



LLYR

LLYR FLOATING OFFSHORE WIND PROJECT

Llŷr 1 Floating Offshore Wind Farm

Environmental Statement

Volume 6: Appendix 1A – Statement of Competence

August 2024



Document Status

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Prepared by AECOM
 Prepared for Llŷr Floating Wind Limited
 Approved by

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Acronyms and abbreviations

Acronym or Abbreviation	Definition	Acronym or Abbreviation	Definition
EIA	Environmental Impact Assessment	MCIEEM	Member of the Chartered Institute of Ecology and Environmental Management
BA	Bachelor of Arts	MCIfA	Member of The Chartered Institute for Archaeologists
BSc	Bachelor of Science degree	MCIWEM	Member of The Chartered Water and Environmental Manager qualification
CAST	Combined Aerodrome Safeguarding Team	MIAQM	Member of the Institute of Air Quality Management
CEnv	Chartered Environmentalist	MIEMA	Member of the Institute of Environmental Management and Assessment
CIEEM	Chartered Institute of Ecology and Environmental Management	MIEnvSc	Member of the Institute of Environmental Science
CIWEM	Chartered Institution of Water and Environmental Management	MI Soil Sci	Full membership of the British Society of Soil Science
CMLI	Chartered Member of the Landscape Institute	MOcean	Master of Oceanography
CSci	Chartered Scientist	MRSB	Member of Royal Society of Biology
C.WEM	Chartered Water and Environment Manager	MSc	Master of Sciences
ES	Environmental Statement	PEIR	Preliminary Environmental Information Report
ESIA	Environmental and Social Impact Assessment	PGDip	Postgraduate Diploma
FBIAC	Fellow of British Institute of Agricultural Consultants	PhD	Doctor of Philosophy
GradIEMA	Graduate member of the Institute of Environmental Management and Assessment	PIEMA	Practitioner Membership of the Institute of Environmental Management and Assessment
IEMA	Institute of Environmental Management and Assessment	RSci	Registered Scientist
IMarEST	Member of the Institute of Marine Engineering, Science & Technology	TPP	Transport Planning Professional
MA	The Master of Arts Degree	TPS	Transport Planning Society
MBA	Master of Business Administration	RTPI	Royal Town Planning Institute



Glossary of project terms

Term	Definition
The Applicant	The developer of the Project, Llŷr Floating Wind Limited
Array	All wind turbine generators, inter array cables, mooring lines, floating sub-structures and supporting subsea infrastructure within the Array Area, as defined, when considered collectively, excluding the offshore export cable(s).
Array Area	The area within which the wind turbine generators, inter array cables, mooring lines, floating sub-structures and supporting subsea infrastructure will be located
Floventis Energy	The company developing the proposed Project, a joint venture between Cierco Ltd and SBM Offshore Ltd
Landfall	The location where the offshore export cable(s) from the Array Area, as defined, are brought onshore and connected to the onshore export cables (as defined) via the transition joint bays (TJB).
Llŷr 1	The proposed Project, for which the Applicant is applying for Section 36 and Marine Licence consents. Including all offshore and onshore infrastructure and activities, and all project phases.
Marine Licence	A licence required under the Marine and Coastal Access Act 2009 for marine works which is administered by Natural Resources Wales (NRW) Marine Licensing Team (MLT) on behalf of the Welsh Ministers.
Offshore Development Area	The footprint of the offshore infrastructure and associated temporary works, comprised of the Array Area and the Offshore Export Cable Corridor, as defined, that forms the offshore boundary for the S36 Consent and Marine Licence application
Offshore Export Cable	The cable(s) that transmit electricity produced by the WTGs to landfall.
Offshore Export Cable Corridor (OfECC)	The area within which the offshore export cable circuit(s) will be located, from the Array Area to the Landfall.
Onshore Development Area	The footprint of the onshore infrastructure and associated temporary works, comprised of the Onshore Export Cable Corridor and the Onshore Substation, as defined, and including new access routes and visibility splays, that forms the onshore boundary for the planning application.
Onshore Export Cable(s)	The cable(s) that transmit electricity from the landfall to the onshore substation
Onshore Export Cable Corridor (OnECC)	The area within which the onshore export cable circuit(s) will be located.
proposed Project	All aspects of the Llŷr 1 development (i.e. the onshore and offshore components).
Onshore Substation	Located within the Onshore Development Area, converts high voltage generated electricity into low voltage electricity that can be used for the grid and domestic consumption.
Section 36 consent	Consent to construct and operate an offshore generating station, under Section 36 (S.36) of the Electricity Act 1989. This includes deemed planning permission for onshore works.



