

Connections Project

Reset Delivery Plan summary



GOULBURN-MURRAY
WATER



1. Introduction

1.1. Purpose of document

This document has been prepared as a summary of the Reset Delivery Plan (the Plan). The Plan was prepared in response to the Mid Term Review (MTR) of Stage 2 of the Goulburn Murray Water (GMW) Connections Project (the Project) which concluded that the Project needed to be reset.

The Plan was developed with the core aim of ensuring delivery of the full 204GL of water savings to the Commonwealth within the allocated budget. The main recommendations from the Plan are:

- extension of the timeframe for delivery to 31 October 2020;
- adoption of the Efficiency Optimisation Solution (Option 4) for the delivery of Uncommitted Connections Works¹;
- continuation with the existing Board Approved solutions for Committed works, with a process to review all Committed works to determine whether better value-for-money outcomes can be delivered through alternative solutions; and
- implementation of a new delivery methodology including a new landowner engagement model.

These recommendations will be combined with the actions already undertaken which include implementation of:

- revised governance arrangements;
- new project leadership;
- a delivery focused organisation structure; and
- enhanced stakeholder consultation and communication.

1.2. Background

In 2010 \$1.070 billion² of funding was approved to deliver Stage 2 of the Project, the most significant investment in modernising irrigation infrastructure in Australia.

The Project was focused on the removal of the public non-backbone channels and re-connecting non-backbone customers to the modernised backbone through privately / customer owned infrastructure. The Project has a water savings target of 204GL and is predominantly funded by the Commonwealth Government.

The Project is the second stage of a major water infrastructure upgrade of Goulburn Murray Irrigation District (GMID) in Northern Victoria.

Five of the six irrigation areas in the GMID are within the primary scope of the Project (Murray Valley, Loddon Valley, Rochester, Central Goulburn and Torrumbarry).

Figure 1



¹ 'Uncommitted Connections Works' include all works, both on-farm and off-farm, associated with channels having no signed legal agreement with a landowner.

² 'Committed Connections Works' include all works, both on-farm and off-farm, associated with channels having at least one signed legal agreement with a landowner.

² Includes approximately \$11.7M of external funding

The Project was funded to address a number of key issues including:

- reduced water availability due to record drought and likely future impacts of climate change;
- ageing infrastructure with most of the system built over the period 1900 to 1950;
- high levels of water losses in the GMID system;
- under-utilised assets due to an increase in farm size over time and continuing outward water trade;
- inadequate service standards for irrigators leading to inefficiencies on-farm;
- ensuring water availability to support growth in food production in Northern Victoria; and
- preservation of high value wetlands and associated floodplains.

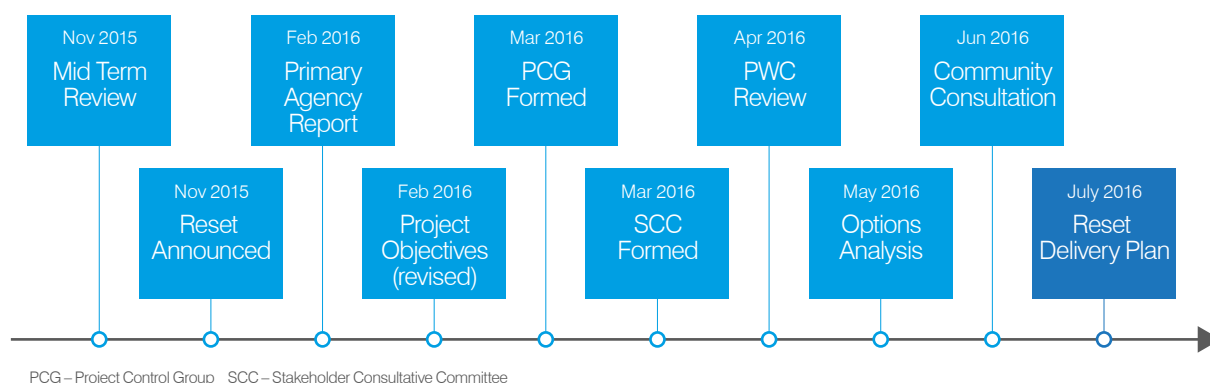
These key issues for the investment in the Project remain equally valid today and the water savings to be delivered under the Project are a critical part of Victoria's water recovery target of 1,075 GL to meet its obligations for the Murray Darling Basin Plan.

The Connections Project is being delivered through two separate stages. Stage 2 which is the subject of the Plan and Stage 1 which is focused primarily on backbone modernisation with a smaller element of non-backbone connections work. Stage 1 is not the subject of the Plan.

2. Key Project Reviews

In November 2015, in accordance with the Project Schedule, an independent Mid Term Review (MTR) of the Project was completed. The review was the catalyst for the reset of the Project and preceded a number of significant events which are detailed in Figure 2. Each of these events is discussed in more detail in this summary document.

Figure 2 – Significant reset activities



The MTR noted that assumptions applied in the past have not been reflected by the actual operating environment or observed performance. On the basis of current performance data, forecasts indicated that the Project could not be delivered on time or budget. Overall, the MTR concluded that the Project needed to be reset.

Importantly it also noted that: *“the main contributing factor is the heavy reliance over the remainder of the Project on landowner interactions (landowner agreements and landowner works). Landowners were not signing up at the required rates, pointing to persistent challenges in communicating the intention of the project and the process for selection and prioritisation of landowners for involvement in the project.”*³

Other issues have centred around governance, financial management, stakeholder engagement / communication and the delivery methodology employed.

