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# **Volume 1 - Non-Technical Summary**

# **Cossans Solar & BESS EIA Report**

### **TRIO POWER Limited**

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# Acronyms and Abbreviations

BEMP	Biodiversity Enhancement and Management Plan	
BESS	Battery Energy Storage System	
CEMP	Construction Environmental Management Plan	
EIA	Environmental Impact Assessment	
GDL	Garden and Designed Landscape	
GWh	Gigawatt hours	
LVIA	Landscape and Visual Impact Assessment	
MW	Megawatt	
MWp	Megawatt peak	
NTS	Non-Technical Summary	
PV	Photovoltaic	

#### 1. Purpose of the EIA Report

- 1.1 The Cossans Solar and Battery Energy Storage System (BESS) project is being proposed by TRIO POWER Limited and is located near Forfar in Angus. The development comprises a 49.9 megawatt (MW) solar photovoltaic (PV) array and a 35MW BESS, designed to generate and store renewable electricity, contributing to Scotland's transition to net zero.
- 1.2 The application is supported by an Environmental Impact Assessment (EIA) Report prepared in line with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. This Non-Technical Summary (NTS) provides an accessible overview of the key findings of that assessment.
- 1.3 The Site covers approximately 87 hectares across two land parcels and is currently in agricultural use. The solar array and supporting infrastructure will be installed to ensure minimal environmental impact, with decommissioning planned after a 42-year operational life.
- 1.4 The project is expected to generate approximately 62.5 gigawatt hours (GWh) of electricity per year. This is equivalent to the annual consumption of around 23,000 average Scottish homes. A co-located BESS will enable energy to be stored and supplied when most needed, improving the resilience of the grid and supporting renewable integration.
- 1.5 The EIA identifies the likely environmental effects from construction, operation, and decommissioning, and proposes mitigation to reduce or avoid impacts. The findings demonstrate that, with mitigation in place, the Proposed Development is not predicted to result in significant adverse effects on the environment.

#### 2. Site Selection and Design Evolution

- 2.1 The Site at Cossans was identified as a suitable location for a solar and battery energy storage project following feasibility studies and engagement with landowners. A range of environmental, technical and planning considerations were assessed, including landscape sensitivity, proximity to dwellings, grid connection potential, topography, and existing infrastructure. The Site comprises approximately 87 hectares of primarily agricultural land, located west of Forfar.
- 2.2 The design of the project followed an iterative approach informed by detailed environmental surveys, consultation with stakeholders, and community engagement. The goal was to balance optimal energy generation with minimising potential environmental and visual effects.
- 2.3 The layout of the Proposed Development evolved as follows:

Layout 1 (August 2024):

2.4 An initial layout (Figure 2.1 of Volume 2a of the EIA Report) that aimed to maximise energy generation while considering known ecological and infrastructure constraints.

Layout 2 (January 2025):

2.5 Refined to reduce potential effects on flood-prone areas, nearby residential properties, and sensitive habitats. This included relocating the BESS, adjusting panel heights to account for drainage, and introducing buffers for ecological protection and visual screening (Figure 2.2 of Volume 2a of the EIA Report).

Layout 3 (March 2025):

- 2.6 In response to consultation feedback, particularly regarding visual impact, the BESS was relocated away from a ridgeline to reduce visibility. This change also improved landscape integration.
- 2.7 Access arrangements were also reviewed. Although a southern route via the A94 was considered, it was ruled out due to environmental constraints. The preferred access is via an unclassified road at Nether Drumgley, which avoids impacts to designated conservation areas and offers suitable infrastructure for construction and operational vehicles.
- 2.8 This iterative design process has helped ensure the final layout (Figure 2.3 of Volume 2a of the EIA Report) responds sensitively to both the site context and environmental considerations.

