Glint and Glare Assessment

West Springfield - Technical Appendix

TRIO West Springfield Solar LLP

Prepared by:

SLR Consulting Limited

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

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Basis of Report

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Acronyms and Abbreviations

BESS	Battery Energy Storage System
G&G	Glint and Glare
MW	Megawatt
MWp	Megawatt Peak (installed capacity – DC)
NPF4	National Planning Framework 4
PV	Photovoltaic
RLB	Red-Line Boundary

1.0 Introduction

TRIO West Springfield Solar LLP (the ‘Applicant’) proposes to install and operate a solar photovoltaic (PV) array and Battery Energy Storage System (BESS) (the ‘Proposed Development’) on land (the ‘Site’) at the Rankeilour Estate, Fife. The Site location and application boundary are shown in **Figure 1.1** of the EIA Report.

The Proposed Development would have an installed capacity of c.100MW, comprising 35 MW battery storage and 65.28 MWp build out of solar. The total area of solar PV array amounts to up to 63.64 hectares (ha).

This Technical Appendix report undertaken by SLR examines the potential glint and glare (G&G) effects arising from the solar component of the Proposed Development. This G&G assessment is informed by the design undertaken by SLR and information provided by the Applicant. **Illustration 1-1** shows the RLB of the Proposed Development.

Illustration 1-1: Red-line Boundary (RLB) of the Proposed Development.

1.1 PV Array Details

The Proposed Development has considered fixed PV module with a tilt angle of 20° and south orientation. **Table 1** illustrates the module specifications for the Proposed Development, summarising the parameters used within the report.

Table 1: Module Specifications

Parameter	Details
Mounting details	Fixed tilt (no tracking)
Module tilt	20°
Module orientation	180° (South)
Max Height	2.67 m
PV material category	Category 1. Defined as smooth glass with anti-reflective coating.
Slope error value	A value of ‘varies’ to imply that this depends on the PV material selected. In this case, material Category 1 was selected.

Parameter	Details
Reflectivity value	A value of 'varies' to imply that this depends on the PV material selected. In this case, material Category 1 was selected.

1.2 Definitions

Glint, glare and dazzle are often used interchangeably but are defined in this report as described in **Table 2** below.

Table 2: Definition of Glint, Glare and Dazzle

Name	Description
Glint	Glint is a momentary flash of bright light.
Glare	Glare is a more continuous source of bright light.
Dazzle	This is an effect caused by intense glint and glare, which can cause distraction, and if strong enough reduce the ability of the receptor (pilot or driver, or otherwise) to distinguish details and objects.
Specular Reflections	Specular reflections are direct reflections of the Sun's light off smooth surfaces, such as glass, steel, and calm water.
Diffuse Reflections	Diffuse reflections are scattered reflections of light produced from rougher surfaces such as concrete, tarmac, and vegetation.

It is noted that different organisations and agencies apply slightly different definitions to these terms, and some refer to the terms glint and glare interchangeably. In this report, in line with the Forge Solar modelling software, the term 'glare' is used as an umbrella term to cover glint and glare effects.

Illustration 1-2 shows the difference between specular reflection, produced as a direct reflection of the Sun on to a smooth surface and diffused reflection, which is a scattered reflection of light.

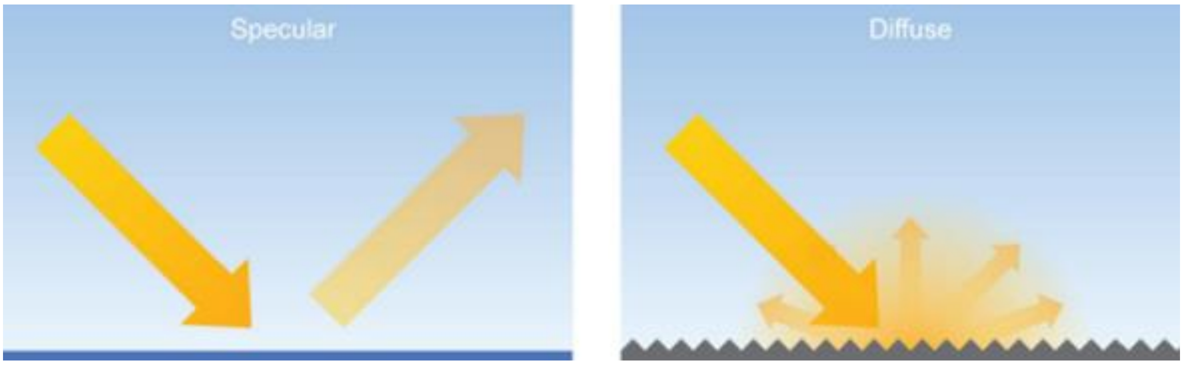

Illustration 1-2: Types of Reflection: Specular (left) and Diffused (right).

