EIA Report: Non-Technical Summary

Kirknewton Solar & BESS

Trio Power Limited

UK House
5th Floor
164-182 Oxford Street
London
W1D1NN

Prepared by:

SLR Consulting Limited

The Tun, 4 Jackson's Entry, Edinburgh, EH8 8PJ

SLR Project No.: 405.065786.00001

11 December 2025

Revision: 2.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	14 November 2025	L Gray	S Cockell	G Spowage
2.0	11 December 2025	L Gray	S Cockell	G Spowage

Basis of Report

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Acronyms and Abbreviations

BEMP	Biodiversity Enhancement Management Plan
BESS	Battery Energy Storage System
CEMP	Construction Environmental Management Plan
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
ha	Hectares
km	kilometres
m	metres
MW	Megawatt
GWh	Gigawatt hours
HRA	Shadow Habitats Regulations Appraisal
NTS	Non-Technical Summary
PAC	Pre-Application Consultation
PV	photovoltaic
SPA	Special Protection Area
SPP	Species Protection Plan
SuDS	Sustainable Drainage System
WLC	West Lothian Council

1.0 Introduction

1.1 The Kirknewton Solar and Battery Energy Storage System (BESS) project is being proposed by Trio Power Limited and is located on land near the village of Kirknewton in West Lothian (the Site). The development comprises a solar photovoltaic (PV) array with an export capacity of up to 40 Megawatts (MW) and a BESS with an export capacity of up to 9 MW (the Proposed Development), designed to generate and store electricity, contributing to Scotland's net zero transition.

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 76 hectares (ha) across two parcels of land and is currently used for arable farming and sheep grazing. The Proposed Development has been designed to ensure minimal environmental impact, with decommissioning planned after a period of up to 40 years.

1.4 The project is expected to generate approximately 43.3 gigawatt hours (GWh) of electricity per year. This is equivalent to the annual consumption of around 12,500 average Scottish homes. A co-located BESS will enable energy to be stored during periods of low demand or high generation and be released during periods of high demand or low generation, 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 unacceptably adverse effects on the environment.

2.0 Site Selection and Design Evolution

2.1 The Site at Kirknewton was identified as a suitable location for a solar PV and BESS project following feasibility studies and engagement with landowners. A range of environmental, technical and planning considerations were assessed. These included proximity to dwellings, grid connection, environmental designations, topography, flood risk and traffic access.

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 the minimisation of potential environmental and visual effects.

2.3 The layout of the Proposed Development evolved as follows:

Layout 1 (Preliminary Layout – May 2025)

2.4 An initial layout (**Figure 1**) that aimed to maximise energy generation with maximum coverage of the Site with solar PV panels and taking into account known constraints.

Layout 2 (Design Chill – July 2025)

2.5 This layout (**Figure 2**) was shaped by input from a design workshop, ongoing surveys and feedback gathered during community engagement events. It had fewer solar panels and introduced buffers for a Scottish Water mains pipe, ancient woodland and protected species. The BESS was moved slightly to the north to flatter ground.

Layout 3 (Design Freeze – September 2025)

2.6 Layout 3 (**Figure 3**) was informed by ongoing survey work and design input. A sustainable drainage system (SuDS) pond was added to the north of the BESS and the buffer around the Scottish Water mains pipeline was increased to 10 metres (m).

Layout 4 (Design Freeze Update – October 2025)

2.7 Layout 4 (**Figure 4**) had minor changes related to the SuDS pipeline route, the number of battery containers in the BESS was reduced, and the buffer between the housing at Newlands and the solar panels was increased to 100 m to allow for additional woodland planting.

2.8 This iterative process has helped ensure the final layout of the Proposed Development responds sensitively to both the Site context and environmental considerations.

3.0 Proposed Development Description

3.1 The Proposed Development comprises a 40 MW ground-mounted, solar PV array and a co-located 9 MW BESS, situated approximately 1.5 kilometres (km) south of Kirknewton in West Lothian (**Figure 5**).

