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Emerging themes and future directions of multi-sector nexus research and implementation

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Abstract-

Water, energy, and food are all essential components of human societies. Collectively, their respective resource systems are interconnected in what is called the “nexus”. There is growing consensus that a holistic understanding of the interdependencies and trade-offs between these sectors and other related systems is critical to solving many of the global challenges they present. While nexus research has grown exponentially since 2011, there is no unified, overarching approach, and the implementation of concepts remains hampered by the lack of clear case studies. Here, we present the results of a collaborative thought exercise involving 75 scientists and summarize them into 10 key recommendations covering: the most critical nexus issues of today, emerging themes, and where future efforts should be directed. We conclude that a nexus community of practice to promote open communication among researchers, to maintain and share standardized datasets, and to develop applied case studies will facilitate transparent comparisons of models and encourage the adoption of nexus approaches in practice.

Index Terms- nexus, water, energy, food, multi-sector

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