MAES MAWR SOLAR FARM

ENVIRONMENTAL STATEMENT

Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017

On behalf of Elgin Energy EsCO LTD



MAES MAWR SOLAR FARM



Quality Management					
Version	Status	Authored by	Reviewed by	Approved by	Date
Draft	For client review	EA	AL	AL	10/06/2022
Draft	For consultation	EA	AL	AL	26/07/2022

Approval for issue		
Andrew Lucas	the.	26 July 2022
File/Model Location		
Document location:	O:\04 JOBS\01 OPEN JOBS\JPW15xx\JPW1546 - Maes Mawr Solar Farm (GG)\5. Reports\1. Draft Report\08. Draft EIA\220328 R JPW1546 Maes Mawr ES Chapters 1-11.docx	
Model / Appendices location:	O:\04 JOBS\01 OPEN JOBS\JPW15xx Reports\1. Draft Report\08. Draft EIA	\JPW1546 - Maes Mawr Solar Farm (GG)\5.

This report was prepared by RPS within the terms of RPS' engagement with its client and in direct response to a scope of services. This report is supplied for the sole and specific purpose for use by RPS' client. The report does not account for any changes relating the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report. RPS does not accept any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report.

Prepared by:	Prepared for:
RPS	Elgin Energy EsCO LTD
Andrew Lucas Senior Director	Rob Kelly Project Manager
2 Callaghan Square Cardiff CF10 5AZ	3rd Floor, Audley House, 9 North Audley Street, London, W1K 6ZD
T +44290 668 662 E <u>lucasa@rpsgroup.com</u>	T 0208 068 4240 E <u>robert.kelly@elgin-energy.com</u>



GLOSSARY

Term	Definition
ES	Environmental Statement
EIA	Environmental Impact Assessment
NTS	Non-Technical Summary
IEMA	Institute of Environmental Management and Assessment
DNS	Developments of National Significance
LPA	Local Planning Authority
LDP	Local Development Plan
DCLG	Department for Communities and Local Government
DNO	District Network Operator
CTMP	Construction Traffic Management Plan
HGV	Heavy Goods Vehicle
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Importance
SLA	Special Landscape Area
FCA	Flood Consequence Assessment
ALC	Agricultural Land Classification
CEMP	Construction Environmental Management Plan
FSC	Forest Stewardship Council
MAFF	Ministry of Agriculture, Fisheries and Food
DEFRA	Department for Food and Rural Affairs
PPW	Planning Policy Wales
TAN	Technical Advice Note
IROPI	Imperative Reasons of Overriding Public Interest
TTA	Tactical Training Area
IEA	International Energy Agency
FES	Future Energy Scenarios
BECCS	Bioenergy with Carbon Capture and Storage
PAC	Pre-application Consultation
PEDW	Planning and Environment Decisions Wales
GLVIA	Guidelines for Landscape and Visual Impact Assessment: Third Edition
LVIA	Landscape and Visual Impact Assessment
ZTV	Zone of Theoretical Visibility





Contents

GLO	SSARY	I
1	INTRODUCTION Introduction	1 1 2 2 3 3
2	PROJECT DESCRIPTION	5 6 6 11 13 14 17 17
3	NEED AND ALTERNATIVES CONSIDERED Introduction Need for the Development Alternatives Considered References	22 22 25
4	ENVIRONMENTAL ASSESSMENT METHODOLOGY Introduction Scoping Climate Change Resilience Topics Scoped Out of the EIA Process Environmental Assessment Methodology Key Elements of the General Approach Consultation References	29 29 30 32 33 37
5	LANDSCAPE AND VISUAL Assessment Methodology Landscape and Visual Baseline Mitigation Measures Adopted as Part of the Proposed Development Assessment of Construction Effects Assessment of Operational Effects Assessment of Decommissioning Effects Assessment of Cumulative Effects Effects of Glint and Glare Summary of Effects References	41 46 69 71 78 89 90 91 92
6	ECOLOGY AND NATURE CONSERVATION	



