Abstract and bio, William Usher, associate professor KTH

Open Source Energy System Modelling

Insights from Energy System Optimisation Models support the planning of national and regional energy systems. Over the past decade, there has been a revolution in the development of Energy System Optimisation Models, with many new and existing models released under Open Source licenses. This has paralleled the increasing popularity of Open Source in general, and has been propelled forward by digital services such as Github and free and open source programming languages such as Python. In this short talk, Will Usher will briefly outline some of the benefits and difficulties in conducting reproducible research in the energy space. Many new challenges emerge from harnessing tools which enable distributed teams of researchers to collaborate, including openness & transparency, data security, duplicated work, licensing, conflicting development paths, managing volunteer communities of independent developers and much more.

Bio Dr. William Usher, KTH

Dr. Will Usher is an experienced modeller and researcher of energy and infrastructure systems at KTH Royal Institute of Technology where he works as an Associate Professor of Integrated Systems Analysis for Sustainable Development. Will Usher's research interests bridge three related themes: model integration and infrastructure system-of-systems, energy systems optimisation modelling and transition pathways and decision-making under uncertainty and uncertainty quantification. His research approach is grounded in engineering, but highly interdisciplinary, bringing together economics, environmental and social sciences, a necessary response to the unique research challenges facing us today.