#### 3. **Proposed Development Description**

- 3.1 The Proposed Development comprises a 49.9 MW ground-mounted solar photovoltaic (PV) array and a co-located 35 MW Battery Energy Storage System (BESS), situated approximately 1.7 kilometres west of Forfar in Angus (Figure 1.1 of Volume 2a of the EIA Report).
- 3.2 The site covers two main land parcels and is currently in agricultural use. It is mostly flat with gently rising land to the west and is bordered by woodland and mature hedgerows in places. Ballindarg Burn crosses the site, and access is provided via an unclassified road at Nether Drumgley. The final layout (Figure 2.3 of Volume 2a of the EIA Report) was developed to minimise environmental and visual impacts, and avoid sensitive features.
- 3.3 The PV array will consist of rows of panels mounted on frames fixed into the ground using steel piles. These rows will be spaced to allow access and avoid shading, with panels reaching a maximum height of 2.87 metres above ground. Inverters and transformers will convert the electricity generated for export to the local network.
- 3.4 The BESS will be housed in containerised units within a secure compound and will allow electricity generated during the day to be stored and discharged when demand is higher. Additional infrastructure includes a substation, customer compound, spares and communications buildings, access tracks, fencing, and CCTV.
- 3.5 Construction is expected to take 8 to 12 months and will include the installation of access roads, security fencing, cable trenches, solar mounting frames, and electrical infrastructure. A Construction Environmental Management Plan (CEMP) will be implemented to minimise impacts such as noise, dust, and pollution.
- 3.6 Once operational, the solar and BESS installations will require limited maintenance and is expected to operate for an estimated 42 years. At the end of this period, the site will be fully decommissioned and restored to agricultural use. A detailed Decommissioning and Restoration Plan will be agreed with Angus Council before construction begins.
- 3.7 The development has been designed to connect to the electricity network via Lunanhead substation. The grid connection works are not part of this application and will be consented separately.
- 3.8 The project has also considered potential cumulative impacts with other solar and storage developments in the area. These have been assessed within the Environmental Impact Assessment where appropriate.

#### 4. Environmental Impact Assessment

- 4.1 The EIA process for the Cossans Solar and BESS project has been carried out in line with relevant legislation, guidance and best practice. Its purpose is to identify potential environmental effects from the development and to propose measures to avoid, reduce or mitigate them. The EIA also supports informed decision-making by the Energy Consents Unit and other stakeholders.
- 4.2 The Proposed Development qualifies as a 'Schedule 2' development under the EIA Regulations. Although a formal scoping process was not undertaken, all relevant environmental topics were voluntarily scoped into the assessment to ensure a robust and transparent process.
- 4.3 The assessment considered the construction, operation and decommissioning phases, as well as the likely evolution of the environment if the project does not proceed. Each environmental topic was assessed for potential impacts, both in isolation and cumulatively with other nearby developments. Where necessary, mitigation was identified and incorporated into the project design or management plans.
- 4.4 Topics assessed include landscape and visual effects, ecology and biodiversity, noise, traffic and access, cultural heritage, glint and glare, and flood risk and transport. Consultation with stakeholders and the public helped shape the final design, and a separate report details the consultation process.
- 4.5 The EIA was supported by a team of qualified experts, with assessment methods tailored to each topic. Baseline surveys were carried out from 2024 into early 2025, and professional judgement was used to account for uncertainties and assumptions.
- 4.6 The results of the assessment are presented in the EIA Report, and this Non-Technical Summary provides a concise overview of the findings.

#### 5. Landscape and Visual

- 5.1 A Landscape and Visual Impact Assessment (LVIA) has been undertaken to assess how the Cossans Solar and BESS project may affect the surrounding landscape and views. This included consideration of both landscape character and visual amenity, using recognised guidance and consultation with Angus Council.
- 5.2 The site is located in a gently rolling rural landscape west of Forfar, with open farmland, minor roads, and scattered trees. It lies adjacent to the Glamis Castle Garden and Designed Landscape and within the Broad Valley Lowlands character type.
- 5.3 The assessment found that landscape effects would generally be limited to the immediate area around the site. Although the introduction of new infrastructure would result in a localised change in land use, mitigation planting has been designed to screen views, strengthen landscape structure and enhance biodiversity. In the long term, this planting will help integrate the development into its setting.
- 5.4 Visual effects are predicted to be greatest for properties and public footpaths closest to the Site. Notably, Core Path 272, which passes through and alongside the development, will experience significant visual change, although this will be reduced over time as planting matures. Some nearby residents, such as at Haughs of Cossans and parts of Drumgley, will also experience significant effects in the early years, which are expected to reduce as mitigation takes effect.
- 5.5 Views from more distant locations, including Forfar, the A90, and surrounding hills, will be limited due to distance, topography and existing vegetation. The project will not result in significant effects on designated landscapes or views from settlements like Kirriemuir, Glamis or Westmuir.
- 5.6 Cumulative effects from other local solar schemes have been considered and are not expected to be significant. Overall, the Proposed Development is considered to result in moderate, localised impacts on landscape and visual amenity, which reduce to minor or negligible with mitigation in the long term.

