



Suryix

SOLAR SITE INTELLIGENCE

PRELIMINARY SOLAR SITE SCREENING

Solar Site 1

27.528774, 71.91833

3.57 ha developable area · ~1.32 MW approx. capacity

Bare / sparse vegetation (ESA WorldCover 2021) · Gentle

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90

EXCELLENT

SUITABILITY SCORE / 100

Report confidence: Strong

Solar + storage

Commercial solar

Utility-scale solar

90
Excellent



SITE DETAILS

COORDINATES

27.528774, 71.91833

PARCEL AREA

3.57 ha

8.81 acres

APPROX. CAPACITY

~1.32 MW

DC, 5 ac/MW assumption

LAND COVER

Bare / sparse vegetation (ESA WorldCover 2021)

TERRAIN

Gentle · 3.2°

FLOOD RISK

Low

KEY METRICS

SOLAR GHI

5.66

kWh/m²/day annual avg

GRID DISTANCE

1.43 km

Nearest mapped substation

ROAD ACCESS

0.35 km

Nearest mapped road

BEST SUITED FOR

Solar + storage

Commercial solar

Utility-scale solar

INVESTMENT ASSESSMENT

VERDICT: 90.0/100 (Excellent) — favorable preliminary profile on desktop screening.

- Solar 5.66 kWh/m²/day (Excellent); 3.2° slope (Gentle, estimated).
- Nearest substation 1.43 km (400000220000132kV electrical substation (Badla)). Road 0.35 km.
- Bare / sparse vegetation (ESA WorldCover 2021) · Low flood risk (medium confidence) · Low environmental sensitivity.
- ~1.32 MW estimated on 3.57 ha parcel (75.0% utilization).

NEXT STEP: Commission feasibility and grid interconnection studies before capital commitment.

GHI ANNUAL AVG

5.66

kWh/m²/day · Excellent

TERRAIN SLOPE

3.2°

Gentle · SRTM estimate

GRID PROXIMITY

1.43km

Nearest mapped substation

APPROX. CAPACITY

~1.32 MW

3.57 ha parcel

FLOOD RISK

Low

Estimated

REPORT CONFIDENCE

Strong

/100 weighted model

KEY FINDINGS

POSITIVE FACTORS

- ↑ Excellent solar resource
5.66 kWh/m²/day average GHI (Excellent).
- ↑ Excellent substation proximity
1.43 km — 400000220000132kV electrical substation (Badla)
- ↑ Excellent road access
0.35 km — Tertiary road
- ↑ Parcel boundary provided
3.57 ha parcel defined for area-based MW sizing. ~1.32 MW approximate capacity.
- ↑ Gentle terrain
Slope 3.2° (Gentle) — favorable for tracker installation.

CONSTRAINTS & RISKS

- Terrain slope estimated only
Slope from coarse SRTM sampling — confirm with topographic survey.
- Flood screening has moderate confidence
Flood risk is Low based on elevation (173 m), nearest waterway (3.06 km — Canal (Indira Gandhi Canal)), and inland (>200 km from mapped coastline). Screening uses OpenStreetMap hydrography, not a hydrological flood model. Confirm with local flood maps, FEMA/DISCOM studies, and site drainage survey.

SITE LOCATION



 Parcel boundary  Centroid (27.528774, 71.91833) Esri World Imagery

SUITABILITY SCORE BREAKDOWN

| FACTOR | WEIGHT | SCORE | CONTRIBUTION |
|---|--------|-----------|-----------------|
| Solar Irradiance NASA POWER GHI annual average | 35% | 90 | 31.5 pts |

| FACTOR | WEIGHT | SCORE | CONTRIBUTION |
|--|-------------|-----------|------------------|
| Terrain & Slope SRTM 30m elevation · slope estimate  | 25% | 85 | 21.2 pts |
| Grid Proximity OSM substation & transmission lines  | 20% | 100 | 20.0 pts |
| Land Suitability ESA WorldCover 2021 classification  | 10% | 90 | 9.0 pts |
| Flood Risk Elevation + OSM hydrography heuristic  | 7% | 75 | 5.2 pts |
| Road Access OSM road network proximity  | 3% | 100 | 3.0 pts |
| Overall Score | 100% | 90 | Excellent |

SOLAR RESOURCE

ANNUAL GHI

5.66

kWh/m²/day

DNI

5.03 kWh/m²/day

DHI

2.11 kWh/m²/day

TEMPERATURE

27°C avg

BEST MONTH

7.22 kWh/m²/day

SEASONAL SPREAD

60.7%

TERRAIN

ELEVATION

173.0 m

SLOPE

3.2°

CLASSIFICATION

Gentle

INFRASTRUCTURE

NEAREST SUBSTATION

1.43 km

NEAREST ROAD

0.35 km

WATER ACCESS

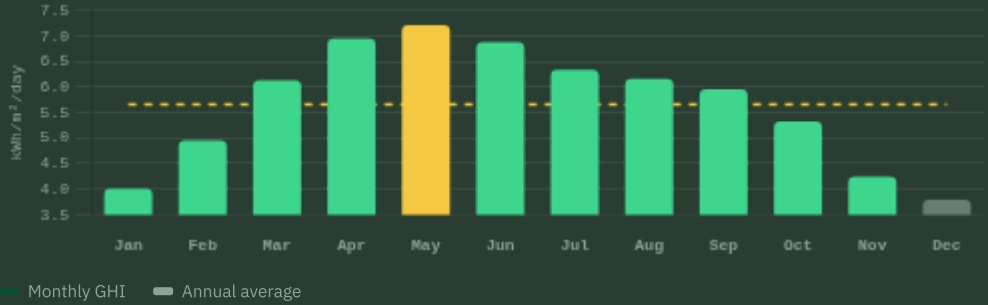
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REPORT CONFIDENCE

| | | |
|-----------------|---------------------------------------|----------|
| Parcel boundary | ■ | Verified |
| Land cover | ■ | Verified |
| Infrastructure | ■ | Verified |
| Flood risk | ■ | Partial |
| API data | ■ | Verified |

