Supporting Environmental Information Report

Binn Farm Solar & BESS

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1.0	29 September 2025	Jo Kerr	Sophia Cockell	Gavin Spowage
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Basis of Report

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Acronyms and Abbreviations

AC	Alternating current
AGL	Above Ground Level
AILV	Abnormal Indivisible Load Vehicles
ALC	Agricultural Land Capability
AOD	Above Ordnance Datum
AWI	Ancient Woodland Inventory
BESS	Battery Energy Storage System
BMS	Battery Management System
BS	British Standard
CA	Conservation Area
CEMP	Construction Environmental Management Plan
CTMP	Construction Traffic Management Plan
dB	Decibels
dB_{LA}	Decibel, Level (A-weighted)
DC	Direct current
DNO	Distribution network operator
EcIA	Ecological Impact Assessment
ECoW	Ecological Clerk of Works
EnvCoW	Environmental Clerk of Works
EIA	Environmental Impact Assessment
FRA	Flood Risk Assessment
G&G	Glint and Glare
GWDTE	Groundwater dependent terrestrial ecosystem
Ha	hectares
HEDBA	Historic Environment Desk-Based Assessment
HEPS	Historic Environment Policy for Scotland
HGV	Heavy Goods Vehicles
HVAC	Heating, Ventilation and Air Conditioning

LB	Listed Building
LCT	Landscape Character Type
LDP	Local Development Plan
LLA	Local Landscape Area
LVA	Landscape and Visual Appraisal
MW	megawatts
NCN	National Cycle Network
NFCC	National Fire Chiefs Council
NIA	Noise Impact Assessment
NMP	Noise Monitoring Position
NPF4	National Planning Framework 4
NR	Noise rating
NSA	National Scenic Area
NSR	Noise Sensitive Receptors
OBSMP	Outline Battery Safety Management Plan
OEMP	Operational Environmental Management Plan
OP	Observation Point
PC	Principal Contractor
PCS	Power Conversion System
PKC	Perth and Kinross Council
PKHT	Perth and Kinross Heritage Trust
PPP	Pollution Prevention Plan
PV	Photovoltaic
PWS	Private Water Supplies
SAC	Special Area of Conservation
SEIR	Supporting Environmental Information Report
SM	Scheduled Monument
SPA	Special Protection Area
SPP	Species Protection Plan

SSSI	Site of Special Scientific Area
SuDS	Sustainable Drainage Systems
ZTV	Zone of Theoretical Visibility

1.0 Introduction

1.1.1 Trio Power Limited (hereafter referred to as 'the Applicant') is applying for planning permission to construct and operate a solar photovoltaic (PV) array and Battery Energy Storage System (BESS) with associated electrical equipment, drainage, access, landscaping, underground cabling, fencing and other ancillary infrastructure (the 'Proposed Development') at a site near Glenfarg in the Perth and Kinross Council area.

1.1.2 This Supporting Environmental Information Report (SEIR) provides assessments of the potential environmental effects the Proposed Development may have on a range of environmental and technical issues.

2.0 Requirement for Environmental Impact Assessment

2.1.1 The Proposed Development will have a generating capacity of less than 50 megawatts (MW) and therefore is assessed under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (hereafter referred to as the 'EIA Regulations') which require that before consent is granted for certain types of development, an Environmental Impact Assessment (EIA) must be undertaken. The EIA Regulations set out the types of development which must always be subject to an EIA (Schedule 1 development) and other developments which may require EIA, if they are above certain thresholds and are likely to give rise to significant environmental impacts (Schedule 2 developments). The EIA Regulations provide screening criteria to establish whether a full EIA is likely to be required.

2.1.2 The Proposed Development falls under Schedule 2 of the EIA Regulations in that it is an industrial installation for the production of electricity where the area of the development exceeds 0.5 hectares (ha). A Schedule 2 development only requires EIA if it is likely to have significant effects on the environment by virtue of factors such as nature, size or location.

2.1.3 The Applicant submitted a request for an EIA Screening Opinion on 31 July 2025 to establish whether the consenting authority, Perth and Kinross Council (PKC), agreed with the Applicant than an EIA would not be required.

2.1.4 A Screening Opinion (Planning Ref: 25/01164/SCRN) was received from PKC dated 28 August 2025 which confirmed that the application would not require to be accompanied by an EIA (refer to **Appendix A**).

2.1.5 Although an EIA is not required, it is recognised that assessment of potential environmental impacts, and identification of appropriate measures to mitigate such impacts, is an important part of the planning and design process. This SEIR and supporting appendices and figures have therefore been prepared to provide sufficient information regarding the potential impacts of the Proposed Development, to allow PKC to consider the application in full and with due consideration of environmental impacts and planning policy.

3.0 Site Description

3.1 General Site Description

3.1.1 The Site is located on land approximately 4 km north-west of Strathmiglo and 5 km north-east of Glenfarg at Glentarkie, Perth and Kinross, KY14 7RU. The Site is centred on British National Grid NO 18188 12158. The Site location and boundary are shown on **Figure 3.1.**

3.1.2 The total Site area within the red line boundary measures approximately 58.85 hectares (ha). The landform is gently sloping, with elevation varying from a high of 245 m Above Ordnance Datum (AOD) on the eastern edge of the Site to a low of 205 m AOD in the west of the Site. The Site is currently used for rough grazing and arable farming, and according to the Scotland's Soils website is Agricultural Land Capability (ALC) Class 4.1 (i.e. land capable of producing a narrow range of crops) to the east and Class 5.1 (e.g. land capable of high quality grassland) to the west.

3.1.3 The Site is adjacent to Binn Farm, and approximately 1 km south-east of Binn Eco Park. The Site includes an access track known as Millden Road which connects to the A912. There are no recognised walking routes, rights of way, or core paths in the immediate vicinity. There are a small number of residential properties in the vicinity, and those closest to the Site comprise Gamekeeper's Cottage (to the north), a small group of houses at Balvaird (to the west) and the small settlements of Glentarkie (to the east) and Pittuncarty (to the south-east). The closest designated heritage asset to the Site is the Category C listed Balvaird Farmhouse, adjacent to the access track.

3.1.4 There are no watercourses running through the Site. There is one stand of coniferous woodland adjacent to the northern Site boundary, but no trees within the Site. There are no designated ecological sites present within the Site, however there are two Special Protection Areas (SPAs) and Ramsar sites designated for pink-footed goose within 10 km of the Site boundary. The Site is within core foraging distance for the pink-footed goose and thus there is a possible functional link with these European/international sites.

3.1.5 The Site is a fringe upland landscape characterised within the immediate wider context by agricultural buildings, an off-road driving centre, and the industrial site of Binn Eco-Park. The Site is within the non-statutory landscape designation of the Ochil Hills Local Landscape Area (LLA), with the Lomond Hills LLA 2.7 km to the south-west.

3.1.6 The Site will be accessed from the A912 and the private Millden Road through Binn Farm. No Abnormal Indivisible Load Vehicles (AILVs) will be needed to deliver components to the Proposed Development.

3.2 Environmental Designations

3.2.1 **Figure 3.2.1** and **3.2.2** shows the key environmental constraints within 5 km and 1 km of the Site. A brief summary of these is provided below with full descriptions provided in the relevant technical chapters of this SEIR and associated technical reports appended.

3.2.2 The Site area is not located within or adjacent to a designated landscape, and there are no National Scenic Areas (NSAs) or National Parks within 5 km of the Site. The Site is within the non-statutory landscape designation of the Ochil Hills LLA, with the Lomond Hills LLA 2.7 km to the south-east. The Garden and Designated Landscape of Balmanno is located 4.4 km to the north-west of the Site.

3.2.3 There are no core paths that cross through the Site, the closest core path is 0.9 km to the east.

3.2.4 Turflundie Wood Special Area of Conservation (SAC) lies 1.4 km to the north-east of the Site. There are four Sites of Special Scientific Interest (SSSI) within 5 km of the Site:

- Turflundie Wood SSSI - 1.4 km north-east;
- Lacesston Muir and Glen Burn Gorge SSSI - 4.5 km south;
- Carey SSSI - 4.6 km north;
- Lochmill Loch SSSI - 4.8 km north-east.

3.2.5 There are two Conservation Areas (CA) within approximately 5 km of the Site:

- Strathmiglo CA is 3.3 km south-east;
- Abernethy CA is 3.6 km north-north-east;
- Auchtermuchty CA lies just over 5 km to the east.

3.2.6 There are 145 listed buildings within 5 km of the Site (excluding the access track), with the closest being Balvaird Farmhouse category C Listed Building (LB) (0.47 km to the west, adjacent to the access track). Other category A LBs include:

- Pitlour House, Strathmiglo LB, 2.6 km south-east;
- Balmanno Castle LB, 4.6 km north-west.

