



Solar Flair Thermal Project Overview

Presented by the Craig Chambers

AIC WIIN Clean Energy Projects -
Opportunities Workshop

Solar Flagships Program (SFP)

- Federal Government initiative with primary objective of supporting the development of large-scale grid connected solar power generation.
- Other objectives are to:
 - develop a solar industry in Australia,
 - encourage regional development,
 - provide research infrastructure,
 - develop Australian intellectual property in solar power generation, and
 - develop and share technical/economic knowledge.
- Committed funding of \$1.5 billion to support the construction of up to four large-scale solar power stations in Australia (circa 1,000MW) using both solar thermal and photovoltaic technologies.
- <http://www.ret.gov.au/energy/energy%20programs/cei/sfp/Pages/default.aspx>

Solar Flair Alliance

Marubeni

SIEMENS



**Solar
Flair**
alliance



Commonwealth Bank



Project Overview *

- The SFA project (“Project”) will involve the design, construction, maintenance, operation and financing of a 150 MW solar power plant near the Kogan Creek Power Station (central western Qld).
- Project will utilise Siemens/Solel parabolic trough and power block technology with a solar field of approx. 400ha.
- The Project will be operated and maintained (25+ years) by CS Energy under a long term service agreement.
- Gas hybrid fired production (up to 15% of net output) and possibility of energy storage facility to optimise PPA outcome.
- The proposed site is adjacent to a planned Powerlink high voltage transmission line and an auxiliary fuel (natural gas) is available locally to supplement the solar power source.

Location of Project



Concept layout

[LINK TO ANIMATION](#)

8. Clean power is delivered to the end users via the power grid

7. The cooling tower cools the water cycle

9. Central control

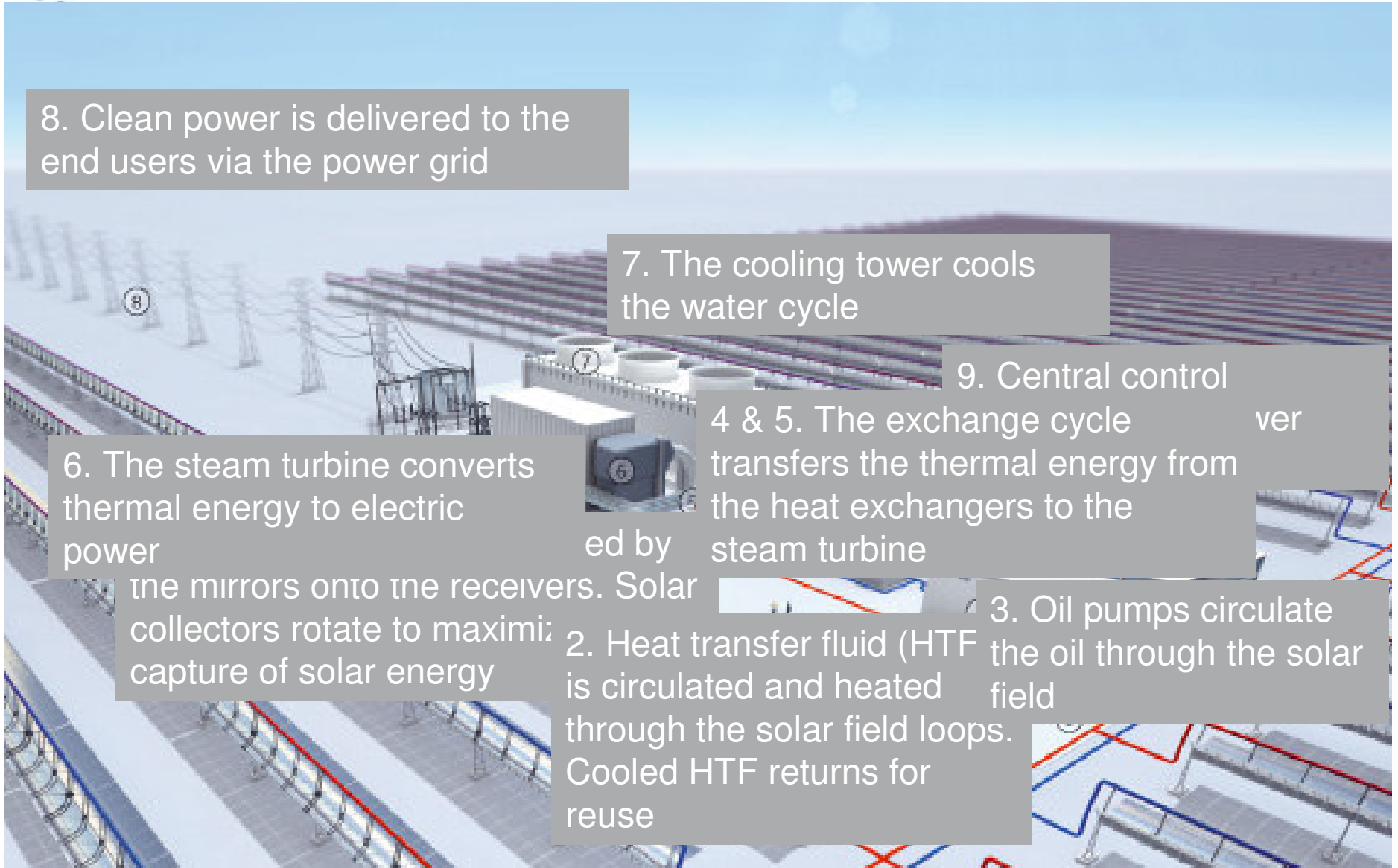
6. The steam turbine converts thermal energy to electric power

4 & 5. The exchange cycle transfers the thermal energy from the heat exchangers to the steam turbine

the mirrors onto the receivers. Solar collectors rotate to maximize capture of solar energy

2. Heat transfer fluid (HTF) is circulated and heated through the solar field loops. Cooled HTF returns for reuse

3. Oil pumps circulate the oil through the solar field



Siemens experience covers complete technology range for parabolic trough plant...



