Appendix 1



# FLINTSHIRE RENEWABLE ENERGY ASSESSMENT:

# LANDSCAPE SENSITIVITY STUDY FOR SOLAR FARM DEVELOPMENT



**Prepared by Enplan** 

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# CONTENTS

1.0	INTRODUCTION	1.
	Background and Scope	1.
	Usage	
	Landscape Sensitivity	
	Limitations	
	Limitations	۷.
2.0	CHARACTERISTICS OF SOLAR ENERGY DEVELOPMENT	
2.0		
	Components of Solar Farm Development	
	General Locational Considerations	
	Appearance	
	General Effects on Landscape Character	4.
3.0	BASELINE LANDSCAPE CHARACTER AND VALUE	5.
	Overview	
	Designated Landscapes	
	Designated Editasoapes	Э.
4.0	LANDSCAPE SENSITIVITY ASSESSMENT METHODOLOGY	6.
	Relevant Background Material	• •
	Methodology	6.
5.0	ASSESSMENT OF SENSITIVITY OF POTENTIAL SOLAR LOCAL SEARCH AREAS	10.
	Typical Character of the Local Search Areas	10
	Local Search Area Assessment Sheets	
		10.
6.0	SUMMARY AND CONCLUSIONS	30.

# **FIGURES**

FIGURE 1 -	Planning Policy Wales, Edition 10, December 2018 and Planning Policy Wales, Technical Advice Note 8:Planning for Renewable Energy	1
FIGURE 2 -	Guidelines for Landscape and Visual Impot Assessment, Third Edition	
FIGURE 3 -	Appearance of solar panels	
FIGURE 4 -	Typical view of solar farm during installation	
FIGURE 5 -	•	
	Solar Collectors with sheep grazing under panels	
FIGURE 6 -	National Landscape Character, NLCA13 Deeside and Wrexham	
FIGURE 7 -	National Landscape Character, NLCA12 Clwydian Range	
FIGURE 8 -	Landscape Guidance Note 1: LANDMAP and Special Landscape Areas 2017	
FIGURE 9 -	Potential solar local search areas within Flintshire	11.
TABLES		
TABLE 1 -	Table 2 from Guidance Note 1	7.
TABLE 2 -	Landscape Value Assessment Criteria	7.
TABLE 3 -	Nature, Scale and Complexity of Landform	8.
TABLE 4 -	Nature, Scale and Complexity of Land Use & Field Pattern	
TABLE 5 -	Visual Enclosure of Exposure	8.
TABLE 6 -	Development, Activity, Remoteness and Tranquility	8.
TABLE 7 -	Landscape Sensitivity Assessment Matrix	9.
TABLE 8 -	Landscape Sensitivity Categories	9.
TABLE 9 -	Summary of LSS findings and recommended capacity (MW)	31.
APPENDI	CES	

APPENDIX A – Solar Local Search Area LANDMAP Analysis Maps

#### 1.0 INTRODUCTION

#### **BACKGROUND AND SCOPE**

- 1.1 This Landscape Sensitivity Study (LSS) is a 'high-level' assessment of 18 Local Search Areas (LSAs) for solar photovoltaic energy development for Flintshire County Council to form part of the evidence base for the renewable energy aspects of the emerging Local Plan. Enplan were commissioned by the Council in March 2020.
- The Council commissioned AECOM to prepare the 'Renewable Energy and Low Carbon Energy Assessment', 2019 [1], and which defined various Local Search Areas (LSAs) for solar developments following the prescribed methodology as laid out in the Renewable Energy Toolkit [2]. The need to identify LSAs is derived from the Toolkit and the Ministerial Letter of December 2015 [3].
- 1.3 Solar power is one of the more mature forms of renewable energy which has seen some growth across the UK. Its development in Flintshire in recent times has included the substantial 72MW Shotwick Solar Park and a smaller site within the Deeside Industrial Park, with potential proposals emerging for large scale developments at Crumps Yard chemical works, the Castle Park Industrial Estate and Bretton Hall Farm.
- Planning Policy Wales, the Technical Advice Notes (TANs), circulars and policy clarification letters comprise national planning policy. National planning policy and the Wales Spatial Plan should be taken into account in the preparation of development plans. Planning Policy Wales 10th Edition (2018) sets out the land use planning policies of the Welsh Government. The Welsh Government sets targets for the generation of renewable energy and requires the planning system and local authorities to take an active role in identifying challenging targets in development plans. Planning authorities should consider the absolute renewable energy resource they may have in their area, informed by an appropriate evidence base, to formulate a target; such targets should not be a maximum. Planning authorities should ensure development plan policies are supportive of renewable energy development, direct developments to the right locations and set out clearly the local criteria against which proposals will be evaluated.
- 1.5 Impact on landscape is likely to be one of the main planning considerations associated with solar energy development proposals. This LSS is a 'high-level' assessment intended to form an essential element of the evidence base for development control purposes in assisting to direct solar development to the right areas and in the right quantum, as well as to advise those involved as to the main landscape and visual issues that are likely arise within any specific LSA location.

- The LSS addresses the sensitivity of landscape character 1.8 to solar development and also considers the extent to which those characteristics will, at a general level, affect views of that landscape. The intention is that the LSS information will contribute to an appreciation of the likelihood of a particular development being considered acceptable or otherwise. The LSS is not a detailed assessment of landscape effects of any particular solar 1.9 development site as this would require a scheme and knowledge of the precise changes proposed. Neither is it a detailed assessment of visual sensitivity as this would require assessments from multiple individual viewpoints. Detailed landscape and visual assessments would be undertaken as part of the normal planning application preparation process for any specific proposal whether these be for projects less than 10MW, to be determined by the county, or in excess of 10MW to be determined by the Welsh Government through the Developments of National Significance (DNS) process. These applications will be informed by the LSS but should not wholly rely on it.
- 1.7 TAN 8: Planning for Renewable Energy relates to the land use planning considerations of renewable energy. However, UK and national energy policy provide its context. TAN8 specifically refers to solar development at paragraphs 3.15 3.17 which state:
  - "3.15 Other than in circumstances where visual impact is critically damaging to a listed building, ancient monument or a conservation area vista, proposals for appropriately designed solar thermal and PV systems should be supported.
  - 3.16 Local planning authorities should interpret the provisions of the General Permitted Development Order as constructively as possible when these systems are proposed; specific advice in respect of houses has already been issued. They should also consider ways in which further encouragement can be given to these technologies, including the introduction of planning policies for building types with a high demand for hot water, especially if this is likely to occur mainly during the summer months.
  - 3.17 Housing of all types is appropriate for the utilisation of solar water heating. Local design guides and supplementary planning guidance should encourage this and incorporate appropriate advice".

- The LSS assesses the sensitivity of the LSAs to commercial scale solar farm development of 5MW upwards to 50MW. The assessment is concerned with the operational phase of solar farms, typically 25 years, and not the construction phase, as typically this is less harmful that the operation stage.
- 1.9 For each LSA the LSS recommends a broad landscape 'capacity' based on the analytical work undertaken and the judgement of an experienced Chartered Landscape Architect; a judgement that has involved fieldwork assessment of each LSA to establish an appropriate level of development for the particular characteristics of an LSA and where such a development is unlikely to lead to unacceptable landscape and/or visual effects. In so doing, it is recognised that this is only a landscape judgement; just how much solar development is appropriate in any given area includes strategic planning considerations beyond those of solely a landscape basis, including need, and consideration of the degree of harm that is acceptable in that planning context.



Figure 1. Planning Policy Wales, Edition 10, December 2018. and Planning Policy Wales, Technical Advice Note 8:Planning for Renewable Energy

<sup>1.</sup> Renewable and Low Carbon Energy Assessment, 2019, AECOM

<sup>2.</sup> Practice Guidance - Planning for Renewable and Low Carbon Energy - A Toolkit for Planners, 2015, Welsh Government

<sup>3.</sup> Letter to Planning Lead Members from the Minister for Natural Resources, 10th December 2015

#### USAGE

- 1.10 It is intended that this LSS should be used to:
  - Be part of the evidence base for the emerging Local Plan;
  - Provide guidance to inform the site selection and development of proposals at the pre-application stage;
  - Assist the Council with the EIA Screening and Scoping processes;
  - Inform the preparation of detailed landscape and visual impact assessments (LVIA) for the proposed development whether EIA or not; and to
  - Assist with the determination of planning applications or Local Impact Reports, in the case of DNS applications.

#### LANDSCAPE SENSITIVITY

1.11 Guidelines for Landscape and Visual Impact Assessment (GLVIA3) [4] addresses methodologies for landscape sensitivity assessments and has been used as the basis for the structure and key stages of the LSS. Landscape sensitivity can be considered to be either inherent sensitivity, i.e. a landscape's intrinsic sensitivity to any change, or sensitivity to a specific form of change. We are concerned in this case with the latter and, as such, landscape sensitivity will depend on the susceptibility of the characteristics of that landscape to change as a result of the development in question in combination with consideration of the value attached to the landscape. Defining landscape susceptibility is a judgement based on an assessment against various criteria. The assessment of value has also been a judgement, although one made by an assessor LANDMAP. Landscape sensitivity is the outcome of these two separate analyses combined together and, from these assessments, a final judgement is made in the form of a recommendation regarding an appropriate 'capacity' for each LSA.

#### **LIMITATIONS**

- 1.12 The LSS has considered the operational development to be the solar farm itself. It has not considered the effects of any grid connections, any new roads required to access the development or any other peripheral or temporary works.
- 1.13 Certain locations, either localised or covering a broader area, may be considered to be less suitable for solar development for a wide spectrum of reasons other than simply landscape considerations. For example, land ownership and the willingness of an owner to promote or to see solar development come forward on their land has also not been a consideration.

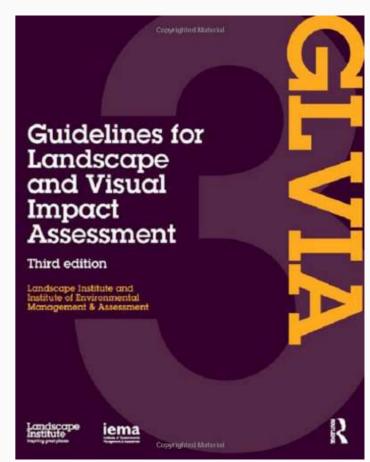


Figure 2. Guidelines for Landscape and Visual Impot Assessment, Third Edition

#### 2.0 CHARACTERISTICS OF SOLAR ENERGY DEVELOPMENT

#### COMPONENTS OF SOLAR FARM DEVELOPMENT

- 2.12 The main component of solar farm development is panels of photovoltaic cells, encased in aluminium frames and supported on aluminium or steel stands. An individual panel is in the order of 1m x 2m in size, set tilted to the south at a fixed angle of 20-40° and these are laid out in generally parallel rows in an eastwest direction, typically 5-8m wide depending on the gradients within the site. In most cases the panels are fixed, although there are panels which allow manual and automatic changes in angle to track the sun. The panels are set at around 0.6-1m above ground level and the remaining land is laid to grass and grazed by sheep. The overall height of the panels above ground level is, therefore, typically around 2-3m.
- 2.13 Other components of operational solar farms can include:
  - Inverters to convert the electricity from DC to AC, housed within new or existing buildings and served by permanent access tracks;
  - A transformer and power cables, generally undergrounded within the solar farm itself:
  - An on-site power house (usually only a small flat-roofed building on a concrete base);
  - Security fencing, around the boundary of the solar farm, up to 2.5m in height; and
  - There can be CCTV (onsite security cameras mounted up to around 4.5m high).

#### **GENERAL LOCATIONAL CONSIDERATIONS**

- 2.14 Generally the technically favourable topography for solar farm sites are flat or gently sloping landforms with a southerly aspect, required to maximise efficiency. Steeply sloping sites are not favoured because of issues of construction and maintenance practicalities.
- variety, although the LSAs lie away from the hills of the Clwydian Range. In the Flintshire context the most likely favoured sites will be the relatively flat plateaux, flat valley bottoms or gently sloping valley sides within the landscapes more associated with the Dee Estuary rather than the higher Clwydian hills. The AECOM assessment to define the LSAs has included an element of slope analysis on a technical suitability basis but this LSS has recognised that elevated and sloping LSAs, or parts of LSAs, are generally more visually exposed than flatter topography.