3.2.7 There are 10 Scheduled Monuments (SM) within a 5 km radius of the Site:

- Balvaird Castle SM90027 - 0.5 km to the south-west;
- Court Knowe SM790 - 2.6 km to the southeast;
- Castle Law fort SM2477 - 2.8 km north;
- Easter Nether Urquhart, cairn, SM791 - 3.1 km to the south-south-east;
- Corston Tower SM5616 - 3.1 km south-east;
- Wellfield SM9451 - 3.5 km to the north;
- Edmund’s Grave SM9458 - 3.7 km north-west;
- Carey Roman temporary camp SM9449 - 3.7 km north;
- Abernethy Round Tower SM90005 - 3.9 km north-north-east;
- Strathmiglo Churchyard SM4017 - 4.1 km to the south-east.

3.2.8 There is no woodland on the ancient woodland inventory (AWI) located within the Site. There are 52 areas of woodland on the AWI within 5 km of the Site, the closest being Glen Wood which lies 0.5 km north-east.

3.3 Site Selection

3.3.1 The Site was identified as being appropriate for the Proposed Development because of its proximity to an available connection point at Abernethy Substation, approximately 5 km to the north-east. The Applicant has accepted a grid connection offer at this point of connection for 2031. Connection to the substation does not form part of this application and will be subject to a separate design and consenting process. The Proposed Development is located within the Binn Eco Park and forms a key component of the ethos and approach to supporting and delivering sustainable development and resources at Binn Eco Park

3.3.2 Following engagement with landowners, a general area was identified, after which a feasibility and constraints analysis was undertaken by the Applicant which considered the following key issues:

- Residential amenity;
- Topography;
- Environmental, landscape and heritage designations;
- Visual impact;
- Flood risk;
- Traffic access;
- Agricultural land use;
- Land available to the Applicant;
- Proximity to Binn Eco Park given related environmental interests and land use; and
- Available grid capacity at nearby substation.

3.3.3 Based on the outcome of this work the Site was identified as an area which would be appropriate for solar and BESS development for the following reasons:

- Proximity to substation for grid connection;
- Opportunities for visual screening from nearest settlements;
- Avoid impact in respect of noise by keeping BESS location outside of 500 m from any residential receptors;
- Locating the solar infrastructure at least 100 m away from neighbouring residential receptors;
- Located away from sensitive environmental, heritage and landscape receptors;
- Generally low ecological value of the Site, which consists mainly of rough grazing and cropland. This allows for greater opportunity for biodiversity enhancement as part of the Proposed Development;
- Located on lower grade agricultural land suboptimal for food production;
- Good connection to the local road network to allow for easy vehicular access via the A912;

- Utilising an existing access junction already purposed for Heavy Goods Vehicles (HGVs);
- Avoids areas of high-risk flooding; and
- Synergy with the adjacent eco park facility.

3.3.4 The above process confirmed the Site has good potential for a solar PV and BESS development with minimal environmental impacts.

3.4 Cumulative Developments and Wider Context

3.4.1 A review of the area, including recent planning history, and consultation with PKC has identified three developments within 5 km of the Proposed Development, either in operation or in planning at the time of assessment (September 2025). These developments are summarised in **Table 3.1** and broadly illustrated in **Figure 3.3**.

Table 3.1 – Potential Cumulative Developments within 5 km

Site Name	Development Type	Reference and Status	Approximate Distance and Direction from Site
Binn Eco Park Solar	5 MW solar PV installation	21/00705/FLL Consented	1 km north
Binn Eco Park BESS	Installation of 10 MW BESS and associated works	21/00834/FLL Consented	1 km north
Abernethy Battery Energy Storage Project	Installation of 64.9 MW BESS and associated works	ECU00005044 Submitted to ECU	5 km north-north-east

3.5 Needs Case

3.5.1 Binn Eco Park is a leading low carbon and circular economy innovation centre and is developing and demonstrating a mixed-use eco innovation space based on the deployment of low carbon and clean technologies in three key economic areas: circular economy resource management systems, renewable energy, and controlled environment agriculture. Each of these three themes support societal fundamentals and will be essential in making the transition to regenerative low carbon economies to address climate change, climate resilience and other pressing environmental pressures.

3.5.2 The Park is deeply connected into the wider Tayside low carbon transition and is developing its own micro-grid with Schneider Electric as the energy platform for new low carbon developments. The clean technology sector is increasingly recognised as a vital component of the global shift towards sustainability. The eco-park model is designed to facilitate the growth of businesses that prioritise environmental responsibility, innovation, and the circular economy. The Binn Eco Park aims to demonstrate how such facilities can support both the regional and national transition to a regenerative low carbon economy.

3.5.3 In recent years, there has been a notable surge in demand for development spaces that support clean technology, controlled environment agriculture, and low carbon enterprise development. This demand is fuelled by a growing awareness of climate

change and the urgent need for sustainable practices across all sectors of the economy..

4.0 The Proposed Development

4.1 Design Iteration

4.1.1 The scheme layout was developed following the completion of baseline studies, surveys and consultations. The aim was to maximise electricity-generating capacity while avoiding environmental and technical constraints, ensuring no significant adverse environmental effects. Key design considerations for the Proposed Development included:

- Locating the BESS at least 500 m away from neighbouring residential receptors;
- Locating the solar infrastructure at least 100 m away from neighbouring residential receptors;
- Utilising an existing access junction already purposed for Heavy Goods Vehicles (HGVs) and existing internal access tracks where possible;
- Maintaining hedgerows within the Site and trees around the Site perimeter;
- Avoiding areas of scrub vegetation and rocky areas on Site;
- Utilising existing vegetation and terrain to maximise screening;
- Optimising the opportunity for biodiversity enhancement measures; and
- Respecting buffer zones around woodland, watercourses and key ecological habitats.

4.1.2 Key design changes that have been made during this iterative process include:

- Implementing a 100 m buffer around private water supplies within the Site;
- Additional scattered tree and scrub planting in the south-west of the Site to provide screening of views from Balvaird Castle;
- Additional hedgerow planting in the south-east of the Site to screen from glamping pods to the east; and
- Increased setback of solar panels along the northern Site boundary to allow for planting.

4.1.3 The final design iteration which has been taken forward for submission of the planning application is shown in **Figure 4.1**.

4.2 Proposed Development Description

4.2.1 The Proposed Development will consist of ground mounted solar PV modules with an export capacity of up to 30 MW, a Battery Energy Storage System (BESS) of up to 6 MW, substations, associated electrical equipment, drainage, internal access tracks, landscaping, underground cabling, fencing and other ancillary infrastructure. The BESS will store excess energy generated by the solar PV array and release it during periods of high demand or low generation. A layout of the Proposed Development is shown in **Figure 4.1**.

4.2.2 The Proposed Development will be temporary and reversible. The Applicant is seeking consent for an operational lifetime of 40 years.

4.2.3 The infrastructure for the Proposed Development will include:

- PV module mounting frames;
- Battery units housed in containers;
- Substations;
- Inverter cabins to convert direct current (DC) electricity into usable alternating current (AC) power;
- Transformers;
- Underground cabling;
- Internal access tracks;
- Temporary construction compound;
- Spares container;
- CCTV cameras mounted on posts;
- Perimeter fencing;
- Site drainage; and
- Biodiversity and landscaping enhancements.

Solar Photovoltaic Modules and Mounting Frames

4.2.4 The Solar PV will include the following:

- Solar PV modules, with a clearance of approximately 1 m Above Ground Level (AGL) and a maximum height of approximately 2.7 m AGL (refer to **Figure 4.2**), will be angled up to 20^0 to the horizontal and arranged in rows.
- Prefabricated alloy metal frames onto which the modules will be mounted. These will be anchored to the ground via steel piles which will be driven approximately 1 to 2 m below ground.

BESS Containers

4.2.5 The BESS area occupies approximately 0.25 ha and will include the following:

- Approximately 48 battery components. Each rack is 1.3 m x 1.3 m and installed in a row of 6. There will be 8 rows x 6 rack containers, measuring a maximum of 8.3 m (length) x 3.1 m (width) x 2.6 m (height) (**Figure 4.3**).
- Two associated Power Conversion System (PCS) units – maximum 9.2 m (length) x 5.3 m (width) x 2.3 m (height) (**Figure 4.4)**

4.2.6 The PCSs will be located adjacent to the BESS containers, to allow the batteries to switch between inverter and charger modes. The BESS and PCS units will be located in a compound in the north-west of the Site (refer to **Figure 4.1**).

