

EARBA STORAGE

A GILKES ENERGY COMPANY

Earba Pumped Storage Hydro Scheme EIA Report

Chapter 1: Introduction

February 2024



Quality Information

Prepared by

Chris Pasteur

Checked by

David Tomb

Approved by

Gavin McGill

Revision History

Revision

01

Revision Date

February 2024

Details

Issue to ECU

Authorised

Gavin McGill

Chapter 1 - Contents

Contents

1. Introduction	1
1.1 Background Information	1
1.2 The Applicant	2
1.3 The Proposed Development	2
1.4 Associated Works	3
1.5 Site Context	3
1.6 Purpose of the EIA Report	3
1.7 Structure of the EIA Report	3
1.8 EIA Specialist Team	5
1.9 Supporting Documents	5
1.10 Additional Consents	6
1.11 Local Supply Chain	6
1.12 Notification and Availability of the EIA Report	6

List of Figures

Figure 1.1 – Scheme Arrangement with Grid References

List of Appendices

Appendix 1.1 – EIA Specialist Team

1. Introduction

1.1 Background Information

- 1.1.1 Earba Ltd. (hereafter referred to as “the Applicant”) is proposing to construct the Earba Pumped Storage scheme, located within Ardverikie Estate as shown in **Figure 2.1 – Location Plan**. The proposals, for which consent under Section 36 of the Electricity Act 1989¹ will be sought by the Applicant, are referred to in this report as ‘the Proposed Development’ and are described below. The application for Section 36 consent is being prepared on behalf of the Applicant by Gilkes Energy Ltd., (hereafter referred to as “the Developer”).
- 1.1.2 The function of the Proposed Development would be to create a large-scale long duration electricity storage (LDES) scheme with up to 1,800MW generation capacity to store and release energy to or from the electricity transmission system, to help balance supply and demand for power at a national scale. The electricity storage capacity of the Proposed Development will be up to 40 GWhr, which equates to 22 hours of generation at 1,800 MW. This would make it the largest electricity storage facility in the UK, providing a very significant contribution to the Scottish Government’s commitment to pumped storage hydro, as set out in the Scottish Energy Strategy².
- 1.1.3 As the Proposed Development comprises an electricity generating station with a generation capacity of greater than 50 MW, an Environmental Impact Assessment (EIA) is required to accompany the Section 36 Application under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017³ (hereafter referred to as “the EIA Regulations”). It falls within the definition of Schedule 2 development contained in regulation 2(1) of the EIA Regulations. The Developer has voluntarily agreed to prepare an EIA Report in accordance with the EIA Regulations, rather than requesting a Screening Opinion. Deemed planning permission under Section 57 (2) of the Town and Country Planning (Scotland) Act 1997⁴, as amended, will also be sought.
- 1.1.4 A request for a Scoping Opinion was made to the Scottish Ministers under Regulation 12 of the EIA Regulations on 30th January 2023. A Scoping Report was submitted to support the request, which sought input from statutory and non-statutory consultees regarding the information to be provided within an EIA Report to accompany a Section 36 application under the Electricity Act 1989. A Scoping Opinion was received from the Scottish Ministers on 27th April 2023.
- 1.1.5 This EIA has been carried out by the Developer, Gilkes Energy Ltd. A table presenting relevant qualifications and experience of key staff involved in the preparation of the EIA is included in **Appendix 1.1 – EIA Specialist Team** of this EIA Report.

¹ The Electricity Act 1989. Available at: <https://www.legislation.gov.uk/ukpga/1989/29/contents> [Last Accessed December 2023].

² Scottish Government, 2017. The Scottish Energy Strategy. Available at: <https://www.gov.scot/publications/scottish-energy-strategy-future-energy-scotland-9781788515276/> [Last Accessed December 2023].

³ The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended). Available at: <https://www.legislation.gov.uk/ssi/2017/101/contents/made?regulation=4-5> [Last Accessed December 2023].