Subsequently, the Victorian Minister for Environment, Climate Change and Water stated that the MTR had identified that some of the assumptions that underpinned the original Stage 2 Project Business Case are no longer valid and that a reshape of the Project was necessary.⁴

³ GHD, Goulburn Murray Water Connections Project Stage 2 - Mid Term Review, November 2015

⁴ The Primary Agency, Report on the Community and Stakeholder Engagement for the GMW Connections Project Reset, February 2016

A Project Team was formed to undertake the necessary planning to progress the Reset focused on identifying a delivery model that can achieve the water savings target agreed with the State and Commonwealth Governments, within the funding available, while supporting a sustainable GMID.

The Project Team has now completed the planning for the Reset of the Project and the outcomes are set out in the Plan and summarised in this document.

2.1. The Primary Agency Review

Following completion and in response to the MTR, GMW and the Victorian Government commissioned consultants, The Primary Agency, to undertake a two part community and stakeholder engagement in relation to the Project.

The objective of the consultation was to seek customer and stakeholder opinions on options to reshape the Project and on the extent to which a shared view on future delivery of the Project was possible within the community. In addition, customer and stakeholder opinion was sought on possible planning priorities being considered for use in future Project planning.

As an outcome of the consultation, The Primary Agency found that there was support among stakeholders and the community for the aims of the Project but strong criticism of the way the Project had been delivered to date and how the Project had been communicated.

Drawing from discussions with community and stakeholders through the engagement process, The Primary Agency developed a list of considerations that government might consider in resetting the Project. These have been incorporated into the Reset Plan.

2.2. PwC Review

In February 2016, PwC was appointed by the Project to undertake a financial review in relation to the forecast position of the Project and the allocation of expenditure incurred to date.

The PwC Report noted that it “observed a robust process being undertaken by the Project Team led by the new Project Director to prepare a revised budget. This process includes appropriate support for the key assumptions which, in our view, means the forecast can withstand scrutiny and can be justified.”

As an outcome of the PwC review the Project has implemented a number of controls to strengthen its financial governance.

3. Revised Governance and Leadership

A number of changes have been made to the Project’s governance as a part of the Reset and it now has a robust and appropriate governance structure that reflects the size, complexity and risk of the Project.

Central to the changes has been the establishment of the Project Control Group (PCG), which reports directly to the Minister and the GMW Board and has replaced GMW management as the body accountable for delivering the Project.

Another key enhancement has been the establishment of a Stakeholder Consultative Committee (SCC) to advise the PCG with respect to customer and community engagement to ensure the smooth implementation of the Connections Project.

The Project has also appointed a number of new senior resources, with experience in delivering large scale infrastructure projects in complex stakeholder environments to set the Plan and be accountable for and lead its implementation.

4. Lessons learned

Both the MTR and Primary Agency Report provided a number of recommendations and considerations for moving the Project forward. These have been incorporated as a core component of the Reset and significant progress has been made towards addressing each of these recommendations.

The Project has also undertaken a number of separate processes to capture the lessons learned in undertaking the Project to date. This has incorporated feedback received from the investors, stakeholders, the community, GMW Area Staff and Project Team members.

Details of the key project issues encountered and the Project's response are contained in Table 1.

Table 1 – Lessons learned

Issue	Project response
Project objectives	
Lack of clarity with respect to project definition and objectives	The Project, in conjunction with its key investor stakeholders has developed and agreed a revised and clear set of Project Objectives, Aims and Principles to guide reset planning and future delivery.
Stakeholder management	
Ineffective stakeholder consultation. Inconsistent and unclear communications.	<ul style="list-style-type: none"> Establishment of the SCC to provide support to the PCG with respect to customer and community engagement to ensure the smooth implementation of the Connections Project. Significant stakeholder engagement has been undertaken as a part of The Primary Agency engagement and subsequently with the Community Consultation undertaken in June 2016.
Project governance and management	
Ineffective Governance	New Governance arrangements and leadership for the Project were put in place in March 2016, with the establishment of the PCG to drive change and streamline decisions.
Strengthen skills and experience of team	The Project has engaged staff with strong project experience into key roles to embed a project delivery culture.
Unclear reporting and risk management	Updated process developed for reporting with a focus on accurate cost capture and forecasting. Risk management framework has been updated with Project Director ownership and regular updates.
No clear ownership of the process for planning and prioritisation	<ul style="list-style-type: none"> Establishment of central planning function with accountability for planning and prioritisation of works. Improved scope definition minimising potential for change. Clear process defined for the prioritisation of works. Clear and primary focus on the value-for-money of works.

