Australian Government
Department of Agriculture, Water and the Environment

COFFIE program South Australian pilot implementation review

Commonwealth On-Farm Further Irrigation Efficiency program

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Summary

The South Australian pilot of the Commonwealth On-Farm Further Irrigation Efficiency (COFFIE) program was designed to include features expected to make the program simpler for irrigators to participate. Launched in 2016 and closed in 2018, the program funded 66 projects and contracted 1.9 gigalitres (GL) long-term average annual yield (LTAAY) of water savings for the environment.

As a pilot program, it provided a useful opportunity to explore a more flexible approach to water recovery projects. The inclusion of non-water saving activities and items was a challenge and provides useful experience in developing further programs. It was designed to have maximum flexibility to trial ideas and allow applications to come forward that the department may not have considered in the past.

Overall, based on the delivered projects, there is nothing to indicate the pilot program design elements did not fulfil the relevant *Basin Plan 2012*, *Water Act 2007* and program objectives. Indeed, case studies and technical reviews indicated a high level of satisfaction with the overall program by participants.

Lessons learned from the pilot relate to:

- 10-day assessment processes
- reporting
- flexibility of eligible activities and non-water savings activities
- property ownership
- use of bulk-water licences and leasing of water
- interest retention by delivery partners.

The pilot was also subject to an assurance review, technical reviews and an industry-based project by the department graduate cohort. These observations and the lessons learned have been incorporated in the new Water Efficiency Program.

Overview of achievements

The South Australian pilot of the Commonwealth On-Farm Further Irrigation Efficiency (COFFIE) program funded:

- upgrades to irrigation infrastructure
- other activities that improved the productivity of the farm business.

In return for funding provided, a calculated or offered amount of water entitlements were transferred to the Commonwealth for environmental use.

The pilot program commenced in September 2016. The program closed to new applications in October 2018. There were 66 on-ground projects funded, of which 5 had been completed by the program closure date. The remaining active projects are required to be completed by June 2020.

The 66 projects are contracted to deliver 1.9GL LTAAY of water savings for the environment. Projects were funded in the South Australian Riverland and Murray regions. A map of funded projects is at **Appendix A**.

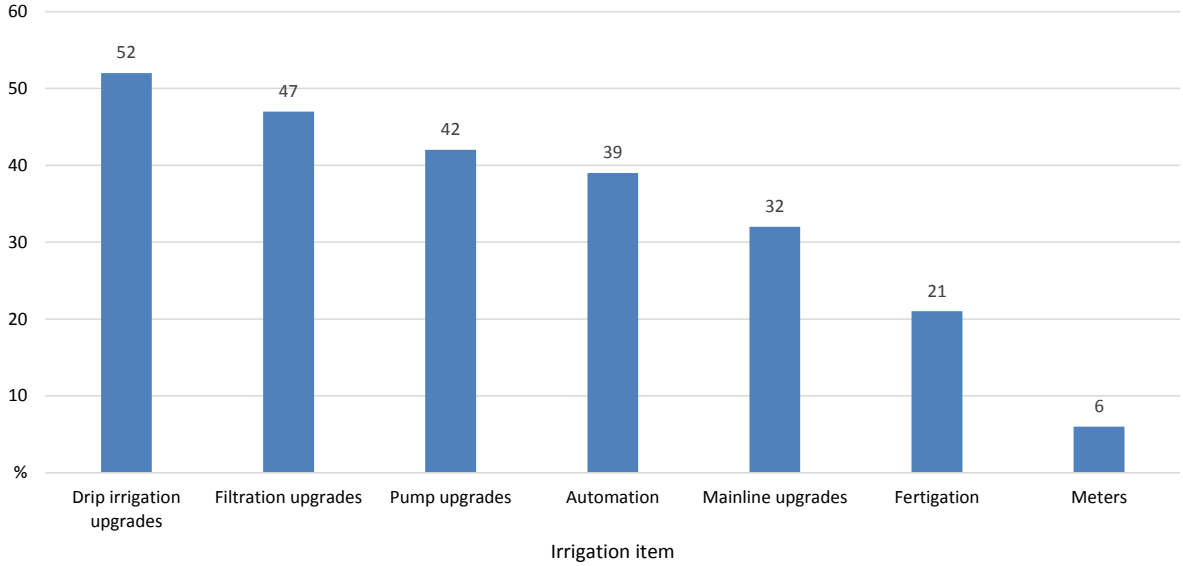
As the pilot was conducted in South Australia it was the most efficient and effective means of delivery to engage the South Australian Murray–Darling Basin Natural Resources Management Board as the delivery partner.

