Chapter 1

Introduction

Contents

Glossary

Term	Definition
Environmental Impact Assessment	EIA is a means of carrying out, in a systematic way, an assessment of the likely significant environmental effects from a development.
Environmental Statement	A document reporting the findings of the Environmental Impact Assessment (EIA) and produced in accordance with the EIA Regulations.
North section	Section of development located north of Bryn settlement, within Penhydd forestry block.
South section	Section of development located south of Bryn settlement, within Bryn forestry block.
Sustainable Drainage Systems Approving Body	A body within a local authority with the statutory responsibility to approve drainage systems, and in specified circumstances also adopt them.
The proposed development	Y Bryn Wind Farm development.
Y Bryn site boundary	The area within which the proposed development will be located.

List of Abbreviations

Abbreviation	Description
BCBC	Bridgend County Borough Council
DNS	Development of National Significance
EIA	Environmental Impact Assessment
EIA Regulations	The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017
ES	Environmental Statement
GW	Gigawatt
IEMA	Institute of Environmental Management & Assessment
m	Metre
MW	Megawatt
Natural Power	Natural Power Consultants Ltd
NPTCBC	Neath Port Talbot County Borough Council
NRW	Natural Resources Wales
PEDW	Planning and Environment Decisions Wales
PINS	Planning Inspectorate Wales
PRoW	Public Rights of Way
SAB	Sustainable Drainage Systems Approving Body
SLVIA	Seascape Landscape Visual Impact Assessment
SuDS	Sustainable Drainage Systems
WGWE	Welsh Government Woodland Estate

1.1 INTRODUCTION

1.1.1 This Environmental Statement (ES) has been prepared in support of an application to construct and operate Y Bryn Wind Farm (the proposed development), located in south Wales. The ES contains four volumes:

- Volume 1: ES Written Statement;
- Volume 2: Supporting Figures and Visualisations;
- Volume 3: Appendices; and
- Volume 4: Bilingual Non-Technical Summary.

1.1.2 The proposed development lies approximately 1.1 km west of Maesteg, 2.7 km north-east of Port Talbot, 1.8 km east of Goytre, and 1.6 km south of Cynonville. The north section of the proposed development is located north of the B4282, within Penhydd forestry, while the south section is located south of the B4282 road, within Bryn forestry. Access for turbine deliveries will be via a new slipway off the eastbound M4 past junction 41 and entering the southern section, before utilising existing track and crossing the B4282 to deliver to the north section. The majority of the proposed infrastructure is located in Neath Port Talbot County Borough Council (NPTCBC) area, with some in Bridgend County Borough Council (BCBC) area.

1.1.3 The ES describes the natural and human environment of the area in which the proposed development would be situated. It describes the details of the construction, operational and decommissioning phases of the proposed development and assesses any potentially significant effects that the proposed development could have on the biological environment (e.g. ecology, hydrology etc), the physical environment (e.g. cultural heritage, landscape etc), and on human health and population. It also describes the policy context in relation to the proposed development for renewable energy within NPTCBC and BCBC, Wales and the UK, and the overall policy context as set out in international agreements to reduce emissions of climate change gases, and targets set for the growth of renewable energy generation.

1.2 STRUCTURE OF THE ES

1.2.1 The ES has been prepared in accordance with The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (EIA Regulations), and follows the structure presented in Table 1.1. Where relevant, each ES chapter considers the baseline environment, the likely significant effects for each phase of the development, and cumulative effects.