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Table 1 – Lessons learned continued

Issue	Project response
Delivery	
Difficulty in progressing landowner agreements. Project has not had a methodology to finalise agreements in a timely way	<ul style="list-style-type: none"> • New landowner engagement model developed to provide greater certainty around delivery timeframes • The Project will embed statutory reconfiguration powers of the <i>Water Act 1989</i> (Vic) into the future engagement model.
Lack of understanding of total Project scope	<ul style="list-style-type: none"> • Detailed scope and schedule developed for remainder of works. • Modernisation works have been planned and designed at a channel / farm enterprise level, providing greater visibility and measurement of performance and cost control.
Local knowledge not fully incorporated in Project delivery	<ul style="list-style-type: none"> • Extensive community consultation undertaken across the GMID with respect to proposed Reset plans. • Scope of works developed based on significant input from local area staff. Uncommitted Connections works planned based on specific localised solutions for each individual channel.
Organisational structure did not provide clear accountability and authority for delivery	Organisation restructured to provide project managers with responsibility for delivery and authority over project resources required.
Delivery methodology challenges	New Works Delivery Strategy developed which will segregate connections works based on complexity and provide greater economies of scale with less providers, enhance geographic efficiencies, minimise the number of interfaces and provide greater risk transfer to contractors.
Landowners provided with funding directly to undertake on-farm works	It is intended to phase out and / or minimise the use of landowner incentives to the maximum extent possible. Where no incentive obligation exists the on-farm works will be undertaken by the Project contracting out the works. This will provide the Project with greater control over the scheduling of works and additionally help ensure the quality of works undertaken.

5. Project objectives

In February 2016, in response to the MTR, the Department of Environment Land Water and Planning (DELWP) organised a workshop to review the Stage 2 Project Objectives. The workshop was attended by representatives from DELWP, GMW, Department of Agriculture and Water Resources (DAWR), and an Independent Adviser.

The workshop identified a number of high level objectives, supported by sub-objectives to clarify the scope of each objective. The final agreed Project Aims, Objectives and Guiding Principles (Project Objectives and Principles) are detailed below:

Table 2 – Project Objectives and Principles

Aims and Objectives	Principles to be applied in implementing Project
<p>1. Assist irrigation communities in the GMID to adapt to reduced water availability and build a sustainable future for productive agriculture.</p> <p>a. Provide services that meet customer needs for flow rates and timing, and are adaptable to meet changes in customer needs.</p> <p>2. Enhance the environment locally and across the Murray Darling Basin.</p> <p>a. Create water savings for environmental use across the Basin.</p> <p>b. Create local environmental benefit by implementing environmental improvement projects (e.g. Lowering Little Murray Weir, Kerang Lakes, mitigation water and local environmental flows).</p>	<ul style="list-style-type: none"> • The Project will work productively with communities to implement the project. • Provision of connections solutions will be prioritised on the basis of their ability to deliver value-for-money savings. • Where the value-for-money water savings criteria is met, priority will be given to connections that support food and fibre productions, regional development, jobs and growth. • Connections standard will be proportional to the needs of the user and fit for purpose. • Where a user seeks a higher standard of service, the user will have to contribute to the cost. • Where urban supply is available to non-commercial users, the continuing requirement for both urban and irrigation supply will need to be justified. • GMW will honour executed landowner agreements that are consistent with these principles or where contractual obligations exist. Contractual arrangements can be withdrawn where mutual agreement has been reached with the landowner. • Statutory tools may be enacted when an agreement cannot be reached in a reasonable timeframe. • Seek to ensure GMW's cost recovery meets operational and whole-of-life cost needs for the water delivery system.

These Project Objectives and Principles were used as the core basis for planning the Reset.

6. Project baseline

As a part of the Reset, the Project Team has spent considerable time validating the status of the project including the scope delivered to date, current financial position, water savings delivered and milestones achieved (the Project baseline).

The Project Team has segregated the total scope of works into Committed and Uncommitted Works due to the existence of a large number of signed landowner agreements. This is in accordance with the Project Objectives which require that, wherever possible, existing commitments will be honoured.

- **Committed works** – include all connections works, both on-farm and off-farm, associated with channels having at least one signed legal agreement with a landowner.
- **Uncommitted works** – include all connections works, both on-farm and off-farm, associated with channels having no signed legal agreement with a landowner.

This differentiation is important as the project has significantly more flexibility in planning, prioritising and procuring uncommitted works where no pre-existing legal agreements with landowners are in place. Understanding the quantum of uncommitted funds available has enabled the Project to determine the extent of works that can be delivered.

The financial baseline for the Project as at 29 February 2016, which has been reviewed by PwC, details that:

- \$359.1M or approximately one third of funding has been expended;
- \$360.4M of funding is required to deliver against Committed Works; and
- \$351.1M is available to deliver against Uncommitted Works.⁵

Table 3 provides more details of the financial position as at 29 February 2016:

Table 3 – Financial position as at 29 February 2016

(\$M) as at 29 February 2016	Budget	Actual Exp.	Committed Expend.	Remaining Budget
	\$M	\$M	\$M	\$M
Total	1,070.6	359.1	360.4	351.1

Figures may not add due to rounding

As at 29 February 2016 approximately 37.5GL⁶ of water savings have been delivered by the Project leaving a further 166.5GL of water savings to be delivered⁷.

⁵ The PwC report confirmed uncommitted funds of \$349.2M. Further refinements to the calculations have been completed after the PwC review, resulting in a \$1.9M adjustment from committed to uncommitted, for a revised uncommitted total of \$351.1M.

⁶ Includes 26.1GL of audited water savings as at 30 June 2015 and estimated water savings of 11.4GL between 1 July 2015 and 29 February 2016

⁷ It is noted that a proportion of expenditure that has been incurred to date will contribute to future water savings and as such a calculation of the value-for-money (\$ per ML of water savings delivered) of water savings as at 29 February 2016 does not provide an accurate representation of what will be achieved by the end of the Project. Furthermore the Project Team is confident of delivering an improvement in the value-for-money of water savings delivered as a result of the changes to be implemented as a part of the Plan.