3.2 The Site covers two land parcels and is currently used for agricultural purposes including both arable and grazing. It is mostly gently sloping to the north and is bordered by woodland and mature single trees. The Green Burn transects the Site.

3.3 The PV array will consist of rows of panels fixed into the ground using steel piles and mounted upon a prefabricated alloy metal frame. These rows will be spaced to allow access and avoid shading, with panels reaching a maximum height of 2.7 m above ground (**Figure 6**). 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 to be stored and discharged at times of high demand or low generation (**Figure 7**). Additional infrastructure includes a substation, customer compound, spares and communications building, 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 noise, dust and pollution. Construction is anticipated to start in 2029 with an expected grid connection from 2030.

3.6 Once operational, the solar and BESS installations will require limited maintenance and are expected to operate for up to 40 years. At the end of this period, the site will be fully decommissioned and restored to agricultural use (unless an extension is consented). A detailed 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.

3.7 The development has been designed to connect to the electricity network via underground cable to the upgraded Currie 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 EIA where appropriate.

4.0 Environmental Impact Assessment

4.1 The Environmental Impact Assessment (EIA) process for the Kirknewton 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 arising from the construction and operation of the development while proposing measures to avoid, reduce or mitigate them. The EIA also supports informed decision making by the key stakeholders involved.

4.2 Consultation was undertaken with West Lothian Council (WLC) to agree which technical topics should be assessed as part of the EIA process and which could be 'scoped-out', thus ensuring a robust and transparent process.

4.3 The EIA considered the construction, operation and decommissioning phases, as well as the likely evolution of the environment if the project does not proceed. Each 'scoped-in' 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 as part of the EIA include landscape and visual effects as well as ecology and ornithology. All other topics were addressed within technical reports provided as appendices to the EIA Report.

4.5 Consultation with stakeholders and the public helped shape the final design, and a separate Pre-Application Consultation (PAC) Report details the consultation process.

4.6 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 2025, and professional judgement was used to account for uncertainties and assumptions.

4.7 The results of the assessments are presented in the EIA Report, and this Non-Technical Summary provides a concise overview of the findings.

5.0 Ecology and Ornithology

5.1 An assessment of the ecological, ornithological and nature conservation effects arising from the Kirknewton Solar and BESS project was carried out through a combination of desktop study, field surveys, and consultation with key stakeholders.

5.2 Statutory and non-statutory sites for nature conservation are present within 10 km of the Proposed Development, and 20 km in the context of Special Protection Areas (SPAs) with geese and / or swan populations. This includes potential connectivity of foraging resources associated with Westwater and Firth of Forth SPA / Ramsar sites, local biodiversity sites and ancient woodland.

5.3 The Site largely consists of arable fields and modified grassland and is bordered by hedgerows, broadleaved, mixed and coniferous woodland. Evidence of protected species was recorded across the Study Area, including evidence of badger, bats, otter, hare, and breeding birds. In addition, there is suitable habitat for reptiles, amphibians and wintering birds.

5.4 Without appropriate safeguards and control measures put in place, potential impacts associated with the construction phase include: habitat loss and / or fragmentation, potential disturbance, injury or death to protected species, and construction related pollution impacts.

5.5 If the Proposed Development is not properly designed and maintained, potential impacts associated with the operational phase include: disturbance due to vegetation management required for routine infrastructure maintenance , displacement of species due to loss of habitat and displacement due to glint and glare from panels.

5.6 The Proposed Development has been designed to avoid and minimise impacts on important habitats and protected species. This has been achieved through an iterative design process and commitment to embedded mitigation. This process is combined with further commitments to the implementation of mitigation measures both prior to construction and throughout the construction period.

5.7 The impact assessment concluded that following the successful implementation of mitigation measures, guided by the development of Species Protection Plans (SPPs), a Biodiversity Enhancement Management Plan (BEMP), and a Construction Environmental Management Plan (CEMP), there will be no significant adverse effects on important species or habitats, either alone or in combination with other developments. Successful implementation of mitigation measures including those included as part of the BEMP will be assessed by operational monitoring.