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1-A STATEMENT OF COMPETENCE

1.1 Background

1. European Union Directive 2014/52/EU requires that developers ensure that the Environmental Impact Assessment (EIA) report (Environmental Statement) is prepared by 'competent experts'. In addition, The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 states that 'the environmental statement must be accompanied by a statement from the applicant outlining the relevant expertise or qualifications of such experts'. As such, this Statement of Competence has been prepared by AECOM, as lead EIA Coordinator for the Llŷr Project (here after referred to as the 'proposed Project'), to outline the capability of the company and the competency of the individuals responsible for undertaking and reporting the EIA.

1.2 AECOM

2. AECOM is a leading provider of environmental services to a wide range of clients and development sectors in the UK. AECOM has a large and highly experienced team of Environmental Impact Assessment (EIA) practitioners (approximately 160 staff), who have managed hundreds of EIAs and prepared Environmental Statements and other technical reports to accompany applications under various consenting regimes. AECOM also provides specialist EIA review services and EIA training to a range of organisations, including government agencies. The EIA team is supported by more than 400 technical environmental specialists, covering a wide range of technical disciplines.

1.3 IEMA Quality Mark

3. AECOM is a registrant to the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark and undertakes all EIA work in line with the EIA Quality Mark Commitments. The EIA Quality Mark is a voluntary scheme through which EIA activity is independently reviewed, on an annual basis, to ensure it delivers excellence in: EIA management, EIA team capabilities, EIA regulatory compliance, EIA context and influence, EIA content, EIA presentation, and improving EIA practice. Many of AECOM's EIA Coordinators hold Practitioner or Full (Chartered) Membership status with IEMA, or are members of other appropriate professional institutions.



1.4 Competent Experts

4. Summaries of the qualifications and experience of the EIA Project Director, responsible for the checking and review of the Environmental Statement (ES), the EIA Project Manager and terrestrial lead and the marine lead, responsible for the coordination of the EIA, are presented below.

Table 1A-1. EIA Project Director

EIA Project Director
<p>Experience: The EIA Project Director, Frank Fortune, is a Technical Director with over 28 years of experience of marine energy, coastal development and environmental management. Expertise spans a broad range of project types including world leading renewable energy projects such as offshore wind, tidal energy, wave energy, onshore wind, renewable heating / cooling, port and harbour developments, major dredging and marine reclamation projects, coastal management and the provision of technical and expert advice to commercial clients, government and statutory government agencies. He oversaw marine Environmental Statement and marine survey works for</p>



EIA Project Director

the East Anglia ONE North and East Anglia TWO offshore wind projects, which are both major Development Consent Order projects.

Table 1A-2. EIA project coordinators

EIA Project Coordinators

Experience: The EIA Project Manager and terrestrial lead for the proposed Project, Tim Newton, is an Associate Director with over 15 years' experience leading and delivering EIAs in the UK and internationally. His expertise spans a broad range of project types including cables, pipelines, oil and gas exploration, marine storage terminals, gas fired power stations and port and harbour developments. Tim has been involved with the Llŷr project since the scoping phase.

The EIA marine lead for the proposed Project, Kim Bridge, is an Associate Director with more than 13 years' experience in the management and production of EIAs and environmental planning documents for a wide range of marine and terrestrial projects throughout the UK, including Scotland and Wales. Specific roles have involved the coordination, programming, review and delivery of EIA / Habitats Regulations Assessment screening and scoping documents, technical reports to inform Appropriate Assessment and production of both statutory Environmental Statements and non-statutory environmental appraisals to support marine licence applications.

Table 1A-3. Technical leads

EIA Technical Discipline and Chapter	Company	Personnel Experience / Qualifications
Chapters 01 (Introduction), 03 (Alternatives), 05 (Methodology), 30 (Inter-related and Cumulative Effects) and 32 (Residual Effects).	AECOM	Lead author is Tim Newton, BSc Zoology, MA EIA and Management and CEnv. Tim is an Associate Director at AECOM with over 15 years' experience leading and delivering EIAs in the UK and internationally. His expertise spans a broad range of project types including cables, pipelines, oil and gas exploration, marine storage terminals, gas fired power stations and port and harbour developments. Supporting Author is James Rigby, BSc, MSc, GradIEMA. James' role within AECOM is supporting EIAs and environmental assessments for offshore wind and subsea cable projects in the UK. James has supported the Llŷr project since scoping and has continued as EIA Coordinator.
Chapter 02: Legislation Policy and Guidance	AECOM	Lead author is Esme Portsmouth, MSc Urban and Regional Planning, MRTPI. Esme has 14 years' experience in the Planning industry in both private and public sectors and is currently a Principal Planner at AECOM. Esme has been planning agent for a variety of highway TCPA schemes and has supported the delivery of energy and highway infrastructure NSIP's. Esme's role has involved taking responsibility for the preparation, co-ordination and submission of applications and on-going management of the Project. Esme's regular work requires close working with local planning



