

Capacity sharing in the St George and MacIntyre Brook irrigation schemes in southern Queensland

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- The recent ABARE report: *Management of irrigation water storages: carryover rights and capacity sharing* examined the economics of storage management and noted a number of the potential advantages of capacity sharing.
- Capacity sharing is an alternative approach to water allocation, where users are allocated a share of system storage capacity and a share of inflows. Users are able to manage these capacity shares independently, determining how much water to use and how much to leave in their share of storage.
- This report examines in detail two capacity sharing schemes implemented in southern Queensland. Capacity sharing has been in operation in the St George region since 2000 and was introduced into the nearby MacIntyre Brook region on 1 July 2008. To date, these are the only irrigation regions in Australia where capacity sharing has been implemented at the end user level.
- SunWater has formalised a comprehensive set of rules to enable the conversion of traditional water entitlements into capacity sharing entitlements. SunWater's approach includes accounting for delivery losses via a system of defined zones with associated loss factors.
- The report presents information gathered from interviews held with irrigators, water managers and members of the finance sector in the St George and MacIntyre Brook regions.
- All of the irrigators interviewed were supportive of capacity sharing. The irrigators listed a number of advantages of capacity sharing relative to the previous arrangements, including greater flexibility over inter and intra-year water storage/use decisions and an overall reduction in uncertainty.
- All of the irrigators interviewed indicated that the transition to capacity sharing was well handled by SunWater. The irrigators also indicated that capacity sharing imposed no significant time or inconvenience costs, and that it was generally simple and low cost to use.
- A number of stakeholders expressed concerns regarding the delivery loss zones in the MacIntyre Brook system, suggesting that some irrigators who regularly traded water to downstream regions were adversely affected. While there may be some potential for distributional effects as a result of delivery loss rules, the net effects on irrigators are likely to be minimal given the presence of offsetting positive effects.
- In this report, a range of quantitative data relating to the capacity sharing schemes at St George and MacIntyre Brook is presented, including hydrological data, water accounting data and capacity sharing adoption rates.
- Adoption rates show that, among eligible irrigators, the take up of capacity sharing has been strong. As of the 2008-09 water year, more than 99 per cent of entitlements by volume were under capacity sharing at St George and more than 98 per cent at MacIntyre Brook, in its first year in operation.
- Data from SunWater's capacity sharing water accounting system was used to construct a set of aggregate water accounts for both St George and MacIntyre Brook. The St George water accounts show significant end of year storage reserves, despite the relatively low inflows during the period and the relatively high storage losses.

- User level water accounting data provided a picture of the variation in water use/storage strategies of individual irrigators. The user level data demonstrates how individual users were able to make use of the additional flexibility that capacity sharing provides.
- The experience of St George, and to a lesser extent MacIntyre Brook, has demonstrated that capacity sharing is feasible and practical. While there are challenges to face in refining the approach and in introducing it into other systems, capacity sharing shows significant potential.