The perceived intensity of glare will vary depending on the ambient light levels (influenced by the time of the day as well as weather patterns), orientation and inclination of the panels, and the distance to the receptor.

The ForgeSolar software output defines glare under a traffic light system, as 'green glare', 'yellow glare' and 'red glare'. This is explained in **Table 3** below.

Table 3: Types of glares

Name	Description
Green glare	'Green glare' is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Yellow glare	'Yellow glare' is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Red glare	'Red glare' has potential to cause retinal burn (permanent eye damage). Retinal burn is typically not possible for PV glare since the reflected light is not focused on a concentrated point.

Temporary after-image is the phenomenon whereby an image remains momentarily visible on the retina after looking away from a bright light source.

1.3 The Reflectivity of Solar Panels

Solar PV panels are designed to absorb sunlight and convert it into electricity; they are not designed to reflect light, although there may still be a small unavoidable reflective component present. The glass which forms the surface layer of solar panels is specifically designed with a low iron content to aid the absorption of daylight and thus has a much lower level of reflectivity than the glass typically seen in conventional windows.

For example, with a 75° angle of incidence, less than 9% of the total incident visible light is reflected, while normal glass reflects approximately 19% of light. If the panels have an anti-reflective coating applied reflectivity drops to about 5%. Thus, reflectance levels from a given solar site will be much lower than the reflectance generated by standard glass and other common reflective surfaces in the surrounding environment, although reflectance characteristics will also vary with the incidence angle, which changes as the sun moves across the sky.

Solar panels have a comparable reflectivity to calm water and are considerably less reflective that other natural materials such as snow. Any glare that may occur would be less intense than that seen when flying over a reservoir on a calm day or a snow-covered landscape on a bright day. As can be seen from **Illustration 1-3**, the reflectivity of light incident on solar glass is considerably less than light reflections from many other materials found in the built and natural environment, and approximately half that of standard glass.

As distance from the glint and glare source increases, the intensity of the event drops appreciably. This is due to a combination of factors including the diffraction of light after it reflects off the panel, atmospheric weather conditions such as the presence of particulates, haze, or low cloud, and the diminishing subtended viewing angle.

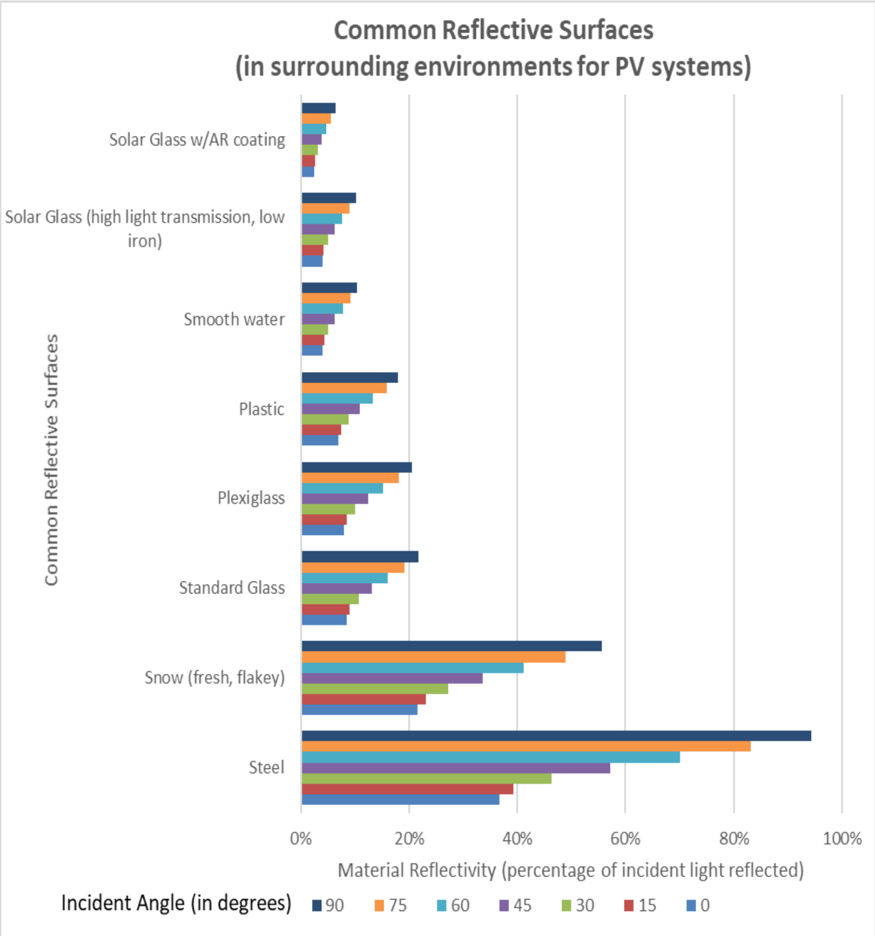

Illustration 1-3: Reflectivity of Common Materials at Varying Angles of Incidence.

