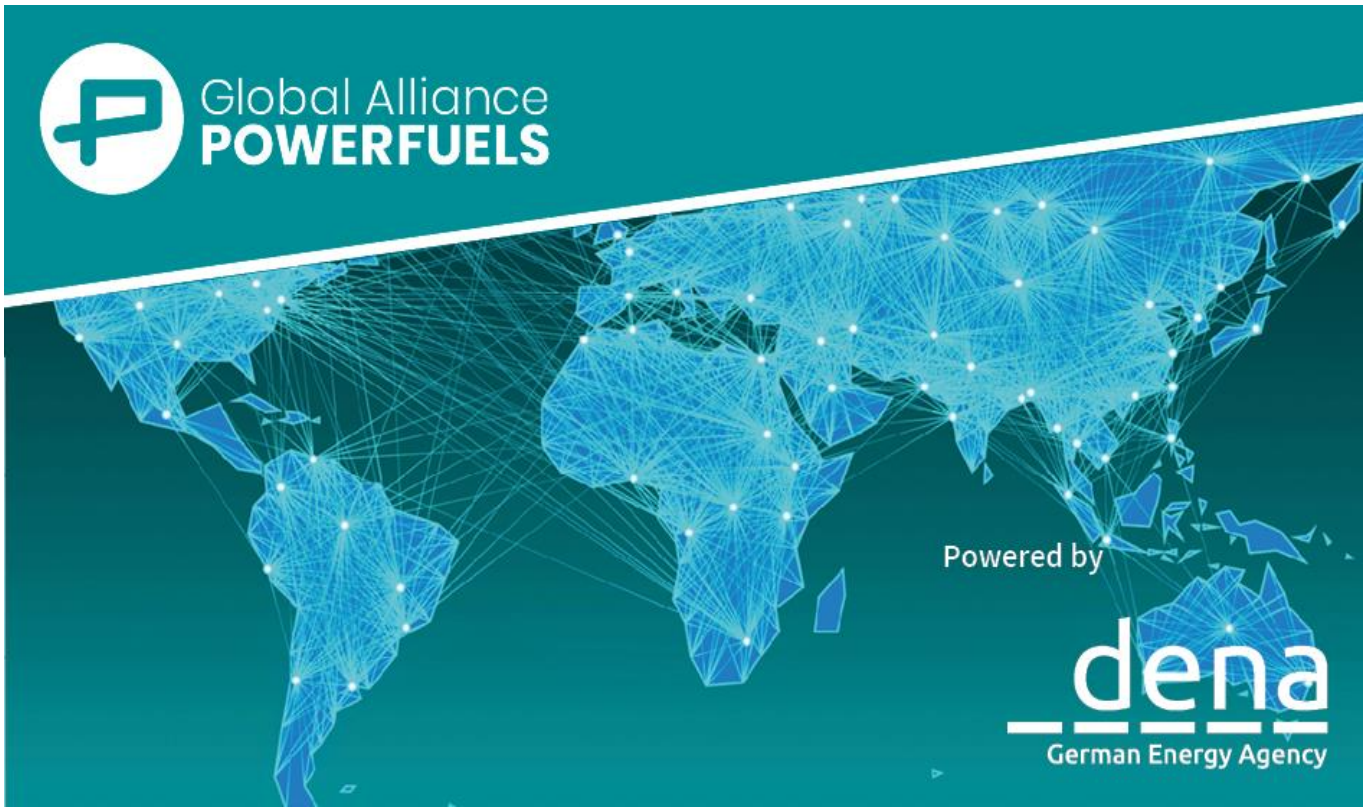

DIGITAL WORKSHOP

SCALING POWERFUELS

Leveraging Australia's renewable potential to supply a global market

OCTOBER 20TH, 2020

ONLINE ZOOM CONFERENCE

FOCUS **AUSTRALIA**

ORGANISED BY

Global Alliance POWERFUELS

CO-HOSTED BY

CSIRO

ENERGY TRANSITION HUB an Australian-German innovation partnership

IN COOPERATION WITH

cwp Renewables

Version: October 12th 2020

Towards a Market Ramp-up of Powerfuels in Australia and Europe

Renewable hydrogen-based liquid and gaseous **powerfuels** are an important building block of our future energy system. They not only enable sector coupling but also allow for deep de-fossilisation in sectors in which direct electrification with renewable energy is not possible or economical.

Australia is the third largest exporter of energy in the world today and set to become one of the main global actors for hydrogen production and trade. With its abundant renewable resource potential and national hydrogen strategy in place, it is well equipped to export large quantities of powerfuels in the future. The Australian Renewable Energy Agency forecasts an export potential of 500 thousand tons of hydrogen in 2030 and 1.4 million tons in 2040.