7. Scope of works

The scoping of works for the Reset has been undertaken at a more detailed channel / farm enterprise level to provide greater scope clarity and cost certainty. Moving forward, channel / farm enterprise based planning will also allow for a more targeted and individualised basis for communication and engagement with landowners combined with a greater level of delivery and cost control. This basis will also be utilised for tracking works through to completion.

The scope of works has been developed based within a defined set of parameters and changes will only be made to the basis for channel assessment within clear parameters and rules, namely:

- outcomes from physical concept assumption reviews / verification;
- changes that are within budget allowances; and
- changes which do not impact timeframes for delivery.

Alternative stakeholder proposals for channel solutions outside of these parameters will be documented by the Project and considered for future enhancement opportunities.

The combined scope of works to be delivered under Committed and Uncommitted Connections works (based on the Efficiency Optimisation Solution) is detailed in Table 4 below:

Table 4 – Scope as at 29 February 2016

Connections works Scope as at 29 February 2016	Outlets Treated ⁸	Channel Rationalised (km) ⁹
Committed Connections works	3,385	595
Uncommitted Connections works	4,378	327
Total Forecast Works	7,763	922
Actual to 29 February 2016	1,999	269
Total Stage 2	9,762	1,191

The original business case for the Project (as updated in Connections Implementation Plan 2 (CIP2)) detailed that approximately 1,800km of channel would be rationalised. This Plan has been developed based on 1,191km of channel being rationalised.

In total more than 1,800km of channel will be decommissioned across both stages of the Project.

It is noted that under the Uncommitted Connections Works approximately 621 km of non backbone channels are retained with varied levels of works undertaken.

⁸ Treated refers to meters being decommissioned, replaced or assessed and retained.

⁹ Rationalised refers to channel decommissioned by GMW or privately. Includes channel decommissioned and replaced with a private connection.

8. Committed works

A detailed, costed scope of works and delivery schedule has been developed for the Committed Connections works. This scope is based on delivery of these works in line with the solutions that have been previously developed and approved by the GMW Board / PCG¹⁰.

The scope of Committed Connections Works has been developed on the core assumption that all existing commitments to landowners are honoured and works are delivered in accordance with existing approved solutions of the GMW Board (Board approved solutions). In reality opportunities will arise to apply a revised solution and reallocate funds to deliver water savings that provide greater value-for-money. This will provide potential water savings upside. Any such decision will only be undertaken in accordance with Project Objectives and Principles. The Project Team has developed a detailed process to review, prioritise and potentially rescope all Committed Connections works.

As at 29 February 2016, \$360.4M is available for the Committed Works. Of this \$360.4M, \$211.4M is directly available for Committed Connections works. The other committed funding will be utilised to:

- fund operating expenditure; and
- continue delivering a number of separately identified projects classified under the Backbone Modernisation Program and Water Savings and Environmental Projects ('Special Infrastructure Projects' collectively).

Committed works are forecast to deliver 76.4 GL of water savings reflecting water savings for Committed Connections Works of 56.1GL and Special Infrastructure Projects of 20.3GL.

Key forecast outputs¹¹ from the delivery of Committed Connections works include:

Table 5 – Key outputs from delivery of Committed Connections works

Irrigation Area	Channel to be rationalised (km)	Outlets to be treated
Central Goulburn	106	1,009
Murray Valley	74	386
Loddon Valley	165	420
Rochester	68	588
Torrumbarry	183	982
Total	595	3,385

- All 3,385 outlets within scope will be treated, and will be either:
 - decommissioned and replaced;
 - decommissioned without replacement; or
 - assessed and retained.
- All 595km of channel within scope will be rationalised which includes either:
 - channel decommissioned and not replaced; or
 - channel being decommissioned and replaced with pipeline.

¹⁰ Board approval is applicable to works approved prior to the establishment of the PCG in March 2016.

¹¹ Based on works approved to date, may be subject to change.

9. Uncommitted works

\$351.1M of funding is available to deliver the uncommitted works.

A detailed assessment of the options available to deliver Uncommitted Connections Works has been undertaken. Nine options were developed in consultation with Project Investors and stakeholders and shortlisted to four with the shortlisting of options based on criteria closely aligned with the Project Objectives.

Extensive consultation with respect to the four shortlisted options has been undertaken through facilitated community consultation sessions held in June 2016.

The outcome of this process (option assessment and community consultation) is that the Efficiency Optimisation Solution (referred to as Option 4 of the four shortlisted options) has been recommended as the preferred option. This option performed strongly against all performance criteria assessed and in particular is projected to deliver the highest water savings of the nine options.

The Efficiency Optimisation Solution is focused on developing a channel by channel solution for all Uncommitted Connections works based on an individual assessment of every channel within the GMID. The following figure details the development of the Efficiency Optimisation Solution.

Asset solutions considered for Efficiency Optimisation

Seven broad asset solutions were identified having regard to current irrigation practices, existing water losses and costs to implement. In assessing each channel, the primary creation of VFM (\$/ML) has been prioritised followed by secondary considerations of size of water savings, customer considerations, GMW implications (e.g. WoL costs), and ease of implementation.

