Government of South Australia
Department for Environment and Water

SOUTH AUSTRALIA - ADDITIONAL EFFICIENCY MEASURES CRITERIA ASSESSMENT OUTCOME

Project Reference No:	250766
Outcome:	Compliant with the Efficiency Measures assessment
Date recommended to proceed to public comment	22 April 2020
Date recommended to proceed to the Australian Government's detailed assessment stage	3 September 2020

Overview

This project is seeking to remove 3.3 hectares (ha) of Chardonnay winegrapes and replant with 3.3ha of Shiraz on a 65ha family owned and operated vineyard located at Langhorne Creek in the Lower Murray region of South Australia and reconfigure irrigation to optimise on-farm water use.

Currently additional irrigation volumes are applied to the Chardonnay vines to offset the low returns ($/t) achieved for the Chardonnay. The additional irrigation inputs are purposely applied to increase yields meaning the overall productivity of water use for the Chardonnay patch is very low. Conversely the returns ($/t) achieved for Shiraz are far greater and can be achieved with much lower irrigation volumes. Data has shown this to be a consistent management practice within the growing region.

As the area to be upgraded currently forms part of a 4.4ha irrigation unit a new valve and sub-main will be installed to allow the 3.3ha to be irrigated independently to best match varietal and age specific water requirements and deliver further efficiencies in irrigation management.

Based on the return ($/t) and water use (megalitres (ML) per ha) for the respective varieties the works are projected to increase the return across the converted patch by approximately 66% which will assist with the longer term viability of the vineyard. All works will be conducted by local contractors and as such there will be a direct injection of investment in the local community through the project.

The region where the vineyard is located has a long history of community driven environmental sustainability and this project is consistent with those objectives. The vineyard is situated on the floodplain of the Bremer River and management practices are focused on maintaining the health of the high ecological value Red Gum swamps that are common throughout the district.

A conservative water saving of 3.3ML per annum is expected to be generated from the project works.

Part 1 - State Assessment - Efficiency Measures criteria

The South Australian Government assessment against the Efficiency Measures -Agreed Criteria for this application was undertaken prior to the development of this template. Accordingly, the original assessment is provided at Attachment A.

Part 2 - State Response – Public Comments

Relevant Public Comments to be responded to	Response to Relevant Public Comments
1. Any reduction of water from the irrigation consumptive pool increases the price per megalitre which has a devastating impact on farming enterprises, regional communities, agricultural dependent services and businesses and ultimately our nation's food security.	Buybacks and efficiency measures are often conflated, especially when it comes to the negative impacts of water buybacks to industries and communities. The South Australian Government has been very clear that efficiency measures are the preferred method of recovering water for the environment, as they provide real and positive outcomes to irrigation businesses, while supporting communities that would otherwise be hard hit by the reduction in regional productivity or the closure of businesses through water leaving the consumptive pool through buybacks. Unlike water buybacks that remove water from the consumptive pool, efficiency measures increase the volume of water available. Efficiency measures recover water that is effectively “lost” through evaporation, leaky infrastructure and inefficient irrigation systems or overwatering and is unavailable for use until projects are completed.
2. The proposal attempts to address Criterion 6c (Socio-economic assessments must consider impacts not just on participants, but for broader regions. Describe the project’s proposed outcomes against the criteria) by claiming only a “small volume of water” is involved. However the cumulative effects of this make this project, and any similar project, unable to be approved under this Criterion as it will have third party impacts. Although the project is regarded as "small", this all adds up and the "cumulative" impact is significant. Each megalitre of water that is lost will result in lower agricultural production, or a lost growth opportunity, from the Basin.	