#### **APPEARANCE**

- 2.16 The surface of solar panels are typically described as appearing dark in colour as a result of their non-reflective coating and maximised absorption of light. However, in the landscape they do have some reflective qualities and can, on a sunny day appear blue, reflecting the sky, whilst on a cloudy day they can appear a 'milky' grey. When viewed from a distance panels have sometimes been likened to agricultural poly tunnels or, depending on angle of light, to water bodies. It is generally accepted that the reflection from the surface of the panels does not glint or glare, as can glass in the landscape for example. Relatively occasional occurrences of glinting are experienced in low sun conditions where in which the sunlight can glint off the aluminium side strips of some panels although such occurrences are short-lived effecting only a small area.
  - As the panels are arranged to face south and laid out densely across their sites this means that in most views from areas within a southern sector from the solar farm the panels appear to cover the entire area, effectively as a blanket, with little or nothing seen of the spaces between. The amount of the solar farm seen in the view depends on a combination of the degree of south facing slope across the site and the elevation of the viewpoint. The greater, either or both of these, the more of the entire solar farm site will be seen. Given the modest topographical change across large parts of the county, it is likely that there would be few single viewpoints from which the entire solar farm would be seen. There is also a general visual simplicity to the appearance of solar farms, they are low-lying in nature, static and without extensive or especially intrusive related paraphernalia.
- 2.18 From the northern sector of views, the appearance of the solar farm is different to those from the south. From the north the underside of the panels are in shade and there is no marked reflection of light making the panels themselves more recessive than when seen from the south. At close range, views reveal the supporting structures which can appear cluttered and engineered but depending on the elevation of the viewpoint and gradient across the site more of grassed areas between will be visible.



Figure 3. Appearance of solar panels



Figure 4. Typical view of solar farm during installation

#### **GENERAL EFFECTS ON LANDSCAPE CHARACTER**

- 2.19 Depending on the landscape character of the site the direct effect and loss of existing landscape features should be relatively minimal. Earthworks should generally not be required, at least not extensively, and the loss of trees, hedges and other field boundary features should only be required to facilitate access, whilst mature trees within fields can be retained with suitable set-backs for the protection of the trees themselves and to allow for shading effects.
- 2.20 There may be a longer term change to the surface of the site depending on its nature. Sites which are or have been in arable use can be re-sown with appropriate grass seed mixes which can tolerate shading whilst some improved pasture may be suitable for use without any changes. Semi-improved pasture, rough grazing and moorland have a more complex range of species and probably a higher botanical interest which would need to be assessed and the effects of losing it altogether (through re-sowing) or through long term shading effects through the changes to its variety and interest considered as part of the planning application, with the effects taken into account in the planning balance by decision-makers.
- 2.21 In landscape and visual terms solar farm development is perceived as a change in land use which remains for the term of the development. As for wind farms planning permission is generally given for a 25 year period and is, in this sense, wholly reversible and temporary. There is a considerable body of planning appeal decisions, mainly for wind farms, in respect of the weight to be given to this temporary nature in the planning decision and, in a more direct reference to the effect on people, to what this means for those viewing such developments. In many cases Planning Inspectors have considered that a 25 year period effectively is perceived as permanent in the context of the duration of people's lives.

- 2.22 Beyond the physical changes to existing landscape features solar farm development can affect the aesthetic and perceptual aspects of landscape character. The most significant aesthetic attributes of a solar farm development are its consistency of texture, form, line and colour and the rigidity of the geometric pattern created by massed arrays of panels. These can constitute a strong contrast with more natural textures and forms of the surrounding landscape. These elements can, depending on the scale of development, have a significant impact on existing landscape character.
- 2.23 Perceptual aspects of landscape character, such as a sense of remoteness and tranquillity, typically reflect an absence or relative scarcity of man-made features and/or a clear and significant sense of distance from them. Evidently solar farm development can have an adverse effect on these perceptual qualities as well as other less clearly defined perceptual senses such as degrees of rurality.



Figure 5. Solar Collectors with sheep grazing under panels

#### 3.0 BASELINE LANDSCAPE CHARACTER AND VALUE

#### **OVERVIEW**

- 3.1 The long and comparatively narrow county of Flintshire stretches out along the shallow shoreline of the Dee Estuary, which marks its eastern edge, with the inland western edge strongly defined by the crest of the high, rolling hills of the Clwydian Range. Two National Landscape Character Areas (NLCA) cover the majority of the county, including all of the landscapes of the LSAs. These are the Clwydian Range (NLCA12) [5] and Deeside and Wrexham (NLCA13) [6], with both areas extending south and beyond the county boundary.
- 3.2 The NLCA summary description of the Clwydian Range highlights the extensive upland area that forms the broad ridge between the Vales of Clwyd and Llangollen, and the western (Deeside) part of the Cheshire Plain, and includes a number of distinct areas of high ground at the core of the NLCA including Moel Famau, Moel Llys-y-Coed and Halkyn Mountain within Flintshire. Its key characteristics include:
  - Rounded, heather clad open hills, including the northern chain rising to Moel Famau (554m), formed by sandstones and argillaceous rocks and shales;
  - A carboniferous limestone landscape to the east, gently sloping to Deeside;
  - · Heaths in the Halkyn Mountain area;
  - Improved hill sheep grazing and lowland pasture, with hedgerows and numerous hedgerow trees; and
  - A sparse level of settlement confined to compact, nucleated and isolated farmsteads.
- 3.3 One LSA lies within NLCA12 (LSA 18), whilst two lie at or just beyond its boundary with NLCA (LSA5 and LSA12).

- The remaining LSAs all lie within NCLA13 Deeside and Wrexham. The summary description recognises that the area includes considerable settlement and industrial development, including a long tradition of engineering and metalworking, historically taking advantage of the local minerals and availability of water-borne transport. Today power generation is a feature and in recent years the area, as a whole, has become an economic hub of the Welsh and regional English economies. However, the description also highlights that the area includes some attractive traditional architecture and countryside. Its key characteristics include:
  - Lowland, foothills and levels, sloping down to the Dee Estuary.
     Coal measures, shales and sandstones are superseded by glacial till, fluvio-glacial and river terrace drift deposits that overlay in parts of the valley floor, giving rise to localised gentle landform variation:
  - The Dee opens out into a broad estuary with tidal sand and mud flats with wide open views of the Wirral;
  - Mixed pasture and some arable land uses, struck through by narrow, incised wooded tributary valleys running down from the west: and
  - A strongly settled and industrial character in the central and southern parts with smaller settlements outside the urban areas with a mix of linear settlements with some compact villages, landed estates and isolated farmsteads.

#### **DESIGNATED LANDSCAPES**

The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty includes part of NLCA12 Clwydian Range and parts of some other landscapes between Prestatyn in the north and Llangollen in the south. Whilst part of the county's landscape is, therefore, included with the statutory designation, none of the LSAs are lie within the AONB or are visible from the AONB. There are no other nationally or regionally designated landscapes within Flintshire.

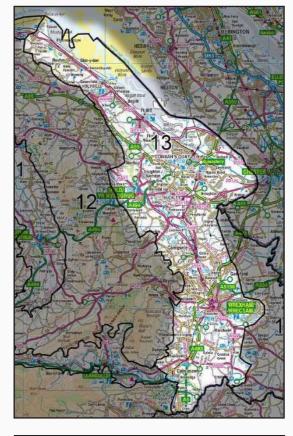


Figure 6.
National Landscape Character
NLCA13
Deeside and Wrexham



Figure 7.
National Landscape Character
NLCA12
Clwydian Range

<sup>5.</sup> NLCA12 Clwydian Range: Natural Resources Wales

#### 4.0 LANDSCAPE SENSITIVITY ASSESSMENT METHODOLOGY

#### RELEVANT BACKGROUND MATERIAL

- 4.1 The relevant background documents and baseline information 4.4 are considered to be as follows:
  - LANDMAP
  - Renewable and Low Carbon Energy Assessment, 2019, AECOM
  - Toolkit 2015 [7]
  - TAN 8 2005 [8]
- 4.2 The starting point for the development of a suitable methodology should be TAN 8 Annex D because the Toolkit points to this (page 94). However, there are some obvious limitations, given that its primary purpose is for refining the boundaries of what are inevitably large Strategic Search Areas for wind energy (SSAs). Indeed TAN8 itself is silent on the considerations for solar farms as it envisages only domestic and very small-scale commercial uses. For landscape and visual sensitivity assessment Annex D proposes (at paragraph 6.5) that particularly relevant landscape criteria for wind energy development include:
  - Landform character;
  - Scale and height;
  - Skyline character;
  - · Pattern and grain of landcover;
  - Openness/enclosure;
  - Character of vertical elements;
  - Manmade features;
  - · Settlement/circulation patterns;
  - Time depth; and
  - · Condition.
- 4.3 The Toolkit does not provide a methodology for a process of refining the renewable energy assessment output through landscape analysis.

#### **METHODOLOGY**

- 4.4 'Guidelines for Landscape and Visual Impact Assessment', 3rd 4.7 Edition [9] (GLVIA3) addresses methodologies for landscape sensitivity assessments but not capacity studies. GLVIA3 is guidance for impact assessment rather than for studies specifically to do with landscape sensitivity, which it defines as being "The extent to which a landscape can accept change of a particular type and scale without unacceptable adverse effects on its character" [10].
- 4.5 A consultation period has closed in respect of Natural Resources Wales' 'Landscape Sensitivity and Capacity' consultation draft, 2018 [11], for renewable energy development but, as yet, no formal guidance has been adopted. The emerging guidance relates specifically to wind and solar energy developments and provides for an approach to methods for undertaking landscape sensitivity and capacity assessments. This LSS has been undertaken in accordance with this guidance.
- 4.6 Landscape sensitivity can be considered to be either inherent sensitivity, i.e. a landscape's intrinsic sensitivity to any change, or sensitivity to a specific form of change. In this case it is the latter that is relevant and, as such, landscape sensitivity will depend on the landscape susceptibility of the characteristics of the landscape of the LSA to change as a result of solar farm development, combined with consideration of the value attached to the landscape. The assessment of landscape value is based on LANDMAP, which through Planning Policy Wales is the formally adopted methodology for landscape assessment and the key reference data for landscape character and quality, and specifically the application of the guidance set out by LANDMAP Guidance Note 1 [12] for "unioning" the various aspect areas. The assessment of landscape susceptibility is based upon defined criteria, as set out below. The output of landscape sensitivity is defined through a matrix where value and susceptibility are combined, and this is supplemented by a narrative commentary of the key considerations at all stages. The final commentary on sensitivity drives the final judgements and recommendations of an appropriate solar farm development capacity for each LSA, where that LSA has a capacity.

# Solar Farm Development Typologies

- Defining clear typologies for typical solar farm developments is important to the outcomes of the landscape sensitivity assessment and the ultimate recommendations as clearly the scale of the solar farm will have a significant effect on these outcomes. For solar farms the key element which is considered to offer variation such that it would have a significant effect on susceptibility is area and there is considerable flexibility for this. The size below which a solar farm is considered to be less viable is 0.5MW (or 1.2Ha), whilst at the upper end of the development scale, the very large solar farms in the UK now exceed 50MW (requiring more than 120Ha). However, typically smaller commercial solar farm developments are generally around 5MW of installed capacity with proposals for solar farms in excess of 10MW more unusual, although the scale of solar farm proposals appear to be increasing. A 5MW solar farm has been used as the minimum size for this LSS. Should an LSA be deemed to have capacity for a 5MW solar farm then it must follow that it also has capacity for a smaller one. The following solar farm typologies have been considered:
  - 5MW to 10MW (12.5Ha to 24Ha) small-scale;
  - 10MW to 25MW (24 to 60Ha) medium-scale;
  - 25MW to 50MW+ (60Ha to 120Ha+) large and very large-scale.

#### Landscape Value

LANDMAP is a GIS (Geographical Information System) based resource prepared by Natural Resources Wales in which landscape characteristics, qualities and influences on the landscape are evaluated and recorded into a dataset for the whole of Wales. It is made up of five spatial datasets known as Geological Landscape, Landscape Habitats, Visual & Sensory, Historic Landscape and Cultural Landscape and GIS map shows each aspect area for which there is a survey and assessment record which contains the descriptive landscape information for each area.

<sup>7.</sup> Practice Guidance - Planning for Renewable and Low Carbon Energy - A Toolkit for Planners, 2015, Welsh Government.

