

The resulting SolarGas™ ($3\text{H}_2 + \text{CO}$) comprises 26 percent more energy than the original natural gas - this increased energy content is directly attributable to concentrated solar energy. In conventional reforming processes, this additional energy is supplied by burning more natural gas. The solar component can be separated to be used purely as solar hydrogen, or remain in the natural gas mix such that the solar component lowers the overall greenhouse gas signature of the fuel.

Once in the form of chemical bonds this solar energy can be used directly, stored, transported and exported to other countries. The end result is a product with all the benefits of solar energy and the convenience of gas.



Solar Hydrogen

Further refinement and separation produces solar hydrogen which is a clean way to power fuel cells, gas turbines or cogeneration units or could potentially be used to fuel the future generation of cars.

Australia's Premier Solar Research Facility

The National Solar Energy Centre is a centerpiece for promoting Australian and international research collaboration. The solar tower array is adaptable and flexible to suit research and development requirements by providing the following advantages:

- It is able to achieve controlled temperatures of over 1000°C
- Mirrors can be controlled individually and as many brought 'on sun' as necessary
- Temperature can also be controlled by altering the flow rate of the reacting fluid
- Two receiver mounting positions are possible, enabling two different solar experiments to be conducted simultaneously

These advantages mean the NSEC is capable of hosting a wide variety of national and international solar research, leading to better technologies for harvesting and applying solar energy in the future.



Contact Us

Phone 1300 363 400
+61 3 9545 2176
Email enquiries@csiro.au
Web www.csiro.au

For further information about The Solar Tower Array

Contact Wes Stein - Renewable Energy Manager
Phone +61 2 4960 6094
Email wes.stein@csiro.au
Web www.csiro.au