



Wauntysswg Solar PV Project

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**LAND AT WAUNTYSSWG FARM,
ABERTYSSWG, RHYMNEY,
TREDEGAR
AGRICULTURAL LAND
CLASSIFICATION
REPORT**

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RPS

20 Western Avenue
Milton Park
Abingdon
Oxon
OX14 4SH

Tel: 01235 821888

Email: rpsox@rpsgroup.com

QUALITY MANAGEMENT

Prepared by:	Julia Tindale and Stuart McRae
Authorised by:	Julia Tindale
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1 INTRODUCTION

- 1.1 This report presents a desk top assessment of the quality of the agricultural land for land at Wauntysswg Farm, near Abertysswg, Rhymney, Tredegar according to the 1988 Ministry of Agriculture Fisheries and Food (MAFF) Revised Agricultural Land Classification (ALC) System
- 1.2 The methodology for data collection is presented in Section 2 of the report. Section 3 describes the location, topography and climatic characteristics of the Site and Section 4 contains a review of published information relevant to the ALC of the Site. Section 5 describes the soils and agricultural land quality of the Site in detail. Section 6 provides a review of the agricultural resources identified in the context of local and national policy.

2 METHODOLOGY

2.1 The agricultural resources that have been included in the study are agricultural land quality and soil resources. The methods used to collect data on these agricultural resources are described below.

Agricultural Land Quality and Soil Resources

2.2 The assessment of the effects on agricultural land quality and soil resources is based on a detailed desk top assessment of relevant published information.

Desk Top Study

2.3 The desk top study included the following information:

- Climatic data from the Met Office's standard 5km grid point data set for a representative point near the centre of the Site. This information is relevant to the assessment of key criteria within the Agricultural Land Classification system;
- Geological Information from British Geological Survey Internet Portal at www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html, consulted December 2017;
- Soil Information from the National Soil Map National Soil Map Sheet 2 (Wales) published by the Soil Survey of England and Wales (1:250,000), specifically and accompanying Bulletin (1984);
- MAFF Published 1:63,360 scale (1 inch to 1 mile) Provisional ALC Sheet 154 (Cardiff) (1972).

3 LOCATION, TOPOGRAPHY AND CLIMATE

Location and Topography

- 3.1 The site consists of gently sloping land on the eastern side of the valley of the Nant Tyswg, a small stream which runs south into the Rhymney River. The highest ground, at just over 360m a.o.d., is in the north and the lowest, at around 280m a.o.d., is in the south with overall slopes of about 1 in 15 (around 4°).

Climate

- 3.2 The Climatic data below has been obtained from the Met Office's standard 5km grid point data set for representative points at different altitudes on the site.

Reference Point	SO 138075	SO 135069	SO136064
Altitude (m)	360	320	280
Accumulated Temperature ATO (day degrees)	1134	1180	1225
Average Annual Rainfall (mm)	1537	1509	1485
Climatic Grade	4	4	4
Field Capacity Duration (days)	295	291	289
Moisture Deficit for wheat (mm)	24	30	36
Moisture Deficit for Potatoes (mm)	8	17	25

- 3.3 The data are typical of the cold wet conditions encountered in upland areas of Wales and which impose a severe agricultural limitation restricting the land to a maximum ALC grading of Grade 4.

4 PUBLISHED GEOLOGY, SOILS AND ALC INFORMATION

Geology

- 4.1 According to the BGS internet portal, the bedrock geology is the Llynfi Member, part of the Carboniferous Pennant Sandstone. It consists of mudstones, siltstones and sandstones. It is, however, completely covered by glacial till in which the soils are formed.