Table 1.1: ES Structure

Volume	Heading	Description
1	ES Chapter 1: Introduction	Presents the proposed development and provides a brief overview of the applicant and the ES.
1	ES Chapter 2: Legal and Policy Context	Identifies energy and land use policies and outlines the need for the proposed development and its benefits within the context of international climate change agreements and European, UK and Welsh renewable energy policy.
1	ES Chapter 3: Approach to EIA	Describes the approach taken to assess effects relating to the topics investigated as part of the EIA.
1	ES Chapter 4: Site Selection and Design Evolution	Explains the site selection and the design evolution process that has resulted in the proposed development.
1	ES Chapter 5: Project Description	Provides a detailed description of the infrastructure associated with the proposed development.
1	ES Chapter 6: Ecology	Provides an assessment of the habitats and (non-avian) fauna present within the Y Bryn site boundary and immediate surrounding environment.
1	ES Chapter 7: Ornithology	Provides an assessment of the potential effects upon avian species.
1	ES Chapter 8: Seascape, Landscape and Visual Impact Assessment (SLVIA)	Provides an assessment of the seascape, landscape and visual impacts of the proposed development including residential visual amenity and night-time lighting effects.
1	ES Chapter 9: Cultural Heritage	Provides an assessment of the potential effects of the proposed development upon cultural heritage assets.
1	ES Chapter 10: Hydrology, Geology and Hydrogeology	Assesses the effects on the hydrological, geological and hydrogeological environment by the proposed development, including private water supplies and peat.
1	ES Chapter 11: Traffic and Transport	Identifies the transport route and assesses the potential effects upon the transport network resulting from the proposed development.
1	ES Chapter 12: Noise	Provides an assessment of the potential noise effects of the proposed development.
1	ES Chapter 13: Forestry	Assesses how the proposed development will affect the existing plans for felling, restocking, and proposes suitable amendments to forestry design plan(s) to accommodate the proposed development.
1	ES Chapter 14: Health and Public Safety	Assesses effects of shadow flicker, ice throw, and health and safety of construction workers and public relating to the proposed development.
1	ES Chapter 15: Aviation and Existing Infrastructure	Provides an assessment of the potential effects upon aviation interests, communication operations and existing site infrastructure such as public right of way (PRoW).
1	ES Chapter 16: Socioeconomics	Provides an assessment of the potential socioeconomic effects of the proposed development, including consideration on tourism.
1	ES Chapter 17: Residual Effects, Mitigation and Enhancement	Summarises the proposed mitigation and residual effects of the proposed development, as well as proposed enhancement measures.
2	Figures	ES Figures to accompany all chapters.
3	Technical Appendices	Provides additional supporting documents and data which inform the ES.
4	Bilingual Non-Technical Summary	Provides a high-level summary of the ES in terms that can be understood by a layperson, in both Welsh and English.

1.3 KEY PROJECT FACTS

1.3.1 Figure 1.1 in Volume 2 of the ES illustrates the proposed development in a regional context. Figure 1.2 illustrates the site layout of the proposed development consisting of up to 18 wind turbines with tip heights ranging from up to 206 m, up to 230 m and up to 250 m, and associated infrastructure. It is expected to have an operational period of up to 50 years, and an estimated capacity of 129.6 megawatts (MW).

1.3.2 As the proposed development's generating capacity of renewable electricity will be in excess of 10 MW, the application is considered a Development of National Significance (DNS) and will be submitted to Planning and Environment Decisions Wales (PEDW) and determined by Welsh Ministers.

1.3.3 The proposed development comprises the following main elements:

- Up to 18 wind turbines (ranging between up to 206 metres (m), up to 230 m and up to 250 m to tip), each with:
  - Turbine foundations;
  - External transformer housings;
  - Crane hardstandings and erection areas;
- On-site substation, control building and compound;
- Energy storage facility;
- 2 wind monitoring locations, with anemometry masts (up to 131 m height) or other ground-based equipment (e.g. LiDAR);
- Upgraded and new access tracks, including watercourse crossings;
- Underground electricity cables connecting infrastructure within the Y Bryn site boundary;
- Site signage;
- Borrow pits;
- Temporary construction and storage compounds, laydown areas and ancillary infrastructure including cable crossing points;
- Drainage and drainage attenuation measures, to be designed by the contractor post-consent and approved by the relevant Sustainable Drainage (SuDS) Approving Body (SAB) prior to construction. Attenuation measure will mimic greenfield runoff rates and ensure that no untreated water enters natural watercourses;
- Habitat management and enhancement measures, including broadleaf woodland restoration, wet woodland creation, creation of ponds and ditches to aid flood prevention, control of dense bracken and control of invasive species; and
- Access management and enhancement measures to include reinstatement and restoration of PRoW upgrades and ongoing maintenance to mountain biking trails, measures to promote and support greater use of e-bikes, and promotion of a strategic link between Afan Forest Park and Margam Park mountain biking trails.