The following diagram details the seven asset solutions considered and the applicability of these solutions based on the level of water usage and the extent of water losses for individual channels.

Figure 3 – Development of efficiency optimisation solution



1. Detailed model of channels developed – detailed information relating to channel assets, customer numbers and water use was used to develop a detailed model of every GMID channel and used as a basis to inform discussions.

2. Local knowledge incorporated – this information was then supplemented with specific local area knowledge regarding customer enterprise types (including cow herd sizes, employment numbers etc.) and known customer intentions or desires (e.g. property subdivision, amalgamation etc.). Water savings and channel condition data was also validated at this step.

3. Concept plan developed – based on the above two steps a concept plan has been developed in conjunction with local Project staff, GMW Area Managers and Operations and Maintenance staff. The involvement of the GMW operations staff, via two day sessions, in development of infrastructure solutions is considered vital in incorporating specific local knowledge and ensuring that the long-term GMW operational and efficiency requirements are taken into consideration.

4. Existing solutions evaluated – in some instances the channels being examined are ones for which a connections solution may have already been developed and approved. In these instances the previously developed solution was re-assessed for suitability against the channel attributes and landowner requirements. The preliminary analysis showed that the existing proposed solution was fit for purpose and appropriate for 36% of all untreated channels.

5. Asset Solutions assessed – the information on the characteristics of the existing assets, customer profile and requirements was then used to determine the suitability of seven main asset solutions. It is noted that these asset solutions offer an alternative to previously adopted solutions in that consideration for the retention of existing non-backbone channel is now being made. Refer Figure 4 below.

6. Channel solution recommended – based on steps 1 to 5 and application of the Project's Objectives a bespoke asset solution for each uncommitted channel has been recommended.

7. Prioritisation – where insufficient funding exists to undertake all identified works, prioritisation is undertaken based on the value-for-money of water savings delivered.

Figure 4 – Asset solutions

1 Retain channel – no modernisation	2 Retain channel – meter upgrade only	3 Retain channel – automation and meter upgrade	4 Retain channel – remediation, automation and meter upgrade	5 Decommission channel – replace with GMW pipeline	6 Decommission channel – replace with private infrastructure
7 Implement Existing Solution (a combination of the above)					

Further details of each asset solution, its applicability to channels and the extent to which it forms part of the uncommitted solution is detailed in the following table:

Table 6 – Applicability of Solutions

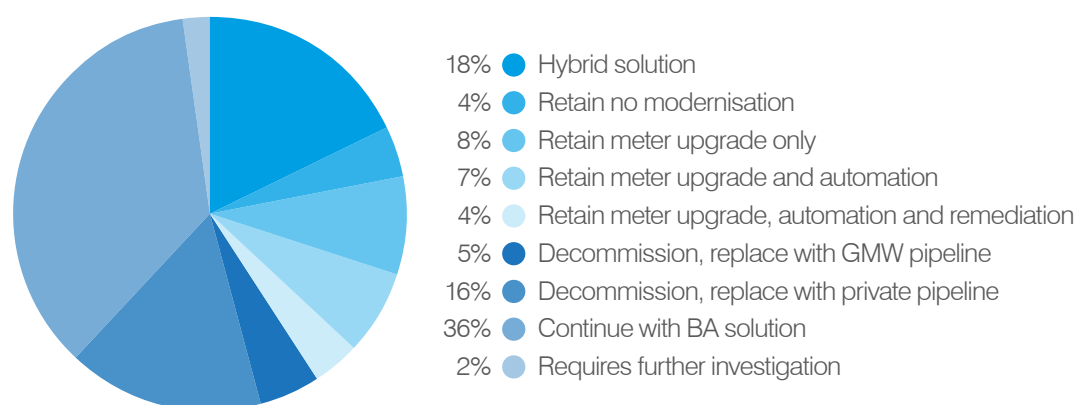
Asset Solution	Level of channel losses	Level of channel usage	Details
Retain channel – no modernisation	Low	Low	This solution has been applied where there is no cost effective solution (\$/ML saved) that can be identified to deliver water savings. For channels identified as part of this category there will be no project expenditure on existing assets.
Retain channel – meter upgrade only	Low	Med	This solution is suitable for channels that may experience low losses and medium customer usage, but which offer value-for-money water savings through meter replacement. Allowances for outlet rationalisation are also considered as part of this solution.
Retain channel – meter upgrade and automation only	Low - Med	High	This solution involves retention of the channel with gate automation and meter outlet replacement. In this solution, regulators are replaced and automated where justified by high use and value-for-money considerations to provide a fully modernised system.
Retain channel – remediation, meter upgrade and automation only	High	High	This solution entails remediation of the channel or sections of channel as applicable, automation of regulators and meter replacement. In instances where it has been identified that losses relate to channel seepage, the solution proposes channel remediation by clay or plastic lining only of the sections of channel where the losses actually occur. Bank remodelling is proposed where channel losses are predominately from leakage. The solution includes replacement and automation of regulators and meter replacement where justified by high use.
Decommission channel – replace with GMW pipeline	High	Med - High	This solution may occur where a high loss, high use channel is better replaced with a pipeline. It may involve provision of either an irrigation or a stock and domestic pipeline, which may or may not be pumped. There will also be opportunities for customers to rationalise service points where they are no longer required.
Decommission channel – replace with private connections	High	Low - Med	This solution is likely to occur in a high loss, low use channel where direct connection to the backbone channel is possible or a private connection(s) can be used to replace the channel. A private connection(s) may involve construction of a private (or shared) pipeline or channel to replace the decommissioned channel.

