

Islands as testbeds for sustainable water infrastructure.

William Sloan¹, Jill Robbie¹, Elizabeth Lawson², Jaime Amezaga², Tania Gomez Borraz¹,
Cindy Smith¹ *NB! (Baptiste Poursat presented on behalf of William Sloan)*

¹University of Glasgow, Glasgow, United Kingdom. ²Newcastle University, Newcastle, United Kingdom

Abstract

Most islands are not independent states. They reside in archipelagos governed from cities on a mainland, where most of a country's population reside. The infrastructure to provide clean water and sanitation often reflects the historical problems associated with the rapid development of these cities and the urban centric perspective of governments that typically reside there. Thus, in the global North, a centralised paradigm for water and sewerage dominates, with large water utilities moving vast amounts of water through treatment works and via networks to houses and businesses, then removing and treating wastewater via sewers and energy intensive wastewater treatment plants to dump clean water back into the sea or rivers. We demonstrate, using Scotland as an example, that this urban centric perspective means that the water-needs of rural and Island communities have been neglected, resulting in effects on the wellbeing of Islanders that are being exacerbated by climate change. Our research highlights the role that new decentralised water technologies could play in mitigating these effects and documents the prevailing barriers to implementation. We go on to suggest that the climate related water related climate problems of Scottish Islands are a bellwether for similar problems in our cities. The engineering and legislative lessons learned from deploying new decentralised technologies on our Islands now may be invaluable in transitioning to equitable and sustainable infrastructure in the future, everywhere, even in our densely populated cities.

Choose Category

Paper Proposals