1.3.4 The land where turbines will be erected is currently productive forestry, on Welsh Government Woodland Estate (WGWE) managed by Natural Resources Wales (NRW). Forestry felling and replanting will be undertaken to facilitate erection of turbines, and creation of new access tracks and/or upgrades to existing access tracks. Site restoration and landscaping will aim to integrate new infrastructure elements as sympathetically as possible. Habitat management and enhancement as described above will be undertaken within the Y Bryn site boundary.

1.3.5 Full details of the infrastructure associated with the proposed development is provided in ES Chapter 5: Project Description.

1.3.6 A scoping report was submitted to the Planning Inspectorate Wales (PINS) on 7 January 2021. A copy of this can be found in Appendix 3 in Volume 3 of the ES. The full scoping direction was received from the PINS on 8 March 2021 and is provided in Appendix 3 of the ES. It informs the scope of the EIA undertaken for the proposed development.

1.4 EIA PROJECT TEAM

1.4.1 The applicant, Y Bryn Wind Farm Limited is a project company wholly owned by development partners ESB and Coriolis Energy.

1.4.2 ESB is Ireland's premier energy company and is a leading independent power generator in the UK market. ESB has a track record of 30 years as a successful investor in the UK since commissioning one of the first independent power generating plants at Corby in Northamptonshire in 1994.

1.4.3 ESB owns and operates wind farms across the UK and Ireland with a total installed capacity of 1.2 gigawatts (GW), including the operational Mynydd y Betws Wind Farm (34.5 MW) in Carmarthenshire.

1.4.4 Coriolis Energy identifies and works on the development of wind farm proposals, and ESB constructs and operates those wind farms.

1.4.5 Coriolis Energy is a specialist independent wind farm development company operating throughout the UK. Its principals have been responsible for successfully developing 15 onshore wind farms in the UK with a capacity of 700 MW over three decades.

Table 1.2: Details of the applicant

Applicant	
Y Bryn Wind Farm Limited	22-24 King Street Maidenhead Berkshire SL6 1ELF

1.4.6 The proposed development has been designed and assessed by the applicant in association with its lead consultants, Natural Power Consultants Ltd (Natural Power) (Table 1.3). Natural Power has been appointed to coordinate and produce this ES and associated EIA documentation.

1.4.7 Natural Power has been providing expertise to the renewable energy industry since the company was formed in 1995 and is one of Wales' and the UK's leading renewable energy consultants. Natural Power currently employs over 420 people working full time providing renewable energy services nationally and internationally, including a dedicated Welsh team with over 460 MW worth of applications consented, including those that have gone to appeal.

1.4.8 Testimony to Natural Power's experience and ongoing commitment to competency and continual improvement, its Planning & Environment Department is accredited by the Institute of Environmental Management and Assessment (IEMA) and is registered to IEMA's EIA Quality Mark scheme[1] . In addition, Natural Power also operates in formally accredited health and safety (IOSAS 18001), environmental (14001) and quality (9001) management systems. As well as development and EIA services, Natural Power also provides expert advice and due diligence consultancy, site construction management and site operation and maintenance. Thus, Natural Power is a competent, experienced consultant to co-ordinate and undertake EIA and to prepare the ES.

[1] IEMA website, *EIA Quality Mark*. Available from https://www.iema.net/corporate-programmes/eia-quality-mark [Accessed 24/03/2023]

1.4.9 Contact details for Natural Power and other consultants involved in the production of the ES are provided in Tables 1.3 and 1.4. Statements of Competency are provided in Table 1.5.