EIA Technical Discipline and Chapter	Company	Personnel Experience / Qualifications
		authorities, clients and other project team members.
Chapter 03: Alternatives	Floventis	Marc Murray, BSc Environmental Science, MSc Environmental Management, MBA, MIEMA, CEnv. Marc is the Development Director for Cierco Limited and has 25 years' experience in managing multi-stage projects in nuclear, wave, and offshore wind energy across Europe and the United States. His experience across energy projects includes site identification, permitting and development, construction, operational and decommissioning compliance. Marc originated the Llŷr Floating Offshore Wind project and is responsible for taking it from inception to consent.
	AECOM	Lead author is Frank Fortune, BSc Biology, MSc Marine Resource Development and Protection, CEnv, MCIEEM. Frank is a Technical Director with over 27 years of experience of marine energy, coastal development and environmental management. Expertise spans a broad range of project types including world leading renewable energy projects such as offshore wind, tidal energy, wave energy, onshore wind, renewable heating / cooling, port and harbour developments, major dredging and marine reclamation projects, coastal management and the provision of technical and expert advice to commercial clients, government and statutory government agencies. Oversaw the marine Environmental Statement and survey works for the East Anglia ONE North and East Anglia TWO offshore wind projects, which are both major Development Consent Order projects. Supporting Author is James Rigby, BSc, MSc, GradIEMA. James' role within AECOM is supporting with EIAs and environmental assessments for offshore wind and subsea cable projects in the UK. James has supported the Llŷr project since scoping and has continued as EIA Coordinator.
Chapter 04: Description of the proposed Project	Floventis	Lead author is Jay Hilton-Miller, BSc Zoology, MSc Environmental Science, MIMarEST. Jay is the Senior Project Development Manager for Cierco Limited. He has approximately 16 years' experience in management of offshore developments and has supported many offshore wind projects across the UK. Jay has particular experience in early-stage development, consenting, stakeholder engagement and compliance for offshore wind developments. Jay is leading the consenting team for the Llŷr project and is tasked with delivering the S36 and Marine Licence consents.



EIA Technical Discipline and Chapter	Company	Personnel Experience / Qualifications
		<p>In addition, the following have supported the production of the Project Description:</p> <p>David Keenlyside, a Chartered Structural Engineer, (MIStructE), is Cierco Limited's Director of Engineering and has 30 years' experience of design, delivery and management of multidisciplinary complex projects across the world, delivering cost effective design solutions. David has worked within offshore wind for over a decade delivering engineering solutions from concept through FEED, detailed design, manufacturing and fabrication, to installation and operation.</p> <p>Tamsin is a chartered environmental specialist with over seventeen years' experience in managing projects for coastal and marine developments and with specific experience in offshore consent requirements, EIA and marine energy infrastructure. She has worked on a wide range of projects, including offshore renewable projects (wind, wave and tidal), harbour regeneration projects and subsea cable projects and has a detailed understanding of the consenting process and the requirements of environmental legislation across the UK.</p> <p>Peter Moore is an independent consultant specialising in onshore and offshore consents and EIA for renewable energy projects. He has 19 years of experience in developing renewable energy projects throughout the UK, from small onshore wind farms to multi-gigawatt offshore projects with significant offshore and onshore transmission infrastructure.</p>
	AECOM	<p>Supporting the drafting of the Project Description is Tim Newton and Kim Bridge.</p> <p>Terrestrial EIA Lead is Tim Newton, BSc Zoology, MA EIA and Management, CEnv. Tim is an Associate Director at AECOM with over 15 years' experience leading and delivering EIAs in the UK and internationally. His expertise spans a broad range of project types including cables, pipelines, oil and gas exploration, marine storage terminals, gas fired power stations and port and harbour developments.</p> <p>Marine EIA Lead is Kim Bridge, MOcean. Kim is an Associate Director at AECOM with more than 13 years' experience in the management and production of EIAs and environmental planning documents for a wide range of marine and</p>