5.8 A detailed assessment of the impacts on the qualifying features of the Westwater and Firth of Forth SPA / Ramsar sites has been undertaken in a Shadow Habitats Regulations Appraisal (HRA) for the Proposed Development to meet the requirements of the Conservation of Habitats and Species Regulations (the 2017 Habitat and Species Regulations).

5.9 The detailed assessment found that no mitigation measures are required as there is no risk of undermining the conservation objectives of any qualifying interest of any European/ Ramsar sites.

6.0 Landscape and Visual

6.1 The Proposed Development has been the subject of a Landscape & Visual Impact Assessment to identify the potential effects on the landscape, and the views experienced by people who live in, travel through, and visit the local area. The assessment was undertaken in accordance with recognised guidance, and consultation with West Lothian Council.

6.2 The Site is located in gently sloping arable farmland, which is bordered in the east by woodland and established shelterbelts. The Proposed Development would introduce a solar array, battery storage and associated infrastructure to the Site, as well as landscape planting to assist with screening and to improve habitats. This includes new areas of native woodland (0.75 ha), trees (72 no), hedgerows (770 m) and species-rich grassland (71.87 ha). The Site would continue to be used for sheep grazing alongside the solar panels.

6.3 In terms of landscape change, the main effects resulting from the introduction of the Proposed Development would be localised and predominantly restricted to the Site. In addition, the perception of landscape change would only be evident locally from limited areas to the north (within 1 km), and remote upland areas, such as Corston Hill to the west. The character of the wider landscape would not be significantly changed. This is due to the relatively low-lying nature of the development, and the screening influence of existing woodland in combination with the proposed planting, which would help integrate the development into its setting.

6.4 The Site is not located within a designated landscape (a landscape that has been recognised for its outstanding beauty or uniqueness). There are designated landscape areas within the wider surroundings, namely the Special Landscape Areas of the Pentland Hills, Almond & Linhouse Valleys, and the Ratho Hills. However, due to their spatial separation from the Site and extent of intervening screening, the special qualities of these designations would not be significantly altered by the Proposed Development.

6.5 Visual effects would also be restricted through the Site location, which is spatially separated from residential settlements, and partly contained by surrounding woodland and tree cover. The most notable effects would be experienced by residents at nos. 29 and 31 Newlands to the south-east, Leyden Farm Cottages (nos. 1, 2, 3, & 4) to the west, and Burnbrae to the north. The effects would steadily reduce over time in accordance with the establishment of proposed planting measures within the Site.

6.6 There would be no significant adverse effects on views from recreational paths, cycleways, or attractions, or from main transport routes. The clearest views would be experienced from Leyden Road (which intersects the Site), most notably when travelling south in the vicinity of Selm Muir Wood.

6.7 Potential cumulative effects in combination with other developments have also been considered. The Proposed Development would augment the presence of the existing Ormiston Farm Wind Turbine and consented Selms Muir Solar Farm within the local landscape to the north-west. However, the combined effect of the Proposed Development with these schemes would be restricted by the presence of intervening woodland and tree cover. As such, cumulative effects would be localised and limited to travellers on Leyden Road. The Proposed Development, in combination with consented and existing energy infrastructure, would not result in

a notable alteration to wider landscape character or to people's visual perception of this agricultural landscape.

7.0 Summary of Mitigation

7.1 Mitigation and enhancement measures for the construction and operation of the Proposed Development are set out in each technical chapter and relevant technical appendices and presented in Chapter 7 of the EIA Report. A short summary of the proposed mitigation is provided here:

- 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;
- Appointment of an Ecological Clerk of Works (ECoW);
- Preconstruction ecological surveys;
- Delivery of Species Protection Plan(s);
- Delivery of a Biodiversity Enhancement and Management Plan;
- Implementation of best practice measures for construction traffic including measures to reduce the risk of dust, mud or other debris being deposited on the public road; and
- Delivery of a Landscape Enhancement and Mitigation Plan and a Landscape Management Plan.