The pilot program delivers water as part of the 450GL up-water efficiency measure projects.

Box 1 Fast facts on the pilot program

- The pilot program was launched in 2016 and the pilot closed in October 2018. All on-ground work is scheduled to be competed in 2020.
- $12.1 million (GST exclusive) was invested in 66 projects.
- 1.9GL LTAAY of water savings for the environment has been contracted.
- The majority of participating farmers were involved in wine-grape production.
- Over half of projects involved upgrades to drip irrigation systems.
- The median project size was $62,533.30, returning 10.8ML to the environment.

Figure 1 Percentage of projects that included various irrigation items



Note: Many projects included multiple irrigation items within the activities being undertaken. Consequently, percentages reflect the amount of projects that included a particular irrigation item, not the amount of projects approved.

1 Consultation on design

In 2015 the department developed a draft program design and undertook a public consultation process throughout the Murray–Darling Basin to gather feedback on the proposed new design.

To promote the consultation process, the department used print and online advertising and produced two fact sheets. In addition, discussions were held with key stakeholders to seek direct feedback on program features.

The consultation process resulted in 12 written submissions to the department and feedback from 30 meetings with stakeholders. These included Basin state government representatives, potential delivery partners, industry and community groups, irrigators and irrigation system contractors.

Issues of greatest interest to stakeholders were water pricing and entitlement eligibility, delivery partner eligibility and payment, project eligibility and project management. Feedback about the overall pilot design was generally positive, with particular support for features such as ongoing project approvals, fast approval times and adoption of a contemporary market price for water.

The department summarised and responded to the issues raised in the paper Key themes: Commonwealth On-Farm Further Irrigation Efficiency (COFFIE) program consultation.

2 Design

2.1 Background

The pilot program was implemented via a limited tender process. South Australian Murray–Darling Basin Natural Resources Management Board's prior experience in the On-Farm Irrigation Efficiency Program (OFIEP) and having the ability to transfer water from projects to an interim bulk licence (making it viable for irrigators to offer up as little as 2 megalitres (ML) for transfer) were significant factors in the assessment process.

This pilot allowed testing of the program design, fine-tuning of administrative processes and trialling the inclusion of smaller water volume projects.

Up to $15 million had been made available for the pilot, with the aim of procuring Class 3a South Australian Murray surface water entitlements. On 16 September 2016 the delivery partner signed the Deed of Standing Offer for the program and the pilot program was launched.

2.2 Features of the design

The pilot program was finalised with these key design features:

- continuous assessment and approval, rather than rounds
- all projects approved on a first-come, first-served basis if they met eligibility and value for money criteria, rather than a competitive assessment process
- water entitlement prices advertised and reviewed by the department on a regular basis and the amount of funding available per project determined using a market multiple of 1.75—a market multiple is the cost of water yield to the Australian Government compared with the prevailing market price for the same entitlement at the time of the project approval
- delivery partner administration fees and services advertised on a website
- projects managed as standalone rather than bundled into 'type' like previous programs
- project water savings certified as achievable and technically feasible by an independent approved irrigation professional
- only conservatively estimated project water savings offered for transfer, with surplus savings retained by the irrigator
- energy-saving equipment (such as solar panels and batteries) eligible for funding in combination with water saving infrastructure and activities, along with non-irrigation equipment and structures that increase on-farm productivity
- project proposals responded to by the department within 10 business days
- the ability to transfer water from projects to an interim bulk licence
- procurement rules to be met for assessment and record keeping.

Underpinning these design features was a reliance on procurement-based processes and practices. This marked a changed for the department because the programs funded under the Sustainable Rural Water Use and Infrastructure Program had generally been subject to grants rules and processes.

2.2.1 Transparent project funding methodology

The methodology for the project funding was transparent and easily accessible to participants. The maximum funding available for a project (project fee) was equal to:

$$(water\ volume\ offered\ for\ transfer\ ML)\ x\ (per\ ML\ water\ value)\ x\ (1.75\ funding\ multiple)$$

The delivery partner's fee for the project (administrative costs fee) was taken from the project fee, with remaining funds used for the project works (project costs fee). The project works had to achieve conservatively estimated minimum water savings equivalent to the volume of water offered for transfer to the Commonwealth.

2.2.2 Water value

The value of 3a South Australian Murray water entitlements was initially based on the contemporary market price, determined by calculating the volume weighted average price over the preceding 2 months. The department also set upper and lower 'buffers' for the water value to allow for seasonal fluctuations in price without requiring frequent changes to the value. The water value was published by the department on the program website, reviewed every 2 months and updated when the value moved outside of the buffers.