EIA Technical Discipline and Chapter	Company	Personnel Experience / Qualifications
		terrestrial projects throughout the UK, including Scotland and Wales. Specific roles have involved the coordination, programming, review and delivery of EIA / Habitats Regulations Assessment screening and scoping documents, technical reports to inform Appropriate Assessment and production of both statutory Environmental Statements and non-statutory environmental appraisals to support marine licence applications.
Chapter 06: Consultation and Stakeholder Engagement	AECOM	Lead Author is Jon Harvey, BA Human Geography. Jon is an Associate Director within AECOM's Stakeholder Engagement, Consultation and Communications team and has over ten years' experience working on infrastructure projects. Jon specialises in consultation and engagement for complex infrastructure in the energy, water and transport sectors and is a member of the Consultation Institute and the National Infrastructure Planning Association. Jon has been involved with the Llŷr project since scoping.
Chapter 07: Seascape, Landscape and Visual	AECOM	<p>Lead Author, John Devenny, MA Landscape Architecture, CMLI, is an Associate Director at AECOM. Jon has over 18 years' experience in landscape planning and design, particularly in relation to renewables, power, and infrastructure projects.</p> <p>Jon has experience in all stages of Seascape, Landscape and Visual Assessment, from feasibility and optioneering to detailed assessment and expert witness at Public Inquiry, including night-time assessment of aviation obstruction lighting. Jon has been involved in providing landscape and visual input for a wide range of projects including: large scale wind farms; above and below ground electrical infrastructure; and coastal and offshore development. John has been involved with the Llŷr project since scoping.</p>
Chapter 08: Terrestrial Ecology and Biodiversity	AECOM	<p>Lead Author, Hannah Mitchell, BSc Ecology, MSc Ecological Consultancy, MCIEEM is a Principal Consultant at AECOM. Hannah has over 11 years' experience in surveying for protected species and habitats including: planning, resourcing and managing landscape scale surveys for infrastructure schemes; ecological desk studies; Preliminary Ecological Appraisals (PEA); EIA; scoping reports; GIS data collection and technical oversight; mitigation, lighting and landscape design; developing site based ecological enhancements; and protected species mitigation. Hannah has been involved with the Llŷr project since scoping.</p> <p>Technical Support is Adam Jones, BSc, MSc and Associate member of CIEEM. Adam has over six</p>



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		years' experience providing ecological support for clients in renewable, commercial, road, rail and government sectors, including on major infrastructure projects. Adam has survey experience for a wide range of habitats and protected species and has also produced and contributed to ecological reports including PEA, Ecological Impact Assessments, Environmental Statement Ecology Chapters and Habitat Regulations Assessments (HRA). Adam holds a survey license for great crested newts, a displacement license for water vole, and currently leads a team of ecologists.
Chapter 09: Terrestrial Historic Environment	AECOM	<p>Lead Author, Andy Mayes, BA Archaeology and Prehistory, MCIrA is an Associate Director at AECOM. Andy has over 25 years' experience in the archaeology sector including: site assessment; pre-planning support; mitigation design and stakeholder engagement; archaeological fieldwork; post-excavation assessment and publication and expert witness roles at planning inquiries.</p> <p>Andy has been the Lead Heritage Consultant on numerous EIA studies and permitting applications for major infrastructure projects, covering a range of schemes that include power generation and transmission, flood alleviation, coastal defense, and large-scale residential and mixed-use developments. Andy has been involved with the Llŷr project since scoping.</p> <p>Technical expertise is provided by James Lyttleton, BA, MA, PhD; Fellow of Society of Antiquaries London; 28 years' experience. James has worked on multi-disciplinary projects, undertaking desk-based assessments and archival research, as well as undertaking the analysis, assessment, interpretation and presentation of archaeological data that contributes to environmental statements and mitigation for many projects in the United Kingdom and Ireland including, but not limited to, supporting the Glaslyn Cables Rerouting Project, the Prometheus Project Solar PV RIBA Defense Infrastructure Project, the A303 Stonehenge Scheme, the Shannon Liquid Natural Gas Terminal & Pipeline, A39 Camelford Bypass, Cornwall, and the redevelopment of Rugeley B Power Station.</p>
Chapter 10: Water Environment including Surface Water, Flood Risk and Drainage	AECOM	Lead Author, Tim Jones, BSc Geography, PhD Physical Geography, CEnv, MCIWEM, is a Principal Consultant at AECOM with more than 18 years' experience in the Water Environment. Tim has extensive experience in undertaking the assessment and reporting as part of EIAs for a



EIA Technical Discipline and Chapter	Company	Personnel Experience / Qualifications
		<p>wide variety of developments including both Town and County Planning Act and Development Consent Order regimes. Tim has worked on projects across North and South Wales and worked on projects covering both developments along the coast and marine environment and renewable and conventional power projects. Tim has been involved with the Llŷr project since scoping.</p> <p>Flooding Lead is Laura McKechnie, MSc Planning and Urban Leadership, C.WEM, CEnv. Laura has nearly two decades industry experience including having led EIAs, authored technical chapters, and undertaken liaison with the approving authorities on a large number of development projects across the southwest and the wider UK.</p> <p>Laura has a strong understanding of project management, multi-disciplinary team working, and the preparation of Flood Risk Assessments / Flood Consequence Assessments and Drainage strategies, Laura's experience includes more than 30 renewable energy projects.</p> <p>Drainage Lead is Tim Biedulksi, MEng Civil Engineering. Tim is a Principal Engineer in with 21 years' post graduate experience working in civil infrastructure sector. Tim has authored a number of drainage strategies for wide range of projects from housing developments, complex commercial mixed-use project to solar and wind farms.</p>
Chapter 11: Geology and Hydrogeology	AECOM	<p>Lead Author, Phil Hough, BSc Environmental Science is a Regional Director at AECOM. Phil is both a Chartered Scientist with the Science Council and a Registered Qualified Person (Definition of Waste: Development Industry Code of Practice). Phil has over 23 years' experience in the assessment and management of ground conditions and related risks associated with development infrastructure and Brownfield redevelopment. He has designed and led projects across a wide range of sites, including linear energy infrastructure projects and projects of national significance, where the main objectives have been to understand and manage ground-related risks, and to support the design of new development. He also provides technical inputs on contaminated land, waste management, soils and geology into multi-disciplinary EIAs for large transportation and development projects.</p> <p>Supporting author is Louise Coles, BSc Environmental Science and MSc in Applied Environmental Geology. With over 11 years'</p>