(Based on data from SunPower Corporation, 2009)

1.4 Occurrence of Glint and Glare

Glint and glare can only occur when direct sunlight can reach the solar panels. Diffused lighting, caused by weather conditions such as cloud, fog, and mist, cannot result in glint due to the low energy intensity of the light incident on the panels.

2.0 Planning Policy, Legislation & Guidance

Specific policy, legislation and guidance relating to assessing glint and glare effects from solar parks have been considered as part of this assessment and are summarised below.

2.1 National policy

UK National Policy Statements mentioning solar developments and/or glint and glare include:

- National Planning Policy Framework (NPPF) – December 2023
- National Planning Policy – Planning Practice Guidance – August 2023
- Overarching National Policy Statement for Energy (NPS EN-1) - November 2023
- National Policy Statement for Renewable Energy (NPS EN-3) – November 2023

The National Planning Policy Framework (NPPF)[1] notes that large scale solar farms 'could have a damaging effect on the landscape, particularly in undulating landscapes´ and that the 'visual impact of a well-planned and well-screened solar farm can be properly addressed within the landscape if planned sensitively' (Paragraph 007: ID 5-007-20140306 & Paragraph 013: ID 5-013-20150327). There is no explicit guidance on the proximity of receptors to the development that should be considered for assessment.

2.2 Local policy

Fife Council's Local Development Plan[2], known as FIFEplan, was adopted on 21 September 2017. FIFEplan is supported by Supplementary Guidance documents that provide detailed explanations of how planning policies will be implemented. These include guidance on design expectations, low carbon energy applications, and air quality assessments. While FIFEplan and its Supplementary Guidance do not explicitly address glint and glare assessments for solar developments, they emphasise the importance of design considerations and environmental impact assessments.

2.3 Guidance

In the UK, at the domestic level, the closest guidelines regarding glint are the BRE guidelines on 'Site layout planning for Daylight and Sunlight'.

The relevant guidance includes:

- Building Research Establishment (BRE) guidelines: Site Layout Planning for Daylight and Sunlight: A guide to good practice
- Aviation Guidance from Civil Aviation Authority (CAA)
- The Combined Aerodrome Safeguarding Team (CAST) – July 2023
- Federal Aviation Administration (FAA)

BRE state that 'the sensitivities associated glint and glare, and the landscape/visual impact and the potential impact on aircraft safety, should be a consideration. In some instances, it may be necessary to seek a glint and glare assessment as part of a planning application[3]. However, the BRE do not define a proximity to the development that receptors should be considered.

Both the NPPG and BRE guidance highlight the additional importance of a G&G study if solar tracking systems are used, whereby solar PV modules rotate to follow the suns path to maximise power generation. These can cause 'additional impacts'[3] such as 'differential diurnal and/or seasonal'[3] variations of G&G. The Department for Energy Security & Net Zero (DESNZ) also state that G&G studies may need to account for tracking panels as they may cause 'diurnal and/or seasonal impacts'[4]. This Project utilises a fixed mounting structure, rather than a tracking system whereby modules rotate in the direction of the suns path.

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[1] NPPF (2023) National Planning Policy Framework: Renewable and low carbon energy. Available at https://www.gov.uk/government/collections/planning-practice-guidance

[2] Fife Council's Local Development Plan https://www.fife.gov.uk/kb/docs/articles/planning-and-building2/planning/development-plan-and-planning-guidance/local-development-plan-fifeplan

[3] BRE (2013) *Planning guidance for the development of large-scale ground-mounted solar PV systems*. Available at https://www.bre.co.uk/filelibrary/pdf/other_pdfs/KN5524_Planning_Guidance_reduced.pdf

[4] Department for Energy Security & Net Zero (2023) *national Policy Statement for Renewable Energy Infrastructure (EN-3)*. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147382/NPS_EN-3.pdf

Regarding air-based receptors, the UK Civil Aviation Authority (CAA) states 'consideration of glint and glare should be made over a wider area' and indicate a range of up to 5 km from an Aerodrome Reference Point (ARP)[5] as an area of most concern. CAA also developed an interim guidance document published in 2010 and then retracted this in 2012. As a result, no formal copy exists.

