

Submission to the inquiry into water use efficiency

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Two pertinent aspects to water use efficiency (WUE) attend the bulk of the published studies on this topic. Regrettably, both elements remain largely ignored or downplayed by policy makers and it is for that reason I briefly reiterate those issues here. The considerations comprise (1) hydraulic matter and (2) economic concerns.

Hydraulic matters

- Water is necessarily a fugitive resource.
- When water is claimed to have been 'wasted' it does not go to Mars.
- Thus, water cannot be 'saved' per se – it is simply reallocated in time and space.
- To install a WUE device means that water that was previously being 'spilled or wasted' is not being allocated elsewhere.
- That reallocation may be beneficial or not – for instance if the water was previously 'spilling to the environment' to then claim the purportedly saved water as being 'for the environment' ostensibly amounts to false accounting.
- This partly explains why it is so difficult to reach some of the saving targets set for some WUE schemes.
- WUE schemes, as a minimum, should take account of where and reallocated water came from and its impact.
- The Australian government performance on this front has been mixed.
- Internationally, WUE schemes have actually seen an expansion of irrigation in some locations at the expense of others.

Economic considerations

- There is ample documentation to support the view that WUE is amongst the most expensive methods of securing water and in the context of securing water for environmental uses the hydraulic matters above confound this problem.
- The rationale for using WUE versus simply purchasing water from willing sellers has been that this will help underpin the survival of rural communities.
- This is a false hope. Rural changes are driven by many other factors, the most significant being relative prices of outputs. Water is a minor input (relatively) for many agricultural enterprises and WUE in many cases simply adds to other costs (e.g. energy).
- Successful irrigation enterprises tend to adopt capital (including WUE) up to the point that it is profitable to do so. To encourage adoption beyond this point, simply sets up business (and ultimately communities) to fail. Of course it does generate rents for providers of WUE equipment and presumably benefits specific irrigators. It would be wrong to assume that it benefits all irrigators or the community at large.

- Limited attention has been paid by policy makers to the legacy of WUE. In some jurisdictions (e.g. NSW) this is less problematic, inasmuch as irrigation infrastructure has moved to private hands and any weaknesses/shortfall will only impact on the public purse if political will permits. In other jurisdictions (e.g. Victoria) where irrigation remains 'owned' by the state the economic legacy is more problematic.
- To illustrate I briefly refer to the Goulburn-Murray Irrigation District (G-MID) which received significant public monies to 'modernise' infrastructure.
- G-MID farmers do not presently pay sufficient monies to cover the costs of G-MID. Estimates put the shortfall at about two thirds – i.e. prices would need to increase by about 300% to cover all costs.
- The addition of WUE infrastructure is via public 'gifting'. This means that G-MID is not obliged to add this capital to what is known as the Regulatory Asset Base. In simple terms this is the capital and equipment that is used to calculate the prices faced by farmers, since the G-MID is covered by economic regulation.
- Thus gifted assets in places like G-MID will depreciate but there is no requirement to set aside funds for their replacement. This leads to an obvious question – who will pay when it needs to be replaced?
- As it stands irrigation in places like G-MID is not meeting costs and to 'gift' additional assets simply worsens the situation in the medium and longer term.
- WUE also gives rise to serious distributional issues. Those irrigators who wish to stay in irrigation and/or expand their enterprise can benefit in the short term, provided outputs prices are buoyant. Those seeking to downscale or exit irrigation suffer. These are not farmers seeking to exit agriculture or leave the region, as data shows many choose to switch to other enterprises and remain in the area. This group find themselves locked into communal irrigation by virtue of the exit fees that accompany leaving the irrigation network. Simultaneously, the number of buyers bidding for their water entitlements falls such that neighbouring farmers can bid water away at lower cost than would be the case. To claim that WUE benefits all in the community is manifestly incorrect.
- Finally, the quantum of public monies used in WUE projects is itself worrying from a broader economic perspective. At a time when government bemoans the status of budgets and the demands on the public purse increase, it is difficult to rationalise WUE projects. They are costly, ineffective and leave serious challenges for the communities they purportedly support.