Table 1.3: Details of agent and lead consultancy

EIA Co-ordinator (lead consultancy)	
Natural Power	Harbour House, Y Lanfa Aberystwyth, Ceredigion SY32 1AS

Table 1.4: Other consultants involved in the production of this ES

EIA Contributors	
Seascape, Landscape and Visual	
Soltys Brewster	4 Stangate House Stanwell Road Penarth Vale of Glamorgan CF64 2AA
Natural Power (aviation lighting assessment)	As above
Optimised Environments (peer review)	Quartermile Two 2nd Floor 2 Lister Square Edinburgh EH3 9GL
Arcus Consultancy Services Ltd (visualisations)	1C Swinegate Court East 3 Swinegate York North Yorkshire Y01 8AJ
Cultural Heritage	
Headland Archaeology	Unit 1 Clearview Court Twyford Road Hereford HR2 6JR
Noise	
Hayes McKenzie Partnership Ltd	Lodge Park Tre'r-ddol Machynlleth Powys SY20 8PL
Design, Traffic and Transport, Ecology, Ornithology, Hydrology	
Natural Power	Ochil House Springkerse Business Park Stirling FK7 7XE
Abnormal Indivisible Loads Assessment	
Pell Frischmann	93 George Street Edinburgh EH2 3ES
Aviation	
Aviatica	Reservoir House Gladhouse Midlothian EH23 4TA
Forestry	
Arc Woodlands	Swn-y-Don Mathry Haverfordwest Pembrokeshire SA 62 5HA
Mining	
South West Geotechnical	Unit 3 Brooklands Howden Road Tiverton Devon EX16 5HW
Air Quality	
Air Quality Consultants Ltd.	23 Coldharbour Road Redland Bristol BS6 7JT

Table 1.5: Statements of competence

Discipline	Consultant	Company	Experience
Ecology/ Ornithology	Graeme Garner	Natural Power	Graeme managed the baseline ecology surveys for Y Bryn Wind Farm, reviewed the scoping report and has authored the ecology chapter of this ES. Graeme is a very experienced ecologist, with a particular specialism in ornithology and protected mammals. Graeme has both managed and undertaken ornithological and ecological surveys, to recommended guidance, at over 60 onshore and 15 offshore wind farm, energy generation and infrastructure projects across the UK in his 12 years working in environmental consultancy. As a Senior Environmental Consultant, Graeme has over four years' experience in directly authoring and reviewing the ecology and ornithology chapters for Environmental Impact Assessment Reports and Environmental Statements. **Qualifications include:** BSc (Hons) in Environmental Science
Ecology/ Ornithology	Laura Shreeve	Natural Power	Laura is a Principal Environmental Consultant and has been working as a consultant in renewable and non-renewable development sectors for over 12 years. During this time, she has carried out Ecological Impact Assessment for ornithological or ecological interest at onshore wind farms, repowering and tip height extensions. She has been involved with the design, implementation and management of ecological assessments, production and review of EIA chapters, scoping reports, technical baseline reports and operational monitoring reports as well as client and consultee liaison. Laura currently manages six active renewable energy projects solely in Wales, and additional projects across the UK. **Qualifications include:** BSc (Hons) in Ecological Science (Ecology)
Forestry	Richard Curtis	ARC Woodlands Ltd	Richard has worked with developers in Wales working on projects within woodlands since 2006. He worked with the design team over the development of the Pen Y Cymoedd Wind farm which has installed capacity of 228 MW and compiled the forestry chapter of the ES. He also assisted in supervising onsite forest works prior to the project build. He has worked on a further two projects over 100 MW in capacity in pre-application design and environmental scoping. Both involved substantial areas of forest. Richard is an experienced forester providing consultancy to public, private and charity landholders across Wales, where he helps them implement forest and woodland management activity. **Qualifications include**: Professional Member of the Institute of Chartered Foresters (MICFor)
Design, Traffic & Transport	Mhairi Bowley	Natural Power	HND Rural Resource Management (Aberystwyth) Responsible for providing a range of services throughout all stages of a project lifecycle, Mhairi has provided consultancy services on a variety of large-scale renewable energy projects across the UK. These services include feasibility studies, ESs, pre-construction and construction services, with expertise in transport assessments and civil infrastructure design. Mhairi has specialist knowledge of traffic and transport related assessments, including abnormal load route assessments (incl. swept path analysis), working closely with experienced haulage contractors, and traffic impact assessments for inclusion within EIAR's, in line with the latest UK and local transport guidance. In addition, Mhairi is experienced in provision of civil infrastructure design, specialising in large scale wind farm projects, and acting as Principal Designer (Construction, Design and Management Regulations 2015) across the renewable energy sector, including for the proposed development. **Qualifications include:** BEng Civil Engineering MSc Business Management Chartered Member of Institution of Civil Engineers
Seascape Landscape Visual Impact Assessment (SLVIA)	Richard Cole	Soltys Brewster Consulting	Since joining Soltys Brewster in 2004, Richard has been involved in many projects requiring a SLVIA including the site work assessment and report writing. He has led the landscape assessment for many major renewable projects, throughout the UK including, wind farms, tidal lagoons and solar farms, including DNS applications. Richard has acted as a landscape expert witness and provided a lead supporting role to other landscape expert witnesses, in several major Planning Inquiries/Hearings. This gives him an in-depth appreciation of how landscape assessment and design support the planning process. **Qualifications include:** PG Diploma Landscape Architecture BA (Hons) Geography Chartered Member of the Landscape Institute
Seascape/ Landscape Visual	Greg Vaughan	Soltys Brewster Consulting	Since joining Soltys Brewster in 2019 and in previous roles with other employers, Greg has been involved in many projects requiring SLVIA from site assessment through to compilation of the assessment report.