3.0 Methodology

3.1 Glint and glare Analysis

A geometric analysis is conducted to study where and when glint and glare events may occur. This examines receptors present at ground level, such as dwellings, roads, national waymarked trails, and railway lines. Receptors are identified using available mapping, aerial photography, and street level imagery.

The G&G analysis is completed in several stages using various methods, software models and tools to progressively assess the potential for effects, while building an understanding of the local environmental conditions, either existing or proposed, that impact the potential for glare in the local area.

3.2 Assessment of Effects

The detailed geometric analysis uses a software model to make a prediction on the dates, times and durations of G&G effects at fixed positions over the course of a year. The software used is the GlareGauge tool that was originally developed in the United States by the Sandia National Laboratory and since improved upon and licensed to ForgeSolar. The times reported as to when G&G may occur are reported in Coordinated Universal Time (UTC) and thus any relevant daylight savings should be considered when observing the results.

The computer model predicts whether glare effects are possible at a 1-minute temporal resolution over the course of a full year. The model accounts for the maximum panel height, the area taken up by the panels and a fixed observer height. Any glare that is predicted is classified as either 'green glare' or 'yellow glare' or 'red glare', as described previously in Table 3.

3.2.1 Modelling Limitations

It is important to understand certain limitations within the model. The model calculates results based on the geometric relationship between the observation point at a fixed height, the reflective plane (panels) at a fixed height, and the position of the sun at each time interval as it progresses across the sky. It therefore takes no account of any screening features whatsoever. It does not account for surface features such as buildings or trees or intervening topography. The software also assumes it is sunny, at the maximum intensity possible, 365 days per year. Since the computer model indicates when glare 'can' happen, not when it 'will' happen, it considerably overstates the realistic glare duration, which is why further interpretation is essential.

- The geometry of the entire system is not considered, such as gaps between panels and heights of the mounting structures and individual panels. Therefore, a module height above of ground of 3m assumes this is the only elevation at which sunlight

[5] UK CAA (2022) *CAST Guidance Note – Safeguarding Guidance to GA Aerodrome Managers and Operators*. Available at: https://www.caa.co.uk/search?query=glint

reflects from the module (i.e. the lower and higher portions of the array are not considered).

- The shape of surrounding obstacles and obstructions (such as trees, electricity poles and fences) are not fully considered. For example, a tree is considered as uniform in its circumference from its tip to the ground as opposed to thinner at the bottom from the trunk and widest in the middle. This can lead to an obstacle's ability to shield a receptor from G&G being both under and overestimated. Further, the precise height of shading obstacles is not known, and estimates are therefore made.
- The model does not consider daily variations in weather conditions (e.g. cloud cover) and instead uses a typical clear day as a default. The software also assumes it is sunny, at the maximum intensity possible, 365 days per year. Since the computer model indicates when glare 'can' happen, not when it 'will' happen, it considerably overstates the realistic glare duration, which is why further interpretation is essential. This also overestimates the impacts of glint and glare.
- Only ten obstructions can be modelled. As a result, many existing obstructions such as tree and hedgerows and other buildings may not be present in the model. G&G is therefore overestimated in this instance

The following steps were followed to assess the impacts of glint and glare (G&G) arising from the Proposed Development:

- **Identify receptors required for the assessment**: Main roads, railway lines, ground-based receptors and air-based receptors closest to the Proposed Development.
- **Input receptor and solar PV plant details**: Details such as location and area of coverage were entered into the Forge Solar modelling tool, as well as the three sets of modelling assumptions detailed in **Table 4**, **Table 5** and **Table 6** in Section 5 below.
- **Assess the results**: The simulation results were analysed to assess the duration, intensity, and potential impact of G&G on all identified receptors. While the model has inherent limitations (e.g., the model does not consider objects such as trees and building), existing and planned screening measures - such as trees and hedgerows - were manually incorporated into the simulation. These were identified via Google Earth Pro and the Site Layout Plan. This allowed for a more realistic representation of the anticipated conditions.

4.0 Receptor Identification

The following section highlights the receptors considered for the assessment.

4.1 Ground-based Receptors

The study area is determined as a 1 km radius from the Proposed Development for all ground-based receptors (buildings and roads).

4.1.1 Fixed Ground Receptors

Several dwellings and farms are located within the study area. In some cases, a single identified location is considered representative of multiple discrete receptors in close proximity (see **Illustration 4-1**). Key locations include:

- Residential buildings to the east of the Proposed Development, located in Springfield.
- Residential dwellings near the road on the southwest side of the Proposed Development.

A total of 30 ground-based observation points (OPs) represent buildings within the study area. These receptors are all offsite residential properties of one or two storeys, with the exception of OP26. OP26 is located between PV Areas 3, 5, 8, and 9 and is a property belonging to a financially involved landowner.