<sup>9.</sup> Guidelines of Landscape and Visual Impact Assessment, Third Edition, 2013, published by The Landscape Institute and the Institute for Environmental Management & Assessment

<sup>8.</sup> Planning Policy Wales – Technical Advice Note 8: Planning for Renewable Energy

<sup>10.</sup> GLVIA3 Glossary page 158

- 4.9 LANDMAP has been used as the key determinant of landscape value through the methodology of 'unioning' as defined in Guidance Note 1. Each of the five aspects of LANDMAP (i.e. Geological Landscape, Landscape Habitats, Visual & Sensory, Historic Landscape and Cultural Landscape) include various categories. Following Guidance Note 1 and on the confirmation of NRW those categories described as being "particularly informative" and the "most relevant criteria" for establishing landscape quality were used and of these, only those with 'High' or 'Outstanding' evaluations [13]. Table 2 from Guidance Note 1 is the key reference, see Table 1 below; the twelve particularly informative criteria are highlighted in bold.
- 4.10 Of these twelve NRW have informally indicated through preliminary discussions in preparing this methodology that four of these are the "main drivers" in determining landscape value, these being Visual & Sensory Scenic Quality, Visual & Sensory Character, Historic Landscape Integrity and Historic Landscape Rarity. Furthermore, because of its particular relevance to landscape value and sensitivity some additional weighting has been applied to those landscapes which demonstrate a High or Outstanding Visual & Sensory Scenic Quality.
- The unioning process has been undertaken by overlaying all twelve of the spatial datasets for each LSA. A characteristic of this output is that value is graded across the various LSAs with areas within each LSA recording from no High or Outstanding occurrences to up to a potential of twelve (although for these LSAs such occurances do not exceed seven). In order to effectively combine value with susceptibility, without generating numerous outcomes, the unioning output has been consolidated into five categories of value (Very High - High - Medium - Medium-Low - Low) determined by the dominant set of occurrences within each LSA as set out in Table 2 below. It should be noted that in the Flintshire context, due to the absence of High and Very High value landscapes across areas including the LSAs, a fine grain assessment of value has been adopted for the values of Medium and below, in order to assist in distinguishing value and, ultimately, in informing the assessment of sensitivity.

Table 1. Table 2 from Guidance Note 1

Geological Landscape	Landscape Habitats	Visual & Sensory	Historic Landscape	Cultural Landscape
Educational Value Historical Value Rarity/ uniqueness Classic Example	Priority habitats Significance Opportunity Decline rates Threat Fragmentation Importance for Key Species	Scenic quality Integrity Character Rarity	Integrity Survival Condition Rarity Potenial	Each Aspect Area has a single overall evaluation score only. Survey questions may still be used to define SLAs, for example: Recognition/ transparency, Rarity, Group value and Survival

Table 2. Landscape Value Assessment Criteria

Landscape Value	Equivalent to:	Assessment Guidance:
Very High	A landscape of National Value	Typically identifiable by the dominant presence of 2+ Outstanding NRW Main Drivers, likely accompanied by a range of other NRW particularly informative criteria.
High	A landscape of Regional or County value	Typically identifiable by the dominant presence of 1 Outstanding NRW Main Driver and/or 2 to 4 High NRW Main Drivers (probably including Scenic Quality if no Outstanding is present) and by some or a few NRW particularly informative criteria.
Medium	A landscape of Local Value	Typically identifiable by the dominant presence of 1 to 3 High NRW Main Drivers (probably not including Scenic Quality) and possibly by a few other particularly informative criteria.
Medium- Low  A landscape of some but limited value  Typically identifiable by the presence of 1 or more High NF Drivers or several particularly informative criteria.		Typically identifiable by the presence of 1 or more High NRW Main Drivers or several particularly informative criteria.
Low	A landscape of very limited value	Typically identifiable by the presence of no NRW Main Drivers and probably few or no particularly informative criteria.

<sup>11.</sup> Landscape Sensitivity and Capacity in relation to on-shore wind and solar photo-voltaic developments: An assessment approach for Wales, August 2018

<sup>12.</sup> LANDMAP Guidance Note 1: LANDMAP and Special Landscape Areas 2016: Natural Resources Wales

<sup>13.</sup> Table 1 of LANDMAP Guidance Note 1 defines the importance to the LANDMAP layer of Outstanding evaluations are of international or national importance and High evaluations of regional or county importance

#### Landscape Susceptibility

- 4.12 GLVIA3 defines susceptibility as "The ability of a defined landscape......to accommodate the specific proposed development without undue consequences" [14]. In order to determine this a consistent landscape component needs to be defined, its key characteristics also defined and a criteria based assessment applied as to the extent to which those characteristics could potentially be affected and by what degree. The Visual & Sensory aspect layer (the Visual & Sensory Aspect Areas or VSAAs) of LANDMAP defines areas of consistent character and relevant key characteristics. The character information provided by the VSAAs has been supplemented at the fieldwork stage which has been to specifically address the susceptibility issue.
- 4.13 The susceptibility of key characteristics to wind farm and solar farm developments are based on the categories below; these draw upon LANDMAP and TAN 8 Annex D as outlined above:
  - 1. Nature, scale and complexity of the landform.
  - 2. Nature, scale and complexity of the land use.
  - 3. Visual enclosure or exposure.
  - 4. Development, activity, remoteness and tranquillity.
- 4.14 Specific susceptibility criteria have been developed for each criterion as set out in the four tables below (Tables 3 to 6).
- 4.15 Judgements have been made as to the susceptibility of an LSA against each of the four criteria and these have been accumulated into a final judgement as to the overall susceptibility supported by the field notes. Each LSA has been ranked into one of five relative categories of susceptibility (Very High High Medium Low Very Low). No specific criteria have been provided to define these as these outcomes have been carried forward into the ultimate assessment of landscape sensitivity.

Table 3 - Nature, Scale and Complexity of Landform

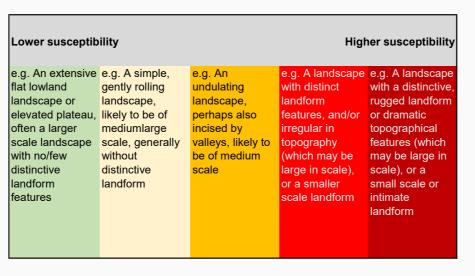


Table 5 - Visual Enclosure or Exposure

Lower susceptibility Higher susceptibility				
e.g. An enclosed, selfcontained landscape, or one with weak connections to neighbouring areas, and/or where related landscapes are of lower sensitivity	e.g. A landscape with limited connections to neighbouring areas, and/or where related landscapes are of low or medium sensitivity	e.g. A landscape which has some relationship with neighbouring areas, and/or where related landscapes are of medium sensitivity	A landscape which is intervisible with several related areas, and/or where related landscapes are of medium or higher sensitivity	e.g. A landscape which has important relationships with one or more neighbouring areas, and/or where related landscapes are of high sensitivity

Table 4 - Nature, Scale and Complexity of Land Use & Field Pattern

Lower susceptibility Higher susceptibility					
•	farmed landscape with large to medium sized	e.g. Generally improved pastoral landscape with some variation in field sizes or shapes and some	some variety of land use of improved,	of generally no or few semi- improved fields dominated or wholly a uniform semi-natural	
field pattern	geometric forms	semiimproved land cover		landscape	

Table 6 - Development, Activity, Remoteness and Tranquillity

Lower susceptibility Higher susceptibility					
e.g. a landscape with much human activity and development	semi-rural landscape with	e.g. a rural landscape with some modern development and human activity, such as intensive farmland possibly including forestry	e.g. a more naturalistic landscape and/or one with little modern human influence and development	e.g. a tranquil landscape with little or no overt sign of modern human activity and development	

14. Glossary page 158
Page 8.

#### Landscape Sensitivity

- 4.16 The assessment of landscape sensitivity is a combination of the output of the LANDMAP unioning, i.e. landscape value, and the output of the landscape susceptibility work. The interaction of the five categories of landscape value and five categories of landscape susceptibility generates a twenty box matrix from which some six categories of overall landscape sensitivity have been defined, as per Table 7 below:
- 4.17 Each level of overall sensitivity has been defined as per the criteria set out in Table 8 below:
- 4.18 The Very High and Low categories of landscape sensitivity incorporate a slightly broader range of landscape value and susceptibility scenarios than the other categories. Evidently any LSA defined as being of Very High sensitivity has no potential for locating a commercial solar farm; this includes landscape values of Very High where susceptibility is either Very High or High and where landscape susceptibility is Very High and value is Very High or High. For Flintshire, no LSAs fall into this sensitivity category (or indeed any higher than Medium sensitivity). In the case of the Low sensitivity category the threshold identified by the criteria means that, whilst it includes a relatively broad spectrum of landscape value and susceptibility, in combination all LSAs falling within this lowest band of sensitivity will have capacity for solar farm development.
- 4.19 The landscape sensitivity assessment is supported by a narrative discussion as to the key issues that have determined the sensitivity outcome and define the judgements regarding where within each LSA there may be potential solar farm development capacity and the level of that potential capacity, according to the three development typologies. The capacity assessment is broad in its approach and is not definitive. It is based on an assessment of a potential area, for example part of a particular plateau, and a calculation of the area of solar farm development within this area that could be undertaken without giving rise to likely significant landscape and visual effects. Evidently this high-level assessment is to be tested at the planning application stage, both in terms of where and how much development is potentially acceptable, but the LSS outcome provides a guidance, or a steer, as to location and quantum.

Table 7. Landscape Sensitivity Assessment Matrix

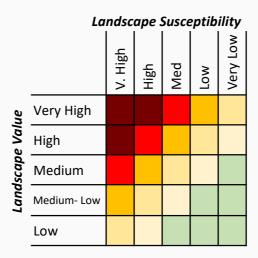


Table 8. Landscape Sensitivity Categories

Sensitivity Level	Definition
Very High	Key characteristics and qualities of the landscape are highly vulnerable to change from the development type. No potential for locating the development type.
High	Key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Highly limited potential for locating the development type.
Medium-High	Most of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Limited potential for locating the development type.
Some of the key characteristics and qualities of the landscape are significan vulnerable to change from the development type. Some potential for locating development type.	
Medium-Low	Few of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Potential for locating the development type.
Low	None of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Clear potential for locating the development type.

#### 5.0 ASSESSMENT OF SENSITIVITY OF POTENTIAL SOLAR LOCAL SEARCH AREAS

#### TYPICAL CHARACTER OF THE LOCAL SEARCH AREAS

- 5.1 The LSS has considered some 18 LSAs as indicated on Figure 5.6 8.
- 5.2 The LSAs occupy a simple range of landform types, typically either moderately elevated, flat or gently undulating plateaux, sometimes including minor, incised valleys, or valley side slopes of varying steepness, usually of relatively gentle gradients, or lower lying, flat or gently undulating valley floors; and in several cases some LSAs include two of all of these landforms. There are some notable exceptions, for example LSA 9 at Holywell, the landform of which is a distinct hill and LSA 12 Llanfynydd (North), which includes the top of a hill as well as part of a steep valley side.
- 5.3 The LSAs also share a degree of commonality in respect of the character of the agricultural use dominated by improved pasture, the scale of the landscape, being usually small to medium scale, and the vegetative cover of low, cropped hedgerows, a moderate density of hedgerow trees and low levels of woodland cover. Only one LSA, LSA 12 Llanfynydd (North), includes any notable proportion of semi-natural land cover.
- In the round, the modest changes in elevation and the relative density of hedges and hedgerow trees mean that visual connectivity with other landscapes, adjoining or beyond the individual LSAs, is limited in extent, often to a matter of only a few hundred metres. Even within the LSAs these factors combine to provide a fair degree of visual enclosure, such that only in the case of the small LSAs can all of the LSA been seen from locations within it.
- 5.5 The small scale of some of the LSAs and the ability of these to physically accommodate even a small scale commercial solar farm, is an issue. One LSA is smaller in area than the circa 12.5Ha of land required for a 5MW solar farm, whilst three others are only a little larger which when existing vegetation and any set-backs required for mitigation are taken into account, render these LSAs unviable for solar farm development.

#### LOCAL SEARCH AREA ASSESSMENT SHEETS

- This section includes a separate assessment sheet for each LSA and sets out in turn the following information:
  - Locational, area and general description of the landscape type;
  - Location maps showing were the LSA lies in Flintshire and its boundaries in the local context;
  - An inset plan showing the number and coverage of the LANDMAP GN1 particularly informative aspect categories;
  - · A photograph of the LSA;
  - The assessment of landscape value;
  - The assessment of landscape susceptibility;
  - The combination of these together to form the assessment of landscape sensitivity, together with a brief commentary and recommendation in respect of potential capacity based on the landscape sensitivity assessment.
- The landscape sensitivity assessments and recommendations are summarised in a table in section 6.0 Summary and Conclusions.
- In support of these assessment sheets is an appendix (Appendix 5.8 A) which individually plots all of the twelve LANDMAP GN1 particularly informative aspect categories.



