

David Walwyn is a Professor in the Graduate School of Technology Management at the University of Pretoria. He has a B.Sc. Chemical Engineering from the University of Cape Town and a PhD in Organic Chemistry from the University of Cambridge. His research interests cover sustainability transitions, renewable energy, science and innovation policy, research management and industrial development. He has taught courses in engineering economics, energy value chains, research methodology, and science and technology policy. He supervises at least 15 Masters/PhD students each year on the management of technology programme offered by the University of Pretoria. He has published widely in several areas (further details at https://www.researchgate.net/profile/David_Walwyn).

Research at IAS-STIS: New Strategies for Industrial Development Based on an Interdisciplinary Reframing of the Constraints of Conventional Theory within Innovation Policy and STS Studies

Industrial development and economic growth are important policy goals in most countries. South Africa is no exception. Since 1994, the country has pursued several active strategies for industrial development, including policies for firm-level innovation based on techno-economic and neo-classical concepts, and the evolutionary economic framing of national innovation systems. Most of these strategies have had little impact in their core objectives. In this project, four different components of industrial development strategies will be reviewed, together with illustrative examples of each strategy, their individual limitations and

how the four approaches, when used together in a synchronous manner, could lead to stronger industry. The project will lead to the publication of a book, which is intended as a guide for policy practitioners and as a reference source for students within the broader discipline of technology and innovation management.

Selected Publications

Walwyn, D. and Hanlin, R. 2022. Broadening Energy Access for Poor Households in Rural Malawi: How Pico Solar, Mobile Money and Cloud-Based Services are Being Combined to Address Energy Exclusion. *Frontiers in Energy Research*. <https://doi.org/10.3389/fenrg.2022.877307>

Walwyn, D. and Kraemer-Mbula, C. 2021. Captives of Capital? Exploring Economic Models as Recursive and Performative Agents. *Energy Research and Social Science*. 78, pp 102131.

Walwyn, D. and Combrinck, C. 2021. Epistemic justice during a global pandemic: Transforming curricula and pedagogical practices to improve student experiences of innovation studies. *Industry and Higher Education*. doi:10.1177/0950422220987088.

Walwyn, D. 2020. Turning points for sustainability transitions: Institutional destabilization, public finance and the techno-economic dynamics of decarbonization in South Africa.

Energy Research and Social Science. 70, pp 101784.
<https://doi.org/10.1016/j.erss.2020.101784>.

Walwyn, D. 2020. Teaching on the edge of chaos: Report on 'The future of universities in a post-COVID-19 world'. S Afr J Sci. 116(7/8), Art. #8404, 2 pages.
<https://doi.org/10.17159/sajs.2020/8404>.

Potts, S. & Walwyn, D. 2020. An exploratory study of the South African concentrated solar power sector using the technological innovation systems framework. Journal of Energy in Southern Africa, 31(2), pp 1-18. doi: <http://dx.doi.org/10.17159/2413-3051/2020/v31i2a7670>