4.1.2 Roads and Trainline

Numerous roads and small country lanes fall within the 1 km study area of the Proposed Development (see **Illustration 4-1**). The assessment has focused on the following key transport routes:

- Main Street in Springfield.
- The U105, a rural road, adjacent to the western boundary of the Proposed Development.
- The railway line located to the south of the RLB.

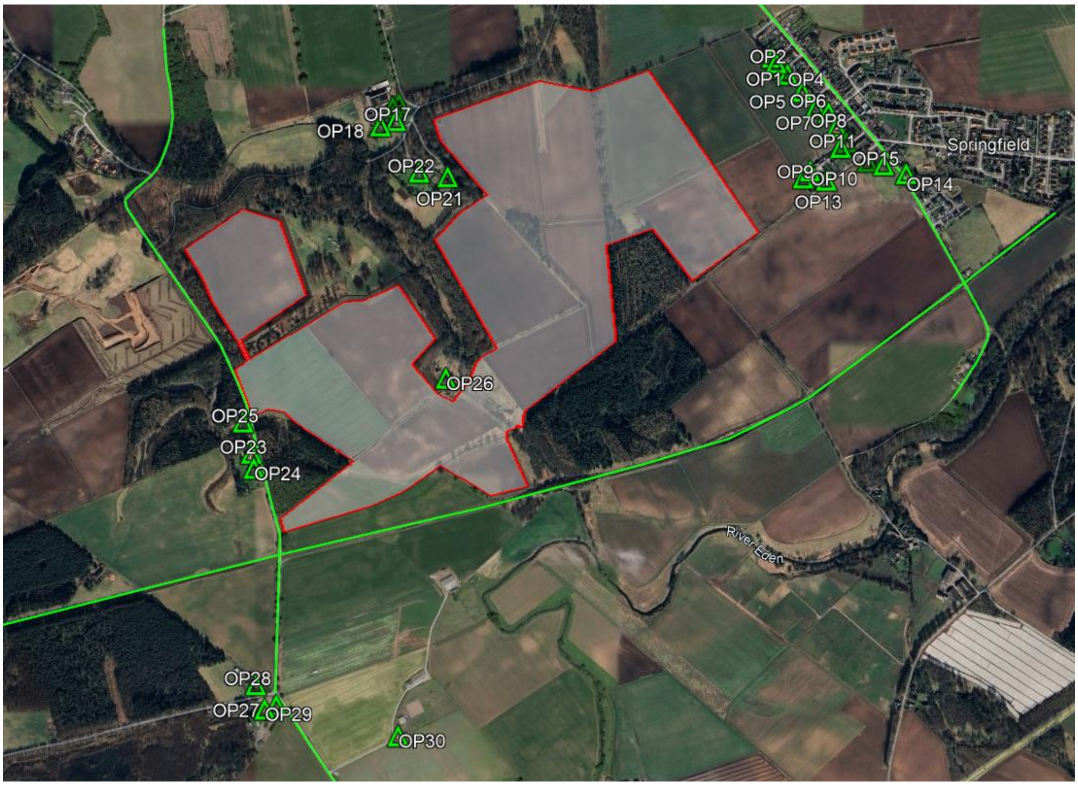

Illustration 4-1: Proposed Development and Identified Receptors.

4.2 Air-based Receptors

There are no aviation receptors within 5 km of the Proposed Development, with the closest being Bonnybank Airstrip (GB-0740), located approximately 8 km south.

5.0 G&G Assessment

5.1 Modelling Input

Eleven distinctive solar PV areas have been identified and modelled in the software to estimate the glint and glare effects.

There are a total of three sets of modelling assumptions required for the simulation, detailed in **Table 4**, **Table 5** and **Table 6** below

Table 4: Site configuration parameters

Parameter	Details
Subtended angle of the sun	9.3mrad (0.5°). This is the default setting given by the software.
Direct Normal Irradiance (DNI)	DNI scales with the position of the sun and has a peak value of 1000W/m².
Ocular transmission coefficient	This is the radiation absorbed in the eye before reaching the retina. Value of 0.5 (default figure recommended by the software).
Pupil diameter	This is the diameter of the pupil when daylight is present. Value of 2mm (default figure recommended by the software).
Eye focal length	This is the projected image size on the retina from a given glare source for a given subtended angle. Value of 1.7cm This is the default figure recommended by the software.
Time interval	Value of 1 to represent 1 minute

Table 5: PV array parameters

Parameter	Details
Mounting details	Fixed tilt (no tracking).
Module tilt	20°
Module orientation	180° (South)
PV material category	Category 1. Defined as smooth glass with anti-reflective coating.
Slope error value	A value of ‘varies’ to imply that this depends on the PV material selected. In this case, material category 1 was selected.
Reflectivity value	A value of ‘varies’ to imply that this depends on the PV material selected. In this case, material category 1 was selected.