3. These works, if approved, will lead to the cumulative loss of irrigation water in the connected Southern Murray Darling Basin. This will reduce reliability and increase the water prices compared to a base case of this project going ahead without government intervention. Meanwhile if these cumulative "small" volumes are not lost to irrigators, then farmer-funded efficiency works can be used to increase production and not just hold on at current levels.	The conservative or minimum feasible water savings that can be saved through this project while maintaining or increasing productivity have been independently assessed by an approved irrigation professional as 4.9 ML. Please refer to Attachment A for further information. 4.9 ML of water is saved from this project while increasing the productivity of the operation. Of this now 'surplus' 4.9 ML of 'new' water, 3.3 ML is proposed to be returned to the Commonwealth and 1.6 ML retained by the applicant. The water retained by the applicant effectively increases the water available for productive use in the consumptive pool and can be traded on the water market, used to increase irrigated area or manage water availability in dry years. Comments 3 and 4 are further addressed in the response to comments 1 and 2 above that describe the benefits of genuine efficiency measures in comparison to water buybacks.
4. We do not support on-farm projects. On-farm projects reduce the total amount of water available to agriculture. While this proponent claims they will become more efficient with their water use, agriculture as a whole in the Basin will be worse off as there is simply less for agriculture to use. With a drying climate and demand for food increasing, Agriculture needs to ensure it has irrigation water available to ensure it can grow into the future. Any project that decreases the total pool available to Agriculture results in negative outcomes.	
5. Insufficient information has been provided in the submission to verify the claimed water savings.	
6. In Section 6 and 7 the proponent has failed to recognise and respond to the impact on the broader regional communities, irrigation system and water market.	These criteria have been addressed in various places in the application and the proponent has demonstrated that: • The project will support the ongoing viability of the viticulture industry in the region, which will have flow on benefits to local businesses and the regional community. • The improved profitability of the participating business will have flow on benefits to the Irrigation Infrastructure Operator and its members. • The project works will be carried out by local contractors which will benefit the local and regional community. • The proponent will retain additional water savings, which will put downward pressure on water market prices.

7. This so-called "water saving" has to be stored in upstream dams in NSW and Victoria reducing capacity for irrigation water.	The return of water entitlements to the Commonwealth will not result in any change to the characteristics of the entitlement and will therefore not increase any risks to water storage or delivery of irrigation entitlements in the Murray-Darling Basin. The 450 gigalitres (GL) can be delivered within the current physical constraints. Delivery will result in improved environmental outcomes along the river and in particular, for the floodplain environments in Victoria and New South Wales such as the Barmah-Millewa Forest. It will also provide benefits to the Coorong, Lower Lakes and Murray Mouth, primarily in dry years. The delivery of the 450 GL within the current physical constraints is supported by the implementation of Basin Plan "Supply Measures". The offset in water recovery from these measures means that the total water recovery volume will remain below the 2800 GL that was modelled as part of Basin Plan development in 2012.
8. Delivery of the 450GL "water savings" downstream to SA from storages in the Upper Goulburn and Murray is not possible without causing major flooding and massive environmental damage to these rivers which are already suffering degradation form full channel capacity flows.	
9. The project proponent has failed to respond in all sections to the direction- "If impact is negative, describe how the project proposes to mitigate or enhances outcomes".	The negative impact questions have not been answered as the applicant is only required to include information about mitigation or enhancement if there have been negative socio-economic impacts identified. For this application no negative socio-economic impacts were identified. South Australia's assessment of the application also supports the project having neutral or positive socio-economic impacts.
10. Criteria 1 requires, among other things "a regional map indicating where investments are being made to depict how these interrelate to improving the efficiency of the district. This includes showing the broad location of the project, the amount of water to be recovered for the environment, the type of project and relevant socio-economic information" It also requires, where possible, that reports or outcomes of past projects should be made available, and that technical reports on completed projects must be made available to inform the development of any future projects. Without this information, it is not possible to provide informed feedback on the technical, social and economic merits or otherwise of Project 250766.	There are certain criteria that are not the responsibility of project proponents to respond to or address as these are the responsibility of the Australian and State Governments e.g. 1, 2(e) and 3. There are also criteria that do not apply to this project proposal as it does not exceed the agreed $3 million threshold for a large project e.g. 2(c) and 8(c). Additionally criterion 6(a) does not apply to this project as the applicant is not located within an irrigation network and is a private diverter. The Australian Government is responsible for assessing applications against program eligibility criteria including total project costs, proposed market value of

