



Lichfield Science & Engineering Society

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Theatre & Studio

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THE CHALLENGES OF MEETING NET-ZERO BY 2050

Professor Michael Kelly
Emeritus Prince Philip Professor of Technology
University of Cambridge

8:00 pm on Thursday, 5th December 2024
In the Studio Theatre of the Lichfield Garrick

Michael Kelly studied Mathematics and Physics to MSc level at Victoria University of Wellington in New Zealand, and completed his PhD in solid state physics at Cambridge in 1974. He spent most of his research career developing the physics and technology for high performance semiconductor devices. During his time (2006-9) as a Government Chief Scientific Advisor he developed an interest in national energy systems and the use of energy in buildings, as the then Department for Communities and Local Government held all the policy levers on building standards and planning regulation. He subsequently taught final year undergraduates and Masters students on the present and future (i.e. 2050) energy systems. He is a Fellow of the Royal Society of London, the Royal Academy of Engineering and the Royal Society of New Zealand, Fellow of the Institute of Physics, Fellow of the Institution of Engineering and Technology and Senior Member of the Institute of Electronic and Electrical Engineering in the USA. He has won prizes for his work from the Institute of Physics, the Royal Academy of Engineering and the Royal Society.

If one views the pursuit of the Net Zero Target for 2050 as a complex engineering problem, one encounters major obstacles that are not discussed in the policy, political or indeed engineers' arenas. To accommodate electric ground transport and electric heating the grid will require expanding to almost three times its current size, requiring 40,000 professional engineers, the total number of electrical engineers in the UK at present. The cost to retrofit all buildings to be net-zero compatible is in excess of £3T and this finance is not secured. The major expansion in the demand for copper and rare earth metals is not assured of being met by the mining industry. And no-one has sought, let alone secured, public approval of the 30 years of disruption to the lives of our citizens.

This lecture will provide an update on Professor Kelly's report to the Global Warming Policy Foundation in 2023.

For further information, please see our website at www.LSES.org.uk
Students and Members Free.

Visitors £8.00. Tickets are not issued in advance, please pay at the door.
Members must sign in. Those signing in before 7:50 pm will have precedence over all visitors.
This lecture is expected to finish by 9.30 pm.