Table 6: Receptor parameters

Parameter	Details
Route receptors	Three routes including one trainline
Residential Dwellings - Observation points	30 OPs, all of them offsite, except for OP26, which is one of the landowner’s properties (financially involved).
Obstructions	Ra nge of trees and buildings scattered around site.

5.2 Simulation Results

The following section details the results of the G&G simulation, along with implications for the site and limitations of the study. Note that further details can be found in the following G&G simulation reports:

- **Appendix A.1:** Forge Solar Analysis – West Springfield.pdf

Table 7 highlights the total duration and magnitude of G&G experienced by all affected receptors across the day and year. It is worth noting that the remaining receptors are not impacted by G&G from the PV array.

Table 7: Duration and diurnal/seasonal patterns of G&G

Receptor	G&G Hazard Summary	PV Area	Cumulative Time and Daily G&G Duration
OP5	Green	PV Area: 10	During Mar, Apr, Aug and Sep, between 17:30 and 19:00, for up to 20 min per day
OP6	Green	PV Area: 10	During Mar, Apr, Aug and Sep, between 17:30 and 19:00, for up to 20 min per day
OP7	Green	PV Areas: 7, 10	During Mar, Apr, Aug and Sep, between 17:30 and 19:00, for up to 20 min per day
OP8	Mostly Green	PV Areas: 7, 10	During Mar, Apr, May, Aug and Sep, between 17:30 and 19:00, for up to 20 min per day
OP9	Mostly Green	PV Areas: 7, 10	Periods between March and September, between 17:30 and 19:00, for up to 10 min per day
OP10	Mostly Green	PV Areas: 7, 10	Periods between March and September, between 17:30 and 19:00, for up to 10 min per day
OP11	Mostly Green	PV Areas: 7, 10	Periods between March and September, between 17:30 and 19:00, for up to 15 min per day
OP12	Mostly Green	PV Areas: 7, 10	Periods between March and September, between 17:30 and 19:00, for up to 15 min per day
OP13	Mostly Green	PV Areas: 7, 10	Periods between March and September, between 17:30 and 19:00, for up to 15 min per day
OP14	Mostly Green	PV Areas: 7, 10	Periods between March and September, between 17:30 and 19:00, for up to 15 min per day
OP15	Mostly Green	PV Areas: 7, 10	Periods between March and September, between 17:30 and 19:00, for up to 15 min per day
OP16	Mostly Green	PV Areas: 7, 10	Periods between March and September, between 17:30 and 19:00, for up to 15 min per day

Receptor	G&G Hazard Summary	PV Area	Cumulative Time and Daily G&G Duration
OP25	Yellow	PV Areas: 2, 3	Periods between March and September, between 05:00 and 07:00, for up to 20 min per day
Route 3 – Road U105	Yellow	PV Areas: 7, 8, 9, 10, 11	Periods between March and September, between 17:30 and 19:00, for up to 20 min per day
Trainline	Yellow	PV Areas: 2, 4, 7, 8, 9, 10, 11	Periods between March and September, between 05:00 - 06:30 and 17:30 - 19:00, for up to 40 min per day

5.3 Discussion and Implication of Results

5.3.1 Fixed Ground Receptors

Out of the 30 identified ground-based fixed receptors, 13 are potentially affected by glint and glare from the Proposed Development, primarily from PV Areas 2, 3, 7, and 10.

Among these 13 receptors, only OP25 is predicted to potentially experience mostly yellow glare, while the remaining receptors are expected to potentially experience either mostly or exclusively green glare.

Receptor OP25 is a two-storey residential building located adjacent to the U105 to the west of the Proposed Development (Route 3 in the simulation). It is potentially affected by PV Areas 2 and 3, due to the absence of existing screening vegetation. This is observed in **Illustration 5-1**, which shows the road situated between the residential building and the field.

Illustration 5-1: OP25 and Route 3.

According to the ForgeSolar analysis, OP25 could receive up to 20 minutes per day of a combination of yellow and green glare between March and September, in the early mornings (05:00 to 07:00). This is attributed to the sun rising in the east and reflecting westwards towards the receptor. It is considered a **significant** impact.