Discipline	Consultant	Company	Experience
Impact Assessment			This includes landscape assessments for large-scale infrastructure schemes, wind farms and other developments. Greg has an in-depth appreciation of how landscape assessment and design supports the planning process. **Qualifications include:** BLA Landscape Architecture BA (Hons) Landscape Design Chartered Member of the Landscape Institute
Wind Farm Visualisations	Guy Cope	Arcus Consultancy Services Ltd	Guy undertook the preparation of all of the wirelines and photomontage images included within the submission. He is an experienced photography and visualisation consultant having worked in this field for the past 15 years. The visualisation figures were prepared to NatureScot's current wind farm guidance. Guy has specialist knowledge of varied onshore legislation and planning across the UK as a whole relating to the provision of wind farm visualisations for use in impact assessment. This has been demonstrated through the delivery of consultancy to a number of large-scale developments across the UK over the last 15 years; including onshore and offshore wind farms. **Qualifications include**: Member of the Nikon Professional Scheme (NPS) BTEC National Certificate, Business & Finance
Peer review Seascape/ Landscape Visual Impact Assessment	James Welch	Optimised Environments (OPEN)	OPEN has produced in excess of 100 LVIA and SLVIA for onshore and offshore wind farms, working with many of the major renewable energy companies over the past 10 years. Its directors have provided expert witness services across all parts of the UK in respect of landscape and visual inputs to over 100 public inquiries and appeals during the past 20 years. OPEN has undertaken a peer review role in respect of the Y-Bryn Wind Farm SLVIA, providing a critical review service and technical and advisory support to the incumbent Landscape Architects responsible for the SLVIA. OPEN's Peer Review service is provided by James Welch FLI, a Director of OPEN with 35 years' experience in LVIA and Environmental Planning and has worked previously in Wales. **Qualifications include:** FLI BA Hons - Landscape Architecture

Discipline	Consultant	Company	Experience
			Chartered Member of the Landscape Institute
Peer review Seascape/ Landscape Visual Impact Assessment	Stuart Cargill	OPEN	OPEN's Peer Review service was supported by Stuart Cargill CMLI, an experienced LVIA assessor with 15 years' experience in preparing LVIAs for energy developments. James has worked previously in Wales and is currently Project Manager of a wind farm LVIA nearby to the Y-Bryn site. **Qualifications include:** CMLI BA Hons MLA - Landscape Architecture Chartered Member of the Landscape Institute
Aviation Lighting Assessment	Graeme Glencorse	Natural Power	Graeme is a Chartered Member of the Landscape Institute (CMLI) and a Principal Landscape Architect with Natural Power. He has over 16 years' experience in landscape architecture working on projects throughout the United Kingdom and Ireland. Graeme has gained extensive experience in LVIA, SLVIA, Townscape Assessment, EIA, master planning, landscape design, implementation, and aftercare. He has worked on a broad range of projects including onshore and offshore renewable energy developments, electricity transmission infrastructure, transport schemes, residential proposals, mineral and landfill sites and aquaculture developments. Graeme provides specialist advice from pre-application and scoping stages, through assessment to post consent. This includes providing input to feasibility and optioneering studies, layout design advice, landscape mitigation and restoration proposals and the discharge of conditions. He is an experienced project manager working in a multi-disciplinary team. **Qualifications include:** Chartered Member of the Landscape Institute PG Dip Landscape Architecture BSc Landscape Design CSCS - Professionally Qualified Person
Aviation	Malcolm Spaven	Aviatica	Malcolm is a specialist aviation consultant whose work since 1996 has focused on assessing the impacts of wind energy developments on aviation. He has carried out assessments of the aviation impacts of wind farm projects across all parts of Wales since 2004. His work has also included carrying out the design of, and obtaining Civil Aviation Authority approval for, reduced lighting schemes on nine onshore wind farms since 2019.