8.0 Next Steps

8.1 The Applicant recognises the need to present the findings of the EIA Report as a matter of public record and in the interests of public engagement and transparency has sought to make the EIA Report available in digital format at the following web address:

https://www.blcenergy.com/projects/kirknewton

8.2 Digital copies of complete application submissions are available at a charge on a datastick. Hard copies of the application documents may be obtained at a reasonable charge reflecting the cost of making the application(s) available.

8.3 To request a copy of the application submission please contact:

c/o Neil Lindsay
Trio Power Limited
Mullion House
Enterprise Park
Maidenplain Place
Aberuthven
PH3 1EL
email: info@blcenergy.com

8.4 All application documents can also be viewed online at West Lothian Council's planning portal:

https://planning.westlothian.gov.uk/publicaccess/

Figures

309000 310000 311000 312000

666000 665000 664000

LEGEND

Site Boundary

N

Ormiston Farm Steadings
Quarry (dis)
Lawheads
Cockmylane
Middle Strip
Jubilee Wood
Betty's Fauld
Wester Strip
Greenburn Wood
Whitemoss
Greenburn
Overton Wood
Cockit Hat
Leyden Road
Latch Farm Cottages
Resr
Burnbrae
Gogar Bridge
Newlands
B7031
Edgehead Wood
Quarry (dis)
Fox Covert
Belstane Farm
Heatherlands
Weir
Resr
Spr
Belstane Farm (South)
Leyden Old House
Gogar Burn
Leithbank House
Belstane
Spr
Quarry (dis)
Spr
FB
House-o

65 66 64

0 0.5 1 Kilometres

vingston A899 A71 mbrae

trio

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KIRKNEWTON SOLAR & BESS

NON-TECHNICAL SUMMARY

SITE LOCATION PLAN

FIGURE 1

Scale 1:10,000 @ A3

Date DECEMBER 2025

310000

311000

665000

Overton Wood

Cockit Hat

Latch Farm Cottages

188

Leyden Road

Resr

Burnbrae

190

195

200

205

215

225

Gogar Bridge

Newlands

201

65

Edgehead Wood

Quarry (dis)

206

Fox Covert

Leyden Road

Belstane Farm

246

Resr

Spr

Heatherlan

Leyden Old House

Belstane Farm (South)

0

0.5

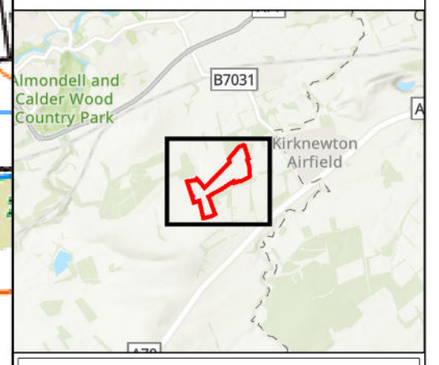
1

Kilometres

N

LEGEND

- Site Boundary
- Solar Panels
- BESS and PCS Compound
- CCTV
- SUDS Piping
- SUDS Pond
- Transformers Stations
- Welfare Stations
- Spares and Comms Container
- AUX Transformer
- Solar Fence
- Water Tanks
- BESS Fence
- Access Tracks
- Construction Compound
- Car Park
- DNO Substation
- Private Substation
- Scottish Water Pipeline
- Access Tracks
- DNO Substation
- Scottish Water Pipeline
- Access Tracks
- Scottish Water Pipeline
- Electricity Transmission Lines



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KIRKNEWTON SOLAR & BESS

NON-TECHNICAL SUMMARY

PROPOSED DEVELOPMENT LAYOUT

FIGURE 2

Scale 1:6,000 @ A3

Date DECEMBER 2025

310000

311000

665000

Overton Wood

Cockit Hat

Latch Farm Cottages

188

Leyden Road

Resr

Burnbrae

200

190

195

205

Gogar Bridge

Newlands

215

225

201

65

Edgehead Wood

206

Quarry (dis)

Fox Covert

Leyden Road

Belstane Farm

246

Resr

Spr

Heatherlan

Leyden Old House

Belstane Farm (South)