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		experience Louise has worked across a variety of EIA projects for linear and development schemes including the SSE Keadby 3 Low Carbon Combined Cycle Gas Turbine (CCGT), SSE Medway CCGT and SSE Peterhead CCGT projects, the HS2 Phase 1 and Phase 2 projects, the A303 Stonehenge Road improvement, the A27 Arundel Bypass project and the Cwm Taf Water Supply Strategy.
Chapter 12: Agriculture and Soils	Reading Agricultural Consultants (see Table 1A-4)	<p>Lead Author, Alastair Field, BA Geography, MSc Agricultural Economics FBIAC, PIEMA, MI Soil Sci, has over 35 years' experience in agricultural consultancy, agricultural economics rural land use and soil science. Alastair has worked on an extensive array of major infrastructure projects including nuclear power stations and renewable energy proposals, particularly onshore wind farms and onshore cable routes for offshore wind farms.</p> <p>Alastair has produced guidance and policy interpretation notes, provided training courses to local planning authorities on agricultural developments, drafted supplementary planning guidance, and prepared a guide for farmers on the planning issues involved in farm diversification proposals. He has also given expert evidence at well over 100 Public Inquiries, planning hearings and Development Consent Order examinations. Alastair has been involved with the Llŷr project since scoping.</p>
Chapter 13: Traffic and Transport	AECOM	<p>Lead Author is Jen Searle, BA, MSc and Chartered Transport Planning Professional (TPP) with the Chartered Institution of Highways & Transportation (CIHT). Jen has over 14 years' experience in providing transportation advice to both public and private sector clients alongside feasibility studies, traffic modelling, simulation and detailed highway design services. Jen has led teams in developing Transport Assessments, Travel Plans and junction modelling for both small and large developments. Particular areas of expertise include: transport assessments; travel plans; development planning including car parking studies; travel demand modelling and forecasting; and junction analysis and evaluation.</p> <p>Supporting author is Oliver Bidwell, (BSc Geography, member of CIHT and TPS). Oliver is a graduate transport consultant with 1 year of transport planning experience. While at AECOM Oliver has been responsible for writing and reviewing transport assessment and statements, writing transport plans, and undertaking transport modelling. Through his work Oliver has developed a strong understanding of the potential transport implications associated with a broad range of</p>



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		<p>construction projects, allowing him to appropriately assess the environmental impact of Llŷr on the local traffic network.</p> <p>Oliver and Jen have both been involved with the Llŷr project since scoping.</p>
Chapter 14: Air Quality	AECOM	<p>Lead Author, Danny Duce, BSc, MSc, is an Associate Director at AECOM with over 25 years' experience in Air Quality. Danny holds is a professional member of MIEEnvSc, MIAQM and CEnv. Danny has experience in air quality assessment, management, monitoring and pollution control, working across different regions requiring knowledge of a wide range of regulatory regimes and practices.</p> <p>Danny also has extensive experience in the use of dispersion modelling software to predict the air quality and odour impacts associated with a variety of power; industrial; waste management; transportation; and residential developments. Danny has been involved with the Llŷr project since scoping.</p>
Chapter 15: Noise and Vibration	AECOM	<p>Lead Author, Eddie Robinson, BSc, has over 18 years' experience in the noise and vibration sector. A specialist in undertaking environmental noise and vibration work and has provided numerous EIAs for high-profile energy infrastructure projects in the UK. This project experience has provided a good understanding of the more complex points of noise policy and guidance documents. Eddie has been involved with the Llŷr project since scoping.</p>
Chapter 16: Socio-economics, Recreation and Tourism	AECOM	<p>Lead Author, Bob Perkins, BA Geography, PGDip Urban Regeneration, has over 24 years' experience in economic development. Bob is skilled in delivering project development, appraisal and impact analysis services for infrastructure, mixed use, residential, industrial and commercial projects across the UK. Bob has a long track record in developing, appraising and evaluating projects from an economic, social and environmental perspective. This includes work on offshore and onshore wind farms, and marine energy demonstration and support programmes.</p> <p>Supporting author is Max Lavan, BSc Economics, MIED, with 4 years' experience in socio-economics. Max has previously developed several socio-economic chapters as part of the Environmental Impact Assessment process, across a range of sectors, including renewable energy. Max's experience spans all phases of the project lifecycle from early development through to commissioning and operation. Max has previously</p>