# LANDMAP Guidance Note 1: LANDMAP and Special Landscape Areas 2017

2 Introduction and Context	
3 National Landscape Designations in Wales	
4 Special Landscape Areas in Wales	
4.1 Potential role of SLAs	
5 The use of LANDMAP and landscape information	4
5.1 LANDMAP	4
5.2 Additional landscape information	4
6 The approach for defining Special Landscape Areas	
6.1 Stage 1: Strategic Criteria	6
6.1.1 Need	6
6.1.2 Landscape criteria	8
6.1.3 Consensus	9
6.2 Stage 2: Establish Broad Search Areas	9
6.3 Stage 3: Establish Specific Special Landscape Areas	13
6.4 Stage 4: Statement of Value & Significance	17
7 Monitoring and Review	23
8 References	23
9 Contact	
Appendix 1 – Strategic Criteria Example	24

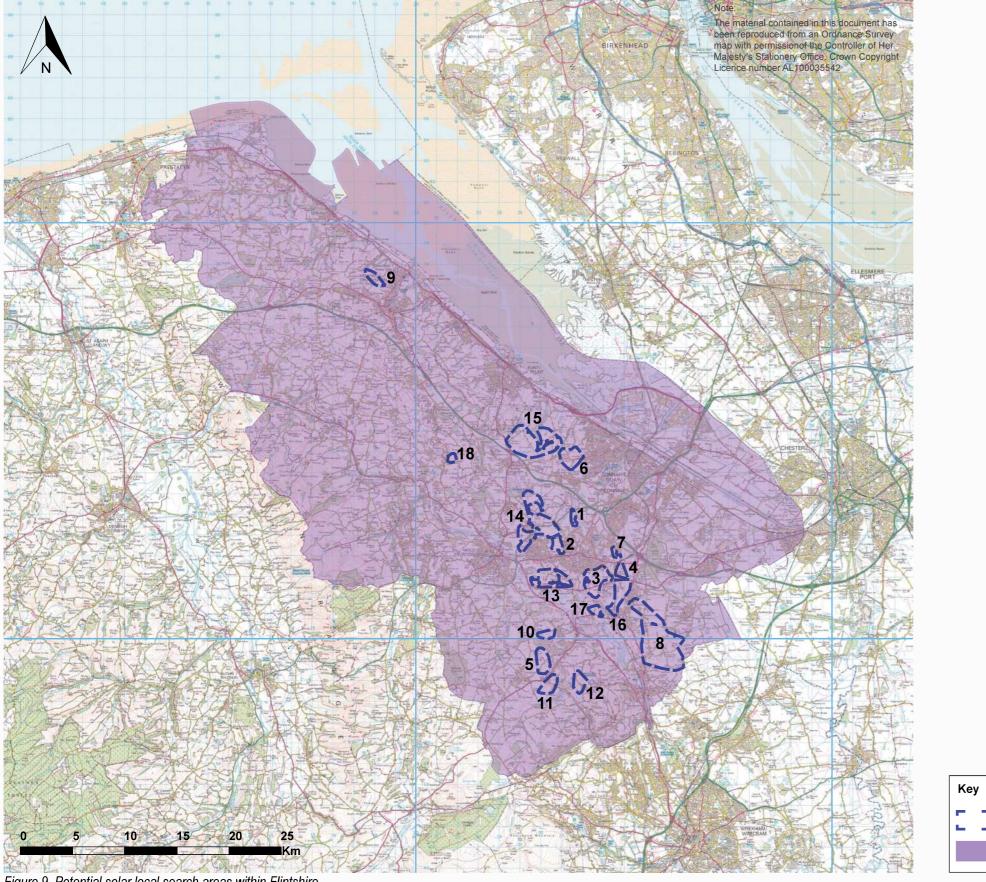
#### 1 Crynodeb

Mae'r nodyn canllaw hwn yn cyflwyno'r dull ar gyfer defnyddio LANDMAP i bennu dynodiadau tirwedd lleol, sef Ardaloedd Tirwedd Arbennig. Dynodiad anstatudol a roddir ar waith gan awdurdodau cynllunio lleol i ddiffinio ardaloedd o bwysigrwydd tirwedd mawr o fewn eu terfynau gweinyddol yw Ardaloedd Tirwedd Arbennig. Gall ardaloedd o bwysigrwydd tirwedd mawr gael eu dynodi ar sail eu gwerth ffisegol, amgylcheddol, gweledol, diwylliannol a hanesyddol cynhenid yn y dirwedd gyfoes. Gall tirweddau a ddynodir yn Ardaloedd Tirwedd Arbennig fod yn unigryw, yn eithriadol neu'n neilltuol i ardal yr awdurdod lleol dan sylw.

Page 1 of 25

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Figure 8. Landscape Guidance Note 1: LANDMAP and Special Landscape Areas 2017



Local Search Areas Flintshire

Figure 9. Potential solar local search areas within Flintshire

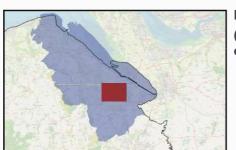
LSA Name: BUCKLEY 1.

LSA Location: 800m north of Buckley Mountain

LSA Size: 17 Ha



Refer to map 1a for location

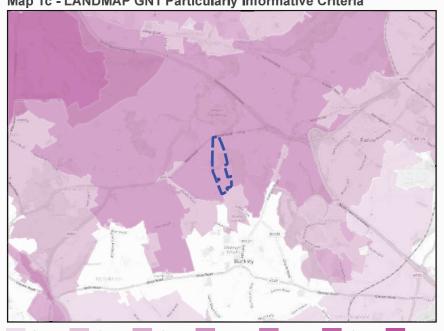


Map 1a - Location Map (red square indicates location of the maps below)

Map 1b - Location of LSA ( Photo Location)



Map 1c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	Х	-
Landscape Habitats - Significance	-	Х
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	T -	-
Historic Landscape - *Integrity	Х	-
Historic Landscape - Survival	X	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

\*High Historic Landscape- Integrity\*, Outstanding Landscape Habitats-Significance, High Landscape- Habitats Priority Habitats and High Historic Landscape- Survival throughout.

**RELATIVE LANDSCAPE VALUE:** 

Medium

# **Assessment of Landscape Susceptibility**

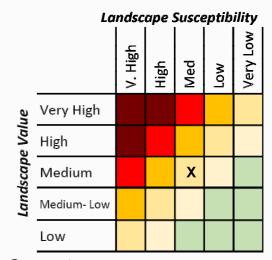
Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform				Х	
Land Use			Х		
Visual enclosure				Х	
Development / remoteness				Х	

Gently undulating landform, sloping relatively steeply down to the north. All improved pasture of small to medium sized fields, bounded by low hedges with scattered but a relatively dense coverage of hedgerow trees, slightly elevated landform (former landfill?) to the east. Some visual enclosure from other landscapes and nearby settlement due to the field boundary vegetation. A semi-rural landscape with much development nearby.

#### **RELATIVE LANDSCAPE SUSCEPTIBILITY:**



# **Assessment of Landscape Sensitivity**



# **Landscape Sensitivity:**

# **MEDIUM**

Some of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Some potential for locating the development type.

#### Commentary:

A narrow and small LSA, only some 17Ha in area, which when the vegetation cover and setbacks from rural farmsteads are taken into account, effectively means that the LSA is not large enough to accommodate a commercial sized 5MW solar farm (requires 12.5Ha). In addition, the elevated landscape value (Medium) means that landscape and visual effects would likely be significant.

#### Recommendation:

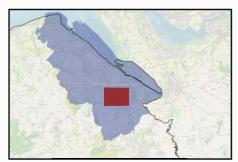
Narrow and small LSA (17Ha) limits capacity to less than 5MW. (5MW requires some 12.5Ha).

LSA Name: BUCKLEY 2. LSA Location: 1 Km west of Buckley

LSA Size: 31 Ha



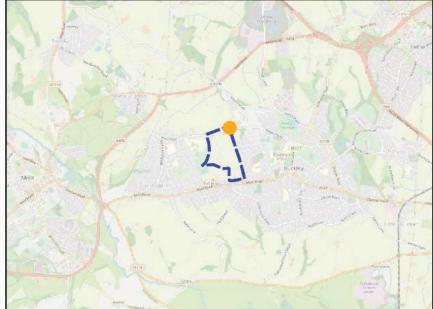
Refer to map 2a for location



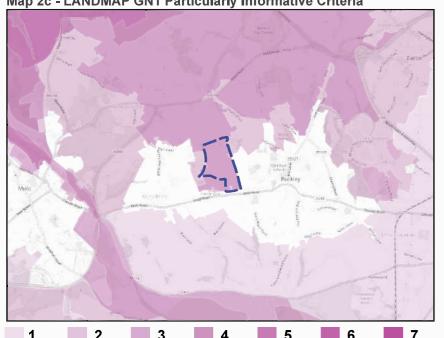
Map 2a - Location Map (red square indicates location

of the maps below)

Map 2b - Location of LSA ( Photo Location)



Map 2c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	Х	-
Landscape Habitats - Significance	-	Х
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	T -	-
Historic Landscape - *Integrity	Х	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

\*High Historic Landscap-e Integrity\*, Outstanding Landscape Habitats-Significance, High Landscape Habitats- Priority Habitats and High Historic Landscape- Survival throughout.

**RELATIVE LANDSCAPE VALUE:** 

Medium

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform					Х
Land Use				Х	
Visual enclosure				Χ	
Development / remoteness					Х

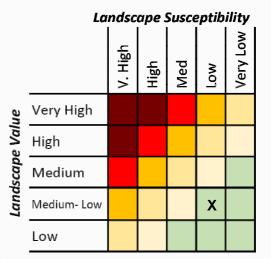
#### Notes:

An essentially flat landform with little notable change in elevation. All improved pasture of small to medium sized fields, bounded by low hedges with a scattered coverage of hedgerow trees with some more notable narrow wooded field boundaries. The combination of flat landform and layers of vegetation mean it has a good degree of visual enclosure although it is directly overlooked by settlement from the east, west and south. A semi-rural landscape with much development adjacent.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



## **Assessment of Landscape Sensitivity**



# **Landscape Sensitivity:**

# MEDIUM-LOW

Few of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Potential for locating the development type.

#### Commentary:

A fairly compact LSA of some 31Ha, but this area includes land uses such as playing fields which would not likely be available for solar development. With setbacks also provided for adjacent settlements and because of a good degree of visual enclosure there is potential capacity for one small commercial solar farm development. Some visual effects likely on local views but the extent and degree of these effects likely to be limited.

#### Recommendation:

Compact LSA (some 30Ha) with potential capacity for one solar farm up to a maximum of 5MW.

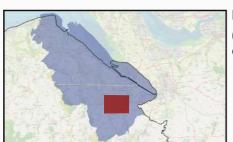
LSA Name: BUCKLEY 3.

LSA Location: 1.7 Km South of Buckley

LSA Size: 117 Ha



Refer to map 3a for location

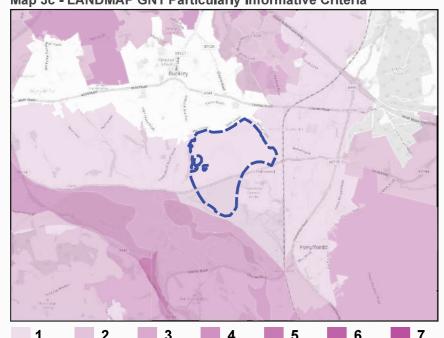


Map 3a - Location Map (red square indicates location of the maps below)

Map 3b - Location of LSA ( Photo Location)



Map 3c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	-	-
Landscape Habitats - Significance	-	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

High Historic Landscape- Survival only. No other particularly informative

**RELATIVE LANDSCAPE VALUE:** 

Low

# **Assessment of Landscape Susceptibility**

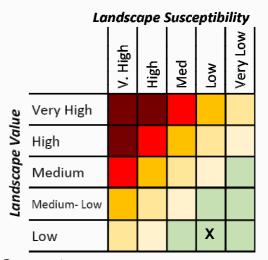
Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform					Х
Land Use				Х	
Visual enclosure			Х		
Development / remoteness					Х

A very gently undulating plateau like landform, which generally falls towards more steeply sloping land outside of the LSA to the south. Mostly improved pasture with some arable land. Medium sized fields bounded by low hedges with scattered and few hedgerow trees and no notable woodland or wooded field boundaries. Enclosed to the north by the settlement, to the west by a more wooded landscape outside of the LSA and by the presence of the cement works to the south-east, the LSA has some visual connections with adjoining landscapes, but of itself is relatively open in character. A semi-rural landscape with development adjacent and the dominating cement works.

**RELATIVE LANDSCAPE SUSCEPTIBILITY:** 



## **Assessment of Landscape Sensitivity**



# **Landscape Sensitivity:**

# LOW

None of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Clear potential for locating the development type.

#### Commentary:

A large LSA of 117Ha, with few landscape constraints and with the presence of the cement works has the potential for one medium to large scale solar farm. Some visual effects likely on local views but the extent and degree of these effects likely to be limited.

#### Recommendation:

Capacity for one solar farm up to a maximum of 10MW.

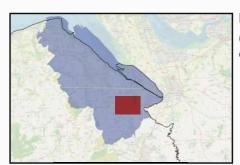
LSA Name: BUCKLEY 4.