#### 6. Ecology and Ornithology

- 6.1 An assessment of the potential ecological and ornithological effects of the Cossans Solar and BESS project was carried out through a combination of desktop study, field surveys, and consultation with key stakeholders. The study area included the development site and its surroundings, focusing on habitats, protected species, and designated nature conservation sites.
- 6.2 The majority of the site is intensively managed arable land with limited ecological value. However, areas of higher value include Ballindarg Burn, woodland along the western boundary, and scattered mature trees. These features provide habitat for protected species such as bats, otter, badger, beaver, and various bird species.
- 6.3 Surveys confirmed the likely presence of a range of species including foraging bats, breeding birds, otters with a natal holt, and beavers using watercourses on Site. Some features, such as water voles and great crested newts, were likely absent. The site also supports bird species of conservation concern, including breeding lapwing, curlew and oystercatcher, as well as farmland birds like yellowhammer and skylark.
- 6.4 Embedded design and mitigation measures have been included from the outset. These include ecological buffers around watercourses, woodland and sensitive features, and implementation of a Construction Environmental Management Plan (CEMP). A Biodiversity Enhancement and Management Plan (BEMP) will be delivered, with habitat creation including species-rich meadows, hedgerows and wetland features to support biodiversity.
- 6.5 No significant adverse ecological effects are predicted. The only receptors taken forward for detailed assessment were certain designated Special Protected Areas and Ramsar sites due to their potential use by wintering geese and swans, and specific breeding waders on site. Even for these, the effects during construction and operation were assessed as minor or negligible, and not significant under EIA Regulations.
- 6.6 Cumulatively, the project is not expected to contribute to significant ecological impacts when considered alongside other solar developments in the area. With enhancement measures in place, a long-term net gain for biodiversity is anticipated.

#### 7. Hydrology and Flood Risk

- 7.1 An assessment has been carried out to understand the potential effects of the Proposed Development on water resources and flood risk. This included a review of surface water and groundwater features, flood risk mapping, and detailed flood modelling. Key watercourses in the area include the Ballindarg Burn, which runs through the centre of the site, and the Dean Water, located approximately 50 metres to the south. Both are part of the wider River Tay catchment, with the River Tay Special Area of Conservation located downstream.
- 7.2 The site has been assessed as having a low to high risk of flooding from fluvial sources, primarily in central and southern parts of the site. Other sources of flooding, such as groundwater, surface water, and sewer-related flooding, present a low or negligible risk. These conclusions are based on national flood data and supported by a detailed hydraulic model developed specifically for the project.
- 7.3 The development includes a Flood Mitigation Design and Drainage Strategy to manage surface water during operation. All sensitive infrastructure will be located outside of flood-prone areas, and solar panels will be elevated to stay above projected flood levels, even when accounting for future climate change. A Firewater Management Plan is also in place for the BESS, ensuring that any potential runoff during emergency situations is safely managed.
- 7.4 During construction, good practice mitigation will be delivered through a CEMP, which will address potential risks to watercourses, including sediment runoff, pollutants, and excavation impacts. Similar protections will remain in place during decommissioning.
- 7.5 With these embedded measures, the development is not expected to significantly affect local hydrology, groundwater or flood risk. The assessment concludes that effects will be negligible or minor and not significant in EIA terms. No cumulative effects are predicted.

#### 8. Cultural Heritage

- 8.1 An assessment has been undertaken to identify potential effects of the Proposed Development on cultural heritage, including archaeological remains, listed buildings, and designed landscapes. The study considered designated and non-designated heritage assets within and around the site, including potential changes to the setting of those assets.
- 8.2 The surrounding area contains a rich heritage, including St Orland's Stone, a Pictish Scheduled Monument located approximately 200 metres north of the site. Other notable assets include Haughs of Cossans Farmhouse (Category C Listed) and the Glamis Castle Garden and Designed Landscape (GDL), which borders the site to the west.
- 8.3 The assessment identified ten non-designated heritage assets within the site, including the remains of the former Sodha Cottages, historic ponds and pits, and cropmark features. The potential for unknown buried remains to be present is also recognised, particularly from the prehistoric, medieval, and post-medieval periods.
- 8.4 During construction, there is potential for direct impacts on known and unknown archaeological features. A moderate level of effect is predicted for two non-designated assets: cropmarks near Haughs of Cossans and the site of the Sodha Cottages. Minor effects are anticipated on other features such as historic ponds and a former clay pit. An archaeological programme of investigation will be agreed with Angus Council to mitigate these effects.
- 8.5 During operation, the main effects relate to potential changes to the setting of heritage assets. A moderate level of effect is predicted for both St Orland's Stone and Haughs of Cossans Farmhouse. However, the integrity of these settings will be retained, and the assets will continue to be appreciated and understood. A minor effect is predicted on the Glamis Castle GDL due to distant views of the development, but no effects are predicted on the castle itself.
- 8.6 Cumulative effects have been assessed and are not considered significant. Mitigation measures include embedded design changes and a commitment to archaeological recording and interpretation. Information boards along public footpaths are also proposed to raise awareness of the site's heritage value.