Receiver

- Unique sputtering coating of steel tube ensures low emissivity and high absorption rates
- Unique, patented getter system to maintain vacuum



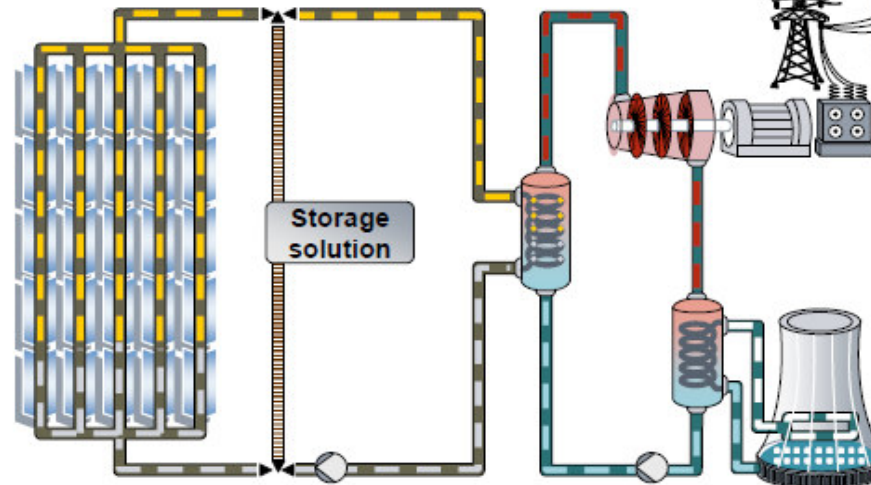
Steam turbine

- Market leader in solar steam turbines (market share >80%) with 2,000 MW of power sold



Solar field

- More than 10 years of actual measured performance
- Vertical integration and in-house production of all critical components



HTF

- Ideal integration and optimization with the Solar Field and Power Block
- Possibility to implement storage solution



Power Block

- World class references in power plant performance
- Optimized Power Block design specifically designed for solar thermal application with customized I&C and automation system



Generator

- Highest efficiency among air-cooled turbo generators (up to 98.7%) with more than 150 machines in operation

Solar Flair's Industry Engagement Plan

The Industry Engagement Strategy has four main themes:

- Maximising Australian industry involvement in the Project
- Maximising the transfer and distribution of project knowledge
- Optimising research opportunities
- Addressing industry sustainability

***Most relevant to small and medium enterprises:
Industry Involvement in the Project***

Opportunities

Siemens John Holland's policy is to ensure maximum opportunities for local industry participation in the Kogan Creek Solar Power Station project. SJH's guiding principles include:

- Informing local industries about the project and opportunities for their participation.
- Informing and investigating Australian companies' complimentary capabilities.
- Endeavouring to work closely with small to medium enterprises (SME's) wherever possible.
- Working closely with the Industry Capability Network (ICN) in the establishment and implementation of their Australian Industry Participation Plan.

Opportunities for SME's

- Supply Chain
 - Steel supply and installation
 - Aggregate, cement and concrete supply
- Labour and Services
 - Erection of the Solar Field (Mechanical, Electrical and Systems)
 - Electrical and control system installation and part supply;
 - Pipe work installation and part supply;
- Specialist Civil and Construction Works
 - Bulk earthworks, road works and drainage construction, fencing
- Temporary and permanent support facilities;
- Ongoing Operations and Maintenance.



Opportunities

- Opportunities for maximizing local manufacture of components are being investigated.
- The project is modular, there are significant elements of repetition in the engineering and construction)
- Register with the Industry Capability Network (ICN) and other industry associations
- Register Interest at Solar Flair website:

www.solarflairproject.com.au



www.solarflairproject.com.au

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http://www.solarflairproject.com.au/2010/

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Welcome to the Solar Flair Project



A vision for our future

Through the utilisation of Australia's abundant solar resource the Solar Flair Alliance together with the support of the Australian Federal Government seeks to provide affordable, secure, reliable electricity in a carbon-constrained world.

Latest News

- Federal funding for feasibility of QLD Kogan Creek solar thermal project
- Sunshine state on track to become the solar state
- Solar flagships project shortlisted
- Australia's biggest ever renewable energy rollout


A Flagship solar development

The Solar Flair Alliance is preparing a detailed proposal for its solar thermal power project as part of the Australian Federal Government's \$1.5 billion Solar Flagships Program with the aim of building Australia's first utility-scale solar thermal project.

The current proposal is to develop a 150 MW solar thermal parabolic trough power plant, which is expected to be located near the existing Kogan Creek Power Station, close to Chinchilla in Queensland.

This project will use Siemens technology, which is proven and in commercial operation in Spain and the United States. A high-voltage transmission line is to be located adjacent to the proposed site. Auxiliary fuel (coal seam methane gas) is available locally to supplement the solar power source.

The central objectives for the Alliance are to develop Australia's first utility-scale solar power station, create a commercially viable renewable energy enterprise and expand the country's solar industry capacity. The Solar Flair Alliance's strength comes from a successful working history, proven delivery methods and experience attained overseas in the deployment of solar technologies. Using these advantages, the Alliance team proposes to build a solid foundation from which the roll-out and deployment of large-scale solar technology in Australia can successfully take place.



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Questions & Answers

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