following areas:

- Landscape and Visual Impact; and
- Cultural Heritage & Archaeology.

Therefore, these aspects have been scoped into the EIA. Section 8 of this EIA Scoping Report identifies aspects to be scoped out of the EIA process.

## 2.7 Cumulative Effects

Schedule 3 of EIA Regulations require that the characteristics of a proposed development must be considered in relation to the “*cumulation with other existing development and/or approved development.*”

Cumulative effects can arise as a result of a proposed development and interactions between existing development and/or approved development. A search was undertaken in September 2020 of the PINS DNS<sup>1</sup>, Flintshire County Council<sup>2</sup> and CWAC<sup>3</sup> application search facilities in order to identify other existing and/or approved solar farm developments within the vicinity of the application site. The existing and/or approved developments within 5km of the application site are detailed within Table 2.1 below.

Table 2.1: Existing and/or Approved Solar Farm Developments

| Development Name & Location                                                            | LPA Reference | Description                                                                                                                            | Distance   |
|----------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------|------------|
| Huntington Water Treatment Works, Chester road, Huntington, Chester, Cheshire, CH3 6EA | 17/05078/FUL  | Erection of solar photovoltaic panels and associated works with a generation capacity of 7.2MW.                                        | 4.2km east |
| Huntington Water Treatment Works, Chester road, Huntington, Chester, Cheshire, CH3 6EA | 15/03102/LDC  | Installation of a 4.997MW ground mounted solar photovoltaic (PV) array and associated infrastructure on four separate parcels of land. | 4.2km east |

Due to the separation distance between the proposed development and the solar farm developments identified within Table 2.1 above, significant cumulative effects are not anticipated. However, each technical specialism will consider potential cumulative effects within their required Zone of Influence, where necessary.

### 2.7.1.1 Questions

- Q2.1: Do you agree that a 5km study area for cumulative developments is acceptable for the proposed development?
- Q2.2: Are there any other cumulative developments you require to be considered?

## 2.8 Consultation

Consultation is an important part of the EIA process and will be reported within the ES and supporting documents. Statutory and non-statutory consultees provided comment at the EIA Screening Stage, a summary of responses has been set out within Table 2.2 below. In addition, a programme of pre-application consultation will be undertaken with the local community, including a public engagement event.

Table 2.2: Consultee comments received during EIA Screening

| Consultee   | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Addressed                                                                                                                                                                                                                             |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PINS</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                       |
| <b>PINS</b> | <i>PINS state:<br/>“The application site is located within a C1 Flood Zone, close to the Scheduled Ancient Monument at Bretton Hall Moated Site and is in close proximity to the River Dee and Bala Lake SAC and the River Dee SSSI; however, the type of development proposed is such that significant effects in relation to those designations are unlikely. Nonetheless, the location of the site, close to the A55 and a number of settlements, the scale of development and the design of the proposed solar panels are such that despite the potential</i> | Landscape and Visual Impact and Cultural Heritage and Archaeology have been scoped into the EIA, see Sections 6 and 7 of this EIA Scoping Report.<br><br>The potential impact upon designations has been scoped out, see Section 8.2: |

<sup>1</sup> PINS, DNA Applications. Available online: <https://dns.planninginspectorate.gov.uk/projects/>

<sup>2</sup> Flintshire County Council, planning application search. Available online: <https://www.flintshire.gov.uk/en/Resident/Planning/View-and-comment-on-planning-applications.aspx>

<sup>3</sup> Cheshire West and Chester Council, planning application search. Available online: <https://pa.cheshirewestandchester.gov.uk/online-applications/>

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | <i>for some level of mitigation, significant visual effects are likely to result from the scheme. For that reason, I conclude that EIA is required in this instance."</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Biodiversity of this EIA Scoping Report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Cadw</b> | <p>The following historic assets are potentially affected by the proposal:</p> <ul style="list-style-type: none"> <li>▪ <b>Listed Buildings:</b><br/>80779 Church of St Mary II*<br/>85415 Well House Farm II</li> <li>▪ <b>Scheduled Ancient Monuments:</b><br/>FL185 Bretton Hall Moated Site</li> </ul> <p>Views between listed building 80779 Church of St Mary II* and the proposed development will be blocked by existing buildings and therefore there will be no impact on the setting of this designated heritage asset. The proposed development will be probably be visible from listed building development 85415 Well House Farm but in these views it will be heavily screened by existing vegetation, consequently it is unlikely to have a significant impact on the setting of this designated heritage asset.</p> <p>The proposed development will be located some 132m from scheduled monument FL185 Bretton Hall Moated Site. The proposed development will have impact on the setting of the scheduled monument and this could be significant.</p>                                                                                                                                                                                                                                                                                                                                                                                                        | Cultural Heritage & Archaeology has been scoped into the EIA, see Section 7 of this EIA Scoping Report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>NRW</b>  | <p><b>Protected Sites</b><br/>Based on the information provided, NRW consider the proposal is unlikely to have significant effects on protected sites.</p> <p><b>Protected Species</b><br/>Based upon the information presented, NRW do not consider significant effects upon protected species to be likely. NRW highlighted the potential presence of great crested newt for consideration.</p> <p><b>Protected Landscapes</b><br/>The proposal is located approximately 15km (at its closest point) from the Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB). The AONB is on rising ground with views overlooking the lowlands around the lower Dee Valley and estuary. The proposal would potentially be visible from the AONB, however at such distances NRW do not consider the proposal would be likely to have significant effects on the AONB.</p> <p><b>Flood Risk</b><br/>The site lies almost entirely within Zone C1 as defined by the Development Advice Map (DAM) referred to under Technical Advice Note (TAN) 15 Development and Flood Risk (July 2004). Our Flood Map confirms the site to be located almost entirely within the 0.5% (1 in 200) and 0.1% (1 in 1,000) annual exceedance probability (AEP) event flood outlines. The site also lies in the historical flood outline.</p> <p><b>Geoscience</b><br/>The proposal is located within a Source Protection Zone (SPZ), however the principal aquifer is at depth and is</p> | <p>Biodiversity has been scoped out of the EIA, see Section 8.2 of this EIA Scoping Report.</p> <p>A great crested newt survey has been undertaken and the findings will be submitted as part of the applications.</p> <p>Landscape and Visual Impact has been scoped into the EIA, see Section 6 of this EIA Scoping Report. The LVIA will consider the potential impact upon the AONB.</p> <p>Hydrology has been scoped out of the EIA; however a Flood Consequence Assessment and Flood Risk Assessment will be undertaken to support the proposed development. Preliminary assessments have been utilised to inform the emerging design and layout of the proposed development.</p> <p>This has been scoped out of the EIA.</p> |

|                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                     |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                          | (normally) covered by a significant thickness of low permeability superficial deposits, till and tidal flat deposits (Secondary aquifer). Based on the information provided, NRW consider the proposal would be unlikely to have significant environmental effects with respect to the SPZ.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                     |
| <b>CWAC</b>                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                     |
| <b>CWAC</b>                              | CWAC have identifies likely significant effects in relation to visual effects and changes to the character of the application site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Landscape and Visual Impact has been scoped into the EIA, see Section 6 of this EIA Scoping Report.                                                                                                                                                                                 |
| <b>Historic England (HE)</b>             | HE would expect the EIA to examine the potential impact upon all designated heritage assets and their settings, together with potential impacts on all non-designated features of historic or architectural interest (including buildings, historic features, below-ground archaeology, historic open spaces and the wider historic landscape).                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cultural Heritage & Archaeology has been scoped into the EIA, see Section 7 of this EIA Scoping Report.                                                                                                                                                                             |
| <b>Lead Local Flood Authority (LLFA)</b> | <p>The proposed development is largely situated within Flood Zone 3 with Balderton Brook and a number of ordinary watercourses and drainage systems within the development area. Where development is proposed within Flood Zone 3 mitigation measures should be provided in accordance with National Planning Policy Framework (NPPF) and Environment Agency standing advice. No ground raising should be provided within the proposed development site.</p> <p>The proposed development is generally within an area at low to medium risk of surface water flooding, but the site layout needs to ensure any overland flow routes are retained.</p> <p>A Flood Risk Assessment and a Drainage Strategy in accordance with NPPF should be provided to support a planning application.</p> | Hydrology has been scoped out of the EIA; however a Flood Consequence Assessment and Flood Risk Assessment will be undertaken to support the proposed development. Preliminary assessments have been utilised to inform the emerging design and layout of the proposed development. |
| <b>Natural England (NE)</b>              | NE highlight that the proposed development is not located within or partly within any Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA) or Ramsar Site and is not likely to significantly affect the notified interest features of such sites. The proposal is not located within or partly within a National Park, Area of Outstanding Natural Beauty or Heritage Coast and is unlikely to impact upon the purposes for which these areas are designated or defined.                                                                                                                                                                                                                                                          | Biodiversity has been scoped out of the EIA and any landscape designations will be considered within the LVIA chapter of the ES, see Section 6 below.                                                                                                                               |
| <b>Airbus</b>                            | Airbus have recommended that conditions are applied to any consent to require a Glint and Glare Assessment and Bird Hazard Management Plan to be produced prior to the development commencing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | A Glint and Glare Assessment will be undertaken as a standalone report to be submitted in support of the applications to CWAC and PINS. A Bird Hazard Management Plan will be produced if the applications were successful.                                                         |

## **Section 3.0: Application Site & Surrounding Area**

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### **3.1 Introduction**

The proposed development comprises two application sites which lie adjacent to one another, including the northern area which lies within FCC and the southern area which lies within CWAC.

### **3.2 Application Site**

The application sites cover an area of approximately 49-hectares of relatively flat, low lying agricultural land with an elevation of between approximately 3-6m above ordnance datum (AOD). The land within the application site is divided into six medium-sized fields between four-hectares and 10-hectares, and two smaller fields of between two-hectares and four-hectares. The fields have been numbered on the proposed Layout Plan (Figure 3) as fields one to eight, with these field number references adopted throughout this EIA Scoping Report where necessary. The fields are bound by a combination of hedgerows, trees and drainage ditches, with a small area of woodland adjacent to the southern boundary.

The land within the application site boundaries is currently used for agricultural purposes with the main use comprising improved pasture for livestock grazing.

### **3.3 Surrounding Land Use**

The surrounding area is characterised by a combination of agricultural, residential and industrial uses, including the following:

- Agricultural land surrounding the application site.
- Residential areas within close proximity include:
  - Saltney Ferry: 0.3km north;
  - Saltney: 0.6km to the northeast;
  - Bretton: 1.1km west, and
  - Broughton: 2.0km west.
- Industrial units located on Broughton Mills Road 0.9km to the west-northwest and Airbus and Hawarden Airport located 1.7km to the west.
- Transport links including the North Wales Express Road (A55) approximately 0.1km to the south and Chester Road to the north.
- Recreational assets including a Public Right of Way (PROW) which follows the boundary of field seven and the Wales Coast Path located 0.3km to the north.

### **3.4 Site Selection**

The Applicant has considered alternative sites during the site selection process; however, the application site has been selected for the following reasons:

- Sufficient distance from potentially sensitive residential receptors.
- The application site is bound by hedgerows and trees, allowing for natural screening of the proposed development.
- The application site lies within close proximity of the local highway network, with access available from Chester Road to the north.
- Accessibility for connection to the local electricity distribution network with a viable point of connection.
- The proposed development allows for farm diversification, providing an additional revenue stream for the landowner.

## Section 4.0: Proposed Development

---

### 4.1 Introduction

The proposed development comprises the construction and operation of a circa 30MW solar farm development with associated infrastructure, including:

- Solar PV modules mounted on to frames to form arrays;
- Transformer units;
- Switchroom;
- Fencing and security measures;
- Access tracks;
- Battery storage;
- Onsite cabling, and
- Offsite cabling connecting the main switchroom to the Saltney Primary Substation (grid connection).

### 4.2 Design

It is envisaged that the generation capacity of the proposed development would be 30MW. The current design of the proposed development has considered the baseline environmental conditions onsite, including habitats, water features and flood risk. The layout of the proposed development may be amended prior to the submission of the planning application, to consider any constraints identified during the environmental assessment process, or feedback received during the community consultation process.

#### 4.2.1 Solar PV Arrays

The proposed development comprises the installation of solar photovoltaic (PV) modules, fixed to a mounting structure (frame) to form arrays across the application site. These frames are strong, robust and not easily damaged, allowing them to withstand environmental pressures. The metal racks would be pile driven into the ground, and therefore would not require concrete foundations. This construction method limits the footprint associated with the proposed development and allows for the remaining land beneath and between the arrays to remain accessible so it can continue to be utilised for livestock grazing purposes.

The PV modules would be mounted onto static frames which would be orientated to face the south. The arrays would have a clearance above ground level of up to 2.4m, with an upper height of no more than 4.0m above ground level. The lower and upper height of the arrays has been determined through the modelling of flood risk across the site, allowing for sufficient clearance during a flood event.

#### 4.2.2 Transformer Units

Transformer units are required to control the voltage of the electricity generated by the proposed development, prior to reaching the substation. The solar PV modules would be connected to inverter units to convert the direct current produced by the modules into alternating current, which is compatible with the local electricity distribution network.