⁴ Town and Country Planning (Scotland) Act 1997 (as amended) Available at: <https://www.legislation.gov.uk/ukpga/1997/8/contents> [Last Accessed December 2023].

1.2 The Applicant

- 1.2.1 The Applicant, Earba Ltd, is a subsidiary of the Developer, Gilkes Energy Ltd (GEL). GEL specialises in the development of hydro power projects in the UK and comprises a multi-disciplined development team which includes engineering, consenting, project management, operations, commercial, financial and legal expertise. GEL is supported by an industry-leading team of specialist technical consultants. Over the last 14 years, GEL has successfully developed and built 17 conventional hydro projects. In 2018 GEL moved their focus from conventional smaller-scale hydro to larger Pumped Storage Hydro (PSH), with the aim of delivering increased flexibility for the UK electricity system to assist in the transition to a low carbon economy. As well as the Earba PSH, the Proposed Development under this application, GEL has a number other PSH schemes in development, which have been identified through a detailed screening process.

1.3 The Proposed Development

- 1.3.1 The layout of the Proposed Development is shown in **Figure 1.1 – Scheme Layout with Grid References**. The Proposed Development would operate by transferring water between a lower reservoir, Lochan na h-Earba (Loch Earba) and an upper reservoir, Loch a' Bhealaich Leamhain (Loch Leamhain). The maximum water level of these existing lochs would be raised by constructing dams to increase their natural storage capacity. The reservoirs would be connected by an underground waterway system including up to three headrace tunnels. The principal components of the Proposed Development would be:
- The Leamhain Dam and Upper Reservoir
 - The Shuas and Shios Dams and Lower (Earba) Reservoir
 - The Underground Waterway System and Associated Structures
 - The Powerhouse and Substation
 - The Pitridh and Shuas Aqueducts
 - A new junction off the A86 and bridge over the River Spean / Moy Channel
 - Access Tracks and Footpaths
 - Temporary construction Site Compounds and Borrow Pits
- 1.3.2 The Proposed Development is described in more detail in the EIA Report in **Chapter 2 – The Proposed Development**.
- 1.3.3 The Proposed Development would include a very significant package of habitat compensation and enhancement works, including approximately 600ha of peatland restoration as well as approximately 1,500ha of fenced land around the Earba reservoir and surrounding hills which will provide an area for woodland restoration, and some further species-specific habitat enhancement works. These proposals would demonstrably and significantly contribute to the enhancement of biodiversity, including restoring degraded habitats and building and strengthening nature networks and the connections between them.

1.4 Associated Works

- 1.4.1 A grid connection, comprising a buried 400 kV cable and a sub-station adjacent to the Beauly to Denny overhead transmission line, is required to connect the Proposed Development to the national electricity grid. For regulatory reasons, this will be subject to a separate consenting process with Scottish and Southern Electricity Networks Transmission ("SSEN Transmission") as the applicant. The route of the buried cable and sub-station have yet to be confirmed by SSEN Transmission and have therefore not been considered in this EIA Report.

1.5 Site Context

- 1.5.1 The site comprises predominantly wet heath, with some smaller areas of blanket bog, dry heath, mire, woodland and scrub. There is a small area of scheduled ancient woodland along the shore of Loch Earba. The Estate is used for highland sports, outdoor recreation, commercial forestry, hydroelectric generation (there are two existing reservoir storage hydro schemes), holiday accommodation and as a film location.
- 1.5.2 The site is within the River Spean catchment upstream of Loch Laggan. Lochan na h-Earba drains to Loch Laggan via the Allt Labhrach and Loch a' Bhealaich Leamhain via the Allt Loch a' Bhealaich Leamhain, the Allt Cam and the River Pattack. The catchment is already heavily modified by the operation of the existing Ardverikie, Pattack and Lochaber Hydro Schemes.

