

COMMUNITY INFORMATION SHEET · RENEWABLES DEVELOPMENT

Solar farms explained

How grid-scale solar works, what it changes locally and the questions that matter

The key idea: the workhorse of the build-out

Grid-scale solar is the cheapest new electricity Australia can build, which is why so much is proposed, including to supply the clean energy that data centres and other digital infrastructure contract to buy. A solar farm is simple in concept: panels convert sunlight to DC power, **inverters** convert it to AC and an on-site substation feeds it into the grid.

Scale, land and lifetime

Utility projects typically need **1.5–2.5 hectares per megawatt**; a 300 MW farm might occupy 500–700 hectares of leased farmland, chosen for sun, flat ground and a nearby grid connection. Panels sit on fixed frames or single-axis trackers a few metres high. Projects run 25–35 years and the land is usually leased rather than bought, so decommissioning and return conditions belong in the lease and the planning approval, at the start.

Construction versus operation

The two phases are very different and job claims should separate them. **Construction** (one to two years) brings hundreds of workers, heavy traffic and local accommodation demand. **Operations** employs a small permanent team, often fewer than a dozen, plus periodic maintenance contractors. Both matter; a proponent quoting one big number without the split isn't being straight.

The real local issues

Common concerns deserve straight answers. **Glint and glare**: panels absorb light and reflect less than water or glass roofs; airports still require formal assessment. **Heat**: measurable warming immediately above arrays, negligible at neighbouring properties. **Land use**: the genuine tension, prime cropping land versus grazing-compatible designs (see the agrivoltaics sheet in this series). **End of life**: panels are recyclable but Australia's capacity is still scaling; ask what the approval requires, not what the brochure hopes.

What good practice looks like

- Setbacks, screening and vegetation designed with neighbours before the layout is fixed.
- Job figures split construction vs ongoing, with local-hire and local-procurement commitments in writing.
- Decommissioning obligations and financial security in the approval, not left to the lease alone.
- Grazing or cropping integration assessed where land quality warrants it.

Questions to ask

How many hectares and what class of agricultural land? What do neighbours see from their homes and what screening is committed? Who guarantees decommissioning if the operator is sold or fails? What share of jobs and spending is committed locally?

Want to know more? Your state planning authority publishes solar-farm assessment guidelines; the Clean Energy Council publishes a best-practice charter for developers. This sheet is general information, not legal or planning advice; a specific proposal is confirmed by qualified assessment.