Inverters and Transformers

4.2.7 The Proposed Development will include string inverters, typically mounted to the underside of the PV modules (approximately 28 modules per string) to convert the Direct Current (DC) produced by the PV modules, into an Alternating Current (AC) for export. One auxiliary transformer will be located in the BESS compound (**Figure**

4.5) to connect with the other auxiliary infrastructure. This will measure a maximum width and length of 3 m with a height of 2 m.

4.2.8 Approximately five transformer stations will be installed in various locations across the Site, to ensure voltage compatibility for export to the local electricity distribution network (**Figure 4.6**). These will measure a maximum width of 2.4 m x length of 6.1 m x height of 2.9 m.

Substations and Spares Container

4.2.9 The Proposed Development will include a distribution network operator (DNO) substation compound, two customer (private) substation compounds, and a dedicated spares container.

4.2.10 The DNO substation will consist of electrical infrastructure required to facilitate the export of electricity from the Proposed Development to the distribution network. The building will measure approximately 8.1 m (length) x 2.6 m (width) x 2.7 m (height) (**Figure 4.7**).

4.2.11 The private substations (one for the solar arrays and one for the BESS) will measure a maximum of 8.1 m (length) x 2.6 m (width) x 2.7 m (height) (**Figure 4.8**).

4.2.12 The solar PV spares container will provide space to store replacement modules, string inverters, connectors, fuses, combiner boxes, and monitoring equipment. This will measure a maximum of 12.2 m (length) x 2.4 m (width) x 2.9 m (height) (**Figure 4.9**).

4.2.13 There is also a BESS spares and communications container that will provide space for storage of critical components such as battery modules, PCS parts, cooling fans, Battery Management System (BMS) units, fire suppression gear, heating, ventilation and air condition (HVAC) filters and communication modules which will measure a maximum of 6.1 m (length) x 2.4 m (width) x 2.9 m (height) (**Figure 4.10**).

Temporary Construction Compound

4.2.14 A temporary construction compound will be to the south of the proposed BESS area. The total compound area is anticipated to be approximately 10,000 m^2 (1 ha) and will incorporate a laydown area, welfare facilities, storage containers, on-site office and vehicle parking.

4.2.15 On completion of construction works, all temporary structures will be removed, and the compound area restored.

On-Site Cabling

4.2.16 Low voltage electrical cabling is required to connect the PV modules to the inverters. Alternating Current (AC) cabling from the inverters will connect to the transformers and the on-site substation via underground trenches. For a typical trench section reference **Figure 4.11**.

Welfare Container

4.2.17 The Proposed Development will include two welfare containers measuring approximately 6.1 m (length) x 2.4 m (width) x 2.9 m (height) (**Figure 4.12**).

Fire Water Tanks

4.2.18 A water supply is required on site to support the BESS compound. Water will be used primarily for firefighting and safety purposes and stored in dedicated tanks within the BESS area. It also provides for routine welfare facilities. The water provision forms part of the site's fire strategy and ensures that suitable resources are available in the unlikely event of a thermal incident within the battery units. The water tanks will each be 115,000L in volume (230,000L total) with indicative height of 3 m and diameter of 7 m (**Figure 4.13**).

4.2.19 The water tanks will be located next to the BESS containers and will remain full so that they are available for immediate use in the unlikely event of a fire.

Security Fencing and CCTV

4.2.20 Security fencing will be constructed around the Site perimeter. The fencing will stand up to 2.4 m AGL and is proposed to comprise security palisade fencing painted an appropriate shade of green (**Figure 4.14**).

4.2.21 Entrance to the solar development will be from Binn Farm via 5 m wide double leaf access gates. These will be of a similar design to the security fencing, up to 2.4 m high, of galvanised steel construction and painted the same colour as the fencing. An elevation of the access gate is shown in **Figure 4.14**.

4.2.22 CCTV will be deployed as a security measure. The cameras will be mounted on galvanised steel posts each measuring approximately 4.5 m in height (**Figure 4.15**). The cameras will be located just inside the proposed security fencing with the exact locations to be confirmed prior to construction. They will be installed at discreet locations and will be oriented away from external landowners and dwellings.

Site Access and On-site Tracks

4.2.23 The Site will be accessed via Millden Road off the A912.

4.2.24 The BESS area will be accessible via two separate access points at the south-western and north-western points of the compound, in line with relevant fire safety guidance.

4.2.25 Internal access tracks within the solar PV areas will allow for ongoing access for maintenance.

4.2.26 The tracks will have a typical 4 m running width, wider on bends and at junctions and will be surfaced with local compacted aggregates. A cross section of the proposed internal access tracks is shown in **Figure 4.16**.

4.3 Ecological Enhancement

4.3.1 Following construction, there will be a programme of planting in order to screen the development from residential properties and Balvaird Castle. The planting will also add to the ecological enhancement of the Site. Planting being proposed includes:

- Native woodland mix along the northern Site boundary;
- Native species-rich hedgerow;

- Planting of gorse on the raised areas within the Site; and
- Native meadow mix planting around the perimeter of the solar areas;
- Diverse grassland planting between solar panels to allow for continued grazing by sheep.

4.3.2 Further details are provided in **Appendix D: Ecological Impact Assessment**.

4.4 Grid Connection

4.4.1 The Proposed Development will connect via underground cable to the upgraded Abernethy Substation located approximately 5 km to the east of the Site. The connection date of the Proposed Development is currently anticipated to be in 2031.

4.4.2 The cable route from the Site to Abernethy Substation will be subject to a separate consenting process in due course.

4.5 Construction

4.5.1 Construction of the Proposed Development is expected to be completed within approximately eight to twelve months.

4.5.2 A detailed construction programme will be developed once a construction contractor is appointed and would be provided to PKC as part of a Construction Environmental Management Plan (CEMP) prior to commencement of construction.

4.5.3 Normal construction hours are likely to be between 07:00 and 18:00 Monday to Friday and 08:00 and 13:00 on Saturdays. These times have been chosen to minimise disturbance to local residents. It must, however, be noted that out of necessity due to weather conditions or health and safety requirements, some generally quiet activities may occur outside the specified hours stated.

4.6 Operation and Maintenance

4.6.1 As outlined above, the lifetime of the Proposed Development is envisaged to be 40 years from the final commissioning to commencement of decommissioning.

4.6.2 Once the solar array and BESS are fully operational, they will require minimal maintenance. Maintenance is expected to consist mostly of monthly routine site inspections by technicians, as well as some unscheduled visits when required. Routine cleaning is occasional as rainwater will generally suffice.

4.6.3 An Outline Battery Safety Management Plan (OBSMP) has been provided in support of the application within **Appendix B**.

4.7 Decommissioning

4.7.1 At the end of the Proposed Development's operational lifetime of 40 years, the solar and BESS farm will be decommissioned (unless an extension is consented). Decommissioning is a relatively straightforward process and similar to the construction process, with the majority of structures and equipment able to be disassembled and removed in a straightforward manner (with battery units, inverters

etc being containerised and simply able to be detached from the piles they are placed on, and the solar arrays disassembled and piles pulled up).

4.7.2 The Applicant is committed to decommissioning and restoring the Site to its previous agricultural use at the end of the Proposed Development's lifespan. In the event that a decision is made that the Site could be repowered/refitted, then a new consenting process, including supporting statement as to the potential environmental effects, would be required.

4.7.3 In the event that a decision is made that the Site could be repowered/refitted, then a new consenting process, including an assessment of potential environmental effects, would be required.

4.7.4 Prior to decommissioning, a Restoration and Decommissioning Plan will be produced to reflect the current legislation and policy at that point in time and will be agreed with the relevant statutory authorities.

4.8 Environmental Management

Construction Environmental Management Plan (CEMP)

4.8.1 The Contractor responsible for undertaking the construction of the Proposed Development shall adhere to a CEMP. The Applicant expects that a CEMP will be produced in line with an appropriately worded planning condition. The CEMP will set out the appropriate measures to reduce and control the potential environmental impacts associated with the construction phase of the Proposed Development.

4.8.2 The CEMP shall be developed in accordance with good practice guidance. It shall describe how the Applicant will ensure suitable management of the following environmental issues during construction of the Proposed Development:

- Waste;
- Water quality;
- Dust and noise;
- Surface water drainage and groundwater;
- Ecology (including protection of habitats and species);
- Construction traffic;
- Pollution incidence response (for both land and water); and
- Site operations (including maintenance of the construction compounds, working hours and safety of the public).