LSA Location: 1 Km South east of Lane End

LSA Size: 28 Ha



Refer to map 4a for location

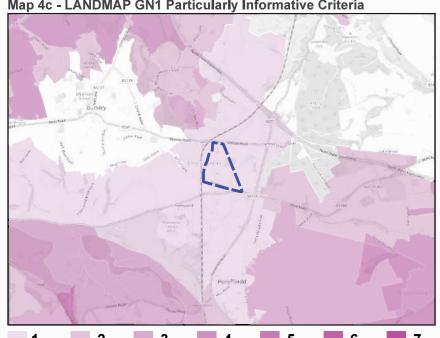


Map 4a - Location Map (red square indicates location of the maps below)

Map 4b - Location of LSA ( Photo Location)



Map 4c - LANDMAP GN1 Particularly Informative Criteria



# **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	-	-
Landscape Habitats - Significance	-	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	T -	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

#### Notes:

High Historic Landscape- Survival only. No other particularly informative Criteria.

**RELATIVE LANDSCAPE VALUE:** 

LOW

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform				Х	
Land Use				Х	
Visual enclosure				Х	
Development / remoteness				X	

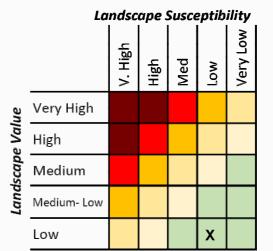
#### Notes:

A very gently undulating plateau like landform. Almost entirely improved pasture with a few arable fields. Small to medium sized fields bounded by low hedges with scattered and few hedgerow trees and no notable woodland or wooded field boundaries. Enclosed to the west by the settlement, otherwise of itself is relatively open in character. A semi-rural landscape with development adjacent, a farmstead within the LSA and the presence of the cement works to the south-west.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



## **Assessment of Landscape Sensitivity**



# **Landscape Sensitivity:**

#### LOW

None of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Clear potential for locating the development type.

#### Commentary:

A fairly compact LSA of some 28Ha, but this area includes land uses such as a farmstead within the LSA. With setbacks provided for adjacent settlement and because of a good degree of visual enclosure there is potential capacity for one small commercial solar farm development. Some visual effects likely on local views but the extent and degree of these effects likely to be limited.

#### Recommendation:

Compact LSA (28Ha) with apotential capacity for one solar farm less than 5MW.

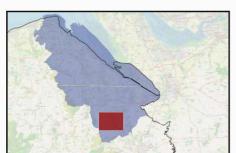
LSA Name: COED TALON & PONTYBODKIN (WEST)

LSA Location: 650 m West of Coes Talon

LSA Size: 65 Ha

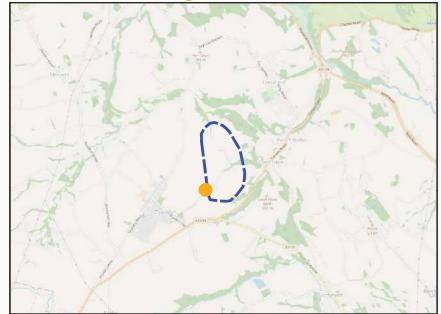


Refer to map 5a for location

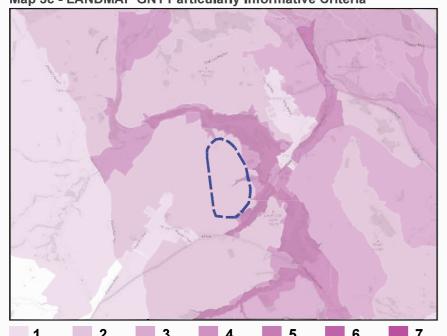


Map 5a - Location Map (red square indicates location of the maps below)

Map 5b - Location of LSA ( Photo Location)



Map 5c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	Х	-
Landscape Habitats - Significance	Х	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	Х	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

#### Notes:

No NRW Main Drivers, but four particularly informative criteria including Landscape Habitats- Priority Habitats, Landscape Habitats- Significance, Visual & Sensory- Integrity and Historic Landscape- Survival.

**RELATIVE LANDSCAPE VALUE:** 

**Medium-Low** 

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. Hig	High	Med	Low	V. Low
Landform					Х
Land Use				Х	
Visual enclosure			Х		
Development / remoteness			Χ		

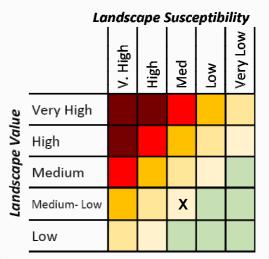
#### Notes

A very gently undulating plateau like landform. Mostly improved pasture with some arable land. Medium sized fields bounded by low hedges with scattered but a relatively dense coverage of hedgerow trees, with a more wooded strips in the southern and far northern parts of the LSA. Only scattered settlement within and adjacent to the LSA. The northern and eastern edges of the LSA are defined by more pronounced steep slopes, away from the LSA, with a dense covering of woodland, whilst the landscape to the east is of a similar semi-open character and with which there are clear visual links. A rural landscape with the presence of some modern development.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



# **Assessment of Landscape Sensitivity**



# Landscape Sensitivity:

# MEDIUM-LOW

Few of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Potential for locating the development type.

# Commentary:

A relatively large LSA of some 65Ha with clear visual links with the landscape to the west. With careful siting, however, the LSA has potential capacity for a medium to large scale solar farm without necessarily giving rise to significant landscape and visual effects.

#### Recommendation:

Potential capacity for one solar farm up to 10MW.

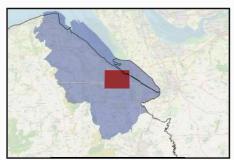
LSA Name: CONNAH'S QUAY

LSA Location: 2.1 Km West of Connah's Quay

LSA Size: 83 Ha



Refer to map 6a for location



Map 6a - Location Map (red square indicates location of the maps below)

Map 6b - Location of LSA ( Photo Location)



Map 6c - LANDMAP GN1 Particularly Informative Criteria

Company

C

**Assessment of Landscape Value** 

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	X	-
Landscape Habitats - Significance	-	Х
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	T -	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

#### Notes:

No NRW Main Drivers, but three particularly informative criteria including Landscape Habitats- Priority Habitats, Landscape Habitats- Significance and Historic Landscape- Survival.

RELATIVE LANDSCAPE VALUE:

**Medium-Low** 

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform				Х	
Land Use				Х	=
Visual enclosure				Х	
Development / remoteness			X		

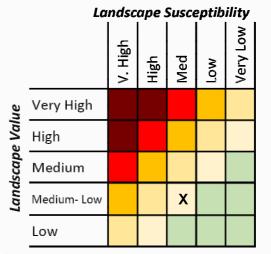
#### Notes:

A very gently undulating plateau like landform. Mostly improved pasture with some arable land. Medium sized fields bounded by low hedges with a mix of hedges with few or no trees and some with scattered but a relatively dense coverage of hedgerow trees. Two farmsteads within the LSA and crossed by a B road. Otherwise, the settlements of Connah's Quay and Northop Hall, although close to the LSA, are visually separated from it. More steeply sloping valley forms and woodland lie to the north and south-west, outside of the LSA, and visually containing it. There is stronger visual connectivity with a similar landscape to the south-west of the LSA. A rural landscape with the presence of some modern development.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



## **Assessment of Landscape Sensitivity**



Landscape Sensitivity:

#### MEDIUM-LOW

Few of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type.

Potential for locating the development type.

# Commentary:

A relatively large LSA of some 83Ha with clear visual links with the landscape to the south-west, split by a B road and with two farmsteads set within it. With careful siting the LSA has potential capacity for one small scale solar farm without necessarily giving rise to significant landscape and visual effects.

#### Recommendation:

Potential capacity for one solar farm up to 5MW.

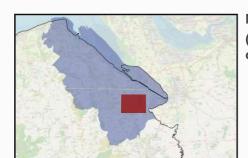
LSA Name: DRURY & BURNTWOOD

LSA Location: 500m South of Drury

LSA Size: 11 Ha



Refer to map 7a for location

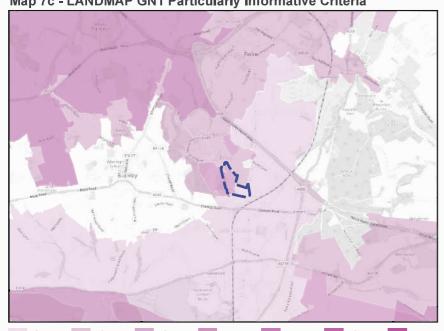


Map 7a - Location Map (red square indicates location of the maps below)

Map 7b - Location of LSA ( Photo Location)



Map 7c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	Х	-
Landscape Habitats - Significance	-	Х
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

#### Notes:

No NRW Main Drivers but several Outstanding and High Particularly Informative Criteria, including High Landscape Habitats- Priority Haitats, High Historic Landscape- Survival, and Outstanding Landscape Habitats- Significance.

**RELATIVE LANDSCAPE VALUE:** 

Medium-Low

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform				Х	
Land Use		Х			
Visual enclosure				Х	
Development / remoteness				Х	

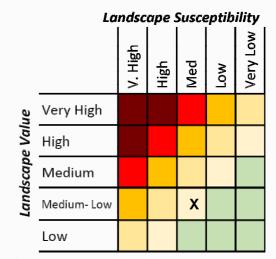
#### Notes:

An essentially flat landform with little notable change in elevation. The northern part of the LSA is dominated by horticulture and fences with the few hedges being closely cropped. The southern part has a small woodland and small fields of pasture with hedgas and wooded strips. The LSA abuts the settlement along the north and west boundaries and is bounded by a C road to the east. Although enclosed from the wider landscape by the settlement and vegetation cover is overlooked by the settlement and from views from the C road. A semi-rural landscape with much development adjacent.

#### **RELATIVE LANDSCAPE SUSCEPTIBILITY:**



# **Assessment of Landscape Sensitivity**



# **Landscape Sensitivity:**

# **MEDIUM-LOW**

Few of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Potential for locating the development type.

#### Commentary:

A narrow and small LSA, only some 11 Ha in area, means that the LSA is not large enough to accommodate a commercial sized 5MW solar farm (requires 12.5Ha).

#### Recommendation:

Narrow and small LSA (11Ha), adjoining settlement. No capacity for a commercial solar farm (5MW Solar Farm requires 12.5Ha).

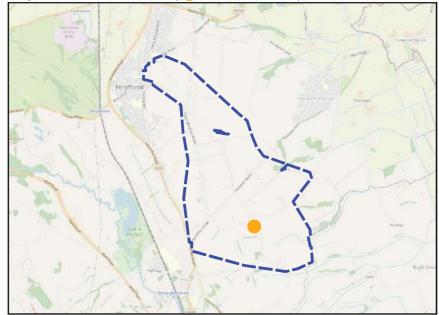
LSA Name: HCA&C (NORTH EAST) LSA Location: 2.4 Km South-East of Penyffordd

LSA Size: 452 Ha



Map 8a - Location Map (red square indicates location of the maps below)

Map 8b - Location of LSA ( Photo Location)



Map 8c - LANDMAP GN1 Particularly Informative Criteria

Refer to map 8a for location

# **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	-	-
Landscape Habitats - Significance	-	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	Х	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	Х	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	Х	-
Historic Landscape - *Rarity	Х	-

#### Notes:

\*Historical Landscape Integrity\* and \*Historic Landscape- Rarity\* Main Drivers, plus two other Particularly Informative Criteria, including Visual & Sensory- Integrity, Historic Landscape- Survival and Historic Landscape- Condition.

**RELATIVE LANDSCAPE VALUE:** 

Medium

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform				Х	
Land Use				Х	
Visual enclosure			X		
Development / remoteness			X		

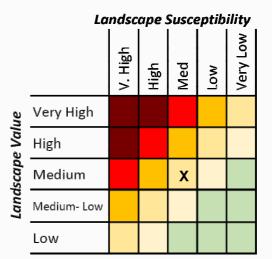
#### Notes:

A large, predominantly open LSA incorporating three subtly different landscape characters. An essentially flat landform with little notable change in elevation across the central section, with a more undulating landform in the northern section, north of the disused railway line, and in the southern portion to the south of Sandy Lane. Small rectilinear field pattern across the central section, with more irregular and medium scale fields in the north and south. Fields are bounded by closely cropped, low hedges with scattered hedgerow trees, with the tree coverage thin in the north but a more wooded structure in the south, with wooded strips and a few notable areas of woodland. The LSA is bounded by the settlement of Hope in the south-west but otherwise the settlement pattern includes several farmsteads, many smallholdings, and larger detached houses. A rural landscape with the presence of some modern development.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



# **Assessment of Landscape Sensitivity**



# Landscape Sensitivity:

#### **MEDIUM**

Some of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Some potential for locating the development type.

#### Commentary:

A substantial LSA of some 452 Ha with visual connectivity with adjacent landscapes to all adjoining landscapes, except that southwest area, which is enclosed by Hope, and sensitive to local views from within the LSA. The northern section is very open to local views, which heightens its sensitivity. The southern section is more visually enclosed but has features of greater landscape sensitivity. The central section is less sensitive and has the potential capacity for one and possibly two solar farms up to 15MW in total.

#### Recommendation:

Large but relatively sensitive LSA with potential capacity for one or two solar farms of 15MW capacity in total.