Discipline	Consultant	Company	Experience
			Malcolm is a qualified flying instructor with in-depth knowledge of aviation technology, policy and regulation. **Qualifications include:** MA (Hons) Politics MSc Rural and Regional Resources Planning EASA (UK) Commercial Pilot's Licence
Existing Infrastructure	Lucy Freeman	Natural Power	Lucy is an experienced project manager who has worked in the renewable energy industry since 2019. She has worked on assisting and managing onshore renewable energy projects across the UK at various stages throughout the project life-cycle, including preparation of EIA. **Qualifications include:** BSc Geography, Aberystwyth University
Geology / Geotechnical	Gavin Germaine	Natural Power	Gavin Germaine is Principal Geotechnical Engineer at Natural Power and engineering geologist by training (MSc Engineering Geology) with 15 years of relevant geological & geotechnical experience. Gavin is a chartered geologist (CGeol) and Fellow of the Geological Society of London. His academic career began at Imperial College London with undergraduate and post graduate qualifications from the University of Leeds. Over the last decade he has completed numerous geotechnical peat studies related to environmental impact assessment for wind energy project planning across the UK and Ireland. Gavin has further provided technical assessment as part of planning inquiries and joined an international team examining new geotechnical investigation techniques for in-situ testing and sampling of peat soils. **Qualifications include:** BSc (Hons) Geological Sciences MSc Engineering Geology Chartered Geologist Fellow of the Geological Society of London
Noise	Malcolm Hayes	Hayes McKenzie Partnership Ltd	Malcolm has been an acoustic consultant for 37 years dealing with a full range of issues associated with noise. He has been involved with wind turbines since 1991 when Hayes McKenzie Partnership was first formed. He was a member of the DTI Working Group which produced ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, and is chair of the Institute of Acoustics working group which produced A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise. He has been responsible for carrying out and/or supervising work on well over 500 wind turbine projects in the UK and overseas including assessment for ES, evaluation of turbines for consented sites, source noise measurement to IEC61400-11, determination of compliance with planning limits for constructed sites. He has also given presentation of evidence on noise issues at over 50 Public Inquiries and Planning and Court Hearings in the UK, Australia and New Zealand. **Qualifications include:** BSc Electronic & Communication Engineering Member, Institute of Acoustics Chair of the Institute of Acoustics Wind Turbine Noise Working Group Member of the Organising Committee for the INCE Europe Wind Turbine Noise Conference Series
Hydrology	Katherine Arthur	Natural Power	For over ten years Katherine has been responsible for the writing and review of numerous hydrology, hydrogeology and geology EIA chapters for onshore wind farm developments across the UK. She has experience of offering advice and solutions to protect the water environment, hydrogeology, peat and soils during construction, operation and decommissioning of wind farm developments. Work carried out involves regular liaison with statutory consultees as well as collaborating with ecologists, geotechnical engineers and project managers to allow all work to be carried out in line with industry good practice, agreed consenting strategies and up-to-date legislation. **Qualifications include:** MA (Hons) Geography MSc Energy and Environmental Management
Cultural Heritage	Jennifer Richards	Headland Archaeology	Jen Richards has led on the production of the cultural heritage ES chapter for the Y Bryn Wind Farm. She is an experienced heritage consultant whose role includes the management and provision of heritage assessments for EIA including detailed setting assessment. Jen has specialist knowledge of onshore legislation and planning relating to the historic environment across the UK. This has been demonstrated through the delivery of consultancy to a number of