BESS Emergency Response Plan

4.8.3 The Applicant will comply with the National Fire Chiefs Council (NFCC) guidance on the risk management process of >1 MW BESS facilities. An appropriate Risk Management Plan and Emergency Response Plan will be provided and agreed with PKC and the Scottish Fire and Rescue Service prior to commissioning. This will also be included as part of the Operational Environmental Management Plan (OEMP) for the Proposed Development and will be subject to the final technology chosen. Monitoring equipment including fire detection and fire prevention systems will be

installed within the containerised battery units and Site access is designed to ensure that fire appliances can safely access and egress the Site.

5.0 Consultation

5.1 Introduction

5.1.1 Consultation with relevant regulators and stakeholders has been undertaken, including Pre-application Consultation with PKC, a request for an EIA Screening Opinion, and four public consultation events. This section summarises the consultation process for the Proposed Development.

5.2 Perth & Kinross Council

5.2.1 Pre-Application Advice was requested from PKC on 22 May 2025. The Council's written pre-application response was provided on 26 May 2025 which confirmed that the principle of the proposal is acceptable and supported by the current Local Development Plan, highlighting relevant policies to be taken into account when submitting a full planning application. A pre-application site visit with a planning officer from PKC was undertaken on 13 June 2025.

5.2.2 An EIA Screening request was submitted to PKC on 31 July 2025. The Screening Opinion dated 28 August 2025 confirms that the Proposed Development does not meet the requirements for EIA. The Screening Opinion can be seen in **Appendix A**.

5.3 Public Engagement

5.3.1 The Applicant has engaged in various methods of informing the local community about the Proposed Development, including writing to local residents and councillors, and hosting in-person and online public consultation events. The Applicant has sought to build relationships with the local community surrounding the project, pursuing local opinion and addressing questions about the proposal.

5.3.2 The following public consultation events have been held for the Proposed Development:

- 25 June 2025 at Glenfarg Village Hall between 16:00 and 20:00;
- 30 June 2025, held online via Zoom from 18:30-19:30;
- 8 October 2025 at Glenfarg Village Hall between 16:00 and 20:00; and
- 13 October 2025 held online via Zoom from 18:30-19:30.

5.3.3 The public consultation events were attended by various members of the project team and allowed people living near the Site and wider stakeholders to drop in and learn more about, as well as comment on, the Proposed Development. The exhibitions were also held so that the Applicant could engage with the local community to understand any concerns and take onboard any feedback.

5.3.4 The events were advertised through various means, including through publication of adverts within The Courier, The Glenfarg Newsletter, the Perthshire Advertiser, mail out of letters within a 2 km catchment area to the Proposed Development, posters in local community spaces and letters to ward councillors, MSPs, MPs and local Community Councils.

5.4 Key Stakeholders

5.4.1 The Project Team has engaged with the following stakeholders prior to submitting the application and feedback has been taken onboard:

- PKC Planning;
- PKC Roads Maintenance Officer;
- PKC Landscape Officer;
- NatureScot;
- SEPA; and
- Scottish Fire and Rescue Service.

6.0 Planning Policy

6.1.1 Relevant national and local planning policy is contained in:

- National Planning Framework 4 (NPF4); and
- Perth and Kinross Council's Local Development Plan (LDP2 and LDP3).

6.1.2 For a full appraisal of the Proposed Development against these policy documents, reference should be made to the separate Planning Statement which supports this application.

7.0 Landscape and Visual

7.1 Introduction

7.1.1 This section summarises the potential for landscape and visual effects as a result of the Proposed Development. The full Landscape and Visual Appraisal (LVA), with accompanying figures and visualisation can be found in **Appendix C**. The key findings are summarised below.

7.2 Consultation

7.2.1 PKC were consulted regarding proposed Viewpoint locations and wider scope of the LVA on 24 June 2025 via email following their pre-application site visit of 13 June. An email response, dated 24 June 2025, from PKC stated that the proposed Viewpoints are acceptable.

7.3 Study Area

7.3.1 A 3 km radius Study Area from the Proposed Development has been adopted for the assessment of landscape and visual effects. This has been informed by analysis of Zone of Theoretical Visibility (ZTV) maps and an early appraisal of potential effects for a Proposed Development of this scale. Any notable landscape or visual effects would be confined within this geographical area.

7.4 Study Baseline

Local Landscape Context

7.4.1 **Figure 3.1** illustrates the Site location, within upland fringe agricultural land on the western ridge and south-western face of Beins Law, approximately 890 m east of The Byre residential property, and 870 m to the south-east of the Binn Eco Park recycling and resource management facility. Although rural, the Binn Eco Park facility exerts a notable characterising influence across the local landscape to the north of the Site. The Proposed Development area comprises agricultural grassland used for livestock grazing and is adjacent to the Scottish Off Road Driving Centre on Beins Law hill.

7.4.2 Topography of the Site is locally undulating with elevations ranging from 245 m AOD in the east to 205 m AOD in the west, featuring rocky ridges and a larch plantation along the north-eastern boundary. Surrounding landforms include Binn Burn to the north, Binn Hill (277 m AOD) east-north-east, and Beins Law summit (268 m AOD) near the eastern boundary.

7.4.3 Another notable commercial land use which is common within the landscape adjacent to the Site and further afield is commercial forestry, which blankets many surrounding hills from small-scale pockets to large-scale plantations.

Landscape Character

7.4.4 NatureScot's updated Landscape Character Assessment identifies the Site as lying within a transitional zone between two distinct Landscape Character Types (LCTs): Lowland Hill Ranges (LCT 382) and Lowland Basins (LCT 390), with Upland Hills

(LCT 182) to the east and Lowland Hills and Valleys (LCT 186) further south. More detail on each landscape character type can be found in **Appendix C**.

Landscape Designations

7.4.5 No International-level or National-level Landscape Designations cover the Site, or are within the 3 km Study Area. The Site is located within the Ochil Hills Local Landscape Area (LLA). The Loch Leven and Lomond LLA is located to the south, with a minor area to the south-west of Strathmiglo within the Study Area.There are pockets of Ancient Woodland (AWI) within the Study Area with the closest being Glen Wood (AWI) 500 m north-east of the Site.

7.5 Landscape Mitigation

7.5.1 In terms of design, the Proposed Development incorporates comprehensive mitigation that seeks to integrate it into the surrounding landscape whilst also responding to the ecological context of the Site. This includes:

- Painting buildings, structures, and palisade fencing in olive green to assist with blending into the natural landscape; and
- Suitable species-rich seeding is proposed within the solar array and BESS area. This would boost species within the Site and be of benefit to the wider area. Ground preparation and sowing would be undertaken at the first available season and would establish thereafter through appropriate maintenance and reduced livestock grazing.

7.5.2 Given the unsuitability for extensive mitigation woodland planting in and around the Site, the assessment takes a ‘worst case scenario’ where appraisal of landscape and visual effects is based on the initial appearance of the Site immediately after completion of construction (prior to establishment of biodiverse groundcover).

7.6 Construction Effects

Landscape Features and Character

7.6.1 The Site and its setting within the Lowland Hill Ranges and Lowland Basins LCTs within the Study Area is assessed as being of Medium sensitivity to the Proposed Development. The magnitude of change on local landscape character during the construction stage would be Slight, resulting in a Moderate/Minor level of effect. These effects would be focused across the local landscape, predominantly to the north, east, and west of the Site. Effects across wider parts of the LCTs to the east and south would be limited, and not notable.

Visual Amenity

7.6.2 Visual effects of activities during the construction phase would be temporary, intermittent, and more notable within the local area to 1 km of the Site. This is based on the containing effect of surrounding topography.

7.6.3 On balance, the visual magnitude of change experienced by local receptors during the construction phase would be Slight to Moderate (at worst). The resultant effect would be Moderate at worst, and notable at a local level (<1 km from the Site), predominantly limited to those residential receptors to the south of the Site with views of the open slope of Beins Law ridge and summit and residences to the north

and northwest at a similar elevation to the Site with open aspects towards the ridge of Beins Law.

7.7 Operational Effects

Landscape Features and Character

7.7.1 The landscape fabric within the Site is assessed as being of Low to Medium sensitivity to the Proposed Development.

7.7.2 The Proposed Development would introduce long-term (40 year) electrical generation and storage infrastructure into an area dominated by upland farming. This results in a residual magnitude of change and a Moderate, adverse and notable effect. This effect is reversible.

7.7.3 The scale of the Proposed Development in context with the scale of the landscape results in a magnitude of change that is deemed to be Moderate. The magnitude of change would reduce at greater distances based on the screening influence of the dip slope landform and the presence of the existing Binn Eco Park facility to the north. On this basis, the level of effect is classed as Moderate, adverse and notable within 1 km of the Proposed Development. Beyond 1 km the level of effect on these LCTs is deemed to be Moderate/Minor, less adverse, and not notable.