In building up hydrogen production capacities and infrastructure, so-called 'hydrogen hubs' will play a key role. Australia is also increasing its efforts to establish an international certification scheme for carbon neutral hydrogen that will aid its export ambitions, currently focused on Asian markets such as Japan, Singapore, Mainland China, Taiwan and Indonesia.

Up to now, projects for the production of hydrogen and powerfuels are in the demonstration phase, an example being a 30MW electrolyser plant in Port Lincoln by H2U in partnership with German ThyssenKrupp. From 2025 onwards, large-scale production projects are planned, such as the Murchison Renewable Hydrogen Project with up to 5,000 MW capacity by Hydrogen Renewables Australia and Siemens.

As these examples highlight, European stakeholder have recognised Australia's potential and ambitions and are looking for opportunities to exchange and cooperate to ramp up the global

powerfuels market. The **Global Alliance Powerfuels**, initiated by the German Energy Agency (dena) together with 16 renowned corporate partners as founding members, supports this goal by:

1. Raising awareness and acceptance of powerfuels as a missing link to reach global climate targets;
2. Supporting the enhancement of regulatory frameworks with a first focus on Europe as demand region;
3. Stimulating project development to globally increase production capacities on an industrial scale, thus increasing cost competitiveness with fossil fuels.

With regard to these goals, our workshop aims at fostering the mutual understanding of market barriers that projects in Australia and Europe currently face as well as the potential benefits of cooperation between Australian and European stakeholders in the field of hydrogen and powerfuels.

With this invitation, I would like to offer you the possibility to engage yourself in our event and contribute in one of the session with a thematic input. Please get in contact with my colleagues about your contribution or your remarks.

Thank you and enjoy the proceedings.

Andreas Kuhlmann

Chief Executive, German Energy Agency

Workshop Agenda

Berlin	Perth	Sydney	
8:00 am	3:00 pm	5:00 pm	**Workshop Opening** Andreas Kuhlmann, CEO, German Energy Agency **Moderation** Kilian Crone, Team Leader, Global Alliance Powerfuels
8:10 am	3:10 pm	5:10 pm	**Keynote** • **Prof. Ross Garnaut,** Chairman, Energy Transition Hub **Topics:** • Australia's powerfuel ambition: Export potentials and targets • Austalia and EU: Cooperation potential and trade
8:30 am	3:30 pm	5:30 pm	**Panel 1: Powerfuel Projects in Australia & EU** Short speaker inputs followed by 20 minutes moderated discussion. • **Andrew Dickson**, Project Manager, Asian Renewable Energy Hub • **Carl Berninghausen,** CEO, Sunfire • **Rupert Maloney,** Head of Hydrogen Investment, CEFC **Topics:** • Project development: Challenges and barriers in Australia and Europe • Financing: Planned investments and investment conditions • Looking to Australia and Europe: Project opportunities and cooperation potentials
9:05 am	4:05 pm	6:05 pm	**Break**
9:10 am	4:10 pm	6:10 pm	**Panel 2: Potentials and Barriers to the Market Ramp-up of Powerfuels** Short speaker inputs followed by 20 minutes moderated discussion. • **Sam Bruce,** Associate Director, CSIRO • **Falko Ueckerdt,** Senior Scientist, Potsdam Institute for Climate Research • **TBA** **Topics:** • Fuel types: Powerfuels produced in Australia • Shipping: Necessary infrastructure and transport cost • Certification and standards: Australian and European perspectives
9:45 am	4:45 pm	6:45 pm	**Break**
9:50 am	4:50 pm	6:50 pm	**Breakout Sessions** **1. Which electrolyser capacities are needed?** Rebecca Burdon, Energy Transition Hub **2. Environemntal constraints and certification: Only green hydrogen?** Professor Peter Rayner, University of Melbourne **3. In which sectors will powerfuels have the most influence?** Sam Bruce, CSIRO **4. What is the role of carbon-free powerfuels in accelerating emissions reduction?** Dr Daniel Roberts, CSIRO **5. Which powerfuels will be exported to Europe?** Friederike Altgelt, dena **6. How relate production cost in Australia to the willingness to pay in EU?** Hannes Salomon, dena **7. How can international cooperation help to ramp-up powerfuel markets?** Johanna Friese, dena
10:25 am	5:25 pm	7:25 pm	**Closing Remarks** Kilian Crone, Team Leader, Global Alliance Powerfuels
10:30 am	5:30 pm	7:30 pm	**End of Workshop**

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