Table 6 – Applicability of Solutions continued

Asset Solution	Level of channel losses	Level of channel losses	Details
Hybrid solution	Low / Med / High	Low / Med / High	For simplicity of description, the solutions outlined above only consider retention and/or treatment of the whole channel. In many situations, a hybrid solution may be considered a better outcome because of actual circumstances. Hybrid solutions may include one or more of any of the solutions described above. An example is where a section of an existing channel (rather than the whole channel) is retained and the remainder is replaced with a private channel or pipeline to supply one or more properties.
Existing solution	Low / Med / High	Low / Med / High	Solutions have already been developed for many uncommitted channels that have not yet been accepted by the landowner. These are existing solutions, normally with landowner 'in principle' agreement, where the landowner has not yet been provided with an Agreement for signature or where the landowner has not yet signed an Agreement for other reasons. These solutions will typically comprise a combination of the asset solutions detailed above. In many cases, the Board approved solution is the best solution and will be implemented.

Figure 5 summarises the estimated applicability of the different solutions:

Figure 5 – Asset solutions (Uncommitted works)



The Efficiency Optimisation Solution was broadly supported by stakeholders in the June 2016 Community Consultation, the report on which noted:

*'Feedback from the majority of customers and stakeholders indicated support for the PCG's strong preference for Option 4. The option was perceived to be fairer, more flexible, better focused and likely to provide a good compromise between achieving water savings and creating a sustainable and affordable irrigation system. Attendees commented that Option 4 appeared to address the need for more and improved consultation with customers, especially the need for one on one conversations, and greater use of local knowledge.'*¹²

Additionally, an independent review has been undertaken by Marsden Jacob analysing whole-of-life costs with respect to the shortlisted options. This analysis demonstrated that the Efficiency Optimisation Solution has the lowest whole-of-life cost reflecting alignment with another key Project Objective.

¹² Tim Cummins & Associates, Goulburn Murray Water Connections Project Reset Community Consultation, June 2016

Uncommitted Connections works are forecast to deliver 60GL of water savings and will also deliver the following outcomes:

- approximately 327km of channel will be rationalised with 220km of channel decommissioned and not replaced, and 107km of channel decommissioned and replaced with pipeline;
- approximately 578km of channel will be modernised which reflects channels that are retained but which are modernised through a combination of remediation, automation and / or meters being treated;
- 46km of channel will be retained and not treated which reflects channel that has been assessed and due to the poor value-for-money (\$/ML) of water savings available will be left untreated; and
- all outlets will be treated with approximately 55% replaced, 43% decommissioned (and not replaced) and 2% retained after assessment.

Figure 6 and 7 provide further details of the key areas of scope delivered.

Table 7 – Forecast of uncommitted channel works

	Total Channel Distance	Total of channel rationalised (replaced with pipeline)	Total of channel rationalised (decom.)	Channel retained and not treated	Channel retained and modernised
	kms	kms	kms	kms	kms
Total	950.1	107.1	219.6	45.7	577.6

Table 8 – Forecast of uncommitted outlet works

	Total outlets	Treated and replaced	Treated and decom	Retained
Total	4,378	2,401	1,891	86

Figure 6 – Forecast of uncommitted channel works

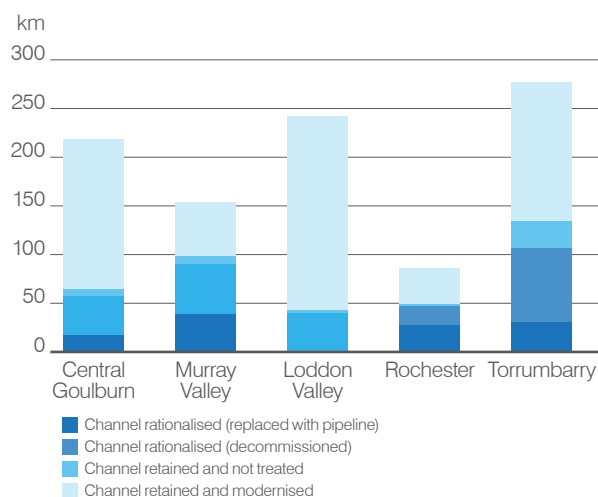
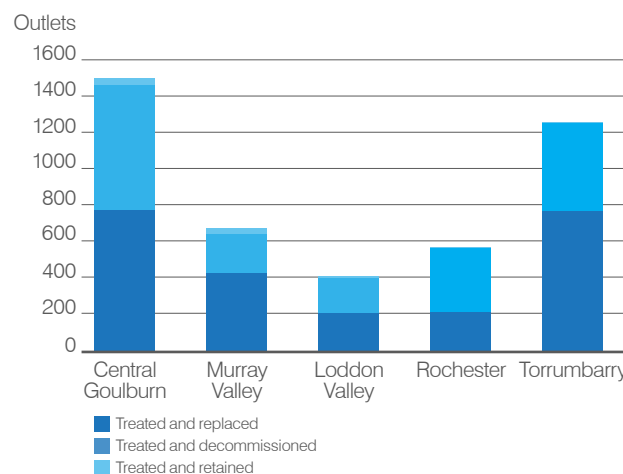