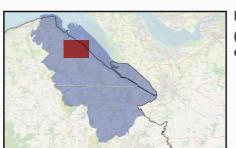
LSA Name: HOLYWELL

LSA Location: 650 Km North-East of Holloway

LSA Size: 35 Ha

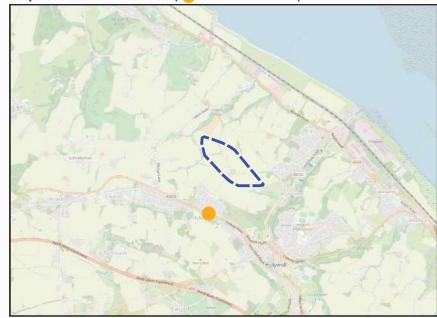


Refer to map 9a for location

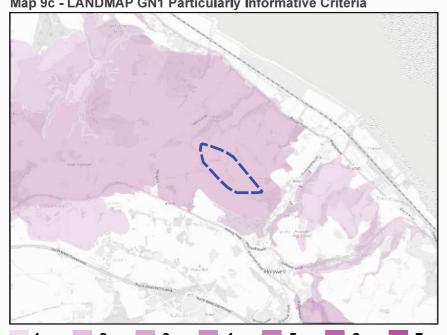


Map 9a - Location Map (red square indicates location of the maps below)

Map 9b - Location of LSA ( Photo Location)



Map 9c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	Х	-
Landscape Habitats - Significance	-	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

#### Notes:

No NRW Main Drivers and only two Particularly Informative Criteria.

**RELATIVE LANDSCAPE VALUE:** 

Low

# **Assessment of Landscape Susceptibility**

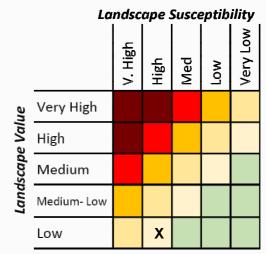
Susceptibility Criteria	V. Higl	High	Med	Low	V. Low
Landform		Х			
Land Use		Х			
Visual enclosure		Х			
Development / remoteness			X		

This LSA comprises a single, distinct hill with long views to the Wirral, to the north-east, and open to local views from the local landscape to the south. Mostly improved pasture with some arable land. Medium sized fields bounded by low hedges with scattered and few hedgerow trees but some wooded field boundaries. A rural landscape with the presence of some modern development.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



# **Assessment of Landscape Sensitivity**



# **Landscape Sensitivity:**

# MEDIUM-LOW

Few of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Potential for locating the development type.

#### Commentary:

A fairly compact LSA of some 35Ha and one that is highly visually exposed but has a landscape of low value. It is probable that any commercial scale solar farm would give rise to significant visual effects and any scheme would have to be limited to 5MW.

#### Recommendation:

Potential capacity for one small solar farm to a maximum of

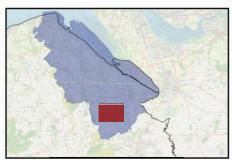
LSA Name: LEESWOOD

LSA Location: 1.2 Km North-West of Leeswood

LSA Size: 27 Ha

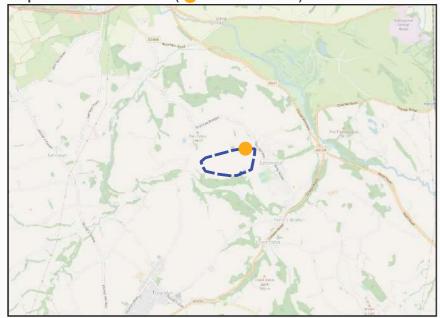


Refer to map 10a for location



Map 10a - Location Map (red square indicates location of the maps below)

Map 10b- Location of LSA ( Photo Location)



Map 10c - LANDMAP GN1 Particularly Informative Criteria

# **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	-	-
Landscape Habitats - Significance	-	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	Х	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

No NRW Main Drivers and only two Particularly Informative Criteria.

RELATIVE LANDSCAPE VALUE:

# Low

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform			Х		
Land Use			Х		
Visual enclosure				Х	
Development / remoteness			Х		

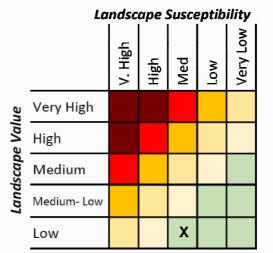
#### Notes:

A very gently undulating landform, which generally falls towards more steeply sloping land outside of the LSA to the south. Mostly improved pasture with some arable land. Medium sized fields bounded by low hedges with scattered and few hedgerow trees and no notable woodland or wooded field boundaries. Enclosed to the south by significant woodland, the LSA is otherwise relatively open in character and exposed to local views. A rural landscape with the presence of some modern development.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



## **Assessment of Landscape Sensitivity**



# Landscape Sensitivity:

#### LOW

None of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Clear potential for locating the development type.

#### Commentary:

A fairly compact LSA of some 27Ha, but this area includes only limited settlement within it and adjacent to it that would further constrain solar farm development. With careful siting the LSA has potential capacity for a single small scale solar farm without necessarily giving rise to significant landscape and visual effects.

#### Recommendation:

Capacity for one solar farm up to 5MW.

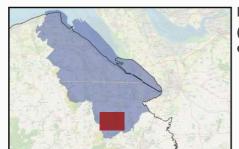
LSA Name: LLANFYNYDD (NORTH WEST)

**LSA Location:** 1.3 Km South- East of Treuddyn

LSA Size: 52.46 Ha

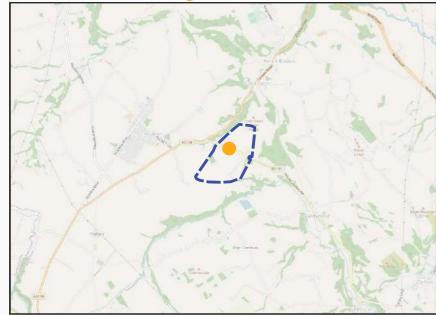


efer to map 11a for location

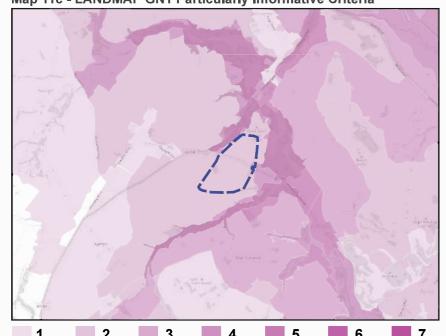


Map 11a - Location Map (red square indicates location of the maps below)

Map 11b- Location of LSA ( Photo Location)



Map 11c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	-	-
Landscape Habitats - Significance	-	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	X	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

#### Notes:

No main drivers and only two Particularly Informative Criteria.

**RELATIVE LANDSCAPE VALUE:** 

# Low

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform				Х	
Land Use				Х	
Visual enclosure			Х		
Development / remoteness				Х	

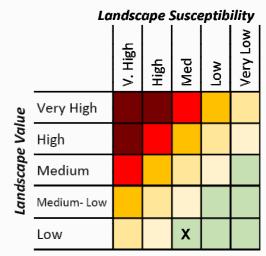
#### Notes:

A very gently undulating landform, which contrasts to the higher, more pronounced topography of the Waun-y-Llyn Country Park to the east. The northern part of the LSA, north of the B road, is dominated by horsiculture and fences with the few hedges being closely cropped. To the south is a mainly pastoral landscape of medium sized fields with low, closely cropped hedges with few hedgerow trees, but with some wooded field boundaries along the southern part of the LSA. Enclosed by woodland to the south and north, the LSA is, however, exposed to long views from the higher ground to the east, including from the country park. A rural landscape with the presence of some modern development.

**RELATIVE LANDSCAPE SUSCEPTIBILITY:** 



# **Assessment of Landscape Sensitivity**



# Landscape Sensitivity:

# LOW

None of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Clear potential for locating the development type.

#### Commentary:

A relatively large LSA of some 52Ha with clear visual links with the higher landscape to the east. With careful siting, however, the LSA has potential capacity for a small to medium scale solar farm, to either the north or south of the B road, without necessarily giving rise to significant landscape and visual effects.

#### Recommendation:

Capacity for one solar farm up to 5MW.

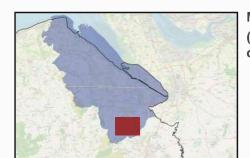
LSA Name: LLANFYNYDD (NORTH)

LSA Location:

LSA Size: 47 Ha

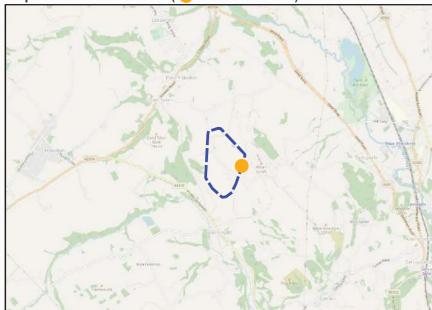


Refer to map 12a for location

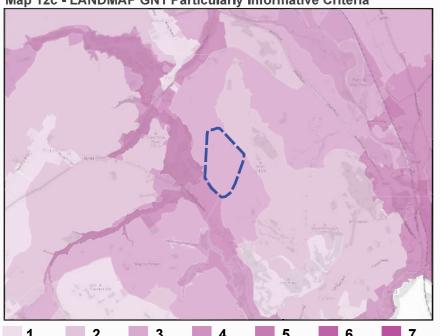


Map 12a - Location Map (red square indicates location of the maps below)

Map 12b- Location of LSA ( Photo Location)



Map 12c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	Х	-
Landscape Habitats - Significance	-	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	Х	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

No main drivers and three Particularly Informative Criteria.

RELATIVE LANDSCAPE VALUE:

Medium-Low

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform		Х			
Land Use			Х		
Visual enclosure		Х			
Development / remoteness		X			

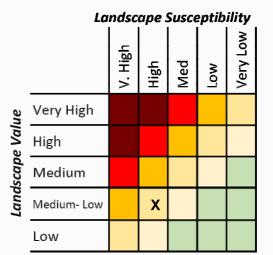
#### Notes:

A steeply sloped LSA, falling away to the west from the elevated ridgeline, topped by the Waun-y-Llyn Country Park. This LSA includes some seminatural landscapes, including the country park and part of the hillside to the south of it, but otherwise the land use is predominantly of semi-improved pasture. Field boundaries are a mix of low, closely cropped hedges, hedges with scattered hedgerow trees and more wooded field boundaries. A rural landscape with little settlement but the key issues are the partial naturalistic landscape and open space uses, as well as the considerable visual exposure landscapes to the west.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



# **Assessment of Landscape Sensitivity**



# Landscape Sensitivity:

# **MEDIUM**

Some of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Some potential for locating the development type.

#### Commentary:

A relatively large LSA of some 47Ha and although the LSA has a low landscape value, it has a high landscape susceptibility which makes it unsuited to solar farm development.

#### Recommendation:

No capacity for solar farm development.

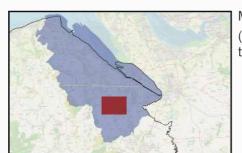
LSA Name: MYNYDD ISA

LSA Location: 1.3 Km South-East of Coed Talon

LSA Size: 120 Ha

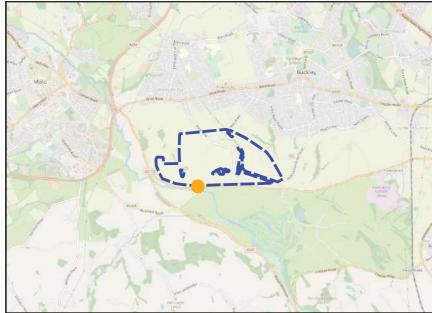


Refer to map 13a for location

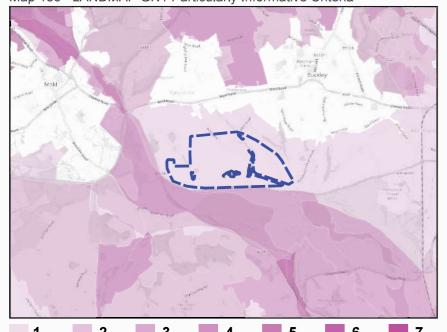


Map 13a - Location Map (red square indicates location of the maps below)

Map 13b-Location of LSA ( Photo Location)



Map 13c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	-	-
Landscape Habitats - Significance	T -	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	T -	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

#### Notes:

Only one Particularly Informative Criteria.