Landscape Designations

7.7.4 The magnitude of change on both Ochil Hills LLA and Lomond Hills LLA are deemed Negligible, with a level of effect as Minor to Minor/Negligible for Ochil Hills and Minor, adverse, and not notable for Lomond Hills.

7.7.5 There would be no direct, or indirect, impact or effect on Ancient Woodland found outside the Site.

Visual Amenity

7.7.6 Visual effects experienced by local residents and recreational receptors are, in most cases, deemed to be Moderate to High. There would be no notable effects on the Core Path Network.

7.7.7 Overall, while some nearby properties would experience partial or direct views of the solar array, effects are generally limited by topography, woodland, and intervening structures. Notable adverse effects are confined to a few receptors such as Easter Catochil and Catochil Farm Cottage, while most others experience slight or negligible changes. The Proposed Development remains visually contained, with only minor influence on wider residential visual amenity.

7.7.8 While Balvaird Castle would experience partial views of the solar array resulting in a notable adverse effect, impacts on recreational routes and road users are generally negligible due to screening by topography and vegetation. Only Leden Urquhart Road would experience a moderate, notable effect, while other routes such as the A912, A91 and Core Paths would remain largely unaffected.

7.8 Cumulative Effects

7.8.1 Overall, the cumulative influence of the Proposed Development on the landscape and visual resource would be restricted by the dipslope nature of the local landscape and the wider topographic variances afforded by the basins and lowland hills LCTs.

7.8.2 As such, cumulative effects in association with the existing 4-turbine Binn Wind Farm would result in a slight increase in perception of renewable infrastructure within the Lowland Basins LCT, extending southwards from the existing development. This would encompass a relatively localised area with a limited number / presence of sensitive receptors. The Proposed Development, in combination with other proposed, consented and existing energy infrastructure, would not result in a notable alteration to wider landscape character or the visual perception of this landscape.

7.9 Summary

7.9.1 Overall, while the Proposed Development will introduce renewable infrastructure and cause some localised adverse effects on nearby receptors and viewpoints, it will remain visually contained, with limited influence on wider landscape character, local designations and recreational amenity. Cumulative impacts with existing energy infrastructure would be minor and not notably alter the perception of the broader landscape.

8.0 Ecology and Ornithology

8.1 Introduction

8.1.1 This section summarises the Ecological Impact Assessment (EcIA) that has been carried out, and the results are presented in **Appendix D**. The EcIA should be read in conjunction with the following supporting reports:

- Preliminary Ecological Appraisal Report (Annex A of Appendix D)
- Baseline Ornithology Report (Annex B of Appendix D)
- Habitats Regulations Appraisal (Annex C of Appendix D)
- Outline Biodiversity Enhancement Plan (Annex D of Appendix D)

8.2 Consultation

8.2.1 NatureScot were consulted via email regarding the proposed goose surveys, further details are provided in Appendix D. PKC provided a consultation response in the Screening Opinion received in September 2025, that advised that a Habitat survey including protected species surveys will be required.

8.3 Methodology

8.3.1 An ecological desk study was carried out to identify ecological context of the Study Area. This consisted of a combination of desk study data analysis and field surveys.

8.3.2 An extended UK Habitat Classification survey was carried out in April 2025. Other surveys carried out were:

- Protected mammals survey
- Bat survey (daytime bat walkover and ground-level tree assessment)
- Great Crested Newt survey
- Breeding bird survey
- Goose feeding distribution survey

8.4 Study Baseline

8.4.1 The Site is made of up almost entirely modified arable grassland with areas of gorse scrub.

8.4.2 The Site does not overlap, or intersect, any site designated for nature conservation.

8.4.3 Eight designations of international importance, and 13 designations of national importance have been identified within 20 km of the Site. The nearest of these is Turflundie Wood SAC and SSSI, located 1.3 km north-east of the Site.

8.4.4 Ten distinct areas of ancient woodland are within 2 km of the Site. No ancient woodland occurs within the Site.

8.5 Potential Effects

Habitats

8.5.1 The construction of the Proposed Development will result in the loss of arable cropland and modified grassland habitats. An Outline Biodiversity Enhancement Management Plan (OBEMP) provides measures to protect retained habitats and compensate for losses. The OBEMP also provides habitat management and enhancement measures to protect and enhance habitats. As such, an overall improvement is predicted in the quality, continuity and integrity of these habitats during the operational phase and ultimately assist with long term resilience habitats on Site.

Protected Species

8.5.2 Protected species surveys identified the potential for negative effects to arise on badger, red squirrel, bats, herptiles, breeding birds, and wintering birds presented because of the Proposed Development. Embedded design measures, disturbance protection buffers, and an Ecological Clerk of Works (ECoW) during construction shall ensure no impacts are experienced by these species. The Species Protection Plans (SPPs) shall outline protection measures required for each species during the construction of the Proposed Development.

Breeding Birds

8.5.3 The Site supports a diverse mosaic of habitats suitable for both breeding and foraging bird species. Six breeding bird surveys were carried out between April and June 2025. A total of 39 bird species were recorded across the six survey visits, including 22 target species (priority bird species). Territorial mapping identified 69 breeding territories in total, comprising 40 territories held by target species and 29 by non-target species. These territories were primarily located along field margins, within scrub habitats, forestry blocks, and around farm buildings.

8.5.4 Among target species, skylark held the highest number of territories (eight), predominantly in open fields and scrubland. Pied wagtail followed with five territories, all in open areas adjacent to scrub. Linnet and dunnock each held four territories, typically associated with scrub bordering agricultural fields.

8.5.5 The overall breeding bird assemblage present is considered to be of local importance with the target species observed having a common county status, either as a common/ abundant resident or common summer visitor.

8.5.6 Biodiversity enhancements are proposed to improve priority habitats for breeding birds, such as native tree planting, hedgerow planting and gap filling, scrub planting, and modified grassland enhancements

Habitat Regulations Appraisal (HRA)

8.5.7 Given the proximity of the Firth of Tay and Eden Estuary Special Protection Areas (SPA)/Ramsar sites a shadow HRA has been provided to support the competent authority including a screening stage and Appropriate Assessment to assess the potential impacts of the Proposed Development.

8.5.8 The HRA Appropriate Assessment was carried out for greylag and pink-footed geese of the Firth of Tay and Eden Estuary SPA/ Ramsar (and partially overlapping Inner Tay Estuary SSSI) and pink-footed goose of Loch Leven SPA/ Ramsar (and underpinning Loch Leven SSSI). The Appropriate Assessment ascertained no adverse impacts on conservation objectives and integrity of these sites.

8.5.9 Given the conclusions of the Shadow HRA and otherwise screened out designated sites, there will be no significant effects on any of the European, international or nationally designated sites.

Goose Feeding Distribution Survey

8.5.10 Goose feeding distribution surveys were carried out in September and October 2025. No foraging geese were recorded during the four survey visits and as a result a desk-based assessment was consulted on and approved by NatureScot.

8.6 Mitigation and Enhancements

8.6.1 The Proposed Development has been designed to include standard good practice measures including ensuring that any effects to Important Ecological Features (IEFs) are avoided or reduced:

- Using existing tracks as far as practicable to reduce the need for new tracks;
- Minimum 10 m buffer from watercourses;
- Minimum 30 m buffer from woodland habitats; and
- Protection of retained habitats including woodland.

8.6.2 The following good practice measures shall be in place during construction of the Proposed Development:

- Appointment of a suitably qualified ECoW prior to construction who will carry out pre-construction surveys;
- Production of a Species Protection Plan (SPP) prior to construction;
- Production of a Pollution Prevention Plan (PPP) prior to construction;
- A sensitive lighting scheme to be used during construction; and
- A Construction Environmental Management Plan (CEMP) will be written and agreed with PKC prior to construction.

8.6.3 The following measures will support the Proposed Development in increasing the biodiversity potential of the Site, full details of the proposed biodiversity enhancements can be found in **Appendix D**:

- Planting of wildflower rich grassland;
- Planting managed grassland within retained areas of the Site;
- Enhancing existing grassland through seeding and habitat management;
- Management of grazing density beneath solar arrays to manage wildflower meadows;
- Creation of a Sustainable Urban Drainage (SuDS) basin which will increase available habitat for fauna; and

- Incorporating bird, bat and habitat boxes to provide shelter and nesting opportunities for species using the Site.

8.7 Conclusion

8.7.1 The Proposed Development will result in the loss of some arable cropland and modified grassland. However, a BEMP will protect retained habitats, compensate for losses, and deliver habitat management and enhancement measures. Overall, habitat quality, connectivity, and resilience are expected to improve during operation.

8.7.2 Surveys identified potential impacts on protected species, including badger, red squirrel, bats, reptiles and amphibians, and breeding and wintering birds. These impacts will be avoided through embedded design measures, buffer zones, species protection plans, and the presence of an on-site ecologist during construction.