#### 4.2.3 Switchroom

A switchroom is proposed to be constructed which would connect the high voltage (HV) cabling across the proposed development.

#### 4.2.4 Grid Connection

The proposed development would be connected to the local electricity distribution network at the Saltney Primary Substation, which is located to the north of the proposed development. Underground cabling would connect the main switchroom onsite to the substation via the public highway. The underground cable route would follow the Bretton Hall Farm access road, the A5104, Saltney Ferry Road and the local road providing access to the substation for a distance of approximately 1.7km.

#### **4.2.5 Fencing & Security Measures**

Fencing would be constructed around the proposed development for health and safety and security reasons. The fencing is anticipated to measure no more than 2.0m in height and would likely comprise green wire mesh; however, this will be confirmed prior to the submission of the planning application.

#### **4.3 Access**

The application site lies within close proximity to the local highway network. Access to the application site is currently possible from the A5104 (Chester Road) located to the north. An existing junction exits this road onto the Bretton Hall Farm access road, which runs along the length of the western site boundary, in a southerly direction. A new access point would be constructed from this road, providing access to the proposed development. From here, internal access tracks may be constructed to provide access to the solar arrays and associated infrastructure.

#### **4.4 Construction Phase**

The construction phase of the proposed development is anticipated to take place over a period of approximately six months. The type of construction activities that may be required include:

- Site preparation;
- Construction of the solar PV arrays and associated infrastructure;
- Solar farm commissioning;
- Site reinstatement, and
- Landscape planting and habitat enhancement measures.

A construction compound would be located in close proximity to the site access point to facilitate the construction of the proposed development. The compound would allow for the laydown of materials and vehicle parking throughout the duration of the construction phase.

#### **4.5 Operational Phase**

The proposed development would be operational for a period of up to 40 years. During the operational phase, the proposed development would be unmanned and monitored externally. Activity onsite during the operational phase would therefore be limited to vegetation and habitat management, equipment maintenance, servicing of components and any emergency servicing requirements.

Following the operational phase, the solar farm components would be removed from the application site and the land restored to grassland.

#### **4.6 Decommissioning Phase**

The operational phase of the proposed development is expected to take place over a period of 40 years. Following which, the proposed development would be decommissioned, and the components removed from the application site. The land would then be reinstated as close as practicable to its original condition. The following activities may be associated with the decommissioning of the proposed development:

- The components of the solar farm would be dismantled and removed from the site utilising the proposed access;
- As much material will be recycled or re-used where possible, and
- The land will be restored by infilling holes, backfilling cable trenches and landscaping/re-seeding.

Should the opportunity arise for re-powering of the proposed development, then a new consenting process would be required.

## Section 5.0: Planning Policy Context

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### 5.1 Introduction

The EIA will be undertaken in accordance with relevant legislation, policy, and guidance. This Section of the EIA Scoping Report identifies the National and Development Plan policies which are directly relevant to the proposed development, together with any other policy and/or guidance documents including emerging policy documents which may be material to the consideration of the proposed development.

Planning policies will be referred to within the Planning Policy Context chapter of the ES and the environmental assessment chapters, where relevant. The case for the proposed development will be made within separate Planning Statements.

### 5.2 Regulatory Context

The total generation capacity of the proposed development is 30MW. As noted in Section 1.1 above, the application site lies within the administrative boundaries of both FCC and CWAC, therefore spanning two Local Planning Authority boundaries, but also the national boundary between Wales and England.

The largest portion of the application site area lies within FCC, with a generation capacity of approximately 16MW. As this generation capacity exceeds 14MW, the element of the proposed development within the Welsh boundary constitutes a 'Development of National Significance' (DNS) as prescribed within the Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016.

The generation capacity of the proposed development within CWAC comprises approximately 14MW, with a site area in excess of 0.5-hectares, therefore constituting a 'major' planning application, as prescribed within the Town and Country Planning (Development Management Procedure) (England) Order 2015.

Although the proposed development crosses the national boundary, with two separate planning applications being required, it is proposed that the two planning applications will share a common EIA as this is the most effective way to deal with the proposed development.

### 5.3 National Policy Context

#### 5.3.1 Planning Policy Wales

Planning Policy Wales: Edition 10 (PPW)<sup>4</sup> was published by the Welsh Government on the 05 December 2018. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation.

Section 5.7.16 of PPW identifies the renewable energy generation targets set by the Welsh Government, including:

- *"for Wales to generate 70% of its electricity consumption from renewable energy by 2030;*
- *for one Gigawatt of renewable electricity capacity in Wales to be locally owned by 2030; and*
- *for new renewable energy projects to have at least an element of local ownership by 2020."*

Section 5.7.17 states that *"the planning system has an active role to help ensure the delivery of these targets, in terms of new renewable energy generating capacity..."*

Section 5.9.21 of PPW states that the Welsh Government are supportive of *"renewable and low carbon energy projects which are developed by communities, or benefit the host community or Wales as a whole. The social, environmental and economic (including job creation) benefits associated with any development should be fully factored into and given weight in the decision making process."*

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<sup>4</sup> Welsh Government (2018) Planning Policy Wales. Available online:  
<https://gov.wales/sites/default/files/publications/2018-12/planning-policy-wales-edition-10.pdf>

## 5.4 Technical Advice Notes

PPW is supplemented by a number of Technical Advice Notes (TANs). Those which are considered relevant to the proposed development and will be referred to throughout the assessment process include:

- TAN 5: Nature Conservation & Planning (2009);
- TAN 8: Planning for Renewable Energy (2005);
- TAN 12: Design (2016);
- TAN 15: Development and Flood Risk (2004); and
- TAN 24: The Historic Environment (2017).

### 5.4.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF)<sup>5</sup> was published in March 2012 and subsequently updated in February 2019. The NPPF sets out the Government's planning policies for England and how these are expected to be applied.

The NPPF introduces a presumption in favour of sustainable development at Paragraph 11. In relation to decision-taking, this means *"approving development proposals that accord with an up-to-date development plan without delay..."*

Paragraph 148 within Section 14 'Meeting the challenge of climate change, flooding and coastal change' of the NPPF states that *"the planning system should support the transition to a low carbon future in a changing climate... It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure."*

Paragraph 152 of the NPPF states that *"Local planning authorities should support community-led initiatives for renewable and low carbon energy, including developments outside areas identified in local plans or other strategic policies that are being taken forward through neighbourhood planning."*

### 5.4.2 Planning Practice Guidance

Planning Practice Guidance (PPG) applicable to the proposed development includes:

- Renewable and Low Carbon Energy (2015);
- Air Quality (2019);
- Noise (2019);
- Natural Environment (2019); and
- Historic Environment (2019).

## 5.5 The Climate Change Act (2008) (2050 Target Amendment) Order 2019

The Climate Change Act (2008) is the basis for the UK's approach to tackling and responding to climate change. This act legally committed the UK to reducing greenhouse gas emissions by at least 80% in 2050, when compared to the 1990 levels.

In May 2019, the Committee on Climate Change published their 'Net Zero Technical Report'<sup>6</sup>, setting out a new emissions target for the UK of net zero greenhouse gases by 2050. In response to this, the Climate Change Act 2008 (2050 Target Amendment) Order 2019 came in to force on 27 June 2019 and amended the previous legally binding target to reduce greenhouse gas emissions from 80% to 100%.

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<sup>5</sup> Ministry of Housing, Communities and Local Government (2019) National Planning Policy Framework. Available online:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/810197/NPPF\\_Feb\\_2019\\_revised.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf)

<sup>6</sup> Committee on Climate Change (2019) Net Zero Technical Report. Available online: <https://www.theccc.org.uk/publication/net-zero-technical-report/>

In order to track progress, the 2008 Act introduced a system of carbon budgets setting five-year caps on greenhouse gas emissions. The carbon budgets restrict the amount of greenhouse gas the UK can legally emit in a five-year period. The UK is currently in the third carbon budget period, which runs from 2018 – 2022. The Climate Change Committee states:

*“UK emissions were 44% below 1990 levels in 2018. The first carbon budget (2008 to 2012) was met, as was the second (2013 to 2017) and the UK is on track to outperform the third (2018 to 2022). However, it is not on track to meet the fourth (2023 to 2027). To meet future carbon budgets and the 100% target for 2050 it will require the government to apply more challenging measures.*

The Act also requires the UK Government:

- To assess regularly the risks to the UK of the current and predicted impact of climate change;
- To set out its climate change adaptation objectives; and
- To set out its proposals and policies for meeting these objectives.

## 5.6 Local Policy Context

Section 70(2) of the Town and Country Planning Act 1990 gave statutory force to a plan led system of development control. Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires planning decisions to be made in accordance with the Development Plan unless material considerations indicate otherwise. This Section of the EIA Scoping Report identifies relevant Development Plan policies that will be identified within the Planning Policy Chapter of the ES and assessed within an accompanying Planning Statement.

### 5.6.1 Flintshire Unitary Development Plan

The adopted Development Plan for FCC is the Flintshire Unitary Development Plan (FUDP). Although the adopted FUDP became time expired at the end of 2015, it remains the adopted Development Plan for the County. The aim of the FUDP is to provide a framework for making rationales and consistent decisions on planning applications and to guide development to appropriate locations. The FUDP is supplemented by a number of Supplementary Planning Guidance Notes.

Relevant policies within the FUDP are detailed in Table 5.1 below.

*Table 5.1: FUDP Policies*

| Policy | Title                                             |
|--------|---------------------------------------------------|
| GEN4   | Green Barrier                                     |
| EWP1   | Sustainable Energy Generation                     |
| EWP5   | Other Forms of Renewable Energy Generation        |
| STR1   | New Development                                   |
| STR2   | Transport and Communications                      |
| STR7   | Natural Environment                               |
| STR8   | Built Environment                                 |
| STR10  | Resources                                         |
| GEN1   | General Requirements for Development              |
| GEN5   | Environmental Assessment                          |
| D1     | Design Quality, Location and Layout               |
| D2     | Design                                            |
| D3     | Landscaping                                       |
| D5     | Crime Prevention                                  |
| L1     | Landscape Character                               |
| WB1    | Species Protection                                |
| WB2    | Sites of International Importance                 |
| WB3    | Statutory Sites of National Importance            |
| WB4    | Local Sites of Wildlife and Geological Importance |
| WB5    | Undesignated Wildlife Sites                       |
| WB6    | Enhancement of Nature Conservation Interests      |

|       |                                                                                 |
|-------|---------------------------------------------------------------------------------|
| HE2   | Development Affecting Listed Buildings and their Settings                       |
| HE6   | Scheduled Ancient Monuments and other Nationally Important Archaeological Sites |
| AC13  | Access and Traffic Impact                                                       |
| EWP13 | Nuisance                                                                        |
| EWP16 | Water Resources                                                                 |
| EWP17 | Flood Risk                                                                      |

FCC has published a Deposit Plan, which represents a full draft version of the LDP. This is an emergent document, and FCC will be consulting on the Deposit Plan from the 30<sup>th</sup> September 2019.

### 5.6.2 Cheshire West & Chester Local Plan

The adopted Development Plan for CWAC comprises the Cheshire West and Chester Local Plan (Part One) Strategic Policies (2015) and Cheshire West and Chester Local Plan (Part Two) Land Allocations and Detailed Policies (2019). Relevant policies within the Local Plan are detailed in Table 5.2 below.

*Table 5.2: Local Plan Policies*

| Policy Reference | Policy Title                                     |
|------------------|--------------------------------------------------|
| <b>Part 1</b>    |                                                  |
| STRAT 9          | Green Belt and countryside                       |
| STRAT 10         | Transport and Accessibility                      |
| ENV 1            | Flood risk and water management                  |
| ENV 2            | Landscape                                        |
| ENV 4            | Biodiversity and geodiversity                    |
| ENV 5            | Historic Environment                             |
| ENV 6            | High quality design and sustainable construction |
| ENV 7            | Alternative energy supplies                      |
| <b>Part 2</b>    |                                                  |
| DM 11            | Safeguarded areas around aerodromes              |
| DM 44            | Protecting and enhancing the natural environment |
| DM 52            | Solar energy                                     |

## Section 6.0: Landscape & Visual Impact Assessment

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### 6.1 Introduction

Chartered Landscape Architects at Mabbett present the following information to determine a proportionate extent of assessment for the Landscape and Visual Impact Assessment (LVIA). The EIA Screening Direction received from PINS and the EIA Screening Opinion received from CWAC, as well as consultee responses have been taken into consideration.

This Section focusses solely on landscape and visual amenity matters and aims to avoid duplication of previously issued material where possible.

Mabbett intend to assess only those landscape and visual receptors considered as having the potential to experience potentially significant adverse effects. The following pages contain a detailed breakdown of receptors proposed for inclusion/ exclusion within the LVIA. The list is based on findings from an initial site visit and of a review of the initial Zone of Theoretical Visibility (ZTV) maps prepared to illustrate potential areas of visibility of the proposed development (see Figures 01-06 contained within Appendix E: Landscape & Visual Impact Assessment Figures).

