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## Energy-Water Nexus: An Integrated Modeling Approach

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### Abstract

*Energy and water are essential for physical, social and economic wellbeing. In recent times, changes to the energy and water industries, brought about by industry reform, environmental considerations and strategies to meet future demand have brought into sharp focus the link between the two - termed energy-water nexus in this paper. The recent emergence of the phenomenon as a critical issue signifies that understanding of the nature of the nexus and models to assist in analyzing it are still being developed. A review of the models indicates that, whilst providing useful tools for localized contexts, the methodologies adopted limit the suitability for policy analysis at an economy-wide level. A more integrated approach, based on input-output analysis, would provide such a framework, and is the basis for an energy-water model presented in this paper. Whilst the model has been developed for New South Wales, Australia, it may be adopted by regions elsewhere, where energy and water industries are being similarly transformed.*

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