Soils

- 4.2 There is no detailed soil map for the area and so the only published source of information is Sheet 2 (Wales) of the 1:250,000 scale National Soil Map. This shows geographic groupings of soils called Soil Associations, usually related to specific parent materials. Within each Association there are likely to be a number of more tightly defined soil types known as Soil Series. The commonest one gives its name to the Association.
- 4.3 The whole site is shown entirely as Association 721c WILCOCKS 1. This is described as a collection of mainly “slowly permeable seasonally waterlogged fine loamy and fine loamy over clayey upland soils with a peaty surface horizon. Coarse loamy soils affected by groundwater occur in some places. The soils are “very acid when not limed”. In this description, the term “fine loamy” indicates sandy clay loam and clay loam textures and “coarse loamy” indicates sandy loam or sandy silt loam textures
- 4.4 The “slowly permeable seasonally waterlogged fine loamy soils” are the Wilcocks series per se, which typically consist of a peaty or humose clay loam topsoil over a prominently mottled, slowly permeable, clay loam or sandy clay loam subsoil. The closely related Kielder series are the slowly permeable seasonally waterlogged fine loamy over clayey soils where the lower subsoil becomes a true clay. Both series have poor to very poor profile drainage as a consequence of the high rainfall, slowly permeable subsoils and the prevalence gentle relief. Both are in Wetness Class V or VI on a scale ranging from I, well drained, to VI very poorly drained. In the wettest areas peat over 40cm thick may have developed and these soils are classed as the Winter Hill or Crowdy series, in Wetness Class VI.

Agricultural Land Classification

- 4.5 The site is on the Provisional 1:63,360 scale ALC map, Sheet 154 (Cardiff) published in 1972 and is shown as Grade 5 almost certainly a reflection of the adverse climate and poor soils.
- 4.6 Since the published Provisional ALC maps were produced in the early 1970s there has been a comprehensive revision to the guidelines and criteria for allocating land to particular grades, including the introduction of more rigorous methods for the assessment of soil wetness introduced within the 1988 ALC Guidelines.
- 4.7 The main agricultural limitations on the site are the overall climate and soil wetness. The former restricts the land to Grade 4 at best. Soil wetness, however, indicates a lower grading of Grade 5 if, as anticipated the soils are in Wetness Class V with peaty topsoils.

- 4.8 Even if the topsoils are humose, i.e. with less than 20% organic matter rather than peaty, the maximum ALC grading is also likely to be Grade 5 unless the topsoil comprises a lighter textured humose medium clay loam rather than a humose heavy clay loam. In these unlikely circumstances the soil profiles would be classified as Wetness Class V, and limited to Grade 4, according to the soil wetness limitation.

5 AGRICULTURAL LAND CLASSIFICATION OF THE SITE

5.1 The climate on the Site limits the quality of the land to a maximum of Grade 4 according to the MAFF ALC Guidelines. In addition, the nature of the soils on the site and the presence of humose/peaty topsoils also impose a wetness limitation on the Site, where the quality of the land is likely to be Grade 4 or 5, on the basis of this limitation.

5.2 Paragraph 4.10 of Planning Policy Wales ('PPW'), Edition 9 November 2016, states that:

Conserving the best and most versatile agricultural land.

"In the case of agricultural land, land of grades 1, 2 and 3a of the Department for Environment, Food and Rural Affairs (DEFRA) Agricultural Land Classification system (ALC) is the best and most versatile, and should be conserved as a finite resource for the future¹⁰. In development plan policies and development management decisions considerable weight should be given to protecting such land from development, because of its special importance. Land in grades 1, 2 and 3a should only be developed if there is an overriding need for the development, and either previously developed land or land in lower agricultural grades is unavailable, or available lower grade land has an environmental value recognised by a landscape, wildlife, historic or archaeological designation which outweighs the agricultural considerations. If land in grades 1, 2 or 3a does need to be developed, and there is a choice between sites of different grades, development should be directed to land of the lowest grade."

5.3 The Site does not comprise any of the "best and most versatile" agricultural land according to PPW and comprises, at best, poor quality Grade 4 land as defined in the MAFF 1988 ALC guidelines, due to a climate and soil wetness limitation.

REFERENCES

British Geological Survey Internet Portal at ww.maps.bgs.ac.uk, consulted December 2017

Soil Survey of England and Wales, National Soil Map Sheet 2 (Wales), 1:250,000 and accompanying Regional Bulletin (1984)

Agricultural Land Classification, Provisional Sheet 154 (Cardiff), 1:63,360 (1972)

Agricultural Land Classification of England and Wales. *Revised guidelines and criteria for grading the quality of agricultural land*. October 1988.

The Meteorological. Office *Climatological data for Agricultural Land Classification*. January 1989