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		supported applications including, but not limited to, Viking CCS, H2Teesside, Hygreen and Eastern Link 2. Max has been involved with the Llŷr project since scoping.
Chapter 17: Marine Physical Environment	ABPmer (see Table 1A-4)	Lead Author, David Lambkin, BSc, PhD, has over 25 years' experience in in coastal oceanography and sediment dynamics. Amongst other relevant studies, has delivered physical environmental process EIA and ES Chapters for 19 UK offshore wind farms, including several recent projects in Welsh waters. The most recent of these projects was Erebus FLOW – completed in Q4 2022. Has led or contributed to various current national level guidance documents about EIA for offshore wind farms with respect to physical environmental processes.
Chapter 18: Marine Water Quality	AECOM	Lead Author, Tim Jones, BSc Geography, PhD Physical Geography, CEnv, CIWEM, and is a Principal Consultant at AECOM. Tim has extensive experience in undertaking the assessment and reporting as part of EIAs for a wide variety of developments including both Town and County Planning Act and Development Consent Order regimes. Tim has worked on projects across North and South Wales and worked on projects covering both developments along the coast and marine environment and renewable and conventional power projects. Tim has been involved with the Llŷr project since scoping.
Chapter 19 and 20: Marine Ecology including Benthic, Fish and Shellfish	AECOM	<p>Lead Author, Jackie Hill, PhD in Marine Food Web Dynamics, has over 18 years' experience in the marine environment in academic, research and consultancy roles. Jackie has particular expertise in: benthic ecology, including survey design and planning, habitat mapping and assessment of impacts; and the assessment of underwater sound impacts on sensitive receptors including cetaceans, seals, turtles and fish and the development of noise mitigation strategies. Jackie has been responsible for the delivery and quality standards for technical marine ecology ES chapters of multiple EIA and Direct Consent Order developments.</p> <p>Technical Support, Richard Gibbs, BSc Marine Biology with Oceanography, MRSB, is a Principal Marine Ecologist at AECOM with more than 7 years' experience in the industry. Richard has worked on a wide range of projects including floating offshore wind farms, renewable energy projects, interconnectors and cables. As part of this, he has coordinated a team of marine ecologists for the successful writing of impact assessments, baseline chapters, and scoping reports. Richard also has detailed knowledge of</p>



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		<p>benthic ecology / survey design and is particularly skilled in detailed ecological statistical analysis (i.e. PRIMER multivariate statistics).</p> <p>Jackie and Richard have both been involved with the Llŷr project since scoping.</p>
Chapter 21: Marine Mammals	HiDef (see Table 1A-4)	Lead author is Caroline Carter, PhD. Caroline is a Principal Consultant at HiDef and has over 15 years' experience in the field of underwater noise and marine mammals. Caroline previously worked for NatureScot as a Marine Ecology advisor, she held this role for 11+ years, where she was lead on underwater noise impact assessment and marine mammal advice for multiple offshore wind projects in Scotland. Caroline has been involved with project Llŷr since the early stages of pre-application dialogue, providing key input into the technical meetings with NRW (A) and JNCC in relation to marine mammals.
	Award Environmental Consultants (see Table 1A-4)	Technical expertise is also provided by Peter Ward. Peter over 35 years' experience in underwater noise propagation and over 25 years' experience applying the knowledge gained to the particular field of EIA. He first provided support to the nascent offshore wind power industry in 2002 for developments in the Irish Sea, later providing advice and guidance on underwater noise impacts for offshore wind farm developments in the North Sea. As the marine renewables sector expanded, Peter undertook highly technical underwater noise impact studies to support the EIA documentation in respect of a tidal turbine development off the north coast of Scotland; a wave energy converter device in the Outer Hebrides and a further offshore windfarm in the Inner Hebrides.
Chapter 22: Ornithology	HiDef (see Table 1A-4)	Lead Author is Catriona Gall, MSc, MCIEEM. Catriona is a Principal Consultant at HiDef with 20 years' experience in wind farm impact assessment (5 years onshore wind and 15 years offshore wind). She worked for NatureScot for 20 years (with 15 years spent as a renewables' casework adviser), before moving to HiDef in March 2020. She therefore has a very good understanding of offshore wind consenting and assessment processes, particularly in relation to marine ornithology. In this regard, she was HiDef's project lead for the now consented Erebus floating offshore wind farm (also in the Celtic Sea and close to project Llŷr). As part of her role for project Llŷr, Catriona has led on the extensive pre-application dialogue and technical meetings with NRW (A) and JNCC in relation to marine ornithology (and marine mammals).