8.7.3 All mitigation measures are well-established best practice, will be fully implemented, and may be updated post-consent if required. The Proposed Development complies with relevant nature conservation legislation and national and local planning policy.

9.0 Archaeology and Cultural Heritage

9.1 Introduction

9.1.1 This section summarises the potential for cultural heritage receptors to experience direct and/or indirect impacts as a result of the Proposed Development.

9.1.2 The full Historic Environment Desk-Based Assessment (HEDBA) report can be found in **Appendix E**.

9.2 Consultation

9.2.1 Consultation with Perth and Kinross Heritage Trust (PKHT) was undertaken in the form of a Screening Opinion Request. PKHT advised that the Site is archaeologically sensitive, with nearby designated and undesignated assets such as Balvaird Castle and Beins Law hillfort and potential for unknown buried remains. In response, SLR completed a HEDBA to evaluate potential impacts and compliance with policy, reviewed Historic Environment Records (HER) data and recommended archaeological monitoring during construction.

9.3 Study Area

9.3.1 A 1 km Study Area has been used to establish the Site's baseline cultural heritage conditions, to assess known and potential buried archaeological remains, as well as to identify potential impacts upon the setting of designated assets.

9.3.2 All heritage assets identified within the Site and 1 km of the Site are listed in **Appendix E**, Annex A and shown in Figure 1 and 2.

9.4 Baseline

9.4.1 There are no Scheduled Monuments, Listed Buildings, Inventoried Gardens and Designed Landscapes, Inventoried Battlefields or Conservation Areas within the Site.

9.4.2 Within 1 km Study Area there is one Scheduled Monument, namely Balvaird Castle (SM90027), located c.0.34 km to the south of the Site boundary. There are 12 Listed Buildings within the Study Area, of which seven are B Listed and five are C Listed. There are no Conservation Areas, Inventoried Battlefields or Inventoried Gardens and Designed Landscapes within the Study Area.

9.4.3 Historic mapping indicates long-term agricultural use since the 18th and 19th centuries, characterised by rectilinear field patterns and farm steadings, later amalgamated into larger units.

9.5 Setting Assessment

9.5.1 One designated asset was identified within the 1 km Study Area with the potential for the proposal to result in a negative change to aspects of the setting that contribute to the asset's significance, namely Balvaird Castle (SM90027).

9.5.2 Balvaird Castle is a late medieval tower house prominently located on a slope within a rural agricultural landscape, historically positioned to control movement along a key valley route between Fife and Perthshire. The Proposed Development would be partially visible from the castle in views to the north-east, creating a slight modern intrusion, but key views along the valley and towards the castle remain unaffected, resulting in only a minimal impact on its setting. Further detail can be found in **Appendix E**.

9.5.3 The effect of the Proposed Development on Balvaird Castle would be negative, however would comprise only a minimal change to the setting of the asset at most and would form only a minor distraction to the ability to appreciate, understand and experience one facet of one aspect of the asset's setting which contributes to its significance.

9.6 Mitigation

9.6.1 Embedded landscape and visual mitigation measures to counteract the visibility of the Proposed Development from Balvaird Castle include the planting of a screening area of native woodland on the south-western border of the Proposed Development as described in **Appendix C**.

9.7 Summary

9.7.1 This assessment has not identified anything that would preclude development within the Site or result in any significant effects in relation to cultural heritage. The Proposed Development would ensure compliance with the provisions of HEPS (2019) and all relevant national and local planning policy.

10.0 Transport and Access

10.1 Introduction

10.1.1 This section summarises the Proposed Development in relation to construction and operational traffic, assesses the anticipated impact of the Proposed Development on the road network within the local area and sets out the proposed mitigation measures for use at the Site. A Transport Statement has been provided in **Appendix F**.

10.2 Baseline

10.2.1 The Site is bordered on the west by Balvaird Farm, which includes several agricultural and industrial-related buildings. The Site is accessed by Millden Road, a private access track which meets the A912 around 1.4 km to the west. The boundary between PKC area and Fife Council's area crosses the A912 around 510 m to the south of Millden Road.

10.2.2 There are no footways on the A912 as it passes Millden Road, nor are there any on Millden Road. There are no Core Paths crossing the Site, the A912, or Millden Road. The nearest Core Paths are ABNY/26 and ABNY/22 which are around 1.6 km to the east. There are no specific cycling facilities in the vicinity and the A912 does not form part of the National Cycle Network (NCN).

10.3 Access

10.3.1 The existing junction of the A912 and Millden Road can accommodate construction vehicles and there are several existing passing opportunities on Millden Road.

10.4 Construction Effects

10.4.1 A review of the type and volume of vehicles associated with the construction programme has been provided and the peak of construction activities identified. This peak in traffic has been used to anticipate the likely impact that traffic generated by construction activities would have.

10.4.2 Construction of the Proposed Development would generate approximately 67 vehicle movements (of which 13 would be Heavy Goods Vehicles (HGVs)) each working day during the peak of construction, and approximately 30 vehicle movements during the quietest months. There would be an average of 51 vehicle movements (of which 11 would be HGVs) each working day across the entire construction period.

10.4.3 The additional 67 vehicle movements during each working day during the busiest month of the construction period (month 5) would represent an increase of 2.5% over the observed number of vehicle movements on the A912. However, in absolute terms, the increase would mean over nine minutes between each additional vehicle (on average over the working day). Such increases are unlikely to cause noticeable effects on other users of the A912 and the increases during the other months of the construction period would be lower.

10.4.4 Traffic management procedures will be detailed in a Construction Traffic Management Plan (CTMP) which would ensure the safe operation of the approach

route to the Site during construction. This will detail proposed mitigation measures to reduce safety risks and minimise any effects on local residents and the local highway network as a result of construction traffic activities.

10.5 Operational Effects

10.5.1 Traffic associated with the operational phase will be minor in nature and restricted to occasional visits for maintenance, servicing and security reviews. It is anticipated that traffic flows associated with this phase of the development would be no more than a handful of such vehicle movements during any typical week. These vehicles would typically be a Light Goods Vehicle (LGV) or pick-up trucks.

10.5.2 This level of traffic is not considered to be significant and, as such, no further assessment was proposed.

10.6 Summary

10.6.1 Traffic management procedures have been proposed which would ensure the safe operation of the approach route to the Site during construction. Determination of the final details of these traffic management measures will occur once the Principal Contractor has been appointed.

11.0 Hydrology, Geology and Ground Conditions

11.1 Introduction

11.1.1 This section summarises the potential impacts on the water environment, including hydrological and hydrogeological receptors. It presents a summary of the existing baseline conditions, considers potential impacts the Proposed Development may have and details the planned embedded mitigation and good practice measures. Full details can be found in **Appendix G**: **Water Environment Appraisal**.

11.2 Baseline

11.2.1 The Site comprises agricultural land on gently sloping terrain between 140 m and 250 m AOD, underlain by mineral soils (brown soils and minor podzols) with no peat present. No groundwater-dependent terrestrial ecosystems (GWDTE) were identified. Hydrologically, the Site lies within the River Farg and Barroway Burn catchments, with nearby tributaries including Binn Burn and Mill Burn; the River Farg catchment is designated as a Drinking Water Protected Area.

11.2.2 There are no statutory geological or water dependent designated sites within the study area. Priority peatland mapping confirms that the Site is underlain by mineral soils (Class 0) which are not considered to represent peatland habitats.

11.2.3 Four private water supplies (PWS) have been identified within the Study Area.

11.3 Flood Risk and Drainage

11.3.1 A site-specific Flood Risk Assessment (FRA) is included in Annex 1 of **Appendix G**, and confirms that the majority of the Proposed Development is not at risk of flooding for the NPF4 design event of 1 in 200-year plus an allowance for climate change except for some small, isolated areas of surface water flooding.

11.3.2 A surface water management strategy has been proposed to manage potential increase in surface water runoff associated with the BESS compound area. The strategy is in accordance with sustainable drainage principles and allows the Site to remain free of flooding during design storm events, whilst ensuring no increase of flood risk to offsite receptors and ensures no deterioration of the water environment.

11.3.3 It is proposed that surface water runoff from the impermeable areas associated with the proposed BESS is captured, attenuated, and drained via SuDS.

11.3.4 A detention basin is proposed for the BESS, discharging surface water at a restricted rate of 1.0l/s to an overland flow path to a minor tributary of the Binn Burn to the north-east. It is noted that at the detailed design stage, a piped solution may be proposed to discharge the basin to the tributary of the Binn Burn.

