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Lessons from the History of Independent System Operators in the Energy Sector, with applications to the Water Sector

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This paper examines the lessons from independent transmission system operators in energy in the context of the potential introduction of an independent system operator in the water sector.

The key lesson from the energy sector is that there is a basic choice between having an independent system operator (ISO) and an independent transmission system operator (ITSO) covering two or more existing company areas. ISOs do not own any wires or pipes, ITSOs do own wires or pipes. There have been experiments in energy with a tender process for a for-profit ISO, but the track record on this is poor. If the creation of an ITSO is deemed to be too costly (as has been the case elsewhere); then an ISO is the obvious option for facilitating a multi-area competitive wholesale market.

There would seem to be merit, as in US electricity ISOs, of allowing water sector ISOs to operate both the physical system and run the associated financial markets. ISOs involve non-trivial setup and running costs and are subject to potentially significant economies of scale. ISOs also impose significant IT related costs on market participants who have to interact with them. This implies that their introduction requires a careful cost benefit analysis. Achieving appropriately independent governance of an ISO or ITSO is difficult. Both ISOs and ITSOs give rise to incentive problems: one having weak financial incentives, the other having financial incentives that may be too strong. A not-for-profit water industry ISO with clear objectives to maximise social welfare from trading, with a genuinely independent board and regulatory oversight of its costs, via a management contract, might be an appropriate set of governance arrangements.

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Paralleling electricity, an idealised set of practices for a water system operator can be formulated. These might include the implementation of appropriate area wide scarcity pricing at times of water stress, a set of charges for the use of the system which would provide efficient signals for investment and moves to standardise trading rules with adjacent control areas (should these exist). There is a role for price arbitrage via merchant water interconnection between companies, but this alone may not maximise the benefits from trading. System operators should be important players in the planning process. An ISO in the water sector could be an important source of analysis of how the system should be developed over the coming decades. Clearly the regulator might be able to benefit substantially from the creation of new and more independent source of analysis of sector.

Finally, there are important issues particular to water, such as the smaller size of the market and the impact of trading on traditional regional bill differentials, which temper any enthusiasm to simply import models that have worked in energy.

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