#### 9. Noise

- 9.1 A noise assessment was carried out to determine whether the Proposed Development would cause significant noise impacts at nearby residential properties. The study considered the operational phase of the solar and BESS, with construction and decommissioning assessed more generally under best practice guidance.
- 9.2 Baseline noise levels were measured at four locations around the site. The area was found to be generally quiet, with low background noise levels typical of a rural setting.
- 9.3 Operational noise would come mainly from the BESS, as the solar array uses inline inverters that emit minimal sound. A detailed noise model was developed using conservative assumptions about the type of equipment to be installed. The model predicted noise levels at the nearest homes would remain well below thresholds considered to cause disturbance, both during the day and at night.
- 9.4 The assessment followed the BS4142 standard, which compares predicted noise against background levels. In all cases, predicted noise levels were at least 2 to 18 decibels below background levels, meaning the impact is classified as low and not significant.
- 9.5 Because the predicted operational noise levels are so low, no further mitigation is required. However, good practice noise management will be secured through a CEMP during both the construction and decommissioning phases.
- 9.6 No cumulative effects with other developments were identified, and the assessment concludes that noise from the development will not have any significant effect on nearby residents or sensitive locations.

#### 10. Traffic & Access

- 10.1 An assessment of the potential effects of the Cossans Solar and BESS project on transport and access was undertaken, focusing on the local road network between the Site and the A90 trunk road, including Drumgley Road and the A94.
- 10.2 Construction traffic will access the Site via an existing private road connected to Drumgley Road at Nether Drumgley. This route was selected to minimise environmental impact and ensure suitability for Heavy Goods Vehicles (HGVs), avoiding sensitive crossings such as the Dean Water.
- 10.3 Construction is expected to last 8–12 months. While vehicle movements will temporarily increase, the daily rise in traffic is predicted to be minimal, and no significant effects are expected on road capacity, safety, or local amenity.
- 10.4 Once operational, the development will generate very low traffic volumes—typically one vehicle per week for routine maintenance—resulting in negligible impacts on the road network.
- 10.5 A Construction Traffic Management Plan (CTMP) will be implemented to manage traffic, ensure safety, and upgrade passing places as required. A bridge assessment over Dean Water will be carried out before works commence.
- 10.6 Consultation with Angus Council confirmed the access strategy and identified measures to mitigate construction impacts.
- 10.7 No significant residual or cumulative effects are predicted in relation to transport or access, and the development is considered compatible with the local road infrastructure.

#### 11. Glint and Glare

- 11.1 A glint and glare assessment was carried out to evaluate potential effects from sunlight reflecting off the solar panels during the operation of the Proposed Development. This considered impacts on surrounding homes, roads, and aviation receptors.
- 11.2 The assessment used detailed simulation modelling and included 26 residential locations (observation points) and two road routes, including the A90. No aviation receptors fall within 2 km of the site.
- 11.3 Of the 26 residential observation points, only 17 may experience any glare. All but one of these are predicted to experience low-level glare for short durations, primarily in the early morning or late afternoon between spring and summer. These are considered negligible and not significant.
- 11.4 One property, owned by a financially involved landowner, may experience moderate-level glare around sunrise and sunset between March and September. However, the effects are brief, worst-case modelling assumptions are used, and additional planting is planned to reduce any impacts further. As such, this effect is not considered significant in planning terms.
- 11.5 Along the A90, low-level glare could occur in spring for a few minutes during the evening. Due to distance, low intensity, and brief duration, no impact to road safety is expected, and no further mitigation is required.
- 11.6 Mitigation has been incorporated into the site design through the Indicative Landscape Plan, which includes tree and hedge planting to screen views. No additional mitigation is necessary.
- 11.7 Cumulative effects from other nearby solar farms have also been considered and are not expected to result in any significant combined impacts.