

ACRONYMS

AADT	Annual Average Daily Traffic
AIS	Automatic Identification System
ADCP	Acoustic Doppler Current Profiler
AfL	Agreement for Lease
AGLV	Areas of Great Landscape Value
AHC	Active Heave Compensation
ALARRP	As Low as Reasonably Practicable
AMAA	Ancient Monuments and Archaeological Areas Act
AOD	Above Ordnance Datum
AON	Apparently Occupied Nests
AOS	Apparently Occupied Sites
AQS	Air Quality Strategy
ARC	Atlantis Resources Corporation
ASCOBANS	Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas
ASFB	Association of Salmon Fisheries Board
ASML	Aquatic Survey and Monitoring Limited
ATC	Automatic Traffic Counter
AWAC	Acoustic Wave and Current
BAP	Biodiversity Action Plan
BAT	Best Available Technique
BERR	Department of Business, Enterprise and Regulatory Reform
BFI	Baseline Flow Index
BGS	British Geological Survey
BODC	British Oceanographic Data Centre
BP	Before Present
BS	British Standard
BSI	British Standards Institution
CAA	Civil Aviation Authority
CASE	Caithness and Sutherland Enterprise
CBD	Convention on Biological Diversity
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CEMP	Construction Environmental Management Plan
CFD	Computational Fluid Dynamics
CLBAP	Caithness Local Biodiversity Action Plan
CD	Chart Datum
CIRIA	Construction Industry Research and Information Association
CMACS	Centre for Marine and Coastal Studies
CO₂	Carbon dioxide
CPA	Coast Protection Act
CRM	Collision Risk Modelling
CTF	Caithness Transport Forum

dB	Decibel
DBA	Desk Based Assessment
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges
DP	Dynamic Positioning
DP	Decommissioning Programme
EC	European Commission
EEC	European Economic Community
EIA	Environmental Impact Assessment
EHO	Environmental Health Officer
EMEC	European Marine Energy Centre
EMF	Electro Magnetic Field
EMP	Environmental Management Plan
EMR	Electricity Market Reform
ENVID	Environmental Issue Identification
EPS	European Protected Species
ERI	Environmental Research Institute
ES	Environmental Statement
ESAS	European Seabirds at Sea
ETA	Estimated Time of Arrival
EU	European Union
FAO	Food and Agriculture Organisation
ERCOP	Emergency Response Cooperation Plan
EU	European Union
FEED	Front End Engineering Design
FLO	Fisheries Liaison Officer
FSA	Formal Safety Assessment
FREDS	Forum for Renewable Energy Development in Scotland
FRS	Fisheries Research Services
FRV	Fisheries Research Vessel
GBS	Gravity Based Structure
GCR	Geological Conservation Review
GIS	Geographical Information Systems
GWDTTE	Groundwater Dependant Terrestrial Ecosystems
HGV	Heavy Goods Vehicle
HIE	Highlands and Islands Enterprise
HMPA	Historic Marine Protected Area
HOST	Hydrology of Soil Types
HRA	Habitat Regulations Appraisal
HS	Historic Scotland
HSE	Health and Safety Executive
HwLDP	Highland wide Local Development Plan