Monthly Global Horizontal Irradiance

NASA POWER · kWh/m²/day · Annual avg: 5.66



INFRASTRUCTURE ACCESS

| ASSET | DISTANCE | DETAIL | ASSESSMENT |
|--------------------|----------|--------|------------|
| Substation | 1.43 km | - | Excellent |
| Transmission Tower | 0.64 km | - | Excellent |
| Road Access | 0.35 km | - | Excellent |
| Surface Water | 3.06 km | - | Moderate |

TERRAIN & LAND INTELLIGENCE

| FACTOR | VALUE | IMPLICATION |
|---------------------------|--|--|
| Elevation | 173.0 m | ASL reference for flood heuristic |
| Slope | 3.2° · Gentle | Moderate grading may be required |
| Land Cover | Bare / sparse vegetation (ESA WorldCover 2021) | ESA WorldCover 2021 |
| Environmental Sensitivity | Low | Land conversion impact |
| Permitting Complexity | Low | Estimated approval pathway |
| Flood Risk | Low | Estimated confidence · not a flood model |

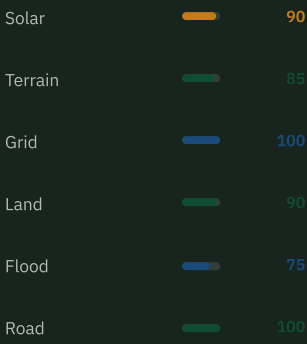
ENERGY YIELD ESTIMATES

| SYSTEM SIZE | EST. ANNUAL GENERATION | NOTE |
|-----------------|------------------------|----------------------|
| 25 kW | 44,417 kWh/yr | Reference scale |
| 100 kW | 177,667 kWh/yr | Reference scale |
| 1 MW | 1,776,674 kWh/yr | Full parcel estimate |
| 5 MW | 8,883,370 kWh/yr | Reference scale |
| ~1.32 MW parcel | 2,345,209 kWh/yr | Full parcel estimate |

METHODOLOGY NOTE

Based on NASA POWER GHI, performance ratio ~0.86. Not a bankable production estimate. Actual yield depends on tracker type, layout, losses, and module selection.

SCORE SUMMARY



90 / 100

DATA SOURCES

NASA POWER
Solar resource

ESA WORLDCOVER
Land classification

OPENSTREETMAP / OVERPASS
Roads, grid, hydrology

SRTM / OPENTOPDATA
Elevation & terrain

SCORING METHODOLOGY

| FACTOR | WEIGHT | DATA SOURCE | SCORING LOGIC |
|------------------|--------|-----------------------------|--|
| Solar irradiance | 35% | NASA POWER v8 | GHI ≥ 6.5 = 100 pts; 5.5–6.5 = 90; 4.5–5.5 = 70; < 3.5 = 0 |
| Terrain & slope | 25% | SRTM 30m via OpenTopoData | ≤ 2° = 100; 2–5° = 85; 5–10° = 65; > 15° = 0 |
| Grid proximity | 20% | OpenStreetMap / Overpass | < 2km = 100; 2–5km = 80; 5–10km = 60; > 20km = 0 |
| Land suitability | 10% | ESA WorldCover 2021 | Bare/sparse = 90; Grassland = 75; Cropland = 50; Forest = 10 |
| Flood risk | 7% | OSM hydrography + elevation | Negligible = 100; Low = 75; Medium = 40; High = 0 |
| Road access | 3% | OpenStreetMap | < 2km = 100; 2–5km = 75; 5–10km = 50; > 10km = 20 |

ASSUMPTIONS & LIMITATIONS

| AREA | LIMITATION |
|----------------|--|
| Flood Risk | Not hydrological modeling |
| Terrain | Based on SRTM sampling |
| Grid Access | OSM-based infrastructure only |
| Yield Estimate | Preliminary screening estimate |
| Land Cover | Satellite classification approximation |

RECOMMENDED NEXT STEPS

BEFORE INVESTMENT PROCEED WITH:

Land ownership verification and title search · DISCOM grid interconnection capacity study · On-site topographic and drainage survey · Environmental and permitting assessment · EPC layout engineering and shadow analysis · Bankable energy production report from certified engineer

LEGAL DISCLAIMER

This report is a preliminary automated screening tool only and does not constitute engineering certification, legal due diligence, utility interconnection approval, financial advice, or a bankable energy assessment. Data is sourced from publicly available satellite and government datasets (NASA POWER, ESA WorldCover 2021, OpenStreetMap, SRTM) subject to accuracy limitations inherent in their resolution and coverage. Flood risk assessment uses elevation heuristics and OSM hydrography - it is not a hydrodynamic model. Slope is estimated from coarse SRTM sampling. Grid infrastructure distances are sourced from OpenStreetMap and do not confirm substation capacity, interconnection approval, or network availability. Capacity estimates assume 5 acres/MW - actual buildable capacity requires EPC site layout. Yield estimates assume a performance ratio of ~0.86 and are not bankable production figures. Final investment, financing, land acquisition, or permitting decisions require certified engineering studies, utility interconnection review, independent legal land due diligence, and environmental and hydrological surveys conducted by qualified professionals. Suryix accepts no liability for decisions made solely on the basis of this report.