0

0.5

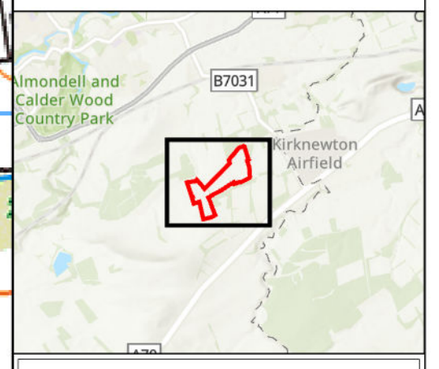
1

Kilometres

N

LEGEND

- Site Boundary
- Solar Panels
- Solar Fence
- BESS Compound
- Electricity Transmission Lines



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KIRKNEWTON SOLAR & BESS

NON-TECHNICAL SUMMARY

LAYOUT 1

FIGURE 3

Scale 1:6,000 @ A3

Date DECEMBER 2025

310000

311000

665000

N

LEGEND

- Site Boundary
- Solar Panels
- Solar Fence
- BESS Compound
- Electricity Transmission Lines
- Scottish Water Pipeline

Latch Farm Cottages

Leyden Road

Resr

Burnbrae

Overton Wood

Cockit Hat

Gogar Bridge

Newlands

Edgehead Wood

Quarry (dis)

Fox Covert

Leyden Road

Belstane Farm

Resr

Spr

Belstane Farm

Leyden Old House

Heatherlan

(South)

188

190

195

201

200

205

215

220

65

206

246

0

0.5

1

Kilometres

Almondell and Calder Wood Country Park

B7031

Kirknewton Airfield

trio

SLR

KIRKNEWTON SOLAR & BESS

NON-TECHNICAL SUMMARY

LAYOUT 2

FIGURE 4

Scale 1:6,000 @ A3

Date DECEMBER 2025

310000

311000

665000

N

LEGEND

- Site Boundary
- Solar Panels
- Solar Fence
- BESS Compound
- Electricity Transmission Lines
- Scottish Water Pipeline
- SUDS Pond
- Indicative SuDS Piping

Latch Farm Cottages

Leyden Road

188

Resr

Burnbrae

Overton Wood

Cockit Hat

190

195

200

205

201

Gogar Bridge

Newlands

215

225

65

Edgehead Wood

206

Quarry (dis)

Fox Covert

Leyden Road

Belstane Farm

246

Resr

Spr

Belstane Farm (South)