11. Project Description is next to meaningless. It does not provide essential details to enable informed feedback on the projects' technical aspects, or the value for taxpayer's money. Without this information the project can only be understood as a thinly disguised water buyback program at a premium. Total project costs have not been provided, nor the Government contribution to be able to assess value for money. We therefore are unable to assess what the Government is paying for. Is it paying only for the proportion of the total project costs commensurate with the 3.3 megalitres it will receive for the environment? Or is it covering a greater proportion of the total project cost? The market rate to which the 1.75 multiplier is being applied is also not provide in the application, to assess whether the Government is overpaying the applicant. Without knowing the proponents share of the project costs, taxpayers appear at a greater risk of funding a private windfall who may well be able to fund the project themselves.	the entitlement being returned, and total requested funding being within the 1.75 market multiplier. Accordingly, these criteria do not form part of the state assessment against the Efficiency Measures Agreed Criteria.
12. We are concerned that the proposal is seeking a government subsidy for a standard business decision of changing an enterprise. This is a simple commercial decision of the individual and doesn't warrant a government subsidy. We do not consider it to be in the spirit of criteria d)(x) of the program criteria that allows projects that improve water efficiency by reconfiguring or diversifying crops".	
13. The response to Criterion 6a (Where a project is located within an irrigation network, the proposal must provide evidence that the relevant network operator or water corporation is involved in or aware of the project) only refers to the Creeks Pipeline Company as the relevant network operator. However in this context, all Southern Murray Darling Basin irrigators are within a connected water market and hence the project's response to this Criterion should consider the impacts on all irrigation networks within the Southern Murray Darling Basin, not just the Creeks Pipeline Company. This is not evident in the proposal.	

Final Recommendation

The application has adequately addressed the Efficiency Measures – Agreed Criteria and demonstrated that the project will have neutral or positive socio-economic impacts and not have negative third party impacts on irrigation systems, water markets or regional communities. Accordingly, it is recommended that the application proceed to the Australian Government's detailed assessment stage.

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Department for Environment and Water

Attachment A -

Water Efficiency Program – South Australian Government assessment of application against Efficiency Measures – Agreed Criteria

Application # 250766

Overview

The applicant is seeking to remove 3.3ha of Chardonnay winegrapes and replant with 3.3ha of Shiraz at Langhorne Creek in the Lower Murray region of South Australia. The primary mechanism for delivering the water savings for this proposal is through the conversion from a higher water use white wine grape variety (Chardonnay) to a lower water use red wine grape variety (Shiraz). As the area to be upgraded currently forms part of a 4.4ha irrigation unit, a new valve and sub-main will be installed to allow the 3.3ha to be irrigated independently to best match varietal and age specific water requirements.

Total volume of Eligible Water Rights offered for transfer – 3.3 ML

Water Savings Substantiation Undertaken by an Independent Approved Irrigation Professional

The applicant has had the proposal reviewed by an independent approved irrigation professional. Chardonnay requires additional irrigation volumes compared to Shiraz and this has been further exacerbated by the low returns provided by Chardonnay and the need to increase yields (and water use) to offset the low returns. This is resulting in approximately 1.0-1.5ML/ha more irrigation being applied to the Chardonnay block compared to the project applicant's existing Shiraz vines which is also consistent with district averages.

Water Saving Component	Area ha	Water Saving (ML/ha)	Estimated Water Saving (ML)	Total volume of Eligible Water Rights offered for transfer (ML)
Replacement of chardonnay vines with shiraz	3.3	1-1.5	3.3-4.9	3.3
Total Water Saving				**3.3**

Assessment Approach

This assessment is reliant on the information provided by the applicant. The comments provided in Table 1 against each criteria are a summary of the information provided by the applicant which was deemed relevant by the assessor to demonstrate that the Efficiency Measures – Agreed Criteria have been met.

Assessment Outcome

The application has adequately addressed the Efficiency Measures – Agreed Criteria and demonstrated that the project will have neutral or positive socio-economic impacts and not have negative third party impacts on irrigation systems, water markets or regional communities. Accordingly, it is recommended that the application proceed to the Australian Government's public comment stage.