Figure 7 – Forecast of uncommitted outlet works



10. Works delivery strategy

The Project currently utilises a number of different delivery strategies for delivery of different components of works. A new Works Delivery Strategy has been developed which leverages past lessons learned, and which has been developed with the core aim of providing certainty of delivery and cost and improved customer engagement. The existing Delivery Strategy utilises three delivery models and a number of different contractors and contracting methodologies. Issues associated with the existing model include:

- the management of numerous interfaces and contractors;
- the sizes of packages available to be tendered has limited the ability to achieve economies of scale;
- a lack of central planning has led to a more piecemeal approach to works delivery and has limited the ability to exploit geographic or bundling efficiencies;
- landowner's managing their own on-farm works has reduced the level of control the Project has over cost and schedule; and
- limited involvement of the contractor across all phases of delivery and all scopes of works (on-farm and off-farm works) has reduced the ability to achieve value-for-money outcomes.

Importantly, it is noted that the End-to-End contractor model, which has been implemented by the Project more recently (for a subset of works) has demonstrated benefits, including better risk management and value-for-money.

Identification of the optimal delivery strategy has focused on the types of works to be delivered and in particular has given consideration to the design development complexity of works, the stage of development (e.g. level of scoping / design) and the status of landowner agreements.

In line with the above, two alternative delivery approaches have been adopted:

Table 9

Externally managed by a third party contractor	The externally managed model will be used where there are no landowners signed on a channel or where there may be one or more landowner signed and it is clear that the proposed solution can be simply adopted and agreed to by all landowners in a short timeframe with confidence. Under these circumstances a contracting arrangement can be put in place which provides certainty of risk transfer to deliver all Project stages and the contractor has full responsibility (and accountability) from scoping to handover. The Project Team sets out the scope, program and prioritisation of the works in the contract and monitors performance.
Internally managed by the Connections Project Team	The internally managed approach will be utilised for works on channels where not all landowners have signed and the ability to reach a channel solution is not straight forward. As such, the ability to designate a clear scope of works and have control over time is less certain. For these channels and associated landowners planning, engagement and scoping will be undertaken in-house with design and construction undertaken by external contractors.

Experienced private sector participation will be essential to meet Project resourcing requirements and timelines. Contracts will be required to meet clear value-for-money and risk transfer criteria.

10.1 Market sounding

As a part of the assessment process the Project has undertaken an Expression for Innovation. Responses have been received and as a general observation there is appetite in the market from suitably qualified organisations to deliver all of the remaining works or part thereof (scoping, engagement, implementation, commissioning, close out phases).

Table 10 – Key schedule activities

Workstep	Timing	Description
Appoint contractors	Current to December 2016	Undertake the process to appoint Contractors to deliver works (under both external and internal models).
Plan and prioritise Committed and Uncommitted works	Current to December 2016	The detailed assessment of all channels will be completed and prioritisation for delivery established. This process will consider whether channels will be delivered via the Internal or External Model.
Preparation of Winter Works 2017	Current to February 2017	The Project Team in conjunction with external contractors will plan, design and develop work packages for tendering under the external model.
External Model delivery	March 2017 to October 2020	Delivery of works under the External Model. Post 2017 the contractor will have full responsibility from scoping to handover.
Internal Model delivery	Current to October 2020	Deliver works under the Internal Model.
Delivery of Special Infrastructure Projects	Current to March 2019	Completion of Special Infrastructure Projects, most of which are already underway.

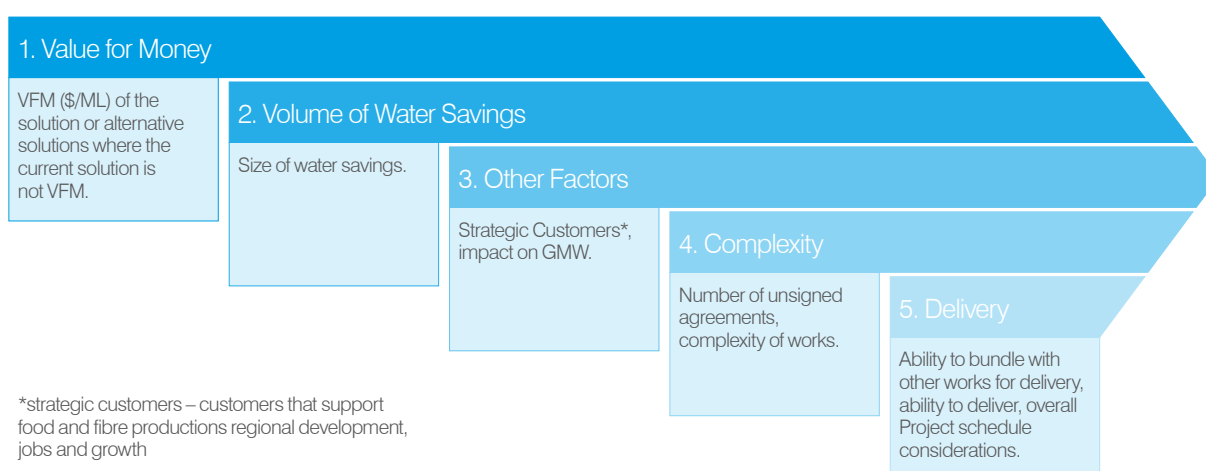
It is estimated that approximately 60% of Connections works will be delivered via the External Model with the remainder delivered by the Internal Model.

