



# ENERGY

**THE AUSTRALIAN SYNCHROTRON: YOUR PARTNER  
IN PROBLEM-SOLVING AND INNOVATION**

*'The Australian Synchrotron enabled us to understand our material more effectively, putting us in the position to make a much more competitive product offering.'*

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## WORLD-CLASS RESEARCH SOLUTIONS

The Australian Synchrotron empowers industry to problem-solve and innovate, revealing how matter fits together, moves, interacts and changes, in a way that outshines what can be achieved in any conventional laboratory.

We partner with industry to achieve world-class breakthroughs in areas as diverse as supporting the development of effective treatments for Alzheimer's disease and reducing impacts of environmentally intensive practices, to boosting the nutritional value of food and gaining new insight into the efficient storage and transport of energy.

Our experts harness light, a million times brighter than the sun, to examine and analyse the structure and behaviour of samples in unprecedented detail, with precision, accuracy and speed not available elsewhere, helping industry partners to interrupt, boost and manipulate the most basic of processes to overcome technical hurdles and roadblocks and drive product innovation.

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## WE PROVIDE A RANGE OF HIGHLY SPECIALISED AND UNIQUE SERVICES IN ENERGY

### EXTRACTION OF ENERGY:

- studying the microstructure, nanostructure and bonding within geological materials to provide insight into efficient processes for extracting energy
- determining the characteristics of your sample with respect to fuel gas retention and extraction, as well as the potential for geological bodies to be used for CO<sub>2</sub> sequestration.

### CONVERSION OF ENERGY:

- providing insight into novel catalysts for material fabrication and characterisation for fuel cell development and supercapacitors and photovoltaics, to aid the conversion of sunlight and/or organic materials into fuels.

## WHAT OUR CLIENTS SAY ABOUT US

*'The Australian Synchrotron enabled us to understand our material more effectively, putting us in the position to make a much more competitive product offering.'*

*'Today, Hydrexia's breakthrough products provide significant savings with the potential to reduce hydrogen storage and supply cost by 30 per cent compared with conventional compressed gas storage and transportation methods.'*

*Mr Duncan Stovell, Chief Product Officer, Hydrexia Pty Ltd*

## ENERGY STORAGE AND TRANSPORTATION:

- characterising novel materials such as metal-organic frameworks (MOFs) for safe storage of energy as well as studying new, more efficient battery systems, enabling improved storage and transportation of energy to increase productivity and efficiency in operations.

## WE PROVIDE FULLY-SUPPORTED ANALYTICAL SERVICES BEFORE, DURING AND AFTER YOUR EXPERIMENTS, INCLUDING:

- identifying and tailoring effective synchrotron techniques for your sample to expedite detailed analysis
- delivering fast data acquisition from your sample, in unprecedented detail
- supporting timely data analysis and reporting.

For further information on how the Australian Synchrotron can help you problem-solve and innovate, contact:

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