### 6.2 Guidance & Reference Material

Reference will be made to the CWAC Local Plan and the FUDP, with regional landscape designations identified within the above documents considered unless otherwise advised.

Landscape Character Types (LCTs) identified within the following source material will be considered again unless otherwise advised:

- Landscape Strategy for Cheshire West and Chester Borough<sup>7</sup>;
- A Landscape Strategy for Flintshire<sup>8</sup>; and
- LANDMAP.

A summary of planning policy and guidance relevant to landscape and visual amenity will be included as an appendix to the LVIA.

### 6.3 Baseline Conditions

#### 6.3.1 Application Site

The application site covers approximately 49-hectares of relatively flat, low lying agricultural land with an elevation of between approximately 3-6m above ordnance datum (AOD). Land within the application site is currently divided into six medium-sized fields between four-hectares and 10-hectares, and two smaller fields of between two-hectares and four-hectares. The fields are bound by a combination of hedgerows, trees and drainage ditches, with a small area of woodland adjacent to the southern boundary.

#### 6.3.2 Landscape Setting

The application site is largely enclosed by mixed agricultural land; with several settlements in vicinity including Saltney Ferry, Saltney and Broughton.

Industrial units lie along Broughton Mills Road, which can be reached via the A55 and the A5104 – the primary transport routes in vicinity of the application site. Further industrial and business units are located near Hawarden Airport, which lies approximately 1.7km west of the application site.

Recreational assets within vicinity of the application site include several Public Right of Ways (PRoWs) and the Wales Link Path.

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<sup>7</sup> Anthony Brown of Bayou Blu Environment Ltd. and Graham Bradford of The Planning & Environment Studio Ltd, 2016. A Landscape Strategy for Cheshire West and Chester Borough

<sup>8</sup> Flintshire County Council, 1996. Landscapes Working for Wales: A Landscape Strategy for Flintshire

At present, the surrounding topography is generally flat which often permits open views over farmland towards locally prominent hillocks that commonly include historic built remains. The general flatness of the landscape further increases the visual influence of settlement across surrounding farmland; which tends to shorten visibility northwards. Farm woodlands, shelterbelts, tree lines and hedgerows further combine to limit visibility across surrounding rural areas; with low-lying tree cover gaining visual importance due to topography.

Overall, land within the study area is considered to be well-wooded with the diverse combination of agricultural, residential, and industrial land uses playing an important role in defining the landscape character of the surrounding area.

## **6.4 Assessment Methodology**

The LVIA will be prepared with reference to the Third Edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA3)<sup>9</sup>.

A detailed methodology outlining the assessment criteria will be included as an appendix to the LVIA.

### **6.4.1 Study Area**

We propose a 5km study area and to illustrate LCTs, landscape designations and recreational routes across the same extents.

We note NRW's comments in connection with the proposed development and the Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB), and concur with their assessment that the proposed development is unlikely to result on significant adverse effects on the AONB given the distances involved (approximately 15km away at its closest point). The AONB is therefore proposed for exclusion from the assessment.

The cumulative study area will similarly extend to 5km and consider the developments listed in Table 2.1: Existing and/or Approved Solar Farm Developments only unless further sites are identified by FCC and/or CWAC.

### **6.4.2 Site Visits**

An initial site visit was undertaken in the first week of April (2020) to obtain viewpoint photography from identified viewpoint locations during wintry conditions, i.e. before broadleaved trees leaf to help ensure the visual effects associated with the proposed development are appraised against the 'worst case' visual scenario.

Following receipt of the EIA Scoping Opinion responses, a further site visit (COVID-19 dependent) will be undertaken by Mabbett's assessment team to appraise the level of change attributable to the proposed development against the baseline landscape and visual conditions.

### **6.4.3 Visualisations**

Visual representations accompanying the LVIA will be prepared with reference to the Technical Guidance Note 06/19: Visual Representation of Development Proposals<sup>10</sup>.

We propose to visualise the proposed development to Type 3 Photomontage/ Photowire AVR Level 3 as a maximum (and to include matching existing photography).

The final presentation package of visualisations may include different types of visualisation as during the design process certain elements of the proposed development may become visible/visually screened. A certain degree of discretion will therefore need to be applied by the assessment team to maintain a proportionate approach that is reflective of the final design layout, and the type of view as experienced at each viewpoint location.

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<sup>9</sup> Landscape Institute and the Institute of Environmental Management and Assessment, 2013. Third Edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA3)

<sup>10</sup> Landscape Institute, 2019. Technical Guidance Note 06/19: Visual Representation of Development Proposals

#### **6.4.4 Landscape and Visual Effects**

As per guidance contained within GLVIA3, landscape and visual effects will be considered separately. The sensitivity of landscape receptors will be based on the perceived susceptibility of the landscape receptor to the type of development proposed, whilst the sensitivity of visual receptors will be based on the susceptibility of the viewer to the type of development proposed.

##### **6.4.4.1 Significance of Landscape and Visual Effects**

An overall judgement will be made on the sensitivity of each receptor and the likelihood for potentially significant effects resulting from the proposed development. Judgements will be based on value, susceptibility, scale, geographical extent, duration and reversibility – with reference made to any operational or under construction solar farms considered to form part of the baseline conditions.

Potential effects will be considered whilst the proposed development is under construction, during its operational phase and during decommissioning. As effects may be of variable duration, mention will be made to whether effects are considered to be direct or indirect; cumulative; short-, medium- or long-term; permanent or temporary; and beneficial, adverse, or neutral against the baseline landscape and visual conditions.

##### **6.4.4.2 Cumulative Effects**

Potential cumulative landscape and visual effects will be assessed similarly to the process for the LVIA. The primary difference will be the additional consideration of baseline developments alongside those solar farms with planning consent (but for which no construction activity has occurred) and/ or similarly proposed developments with a valid planning application.

The cumulative assessment will consider the occurrence of effects where one or more developments are visible from a static position (simultaneous visibility) or when a viewer moves between positions (sequential visibility).

#### **6.4.5 Zone of Theoretical Visibility Mapping**

ZTVs will be prepared in accordance with Visual Representation of Wind Farms Version 2.2<sup>11</sup>.

Cumulative ZTVs may be prepared to illustrate the theoretical pattern of the proposed development when considered alongside any neighbouring development (based on shared planning status and/ or proximity).

#### **6.5 Potential Effects**

The proposed development comprises the construction and operation of a circa 30MW ground-mounted solar farm; and associated infrastructure.

Based on the current indicative design, the elements with the greatest potential to result in landscape and visual effects are considered to be the proposed solar PV modules; security features such as fencing; and any internal temporary access tracks that may be required.

##### **6.5.1 Receptor List for Inclusion/ Exclusion**

Mabbett have undertaken an initial desktop appraisal of potential landscape and visual receptors within approximately 5km of the proposed development; although, potential effects beyond these extents will be considered, particularly when considering the potential for sequential effects such as from transport and recreational routes.

Landscape and visual receptors highlighted below are proposed for inclusion within our LVIA as they are considered to be the most susceptible to changes arising as a result of the proposed development.

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<sup>11</sup> Scottish Natural Heritage, 2017. Visual Representation of Wind Farms Version 2.2

Table 6.1: Landscape Character Types (see Figure 05, Appendix E)

| Title                                                         |
|---------------------------------------------------------------|
| LCT4 Drained Marsh: LCA 4b: The Lache Eyes                    |
| LCT4 Drained Marsh: LCA 4c: Dodleston drained marsh           |
| LCT4 Drained Marsh: LCA 4d: Burton & Shotwick drained marsh   |
| LCT6: Enclosed Farmland                                       |
| LCT9: Cheshire Plain West: LCA 9d: Saughall to Waverton plain |
| LCT11: Estate Farmland: LCA 11a: Grosvenor Estate             |
| LCT15: River Valleys: LCA 15f: Dee Valley                     |
| LCT: Urban Area                                               |
| Landscape Character Area (LCA) 3: Dee Floodplain*             |

\*Identified in A Landscape Strategy for Flintshire.

The Landscape Assessment will also pay reference the following aspect areas, which cover the application site according to LANDMAP:

- Cultural Landscape - FLNTCL018: Kinnerton;
- Geological Landscape - FLNTGL981: Saltney;
- Historic Landscape – FLNTHL745: Kinnerton;
- Landscape Habitats – FLNTLH025: Sealand grassland; and
- Visual & Sensory – FLNTVS076: Dee coastal levels.

Table 6.2: Designated Landscapes (see Figure 06, Appendix E)

| Title                      | Type of Designation |
|----------------------------|---------------------|
| Eaton Hall                 | Parks and Gardens   |
| Overleigh Cemetery (North) | Parks and Gardens   |
| Grosvenor Park             | Parks and Gardens   |

Mabbett note that Historic England refer to the possible assessment of “*non-designated features of historic or architectural interest (including buildings, historic features, below-ground archaeology, historic open spaces and the wider historic landscape)*” within their EIA Screening Opinion Response.

No non-designated landscape assets have been considered; however, an assessment can be included with the LVIA for any asset, providing GIS data information and background information on its listing is provided.

Table 6.3: Residents/ Settlements (see Figures 03 and 04, Appendix E)

| Title                                    |
|------------------------------------------|
| Chester                                  |
| Saltney (eastern settlement edge)        |
| Saltney Ferry (southern settlement edge) |
| Bretton                                  |
| Broughton                                |
| Dodleston                                |
| Hawarden/ Penarlâg                       |
| Higher Kinnerton                         |
| Old Warren                               |
| Pulford                                  |

Table 6.4: Residents/ Properties within 2km (see Figures 03 and 04, Appendix E)

| Title                 |
|-----------------------|
| Bretton Hall Cottages |
| Bretton Hall Farm     |
| Hope's Place          |
| Sandy Lane Farm       |
| Decoy Farm            |
| Well House Farm       |
| Moat Farm             |
| Digby Farm            |

Table 6.5: Transport Routes (see Figures 03 and 04, Appendix E)

| Title |
|-------|
| A55   |
| A5104 |
| A483  |
| A548  |
| B5125 |
| B5129 |
| B5445 |

Table 6.6: Recreational Routes (see Figure 06, Appendix E)

| Title                                       | Type of Route       |
|---------------------------------------------|---------------------|
| Wales Link Path                             | -                   |
| Route 5                                     | Sustrans Route      |
| Route 45                                    | Sustrans Route      |
| Route 70                                    | Sustrans Route      |
| Route 568                                   | Sustrans Route      |
| PRoW covering Lache Eyes marshland          | Public Right of Way |
| PRoW covering Bretton and Bretton Hall Farm | Public Right of Way |

Whilst there are further PRoWs within 5km of the proposed development, none are predicted to experience potentially significant effects along their full extents. As a result, it is our intention to exclude all other PRoWs – aside from those mentioned above - from the Visual Assessment section of the LVIA unless otherwise advised.

In support of the Visual Assessment for the above visual receptors, the following four viewpoint locations have been identified to represent the type of views experienced by the range of receptors as they move in-and-around the study area.

The use of cumulative graphics/ visualisations will be determined on a case-by-case basis to ensure the assessment considers the worst-case cumulative development scenario.

Table 6.7: Representative Viewpoint Locations (see Figures 03 and 04, Appendix E)

| Viewpoint No. | Viewpoint Name                                               | Grid Reference | Reasons for Inclusion                                                                                            |
|---------------|--------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------|
| 1             | A5104 (Chester Road) and B5129 (Saltney Ferry Road) junction | 336936, 364683 | Part of regional and local road network, experienced by road users and recreational users of the Wales Link Path |
| 2             | Sandy Lane, edge of Saltney                                  | 337760, 364137 | Experienced by residents. Part of local road network, experienced by road users                                  |
| 3             | Field Entrance off Bretton Lane                              | 335238, 363574 | Part of local road network; experienced by road users. Broadly representative of views experienced by residents  |

|   |                                |                   |                                                                                           |
|---|--------------------------------|-------------------|-------------------------------------------------------------------------------------------|
| 4 | Pedestrian Footbridge over A55 | 338949,<br>362472 | Localised vantage point experienced by walkers. Broadly experienced by road users of A483 |
|---|--------------------------------|-------------------|-------------------------------------------------------------------------------------------|

## 6.6 Mitigation

The LVIA will include a Landscape Strategy graphic, which will be prepared following analysis and review of landscape planning policy and initial results of the various reports prepared by the appointed design team to inform detailed design development.

As part of the strategy, potential developable areas will be identified to indicate parcels of land that could accommodate renewable development without leading to unacceptable levels of environmental effects.

The strategy will further illustrate proposed landscape mitigation and enhancement measures.

## 6.7 Summary

The receptors considered to have the greatest potential to experience significant effects as a result of the proposed development are those located within close vicinity of the application site; with the combination of settlement, and mature field boundary and roadside hedgerow/tree cover reducing the potential for significant landscape and visual effects across the wider extents.

During the construction/decommissioning phases, there is potential for the proposed development to directly impact physical landscape resources on the application site, which may influence local landscape character or how the site is perceived in views from the surrounding landscape; however, mitigation measures will be identified within the EIA to limit any potentially adverse effects.