Heatherlaw

Leyden Old House

0

0.5

1

Kilometres

Almondell and Calder Wood Country Park

B7031

Kirknewton Airfield

trio

SLR

KIRKNEWTON SOLAR & BESS

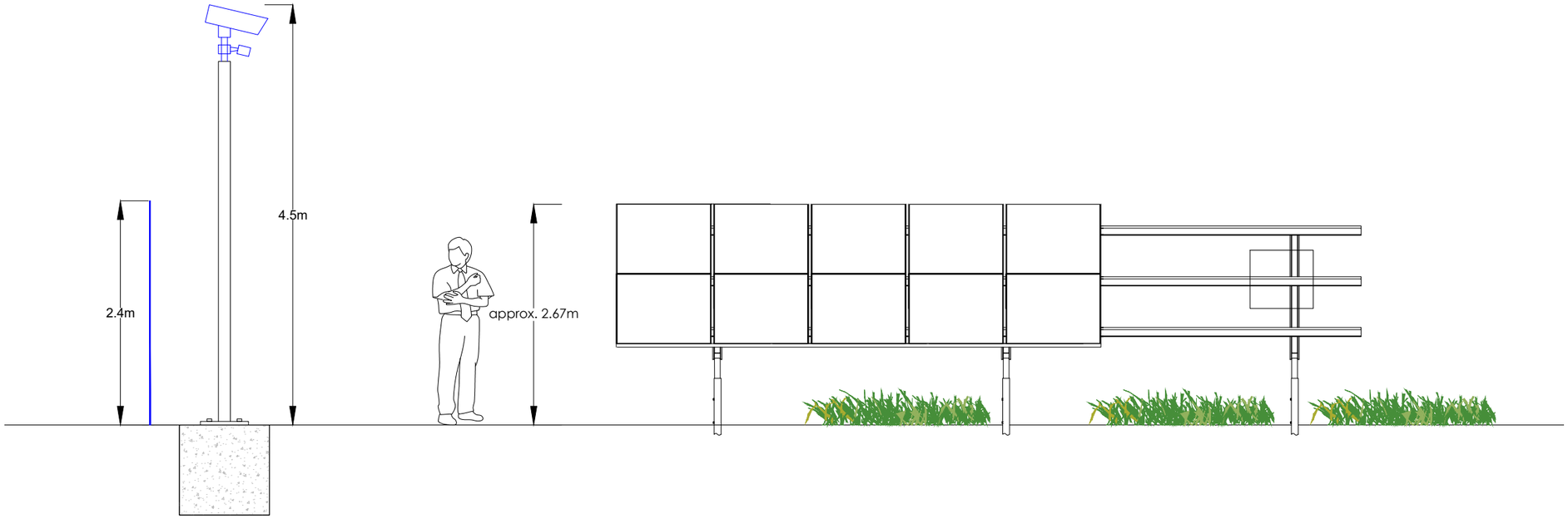
NON-TECHNICAL SUMMARY

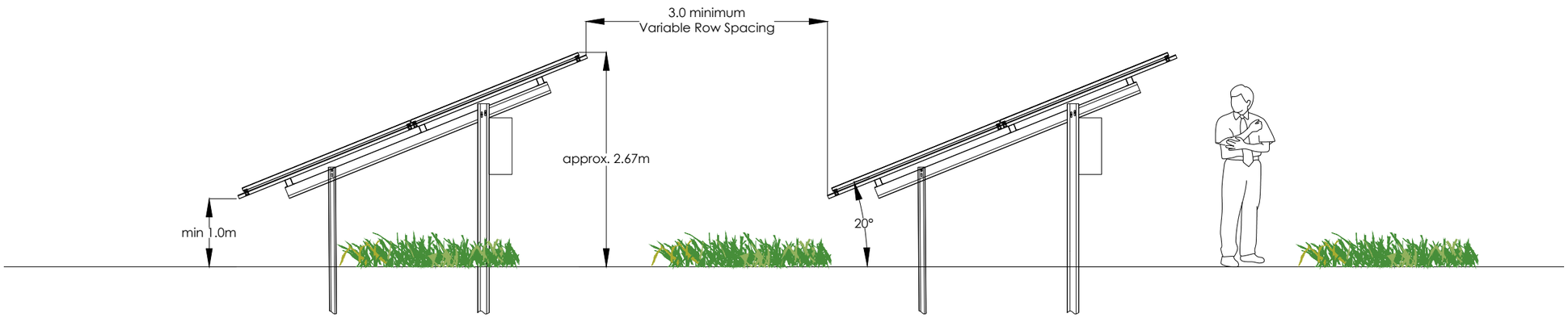
LAYOUT 3

FIGURE 5

Scale 1:6,000 @ A3

Date DECEMBER 2025





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Drawing Status & Suitability Code
PLANNING

Client
Trio Power Ltd.