	Assessment Methodology	101
	Baseline Environment	
	Mitigation Measures Adopted as Part of the Project	108
	Assessment of Construction and Decommissioning Effects	121
	Assessment of Operational Effects	127
	Assessment of Cumulative Effects	
	Inter-relationships	139
	Summary of Effects	139
	References	145
7	HISTORIC ENVIRONMENT	
	Introduction	
	Assessment Methodology	
	Baseline Environment	
	Mitigation Measures Adopted as Part of the Project	
	Assessment of Construction Effects	
	Assessment of Operational Effects	
	Assessment of Cumulative Effects	
	Summary of Effects	
	References	
8	CLIMATE CHANGE	176
0	Introduction	
	Assessment Methodology	
	Baseline Environment	
	Mitigation Measures Adopted as Part of the Proposed Development	
	Assessment of Construction Effects	
	Assessment of Operational Effects	
	Assessment of Whole-Life Effects	
	Assessment of Cumulative Effects	
	Inter-relationships	
	References	
9	GROUND CONDITIONS	
	Introduction	
	Assessment Methodology	
	Baseline Environment	
	Mitigation Measures Adopted as Part of the Project	
	Assessment of Construction Effects	
	Assessment of Operational Effects	
	Assessment of Cumulative Effects	
	Inter-relationships	
	Summary of Effects	

Tables

Table 1.1: Structure of ES
Table 2.1: Key Parameters for Environmental Assessment
Table 2.2: Indicative Phasing of Construction
Table 2.3: Measures to be adopted as part of the Proposed Development during construction
Table 2.4: Measures to be adopted as part of the Proposed Development during operation
Table 4.1: Typical assessment matrix
Table 5.1: Consultation Responses Relevant to this Chapter
Table 5.2: View Ranges



Table 5.3: Representative Viewpoints Table 5.4: Definitions of Sensitivity Table 5.5: Definitions of Visual Sensitivity Table 5.6: Example Definitions of Magnitude Table 5.7: Assessment Matrix Table 5.8: Definitions of Significance Criteria Table 5.9: Cumulative Developments considered in the Assessment of Effects on Landscape and Visual Resources Table 5.10: Summary of Likely Environmental Effects on Landscape and Visual Resources Table 6.1: Consultation Responses Relevant to this Chapter Table 6.2: Definitions of Ecological Receptor Value Table 6.3: Example Definitions of Magnitude Table 6.4: Assessment Matrix Table 6.5: Developments Considered for Potential Cumulative Effects on Ecology Table 6.6: Summary of Likely Environmental Effects on Ecology and Nature Conservation Table 7.1: Historic Environment Consultation Responses Table 7.2: Sensitivity of Heritage Assets Table 7.3: Magnitude of Impact Table 7.4: Assessment Matrix for Significance of Effect Table 7.5: Scoped in heritage assets and identification of sensitivity Table 7.6: Effects to Heritage Assets During Construction Phase Table 7.7: Effects to Heritage Assets During Operational Phase Table 7.8: Summary of Likely Environmental Effects on the Historic Environment Table 8.1: Construction stage GHG emissions Table 8.2: Annual operational GHG effects (year one) Table 8.3: GHG Impacts in the Context of the UK's Carbon Budgets Table 8.4: GHG Impacts in the Context of the Rhondda Cynon Taf Carbon Budgets Table 8.5: Future cloud cover change Table 8.6: Project net GHG impact Table 8.7: Summary of likely environmental effects on climate change Table 9.1: Consultation Responses Relevant to this Chapter Table 9.2: Definitions of Sensitivity or Value Table 9.3: Definitions of Magnitude Table 9.4: Assessment Matrix Table 9.5: BGS Ground Stability Hazard Ratings Table 9.6: Potential Geotechnical Hazards

Figures (ES Volume 2)

- Figure 1.1: Site Boundary Plan
- Figure 2.1: Solar Layout Plan
- Figure 2.2: Site Location Plan 1:25,000
- Figure 2.3: Local Designations Plan
- Figure 2.4: Statutory Designations Plan
- Figure 5.1 Application Site Location and Field Identification
- Figure 5.2 Landscape Planning Designations
- Figure 5.3 Topography and Drainage
- Figure 5.4 ZTV and Representative Viewpoint Locations
- Figure 5.5 5.37 Representative Viewpoints (including Photomontages)
- Figure 5.6 Landscape Strategy Plan (JSL3514_100 to 101)
- Figure 5.38 National Landscape Character Areas
- Figure 5.39 LANDMAP Visual and Sensory Aspect Areas