The organisation structure is being realigned to enhance delivery and provide greater levels of delivery accountability.

11. Central planning

One of the key changes associated with the new Works Delivery Strategy is the establishment of a Central Planning Group to control the planning, prioritisation and scheduling of works. This is a new initiative for the Project and will ensure ongoing alignment with Project Objectives and Principles and target works to those delivering the best value-for-money water savings. Figure 8 outlines the criteria that will be utilised for the prioritisation of works:

Figure 8 – Prioritisation



The outcome of this process is that delivery of value-for-money solutions are prioritised which will maximise water savings delivered by the Project.

The Central Planning Group will use the principles detailed above in Figure 8 to reassess Committed

Connections works and determine whether the works should proceed under the existing approved solution, proceed under an alternative solution or not proceed at all (with funding reallocated to be used for uncommitted projects). Ultimately, any decision to change an existing solution (with signed legal agreements) will depend on the extent to which the Project is obligated to honour existing legal agreements.

12. Landowner and stakeholder engagement and communications

Effective, consistent and targeted engagement and communications activities are essential to successfully deliver the project.

To this end, the Project has undertaken extensive stakeholder communication as part of the reset including Investor and key stakeholder briefings and workshops and the June 2016 Community Consultation Program.

The consultation activities undertaken to date have reinforced a number of challenges the Project faced with its previous engagement model. Importantly, there are now opportunities for the Project to work alongside the community and stakeholders to undertake genuine and transparent engagement as part of the Reset phase and moving forward. It has also provided the opportunity for the community to 'buy in' to the Project and the preferred water savings delivery option.

12.1 New landowner engagement model

Implementation of a new landowner engagement model is a key element to successful Project delivery and the Project Team is targeting to reduce the time taken to reach landowner agreements.

The new landowner engagement model will be used for all future landowner interactions and strikes a balance between providing genuine engagement with landowners and successfully delivering the Project for the benefit of all landowners and stakeholders. The model incorporates a number of checks and balances including access to independent review, the landowner submission process and allowance of 'a reasonable time' to reach agreement.

The new model for landowner engagement is based on the following principles:

- **no surprises** – communication of the landowner engagement approach with landowners in an upfront and easy to understand way;
- **integration of tools** – statutory reconfiguration and other tools are a part of the approach and are incorporated into the engagement model; and
- **guidance** – landowners will be provided with information and guidance throughout the engagement process.

The model is centred around the development of a Reconfiguration Plan. A Reconfiguration Plan when approved allows the Project team to proceed with the identified works on GMW backbone assets.

A Reconfiguration Plan comprises a:

- schematic / map depicting the works proposed to be undertaken on the GMW backbone assets; and
- table showing the services attached to each service outlet.

In addition to the Reconfiguration Plan landowners will be provided with a detailed map/schematic which depicts the works proposed to be undertaken on the landowner's property. The key phases in the landowner engagement model include getting started/initiation, concept planning, consultation, refinement, review (by both the landowner and Project staff), submissions, adoption and completion. The engagement process is summarised in Figure 9 and is available on our website at www.connectionsproject.com.au.

Figure 9 – Summary of the new engagement process



12.2 Web portal

The Project Team is finalising development of a number of engagement and communication resources and in particular is focused on developing a new channel web portal which will allow landowners to access information about their individual channels and outlets. The web portal, which will be updated over the course of project implementation, will show landowners:

- how their channel has been categorised in terms of water savings and water use (and an explanation of how conclusions were reached);
- the likely efficiency optimisation solution (at a high level, i.e. pipeline; retain channel and automate, etc.);
- a map of their channel;
- the status of works on their channel;
- broad timeframes for completion of works;
- parameters around any changes (i.e. within budget allowances, with no impact on schedule, based on a review of physical concept assumptions);
- frequently asked questions; and
- who they can contact for more information.

13. Water savings

Delivery of water savings is the key priority of the Project and the Plan has been developed to ensure delivery of the full 204GL of water savings to the Commonwealth by Project completion.

The Project is bound by the Water Savings Protocol for Irrigation Modernisation Projects (Protocol) published by the government. The Protocol provides a transparent, auditable process to enable water savings to be quantified, allocated and converted to water entitlements at an appropriate time.

Table 11 provides details of forecast water savings:

Table 11– Forecast of water savings as at 29 February 2016

Water Savings	Water Savings (GL)
Audited water savings	26.1
Estimated water savings 1/7/2015 to 29/2/2016	11.4
Estimated water savings to 29/2/2016	37.5
Forecast water savings post 29/2/2016:	
Committed Connections works	56.1
Uncommitted Connections works	60.0
Special Infrastructure Projects	25.8
Operational Water Savings	24.6
Forecast water savings	166.5
Total project Water Savings	204.0

The following points are noted:

- Committed and Uncommitted Connections works are forecast to deliver 116.1GL of water savings;
- Special Infrastructure Projects, comprising various Water Savings and Environmental Projects and Backbone Modernisation Projects are forecast to deliver a further 25.8GL;
- Operational Water Savings are forecast to deliver 24.6GL – these savings are attributable to works undertaken by the Project and associated modernisation activities. The recognition of these savings relies on proposed updates to the Protocol.

Opportunities for additional water savings will arise from the project's ability to deliver works more efficiently and effectively and target works providing greater value-for-money.