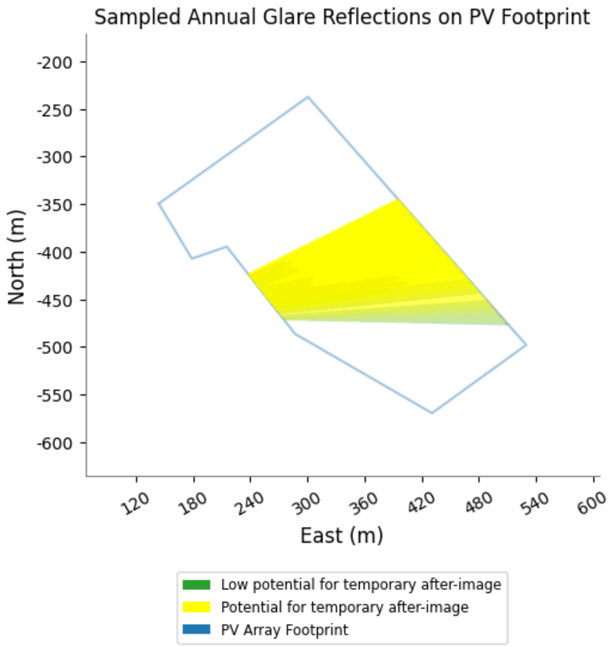

Illustration 5-2: Part of PV Area 2 where potential yellow glare emanates to impact receptor OP25.

However, in real-life conditions, the potential impact is expected to be less significant due to the orientation of the receptor's windows, which do not face directly towards the field. Additionally, as outlined in the Modelling Limitations section, the software assumes clear, sunny conditions 365 days a year—an unrealistic assumption for the Scottish climate, likely resulting in an overestimation of potential effects.

However, it is recommended that native vegetation be included as a screening measure for that particular section of the road (indicated in blue in **Illustration 5-3** below), after which the residual glare effect at OP25 is expected to be **negligible**.

Illustration 5-3: Proposed screening (blue) near OP25 and Route 3.

The remaining receptors are predicted to experience potential glare of mostly green magnitude from PV Areas 7 and 10. These receptors are located in Springfield and face towards the PV areas. The simulation has accounted for the planned screening vegetation, specifically hedgerows up to 3 m in height.

Despite this mitigation, some residual glare is still predicted. In the worst-case scenario, this could result in up to 20 minutes of glare per day between March and September during the evening hours (17:30 to 19:00), when the sun is low in the sky and reflects eastwards prior to sunset.

The predicted glare is of green magnitude, which is lower in intensity than reflections from windows or bodies of water and does **not pose a risk** to health or safety. Furthermore, as noted in the Modelling Limitations section, the software does not account for intervening topography or any obstructions and assumes 365 days of clear, sunny conditions per year.

As such, under real-life conditions, the potential impact on these receptors is considered **negligible**.

5.3.2 Roads and Trainline

The G&G assessment evaluated three routes: two roads (Springfield's Main Street and U105 road) and one rail line. Existing screening measures, such as trees and hedgerows have been incorporated in the simulation. However, due to modelling limitations, it was not possible to include all the planned screening vegetation in the model. As a result, the predicted outcomes may represent a conservative scenario, and the actual level of impact in real-life conditions is likely to be lower once all mitigation measures are in place.

The trainline and Route 3 (U105) are both potentially affected by a mix of green and yellow glare magnitude. According to Appendix A.1:

Route 3 is potentially impacted by glare up to 20 minutes per day from March to September during the hours before sunset (17:30 to 19:00) due to the low angle of the sun at that time of the day. PV Areas that affect Route 3 are: 7, 8, 9, 10 and 11. However, the modelling software does not consider the residential dwelling on both sides of Route 3. Therefore, in real-life conditions, the impact is deemed as minimal with **no risk** to health and safety for road users.

The Trainline maybe subject to glare for up to 40 minutes per day from March to September during the hours after sunrise (05:00 to 6.30) and before sunset (17:30 to 19:00), again due to the low angle of the sun at that time of the day. PV Areas that affect the Trainline are: 2, 4, 7, 8, 9, 10 and 11. The glare is attributes to the limited presence of screening vegetation along the line, as shown in Illustration 5-4 below. Additionally, Illustration 5-5 further shows the extent of the glare emanating from PV Area 4 impacting on several sections of the Trainline.

Illustration 5-4: View of the trainline with PV Area 4 behind.