Steps will be taken during the design process to create a defensible and evidence-based design layout that can be accommodated on the application site without leading to unacceptable levels of visual effects during the operational phase at local properties and settlements, and from the routes of the A55 and PRoWs.

### 6.7.1 Summary of Questions

- Q6.1 – Do you agree with the proposed methodologies?
- Q6.2 – Do you agree with the proposed 5km LVIA and cumulative study area?
- Q6.3 – Do you agree with the list of landscape receptors proposed to be assessed?
- Q6.4 – Do you agree with the list of key settlements proposed to be assessed?
- Q6.5 – Do you agree with the list of residential properties to be assessed?
- Q6.6 – Do you agree with the list of transport routes proposed to be assessed?
- Q6.7 – Do you agree with the list of recreational routes proposed to be assessed?
- Q6.8 – Do you agree with the list of representative viewpoints proposed to be assessed?

## Section 7.0: Cultural Heritage & Archaeology

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### 7.1 Introduction

The proposed development could potentially result in effects on cultural heritage and archaeology, also called the historic environment (archaeology, built heritage and historic landscape character). The assessment will consider known and potential effects on archaeology and built heritage (collectively known as historic assets in Wales and heritage assets in England), and effects that could arise as a result of direct physical impacts or development within the setting of historic/heritage assets. This Section sets out the proposed approach to the assessment of potential effects on the historic environment during the construction, operation and decommissioning of the proposed development.

The historic environment assessment will identify designated and non-designated historic/heritage assets within a 1km radius of the application site boundary. This study area will determine any historic/heritage assets that could be physically impacted by the proposed development, and also consider the potential for as yet unknown historic/heritage assets within the application site. This study area will be used to also identify any historic/heritage assets where the asset's significance could be harmed as a result of development within the setting of a heritage asset.

### 7.2 Baseline Conditions

There is one scheduled monument and one listed building within 1km of the edge of the application site in Wales, and one listed building and one registered park and garden in England, including:

- Bretton Hall Moated Site (scheduled monument, reference FL185) comprises the remains of a well-preserved medieval moated homestead, the interior of which forms a rough grass covered square, with a few trees present. Traces of well-dressed stone walling is visible on the north-west and south-west sides, presumably revetting the moat.
- Well House Farm (Grade II listed building, reference 85415) is a mid-19th century farmhouse, shown on the 1st edition Ordnance Survey of 1869; the rear wing appears to have been altered.
- Balderton Dairy (Grade II listed building, reference 1115836) is a cheese factory, now disused. It dates to 1874-75 and is by the architect John Douglas for the first Duke of Westminster.
- Eaton Hall park and garden (Grade II registered park and garden, reference 1000127) is a 17th to 20th century formal gardens and landscape park associated with a country house, including elements by John Webb, William Andrews Nesfield and Edwin Lutyens. A small part of the registered park and garden is within 1km study area, a long extension encompassing a woodland belt to the east of the principal building and gardens (which are over 4km to the south east of the Proposed Development).

In addition, there are a number of non-designated historic/heritage assets within the vicinity of the application site. These include Bretton Hall Farm Barns and garden, Bretton Canal, Saltney Old Canal Bretton Hall ridge and furrow, a milestone, Balderton Station and ten boundary stones, three of which are on the application site boundary (and mark the boundary between Flintshire and Cheshire). Bretton Hall Circular Earthwork is recorded within the application site boundary, a non-designated historic asset.

### 7.3 Assessment Methodology

The following guidance and best practice documents will be followed in assessing baseline conditions and potential impacts in relation to the historic environment:

- Chartered Institute for Archaeologists (2019), Code of Conduct and Standard and Guidance documents;
- English Heritage (2008), Conservation Principles; Policy and Guidance for the Sustainable Management of the Historic Environment (a consultation draft of an update to this guidance was issued in November 2017 and will also be referenced);
- Cadw (2011), Conservation Principles for the sustainable management of the historic environment in Wales;
- Welsh Government (2017), Technical Advice Note (TAN) 24, The Historic Environment;
- Department for Communities and Local Government (2019), Planning Practice Guidance; Conserving and enhancing the historic environment;

- Historic England (2015), Historic Environment Good Practice Planning Advice Note 2 Managing Significance in Decision-Taking in the Historic Environment;
- Historic England (2017), Historic Environment Good Practice Planning Advice Note 3 (2nd Edition), The Setting of Heritage Assets; and
- Cadw (2017), Setting of Historic Assets in Wales.

As a minimum data will be gathered from the following sources:

- Cheshire Historic Environment Record (HER), maintained by Cheshire Archaeological Planning Advisory Service and Clwyd-Powys Historic Environment Record, maintained by the Clwyd-Powys Archaeological Trust. These records include any available historic landscape characterisation data and records of previous archaeological investigations, in addition to data on known non-designated heritage/ historic assets;
- National Heritage List for England (NHLE) and Cadw data for information on designated historic / heritage assets in England and Wales;
- Flintshire Council and Cheshire West and Chester Council heritage data, particularly in relation to conservation areas and locally listed building;
- The Historic England Archive and National Monuments Record for Wales;
- Historic mapping;
- Local archive data;
- Aerial photography; and
- Site walkover and setting assessment.

Data generated by other disciplines in relation to the proposed development will also be used as relevant, particularly any Zone of Theoretical Visibility (ZTV), visualisations, borehole data and Lidar data.

A staged assessment would be undertaken to determine the likely significance of effects on the historic environment. Once baseline data has been established, the heritage value (also referred to as heritage significance in planning policy) of the known assets will be determined. The magnitude of the impact of the proposed development on the heritage value of the known assets within the baseline data will then be assessed. By comparing the importance of the asset and the magnitude of impact, the overall significance of the effect will be determined.

### **7.3.1 Establishing Heritage Value (Receptor Importance)**

An assessment of the heritage values of the assets within the baseline data, and the contribution made by setting to those values, will be undertaken. The value of the historic/heritage asset will be described in terms of its heritage interest and heritage values (evidential/archaeological, historical, aesthetic/architectural). Determining heritage significance is a professional judgment made with reference to Conservation Principles (Historic England<sup>12</sup>, 2008, Cadw 2011<sup>13</sup>).

For designated assets (Listed Buildings, Scheduled Monuments, Registered Parks and Gardens), the importance will be recorded as 'high' or 'very high' as these assets meet the national criteria for designation under the relevant legislation.

<sup>12</sup>English Heritage (2008) Conservation Principles, Policies and Guidance: for the sustainable management of the historic environment. Available online: <https://historicengland.org.uk/images-books/publications/conservation-principles-sustainable-management-historic-environment/>

<sup>13</sup> Cadw (2011) Conservation Principles. Available online: <https://cadw.gov.wales/advice-support/conservation-principles/conservation-principles>

Table 7.1: Criteria for Determining Heritage Value (Receptor Importance)

| Receptor Importance                  | Description                                                                                                                                                                                                       |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Very High<br/>(International)</b> | Internationally important resources and designated assets of the highest significance: Grade I and II* listed buildings, Grade I and II* registered parks and gardens, scheduled monuments, World Heritage Sites. |
| <b>High<br/>(National)</b>           | Nationally important resources: Grade II Listed Buildings, Conservation Areas, Grade II Registered Parks and Gardens, registered battlefields.                                                                    |
| <b>Moderate<br/>(Regional)</b>       | Regionally important resources: Non-designated historic / heritage assets and landscape features with high or moderate evidential, historical, and/ or aesthetic values.                                          |
| <b>Low<br/>(Local)</b>               | Locally important resources: Non-designated historic / heritage assets and landscape features with low evidential, historical, and/or aesthetic values.                                                           |
| <b>Negligible</b>                    | Assets with very low or no evidential, historical, and/ or aesthetic values, or where remains are known to have been significantly altered or destroyed.                                                          |

### 7.3.2 Magnitude of Impact

The magnitude of impact in relation to the historic environment relates to harm to or loss of significance through alteration or destruction of the historic heritage asset or development within its setting. The former relates to any direct physical harm, including total or partial loss of the asset. Where the development only affects the setting of the asset, there is no direct physical harm but loss of or change to the asset's setting can (where setting contributes to the significance of the asset) result in a reduced ability to experience and understand the asset's heritage significance.

Assessing the impact of the proposed development in relation to the historic environment baseline will be considered in relation to the following criteria and is a professional judgement made with reference to the relevant guidance referred to above.

Table 7.2: Criteria for Determining Magnitude of Impact

| Magnitude         | Definition                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>High</b>       | Total loss or substantial harm to key elements of the heritage interest of the asset, or features or characteristics of the baseline (pre-development) conditions such that the adverse impact seriously affects a key element of its special interest of the asset; post development character or composition or attributes of baseline will be fundamentally changed. |
| <b>Moderate</b>   | Partial loss or harm to one or more important elements or features or characteristics of the baseline (pre-development) conditions such that post development character or composition, or attributes of baseline will be significantly changed.                                                                                                                        |
| <b>Low</b>        | Minor loss. Change arising from the loss or alteration will be discernible but underlying character or composition or attributes of the baseline condition will be similar to pre-development circumstances or patterns.                                                                                                                                                |
| <b>Negligible</b> | No loss or alteration. Change not distinguishable or does not result in loss of heritage significance.                                                                                                                                                                                                                                                                  |

### 7.3.3 Significance of Effect

Professional judgement will be applied in determining the overall significance of effect within the broad categories identified by the below matrix. The assessment takes into account the relative value (significance) of the asset, the contribution made by setting to that value, and the predicted magnitude of effect that would result from the proposed development.

Table 7.3: Criteria for Determining Significance of Effect

| Magnitude of effect | Importance of receptor          |                                 |                   |            |            |  |
|---------------------|---------------------------------|---------------------------------|-------------------|------------|------------|--|
|                     | Very High                       | High                            | Moderate          | Low        | Negligible |  |
| <b>High</b>         | <b>Major</b>                    | <b>Major</b> or <b>Moderate</b> | <b>Moderate</b>   | Minor      | Negligible |  |
| <b>Moderate</b>     | <b>Major</b>                    | <b>Major</b> or <b>Moderate</b> | <b>Moderate</b>   | Minor      | Negligible |  |
| <b>Low</b>          | <b>Major</b> or <b>Moderate</b> | Moderate or Minor               | Moderate or Minor | Negligible | Negligible |  |
| <b>Negligible</b>   | Moderate or Minor               | Minor or Negligible             | Negligible        | Negligible | Negligible |  |

The significance of effect reflects national heritage policy, which in England makes a distinction between substantial and less than substantial harm (NPPF, paragraphs 195-196). For the purpose of this assessment, major adverse effects will be considered to be equivalent to substantial harm, and as significant effects in EIA terms.

Effects of moderate significance will be considered as equivalent to less than substantial harm, but as significant effects in EIA terminology (highlighted in bold in Table 7.3). Effects of minor or negligible significance will be considered as less than substantial and also not significant in EIA terms.

## **7.3.4 Potential Effects**

### **7.3.4.1 Construction**

Construction effects can be permanent or temporary. Direct permanent effects comprise the whole or partial removal of historic/heritage assets as a result of construction activities, such as excavations and earthworks for construction compounds, services and the proposed development's footings. Temporary construction phase effects result from temporary changes within an asset's setting. These effects are typically short term and reversible on completion of construction activities and are not therefore significant. Any effects arising from development within the asset's setting that continue as a result of the ongoing operation of the development are assessed as operational effects. Similarly, decommissioning effects would be short term and temporary.

### **7.3.4.2 Operational**

Operational effects on the historic environment can occur as a result of changes to the setting of historic/heritage assets that affect the contribution made by setting to the asset's value. These changes can start during the construction phase but continue throughout the operational phase of the development and are assessed as operational phase effects to avoid duplication.

### **7.3.4.3 Cumulative**

Cumulative effects on the historic environment can occur where one or more development footprints has a direct physical impact on a historic/heritage asset, or a contiguous asset or series of closely associated assets. Also, cumulative effects can occur where multiple development proposals occur within the setting of an asset, affecting the contribution made by setting to the value of the asset.

The assessment will consider relevant development proposals to determine whether any could result in a cumulative effect on the historic environment.

## **7.3.5 Recommended Mitigation**

Direct physical impacts on historic/heritage assets, and effects resulting from development within the setting of an asset can be mitigated through implementing one or more of the following methods:

- Avoiding direct physical impacts and setting effects through the design of the proposed development;
- Minimising setting effects through landscape design measures included as part of the proposed development proposals;
- Providing a record of any assets (particularly relevant to assets with archaeological interest) physically affected by the proposed development; and
- Providing offsetting measures that include heritage benefits.

## **7.3.6 Summary**

The proposed development could potentially result in effects on the historic environment (archaeology, built heritage and historic landscape character). The assessment will consider known and potential effects on archaeology and built heritage that could arise as a result of direct physical impacts or development within the setting of historic/heritage assets.

Baseline conditions within a 1km study area include a scheduled monument (Bretton Hall moated site) and two grade II listed buildings, and part of a grade II\* registered park and garden. There are also a number of non-designated historic/heritage assets, including boundary stones between Cheshire and Flintshire, three of which are on the application site boundary and a circular earthwork feature recorded within the application site.