The price was initially $3,007.52, increasing to $3,530 per ML by the end of the pilot program.

2.2.3 Delivery partner administration fees

In the pilot program the delivery partner received an administration fee for each approved project:

- for a project transferring 11ML or more
  - the project fee was calculated using a funding multiple of up to 1.75 times the market value of the water entitlement(s)
  - the delivery partner retained 5% of the project fee as their administrative costs fee
- for a project transferring less than 11ML
  - the project fee was calculated using a funding multiple of up to 1.67 times the market value of the water entitlement(s) (1.67 being 95% of 1.75)
  - the delivery partner retained a set administrative costs fee of $4,000 from the project fee.

This arrangement was negotiated with the Board to ensure they were able to cover their administrative costs for small project delivery, which would otherwise be insufficient based on the percentage calculation used for projects of 11ML or more.

2.2.4 Independent technical assessment of water savings

The pilot program was set up to allow technical assessment of project water savings by experts who had detailed knowledge of on-farm water efficiency processes. The delivery partner was required to engage a number of independent approved irrigation professionals (IAIPs)—all approved by the department as having suitable qualifications and experience for assessing project proposals before submission to the department.

In the pilot program an IAIP needed to be either:

- accredited as a Certified Irrigation Designer by Irrigation Australia Limited
- accredited as a Certified Practising Agriculturalist by the Ag Institute Australia

- approved by the department on consideration of industry experience, recognised professional memberships, relevant qualifications and notable career achievements.

They were required to:

- certify that the project works were technically and practically feasible, including that the infrastructure was appropriate to the needs of the eligible irrigator and property, and the projected costs were reasonable, and
- confirm that the eligible water entitlement(s) being offered to the Commonwealth were of a volume equivalent to the conservative or minimum technically feasible water savings derived from completing the works.

The key role of the IAIP was to ensure that the irrigator would not be left in a situation where they had transferred water entitlements but could not realise the expected water savings.

The use of the IAIP in the assessment process enabled the department to use an independent review instead of needing to engage a separate technical review. This process was confirmed as providing satisfactory assurance through a subsequent 30% technical review of approved projects.

2.2.5 Closure of the pilot program

With the agreement of the delivery partner, applications were not accepted from October 2018.

The intent was for the pilot COFFIE program's lessons learned to influence the establishment of a long-term program that was to be launched in 2019. There were unexpected delays, including the change to the Water Efficiency Program and the resultant amendments to its program structure and policy.

During the pilot program, 66 projects were approved for $12.1 million (GST exclusive) and are contracted to deliver 1.9GL LTAAY of water entitlements to the Commonwealth.

As at September 2019 on-ground works for approximately 10 projects are to be finalised by the end of June 2020.

3 Lessons learned

Overall, based on projects undertaken, the department is confident the pilot program achieved the required testing of the program design.

Learnings and stakeholder feedback from previous on-farm water efficiency programs were taken into account and incorporated in the pilot design.

The pilot was designed to have maximum flexibility to consider alternative opportunities and mechanisms that may not have been considered in the past.

3.1 10-day assessment processes

A key component of the pilot program was the practicability of the 10-day project approval timeframe. This had been identified as a significant concern by stakeholders due to the length of time previously encountered in other programs, such as OFIEP, and the potential for irrigators to feel disadvantaged to a fixed in water price significantly before project funds become available.

Staff capacity and internal processes presented a barrier to achieving the 10-day assessment timeline. There are internal concerns that this timeframe may impact on the ability to undertake appropriate due diligence requirements for a high volume program.

No comments were noted from stakeholders that the timeframe for approval was not a significant improvement.

3.2 Reporting

The delivery partner reported on individual projects through:

- biannual reports (6 monthly) for all approved (but not complete) projects
- project closure reports on the completion of each project.

The aim of biannual reports is to provide the department with a single report for all projects being delivered that:

- provides an update on the progress of each project
- highlights problems or delays in any projects
- provides feedback on program benefits and issues
- confirms that work health and safety processes are being followed.

On approval of each biannual report, the delivery partner is paid the sum of all the relevant milestone payments (administration fee instalments) due at that time. However, the biannual report proved to be administratively complex. The delivery partner claimed that the requirement for reporting all projects in a single report meant that, if there were issues in travelling to one project, reporting on all projects was delayed.

3.3 Local expertise and resources

Positive comments were received during reviews on the availability of local knowledge and the ability to tailor project plans to local areas and conditions. This engagement was seen as contributing positively to the success of a project and engagement of the community.