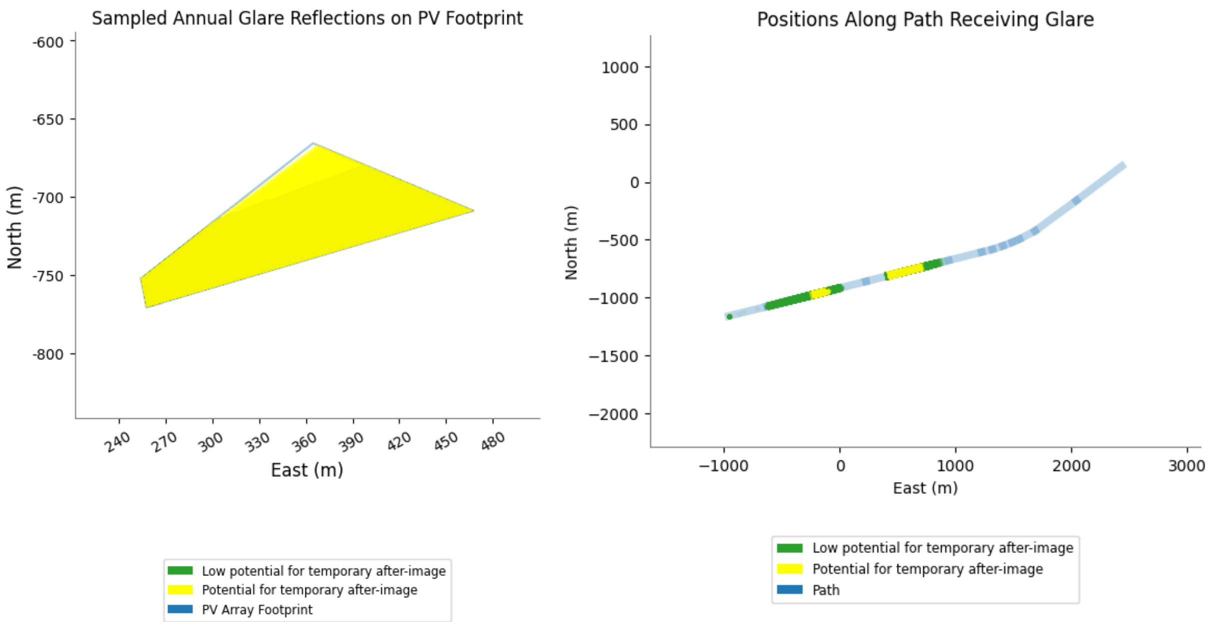

Illustration 5-5: Glare emanating from PV Area 4 (left) and impacting on several sections of the Trainline (right).

While the simulation indicates that the trainline may experience glare for up to 40 minutes per day during certain times of year, this is based on a conservative scenario which does not account for all existing and proposed screening. The Landscape Mitigation Plan includes hedgerows of approximately 3 m in height made of mixed native species along the southern boundary of the Proposed Development, which are expected to reduce potential glare. Furthermore, the impact occurs when the sun is low in the sky, and the angle may limit direct visibility depending on train orientation and onboard shielding. As such, the risk to train operations or safety is assessed to be **low**. However, if any residual effects are identified during operation, further mitigation could be agreed between the developer and relevant stakeholders and implemented at a later stage if deemed necessary.

6.0 Conclusion

The purpose of this G&G assessment is to consider the effects of glint and glare arising from the proposed solar farm on receptors around the Proposed Development. For glare to occur there must be viable weather conditions, the geometrical alignment for glint (i.e. reflected light must physically arrive at the receptor, given the relative position of the sun in the sky and the panels), and there must be visibility of the panels (i.e. no intervening landform, or surface features (buildings/trees/hedgerows etc).

The software used for the simulation (GlareGauge tool by ForgeSolar) has some limitations (which are discussed in the report) such as treating the circumference of trees at ground and tip height as uniform, despite the trunk of tree being much smaller than the body of the tree. Additionally, G&G can only occur under sunny conditions, which the software does not explicitly account for, potentially leading to overestimations of its occurrence and impact. This can also affect the assessment of how obstacles mitigate G&G on sensitive receptors.

The G&G assessment identified limited potential impacts on fixed receptors and transport routes surrounding the Proposed Development. Of the 30 assessed fixed ground receptors, only one (OP25) is predicted to experience potentially significant effects, primarily due to the absence of existing vegetation. However, these impacts are likely overestimated due to conservative modelling assumptions and the current orientation of the residence’s windows, and targeted screening is recommended to mitigate the effect. Other receptors are expected to experience low-intensity (green) glare with no health or safety implications.

For transport routes, Route 3 and the nearby trainline may experience intermittent glare during low sun angles in the early morning or evening. These results are also based on conservative assumptions, and real-world impacts are expected to be lower. Planned screening measures, including 3 m high native hedgerows, will reduce glare. Additional vegetation could be incorporated within the RLB if needed, ensuring any residual impacts can be effectively mitigated in consultation with relevant stakeholders.

A.1 Forge Solar Analysis

Forge Solar Analysis Report – West Springfield

TRIO West Springfield Solar LLP

SLR Project No.: 428.013383.00001

29 April 2025

Making Sustainability Happen