

International Knowledge Transfer – Nyngan Solar Plant

Knowledge type: Construction

Knowledge category: Technical

Technology: Solar photovoltaic

Key learning

Australia has minimal experience in the delivery of utility scale solar projects and has the potential to benefit greatly from knowledge transfer from more developed international markets, particularly Europe and North America.

Implications for future projects

As the amount of local utility scale solar experience grows within Australia, it is expected that less and less international knowledge will be required. Future projects, including Broken Hill, will be able to leverage more local experience (i.e. Nyngan) and the international influence will be more limited to advances in technology and highly technical areas (i.e. control systems, commissioning).

Knowledge gap

Several areas were identified as reliant on international capabilities:

- Module, inverter and component supply,
- Construction management – means and methods,
- Commissioning, and
- Operations and Maintenance.

Background

Process undertaken

- As a part of the subcontractor education and bidding process for the Broken Hill project, over ten different local and regional contractors visited the Nyngan site accompanied by First Solar employees. These site visits provided contractors with the opportunity to better understand, quantify and price the work involved in solar project delivery and build up the knowledge and competency of the bidders.
- After First Solar identified a gap in the understanding and willingness of contractors to perform waste recycling services at the Nyngan site, First Solar decided to perform the service directly. For the Broken Hill project, contractors were able to come and understand the recycling process and subsequently incorporate the work into bid packages for the Broken Hill project. This represents two important features of knowledge sharing: 1) The

transfer of skills from international players (First Solar) to local contractors,; and 2) The growth in jobs and capability within local industry.

- Several highly qualified members of First Solar's SCADA and Commissioning teams visited the Broken Hill and Nyngan sites, preparing for the upcoming work and training local staff.
- The First Solar O&M team have hired three new local employees, with two of them spending several weeks training in the USA, splitting time between project sites and the First Solar Network Operations Centre in Tempe, Arizona.
- First Solar has sent a number of commissioning specialists from their USA base to Nyngan to assist with technical knowledge and leadership during the preparation for commissioning the first block of the Nyngan project.
- First Solar has rotated a number of experience construction managers to share means and methods related to the sequencing of construction activities and the optimisation of installation activities.