The EIA will determine from baseline information the known heritage assets within the application site, the potential for as yet unknown heritage assets, particularly with archaeological interest, within the application site and the extent and contribution made by setting to the heritage value of assets outside of the application site, particularly with reference to Bretton Hall moated site.

The value of heritage assets will be assessed (and the contribution made by setting to that value) and then compared to the predicted magnitude of impact to determine the significance of effect, during the construction, operation and decommissioning of the proposed development.

If necessary, mitigation measures will be recommended to avoid, reduce or offset any predicted adverse effects.

Consultation will be maintained with CADW, FCC's heritage officer and the Clwyd-Powys Archaeological Trust as well as CWAC's heritage officer, the Cheshire Archaeological Planning Advisory Service and Historic England.

#### **7.3.6.1 Summary of Questions**

Q1 – Do you agree with the proposed methodologies?

## Section 8.0: Assessments to be Scoped out of the EIA

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### 8.1 Introduction

This Section of the EIA Scoping Report identifies environmental considerations to be scoped out of the EIA process.

### 8.2 Biodiversity

#### 8.2.1 Introduction

Solar farm developments have the potential to impact upon ecological receptors through habitat loss, fragmentation or the displacement of species. It is considered that the construction, operation and decommission of the proposed development has the potential to result in the following:

- Construction disturbance – negative, short-term, local, reversible.
- Habitat loss – negative, long-term, local, irreversible.
- Operational disturbance – negative, short-term, local, reversible.

However, solar farm developments also present an opportunity to enhance biodiversity value of sites through the creation of relatively undisturbed habitats.

#### 8.2.2 Guidance & Reference Material

The following guidance and reference material have been considered through the production of this Section of the EIA Scoping Report:

- Joint Nature Conservation Committee designated site citations;
- Natural England (NE) designated site citations;
- Data provided by the North Wales Environmental Information Service (COFNOD) Local Biodiversity Information Centre;
- Planning policies contained within the relevant Development Plans, including the FUDP and the CWAC Local Plan;
- Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1<sup>14</sup> published by CIEEM in 2018;
- PPW; and
- NPPF.

#### 8.2.3 Baseline Conditions & Potential Effects

An extended phase 1 habitat survey has been undertaken for the proposed development to identify habitats onsite and to determine their potential to support any protected or notable species, the findings of which are set out within the Ecology Survey Report contained within Appendix F of this EIA Scoping Report. The text below provides a summary of the findings of the Ecology Survey Report.

Furthermore, a Great Crested Newt Habitat Suitability Index (HIS) Survey was completed in September 2020. Findings of all studies are summarised below.

##### 8.2.3.1 Designated Sites

A limited number of statutory ecological designations are located within 5km of the application site boundary which are summarised in Table 8.1 below. Site citations have been obtained from the Joint Nature Conservation Committee (JNCC), North Wales Environmental Information Service (COFNOD) and NE. Figure 8.1. illustrates the location of the designated sites in relation to the application site.

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<sup>14</sup> CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Available online: <https://cieem.net/wp-content/uploads/2019/02/Combined-EcIA-guidelines-2018-compressed.pdf>

Table 8.1: Statutory Designations within 5km of Application Site

| Designation                                                                              | Distance from Application Site | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| River Dee and Bala Lake/ Afon Dyfrdwy a Llyn Tegid Special Protection Area (SPA) (Wales) | 1.5km north                    | Annex I habitats that are a primary reason for selection of the site: <ul style="list-style-type: none"> <li>Water courses of plan to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| River Dee and Bala Lake SPA (England)                                                    | 1.9km northeast                | Annex II species that are a primary reason for selection of the site: <ul style="list-style-type: none"> <li>Atlantic Salmon (<i>Salmo salar</i>), and</li> <li>Floating water-plantain (<i>Luronium natans</i>).</li> </ul> Annex II species present as a qualifying feature, but not a primary reason for site selection: <ul style="list-style-type: none"> <li>Sea lamprey (<i>Petromyzon marinus</i>);</li> <li>Brook lamprey (<i>Lampetra planeri</i>);</li> <li>River lamprey (<i>Lampetra fluviatilis</i>);</li> <li>Bullhead (<i>Cottus gobio</i>), and</li> <li>Otter (<i>Lutra lutra</i>).<sup>15</sup></li> </ul>                                                                                                                                                                                                                                                                                                                                                                             |
| Afon Dyfrdwy (River Dee) Site of Special Scientific Interest (SSSI) (Wales)              | 1.5km north                    | Afon Dyfrdwy (River Dee) is of special interest for its fluvial geomorphology, Carboniferous geology, range of river habitat types, saltmarsh transition habitats, populations of floating water plantain ( <i>Luronium natans</i> ), slender hare's-ear ( <i>Bupleurum tenuissimum</i> ), sea barley ( <i>Hordeum marinum</i> ), hard-grass ( <i>Parapholis strigose</i> ), otter ( <i>Lutra lutra</i> ), salmon ( <i>Salmo salar</i> ), bullhead ( <i>Cottus gobio</i> ), brook lamprey ( <i>Lampetra planeri</i> ), river lamprey ( <i>Lampetra fluviatilis</i> ), sea lamprey ( <i>Petromyzon marinus</i> ), club-tailed dragonfly ( <i>Gomphus vulgatissimus</i> ) and other aquatic invertebrates <sup>16</sup> .                                                                                                                                                                                                                                                                                   |
| River Dee SSSI (England)                                                                 | 1.9km northeast                | The River Dee is notified for its nationally important transition through a range of river types from mesotrophic to eutrophic. It is also notified for Atlantic salmon ( <i>Salmo salar</i> ), otter ( <i>Lutra lutra</i> ), club-tailed dragonfly ( <i>Gomphus vulgatissimus</i> ) and fluvial geomorphology. <p>The River Dee lies within both England and Wales and is notified as two separate SSSIs – the River Dee (England) and the Afon Dyfrdwy-River Dee SSSI in Wales. The features for which the two SSSIs are notified, in particular the range of river types and migratory fish, depend upon the whole river ecosystem. The fluvial geomorphological interest occurs in both England and Wales.</p> <p>The English sections of the river are therefore notified as components of the whole ecosystem for which the river is a nationally important example, and because the otter, club-tailed dragonfly and the geomorphological interest occurs on the English reaches<sup>17</sup>.</p> |

<sup>15</sup> JNCC. River Dee and Bala Lake/ Afon Dyfrdwy a Llyn Tegid Citation. Available online:

<https://sac.jncc.gov.uk/site/UK0030252>

<sup>16</sup> North Wales Environmental Information Service. Afon Dyfrdwy (River Dee) Citation. Available online:

[https://www.cofnod.org.uk/resources/sssi/2554/SSSI\\_2554\\_Citation\\_EN001.pdf](https://www.cofnod.org.uk/resources/sssi/2554/SSSI_2554_Citation_EN001.pdf)

<sup>17</sup> Natural England River Dee (England) Citation. Available online:

<https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/2000452.pdf>

The CWAC Local Plan identifies local ecology designations. The most pertinent in relation to the proposed development is the Lache Eyes Local Wildlife Site as this site lies adjacent to the southern and eastern boundaries of the application site.

In their response to the EIA Screening stage, NRW consider the proposed development is unlikely to have significant effects on protected sites. In addition, NE highlight that the proposed development is not located within or partly within any Special Conservation Area (SAC), SSSI, SPA or Ramsar Site and is not likely to significantly affect the notified interest features of such sites. Therefore, any assessment upon statutory or non-statutory designations has been scoped out of the EIA process.

#### 8.2.4 Habitats

The extended phase 1 habitat survey identified the following habitats within the application site:

- Improved pasture;
- Hedgerows;
- Mixed broad-leaved woodland;
- Ditches, and
- Access tracks.

Field 8 was not included within the extended phase 1 habitat survey; however, habitats present include arable land as a winter crop is harvested from this field.

#### 8.2.5 Protected Species

The application site was surveyed for signs indicating the presence of protected species such as badger, bats, reptiles, otter, water vole and breeding birds. After submission of the EIA Screening Report, a follow up survey for Great Crested Newts was completed in September 2020. Table 8.2 summarises the findings.

*Table 8.2: Protected Species within the Application Site*

| Species            | Survey Summary & Conclusions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Badger             | No field signs indicating the presence of badgers were recorded within the application site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Bats               | No field signs indicating the presence of bats or potential bat roosts were recorded within the application site. There are buildings offering bat roost potential nearby and it is possible that some bats use the Application Site for foraging.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Reptiles           | The habitats within the application site were classed as sub-optimal for reptiles as a result of little vegetation, grazing sheep and liability to flooding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Birds              | The grazed areas within application site offer very limited foraging and breeding habitats for birds. The hedgerows could offer nesting, shelter and foraging habitat of greater but still limited value. Overall, the application site was assessed to support a limited avian assemblage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Otter              | No field signs indicating the presence of otter were recorded within the Application Site and the habitats were considered to offer only limited suitability to support this species.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Water Vole         | No field signs indicating the presence of water vole were recorded within the Application Site. The application site is considered to be unsuitable for this species due to the lack of suitable food plants along the ditches and the areas liability to flooding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Great Crested Newt | <p>Great crested newt (GCN) are known to occur in the wider area. A survey was undertaken in September 2020 to identify the potential of the site to support GCN. The habitat assessment found that there were numerous waterbodies on site and within 250m of the application site, which had a varying level of potential suitability for GCN. There were five waterbodies with 'Excellent' suitability, three with 'Good' suitability, two with 'Average' suitability and three with 'Below Average' suitability.</p> <p>The terrestrial habitat within the proposed development site was assessed to be of low to moderate potential value for great crested newts; there was habitat on site suitable for foraging great crested newts, but optimal features for shelter and particularly for hibernation were sparse.</p> |

In their response to the EIA Screening Request, NRW do not consider significant effects upon protected species to be likely. NRW highlighted the potential presence of great crested newt for consideration.

### **8.2.6 Mitigation**

Although no significant effects upon ecological receptors have been identified, a number of mitigation measures are recommended to minimise the risk of breaching legislation during construction. This includes the following:

- Preconstruction protected species survey to be completed prior to the start of construction to survey for the presence of otter, water vole and great crested newt.
- Vegetation clearance and construction to be completed outside of the breeding bird season (March to August). Should that not be possible, breeding bird checks should be completed by a suitable qualified ecologist in regular intervals.
- Works to be carried out during daylight hours to reduce disturbance to otters and bats.
- Ramps to be placed within any temporary or permanent deep excavations to allow trapped wildlife to escape.

### **8.2.7 Summary**

It is considered that the application site is of low biodiversity value and with the implementation of the mitigation measures identified, significant effects upon ecology receptors are not considered. It is anticipated that through the proposed development, the biodiversity onsite can be enhanced through the implementation of a Biodiversity Management Plan. Therefore, Biodiversity has been scoped out of the ES. However, the applications to PINS and CWAC will be accompanied by the following:

- Ecological Survey Report;
- Great Crested Newt Survey Report; and
- Biodiversity Management Plan.

## **8.3 Noise**

### **8.3.1 Introduction**

This Section of the EIA Scoping Report has been prepared by KSG Acoustics Ltd. It considers the potentially significant effects of noise and vibration associated with construction and operation of the proposed development. It has been carried out in accordance with recognised standards and guidance.

The Screening process acknowledges the potential for temporary construction noise and vibration which, as described in this Section, can be managed under existing controls to ensure that residual effects are not significant. These controls will be detailed commitments in the Construction Environmental Management Plan and may form the basis of Conditions attached to a planning consent, where appropriate.

There is not expected to be any significant effects from operational noise associated with the operational PV modules. Localised noise from fixed plant items (inverter and step-up transformer) can be addressed through design and engineering interventions to ensure that appropriate standards are met.

The conclusion of this Scoping assessment, in agreement with the Screening process, is that construction and operational noise and vibration can be scoped out of the EIA.

### **8.3.2 Guidance & Reference Material**

PINS Wales and the Local Planning Authority responded to the following screening question:

*Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?*

PINS Wales has provided an initial EIA Screening Assessment. In respect of noise, it makes the following observations:

*“Yes, some noise and vibration likely during the construction phase, though this would be localised and time limited.*

*There would also be a minimal amount of noise during the operational phase...*

*Whilst these will be considerations for the decision maker, given the location of the site and the nature of the impacts, I am content that any effects in terms of ... noise would be localised and unlikely to be of a magnitude that would be significant, such that they would warrant EIA.”*

CWAC has also provided a Screening Opinion on noise as follows:

*“Likely – construction of solar farm would result in some noise, light and vibrations (pile driving)... Noise during construction and from a limited extent from electrical machinery when installed should be accounted for in any application... Effects however would be local and unlikely to be significant.”*

### **8.3.3 Baseline Conditions**

The application site lies west of the settlement of Saltney and east of Bretton. The closest dwellings lie east of the Driving Range and northeast of the proposed development, west of Field F1 (Bretton Hall Cottages, Hope's Place Farm and Holly Bush Farm), west of Field F3 (Bretton Hall Farm and Bretton Hall), and east of Field F7 (Decoy Farm).