1.6 Purpose of the EIA Report

- 1.6.1 The purpose of this EIA Report is to present the findings of the environmental impact assessment carried out for the Proposed Development. In doing so, the EIA Report identifies any likely significant environmental effects of the Proposed Development during construction and operation.
- 1.6.2 Running concurrently with the design process, the EIA has sought to:
- Identify the likely environmental effects of the Proposed Development.
 - Define appropriate design and construction measures and good practice to mitigate likely significant environmental effects and maximise opportunities for environmental enhancements resulting from the construction and operation of the Proposed Development; and
 - Determine the level and significance in the context of the EIA Regulations of the likely residual environmental effects from the Proposed Development remaining after all proposed mitigation and enhancement measures have been taken into account.

1.7 Structure of the EIA Report

- 1.7.1 This EIA Report describes the results of the EIA for the Proposed Development. This includes a detailed description of the Proposed Development and its surroundings, an overview of the design process, and technical assessments with associated reports by individual environmental topic.

1.7.2 The EIA Report comprises:

- **Volume 1- Main Text** - contains the introductory and specialist environmental assessment Chapters, and is structured around the chapter headings as set out in **Table 1.1 – EIA Report Chapters**;
- **Volume 2 - Figures** - figures relating to the EIA Report chapters;
- **Volume 2a - Confidential Figures** - figures which are only provided to certain authorised parties due to the nature of the information within them.
- **Volume 3a – Visualisations to NatureScot Standards** - photomontages to NatureScot standards, demonstrating how the Development will sit within the surrounding landscape;
- **Volume 3b – Visualisations to the Highland Council Standards** - photomontages to the Highland Council standards, demonstrating how the Development will sit within the surrounding landscape;
- **Volume 4 - Appendices** - supporting Appendices to the EIA Report; and
- **Volume 4a - Confidential Appendices** - supporting Appendices which are only provided to certain authorised parties due to the nature of the information within them.

Table 1.1 – EIA Report Chapters

Chapter	Chapter Content
Chapter 1	Introduction
Chapter 2	The Proposed Development
Chapter 3	Consideration of Alternatives and Design Evolution
Chapter 4	Assessment Methodology, Scoping and Consultation
Chapter 5	Planning Policy Context
Chapter 6	Hydrology and Water Management
Chapter 7	Landscape and Visual
Chapter 8	Terrestrial Ecology
Chapter 9	Forestry
Chapter 10	Ornithology
Chapter 11	Aquatic Ecology
Chapter 12	Geology, Soils and Water
Chapter 13	Not Used
Chapter 14	Land Use
Chapter 15	Recreation and Access
Chapter 16	Cultural Heritage
Chapter 17	Transport and Access
Chapter 18	Noise and Vibration

Chapter	Chapter Content
Chapter 19	Socio-economics and Tourism
Chapter 20	Mitigation Schedule
Chapter 21	Glossary and List of Abbreviations

1.8 EIA Specialist Team

1.8.1 The Developer recognises that the Proposed Development may give rise to some environmental effects. Specialist consultants have therefore been appointed by the Developer to provide expert knowledge on the environmental topics scoped into the EIA, as follows:

- Planning: Savills plc and Brodies LLP;
- Hydrology and Water Management: Gilkes Energy Ltd, Mott MacDonald Limited, EnviroCentre Ltd;
- Landscape and Visual: ASH design+assessment Ltd;
- Terrestrial Ecology: SLR Consulting Ltd, Tracks Ecology Ltd, Angus Davidson Ltd, Victor Clements Native Woodland Advice;
- Forestry: Helge Hansen, Victor Clements Native Woodland Advice;
- Ornithology: Mike Coleman Ecology;
- Aquatic Ecology: Gavia Environmental Ltd;
- Geology, Soils and Water: SLR Consulting Ltd;
- Land Use: Gilkes Energy Ltd;
- Recreation and Access: Gilkes Energy Ltd
- Cultural Heritage: Catherine Dagg;
- Traffic, Access and Transport: Pell Frischmann;
- Noise and Vibration: SLR Consulting Ltd;
- Socioeconomics and Tourism: MKA Economics Ltd.

