Sue Ion

Chancellor, Vice Chancellor, Members of the University, Graduates and Graduands and their families and friends; today the University will award an honorary degree to Dame Sue Ion, one of the UK's leading nuclear engineers. In a country where 21 out of 22 members of the cabinet have degrees in a humanity or social science subject (the 22nd has a degree in Geography!), and the current Secretary of State for Energy, perhaps inevitably, has a degree in Philosophy, Politics and Economics, she brings a rational, scientific and influential voice to the all important energy debate. Dame Sue was educated at an all girls grammar school in Preston in the late 1960s and early 1970s. In those days of course the internet was a concept that had not even been articulated, but today it makes available to the public material that one might wish were not available. Thus from a 2006 interview, I learnt that the teenage Dame Sue, obviously already with a career in mind, requested a book entitled "Atomic Energy" as a school prize. She was inspired by her Chemistry teacher to take a degree in Materials Science at Imperial College. That in turn gave her an opportunity to take a module on Nuclear Materials (although I suspect that "module" was another concept that hadn't then been articulated – a passed golden age indeed). And from that module she was led to undertake a PhD, researching into the cladding of the fuel in Magnox Reactors. During her PhD study she taught physics for two half-days a week at an inner London school with no facilities or labs to speak of, and many disadvantaged children. In that same interview, Dame Sue is quoted as saying "It enabled me to see a different way of life from an extremely privileged all-girls Northern grammar school", and she has maintained an interest in education ever since, including giving talks in Schools to encourage children to study the sciences.

After her PhD study she joined British Nuclear Fuels Limited in 1979, where she spent the next 27 years in various roles, including 14 years directing the technology and research divisions. Between 1994 and 2001, she was also a member of the Particle Physics and Astronomy Research Council and chaired its audit committee. Since leaving BNFL, she has gone on to play a leading role in matters of science, engineering and technology at both national and international levels. She has been president of the Nuclear Energy Society and Vice President of the Royal Academy of Engineering and a Council member of the Engineering and Physical Sciences Research Council. She is currently a member of the UK Council for Science and Technology, a non-Executive Director on the Board of the Laboratory of the UK Health and Safety Executive, Chair of the Fusion Advisory Board, a member of a number of review and oversight committees including the United States Department of Energy Nuclear Energy's Advisory Committee and a member of the Board of Governors of Manchester University. She was awarded the title of Dame in the New Years Honours list of 2010. In another interview, looking back at her career she was able to say, perhaps somewhat wistfully, "I sometimes think I was born 20 years to early or 20 years too late. By the time I arrived in the industry it was just embarking on its downturn. It is only in the last 4 or 5 years that things have really started to look up again. It's a shame in one respect, but it's still nice to be part of a renaissance as it starts to gather speed."

And she is indeed fully active in that renaissance. Today she sees one of her major roles as trying to bring some reality to the energy debate – quite forcefully giving her message that whilst renewable energy sources have promise and potential for the future, the only viable

option if our society is to continue in its present manner, is for renewable and nuclear energy to be used together. She has been quoted as saying “In a 21st century industrialised urban society we will always need a significant amount of centralised generation while renewables are being built. There has been a lack of consulting with engineers in the past on this issue and that needs to start happening.’ And again “When you start to set targets of an 80 per cent carbon reduction by 2050, do some maths and consult some engineers and you’ll work out it’s actually almost impossible. We need to do a proper engineering assessment of what we need and how we are going to deliver it. It’s no good saying you want to have 20 per cent renewables on your grid by 2020 if you haven’t got a clue whether it’s actually going to be delivered”. I suspect that messages like these are not one that politicians, most of whom don’t have much of a clue about science or engineering, and who are faced with the much more pressing problems of elections every five years, do not like to hear since they imply hard choices need to be made. Making such decisions is never a politician’s favourite task. But nonetheless messages such as these, need to be proclaimed as loudly and as frequently as possible and the voice of engineers and scientists need to be clearly heard above the political noise.

So today we are here to honour Dame Sue’s many and varied achievements, to celebrate her illustrious career and to look forward to her continuing forthrightness with politicians! Chancellor, to you and to the University, I present Dame Sue Ion OBE for the award of the degree of Doctor of Science, honoris causa.