The landowner resides at Bretton Hall Farm and has ownership of Bretton Hall Cottages in the north of the proposed development close to the west boundary between F1 and F2.

A desktop study of the proposed development reveals that it is surrounded on all sides by greenfield use. As such, the prevailing levels of environmental noise are expected to be subjectively low. Contributing noise sources are expected to be road traffic noise from the A55 and A5104, wind throughout foliage, birdsong, intermittent local vehicle movements and seasonal agricultural noise sources.

### **8.3.4 Assessment Methodology**

Following the guidance set out in the EIA Screening Direction/Opinion, construction and operational noise have been considered.

Relevant sources of national advice are:

#### **8.3.4.1 National Planning Policy Framework**

In Paragraph 180, the NPPF states that planning policies and decisions should aim to: *“mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life.”* It also makes reference to the Noise Policy Statement for England (NPSE), discussed below.

#### **8.3.4.2 Noise Policy Statement for England**

The Revised NPPF states that the significance of adverse impacts should be determined in accordance with the NPSE (2010)<sup>18</sup>. The NPSE policy aims are as follows:

*“Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*

- *Avoid significant adverse impacts on health and quality of life;*
- *Mitigate and minimise adverse impacts on health and quality of life; and*
- *Where possible, contribute to the improvement of health and quality of life.”*

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<sup>18</sup> Defra (2010) Noise Policy Statement for England. Available online: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69533/pb13750-noise-policy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69533/pb13750-noise-policy.pdf)

### 8.3.4.3 Planning Policy Wales

Paragraph 5.9.18 of the Welsh Government publication Planning Policy Wales (Edition 10) highlights, in respect of Renewable and Low Carbon Energy

*“The construction, operation, decommissioning, remediation and aftercare of proposals should take into account the need to minimise impacts on local communities, such as from noise and air pollution, to safeguard quality of life for existing and future generations.”*

Paragraph 6.7.26 speaks specifically about construction noise:

*“Planning Authorities must consider the potential for temporary environmental risks... arising during the construction phases of development... Where appropriate planning authorities should require a construction management plan covering pollution prevention, noisy plant, hours of operation, dust mitigation and details for keeping residents informed about temporary risks.”*

Welsh noise policy is also detailed in the Noise and Soundscape Action Plan (2018 – 2023).

### 8.3.4.4 Technical Advice Note 11: Noise

This TAN<sup>19</sup> recommends the application of BS4142 for the assessment of noise from industrial and commercial developments, unless transportation and Industrial noise sources are mixed and no source is dominant.

### 8.3.4.5 British Standard (BS) 4142: 2014+A1:2019 Methods for Rating & Assessing Industrial & Commercial Sound

BS4142 describes methods for rating and assessing sound of an industrial and / or commercial nature, comparing prevailing background without the source of interest (LA90) with the rated predicted or measured level of industrial / commercial sound (LAeq,Tr) to assess the likelihood of adverse impact.

British Standard (BS) 5228-1: 2009+A1:2014 Code of practice for noise and vibration control on construction and open sites Part 1: Noise

BS5228-1 recommends methods for noise control relating to construction sites. It contains libraries of data for various static and mobile plant items to facilitate prediction of cumulative noise levels, as well as examples of methodology for setting construction noise limits in co-operation with relevant Local Authorities.

### 8.3.4.6 British Standard (BS) 8233 Guidance on Sound Insulation & Noise Reduction for Buildings

BS8233 Annex B sets out an explanation and values for Noise Rating (NR) curves. These can be used as octave band design targets for cumulative fixed plant noise and, where appropriate, to specify mitigation.

This Scoping Assessment considers information provided by the Applicant relating to the Proposed Development, as well as library information relating to construction and operation of similar developments.

## 8.3.5 Potential Effects

### 8.3.5.1 Construction

Little specific construction methodology information is available at the time of writing, however, typically, construction activities will be spread over several weeks and will include:

- construction of access tracks and construction compound,
- use of piling techniques to accommodate module support structure legs,
- installation of beams and rails to support PV modules,
- installation of the PV modules,
- cabling to connect to the inverter and transformer station.

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<sup>19</sup> This document is currently under review

It is inevitable during any construction activities that there will be some disturbance caused to those nearby. This is a localised phenomenon which will be temporary in nature.

Some phases of the works may generate noise levels that cause temporary adverse effects at particular locations under worst-case conditions (i.e. where works are taking place at locations closest to a given receptor). Appropriate mitigation measures will therefore be required.

Noise from construction traffic also has the potential to cause adverse effects. The levels of construction traffic using the local road network will vary depending on the types of activities ongoing at any given time. The selection of haul routes for construction traffic and the times of use have the potential to create temporary adverse effects, albeit of short duration.

A pragmatic approach should be adopted when considering likely noise levels from construction works such as these.

The potential effects of construction-generated vibration are limited to a few meters from relevant activities. Assumed construction methodology will not generate significant levels of construction vibration, with the possible exception of piling techniques. Vibration levels generated by piling and experienced at the closest sensitive receptors will vary, depending on the method applied and geotechnical conditions. Nonetheless, the separation distance between the source and receiver indicates that significant adverse effects are unlikely.

Appropriate mitigation to ensure that temporary construction noise and vibration does not constitute a significant adverse effect is outlined in Section 8.3.6 below.

Providing that PINS and the CWAC approve this approach, then construction noise and vibration can be scoped out of the EIA.

#### **8.3.5.2 Operation**

Operational Photovoltaic modules generate very little noise, however the inverter, step-up transformer and other fixed plant, have the potential to generate local noise which may cause adverse effects, unless appropriately designed. Current plans indicate that these fixed plant elements will be located in a compound in the north of the site in Field 1, south of the Driving Range and east of Bretton Hall cottages on the west boundary of Field 2.

In order to control operational noise such that it does not exceed the Lowest Observable Adverse Effect Level (LOAEL), as described in the NPSE, appropriate selection of fixed plant, its location and enclosures will require to be defined. Typically, these fixed plant items will be containerised, the design of which will be selected to mitigate operational noise emissions to acceptable levels at the closest identified noise sensitive receptors. Low noise models should be selected as a priority.

Welsh Planning Policy recommends an assessment in accordance with BS4142 to address the relationship between industrial / commercial noise and existing residential use. This assessment requires considerably more detailed information about the source noise levels than is currently available, as well as a survey of prevailing background levels of environmental noise at the closest noise sensitive dwellings.

Nonetheless, it is considered that cumulative plant noise can be reduced through targeted engineering methods to levels commensurate with no significant adverse impact.

As such, operational noise may be scoped out of the EIA, however a separate targeted assessment of the potential for noise from these sources is recommended to assist with engineering design.

### **8.3.6 Mitigation**

#### **8.3.6.1 Construction Noise & Vibration**

A CEMP will be developed in liaison with the relevant Authorities. Among other technical disciplines, the CEMP will consider the effects of environmental noise and vibration and include a noise and vibration

management plan, ensuring a system tailored to the specific needs of the construction works, the site and the surrounding area.

As a minimum, any noise and vibration management plan will include:

- Procedures for ensuring compliance with noise control measures;
- Procedures for ensuring that all works are carried out in accordance with the principle of Best Practicable Means as defined in the Control of Pollution Act;
- General induction training for site operatives and specific training for any staff having responsibility for controlling noise from the site;
- Liaison with the relevant Authorities and the local community; and
- Provision of a contact telephone number / email address and named responsible person to whom any complaints or concerns with regard to noise, vibration and other environmental issues should be put as a first port of call.

Adopting Best Practicable Means is usually the most effective way of controlling noise and vibration from construction sites and will be enforced rigorously. This will ensure that any residual effects are not significant.

### **8.3.6.2 Operational Noise**

As previously noted, the selection and location of fixed plant, as well as appropriate noise control engineering interventions, should be carefully designed in collaboration with the technology providers and project engineers to ensure that operational noise is mitigated to standards commensurate with the requirements of PINS and CWAC.

### **8.3.7 Summary**

The potential for noise and vibration impacts associated with the proposed development have been considered within this Section of the EIA Scoping Report. In accordance with the EIA Screening Direction/Opinion received from the CWAC and PINS, it is confirmed that there are expected to be no significant adverse effects associated with either temporary construction noise and vibration, or operational noise from the proposed development.

It is acknowledged that temporary construction noise and vibration may generate occasional adverse impacts at the closest noise sensitive receptors during periods when works are occurring in close proximity. The potential for adverse effects will be mitigated through implementation of Best Practical Means as described in a Construction Environmental Management Plan.

As such, the potential for significant construction noise and vibration effects has been scoped out of the EIA.

The potential for adverse effects associated with operational noise from fixed plant items will be reduced through targeted engineering methods to levels commensurate with no significant adverse impact.

As such, operational noise may also be scoped out of the EIA, however a separate targeted assessment of the potential for noise from fixed plant sources is recommended to assist with engineering design.

## **8.4 Transportation & Access**

### **8.4.1 Introduction**

This study will consider the traffic and transport matters associated with the construction stage of the proposed development. The proposed development would result in a temporary increase in heavy goods vehicle (HGV) movements during the construction phase, reducing to a small number of light vehicle movements during operation. Given the temporary nature of any notable increase in traffic, it is expected that the impact to the public road network will be minimal and significant environmental effects arising from traffic generation is considered very unlikely. The nature of solar farm developments is such that they generally do not require any significant earthworks or civils works while the panels themselves are delivered as standard HGV movements rather than abnormal loads.

As a result, it is considered appropriate to “scope out” the traffic and transport assessment from the ES. Instead, a Transport Statement (TS) will be prepared which will review the suitability of access routes to the application site and outline the level of people and vehicle trip generation associated with the proposed development, including HGVs, associated with the construction phase. The TS will include identification of possible measures to mitigate any temporary disruption to the local public road network, where appropriate. The TS will be prepared by SYSTRA Ltd. The following paragraphs outline the scope of the TS.

#### **8.4.2 Guidance & Reference Material**

A review of relevant published transport plans, planning policies and guidance documents will be undertaken to ensure that the proposed development complies with the policy context. These include:

- FUDP (and any adopted supplementary planning guidance notes);
- Chester West and Chester Local Plan;
- National Planning Policy Framework;
- Planning Policy Wales;
- Institution of Highways and Transportation ‘Guidelines for Traffic Impact Assessment’ (1994); and
- Design Manual for Roads and Bridges (DMRB).

#### **8.4.3 Baseline Conditions**

A comprehensive desktop study will be used to establish the baseline transport conditions associated with the proposed development. The study area for the TS will be the public road network in the vicinity of the proposed development. This includes the A5104 and B6129 which are within the boundary of the application site and comprise the access route between the application site and the grid connection point.

The A5104 is a good standard single carriageway road and provides a key link between the A483 in the east and the North Wales Expressway in the west. The B6129 is also a good standard single carriageway which is residential in nature turning off the A5104. There are well established junctions existing between the A504 and the B5129, the B5129 and the access road to the proposed grid connection, and the A504 and the application site. A review of typical road capacities from the DMRB and publicly held accident records within the study area will be undertaken.

A route study will also be undertaken to look at the route options for accessing the application site for both construction and operational traffic movements. The study would cover both the technical feasibility of each route and would identify any potentially sensitive receptors on the routes. For the technical feasibility; the study would look at the suitability of the routes in terms of hierarchy, standard, condition and ability to accommodate HGVs. The outcome of this study will be identification of a preferred access strategy. The existing pedestrian, cyclist and public transport infrastructure within the study area will also be reviewed.

#### **8.4.4 Assessment Methodology**

The travel characteristics of the proposed development will be assessed using a first principles approach to calculate the potential people and vehicle trips generated by staff and the transportation of construction materials. The trip generation assessment will outline the level of staff vehicles and HGV vehicle trip generation expected on the busiest day of construction to demonstrate a worst-case scenario.

#### **8.4.5 Summary**

The TS will consider the integration of the proposed development with the surrounding transport network, as well as identifying any mitigation measures incorporated into the proposals to support the proposed development.

It is likely walking and cycling trips to the application site will be limited given the location and nature of the proposed development, however, measures to ensure pedestrian and cyclist safety will be provided through implementation of a construction stage Traffic Management Plan (CTMP).

The CTMP will also outline measures to mitigate the impact of HGV traffic through construction programming/routing and identification of an individual with responsibilities for managing traffic and

transport effects. Additionally, the CTMP will identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips.

## 8.5 Hydrology

### 8.5.1 Introduction

This Section of the EIA Scoping report provides a preliminary characterisation of the surface water features at the application site and identifies the risk of the application site to flooding and the effect of the proposed development on surface water. An assessment of the likely significant effects of the proposed development on the environment with respect to surface water and flood risk has been undertaken.