Discipline	Consultant	Company	Experience
			large-scale developments across the UK over the last 10 years including onshore wind farms in Wales. **Qualifications include:** BA (Hons) Ancient History and Archaeology PG Dip Landscape Archaeology and Geomatics Member of the Chartered Institute for Archaeologists
Cultural Heritage	Loretta Nikolic	Headland Archaeology	Loretta Nikolic has assisted with the production of the heritage baseline and ES Chapter for the Y Bryn Wind Farm under the supervision of Jen Richards. She is an experienced GIS specialist and has produced numerous desk-based assessments for various types of development over the last three years including large scale infrastructure projects. **Qualifications include:** BA (Hons) Archaeology MSc Information Technology in Archaeology Associate of the Chartered Institute for Archaeologists
Abnormal Load Assessment	Gordon Buchan	Pell Frischmann	Gordon undertook the Abnormal Load Route Survey Report and Abnormal Load Transport Management Plan elements of the EIA. He is a highly experienced transport planner, having worked on wide range of projects across the UK, Ireland and Scandinavia. Gordon specialises in private sector development and renewable energy projects and has worked on a number of complex projects ranging from small housing developments to large scale, nationally important wind farms. Based in Edinburgh, he has given presentations at the ICE Infrastructure Show at the NEC and at the All-Energy Conference in Aberdeen on two occasions. Gordon was a finalist in the 2018 NCE 100 Alternative Energy Award category. **Qualifications include:** MSc Transport Engineering, Napier University, 1997 BEng (Hons) Civil & Transportation Engineering, Napier University, 1996 Chartered Member of the Chartered Institute of Logistics and Transport (CMILT) Fellow of the Chartered Institution of Highways and Transport (FCIHT)
Coal Mining Assessment	Ben Ogden	South West Geotechnical	Ben is an Engineering Geologist and Geotechnical Engineer with nineteen years' experience across a range of geotechnical fields including land development, civil infrastructure, renewable energy, site investigations, open pit and underground mining, landslides and coastal erosion processes. Ben has specialist knowledge of historic coal mining and its influence on ground stability, having worked on a number of other wind farms in the south Wales coal fields, as well as industrial, renewable energy and residential developments in the Bristol, north Devon and midlands coal fields. **Qualifications include:** BSc (Hons) Geology MSc (with Distinction) Engineering Geology Chartered Geologist Fellow of the Geological Society
Health and Public Safety	Rafe Osborne	Natural Power	Rafe is an experienced project manager who has worked in the renewable energy field in both public and private sectors. He has a background in marine and onshore planning and has worked on supporting the growth of emerging renewable technology as well as the development of large scale on-shore wind projects. **Qualifications include:** BSc Econ International Politics and International History, Aberystwyth University Prince2 Practitioner
Air Quality Assessment	Laurence Caird	Air Quality Consultants Ltd	Laurence Caird is an Associate Director with AQC, with 14 years' experience in the field of air quality including the detailed assessment of emissions from road traffic, airports, heating and energy plant, and a wide range of industrial sources including the thermal treatment of waste. He has experience in ambient air quality monitoring for numerous pollutants using a wide range of techniques and is also competent in the monitoring and assessment of nuisance odours and dust. Laurence has worked with a variety of clients to provide expert air quality services and advice, including local authorities, planners, developers and process operators. He is a Member of the Institute of Air Quality Management and is a Chartered Scientist. **Qualifications include:** Member of the Institute of Air Quality Management Chartered Scientist
Air Quality Assessment	Lucy Hodgins	Air Quality Consultants Ltd	Lucy Hodgins is a Principal Consultant with AQC with over ten years' experience in the field of air quality. She has extensive experience in the assessment of air quality impacts for a range of

