

Large Scale Solar Power

Fact Sheet – The Environment

- The objective of the north-west Victorian solar power station is to commercialise Solar Systems' zero emissions solar concentrator power technology on a large scale.
- The solar concentrator power station will supply electricity in an area of regional Australia that is well away from the fossil fuel power plants but has high energy demands and a large solar resource. The plant will annually supply electricity equivalent to the requirements of 45,000 homes without any contribution to greenhouse gas emissions.
- Solar power has the benefit of its peak plant output occurring on hot, sunny days – the same time as high electricity demand on the grid. It will add capacity in regional Australia during periods of high electricity demand and maximum stress on the existing electrical infrastructure.
- The plant will generate renewable electricity with zero greenhouse gas emissions – a reduction of 390,000 tonnes of emissions per year (based on Australian Greenhouse Office calculations for electricity supply in Victoria). Including losses from power transmission to north-west Victoria (15%), the reduction in greenhouse gas emissions at the conventional power stations is more than 400,000 tonnes a year.
- The north-west Victoria solar power station will be the forerunner of commercially-viable solar concentrator power plants across Australia. Solar Systems plans that by 2030 total installed solar concentrator capacity will be over 5GW. This will reduce greenhouse emissions by more than 10 million tonnes a year to exceed the Federal Government's Low Emissions Technology Demonstration Fund (LETDF) requirement for 2% per year from 2030.
- A by-product of the process will be the reparation of salinity-affected land. The plant's closed loop water-cooling system will exchange heat with saline ground water, pumped from existing salinity ground water interception schemes. This will reduce salinity issues in the area, protecting high-value agricultural production and assisting in reparation of salt-damaged, otherwise low-value land. By increasing the rate of evaporation from the saline water, the project will extend the life and throughput of salt interception schemes, creating salt production business opportunities for a third party.
- The nature of the technology to concentrate the sunlight means that the power station does not need to be established in a single 800 ha site but can be installed in several locations – lessening the visual impact and need to access large tracts of land.