HVDC	High Voltage Direct Current
IBA	Important Bird Area
ICES	International Council for the Exploration of the Sea
IFA	Institute for Archaeologists
GBS	Gravity Base Structure
GIS	Geographic Information System
IBA	Important Bird Area
IEA	Institute of Environmental Assessment
IEEM	Institute of Ecology and Environmental Management
IEMA	Institute of Environmental Management
IFG	Inshore Fisheries Group
IMO	International Maritime Organisation
IROPI	Imperative Reason of Overriding Public Interest
IUCN	International Union for Conservation of Nature
JNCC	Joint Nature Conservation Committee
JSA	Job Seekers Allowance
kg	Kilogram
km	Kilometre
km²	Square kilometre
Km/h	Kilometre per hour
LAT	Lowest Astronomical Tide
LBAP	Local Biodiversity Action Plan
LAQM	Local Air Quality Management
LCA	Landscape Character Assessment
LDP	Local Development Plan
LGV	Light Goods Vehicle
LOA	Lease Option Agreement
LSCA	Landscape Seascape Character Assessment
m	Metre
MAGIC	Multi Agency Geographic Information for the Countryside
MarLIN	Marine Life Information Network
MAIB	Marine Accident Investigation Branch
MARPOL	International Convention for the Prevention of Pollution from Ships
MS	Marine Scotland
MBES	Multibeam Echo Sounder
MCA	Maritime and Coastguard Agency
MCS	Marine Conservation Society
MCT	Marine Current Turbines Limited
MESH	Marine European Seabed Habitats
MFA	Marine and Fisheries Agency
MGN	Marine Guidance Note
MHWS	Mean High Water Springs

MLWS	Mean Low Water Springs
MLURI	Macaulay Land Use Research Institute
mm	Millimetre
MNNS	Marine Non Native Species
MoD	Ministry of Defence
MP	Member of Parliament
MPA	Marine Protected Area
MPS	Marine Policy Statement
MRESF	Marine Renewable Energy Strategic Framework for Wales
MS	Marine Scotland
MS-LOT	Marine Scotland Licensing Operations Team
ms⁻¹	Metres per second
MW	Megawatts
NATS	National Air Traffic Service
NMRS	National Monuments Records of Scotland
NBN	National Biodiversity Network
NDA	Nuclear Decommissioning Authority
NGR	National Grid Reference
NPF	National Planning Framework
NRA	Navigational Risk Assessment
NLB	Northern Lighthouse Board
NRTF	National Rural Touring Forum
NSA	National Scenic Area
nm	Nautical miles
NO_x	Oxides of nitrogen
NRTF	National Road Traffic Forecast
NSA	National Scenic Area
OFA	Orkney Fisheries Association
OIC	Orkney Islands Council
ORCA	Orkney Research Centre for Archaeology
OSPAR	Oslo and Paris Conventions for the protection of the marine environment
OREI	Offshore Renewable Energy Installation
OS	Ordnance Survey
PA	Position Approximate
PAM	Passive Acoustic Monitoring
PAN	Planning Advice Note
PBR	Potential Biological Removal
PCC	Power Conversion Centre
PCUB	Power Conversion Unit Building
PEXA	Practice and Exercise Area
PFOW	Pentland Firth and Orkney Waters
PPG	Pollution Prevention Guidelines
PHA	Preliminary Hazard Analysis

PMF	Priority Marine Feature
PPE	Personal Protective Equipment
PTS	Permanent Threshold Shift
RBMP	River Basin Management Plan
RCAHMS	Royal Commission for Ancient and Historical Monuments for Scotland
ReDAPT	Reliable Data Acquisition Platform Tidal
RES	Renewable Energy Strategy
REZ	Renewable Energy Zone
RIFE	Radioactivity in Food and the Environment
RNLI	Royal National Lifeboat Institution
RO-RO	Roll on – Roll off
ROCs	Renewables Obligation Certificates
ROS	Renewable Obligation Order for Scotland
ROV	Remotely Operated Vehicle
RPM	Revolutions per Minute
RPS	RPS Group Plc
RSPB	Royal Society for the Protection of Birds
RTP	Roger Tym and Partners
RYA	Royal Yachting Association
SAAR	Standard Annual Average Rainfall
SAC	Special Area of Conservation
SAM	Scheduled Ancient Monument
SAMS	Scottish Association for Marine Science
SAR	Search and Rescue
SBL	Scottish Biodiversity List
SCANS	Small Cetacean Abundance in the North Sea
SCADA	Supervisory Control and Data Acquisition
SCOS	Special Committee on Seals
SEPA	Scottish Environment Protection Agency
SEA	Strategic Environmental Assessment
SFF	Scottish Fishermen's Federation
SHEP	(Historic Scotland's) Scottish Historic Environment Policy
SHEPD	Scottish Hydro Electric Power Distribution
SHETL	Scottish Hydro Electric Transmission Limited
SIFAG	Scottish Inshore Fisheries and Advisory Group
SING	Semi Improved Neutral Grassland
SLM	Sound Level Meter
SLA	Scenic Landscape Area
SMRU	Seal and Mammal Research Unit
SNH	Scottish Natural Heritage
SNMP	Scotland's National Marine Plan
SOPEP	Ship Oil Pollution Emergency Plan
SO_x	Oxides of sulphur

