# Preliminary Environmental Information Report

# Appendix 12B: Route Receptors and Dwelling Receptor Group 1-4: Analysis Results Summary

**PEIR Appendices [PINS Ref: EN 010171]**

**Document Reference: EN 010171/PEIR APP/12B**

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**Future Energy Llanwern Limited**

# FORGESOLAR GLARE ANALYSIS

Project: **Future Eenergy Solar Farm, Llanwern, near Newport, South East Wales**
Site configuration: **Future Energy - MERGED- Dwellings 1-4 ARC**

**Created** 29 Sep, 2025
**Updated** 29 Sep, 2025
**Time-step** 1 minute
**Timezone offset** UTC0
**Minimum sun altitude** 0.0 deg
**DNI** peaks at 1,000.0 W/m$^2$
**Category** 1 MW to 5 MW
**Site ID** 160574.26829

**Ocular transmission coefficient** 0.5
**Pupil diameter** 0.002 m
**Eye focal length** 0.017 m
**Sun subtended angle** 9.3 mrad
**Solar Panel analysis methodology** V2

## Summary of Results

Glare with potential for temporary after-image predicted

| PV Array | Tilt | Orient | Annual Green Glare | | Annual Yellow Glare | | Energy |
|---|---|---|---|---|---|---|---|
| | ° | ° | min | hr | min | hr | kWh |
| Solar array 1 | 18.0 | 180.0 | 29,935 | 498.9 | 13,177 | 219.6 | - |
| Solar array 2 | 18.0 | 180.0 | 6,382 | 106.4 | 7,203 | 120.0 | - |

*Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.*

| Receptor | Annual Green Glare | | Annual Yellow Glare | |
|---|---|---|---|---|
| | min | hr | min | hr |
| Route 1 | 0 | 0.0 | 0 | 0.0 |
| Route 10 | 137 | 2.3 | 0 | 0.0 |
| Route 11 | 1,416 | 23.6 | 343 | 5.7 |
| Route 12 | 2,167 | 36.1 | 115 | 1.9 |
| Route 2 | 20 | 0.3 | 836 | 13.9 |
| Route 3 | 381 | 6.3 | 2,103 | 35.0 |
| Route 4 | 3,523 | 58.7 | 570 | 9.5 |
| Route 5 | 1,740 | 29.0 | 1,357 | 22.6 |
| Route 6 | 1,932 | 32.2 | 2,073 | 34.5 |
| Route 7 | 3,086 | 51.4 | 4,895 | 81.6 |
| Route 8 | 2,895 | 48.2 | 2,580 | 43.0 |
| Route 9 | 137 | 2.3 | 0 | 0.0 |
| OP 1 | 0 | 0.0 | 0 | 0.0 |
| OP 2 | 0 | 0.0 | 0 | 0.0 |
| OP 3 | 0 | 0.0 | 0 | 0.0 |

| Receptor | Annual Green Glare | | Annual Yellow Glare | |
|---|---|---|---|---|
| | min | hr | min | hr |
| OP 4 | 0 | 0.0 | 0 | 0.0 |
| OP 5 | 0 | 0.0 | 0 | 0.0 |
| OP 6 | 0 | 0.0 | 0 | 0.0 |
| OP 7 | 0 | 0.0 | 0 | 0.0 |
| OP 8 | 0 | 0.0 | 0 | 0.0 |
| OP 9 | 0 | 0.0 | 0 | 0.0 |
| OP 10 | 0 | 0.0 | 0 | 0.0 |
| OP 11 | 0 | 0.0 | 0 | 0.0 |
| OP 12 | 0 | 0.0 | 0 | 0.0 |
| OP 13 | 0 | 0.0 | 0 | 0.0 |
| OP 14 | 0 | 0.0 | 0 | 0.0 |
| OP 15 | 0 | 0.0 | 0 | 0.0 |
| OP 16 | 0 | 0.0 | 0 | 0.0 |
| OP 17 | 0 | 0.0 | 0 | 0.0 |
| OP 18 | 0 | 0.0 | 0 | 0.0 |
| OP 19 | 0 | 0.0 | 0 | 0.0 |
| OP 20 | 0 | 0.0 | 0 | 0.0 |
| OP 21 | 1,844 | 30.7 | 18 | 0.3 |
| OP 22 | 763 | 12.7 | 1,664 | 27.7 |
| OP 23 | 1,073 | 17.9 | 1,191 | 19.9 |
| OP 24 | 0 | 0.0 | 0 | 0.0 |
| OP 25 | 0 | 0.0 | 0 | 0.0 |
| OP 26 | 0 | 0.0 | 0 | 0.0 |
| OP 27 | 0 | 0.0 | 0 | 0.0 |
| OP 28 | 0 | 0.0 | 0 | 0.0 |
| OP 29 | 0 | 0.0 | 0 | 0.0 |
| OP 30 | 0 | 0.0 | 0 | 0.0 |
| OP 31 | 0 | 0.0 | 0 | 0.0 |
| OP 32 | 0 | 0.0 | 0 | 0.0 |
| OP 33 | 0 | 0.0 | 0 | 0.0 |
| OP 34 | 0 | 0.0 | 0 | 0.0 |
| OP 35 | 38 | 0.6 | 0 | 0.0 |
| OP 36 | 17 | 0.3 | 0 | 0.0 |
| OP 37 | 418 | 7.0 | 0 | 0.0 |
| OP 38 | 1,059 | 17.6 | 19 | 0.3 |
| OP 39 | 1,328 | 22.1 | 447 | 7.5 |
| OP 40 | 1,402 | 23.4 | 490 | 8.2 |
| OP 41 | 1,059 | 17.6 | 42 | 0.7 |
| OP 42 | 1,503 | 25.1 | 0 | 0.0 |
| OP 43 | 496 | 8.3 | 0 | 0.0 |
| OP 44 | 690 | 11.5 | 5 | 0.1 |
| OP 45 | 1,184 | 19.7 | 1,447 | 24.1 |
| OP 46 | 1,012 | 16.9 | 38 | 0.6 |

| Receptor | Annual Green Glare | | Annual Yellow Glare | |
|---|---|---|---|---|
| | min | hr | min | hr |
| OP 47 | 887 | 14.8 | 79 | 1.3 |
| OP 48 | 473 | 7.9 | 1 | 0.0 |
| OP 49 | 378 | 6.3 | 1 | 0.0 |
| OP 50 | 1,279 | 21.3 | 34 | 0.6 |
| OP 51 | 1,009 | 16.8 | 32 | 0.5 |
| OP 52 | 430 | 7.2 | 0 | 0.0 |
| OP 53 | 541 | 9.0 | 0 | 0.0 |