11.3.5 The Proposed Development is to be unmanned during normal operation. There is therefore no requirement for a foul water drainage strategy for the Proposed Development.

11.4 Private Water Supply Risk Assessment

11.4.1 A Private Water Supply Risk Assessment has been undertaken, with full details found in Annex 2 of **Appendix G**. Four private water supplies (PWS) have been identified, two of which (Gamekeepers Cottage and Pittuncarty/West Cottage) fall within SEPA's risk buffers and were subject to qualitative assessment. With embedded mitigation, such as maintaining a 100 m buffer, implementing a CEMP, and oversight by an Environmental Clerk of Works (EnvCoW), no significant risk to water quality or quantity was identified.

11.5 Fire Water Management

11.5.1 Provision for fire water containment for the BESS is proposed to be provided by lining the proposed detention basin with a low permeability liner and provision of a penstock/shutoff valve on the outfall which can be used in the unlikely event of a fire to contain firewater in the basin, thus preventing discharge from the Site.

11.6 Summary

11.6.1 Further, good practice measures that would safeguard the water environment have been committed. Subject to the adoption of the good practice construction techniques and the committed further works at the detailed design stage of the project, no effects on hydrology or hydrogeology have been identified.

12.0 Glint and Glare

12.1 Introduction

12.1.1 This section summarises the comprehensive glint and glare (G&G) assessment that was carried out to assess the potential G&G effects arising from the Proposed Development (**Appendix H**).

12.2 Methodology

12.2.1 The assessment utilises GlareGauge software (by ForgeSolar) to identify the impacts on identified receptors by both magnitude and duration of G&G across the year.

12.3 Potential Effects

12.3.1 Among the 51 identified ground-based fixed receptors, 19 are potentially affected by G&G arising from the Proposed Development. Out of these 19 receptors, only one (Observation Point (OP) 2) is expected to experience yellow glare (potential for after image, reflection can occur instantly with some disturbance to vision) whilst the remaining 18 experience green glare (low potential for after image, reflection occurs with lesser strength). The green glare predicted to be experienced by the remaining receptors has considered existing as well as planned screening vegetation. Green glare is a lower intensity than reflections found in windows or bodies of water and does not pose a risk to health or safety. The model has not accounted for topography and assumes unrealistic weather conditions (365 days of sunny clear conditions). As such, under real life conditions, the potential impact on the remaining receptors is considered negligible.

12.3.2 Impacts on OP2 are durational and diurnal/seasonal, with effects occurring in early summer mornings. When considering the intervening topography and unrealistic assumptions related to the Scottish climate, the residual glare effect is expected to be minimal on this receptor.

12.3.3 Out of the three road receptors subject to G&G in the simulation, two are subject to G&G effects. Route 1 (M90) is potentially impacted by green glare for up to 23 minutes per day during morning (5:00 to 6:30) periods of the summer months (mid-March to mid-July and August to mid-September). Route 3 (Leden Urquhart Road) is predicted to experience mostly green glare (6,189 minutes per year) and smaller periods of yellow glare (241 minutes per year). Existing screening measures, intervening topography and conservative modelling assumptions, indicate that these impacts are overstated and unlikely to cause any significant impacts.

12.3.4 It is important to note that due to software limitations, there are several existing screenings such as trees, hedgerows along the sections of these routes that are not accounted for in the assessment. Topographical considerations noted in **Appendix H** for these routes are also not taken into account, meaning real life conditions will be less significant. Due to these factors and the short exposure durations, the G&G impact is negligible and unlikely to pose a risk to health or safety.

12.4 Mitigation

12.4.1 The Landscape Enhancement and Mitigation Plan (LEMP) (Annex D of **Appendix C**) shows the proposed landscaping for the Proposed Development which will provide screening to potential receptors.

12.5 Summary

12.5.1 The G&G assessment identified low potential impacts on fixed receptors and transport routes and provides a conservative assessment of potential glare impacts. As such, the real-world impacts are expected to be lower than reported.

13.0 Noise

13.1 Introduction

13.1.1 This section summarises the potential noise impacts resulting from the Proposed Development. The Noise Impact Assessment (NIA) is included as **Appendix I**.

13.2 Baseline

13.2.1 The NIA identified two representative noise sensitive receptors (NSRs), namely:

- NSR1 – Residential, Milden Road, KY14 7SR
- NSR2 – Residential, Balvaird

13.2.2 The NIA comprised consultation with PKC, characterisation of the baseline noise environment, prediction of operational noise levels during both the daytime and night-time periods and evaluation against BS 4142 and BS 7445 criteria.

13.2.3 A noise survey was undertaken between Friday 13 June 2025 and Wednesday 18 June 2025 at two positions (NMP1, NMP2) at the closest points of the Site to the NSRs. Weather conditions were mainly calm and dry during the survey, and any non-compliant weather periods were omitted from the dataset.

13.3 Potential Effects

Construction

13.3.1 Noise impacts during the construction phase will be limited by the implementation of a CEMP. Compliance with the noise limits will result in construction phase noise effects being not significant.

Operational

13.3.2 The background noise of the baseline environment was assessed against criteria set by PKC and at NMP1/NSR1 a representative daytime background level of 37 dB_{LA90} and a representative night-time level of 30 dB_{LA90} were adopted. At NMP2/NSR2, representative daytime and night-time levels were adopted at 36 dB_{LA90} and 32 dB_{LA90} respectively.

13.3.3 The NIA evaluated the predicted operational noise levels for the Proposed Development and confirmed that they will comply with BS4142 guidance.

- Predicted rating levels are below the BS4142 criteria of background +5 dB at all receptors.
- Predicted rating levels are also substantially below 35 dB, indicating negligible impact regardless of background noise.
- The operation of the facility also meets the PKC criteria for night-time indoor noise limit of noise rating NR20.

13.4 Mitigation

13.4.1 The assessment demonstrates compliance with PKC criteria with no adverse noise effects at the NSRs. Therefore, no mitigation is required.

13.4.2 It is noted that the assessment has been carried out using an indicative plant, and the final selection may differ to what has been assumed in this assessment. As such, prior to construction of the Proposed Development the sounds power levels, number of items and location of the chosen plant will be checked against the assumptions considered in the NIA. Where proposed items of plant are found to be noisier, more numerous or in closer proximity to the NSRs, an updated assessment would be undertaken to ensure that the agreed criteria are met.

13.5 Summary

13.5.1 Overall, it is concluded that there will be no likely significant residual effects arising from the Proposed Development during the construction, operational and maintenance or decommissioning phases.

13.5.2 Cumulative effects at NSRs from the approved or proposed schemes within a 5km search area were considered to be negligible.

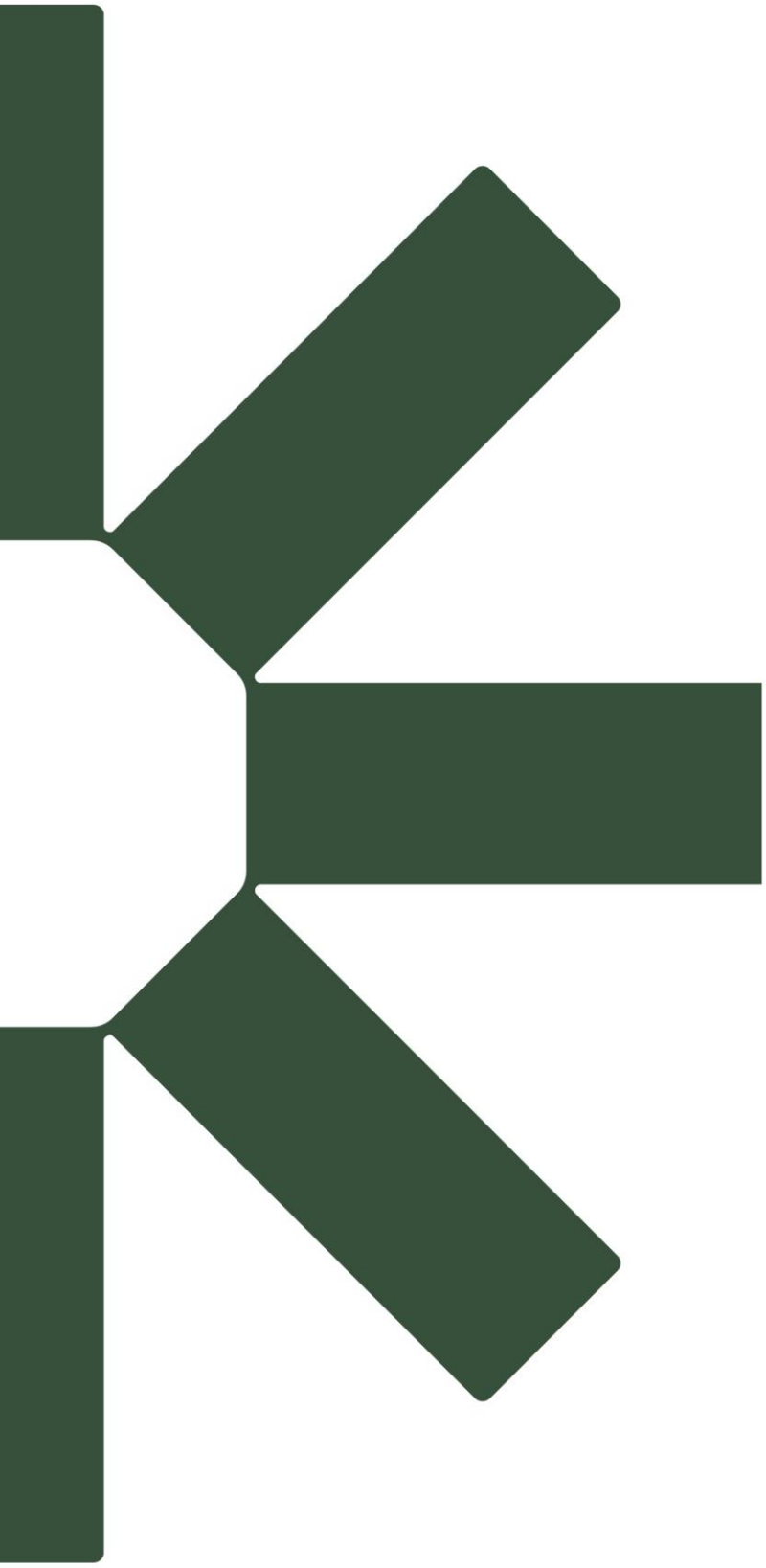
13.5.3 Mitigation during construction will be secured within the CEMP. Mitigation measures for operational noise are not considered necessary.

