How Actionable Research in Chemistry can promote Sustainability

J. G. Hering[1]

[1]Emerita, Eawag / ETH Zurich / EPFL

Advances in chemistry have improved human well-being, most notably by increasing the food supply through the development of synthetic nitrogen fertilizer. At the same time, chemical innovations have resulted in environmental degradation that threatens human health. Current global challenges, such as climate change and biodiversity loss, call for solution-oriented, actionable research that should inform environmental policy as well as practice in chemical industry and in environmental protection. Designing effective actionable research requires serious attention to the needs and interests of potential implementation partners (and ideally direct involvement of their representatives) at formative stages of project development. Time and resources must also be budgeted for knowledge exchange, which may benefit from involvement of (non-academic) knowledge brokers. Examples will be presented to illustrate the impacts of actionable research in environmental chemistry as a model and motivation for the broader adoption of actionable research in chemistry.