POSTGRADUATE DIPLOMA IN ENERGY INNOVATION FOR ZERO CARBON

Programme Learning Outcomes

Programme Learning Outcomes for Postgraduate Diploma in Energy Innovation for Zero Carbon (NFQ Level 9, Major Award)

On successful completion of this programme, students should be able to:

- Demonstrate an in-depth understanding of what zero carbon means for the entire energy system (electricity, industry, transport, buildings).
- Demonstrate knowledge of a range of analytical methodologies used to quantify renewable energy potential for different economic sectors, regions and countries.
- Describe the challenges, opportunities and research frontier for energy innovation (sector, system and technology) in achieving a zero carbon energy system.
- Outline recent scientific and engineering developments relevant to onshore wind, offshore wind energy generation and photovoltaic energy systems.
- Analyse, calculate and design the transport requirements for a specific situation based on minimisation of energy use.
- Apply a range of energy systems modelling and data analysis techniques to solve energy system problems.
- Describe the 10 Rs of circular economy thinking and apply the 10 Rs to identify measures to reduce GHG emissions from industry considering each Scope (1, 2, 3).
- Demonstrate knowledge and understanding of the role, mindset and potential for entrepreneurship in advancing energy innovation for zero carbon.
- Describe the role of policy, planning and design in accelerating renewable energy deployment for a zero carbon energy system.