14.0 Summary of Mitigation and Enhancements

14.1.1 This section contains a summary of the mitigation measures proposed to address any potential effects identified. Enhancement measures proposed are also summarised. Individual technical assessments provided within the appendices to this SEIR should be referred to for full details of the potential effects, mitigation and enhancement measures.

Topic Area	Mitigation	Timing
Proposed Development Design and Construction		
Site Selection, Design and Infrastructure	• The careful and informed siting and design of the Proposed Development embeds a number of mitigation measures: o Avoid impact in respect of noise by keeping BESS location outside of 500 m from any residential receptors; o Locating the solar infrastructure at least 100 m away from neighbouring residential receptors; o Located away from sensitive environmental, heritage and landscape receptors; o Utilising good connection to the local road network to allow for easy vehicular access via the A912; o Utilising an existing access junction already purposed for Heavy Goods Vehicles (HGVs); o Utilising existing on-site tracks and access points as far as practical to minimise loss of habitat; o Maintaining hedgerows and trees within and surrounding the Proposed Development boundary; o Avoids areas of high-risk flooding; and o Respecting buffer zones around private water supplies and watercourses.	Pre-application (design)
Construction Environmental Management Plan (CEMP)	• The Contractor responsible for undertaking the construction of the Proposed Development shall adhere to a CEMP. The CEMP will be drafted and agreed prior to commencement of construction and shall be amended and updated as required throughout the construction period. • A CEMP will be prepared prior to the commencement of construction and will detail measures undertaken to avoid or mitigate any potential effects associated with key construction activities.	Pre-construction
Construction Hours	• The construction hours for the Proposed Development will be: o Monday – Friday: 07.00 to 18.00 o Saturdays – 08.00 to 13.00 • No working is proposed on Sundays or public holidays. It should be notes that out of necessity some activities may occur out of the specified hours stated. These activities would not be undertaken without prior approval from Perth and Kinross Council (PKC).	Construction
Landscape and Visual		
Proposed Development Design	• The private and DNO substations are the tallest elements of the Proposed Development at 2.7 m high. These are located at the BESS compound within the north-west corner of the Site, adjacent to woodland which provides a suitable backdrop to views from the south and screening of views from the north. • Buildings, structures, and palisade fencing would be finished in a recessive colour (RAL 6003 Olive Green, or similar approved) to assist with blending into the natural landscape.	Construction & Operation
Landscape Planting	• Suitable species-rich seeding is proposed within the array and BESS site. This would boost species within the Site and be of benefit to the wider area. Ground preparation and sowing would be undertaken at the first available season and would establish thereafter through appropriate maintenance and reduced livestock grazing.	Post-construction / operation
Ecology		
Biodiversity Enhancement Management Plan	• Replace the loss of approximately 10.61 ha of species poor grassland (g4) and 1.12 ha of arable land (c1) with enhancement of existing grassland, planting of more species diverse grassland on existing arable land, hedgerow planting and mixed woodland/scrub planting. • The proposed tree and hedgerow planting will all take place on Site, retaining and extending the existing areas on Site. These will also serve to link existing blocks of woodland present within the wider landscape and to areas of grassland/woodland creation. • The plan for mixed woodland, individual tree and hedgerow planting has been integrated with the landscape plan to provide natural screening that fits with the character of the local area and provides benefits for biodiversity. This will require a mix of native broadleaved tree and scrub species to enhance the woodland/hedgerow biodiversity.	Post-construction / operation
Ecological Clerk of Work	• The Applicant would appoint a suitably qualified ECoW prior to the commencement of any construction activities. The ECoW would be present on a regular basis to oversee Site clearance and construction activities, provide toolbox talks to Site personnel with regards to protected/ priority species and habitats, and undertake monitoring works, as appropriate.	Construction
Species Protection Plan	• The SPP will detail measures to safeguard protected species known to be in the area and will include pre-construction surveys (complimenting the seasonality of the construction start date), as well as ensuring the use of best practice measures to minimise ecological impact during all construction activities (such as sensitive lighting, sensitively timed vegetation clearance or phased clearance, ramps exiting open excavations, consideration of key foraging areas, etc.); • The SPP will describe the process to be followed in the case that new protected or notable species are recorded on site that will therefore also need to be protected during construction works, as well ensuring the implementation of effective toolbox talks to raise awareness of site personnel to sensitive ecological receptors on site; and,	Construction

Topic Area	Mitigation	Timing
	• The SPP will ensure that working methods shall be adopted to minimise the chance of protected species being killed or injured during construction works. A ECoW shall be present during Site clearance works.	
Watercourse Pollution	• The CEMP would include provision of a Pollution Prevention Plan and Incident Response Plan and would be agreed with the Scottish Environment Protection Agency and Perth and Kinross Council prior to construction	Pre-construction
Archaeology and Cultural Heritage		
Archaeology	• Planting of a screening area of native woodland on the south-western border of the Proposed Development as described in **Appendix C**.	Post-construction
Transport and Access		
Construction Traffic Management Plan (CTMP)	• Implementation of a CTMP would ensure construction vehicles would be routed as agreed by PKC.	Construction
Hydrology, Geology and Ground Conditions		
Construction Phase Drainage & Water Management	• Implementation of a CEMP will provide mitigation for the management of sediment, excavation, concrete works, and chemicals, oils and fuels in line with guidance and good practice measures.	Construction
Sustainable Drainage Systems	• A Drainage Strategy has been prepared, including provision of sustainable drainage principles to manage surface water runoff from the development in terms of quantity and quality. The SuDS will ensure no increase in flood risk to off-site receptors as well as meeting the water quality criteria set out in the SuDS Manual.	Operation
Firewater Management Plan	• Implementation of the FWMP, which has been developed in adherence with NFCC guidance, would ensure firewater runoff would be controlled, managed and contained on-site should an incident occur.	Operation
Private Water Supplies	• Monitoring of PWS is recommended to confirm the embedded mitigation included is effective.	Construction and Operation
Glint and Glare		
Embedded Mitigation	• Existing screening measures, such as trees, hedgerows, have been incorporated into the simulation. Several areas of vegetation have been proposed. These proposed screenings include either native woodland of 3 m height and hedgerow of 1.5 m to fill gaps around the Site boundary.	Operation
Noise		
Siting and Design	• The assessment has demonstrated that the Proposed Development will meet the PKC criteria, therefore no additional mitigation is proposed.	Operation
Construction Noise	• The assessment has demonstrated that the Proposed Development will meet the PKC criteria, therefore no additional mitigation is proposed.	Construction
Battery and Fire Safety		
Battery Safety Management Plan (BSMP)	• An BSMP will be produced prior to operation of the Proposed Development which will build upon the OBSMP (**Appendix B**) and reflect the maturity of the project and availability of detailed information and evidence to support safety claims.	Pre-operation



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