### 8.5.2 Guidance & Reference Material

Due consideration will also be given to the following legislation, regulations, policies and guidelines:

*Table 8.3: Applicable Guidance*

| Topic                                                                                                         | Sources of Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| National Policy & Legislation                                                                                 | A Better Quality of Life – A Strategy for Sustainable Development for the United Kingdom<br>Making Space for Water<br>The Pitt Review<br>Flood and Water Management Act 2010<br>Land Drainage Act and Water Resources Act 1991<br>The Flood and Water Management Act 2010<br>The Water Framework Directive                                                                                                                                                                                                                                                                    |
| National Planning Policy                                                                                      | National Planning Policy Framework, 2019<br>Planning Practice Guidance, 2014<br>Technical Advice Note 15: Development and Flood Risk, 2004                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Local Policy and Guidance                                                                                     | Cheshire West and Chester Council Local Plan, 2015 and 2019<br>Flintshire County Council Local Plan<br>Cheshire West and Chester Strategic Flood Risk Assessment, 2016<br>Flintshire Local Flood Risk Management Strategy, 2013                                                                                                                                                                                                                                                                                                                                               |
| Environment Agency Pollution Prevention Guidelines (now withdrawn, but still with useful points of reference) | PPG1 General guide to the prevention of water pollution.<br>PPG2 Above ground oil storage tanks<br>PPG3 Use and design of oil separators in surface water systems.<br>PPG4 Treatment and disposal of sewage where no foul sewer is available.<br>PPG5 Works or maintenance in or near water.<br>PPG6 Working at construction and demolition sites.<br>PPG8 Safe storage and disposal of used fuels.<br>PPG13 Vehicle washing and cleaning.                                                                                                                                    |
| Other Guidelines                                                                                              | CIRIA C502 Environmental Good Practice on Site<br>CIRIA C532 Control of Water Pollution from Construction Sites<br>CIRIA C753 The SuDS Manual<br>Preparation of Environmental Statement for Projects that require Environmental Assessment. A Good Practice Guide. 1995<br>Thompson, A., Easton, P.H., Hine, P.D. and Huxley C.L. 1998. Symonds Travers Morgan and DETR<br>Flood Risk to People Methodology (FD2321/TR1)<br>Flood Risk Assessment Guidance for New Development (FD2320/TR2)<br>Improving the Flood Performance of New Buildings; Flood Resilient Construction |

### 8.5.2.1 Consultation

Consultation to date includes the following:

#### *Cheshire West and Chester Council Screening Opinion*

CQAC within their Screening Opinion states *“the application site is located within Flood Zone risk 3, close to the Scheduled Ancient Monument at Bretton Hall Moated Site and nearby statutory designated national and international nature conservation sites. However, the nature of the development is unlikely to have a significant effect upon these designations. Local nature conservation sites can be accommodated.”*

CWAC confirm that the proposed development will not lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea. The proposed development would have no significant effect on areas which contain important, high quality or scarce resources (e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals). CWAC conclude that *“the development would be constructed on agricultural land. It would be temporary and could continue to be grazed.”*

CWAC conclude that *“With respect to water management it is not considered to have a significant impact to merit EIA but the applicant should liaise with the EA should an application come forward and take on board the Lead Local Flood Authority’s response.”*

#### *PINS Screening Direction*

The PINS Screening Direction concludes that *“The application site is located within a C1 Flood Zone, close to the Scheduled Ancient Monument at Bretton Hall Moated Site and is in close proximity to the River Dee and Bala Lake SAC and the River Dee SSSI; however, the type of development proposed is such that significant effects in relation to those designations are unlikely.”*

#### *Natural England Screening Opinion*

Natural England within their Screening Opinion have confirmed that *“The proposed development is not located within or partly within any Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA) or Ramsar Site and is not likely to significantly effect the notified interest features of such sites. The proposal is not located within or partly within a National Park, Area of Outstanding Natural Beauty or Heritage Coast and is unlikely to impact upon the purposes for which these areas are designated or defined.”*

### 8.5.3 Baseline Conditions

The application site is located 0.6km to the southwest of Saltney and 2km to the east of Broughton. A key feature of the application site is that it is bisected into two roughly equal parts by the England and Wales border. The redline boundary for the site covers approximately 49-hectares of land, which is currently occupied by improved grassland used for pastoral farming, with a small area of arable land. Land surrounding the application site is predominantly grassland used for agriculture. There are several extensive urban and suburban areas located to the west and north east of the application site, these being Bretton, Broughton, Saltney and Lache. The city of Chester lies ~3.50km to the northeast. The application site is bounded to the north by the A5104 road and to the south by the A55 North Wales Expressway.

#### 8.5.3.1 Hydrology

Several watercourses flow through the application site, the main watercourse being Balderton Brook which drains into the tidal section of the River Dee to the north of the application site. There are a number of watercourses which pass through or drain the application site, these watercourses all ultimately drain into the Balderton Brook.

Balderon Brook drains an area of 27.80km<sup>2</sup> conveying flow from the catchment and ultimately into the estuary of the River Dee. Discharge of flow from the Balderton Brook into the Dee Estuary is controlled by both tidal levels in the estuary as well as an NRW pumping station.

### **8.5.3.2 Flood Risk**

A review of the NRW Flood Zones indicates that the application site is located within Flood Zone 3 and therefore has a 'high probability' of fluvial/tidal flooding. Flood Zone 3 shows the extent of a flood from rivers with a 1% (1 in 100) chance or greater of happening in any given year or the extent of a flood from the sea with a 0.5% (1 in 200) chance or greater of happening in any given year.

A review of the Environment Agency (EA) Flood Zones indicates that the application site is located within Flood Zones 2 and 3 and therefore has a 'medium to high probability' of fluvial/tidal flooding. Flood Zone 2 has between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1%) in any year and Flood Zone 3 has a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.

The Development Advice Map which accompanies TAN15 shows that the application site is located within Zone C1 - Areas of the floodplain which are developed and served by significant infrastructure, including flood defences. This is used to indicate that development can take place subject to application of justification test, including acceptability of consequences.

### **8.5.3.3 Surface Water**

Currently, the application site is unlikely to be served by a positive surface water drainage system, with rainfall currently understood to infiltrate into the ground where geological and hydrogeological conditions allow, and then runoff once the infiltration capacity of the ground has been exceeded.

### **8.5.3.4 Water Quality**

The aim of the Water Framework Directive (WFD) is to ensure that all surface water and groundwater bodies are of good chemical and ecological status.

The application site lies entirely within the WFD River Basin Management Plan (RBMP) 2 surface waterbody Balderton Drain - GB111067052150, which is part of the Dee River Basin District. The key watercourse of this waterbody is the Balderton Brook.

### **8.5.3.5 Environmental Designations**

The application site is not located within or partly within any SSSI, SAC, SPA or Ramsar Site and is not likely to significantly affect the notified interest features of such sites. The application site is not located within or partly within a National Park, AONB or Heritage Coast and is unlikely to impact upon the purposes for which these areas are designated or defined.

## **8.5.4 Assessment Methodology**

A standalone Flood Risk/Consequence Assessment (FRA/FCA) report will also be prepared, which will include a proposed Surface Water Drainage Strategy. The FRA/FCA will assess the potential risk of flooding to the application site from all sources, and the impact of the proposals on flood risk elsewhere including surface water runoff.

The FRA/FCA will also assess the existing land drainage arrangements at the application site and identify the potential for any existing surface water regime(s) to be disturbed as a result of the proposed development. The report will provide a strategy for the disposal and treatment of surface water flows from the application site.

The FRA/FCA will be supported and informed through consultation with various stakeholders, including the Environment Agency, NRW, CWAC, FCC, the Lead Local Flood Authorities and Sewerage Undertakers, were required. Reference will also be made to relevant national and local surface water / flood risk planning and legislative policy.

## 8.5.5 Potential Effects

The Proposed Development has the potential to have a variety of impacts on surface water and flood risk receptors, as follows.

### 8.5.5.1 Construction Phase

Potential effects that may arise during the construction phase of the Proposed Development are outlined below:

- Construction site runoff - suspended fine sediments;
- Construction site runoff - chemical spillages;
- Modifications to drainage channels and watercourses;
- Temporary increase in impermeable area;
- Impacts on groundwater recharge; and
- Impacts on flood risk.

#### *Construction site runoff – suspended fine sediments*

The water environment and the flora and fauna that it supports may be adversely affected by excessive levels of fine sediment contained within surface water runoff originating from construction activities associated with the proposed development. Furthermore, the construction activities would involve the excavation and movement of materials at the application site therefore, inappropriate management of surface water could result in sediment loading of watercourses. There is also an associated risk of an increase in the potential for leaching of pollutants into surface water receptors.

#### *Construction site runoff – chemical spillages*

A number of potentially polluting materials may be used during the construction phase. These include oils, diesels, fuels, hydraulic fluids, cement / concrete, heavy metals / metalloids, bentonite, solvent / paints and flocculants etc. The accidental spillage of these may result in the contamination of surface water or groundwater.

#### *Watercourses / Water Bodies*

There are a number of water features within the vicinity of the application site, the construction phase has the potential to impact the hydrology of these watercourses / waterbodies by changing the local hydrology and runoff characteristics.

#### *Temporary Increase in Impermeable Area*

During construction there may be a temporary increase in impermeable area due to the removal of surface vegetation, compaction of bare earth reducing infiltration rates, and the construction of new hard standing in advance of the operational phase drainage system being constructed and commissioned.

As the proposed development is being constructed, increasing the area of impermeable surface has the potential to increase surface water runoff rates and volumes. A temporary increase in impermeable area across the application site could result in increased rates and volume of runoff that would not otherwise occur.

#### *Groundwater recharge*

Construction of the solar farm and the corresponding impermeable surface has the potential to affect groundwater recharge in this area. However, it is considered that groundwater recharge will not be affected significantly due to the nature of the development as a solar farm. Furthermore, it is considered that groundwater recharge will not be affected significantly as the soils in this area are considered to have poor permeability properties.

#### *Impact on Flood Risk*

Parts of the application site have been identified as being at risk of flooding. Any alteration of ground levels or obstructions placed within areas considered to be at risk of flooding during construction therefore has the potential to increase flood risk to the application site and elsewhere. Additionally, on and off-site flood risk may increase due to increased runoff due to soil compaction on-site. Any flooding effects

resulting from temporary construction activities are likely to be very localised within the application site itself and so the increase in flood risk during construction is considered to have a low magnitude of effect.

### 8.5.6 Conclusion

It has been concluded that the surface water and flood risk effects of the proposed development during both the construction and operational phase have been scoped out of the EIA as there are unlikely to be significant effects. Therefore, a surface water and flood risk ES chapter is not required.

A standalone FRA/FCA report will be prepared, which will include a proposed Surface Water Drainage Strategy.

## 8.6 Land & Soil

The land within the application site currently comprises agricultural land used for livestock grazing. Field 8 (as illustrated on Figure 3) has recently been used for the production of winter crop. According to the Cranfield University Soils Map<sup>20</sup>, the soil within the application site comprises “*slowly permeable, seasonally wet, slightly acidic but base-rich loamy and clayey soils*”. In addition, the Soil Survey of England and Wales 1986 identifies the soil as belonging to the Dowels soil series. The characteristics of this soil series comprise “*moderately permeable prominently mottled stoneless clays over acid peat. Seasonally waterlogged with fluctuating groundwater within 50cm depth.*”

In terms of agricultural land, an Agricultural Land Classification (ALC) survey will be undertaken to determine the quality of the land within the application site. The land is currently used for livestock grazing, with the exception of Field 8 which was recently harvested for winter crop. It should be noted that the proposed development would allow agricultural activity to continue throughout the operational phase, with sheep able to graze the land between and beneath the solar arrays. In addition, the proposed development is reversible, with the land within the application site boundary capable of being restored as close as practicable to its original, or to a better condition following decommissioning.

## 8.7 Pollution & Nuisances

The construction phase of the proposed development is not anticipated to result in the generation of pollution. Some noise will be generated throughout the construction phase, in the form of HGV traffic movements and the installation of the solar arrays and infrastructure. However, this will be short-term and is not considered to be significant. A Construction Environmental Management Plan (CEMP) will advise of best practice measures to be implemented throughout the construction phase to limit pollution and nuisances during this phase of development. The operational phase will not generate any pollution or nuisance in the form of noise or vibration.

## 8.8 Waste

It is anticipated that waste would not be generated during the operational phase of the proposed development due to the solar farm being un-manned and monitored remotely. During the construction and decommissioning phases, waste would be generated from the following sources:

- Soil stripping to accommodate new access tracks;
- Earthworks associated with the excavation of cable trenches, and
- Packaging waste associated with panels and infrastructure.

The waste generated from packaging would be managed at the appropriate waste management facility.

In relation to soil stripping and earthworks, careful management of soil would be implemented during any excavation works. This will allow for the re-use of soil resources onsite, preventing the need to remove soil from the application site. The applicant would prepare a CEMP prior to the commencement of the construction phase. The CEMP would include site specific measures to reduce environmental effects onsite, based upon the findings of the environmental assessment process. In addition, best practice

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<sup>20</sup> Cranfield Soil and Agricultural Institute. Soils Map. Available online: <http://www.landis.org.uk/soilsmap/>

guidance would be included within the CEMP and adopted during the construction phase to avoid, minimise or mitigate effects on the environment.

