

NSW Sustaining the Basin: Border Rivers-Gwydir; Supporting irrigators, the environment, and regional communities

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Introduction

NSW Sustaining the Basin: Border Rivers - Gwydir (STBBRG) is a pilot infrastructure modernisation program in the Murray-Darling Basin utilising the Australian Government's 'Water for the Future' funding.

Implemented by Industry & Investment NSW (I&I NSW) the program provides an opportunity for Border Rivers and Gwydir Valley irrigators to upgrade irrigation infrastructure, improve productivity, adapt to reduced water availability and ensure the long-term sustainability of local communities.

STBBRG aims to achieve water savings by improving on-farm water use efficiency (WUE), reducing the direct extraction of water from the Border Rivers and Gwydir regulated river water sources, and return at least 50 percent of the projected savings to the Commonwealth Environmental Water Holder (CEWH).

Commencing in October 2009, the 12 month pilot program will measure the industry's responsiveness to government funded irrigation modernisation programs aimed at water recovery. Importantly STBBRG will also assist in guiding the development and implementation of future programs in other NSW Murray-Darling catchments.

Program Model

STBBRG is a multi-component program including capacity building, water use efficiency planning, competitive tendering for government funds and field demonstration of new and emerging water management technologies.

The capacity of irrigators to assess infrastructure modernisation options and implement management strategies to improve water use efficiency is being improved by the provision of priority irrigation training and advisory services by I&I NSW.

STBBRG is also funding eligible irrigators to engage approved irrigation consultants to undertake irrigation farm water use efficiency assessments (IFWUEA). These assessments will identify options for improving irrigation performance, their cost effectiveness and the potential water savings. This is essential information for an irrigator wishing to submit a Tender or plan for future modernisation of their irrigation infrastructure..

The Tender applications outline the proposed on-farm infrastructure and the projected water savings. All project proposals were assessed by an independent Tender Assessment Committee comprising of irrigation industry experts. Tender applications were assessed

against four key criteria. These included value of money, technical merit, risk, and public good (ie. social and environmental benefits).

Selected projects will receive cash grants up to 80 per cent of the total infrastructure cost. In exchange the Australian Government is seeking to recover regulated river water access entitlements equivalent to 50% of the projected water savings. The remaining water savings will stay with the irrigator to boost farm productivity and regional economic activity.

STBBRG has showcased three irrigation technologies developed by the Cooperative Research Centre for Irrigation Futures (CRCIF) including surface irrigation automation, remote sensing for irrigation scheduling, and application of monolayers for storage evaporation mitigation.

These technologies were assessed and refined for large scale surface irrigation applications due to their potential to deliver large water savings. A program of field days was a crucial component of STBBRG to increase irrigators' understanding of how these technologies may be of benefit and incorporated into their current farming systems.

A program of priority training delivered in conjunction with the technology demonstrations provides the skills and knowledge to support the completion of IFWUEAs and Tender applications by the participating irrigators.

STBBRG is supported by an integrated communication strategy to deliver priority information and engage potential participants and includes a comprehensive monitoring and evaluation plan.

Each component complements the other and will provide motivation for irrigators to modernise on-farm infrastructure. Further, it develops the knowledge to identify the most appropriate modernisation projects and the skills needed to optimise future management of the new systems.

Results and Discussion

The program was initiated by a series of local community meetings in early December 2009. These meetings were well supported by irrigators, agribusiness professionals, and local government representatives.

Initially, the delivery model included only one Tender Round however feedback from the first round showed that the timeframes were just too tight. 21 Tenders were received demonstrating a clear commitment by irrigators to saving water. However many irrigators just didn't have enough time to complete their IFWUEA, and provide adequate detail in their Tender application.

In response to this I&I NSW opened a second Tender Round to enable new irrigators to participate and submit Tenders for funding as well as giving the unsuccessful Tenderer's from Round One the opportunity to revise and resubmit their original Tenders. The deadline to complete IFWUEA's was also extended until October 30 2010.

Irrigators responded favourably in both Tender Rounds with 53 farm businesses representing 44 irrigators or 55% of the eligible irrigators in the project area registering a formal Expression of Interest (EOI). Forty one applicants or 77 per cent of EOI applicants engaged

an approved irrigation consultant to undertake an IFWUEA. There were 38 Tenders received in total, 21 from Round one and 17 from Round two.

Four Tenders from Round one were recommended for approval by the Tender Assessment Committee (TAC) and these were forwarded to the Australian Government who accepted all four projects.

The projects from Round one included installation of centre pivots, storage reconfiguration and conversion of drip irrigation and ranged in value from \$77,000 to \$1.2 Million with the estimated total water savings from the four successful Tenders being 1025 ML/yr. From these savings 596 ML of general security water entitlement will be acquired by the CEWH.

Four additional EOIs from irrigators wishing to participate were received in Round 2 and a total of 17 Tenders were received. Of these, 14 were resubmissions from the initial Tender Round. The TAC was impressed with how the assessment criteria had been addressed more thoroughly reflecting the benefit of more time. The projects were similar to Tender Round One including the installation of drip irrigation systems, lateral moves and centre pivots and reconfiguration of storages. The value of the 17 projects ranged from \$50,000 to \$700,000 with water savings between 22ML and 300 ML. All projects still needed to be completed by the deadline of 30 October 2010.

Suitable projects from Round two are being discussed with the Australian Government.

Feedback from the approved irrigation consultants who conducted the IFWUEAs demonstrated their value not only to irrigators participating in the project but also for any future infrastructure planning that will occur once the project is complete. The 24 IFWUEAs reported on to date encompass 19 000 ha of irrigated land and have identified \$8.7 M of potential infrastructure investment that could realise water savings of 3.7 GL per annum. The project team believe this is a great result for the region and irrigation industries in terms of irrigators being confident to make future investment in infrastructure to improve their irrigation management and farm businesses.

During each Tender round, I&I NSW embarked upon a comprehensive irrigation training and extension initiative. Eleven workshops covering a range of irrigation topics have been delivered across the project region. These have been attended by 89 irrigators and 31 consultants.

Four field days were also held to showcase the technology demonstrations. Evaluation data collected from participants at the events suggested:

- Almost 80 per cent indicated that I&I NSW should continue to showcase new irrigation technologies to irrigators
- Almost 80 per cent indicated there was opportunity for widespread adoption of the technologies demonstrated
- Over 90 per cent had improved knowledge of the technologies and their management as a result of the event.

STBBRG has also produced a number of short videos and other web based tools providing some key learning's on various irrigation topics which can be accessed via the Sustaining the Basin web site link: www.industry.nsw.gov.au/info/sustainingthebasin

Irrigators have indicated that the capacity building component of STBBRG has been useful to keep them informed on progress in the industry and to assist them in planning for future infrastructure investment.

Conclusion

STBBRG provides an opportunity for irrigators to modernise irrigation infrastructure to improve water use efficiency. The program is structured to help irrigators make informed decisions on infrastructure change. This pilot is necessary to gauge irrigators' attitudes to using programs of this type to return water to the environment. Evaluation of this project will guide the development of future projects in other NSW irrigation valleys.