

## Key Features

- Infrastructure sharing: utilising existing energy infrastructure to generate additional renewable electricity, minimise costs and environmental impacts.
- Demonstration of a hybrid wind and solar facility.
- Wind and solar generation profiles are compatible.
- Green electricity: 25,000MW hours of clean renewable energy each year, enough to supply approx. 4,000 NSW homes.

## Benefits - Infrastructure sharing

- Locating the solar farm within the wind farm minimises the required infrastructure.
- The solar farm would share the same substation and grid connection as the wind farm.
- Access would be via the wind farm access, with additional tracks built to access the solar area.
- Other infrastructure would be shared where possible with the wind farm, including the operations and maintenance facility and operations staff.

## Energy Payback

- The 'energy payback period' is the time it takes for a solar panel to produce more energy that was required to make the panel.
- For a large scale solar farm such as Gullen Solar, the payback period would typically be 1-1.5 years\*, depending on solar panel type chosen.



## Benefits – Lower environmental impact

- Making use of existing infrastructure lowers the potential environmental impact of the development compared to a standalone project.

# Project Concept and Benefits

**GULLEN**  
Solar Farm

• Energy payback period extracted from 'Sustainable Energy Solutions for Climate Change', Mark Diesendorf, 2013, UNSW Press. Also 'How Long Does it Take for Photovoltaics to Produce the Energy Used?', Industry Communities, Published by the National Society of Professional Engineers, Feb 2012