

Editorial

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You can always rely on *Engineering Sustainability* for a wide range of subject matter and this issue is no exception: covering civil engineering education, supergrid interconnection capacities, conservation work in Sudan and an exercise in futurism.

We start this issue of *Engineering Sustainability* in the way that we ended 167(5), with a paper on educating engineers. In this instance Byrne and Mullally (2014) of University College Cork are working to develop an appreciation among students of complexity, uncertainty and ethics as a foundational introduction to sustainability.

I have just read the latest Naomi Klein (2014) *This Changes Everything* and I am sure that she would approve of the notion of creating a profession that ‘leaves hubristic illusions of control aside and embraces context, complexity, inherent uncertainty and risk’ (Byrne and Mullally, 2014: p. 241). The world certainly is not short of wicked problems right now and the approach taken in Cork has demonstrated that it is possible to sensitise young engineers to the dimensions of modern day challenges that lie beyond the technical realm. In my view at least, Cork’s students are being prepared for a world that is increasingly connected and increasingly collaborative; for a fulfilling and successful public and private life.

Meanwhile, Eskandari Torbaghan *et al.* (2014) of the University of Birmingham propose a step-wise method for assessing the probability of surplus capacity within a pan-European supergrid, a development that would help maximise the use of renewables within the European Union. In December 2010, a memorandum of understanding was signed by ten European states, including the UK, making possible the transfer of renewable energy from northern marine and southern solar resources to European centres of population. In 2011, the UK Energy and Climate Change Committee (ECCC) launched an inquiry to investigate the potential for building a European supergrid.

Eskandari Torbaghan *et al.*’s paper builds on previous work on probabilistic forecasting in the USA and UK. En route it highlights some of the issues that have confounded risk analysis in the past, including the construction periods involved, the interplay between national renewables policies and the binary nature of major projects such as interconnectors.

Even though the chief underlying assumption that the Birmingham team makes – that the UK seeks to connect to

the supergrid to import only renewable energy – seems a little far-fetched at this point in time, and the rest of the inputs have an inevitable high degree of subjectivity, the paper nonetheless provides some interesting insights. For example, though the cost of an interconnector to the Netherlands is low, and indeed a new interconnector was commissioned in 2011, Germany’s export capacity for renewables in 2030 is almost two orders of magnitude greater. All in all it is a useful addition to current thinking around the supergrid.

From electrodynamics to cultural dynamics, and the conservation of the built heritage of Suakin, an abandoned historic port on the Red Sea Coast of Sudan. This is the subject of a paper from Ashley *et al.* (2014).

The paper notes the shift from a primarily monumental appreciation of heritage to ‘inhabited historic towns’, underlined by the World Heritage convention’s inclusion of ‘community’ in 2007 as a key strategic objective for implementation. However, there is little evidence of local stakeholder inclusion in recent conservation practice. With this in mind, Ashley *et al.* set out to explore the impact of local cultural dynamics on the conservation of the built heritage of Suakin through a 2-day collaborative stakeholder workshop. Despite the 20 years Suakin has spent on the World Heritage ‘tentative’ list without full status being gained, there was no evidence that such an event had been held before.

The engagement was not entirely successful, with the Red Sea state governor and the Sudan Unesco ambassador unable to attend the workshop. With the key political support necessary to mobilise conservation measures absent, the likelihood of an immediate practical outcome to the workshop seems remote. However, the process itself is instructive and it did surface the predominant cultural dynamics as a basis for further collaboration.

We conclude with a review by Braithwaite (2014) of Porritt’s *The World We Made*. Porritt is not a man you can put in a box. Chair of the Green Party, director of Friends of the Earth, author, broadcaster. His Forum for the Future venture has been contentious in environmental circles – has his engagement with the corporate world been productive or is it a sell-out? I suspect that this book will attract fans and detractors in equal numbers. There is a strong vein of technological optimism here that will appeal to many and dismay others.

For me it's a brave attempt to capture the many and complex facets of sustainability in a more popular format than, say, *Capitalism as if the World Matters* (Porritt, 2007), which, by the author's own admission, makes a handy doorstep. It is also a return to his roots as a history teacher, albeit this is a history written in 2050. Time will tell as to whether his grasp on the politics or mathematics of the current world situation is accurate. But educating more engineers in the way proposed by Byrne and Mullally will doubtless improve the likelihood of Porritt's upbeat vision prevailing.

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