### 8.8.1 Glint & Glare

Glint and glare refer to light reflected off smooth surfaces, either momentarily and intense (glint) or less intense for a more sustained period (glare). Solar panels are designed to absorb as much radiation as possible and to limit the amount of light reflected. Glint and glare has the potential to impact upon sensitive ground based receptors, such as residential dwellings, roads and railways, as well as aviation receptors, such as airports and airfields.

Solar Trade Association guidance document on 'Impacts of Solar PV on Aviation and Airports'<sup>21</sup> states that *"from the evidence we have seen so far the STA does not believe that there is cause for concern in relation to the impact of glint and glare from solar PV on aviation and airports, nor relating to infringement on airspace or interference with communications equipment. Solar PV panels are designed to absorb not reflect light, and their level of reflectivity is lower than that of other objects commonly visible on and around aerodromes, e.g. metal roofs, glass windows, cars, and bodies of water."*

However, a Glint and Glare Assessment will be undertaken for the proposed development. This assessment will consider the potential impact upon ground-based receptors within close proximity to the application site and the potential impact upon Hawarden Airport, which lies approximately 1.7km to the west of the application site. Detailed geometric analysis will be undertaken using a Glint and Glare model for all receptors.

## 8.9 Major Accidents & Disasters

The EIA Regulations require that impacts on the environment from major accidents and disaster risk be assessed where appropriate, including the risk associated with climate change. The application site is not located within an area with a history of natural disasters. Due to the low-lying nature of the proposed development, significant effects in relation to accidents and disasters are not anticipated. However, any electrical installation, by its nature, will carry some degree of fire risk, although fires caused by PV panels are rare<sup>22</sup>. As such, it is not considered necessary to undertake an assessment of the proposed development with respect to major accidents and disasters within the ES.

In relation to risks from climate change, the application site lies within an area identified as being at risk of flooding. A Flood Risk Assessment/Flood Consequence Assessment will be undertaken, and mitigation measures implemented to allow for the safe construction and operation of the proposed development. The FRA/FCA will be submitted in support of the planning application.

### 8.10 Human Health Risks

The proposed development is not considered to pose a risk to human health. The application site does not lie within an area identified as being contaminated or involve any hazardous substances during construction, operation or decommissioning.

There are health and safety risks associated with the construction phase of any development. Measures will be implemented to promote health and safety across the site. During the construction and operational phases of the proposed development the application site will be secured by fencing, to prevent people accessing the site.

### 8.11 Socio-Economics

Socio-economics can be defined as the relationship between a proposed development and the economic activity that comes from it, and the impact this has on the local community. Solar farm developments, such as the proposed development have the potential to have a variety of direct and indirect economic effects, including:

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<sup>21</sup> Solar Trade Association (2016) Impact of Solar PV on Aviation and Airports. Available online: <http://www.solar-trade.org.uk/wp-content/uploads/2016/04/STA-glint-and-glare-briefing-April-2016-v3.pdf>

<sup>22</sup> BRE (2015) Fire Safety and Solar Electrical/ Photovoltaic Systems. Available online: <https://www.bre.co.uk/page.jsp?id=3211>

- Provision of employment throughout the construction and decommissioning phases;
- Use of local services, such as hospitality and retail services by workers during the construction and decommissioning phases;
- Community benefits associated with the operation; and
- Potential for community or shared ownership of the proposed development.

The proposed development is proposed as a community energy scheme, whereby the local community have the potential to invest in the proposed development for community ownership. Section 5.9.21 of PPW states that the Welsh Government are supportive of “*renewable and low carbon energy projects which are developed by communities, or benefit the host community or Wales as a whole. The social, environmental and economic (including job creation) benefits associated with any development should be fully factored into, and given weight in the decision making process.*”

The Welsh Government Policy Statement ‘Local ownership of energy generation in Wales – benefitting Wales today and for future generation’ states that “*the Welsh Government supports renewable and low carbon energy projects developed by communities, or benefit the host community or Wales as a whole. The social, environmental and economic benefits associated with any development should be fully factored into, and given weight in, the decision making process...*”

Similarly, PPG on Renewable and Low Carbon Energy states that: “*Community initiatives are likely to play an increasingly important role and should be encouraged as a way of providing positive local benefit from renewable energy development.*”

The Department for Business Energy and Industrial Strategy conduct a Public Attitudes Tracker survey, the most recent findings were published in May 2020<sup>23</sup>. The results from the most recent survey were based upon face-to-face interviews undertaken in March 2020, however fieldwork finished early as a result of the COVID-19 outbreak, resulting in a smaller sample size.

Respondents were asked whether they supported the development of renewable energy technologies. The responses highlight steady support for renewable energy generation, with 82% of respondents supportive. Of the renewable energy technologies listed (including solar, onshore wind, offshore wind, wave and tidal and biomass) solar developments achieve the greatest level of support, which has remained stable at 86% since September 2019.

It is proposed to scope out socio-economic effects from the ES. Instead the socio-economic benefits of the proposed development will be explored within the Rational for the Development Section of the introductory chapters of the ES.

### 8.11.1 Summary of Questions

- Q1 – Do consultees agree with scoping out the following from the ES:
  - Biodiversity;
  - Noise;
  - Transportation & Access;
  - Hydrology;
  - Land & Soil;
  - Pollution & Nuisances;
  - Waste;
  - Major Accidents & Disasters;
  - Human Health Risks; and
  - Socio-Economics.
- Q2 - Do you agree with the proposed methodologies?

<sup>23</sup> BEIS (2020) Public Attitudes Tracker. Available online: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/884028/BEIS\\_PAT\\_W33\\_-\\_Key\\_findings\\_Final\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/884028/BEIS_PAT_W33_-_Key_findings_Final_.pdf)

## Section 9.0: Structure of the Environmental Statement

---

### 9.1 Introduction

It is proposed that the ES is structured as follows (subject to change):

- Volume 1: ES Main Text;
- Volume 2: Figures and Visualisations;
- Volume 3: Technical Appendices, and
- Non-Technical Summary.

### 9.2 Volume 1: ES Main Text

It is proposed that Volume 1: ES Main Text is structured as follows (subject to change):

- **Chapter 1: Introduction:** background information relevant to the Proposed Development, overview of the proposed development and the EIA Team.
- **Chapter 2: EIA Process & Methodology:** an overview of the EIA process, regulatory context and an overview of the methodology adopted for the proposed development.
- **Chapter 3: Proposed Development:** an overview of the proposed development, including the built elements, construction, operation, and decommissioning, as well as the rationale for the proposed development.
- **Chapter 4: Design Evolution & Consideration of Alternatives:** an overview of the design evolution process and an assessment of alternatives.
- **Chapter 5: Planning Policy Context:** an overview of national, regional and local planning policies relevant to the proposed development.
- **Chapters 6 & 7:** provide an assessment of likely significant effects as a result of the proposed development in relation to:
  - Landscape & Visual Impact, and
  - Cultural Heritage & Archaeology.
- **Chapter 8: Interaction of Effects & Schedule of Mitigation:** an overview of any interactions of effects and a schedule of mitigation to include any mitigation measures recommended throughout the EIA process.
- **Chapter 9: Summary of Effects & Conclusion:** a summary of effects identified throughout the EIA process.

### 9.3 Volume 2: Figures & Visualisations

Volume 2 of the ES will comprise the graphic material including figures and any visualisations which will be required to support the environmental assessments presented in Volume 1: ES Main Text.

### 9.4 Volume 3: Technical Appendices

Volume 3 of the ES will comprise the technical appendices which support the environmental assessments presented in Volume 1: ES Main Text.

### 9.5 Non-Technical Summary

A Non-Technical Summary (NTS) will be produced, which will summarise the EIA process and the key findings in a manner that is easily understood in non-technical language. The NTS will be provided in English and Welsh.

### 9.6 Other Supporting Documents

It is proposed that the planning applications are accompanied by the following documents:

- Planning Statement;
- Design & Access Statement;
- Consultation Report;
- Ecological Survey Report;

- Great Crested Newt Survey Report; and
- Biodiversity Management Plan.
- Transport Statement;
- Noise Assessment;
- Glint & Glare Assessment, and
- Flood Risk Assessment.

## Figures

**Appendix A: PINS Screening Direction**

## **Appendix B:     Cheshire West & Chester Council Screening Opinion**

## Appendix C: Scoping Questions

| Section                                    | Question                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2: EIA Process & Methodology               | Q1: Do you agree that a 5km cumulative study area is acceptable for the proposed development?                                                                                                                                                                                                                                                                                                                         |
|                                            | Q2: Are there any other cumulative developments you require to be considered?                                                                                                                                                                                                                                                                                                                                         |
| 6: Landscape & Visual Impact Assessment    | Q1 – Do you agree with the proposed methodologies?                                                                                                                                                                                                                                                                                                                                                                    |
|                                            | Q2 – Do you agree with the proposed 5km LVIA and cumulative study area?                                                                                                                                                                                                                                                                                                                                               |
|                                            | Q3 – Do you agree with the list of landscape receptors proposed to be assessed?                                                                                                                                                                                                                                                                                                                                       |
|                                            | Q4 – Do you agree with the list of key settlements proposed to be assessed?                                                                                                                                                                                                                                                                                                                                           |
|                                            | Q5 – Do you agree with the list of residential properties to be assessed?                                                                                                                                                                                                                                                                                                                                             |
|                                            | Q6 – Do you agree with the list of transport routes proposed to be assessed?                                                                                                                                                                                                                                                                                                                                          |
|                                            | Q7 – Do you agree with the list of recreational routes proposed to be assessed?                                                                                                                                                                                                                                                                                                                                       |
|                                            | Q8 – Do you agree with the list of representative viewpoints proposed to be assessed?                                                                                                                                                                                                                                                                                                                                 |
| 7. Cultural Heritage & Archaeology         | Q1 – Do you agree with the proposed methodologies?                                                                                                                                                                                                                                                                                                                                                                    |
| 8. Assessments to be Scoped out of the EIA | Q1 – Do consultees agree with scoping out the following from the ES: <ul style="list-style-type: none"> <li>▪ Biodiversity;</li> <li>▪ Noise;</li> <li>▪ Transportation &amp; Access;</li> <li>▪ Hydrology;</li> <li>▪ Land &amp; Soil;</li> <li>▪ Pollution &amp; Nuisances;</li> <li>▪ Waste;</li> <li>▪ Major Accidents &amp; Disasters;</li> <li>▪ Human Health Risks; and</li> <li>▪ Socio-Economics.</li> </ul> |
|                                            | Q2 - Do you agree with the proposed methodologies?                                                                                                                                                                                                                                                                                                                                                                    |

## Appendix D: Glossary of Terms

| Term                    | Description                                                                              |
|-------------------------|------------------------------------------------------------------------------------------|
| ALC                     | Agricultural Land Classification                                                         |
| AONB                    | Area of Outstanding Natural Beauty                                                       |
| CWAC                    | Cheshire West & Chester Council                                                          |
| ES                      | Environmental Statement                                                                  |
| EIA                     | Environmental Impact Assessment                                                          |
| English EIA Regulations | The Town and Country Planning (Environmental Impact Assessment) Regulations 2017         |
| FCC                     | Flintshire County Council                                                                |
| GIS                     | Geographic Information System                                                            |
| LCA                     | Landscape Character Area                                                                 |
| LCT                     | Landscape Character Type                                                                 |
| LVIA                    | Landscape and Visual Impact Assessment                                                   |
| NRW                     | Natural Resources Wales                                                                  |
| PINS                    | Planning Inspectorate                                                                    |
| SSSI                    | Site of Special Scientific Interest                                                      |
| SAC                     | Special Area of Conservation                                                             |
| SPA                     | Special Protection Area                                                                  |
| Welsh EIA Regulations   | The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 |
| Ynni Newydd             | Applicant                                                                                |

## Appendix E: Landscape & Visual Impact Assessment Figures

**Appendix F: Ecology Survey Report**

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## Safety

CDOIF Environmental Risk Tolerability Assessment  
Chemical Management  
COMAH Regulations Compliance Support  
Consequence Modelling  
Control of Electromagnetic Fields (EMF)  
DSEAR & Hazardous Area Classification  
Functional Safety  
Health & Safety Compliance & Consultancy

Hazard Analysis Critical Control Point (HACCP)  
Hazard & Operability Studies (HAZOP)  
Local Exhaust Ventilation (LEV) Examination & Testing  
Occupational Hygiene  
Occupied Building Risk Assessment (OBRA)  
Reliability Engineering  
Risk Analysis Studies  
Risk Assessment & Management

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Best Available Technique (BAT) Services  
Circular Economy, Waste Reduction & Compliance  
Contaminated Land Services  
Construction Environment Services  
Ecological & Ornithological Surveys  
Environmental Impact Assessment (EIA)  
Environmental Monitoring

Legal Compliance  
Management Systems (ISO 9001, 14001, 45001, 50001)  
Noise Impact Support  
Permitting Support  
Planning Services & Community Consultation  
Policy Development  
Secondment Services

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Anaerobic Digestion  
Electrical & Mechanical Isolations  
Energy, Water & Waste  
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Mechanical & Electrical Engineering Design  
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