Figure 5.40 LANDMAP Visual and Sensory Overall Evaluation

Figure 5.41 LANDMAP Landscape Habitats Aspect Area

Figure 5.42 LANDMAP Cultural Landscape Aspect Areas

Figure 5.43 LANDMAP Geology Aspect Areas

Figure 5.44 LANDMAP Historic Landscape Aspect Areas

Figure 7.1 Archaeological resources in relation to the site

Figure 7.2 Designated Heritage Assets

Graphs

Graph 8.1: Annual and Cumulative GHG Impacts

Appendices (ES Volume 3)

Appendix 1.1 EIA Regulations Appendix 1.2 Author Competency Appendix 4.1 EIA Scoping Report Appendix 4.2 EIA Scoping Direction Appendix 4.3 Cumulative Schemes Appendix 5.1 Glint and Glare Assessment Appendix 5.2 Landscape Value Information Appendix 5.3 Photomontage and Photowire Methodology Appendix 5.4 Tree Survey and Arboricultural Impact Assessment Appendix 6.1 Preliminary Ecological Appraisal Appendix 6.2 Phase 2 Species Survey Report (GCN, water vole and otter) Appendix 6.3 Wintering Bird Survey Appendix 7.1 Archaeological Desk Based Assessment Appendix 7.2 Heritage Impact Assessment Appendix 8.1 Climate Change Policy Review Appendix 8.2 Climate Risk Assessment Appendix 8.3 GHG Calculations Appendix 9.1 Coal Mining Risk Assessment and Mineral Assessment



1 INTRODUCTION

Introduction

- 1.1 This Environmental Statement (ES) has been prepared by RPS on behalf of Elgin Energy EsCO Ltd (the Applicant).
- 1.2 The ES reports on the findings of the Environmental Impact Assessment (EIA) process and accompanies the planning application for the construction of a solar photovoltaic electricity generating station ('solar farm') and associated ancillary development, with an installed generation capacity of approximately 30 MW (referred to as the 'Proposed Development'). The power generated would be fed into the electricity distribution network. The Proposed Development is fully reversible at the end of the project's 40 years life.
- 1.3 The Proposed Development site is located on land between Church Village and Treforest Industrial Estate, to the east is the main railway line linking Cardiff and the Valleys. To the west lies the A473. The site location is shown on **Figure 1.1**. The centre of the site lies approximately at grid reference ST099860.

Statutory Framework and Purpose of the Environmental Statement

Purpose of EIA

- 1.4 EIA is a means of identifying and collating information to inform an assessment of the likely significant environmental effects of a project. The findings of the EIA process are reported in an ES in order to inform the relevant planning authority and interested parties as part of the decision-making process.
- 1.5 This EIA seeks to identify and assess the significance of effects likely to arise from a Proposed Development. This requires consideration of the likely changes to the environment, where these arise as a consequence of the Proposed Development, through comparison with the existing and likely future baseline conditions in the absence of the Proposed Development.

The EIA Directive

1.6 The legislative framework for EIA is set by European Directive 2011/92/EU, as amended by Directive 2014/52/EU (collectively referred to as the EIA Directive). Directive 2014/52/EU entered into force on 15 May 2014.

The EIA Regulations

1.7 In Wales, the requirements of the EIA Directive have been transposed into legislation through the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017. These regulations are referred to in this ES as 'the EIA Regulations'.

Need for EIA

- 1.8 Schedule 1 of the EIA Regulations identifies development types that always require EIA. Schedule 2 identifies development types that require EIA if they are likely to lead to significant effects on the environment by virtue of factors such as their nature, size or location. Schedule 2 development is defined within the EIA Regulations as development of a description mentioned in Column 1 of the table in Schedule 2 where:
 - *(a) any part of that development is to be carried out in a sensitive area; or*



b) any applicable threshold or criterion in the corresponding part of Column 2 of that table is respectively exceeded or met in relation to that development.

- 1.9 The Proposed Development falls within the description at paragraph 3(a) 'Industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1)' in column 1 of the table in Schedule 2 to the Regulations. Schedule 2 development requires screening against the criteria set out in Schedule 3 of the Regulations. The criteria include the characteristics of the development, location of development and types and characteristics of the potential impact.
- 1.10 The Proposed Development would exceed the relevant threshold within Schedule 2 with a development area exceeding 0.5 hectares (for industrial installations for the production of electricity, steam and hot water).
- 1.11 A notification of intention to submit a Developments of National Significance (DNS) was sent to Welsh Ministers on 27 August 2021. On 9 September 2021 the Planning Inspectorate (now Planning and Environment Decisions Wales – PEDW) confirmed that the Proposed Development was a DNS application. A Screening Request was not submitted with the notification as it was the intention that the Applicant would provide undertake EIA.
- 1.12 Accordingly, a Scoping Direction was sought from Welsh Ministers. Further details in relation to this are provided in Chapter 4 (Environmental Assessment Methodology).