Table 1- Assessment of application against Efficiency Measures – Agreed Criteria

Assessment Criteria	How to assess compliance	Complete Y/N	Comments
1. **Projects must be made public**	• The Australian Government is responsible for mapping projects, releasing technical reports and advertising. This will be completed following in-principle or formal approval from states and DAWE.	N/A	
2. **Projects do not negatively impact on social and environmental outcomes**	• Does the application describe the expected socio-economic and environmental outcomes of the proposed project including: o the anticipated socio-economic impacts to the local community, region or state; o the project's strategy for increasing the socio-economic benefit to participants and their communities (e.g. local sourcing of goods, services and labour); and o if and how the project will contribute to regional investment and development in the geographic area. • Does the application identify the relevant laws (including environmental laws and regulations and work health and safety laws): o that will require approval prior to works commencing; and o that will need to be complied with during the project.	Y	• The project is expected to increase the return per ML from ~$3,000 currently to ~$12,500 post project, significantly boosting vineyard profitability. • The project is also expected to contribute to the long term sustainability of the wine industry and local businesses in the region.

Assessment Criteria	How to assess compliance	Complete Y/N	Comments
3. **The project assessment for funding must be clear, timely, simple and transparent, and not unduly increase red tape**	• States and Commonwealth to review and assess applications in accordance with agreed process.	N/A	
4. **Projects need to demonstrate how they contribute to the current and future viability of proponent businesses and irrigation districts**	• Does the application describe how the project will contribute to the current and future financial viability of the irrigation district/region where it will occur, including identification of potential irrigation network improvements? • Does the project avoid upgrading water supply infrastructure where the system, or parts of the system, are not going to be used in the future? • Where the proposed project is located within an irrigation trust does it take account of relevant irrigation business' strategies or plans?	Y	• The Creeks Pipeline Company which supplies water to the proponent has attended information sessions on the Water Efficiency Program and is supportive of members participating in the program.
5. Programs or projects support regional economies	• Does the project: ○ identify opportunities to support local industry and regional development ○ focus on increasing water use efficiency in ways that address industry, network/ system and local/ regional priorities, future needs and risks and may include research and extension services ○ demonstrate how the project will help maintain regional productivity and employment.	Y	
6. Programs or projects do not have negative third-party impacts on the irrigation system, water markets or regional communities	• Where a proposed project is located within an irrigation network, does the application provide evidence that the relevant network operator or water corporation is involved in or aware of the project?	Y	

Assessment Criteria	How to assess compliance	Complete Y/N	Comments
7. Projects need to be assessed for their potential to impact on the price of water	• Does the application include an assessment conducted by an Independent Approved Irrigation Professional and/or Approved Agricultural Economist certifying that the proposed Works are technically and practically feasible, will generate the conservative or minimum technically feasible water savings and are economically viable? • Does the application provide evidence that the water rights proposed to be transferred are owned by the proponent at the time of their application and have been held for a minimum of 3 years at the time of application? • Does the application describe the potential impacts of the proposal on the reliability of water or the price of water?	Y	
8. Any cultural impacts identified, protected or improved	• Does the application describe any potential cultural impacts of the proposed project to the local community, region or state? • Does the application identify opportunities to increase the cultural benefit to participants and their communities (e.g. local sourcing of goods, services and labour)? • For projects over $3 million does the application identify any cultural heritage sites and describe how any impacts will be managed in accordance with relevant Commonwealth and State laws?	Y	
9. Program design should include close engagement with community and industry leaders	• Does the application describe the consultation that has/will be undertaken as part of the project with a focus on increasing water use efficiency in ways that address industry, network/system and local/regional priorities, future needs and risks?	Y	

Assessment Criteria	How to assess compliance	Complete Y/N	Comments
10. Where practical, seek to develop and implement integrated implementation of efficiency measures to maximise benefits to the irrigation network and local enterprises	• Does the application focus on increasing water use efficiency in ways that address industry, network/system and local/regional priorities, future needs and risks and may include research and extension services. This would include integrated proposals?	Y	
11. Monitoring and evaluation, including of socio-economic outcomes, should be built into programs and used to regularly review and adapt programs, as required	• Does the application identify the monitoring and reporting measures relating to the anticipated outcomes of proposed projects?	Y	
12. Projects must deliver real water savings and not result in profiteering or rorting	• Will the project allow the participant to individually profit without creating water savings?	Y	
13. Proposals should identify improved capacity to respond to changes in business environment including drought and climate resilience	• Does the application provide information on how the project will improve resilience to climate variability?	Y	