Project
Kirknewton Solar & BESS

Drawing Title
Typical Array Elevation

Scale	SLR Project No.
@ A3	

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Figure 6

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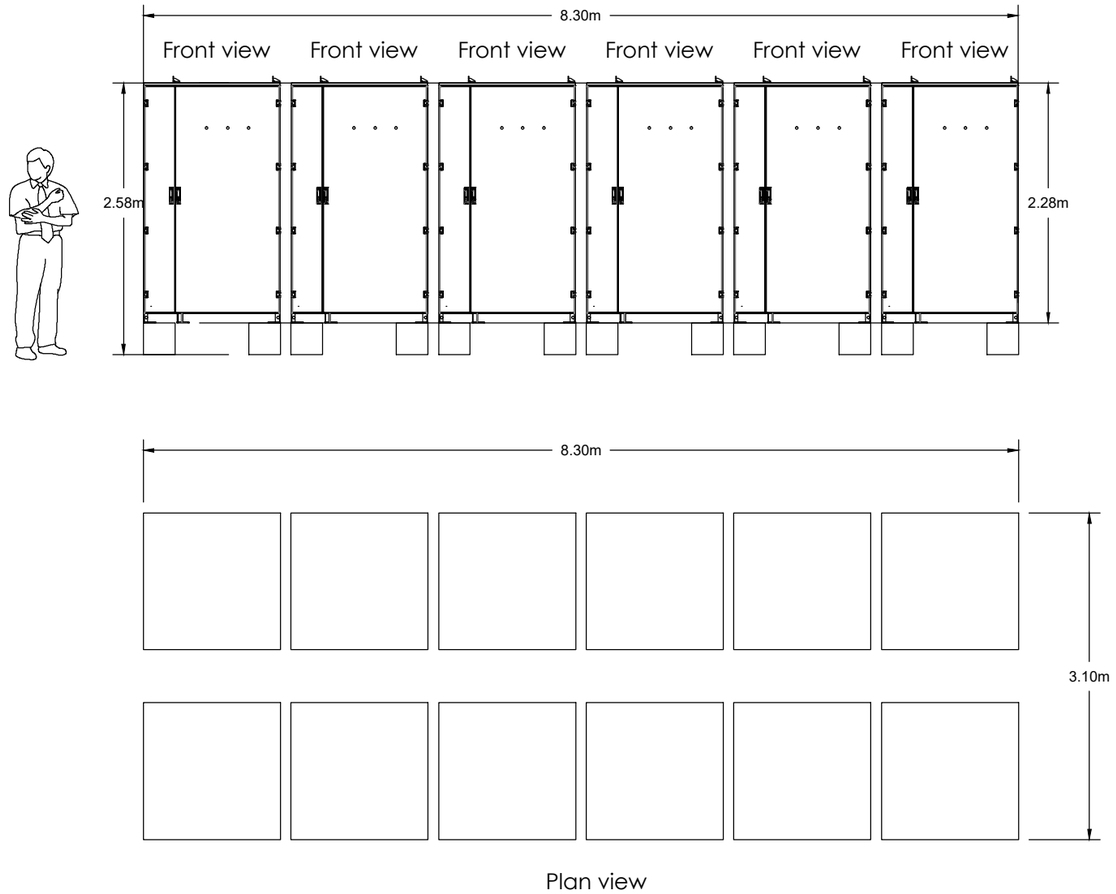
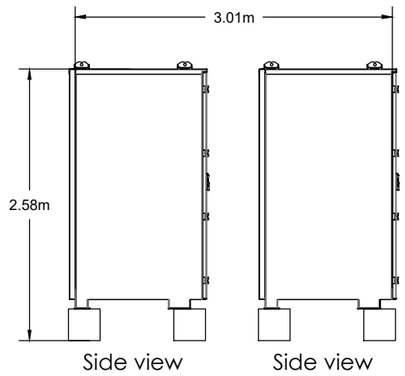
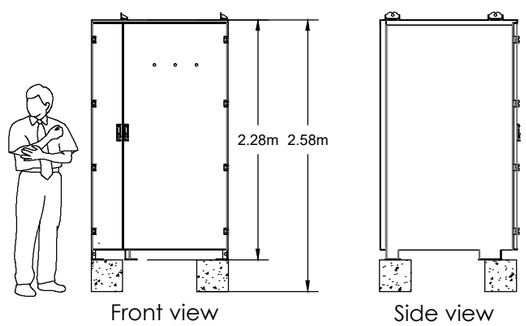


Plan view





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Drawing Status & Suitability Code
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Client
Trio Power Ltd.