1.8.2 Other inputs relating to the construction and future maintenance of the Proposed Development have been provided by the Developer and the Applicant. The assessment of potential environmental effects and preparation of the EIA has been co-ordinated on behalf of the Applicant by the Developer.

1.8.3 A table presenting relevant qualifications and experience of key staff involved in the preparation of this Chapter is included in this EIA Report at **Appendix 1.1 – EIA Specialist Team**.

1.9 Supporting Documents

1.9.1 The following supporting documents will be submitted along with the EIA Report as part of the Section 36 Application:

- A Non-Technical Summary (NTS) – this is a summary of the findings of the EIA Report in non-technical language;

- A Planning Statement - this considers the acceptability of the Proposed Development in the context of planning policy; and
- A Shadow Habitats Regulations Appraisal (HRA) Report (Stage 1 & 2) for the Ben Alder and Aonach Beag SAC – this is provided to assist the competent authority's Appropriate Assessment of the likely significant effects of the Proposed Development on this designated site.

1.10 Additional Consents

1.10.1 It is recognised that additional consents and licenses are required for the construction and operation of the Proposed Development. These may include the following:

- Controlled Activities Regulation (CAR) Licences;
- Reservoir registration under The Reservoirs (Scotland) Act 2011;
- European Protected Species licences; and
- Consents for felling and planting of woodland;

1.10.2 The EIA Report contains information in support of these additional consents.

1.11 Local Supply Chain

1.11.1 The Applicant is committed to proactively engaging with the local supply chain to ensure that local companies are aware of and know how to tender for, contracts related to the Proposed Development. As part of its commitment to developing these relationships, the Applicant would engage with local suppliers as part of the development and procurement process.

1.12 Notification and Availability of the EIA Report

1.12.1 In accordance with Regulation 4 of the Electricity (Applications for Consent) regulations 1990, and Regulation 14 of the EIA Regulations, the application will be advertised in the Edinburgh Gazette, The Scotsman, the Inverness Courier and the Badenoch and Strathspey Herald. The advert will describe the application, state where hard copies of the EIA Report are located, state a date by which any persons can make representations to the Scottish Ministers in relation to the application, and the address to where representations are to be sent.

1.12.2 In accordance with Regulation 18 of the EIA regulations, copies of the EIA report will be available to view on the application website at:

- <https://www.earbastorage.co.uk>

1.12.3 Copies of the EIA report will be available to view on at the following websites:

- <http://wam.highland.gov.uk/wam/>
- <http://www.energyconsents.scot/>

1.12.4 Hard copies of the EIA Report will also be available to view at the following locations:

-
- The Highland Council Headquarters, Inverness;
 - The Laggan Community Hall, Laggan
 - The Kilmonivaig Church Hall, Roy Bridge

Additional copies of the EIA Report may be obtained from Gilkes Energy Ltd at a charge of £30 on a USB drive or £600 per hard copy. Enquiries can be made via:

- email: info@gilkesenergy.com
- by post to: Earba Ltd, Canal Head North, Kendal, Cumbria, LA9 7BZ

Representations

1.12.5 Any representations to the application may be submitted:

- via the Energy Consents Unit website at <https://www.energyconsents.scot/Register.aspx> ;
- by email to the Scottish Government, Energy Consents Unit mailbox at representations@gov.scot ; or
- by post to the Scottish Government, Energy Consents Unit, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU, identifying the proposal and specifying the grounds for representation. Please note that there may be a delay in the Energy Consents Unit receiving representations by post.

1.12.6 Written or emailed representations should be dated, clearly stating the name (in block capitals), and postal address of those making representations. Emailed representations should also include the full return email address of those making representations. Only representations sent by email to representations@gov.scot will receive acknowledgement.

1.12.7 Representations to the Scottish Government will be copied in full to the planning authority, and made available to the public on request, unless individuals request otherwise.