Content of the ES

- 1.13 This ES has been prepared in accordance with the EIA Regulations. Although there is no statutory provision as to the form of an ES, it must contain the information specified in Regulation 17 and Schedule 4 of the EIA Regulations. For the avoidance of doubt, the specified information within Regulation 17 and Schedule 4 is provided in **Appendix 1.1** of this ES.
- 1.14 This ES provides all information required under Regulation 17 and Schedule 4. The information supplied within this ES is considered to provide a clear understanding of the main and likely significant effects of the Proposed Development upon the environment, and the likely residual effects having regard to the mitigation proposed, taking account of the fact that effects will be both negative and positive.

Structure of the ES

- 1.15 The ES has been structured in order to allow relevant environmental information to be easily accessible. This volume of the ES (Volume 1) includes the main text of the ES. A description of the Proposed Development is provided in Chapter 2. Information relating to the main alternatives considered during the evolution of the Proposed Development and the reasons for the choices made is found within Chapter 3. Chapter 4 outlines the approach and methodology adopted for the EIA. The remainder of Volume 1 contains topic by topic environmental information as set out in Table 1.1.
- 1.16 Figures and appendices to accompany the text of the ES are provided respectively in Volumes 2 and 3. Volume 3 includes specialist reports providing relevant background and technical information. A Non-Technical Summary (NTS) of the ES is available as a separate summary document.

Structure of ES		
Non-Technical Summary	Summary of the ES using non-technical terminology	
Volume 1: Text		
	Glossary	
Chapter 1	Introduction	

Table 1.1: Structure of ES

Structure of ES		
Chapter 2	Project Description	
Chapter 3	Need and Alternatives Considered	
Chapter 4	Environmental Assessment Methodology	
Chapter 5	Landscape and Visual	
Chapter 6	Ecology and Nature Conservation	
Chapter 7	Historic Environment	
Chapter 8	Climate Change	
Chapter 9	Ground Conditions	
Volume 2: Figures		
Including all figures and drawings to accompany the text.		
Volume 3: Appendices		
Including specialist reports forming technical appendices to the main text.		

The Applicant

- 1.17 The Applicant is Elgin Energy EsCO Ltd. Elgin has a proven track record for developing solar farms sympathetically within the countryside across the UK and Ireland and are dedicated to maintaining the highest standards both during and after construction of their projects. Their portfolio includes some of the largest operational solar farms developed to date in the UK.
- 1.18 Elgin primarily focus on delivering large-scale solar farms, ranging from 25MW and up. This involves working closely with landowners, planning authorities, other stakeholder and local community groups to ensure their solar farms are designed and constructed to meet the needs of all parties. Through solar farm development, Elgin seeks to deliver the benefits of clean solar energy to the public.

The Assessment Team

1.19 The EIA has been managed by RPS, taking into account information provided by the Applicant and design team. RPS is a registrant of the Institute of Environmental Management and Assessment (IEMA) Quality Mark. All authors of this ES are qualified consultants within RPS and a statement setting out how the authors have sufficient expertise to ensure the completeness and quality of the ES is provided in **Appendix 1.2**.

Further information

1.20 This ES is being submitted as part of a planning application for the proposed solar photovoltaic electricity generating station and associated ancillary development. The application is being submitted to PEDW, formerly the Planning Inspectorate. The planning application, ES and NTS can be viewed at:

Planning Department Rhondda Cynon Taff County Borough Council Sardis House Sardis Road Pontypridd CF37 1DU.

1.21 Copies of the ES and planning application documents can be viewed on the PEDW Developments of National Significance (DNS) website:

https://gov.wales/developments-national-significance-dns-applications



1.22 Further copies of the ES can be obtained from the following address:

RPS 2 Callaghan Square Cardiff CF10 5AZ.

- 1.23 A paper copy of the full ES can be obtained for a cost of £250 plus VAT or an electronic copy (CD) for a cost of £10.
- 1.24 All comments on the ES (and planning application) should be issued to PEDW.