Project
Kirknewton Solar & BESS

Drawing Title
Typical BESS Container

Scale	SLR Project No.
@ A3	

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Date	Date	Date	Date
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Figure 7

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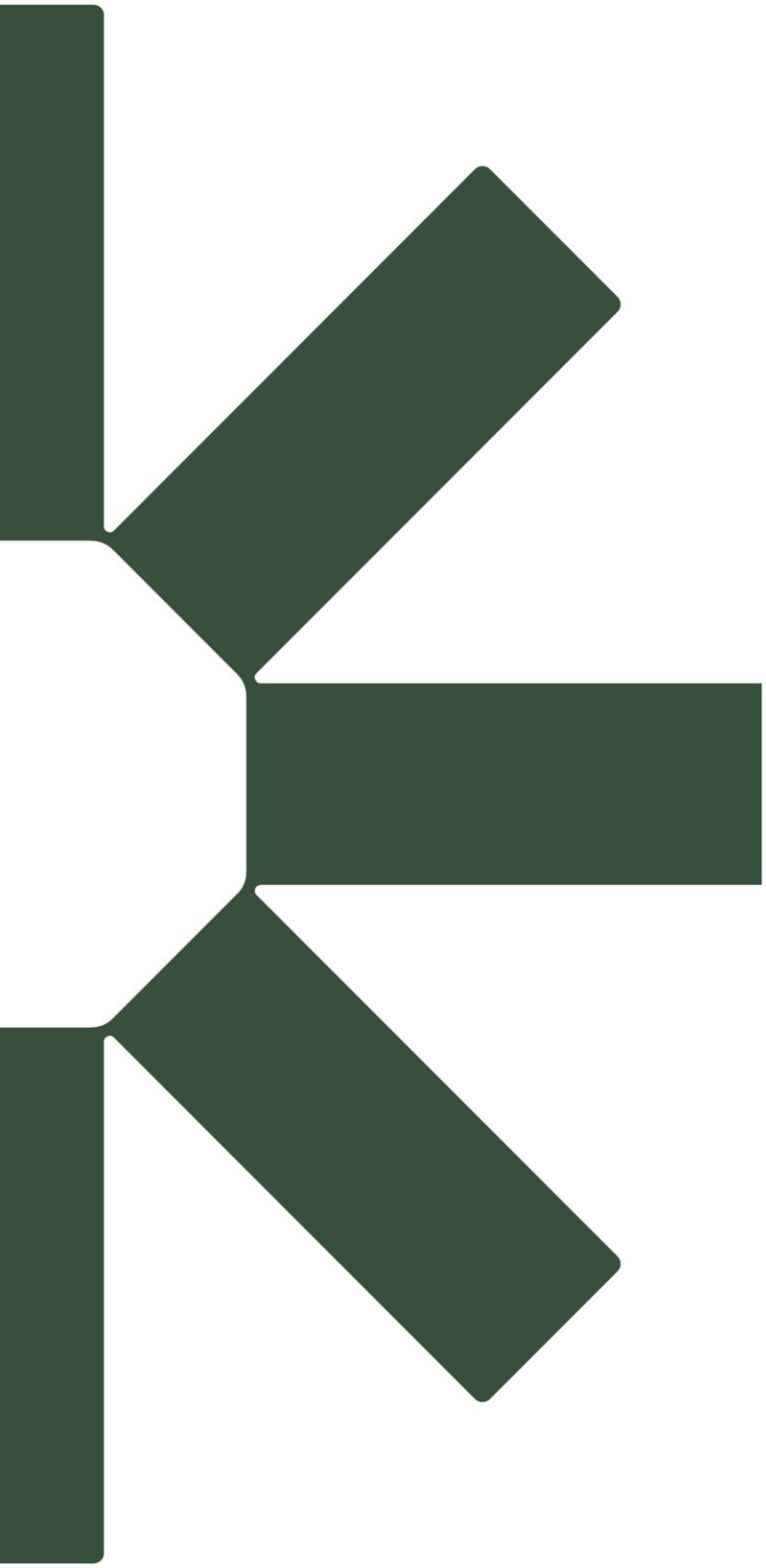

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