The committee of the NWC of the Process Industries Division very warmly invite you to this year's Prestigious Lecture to be given by Dr Tim Fox.

An engineering response to the challenge of rising sea levels.

By Dr Tim Fox CEng Fellow IMechE

At 1800 for 1845 in the Trafalgar Room of the Hillcrest Hotel in north Widnes on Wednesday March 4th

Coastlines, estuaries and rivers will be radically altered around the world in the 21st Century and beyond as sea levels potentially rise significantly in response to the melting of land-based ice in Antarctica and Greenland. With large amounts of the world's industrial infrastructure, such as oil refineries, gas processing plants, chemical plants, wastewater treatment plants, food processing factories and power stations located at, or very close to, current sea level, the impact across a wide range of sectors could be significant. Add to this the effect on centres of population and maritime routes of trade, as many sea and river based towns and cities become indefensible, and it is clear that the disruption to global supply chains and economic activity could be substantial.

Engineered infrastructure and buildings typically have a 'design life' of 25 – 30 years, but with upgrades, life extensions and refurbishments they can often be in service for 50 -100 years, or more. However, rapidly rising sea levels this

century potentially presents engineers with a significant shift in one of the most fundamental of 'design life' baselines: high tide water levels, both in normal state and in short duration extreme flooding events such as storm surges. This warrants a new perspective for engineers and Dr Fox will discuss the finding of a recently completed IMechE project that scoped the engineering response to this challenge. He will explain that, as a profession, engineers need to be designing for the first meter of sea level rise now, recognizing that it could possibly happen as early as mid-century, and in parallel considering how to handle the additional meters as and when they arrive. Tim will conclude by presenting the recommendations from the work, which is beginning the profession's journey to finding practical starting points for designing in this uncertain environment.

Dr Tim Fox is an internationally recognised expert and thought leader in climate change mitigation and adaptation with specialist knowledge on clean energy systems and sustainable food systems. He works as an independent consultant operating at the nexus of science-technology-policy-business-communications and has previously been employed in small and large internationally focused commercial enterprises, government agencies and educational institutions in the UK, Australia, Canada and The Netherlands. Tim is a Chartered Engineer and Fellow of the IMechE, where he is Chair of the Process Industries Division Board and sits on the Technical Strategy Board, Council and the Education and Skills Strategy Board. He was the lead author of the IMechE's recently published report "Rising Seas: The Engineering Challenge". Dr Fox is also the Royal Academy of Engineering Visiting Professor in Clean Energy and Public Engagement at Exeter University.
Tim is the **Chairman of the Process Industries Board**, so it will be a very good opportunity to meet him.

For the purposes of refreshments, please register with John Bartlett on bartlettnuclear1@hotmail.co.uk

Complimentary refreshments of tea, coffee, biscuits and sandwiches will be provided by the NWC. Parking is free.

The Hillcrest Hotel

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