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Chapter 23: Seascape, Landscape and Visual	AECOM	<p>Lead Author, John Devenny, MA Landscape Architecture, CMLI is an Associate Director at AECOM. Jon has over 18 years' experience in landscape planning and design, particularly in relation to renewables, power and infrastructure projects.</p> <p>Jon has experience in all stages of Seascape, Landscape and Visual Assessment, from feasibility and optioneering to detailed assessment and expert witness at Public Inquiry, including night-time assessment of aviation obstruction lighting. They have been involved in providing landscape and visual input for a wide range of projects including: large scale wind farms; above and below ground electrical infrastructure; and coastal and offshore development. John has been involved with the Llŷr project since scoping.</p>
Chapter 24: Marine Archaeology	Coracle (see Table 1A-4)	<p>Lead Author is Michael Walsh, MA, PhD, MCIfA. Michael has more than 25 years' experience as a marine archaeologist providing marine archaeological support to numerous developments in the UK and overseas, including offshore wind farms, electrical systems, interconnector and telecoms cables, tidal lagoons and arrays, and pipelines. Worked extensively on a variety of maritime sites in the UK and Ireland and is project manager for the excavation of the London, a 17th century warship that sunk in the Thames Estuary.</p> <p>Technical expertise is provided by Darren Glazier, BA Archaeology, MA, PhD, MCIfA; 20 years' experience. Darren has worked on numerous EIAs for offshore infrastructure projects in the UK and abroad, including offshore wind farms, interconnector and telecommunications cables. This includes providing support services for the London Array and Seagreen wind farms and the HT1 Hydrogen project.</p>
Chapter 25: Shipping and Navigation	Anatec (see Table 1A-4)	<p>Lead Author is Sam Westwood, BA, PGDip Shipping and Port Operations. Sam has 25 years' experience in the shipping and navigation sector. Experience includes undertaking Navigational Risk Assessments and Environmental Statement chapters for the vast majority of Round 1, 2 and 3 offshore wind farm and tidal device sites in the UK over the past 20 years and are currently working on Round 4 and Scotwind sites. Notable projects include: Hywind, Kincardine, Norfolk Vanguard, Hornsea Three and previous experience working in the Celtic Sea on the Atlantic Array. Sam has been involved with the Llŷr project since scoping.</p>



EIA Technical Discipline and Chapter	Company	Personnel Experience / Qualifications
Chapter 26: Commercial Fisheries	Poseidon (see Table 1A-4)	Lead Author, Sarah MacNab, IMarEST, has 16 years' experience in commercial fisheries. Sarah has led the commercial fisheries elements of multiple Section 36 Consents and DCO applications for nationally significant offshore wind farm projects. Notable experience includes: Supporting in scoping; fisheries liaison plan production; UK and European wide fishing industry consultation; ES chapter and technical appendix preparation; Development of Statements of Common Ground and acting as expert witness during the examination process. Sarah has been involved with the Llŷr project since scoping.
Chapter 27: Aviation and Radar	Pager Power (see Table 1A-4)	Lead Author is Michael Sutton, Senior Technical Analyst at Pager Power is an active member of CAST and has over 20 years' experience in the aviation and radar sector. Michael has experience assessing the impacts of wind developments upon aviation infrastructure and operations. They have also worked internationally in aviation and radar safety concerns for wind farms, which has included the identification of mitigation solutions that are currently in operation. Has extensive experience quantifying technical impacts and contextualising the operational significance of those impacts and has also worked on multiple nationally significant infrastructure projects in the UK.
Chapter 28: Other Sea Users	AECOM	Lead Author, Robyn Jones, MSc, PhD has more than 8 years of experience in the marine environment. Robyn is a chartered member of MRSB and RSci. Robyns experience spans both industry and academia including the drafting and review of marine environmental statement chapters such as Other Sea Users for projects in English and Welsh waters. Robyn has been involved with the Llŷr project since scoping.
Chapter 29: Climate Change	AECOM	Lead Author, Jessica Playle, BSc Geography, MSc Environmental Consultancy, PIEMA, is a Senior Consultant at AECOM with over 5 years' experience in consultancy. Jessica has been involved in managing projects across a wide range of sectors, including: Renewable Energy (Solar), Power, Defence, Road, Residential, and Commercial. Jess has supported with the development of the methodology for the climate change resilience review and incombination climate impact assessment within AECOM and has a good understanding of the potential implications of climate change on the marine environment through this work.
Chapter 30:	AECOM	Lead Author is Neil Stephenson. His 31 years' environmental experience has included a variety



