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SYDNEY



## Sodium-Ion Batteries Large Scale Storage

**Sodium-ion batteries are a potential candidate that can either supplement or replace lithium-ion batteries for specialised applications such as renewable energy storage. Making sodium-ion batteries commercially viable requires developing components for these batteries and understanding their structure-property relationships.**

### Competitive advantage

- Development of environmentally friendly cheap electrode materials
- Use of a range of analytical techniques, particularly operando synchrotron X-ray diffraction, to elucidate structure-property relationships
- Using waste as a source for electrodes for sodium-ion batteries, potentially making them even more environmentally friendly and cheaper
- Rationale design of new materials

### Impact

- The development and understanding of materials for potential commercial sodium-ion batteries
- Understanding structure-property relationships to design better materials

### Successful applications

- Evaluating the chemical compositions of electrodes and their performance
- Combining a range of analytical methods to understand materials properties in devices

### Capabilities and facilities

- Battery materials development to research-scale cell development
- Access to key analytical techniques such as operando synchrotron X-ray diffraction, solid state NMR, surface analysis and electron microscopy

### Our partners

- CIC Energigune

### More Information

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