SPA	Special Protection Area
SPG	Supplementary Planning Guidance
SPP	Scottish Planning Policy
SPR	Scottish Power Renewables Limited
SPR	Standard Percentage Runoff
SRSL	SAMS Research Services Limited
SSE	Scottish and Southern Energy
SSSI	Special Site of Scientific Interest
STCEF	Scientific Technical and Economic Committee for Fisheries
TCE	The Crown Estate
TAC	Total Allowable Catch
TGL	Tidal Generation Limited
THC	The Highland Council
THCHET	Highland Council Historic Environment Team
TSS	Turbine Support Structure
TTS	Temporary Threshold Shift
UK	United Kingdom
UKAEA	UK Atomic Energy Authority
UKBAP	UK Biodiversity Action Plan
UKC	Under Keel Clearance
UKCP	UK Climate Projections Report
UKHO	UK Hydrographic Office
UKRES	UK Renewable Energy Strategy
UNCLOS	United Nations Convention of the Law of the Sea
VHF	Very High Frequency
VP	Vantage Point
VMS	Vessel Monitoring System
VTS	Vessel Traffic Services
WGNAS	Working Group on North Atlantic Salmon
WHO	World Health Organisation
WFD	Water Framework Directive
ZAV	Zone of Actual Visibility
ZTV	Zone of Theoretical Visibility

GLOSSARY

Agreement for Lease	Agreement entered into between MeyGen Ltd and The Crown Estate for the rights to development on the seabed, named as the Inner Sound, shown in Figure 1.3.
Dynamic positioning vessel	A Dynamic Positioning Vessel (DP) can safely maintain its position and heading in a tidal flow using a system of thrusters. DP vessels are able to work safely and efficiently in waters deeper than vessels using anchors.
Export cables	Cables used to export power generated by the tidal turbines to the onshore infrastructure.
Gravity based structure (GBS)	A structure which uses ballast to sit securely on the seabed without needing to be stabilized by piles or anchors. The GBS is used to support a tidal turbine.
Horizontal Directional Drilling	Horizontal Directional Drilling (HDD) is a process whereby drilling of a bore departs from the vertical axis and exceeds 80° allowing bores to be drilled through a target geological formation. Directional drilling allows the drill bit to be steered in a pre-planned and hence the bore can be designed to exit the seabed in a pre-determined location.
Jumper cables	Short lengths of cables connecting the turbine support structures and export cable.
MeyGen Tidal Energy Project	Tidal energy project in the Inner Sound, Pentland Firth developed by MeyGen Ltd.
Monopile	A single large diameter steel tube that is grouted into a hole bored into the seabed. The monopile is used to support a tidal turbine.
Nacelle	The enclosure of the tidal turbine's mechanical and electrical equipment.
Pin pile	The use of multiple small diameter steel tubes that are grouted into a hole bored into the seabed. The pin piles are used to support a tidal turbine.
Power Conversion Centre (PCC)	The PCC is an onshore facility that receives power generated by the tidal turbines and converts it into a grid compliant form for onwards transmission. The PCC will comprise offshore cable terminations, power conversion equipment, transformers and switchgear for grid connection.
Project	For the purpose of this ES, the Project refers to Phase 1 of the MeyGen Tidal Energy Project.
Remotely operated vehicle (ROV)	A Remotely Operated Vehicle (ROV) is an underwater vehicle able to undertake multiple subsea operations. ROVs are highly manoeuvrable and are controlled by operators on-board the DP vessel.
Tidal turbine	A device that converts hydrodynamic energy in the tidal flow into electrical energy.
Tidal turbine array	Term used to describe a group of tidal turbines.
Turbine support structure (TSS)	A turbine support structure is the structure placed on the seabed onto which a tidal turbine is installed.
Wet mate connector	A device used to connect electrical and data cables underwater.

