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Personal Statement

Prior to starting my academic career, I worked in industry for over 20 years, latterly in the pipeline industry for 7 years as an integrity consultant for GE Oil and Gas. In this role, I was responsible for providing fitness-for-purpose, remaining life and corrosion assessments for onshore and offshore pipelines. I have also worked as a materials engineer in the petrochemical and power generation industries involved with the operation, maintenance and design of chemical and power plant.

My primary research interest, developed since my move to academia from industry, is in the use of pipeline infrastructure to deliver pathways to Net Zero – primarily in the transportation of carbon dioxide (CO₂) for Carbon Capture and Storage (CCS) schemes and hydrogen as a replacement for oil and gas in the energy mix. In this area my research topics have included:

material and specification requirements for CO₂ and H₂ pipelines,

techniques for conducting Quantitative Risk Assessments, including pipeline failure frequency and consequence analysis

hydraulic network design and developing system flexibility,

techno-economics and wider economy impacts.

My wider research interests include the modelling of structural damage and corrosion on structures, particularly relating to onshore and offshore energy infrastructure.

Qualifications

Doctor of Philosophy, Carbon diffusion across dissimilar steel welds, University of Cambridge
Award Date: 1 Jan 1992

Bachelor of Engineering, University of Sheffield
Award Date: 1 Jan 1989

... → 2003 Chartered Engineer, UK, CEng

... → 2003 Member of the Institute of Materials, Minerals and Mining, MIMMM

Research output

The potential importance of exploiting export markets for CO₂ transport and storage services in realising the economic value of Scottish CCS

Turner, K., Katris, A., Zanhouo, A. K., Calvillo, C. & Race, J., 29 Sept 2023, In: Local Economy. 38, 3, p. 264-281 18 p.

Developing and Export Base for Scottish CCUS: Maximising Returns on Investments and Costs to Public Budget

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The Importance of Early Employment and Government Revenue Gains in Governing the Wider Economy Costs and Benefits of Deploying UK CCUS

Turner, K., Katris, A., Calvillo, C., Corbett, H. & Race, J., 11 Jul 2023, Glasgow: University of Strathclyde. 6 p.

Jobs and UK CCUS: the constrained employment impacts of a new UK CO₂ Transport and Storage Industry

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Labour market and other wider economy challenges in decarbonising the UK's industry clusters [LAB-CLUSTER]

Turner, K., Race, J., Katris, A., Calvillo Munoz, C. & Zanhouo, A. K., 16 May 2023.

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Suitability and optimisation of analytical indoor shelter model used for infiltration of carbon dioxide for typical dwellings

Wetenhall, B., Race, J. M., Adefila, K., Aktas, B., Aghajani, H., Lyons, C. & Reppas, N., 27 Oct 2022, p. 1-19. 19 p.

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Understanding the Wider Economy Impacts and Informing Policy around Net Zero Industry Development: Scotland's Net Zero Infrastructure Programme (SNZI) - Year 1 Progress Report

Turner, K., Race, J., Alabi, O. & Katris, A., 19 Aug 2022, Glasgow: University of Strathclyde. 11 p.

Proposition for an additional input output multiplier metric to access the value contribution of regional cluster industries

Alabi, O., Turner, K., Race, J. & Katris, A., 15 Jun 2022, In: Papers in Regional Science. 101, 4, p. 795-809 15 p.

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