3.4 Flexibility of eligible activities

For the purposes of the pilot program, it was decided not to publicise precise lists of eligible project activities. This enabled inclusion of not yet considered items or activities.

The subsequent application process often made it harder for program staff to assess proposals. Staff repeatedly expressed the desire for greater clarity about what activities were and were not eligible under the program.

Future programs should be established with a definitive list of approved activities.

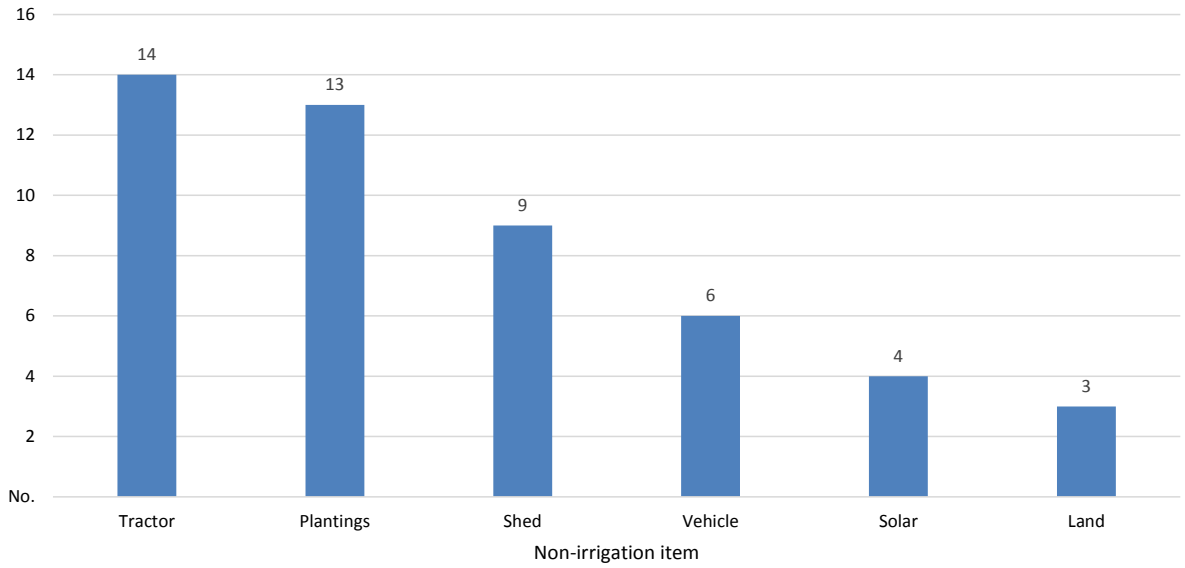
3.5 Non-water saving activities

The inclusion of activities that lead to productivity improvements rather than water efficiency measures was a challenging part of the program's design (Figure 2).

The application forms did not elicit information on how the proposed activities and expenditure would lead to improved farm profitability. This made assessment difficult in some instances, requiring the department to seek further information.

Additionally, during technical reviews the delivery partner indicated that independent approved irrigation professionals were unsure of their role in certifying water savings where productivity-related items were included. This is because they felt such items were beyond their expertise of irrigation design.

Figure 2 Number of projects that included various non-irrigation items



Note: Many projects included multiple non-irrigation items within the activities being undertaken. Consequently, numbers reflect the amount of projects that included a particular non-irrigation item, not the amount of projects approved.

These non-water saving activities had previously been included in the South Australian River Murray Sustainability Program, which allowed activities that led to productivity improvements of the South Australian River Murray irrigation industry.

3.6 Clarifying property ownership

Soon after the pilot program commenced the question was raised about how to manage situations where the proponent (water owner) was not the legal owner of the property(s) on which works were to be carried out. This could be when the whole of the works were to be

carried out on someone else's land, particularly where the irrigator was leasing land, or just a component (that is, installing a pump on an easement or neighbouring property). The project proposal application form already had a question that dealt with the latter situation, but wasn't clear about the former situation.

Consequently, the project proposal application form was modified to make it clear that if works were to be carried out (in full or partially) on land not owned by the eligible irrigator, the legal owner of the land must agree to the works (or an arrangement must be in place whereby works can be installed on an easement) and this was to be provided as an attachment to the proposal.

3.7 Feasibility of transferring water entitlements via an interim licence

The transfer of water entitlements via the interim SA Minister's licence proved to be a successful feature of the pilot program. Many irrigators with small volume water savings (10 ML or less) received funding through the pilot program, and the delivery partner found the process of water transfer through the interim licence to be relatively straightforward. Transfers occur quickly and at a much lower transaction cost than if small volumes of water had been individually transferred directly to the Commonwealth.