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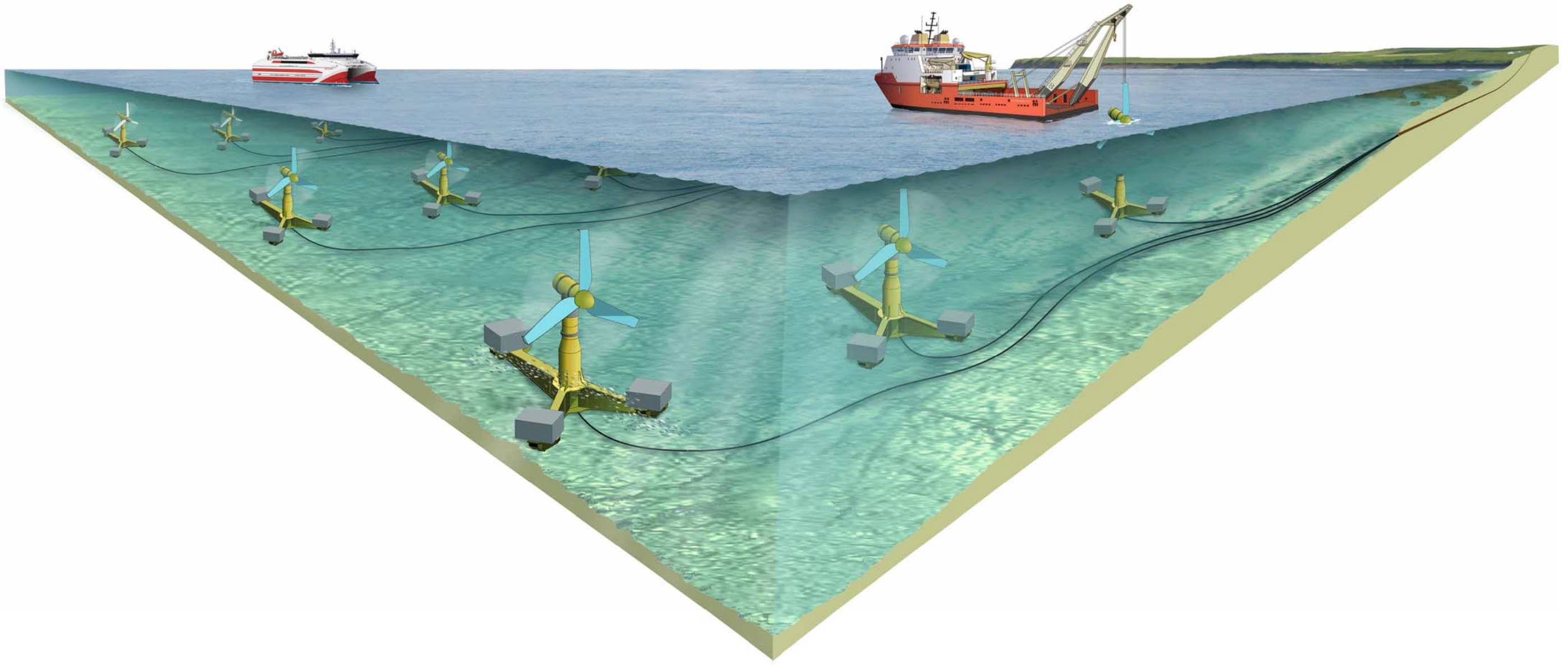


Figure 1.1 The MeyGen Project