Discipline	Consultant	Company	Experience
			industrial, commercial and residential projects, using qualitative and quantitative methods to assess road traffic and point source emissions utilising a variety of models, including ADMS-Roads, Breeze Roads, ADMS-5 and Breeze Aermod. She has prepared assessments for energy from waste, anaerobic digestion and waste biomass facilities for a range of air pollutants, along with nuisance dust and odour assessments. Lucy has also been involved in air quality management and assessment work for local authorities, including air quality modelling for Clean Air Zones as well as microsimulation modelling for junction improvement schemes. She has undertaken numerous operational dust assessments for mineral and waste facilities, as well as assessments of construction dust emissions. **Qualifications include:** Member of the Institute of Air Quality Management Member of the Institution of Environmental Sciences Chartered Scientist
Air Quality Assessment	Isabel Stanley	Air Quality Consultants Ltd	Isabel Stanley is a Consultant with AQC, having joined the company in October 2019. Prior to joining AQC she completed an MSci degree in Geology at the University of Bristol, where her studies included modules focusing on GIS, dispersion modelling and environmental geochemistry. She has undertaken numerous air quality assessments, including road traffic and plant emissions modelling, as well as indoor air quality plans and construction dust risk assessments. **Qualifications include:** MSci Geology, University of Bristol
Shadow Flicker Assessment	Helen Thrasher	Natural Power	Helen supported on the shadow flicker assessment work for the proposed onshore Y Bryn Wind Farm project. Helen is an experienced energy analyst with over 12 years of providing technical services to the renewable energy industry. Helen specialises in early-stage development projects, providing analytical services including site scoping, wind resource assessments, wind farm layout design optimisation, energy yield analysis, indicative noise assessment, and indicative shadow flicker assessment. Helen is currently supporting development work on over 40 wind farm projects in the UK and Europe. Helen also has expertise in developing solar energy and hybrid projects. **Qualifications include:** B.Sc. (Hons) Biological Sciences, Cardiff University
			European M.Sc. Water and Coastal Management, University of Plymouth/Universidad de Cadiz Advanced Wind Farmer User, DNV
Shadow Flicker Assessment	Peter Denholm	Natural Power	Peter supported on the shadow flicker assessment of the proposed onshore Y Bryn Wind Farm. Peter has a background in wind analysis over a period of 14 years, having worked on a range of onshore/offshore wind and solar projects, including the delivery and quality assurance of deliverables of analytical services relating to these. **Qualifications include**: BEng in Mechanical Engineering with Renewable Energy from the University of Edinburgh.
Shadow Flicker Assessment	Matthew Young	Natural Power	Matthew supported the shadow flicker assessment of the proposed onshore Y Bryn Wind Farm. Matthew has been involved in the delivery of wind resource and energy yield analyses across a variety of wind energy projects. He is experienced in the timeseries analysis of wind farm curtailment strategies for bat, shadow-flicker, and wind-sector management. **Qualifications include**: MEng in Aeronautical Engineering from the University of Glasgow
Socioeconomics	Louise Broatch	Natural Power	Louise has a background in EIA project management, and experience of co-ordinating projects across a range of onshore renewable technologies. She has previously worked on behalf of the Scottish Government researching supply chains relating to energy efficiency, low and zero emissions technologies, and has also been involved in delivering national campaigns around the climate change, the circular economy, and consumer behaviour relating to these topics. **Qualifications include** MSCi Biological Sciences from the University of Aberdeen Associate Member of the Institute of Environmental Management and Assessment Project Management Diploma

1.5 COMMENTING ON THE ENVIRONMENTAL STATEMENT

1.5.1 An electronic version of the documentation supporting the application, including the ES, are available to download free of charge from www.ybryn-windfarm.cymru.

1.5.2 Paper copies of the full ES are available to purchase at a cost of £500. Copies of the full ES are available on USB free of charge. Paper copies of the non-technical summary are available free of charge.

1.5.3 Requests for documents should be made in writing, including payment if purchase of the full ES is required, to Natural Power, Harbour House, Y Lanfa, Aberystwyth, Ceredigion, SY23 1AS or to info@ybryn-windfarm.cymru.

1.5.4 Any comments on the application may be submitted to the above addresses or sent to FREEPOST TC CONSULTATION free of charge (no further address or stamp required).