RELATIVE LANDSCAPE VALUE:

Low

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform			Х		
Land Use				Х	
Visual enclosure		Х			
Development / remoteness				Х	

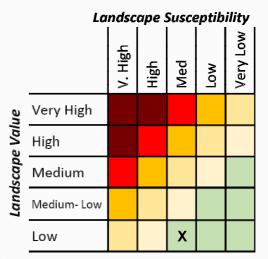
#### Notes:

An LSA of three distinct landforms; a flat, plateau to the north, with a sloping valley side section in the central part of the LSA, and with a flat, river floodplain landform in the south. However, all parts of the LSA are dominated by pasture use with medium sized fields bounded by low, closely cropped hedges with scattered hedgerow trees. Somewhat visually enclosed with a more wooded in character in the north, the central and southern parts are more open and visually exposed to views from the floodplain and valley sides outside of the LSA to the south. A rural landscape with the presence of some modern development.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



# **Assessment of Landscape Sensitivity**



# Landscape Sensitivity:

# LOW

None of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Clear potential for locating the development type.

#### Commentary:

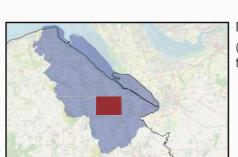
A large LSA of some 120Ha but the central and southern parts are visually exposed to views from the south. Some potential capacity, probably in the northern area away from the nearby settlement edge, for a small solar farm of 5MW.

#### Recommendation:

Capacity for one solar farm of up to 5MW.

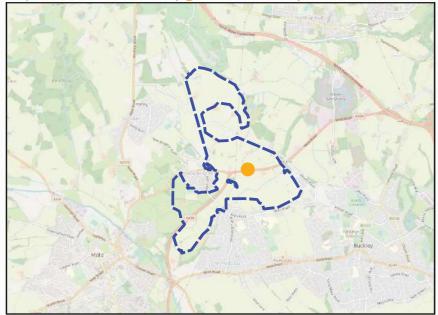
LSA Name: NEW BRIGHTON
LSA Location: 500m East of New Brighton

LSA Size: 219 Ha



Map 14a - Location Map (red square indicates location of the maps below)

Map 14b-Location of LSA ( Photo Location)



Map 14c - LANDMAP GN1 Particularly Informative Criteria

Map 14c - LANDMAP GN1 Particularly Informative Criteria

Refer to map 14a for location

# **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	Х	-
Landscape Habitats - Significance	-	Х
Visual & Sensory - *Scenic quality	Х	-
Visual & Sensory - Integrity	Х	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	Х	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	Х	-
Historic Landscape - *Rarity	Х	-

#### Notes:

Dominant Main Drivers occurance is Historic Landscape- Integrity\*

Dominant Particularly Informative Criteria are Landscape Habitats- Priority

Habitats and Significance, and Historic Landscape- Survival. Other

occurances in the north of the LSA include Visual Sensory- Scenic Quality\*

and Integrity, and Historic Landscape- Condition and Rarity\*.

RELATIVE LANDSCAPE VALUE:

Medium

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform				Х	
Land Use			Х		ă .
Visual enclosure				Х	
Development / remoteness			Х		

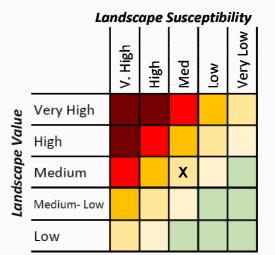
#### Notes:

A sprawling shaped LSA, interspersed between settlements and crossed by two A roads. It is made up of three areas of differing landscape character. To the north of the A5119, the area undulates a low hill, although the hill is not within the LSA, of mainly pasture with a robust hedgerow pattern and a dense covering of hedgerow trees. Between the A5119 and Bryn-y-Baal, the landform is flat, plateau like, but also with a strong field pattern. South of the Bryn-y-Ball Road, the landform falls away to the south and the hedgerows are lower and without the tree coverage. The northern two areas are relatively well visually enclosed but the southern is exposed to views from Mold to the south. A high voltage overhead power line runs through the LSA. Overall a semi-rural landscape with much built development and infrastructure.

**RELATIVE LANDSCAPE SUSCEPTIBILITY:** 



## **Assessment of Landscape Sensitivity**



# Landscape Sensitivity:

#### MEDIUM

Some of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Some potential for locating the development type.

#### Commentary:

A large LSA of 219Ha but the landscape value of the northern part of the northern area is notably high, including some landscape within LANDMAP VSAA noted as high. Around the A5119 the landscape value is less than to the north and the visual enclosure reduces landscape sensitivity. There is some potential capacity in this area for a small solar farm of 5MW. The southern part is visually exposed and is more sensitive than the LSA by the A road. There is very limited capacity in this part.

#### Recommendation:

No capacity in the north of the LCA where the landscape value is locally high. Potential capacity for one solar farm up to 5MW elsewhere.

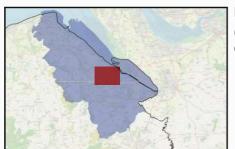
LSA Name: NORTHOP (NORTH EAST)

LSA Location: 1.5 Km East of Northop

LSA Size: 257 Ha

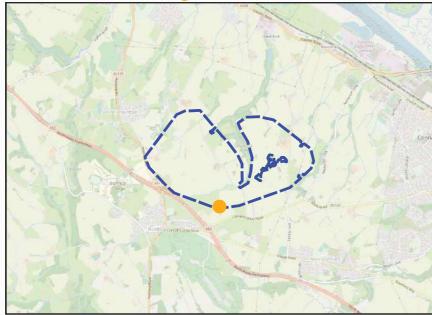


Refer to map 15a for location

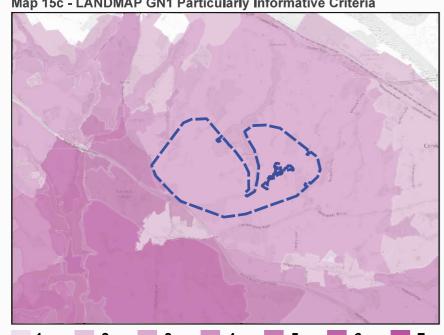


Map 15a - Location Map (red square indicates location of the maps below)

Map 15b-Location of LSA ( Photo Location)



Map 15c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	Х	-
Landscape Habitats - Significance	-	Х
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

#### Notes:

No Main Driver Occurances, one dominant Oustanding Landscape Habitats-Significance and High Landscape Habitats- Priority Habitats and Historic Landscape- Survival occurances.

RELATIVE LANDSCAPE VALUE:

Low

# **Assessment of Landscape Susceptibility**

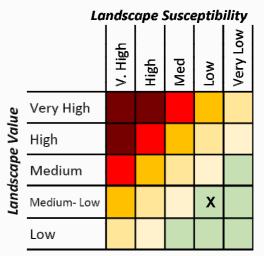
Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform				Х	
Land Use				Х	
Visual enclosure			Х		
Development / remoteness				Х	

A very gently undulating landform that falls subtly to the north-east and indented through its centre by a shallow minor valley. West of the valley the land use predominantly pasture with medium sized irregular fields bounded by low, cropped hedges and few hedgerow trees. To the east the land use is similar but with the slightly more rectilinear fields being more strongly defined by pronounced hedge lines interspersed with occasional small woods and copses. The western area has visual connectivity with landscapes to the west and south, whilst that to the east has, along its northern edge, connectivity to the north and some open views across to the Wirral to the north-east. A rural landscape with the presence of some modern development.

**RELATIVE LANDSCAPE SUSCEPTIBILITY:** 



# **Assessment of Landscape Sensitivity**



# **Landscape Sensitivity:**

# LOW

None of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Clear potential for locating the development type.

#### Commentary:

A large LSA of 257Ha which has capacity within the western section for one solar farm up to 25MW. The eastern part also has some but less capacity away from the more visually exposed northern edge, for a smaller solar farm of 5MW.

#### Recommendation:

Potential capacity for one solar farm of up to 25MW in the west with possibly a further 5MW in the east.

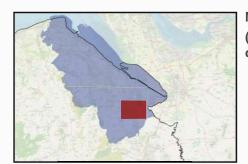
LSA Name: PENYFFORDD & PENYMYNYDD

LSA Location: 600m West of Penymynydd

LSA Size: 89 Ha

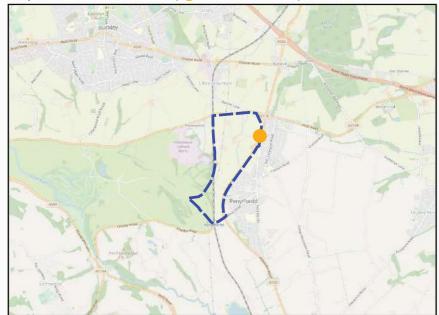


Refer to map 16a for location

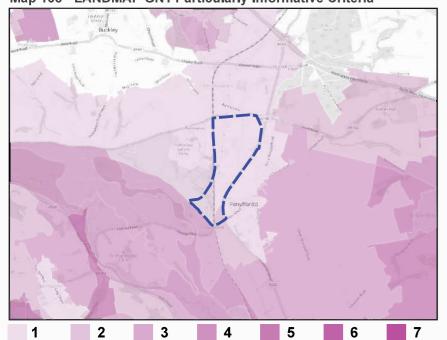


Map 16a - Location Map (red square indicates location of the maps below)

Map 16b- Location of LSA ( Photo Location)



Map 16c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	-	-
Landscape Habitats - Significance	-	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	Х	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

Dominent occurance of Historic Landscape- Survival and minimal occurance of Visual & Sensory- Integrity Particularly Informative Criteria in the southeast tip of the LSA.

**RELATIVE LANDSCAPE VALUE:** 

Low

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform					Х
Land Use				Х	
Visual enclosure				Χ	
Development / remoteness				Х	

An essentially flat landform with little notable change in elevation. A mixed land use of mostly rectilinear pasture and arable fields bounded by low, closely cropped hedges with scattered hedgerow trees. There is more woodland in the south and west associated with the railway and to the east, along the A550, otherwise the LSA has some visual connectivity with other landscapes to the north. The cement works to the west, plus settlement to the east mean the LSA has only a semi-rural character.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



## **Assessment of Landscape Sensitivity**

# Landscape Susceptibility V. High Very High Very High High Medium Medium-Low

# Landscape Sensitivity:

# LOW

None of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Clear potential for locating the development type.

#### Commentary:

A relatively large LSA of some 89Ha with potential capacity for up to a medium sized solar farm of 10MW.

#### Recommendation:

Capacity for one solar farm up to 10MW.

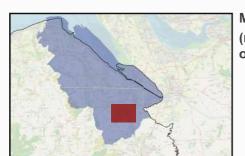
LSA Name: PENYFFORDD & PENYMYNYDD (WEST)

LSA Location: 1.6Km West of Penyffordd

LSA Size: 22 Ha



Refer to map 17a for location

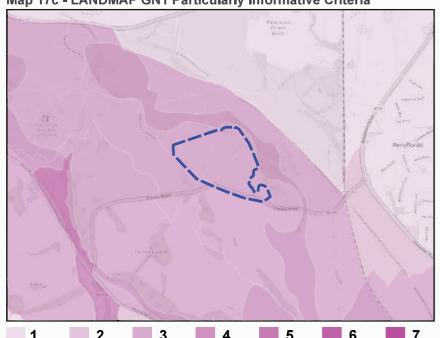


Map 17a - Location Map (red square indicates location of the maps below)

Map 17b-Location of LSA ( Photo Location)



Map 17c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	Х	-
Landscape Habitats - Significance	Х	-
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	-	-
Historic Landscape - Survival	Х	-
Historic Landscape - Condition	-	-
Historic Landscape - *Rarity	-	-

No Main Driver occurances, three dominant Particularly Informative Criteria including Landscape Habitats- Priority Habitats, Landscape Habitats-Significance and Historic Landscape- Survival.

**RELATIVE LANDSCAPE VALUE:** 

Medium-Low

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. Higl	High	Med	Low	V. Low
Landform		Х			
Land Use		Х			
Visual enclosure			Х		
Development / remoteness			Х		

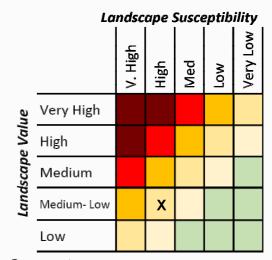
#### Notes:

A curious rolling, drumlin-like landform associated with a shallow river valley side. Small to medium sized irregular shaped fields, all laid to arable use, bounded by low and somewhat indistinct hedges but with a dense scattering of fine hedgerow trees. Strong visual connections with the landscape to the south but enclosed to the north by woodland, over which the cement works is a prominent element. Other than the cement works the influence of settlement is limited. A rural landscape with the presence of some modern development.

#### RELATIVE LANDSCAPE SUSCEPTIBILITY:



# **Assessment of Landscape Sensitivity**



# **Landscape Sensitivity:**

# MEDIUM

Some of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Some potential for locating the development type.

#### Commentary:

A small LSA of some 22Ha. Its small size, combined with its intensely rolling landform which is unsuited to solar farm development in landscape terms, and its visual exposure to the south mean that it has no capacity for commercial solar farm development.

#### Recommendation:

No capacity for commercial solar farm development.

