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Renewables in High-Temperature Industrial Processes

Among the various energy applications, high-temperature industrial processes will be among the hardest to decarbonise. Renewable fuels and/or concentrated solar-thermal energy have the potential to address this, if existing processes can be adapted.

Competitive advantage

- Deep modelling and experimental capability in high-temperature, multi-phase, chemically reacting flows
- Expertise in technoeconomic modelling

Impact

- Enables integration of renewables into high-temperature industrial processes from early stage concept development, through design and scale-up, and techno-economic assessment

Successful outcomes

- Work to integrate solar-thermal energy into the process for alumina production

Capabilities and facilities

- Experimental solar furnace ~ 700 suns
- Comprehensive, in-house modelling capability for turbulent, multiphase, chemically reacting flows

Our partners

- Alcoa
- Australian Renewable Energy Agency

More Information

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