EIA Technical Discipline and Chapter	Company	Personnel Experience / Qualifications
Major Accidents and Disasters (MAD)		<p>of coastal and off-shore projects, including the decommissioning of topsides in the Brent field, tidal power schemes on the Mersey estuary, the manufacturing facilities, installation and maintenance of offshore turbines (including establishing Green Port Hull and subsequent support to Siemens Gamesa Renewable Energy), and managing pollution investigation services to Dŵr Cymru Welsh Water, in addition to a wide range of UK port related projects. As part of his environmental role, Neil has taken a lead on the consideration of low-likelihood/ high consequence events for many years, including in relation to off-shore structure removals and barge transits, pipeline recovery and industrial remediation. Since the specific inclusion of MAD as part of EIA, Neil has led or contributed to many MAD studies, perhaps most notably amongst which was Neil being the MAD lead for 85.5 km of new high-speed railway associated with HS2 Phase 2b.</p> <p>Technical support is Nick Stayt, BA, MSC, PIEMA, MEnvSc, CEnv. Nick is a Principal Environmental Consultant at AECOM with 8 years' experience within EIA and 5 within major accidents. Nick has led a number of major accident and disaster assessments across the energy sector ranging from providing input at EIA Screening to preparing ES chapters and environmental risk records. Assessment of note include that for the Sizewell C Nuclear Power Station and Sizewell B Relocated Facilities Project.</p>

Table 1A-4. External organisations involved

EIA Technical Discipline	External Organisations Contributing	Competency
Aviation and Radar	Pager Power	<p>Pager Power is a dedicated technical consultancy that was founded in 1997. The company has been serving the wind industry for over 20 years, specialising in radar propagation modelling, impact assessment, stakeholder engagement and mitigation. Pager Power has undertaken projects in 58 countries and has supported high-profile wind developments in the UK including Sheringham Shoal and Whitelee.</p>



EIA Technical Discipline	External Organisations Contributing	Competency
Commercial Fisheries	Poseidon	Poseidon is a specialist fisheries consultancy, established in 2001, that provides high quality outputs and solutions across a range of fisheries and marine environmental projects, delivered by a core team of seven staff members based in the UK, Ireland and elsewhere in Europe, and Poseidon's network of specialist independent consultants. Poseidon has extensive experience in advising on the consenting of, and undertaking Environmental Impact Assessment for, offshore renewables projects in UK waters.
Marine Archaeology	Coracle	Coracle Archaeology is an industry leader in the provision of highly integrated marine archaeological support services. With more than forty years combined experience in the commercial and research sectors, Coracle provides expert archaeological support and guidance for all aspects of marine developments at every stage of the Environmental Impact Assessment (EIA) process, from desk-based assessments through to site investigations. These include the archaeological review of geophysical and geotechnical survey data, landfall and site investigations and full marine archaeological excavations. Coracle Archaeology works with clients and curators in a variety of sectors, including offshore renewables, submarine cables and other major infrastructure developments, in the UK, Ireland, the Middle East and Asia.
Marine Mammals	HiDef	HiDef is a respected technical marine wildlife consultancy with staff located across the UK and who provide nationwide and overseas services. In addition to world-leading aerial bird survey techniques and methods, with associated experts in flight operations, data management, quality assurance and analysis and presentation of ecological data, Hi-Def offers consultancy services. HiDef have worked on over 75% of offshore renewables sites in UK waters, to date delivering over 90 digital aerial survey programmes and over 40 EIA/HRA consultancy projects. Of those consultancy projects, notable recent offshore wind EIA/HRA work has included Berwick Bank (marine ornithology technical assessment and reports), Erebus (marine ornithology EIA) and Pentland (marine ornithology EIA/HRA).
Ornithology	HiDef	



EIA Technical Discipline	External Organisations Contributing	Competency
Physical Processes	ABPmer	ABPmer provides marine consultancy support to organisations around the globe and has been supporting design and construction of offshore and coastal infrastructure for more than 70 years. ABPmer are a leader in offshore, coastal and estuarine numerical modelling, with services underpinned by numerical models of waves, hydrodynamics, sediments, plumes, water quality and morphological change.
Shipping and Navigation	Anatec	Anatec is a market leader in risk based decision making. They work within the UK and internationally in a variety of sectors including onshore, offshore, marine, shipping and renewables (wind, wave and tide). They provide consultancy services on most aspects of marine, oil and gas, renewables, transportation and onshore safety. The company was established in 2001.
Underwater Sound	Award Environmental Consultants	A specialist technical consultancy, incorporated in 2015 specifically to provide a UK-based practice offering scientifically rigorous advice on the impact on marine fauna from man-made underwater noise. The delivery of technically complex solutions has focussed on sectors working in Marine Renewables; Port and Harbour Construction; Offshore Oil and Gas Exploration and Development; and Defence, in the UK and beyond.