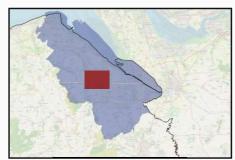
LSA Name: RHOSESMOR

LSA Location: 250m East of Rhosesmor

LSA Size: 15 Ha

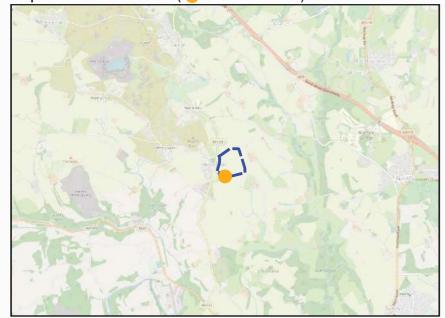


Refer to map 18a for location

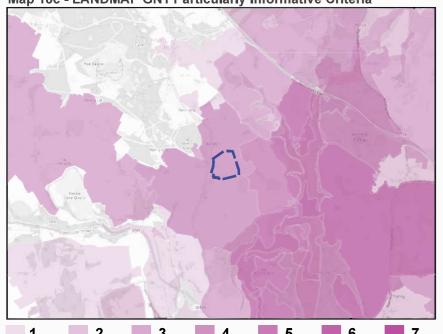


Map 18a - Location Map (red square indicates location of the maps below)

Map 18b- Location of LSA ( Photo Location)



Map 18c - LANDMAP GN1 Particularly Informative Criteria



## **Assessment of Landscape Value**

LANDMAP GN1 Particularly Informative Criteria (*indicated NRW Main Driver)	High	Outst
Geological Landscape - Rarity/ Uniqueness	-	-
Geological Landscape - Classic Example	-	-
Landscape Habitats - Priority habitats	-	-
Landscape Habitats - Significance	-	Х
Visual & Sensory - *Scenic quality	-	-
Visual & Sensory - Integrity	-	-
Visual & Sensory - *Character	-	-
Visual & Sensory - Rarity	-	-
Historic Landscape - *Integrity	Х	-
Historic Landscape - Survival	-	-
Historic Landscape - Condition	Х	-
Historic Landscape - *Rarity	Х	-

#### Notes:

Two dominent Main Drivers, Historic Landscape Integrity\* and Historic Landscape Rarity\* plus one Outstanding and one High Particularly Informative Criteria.

RELATIVE LANDSCAPE VALUE:

Medium

# **Assessment of Landscape Susceptibility**

Susceptibility Criteria	V. High	High	Med	Low	V. Low
Landform				Х	
Land Use			Х		
Visual enclosure				Х	
Development / remoteness				Х	

#### Notes:

A flat landform of only two fields of pasture divided and bounded by closely cropped hedges and a scattered hedgerow trees. Overlooked by the adjoining settlement of Rhosesmor to the west. A semi-rural landscape with much development adjacent.

# Landscape Susceptibility

**Assessment of Landscape Sensitivity** 

# Tandscape Value Very High High Medium Medium-Low Low

# Landscape Sensitivity:

# **MEDIUM**

Some of the key characteristics and qualities of the landscape are significantly vulnerable to change from the development type. Some potential for locating the development type.

#### Commentary:

A very small LSA of some 15Ha which is too small for a commercial 5MW solar farm (requires 12.5Ha).

#### Recommendation:

Very small LSA (15Ha) with no capacity for commercial solar farm development.

RELATIVE LANDSCAPE SUSCEPTIBILITY:



## 6.0 SUMMARY AND CONCLUSIONS

- 6.1 This Landscape Sensitivity Study (LSS) is a 'high-level' 6.5 assessment of 18 Local Search Areas (LSAs) for solar photovoltaic energy development for Flintshire County Council to form part of the evidence base for the renewable energy aspects of the emerging Local Plan.
- 6.2 The Council commissioned AECOM to prepare the 'Renewable Energy and Low Carbon Energy Assessment', 2019 [15], and which defined various Local Search Areas (LSAs) for solar developments following the prescribed methodology as laid out in the Renewable Energy Toolkit [16].
- 6.3 Impact on landscape is likely to be one of the main planning considerations associated with solar energy development proposals. This LSS is a 'high-level' assessment intended to form an essential element of the evidence base for development control purposes in assisting to direct solar development to the right areas and in the right quantum, as well as to advise those involved as to the main landscape and visual issues that are likely arise within any specific LSA location.
- 6.4 It is intended that this LSS should be used to:
  - Be part of the evidence base for the emerging Local Plan;
  - Provide guidance to inform the site selection and development of proposals at the pre-application stage;
  - Assist the Council with the EIA Screening and Scoping processes;
  - Inform the preparation of detailed landscape and visual impact assessments (LVIA) for the proposed development whether EIA or not; and to
  - Assist with the determination of planning applications or Local Impact Reports, in the case of DNS applications.

- 6.5 Landscape sensitivity can be considered to be either inherent sensitivity, i.e. a landscape's intrinsic sensitivity to any change, or sensitivity to a specific form of change. We are concerned in this case with the latter and, as such, landscape sensitivity will depend on the susceptibility of the characteristics of that landscape to change as a result of the development in question in combination with consideration of the value attached to the landscape. Defining landscape susceptibility is a judgement based on an assessment against various criteria. The assessment of value has also been a judgement, although one made by an assessor independent of this LSS process in developing LANDMAP. Landscape sensitivity is the outcome of these two separate analyses combined together and from these assessments a final judgement is made in the form of a recommendation regarding an appropriate 'capacity' for each LSA.
- 6.6 The LSS has considered 18 LSAs. The landscape sensitivity assessments and the recommendations of potential capacity based on the results of the assessments are drawn together in Table 9.

6.7

There is a relatively high degree of commonality in landscape character across the various LSAs, other than in a few cases where an LSA has a contrasting landform. Otherwise, the LSAs occupy a simple range of landform types, typically either moderately elevated, flat or gently undulating plateaux, or valley side slopes of varying steepness or lower lying, flat or gently undulating valley floors. The LSAs also share a degree of commonality in respect of the character of the agricultural use dominated by improved pasture, the scale of the landscape and the vegetative cover of low, cropped hedgerows, a moderate density of hedgerow trees and low levels of woodland cover. Generally, there are low levels of visual exposure either from adjoining or nearby landscapes, or even within individual LSAs. Consequently, landscape values, susceptibility and sensitivity of the various LSAs do not vary greatly.

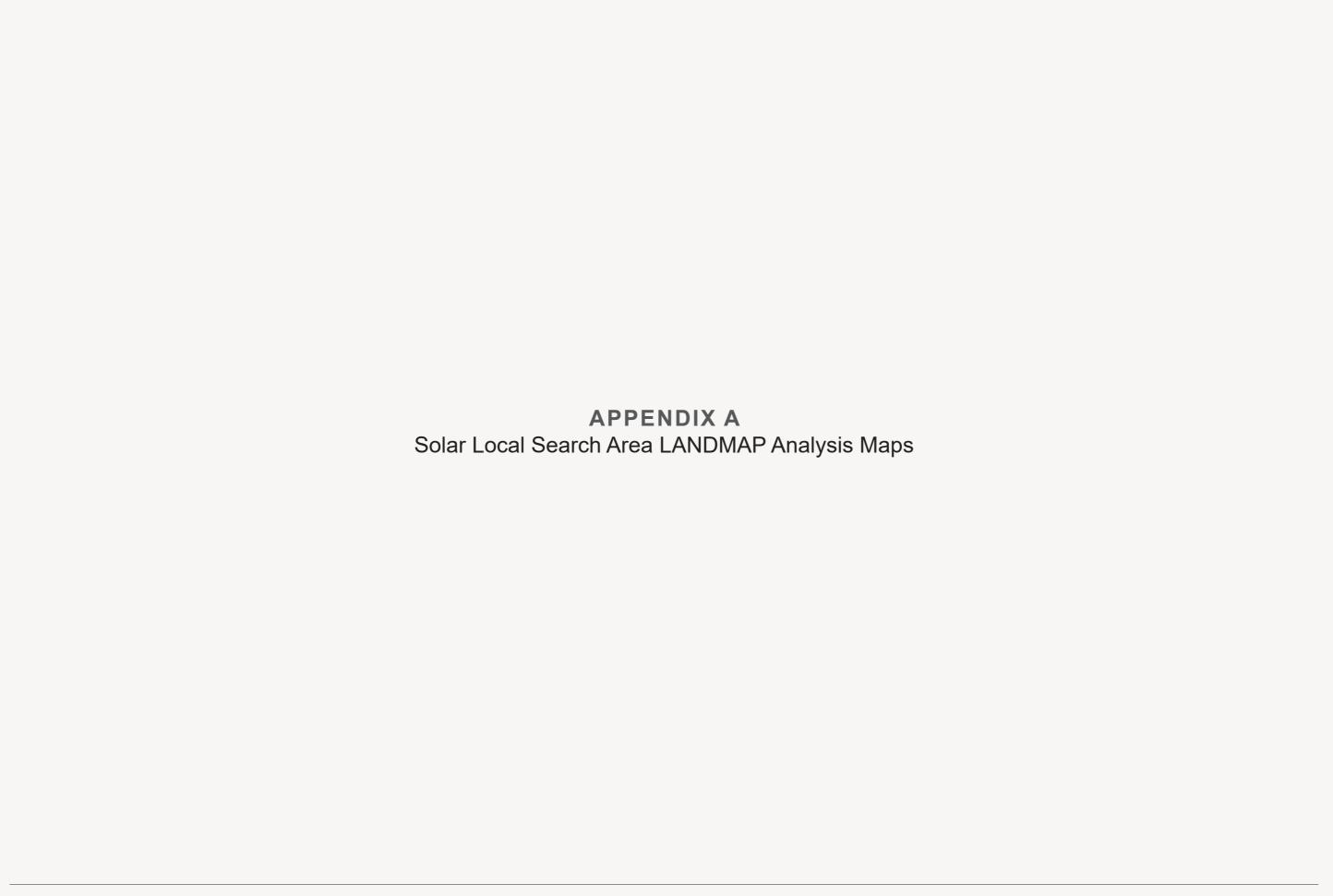
- There are no LSAs with a level of sensitivity greater than Medium, with many in the broad and lowest category of Low, which indicates there is, in all of these cases, capacity for solar farm development. Of those in the Medium category, only two have some capacity for solar farm development due mainly to the large area they occupy and the ability within this to accommodate a solar farm without the likelihood of significant landscape harm to key characteristics or significant visual effects. All of those LSAs in the Medium-Low category have some capacity for solar farm development.
- 9 The LSS concludes that the LSAs provide for a total maximum of installed capacity of 130MW.

<sup>15.</sup> Renewable and Low Carbon Energy Assessment, 2016, AECOM

<sup>16.</sup> Practice Guidance – Planning for Renewable and Low Carbon Energy – A Toolkit for Planners, 2015, Welsh Government

LSA no	LSA NAME	LSA AREA	LANDSCAPE VALUE	LANDSCAPE SUCEPTIBILITY	LANDSCAPE SENSITIVITY	RECOMMENDED CAPACITY (MW)
1	Buckley 1	17Ha	MEDIUM	MEDIUM	MEDIUM	0
2	Buckley 2	39Ha	MEDIUM	LOW	MEDIUM-LOW	5
3	Buckley 3	117Ha	LOW	LOW	LOW	10
4	Buckley 4	28Ha	LOW	LOW	LOW	5
5	Coed Talon & Pontybodkin (West)	65Ha	MEDIUM-LOW	MEDIUM	MEDIUM-LOW	10
6	Connah's Quay	83Ha	MEDIUM-LOW	MEDIUM	MEDIUM-LOW	5
7	Drury & Burntwood	11Ha	MEDIUM-LOW	MEDIUM	MEDIUM	0
8	HCA&C (North east)	452Ha	MEDIUM	MEDIUM	MEDIUM	30
9	Holywell	35Ha	LOW	HIGH	MEDIUM-LOW	5
10	Leeswood	27Ha	LOW	MEDIUM	LOW	5
11	Llanfynydd (North west)	52Ha	LOW	MEDIUM	LOW	5
12	Llanfynydd (North)	47Ha	MEDIUM-LOW	HIGH	MEDIUM	0
13	Mynydd Isa	120Ha	LOW	MEDIUM	LOW	5
14	New Brighton	217Ha	MEDIUM	MEDIUM	MEDIUM	5
15	Northop (North east)	257Ha	MEDIUM-LOW	LOW	LOW	30
16	Penyffordd & Penymynydd	89Ha	LOW	LOW	LOW	10
17	Penyffordd & Penymynydd (West)	22Ha	MEDIUM-LOW	HIGH	MEDIUM	0
18	Rhosesmor	15Ha	MEDIUM	MEDIUM	MEDIUM	0
					TOTAL SOLAR CAPACITY	130

Table 9 - Summary of LSS findings and recommended capacity (MW)



LANDMAP Value

