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An Essential Guide to Renewable Ammonia

April 2021

Course Parts will commence at 14:30 and end at 17:30 (AEST). There will be short breaks during each course Part.

Part 1: 22nd April

Part 2: 23rd April

Part 3: 29th April

Part 4: 30th April

August 2021

Course Parts will commence at 14:30 and end at 17:30 (AEST). There will be short breaks during each course Part

Part 1: 19th August

Part 2: 20th August

Part 3: 26th August

Part 4: 27th August

4 Part Series



Delivered in **Live Online Training** Format

Course Directors



Charley Rattan

Ammonia, Hydrogen and Offshore Renewables Business Advisor and Trainer



Philip Leijten

Energy Transition Business Advisor and Management Consultant

Key Learning Outcomes & Case Studies Include

- ▶ The importance of renewable ammonia
- ▶ Ammonia's role as a net zero driver
- ▶ Will it be Green or blue hydrogen – or both?
- ▶ The Current and future ammonia supply chain
- ▶ Zero-carbon bunker fuel opportunities
- ▶ Ammonia's potential Long-term storage of renewable energy
- ▶ Plants and schemes under development/in the planning process
- ▶ How to do business with Ammonia interests?
- ▶ The Operations and maintenance, employment opportunities around Ammonia
- ▶ Engaging with the ammonia, hydrogen and renewable industries
- ▶ The importance of EU directive (including the Green Deal, 2x40 GW)
- ▶ National nuances and their relevance for attendees
- ▶ The importance of stakeholder NGO's and local community engagement
- ▶ Investor requirements and expectations

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ABOUT THE COURSE

Ammonia is an integral and crucial part of the emerging hydrogen economy, an industry that is expected to grow exponentially across the globe in the coming years. For example, the UK recently set a target to produce five gigawatts of hydrogen by 2030, representing a 40-fold increase from the current situation. This ambition is replicated worldwide where national hydrogen strategies, often explicitly citing the need for ammonia, are appearing on a weekly basis. The journey to a new, low emission energy system with a much greater role for hydrogen will be challenging and require much innovation. Early engagement with those developing low or zero-emissions ammonia projects will enable fast movers to reap the maximum from the opportunity presented.

The course aims to provide a practical guide to enable companies to make informed decisions and plans based on the real opportunities that are emerging as the global hydrogen and ammonia economy develops. Delegates will be guided as to where early opportunities are most likely to lie, who is involved and how to get in front of them.

COURSE OVERVIEW

As we move towards zero-carbon, deep electrification combined with new applications for hydrogen promise to transform the way we live, work, and do business. Ammonia sometimes referred to as the 'other hydrogen' can be at the very forefront of this transformation. Making it in a sustainable, green manner can help revolutionise the way we think about energy, heating, transport and energy storage; creating new infrastructure and matching supply chains where huge opportunities await.

The race is on for early entrants to the global ammonia market – don't be left behind.

WHO WILL BENEFIT

- Existing energy companies particularly those who are already part of the oil and gas supply chain and those looking to future-proof their capabilities
- The agricultural sector which is already familiar with ammonia as a fertiliser and well-placed to drive the industry forward
- Particularly relevant to engineering companies, those involved in storage compression equipment and shipping
- Those companies seeking to enter the ammonia and energy arena with its myriad opportunities in a market valued, in one scenario, by the Bank of America at 11 trillion dollars

COURSE DIRECTORS



Charley Rattan

Ammonia, Hydrogen and Offshore Renewables Business Advisor and Trainer

The course is led by Charley Rattan, international hydrogen expert and respected energy insider and facilitator bringing over 25 years' real-world renewable experience and a track record of successful major project delivery. Charley is a trusted strategic advisor to global energy companies and an advocate and facilitator for the emerging innovation energy market.

Charley is respected as a leading authority in hydrogen and renewables providing consultancy and training at high level across the globe including for key stakeholders, governments, consenting authorities and world organisations such as the United Nations.



Philip Leijten

Energy Transition Business Advisor and Management Consultant

Philip Leijten: A respected energy professional with over 25 years' experience in the corporate sector. Philip is a trusted advisor to energy companies and has a successful track-record in creating and implementing strategy, delivering complex business-wide change programs, originating and developing capital projects, managing design and execution activities as well as conducting investment appraisal and due diligence.

He provides consultancy to the decision makers in small and large businesses, increasingly with a focus on helping them navigate the transition to a more sustainable energy system.

Would You Like To Run This Course On-Site?

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If you have 8+ interested people, an onsite course can be an ideal solution. Speak with **Anton Long** or **Holly Baldwin** on +61 (02) 9080 4455 to discuss your customised learning solution, or email training@informa.com.au

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Course Outline

GREEN AMMONIA

- CO2 emissions
- Ammonia and Netzero target setting
- Importance of renewable ammonia
- Ammonia production technology, production facilities
- Electrolysis of water
- Methane pyrolysis
- Green or blue hydrogen, advantages and disadvantages
- Current ammonia supply chain end-to-end
- Ammonia applications

POTENTIAL ROLE(S) OF AMMONIA IN DECARBONISING THE ENERGY SYSTEM

- Ammonia as a carrier to transport hydrogen
- Zero-carbon marine (bunker) fuel
- Long term storage of renewable energy

GREEN AMMONIA PROJECTS

- Demonstration plants
- Plants and schemes under development/planning process
- New applications - research projects/project pipeline /future outlook
- Operations and maintenance, employment opportunities

GREEN AMMONIA PROJECTS – SUPPLY CHAIN CONSIDERATIONS

- Ammonia production for “traditional” applications
- The extended hydrogen supply chain e.g., offshore, offshore floating wind, mega scale solar, electrolyzers
- Route to market - national and global opportunities for ammonia and hydrogen
- Who to talk to?
- How to do business?
- Engaging with the ammonia, hydrogen and renewables industries

POLICY AND REGULATORY PERSPECTIVES

- United Nations perspective
- EU directive
- National nuances

KEY STAKEHOLDER PERSPECTIVES

- International ammonia producers
- State owned ammonia producers: SAFCO, QAFCO, ASEAN Bintulu, Indonesia, China.
- NGO's and local community engagement
- Investors



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Easy Ways to Register



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Course Code	Location	Course Parts	Month	Standard Price	4+ Dels Discount
P21GT45V	Live Online Training	All 4 Parts	April 21	\$2,076 + \$207.60 GST	\$2,283.60
P21GT45V02	Live Online Training	All 4 Parts	August 21	\$2,076 + \$207.60 GST	\$2,283.60

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Informa Corporate Learning – On-site & Customised Training

Informa Corporate Learning has a long-standing track record of delivering very successful customised learning solutions achieving real and measurable value for our clients through our senior training consultants.

If you have 8+ interested people, an on-site course can be the ideal solution – giving you the opportunity to customise our course content to your specific training needs, as well as attracting significant savings compared to public course costs.

Why Choose On-site With Informa Corporate Learning?

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