Water Savings Substantiation – Water Efficiency Program (WEP) Technical Assessment

Project ID: [redacted]

Crop Type: Wine Grapes

Project Summary:
The applicant is seeking to remove 3.3ha of low profitability, higher water use Chardonnay winegrapes and replant with more profitable and water efficient Shiraz vines on a family owned and operated property at [redacted] in the Lower Murray region of South Australia. The property is serviced by the Creeks Pipeline Company.

A new valve and sub-main will be installed as part of the project to optimise water usage and management within the new plantings.

A conservative water saving of 3.3ML per annum is expected to be generated from the project works.

Water Saving Methodology:
The primary mechanism for delivering the water savings for this proposal is through the conversion from a higher water use white wine grape variety (Chardonnay) to a lower water use red wine grape variety (Shiraz).

In response to the lower returns generated from Chardonnay plantings higher tonnages are purposefully produced to compensate for the lower probability which is requiring additional irrigation volumes to be applied compared to more profitable red grape varieties such as Shiraz. Water use is up to 1.0-1.5ML/ha higher on Chardonnay as a result of the yield outcome being sought and therefore based on current grape prices the crop type change is expected to increase the return per ML from ~$3,000 currently to ~$12,500 post project, significantly boosting vineyard profitability.

The 3.3ha area that is proposed for conversion is currently irrigated as part of a 4.4ha irrigation unit so a new sub-main and valve will be installed to enable the new Shiraz patch to be irrigated independently and match varietal and age specific irrigation requirements.

Water Saving Activity	Area ha	Water Saving (ML/ha)	Total Water Saving (ML)	Conservative Saving (ML)
Conversion from Chardonnay to Shiraz	3.3ha	1.0ML/ha - 1.5ML/ha	3.3ML - 4.95ML	**3.3ML**

Project Budget:

Project costs have been based quotes provided [redacted].

Irrigation Design:

An Irrigation Design has been completed and has been included as an attachment to the project proposal.

Approvals/Environmental:

No approvals are required to conduct the works as the works are occurring on private property and the activities will not have an adverse environmental impact on the property or surrounds.

The specific irrigation efficiency improvements will contribute to reducing deep drainage beyond the crop root zone and hence improved salinity outcomes for the River Murray.

[redacted]

[redacted]

1 PROJECT DETAILS:

CID Name:	[redacted]	**Date:**	6/03/2020
CID No:	[redacted]	**Client Name:**	SA MDB NRM Board
Project Name:	[redacted]	**Project No:**	15
Submitted By:	[redacted]	**Contractors:**	[redacted]

2 PREAMBLE AND PROJECT SCOPE:

The above project was assessed on the below mentioned scope and is limited to project data supplied, including any documentation and designs as being true and correct in every respect.

I declare, as an Independent Approved Irrigation Professional agreed to under the Deed, that:

a) I have carried out the technical and practical feasibility assessment for the Works; and
b) I have had no previous involvement in preparing this Project Proposal.

I certify that the Project Works are technically and practically feasible, including that:

a) the projected water savings they will generate are reasonable and realistic, including being appropriate to the crops, soils, climates, water delivery system and topography of the Eligible Irrigator's Property;
b) the rationale for the water savings assessment is clearly explained;
c) the projected water savings can be achieved while maintaining the agricultural production potential of the Property on which the Works would be completed as part of a Project;
d) the engineering solutions they entail are achievable and appropriate to the needs of the Eligible Irrigator and the Property;
e) the projected costs are reasonable and realistic, and within the expected range for that type of infrastructure and scale of installation; and
f) the projected water savings they will generate represent the conservative or minimum feasible volume that could be derived from completing the Works.

[redacted]

[redacted]

[redacted]
Certified Irrigation Designer

[redacted]