

Transforming Water Management Across the River-Sea Continuum to Drive Climate Adaptation and a Just Transition to a Net Zero Water Future

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Abstract: The presentation will provide an overview of the Scotland Hydro Nation Chair (HNC) programme, and how, by working in partnership with industry, government, regulators, academia, and communities, we can drive climate resilience and new opportunities for prosperity. The focus will be on the digital revolution and the opportunity to drive a new paradigm of understanding of water and wastewater, enable smart solutions to reduce greenhouse gas emissions, and find within-catchment solutions for water and wastewater management and resource recovery. This presentation will chart the development of the Forth Environmental Resilience Array (Forth-ERA), a digital observatory that forms part of the DANUBIUS-RI ERIC, led by Romania. Forth-ERA brings together data from state-of-the-art capabilities that we have been developing over the last decade, along with next-generation sensors and satellites to deliver new, rich, and highlight heterogeneous data streams to transform our understanding of the management and impact of hydroclimatic extremes, the complex mixture of pollutant cocktails impacting our environment, and opportunities for climate adaptation. The HNC programme is working with a range of industrial partners to develop circular economy opportunities by recovering resources from wastewater treatment works and reducing emissions to the environment. The next phases of research and innovation in sustainable water management will also be outlined.

Keywords: Scotland Hydro Nation Chair; Digital Water Management; Forth-ERA Observatory; Climate Resilience; Circular Economy in Wastewater.

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