Nonetheless, the department's conveyancing team advise that the arrangement in South Australia is unusual because the interim licence is one owned by the SA Government but acknowledged as being held 'in trust' until the transfer is scheduled. The SA Government manages due diligence checking of entitlements effectively (and at low cost), and provides assurance that all water transferred to the Commonwealth is free of encumbrances (that is, unmortgaged).

If this process is to continue a tighter set of timing requirements will need to be established to ensure more regular transfers occur from the interim holder to the Commonwealth.

3.8 Feasibility of 'lease-back' of water allocations after transfer

Following feedback received through public consultation, irrigators with water held (temporarily) on the SA Minister's licence were offered the chance to lease back the allocations from the water entitlements they had transferred at a cost equivalent to that incurred by the delivery partner in leasing the allocation out. This arrangement was envisaged to provide assurance to irrigators that had transferred water but not yet realised project savings due to delays in project works completion.

There were delays in the water entitlement being transferred as anticipated by the Commonwealth.

This arrangement will require significant analysis prior to any consideration to extend to a future program.

3.9 Ability for delivery partners to retain interest from project funds

Any funds provided by the Commonwealth in advance of work paid for by the recipient could create interest—this procurement program is not subject to acquittal and the payment structure may have provided a minor financial benefit.

Under the pilot program, the small number of projects and the small value of those projects meant that this was a negligible risk.

3.10 Project management and key performance indicators

Program objectives and outcomes that were developed for the pilot program were appropriate for the scale and complexity of the limited pilot program. Integration of these within an overall monitoring, evaluation, review and improvement framework will be needed for a large-scale program, along with appropriately developed and monitored key performance indicators.

4 External review

4.1 Assurance review

The department engaged Vista Advisory to undertake an assurance review of the pilot program to provide reassurance that it was designed and implemented appropriately.

Vista reviewed all program materials (including administrative documents and processes) and interviewed staff from the department and the delivery partner, as well as other key stakeholders such as program participants. The report was released in August 2017.

4.2 Analysis of efficiency measures in the Murray-Darling Basin

During 2017 Ernst & Young were engaged by the department to analyse the opportunities and effects of efficiency measures programs to be carried out in the Basin. This included key design principles based on lessons from the pilot program and stakeholder feedback. The report was released in January 2018.

4.3 Technical reviews

AECOM were engaged by the department to undertake a review of a sample of projects. These site visits were undertaken 9–11 October 2018 and 11–13 June 2019. The report was provided to the department in November 2019.

5 Socio-economic outcomes

Short-term benefits of socio-economic outcomes are able to be captured as part of regular reporting. However, there are significant, long-term benefits that may take more than a year to be initially measured. An example of long-term benefits would be how the individual irrigator can demonstrate that their time spent undertaking previous manual work has decreased through automation.

5.1 Departmental graduates' industry research project

In late 2017 a group of departmental graduates carried out an industry research project by visiting a number of the funded COFFIE pilot projects in South Australia and interviewing the participants.

Both irrigators and the delivery partner supported the approaches to decrease their administrative burden and allowed for more efficient use of resourcing. As an example of the socio-economic benefits demonstrated, it was recorded that irrigators commented that the change to automated processes would allow them to improve their 'work–life balance'.

5.2 Case studies

The department is producing a series of video case studies to showcase program benefits.

As at September 2019, two case studies have been published, both highlighting benefits achieved.

6 Conclusion

The COFFIE pilot program in South Australia ran for 25 months of a proposed 36-month term. During this time the program contracted 1.9GL LTAAY of water savings for the enviornment. A total of 66 projects were approved to a value of $12.1 million (GST exclusive).

The pilot program was successful in allowing the department to test the viability of a change in program design. It was the first water efficiency program to use a procurement-based policy structure that required a significant change for departmental staff, stakeholders and participants, all of whom had previously been accustomed to grant programs.

There were some challenges as the new requirements were initiated. However, all parties became more comfortable with the new policy structure over time. The various lessons learned from the program pilot highlight several items that require further consideration.

Glossary

Term	Definition
Basin	Murray–Darling Basin
COFFIE	Commonwealth On-Farm Further Irrigation Efficiency program
GL	Gigalitre
IAIP	Independent approved irrigation professional
ML	Megalitre
OFIEP	On-Farm Irrigation Efficiency Program

Appendix A

Map 1 Funded projects