



State/Network		Proposed Project Activities
NSW	Box Yard Rd Water	<p>S&D Pipeline (Gunbar Water extension)</p> <p>Provide piped and filtered water with 24 hour a day supply to grazing operations and households covering an area of approximately 50,000 ha in the Hay and Balranald LGA. The new system, which is a potential extension of Gunbar Water, will replace an inefficient and unreliable open channel delivery system.</p>
NSW	Bringan Irrigation Trust	<p>Bringan Irrigation Trust Upgrade</p> <p>This project will enable the provision of a reliable and secure stock and domestic water supply for landholders and enable the efficient and measured annual delivery of both irrigation and environmental water to the end of the system. The irrigation network has annual losses which impacts the ability to deliver water to the end of the system efficiently. The losses rise significantly in low allocation years and will significantly impact on agricultural productivity into the future. Works include installation of S&D pipeline, meters, drive pump and upgrading of channels.</p>
NSW	Civil and Earth	<p>Basin-wide Stock & Domestic systems</p> <p>This project aims to implement a series of individual stock and domestic systems to individual landholders, or groups of landholders, and small towns/villages. These systems would be connected to a backbone channel or river system where there is a high reliability of secure S & D supply. Many landholders do not have direct access to a river system or groundwater (of adequate quality) and others are unable to access water from their irrigation providers in times of low water availability. It is estimated this project would save up to 95% of existing losses in systems where open channels and ground tanks are used to supply S & D water supplies.</p>
NSW	Coleambally Irrigation Co-operative Ltd	<p>Off Channel Storage</p> <p>This project will enlarge off channel storage and create a pumping facility to better manage over/under take of water ordered 7 days in advance (lead time from Blowering and Burrenjack Dams) , reducing risk of restricted supply to more than 450 irrigation farms or rejection of ordered water at the river-offtake.</p> <p>WCC Control Structures</p> <p>This project will upgrade and provide improved flow control and monitoring structures on West Coleambally Channel to more effectively deliver stock and irrigation water to 41 farms and environmental water to 3 of the wetland areas along the channel. This irrigation network delivers around 10 000 ML water per year with losses of up to 40%.</p> <p>Control & Metering for low Flow River Offtake</p>



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	Coleambally Irrigation Cooperative Ltd	<p>This project seeks to replace 2 large flow capacity Radial Gates at the river-offtake with smaller capacity gates (e.g. SlipMeters™) to enable small flow rate adjustments and enhance metering at low flow rates. Provide a permanent lining for a section of channel at the downstream accu-sonic meter to ensure a stable profile and limit aquatic weed’s influence on gauging and gauging verification.</p> <p>Culvert and Peak Flow Upgrades</p> <p>This project will remove flow restrictions to enhance irrigation water Peak Flow supply to farms and improve access and safety for present day large vehicles serving the farming community.</p> <p>Bridges, Channels and Drains upgrades</p> <p>This proposal will improve capacity and safety of bridges to cope with increased vehicle sizes and loads and improve scour protection for bridge foundation against more frequent and larger storm waters flows. Our bridges were constructed to the bridge load ratings applicable in 1944 and this significantly constrains agricultural and regional transport productivity.</p> <p>Aquifer Storage and Recovery</p> <p>This project is to re-establish the recharge of local aquifers by capturing damaging flood water and diverting it via the original riverine creek system into recharge zones to the aquifers to store water into the future.</p>
NSW	Elwah Pumpers	<p>Modernisation</p> <p>Modernise the delivery system, which has high conveyance losses, through channel upgrade and re-routing, installation of compliant telemetered meters and replacement of river offtake pumps. Proposed saving of 1720ML of conveyance losses.</p>
NSW	Gunbar Water Private Irrigation District	<p>Gunbar Water pipeline extension</p> <p>This project will extend the existing pipeline deliver a secure supply of filtered water for Stock & Domestic use for an additional 100 customer covering over 100,000 hectares. This project has the potential to deliver a secure supply of filtered water to 3 local townships, including schools, which have significant water supply problems.</p> <p>Gunbar Water PID (NSW)- Water Pipeline Extension – Booligal Leg</p> <p>Currently the Booligal community receive their water (unfiltered) from the Lachlan River and /or transport it by road to their properties. Some people have bores in place for water access. Through the extension of its existing pipeline, Gunbar Water will be able to deliver a secure supply of filtered water for Stock & Domestic use to the Booligal township and surrounding areas.</p>



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NSW	Hay Private Irrigation District	<p>Hay Private Irrigation District (HPID)</p> <p>Extend the current pressurised irrigation pipeline system from the main pipeline by 5 km to incorporate additional outlets with a capacity of 12 new farms. It includes installations of compliant meters and solar battery storage system.</p>
NSW	Jemalong Irrigation Scheme	<p>Farm offtake metering</p> <p>This project will involve the installation and commissioning of 61 mag flow meters retrofitted to existing farm outlets. The new meters will ensure accurate deliveries to members, while also ensuring compliance with the pending AS4747 metering regulations.</p> <p>Channel Remediation</p> <p>This project will re-build, re-shape and desilt the existing irrigation delivery channel system. The remediation will also include the trimming and removal of identified trees and shrubs located along the channel system, to provide an unsealed access and spraying track, as well as the removal and replacement of existing property fence crossings. These works will improve on farm water delivery and reduce conveyance losses.</p> <p>Channel Lining</p> <p>This project will provide HDPE lining to 5-300km of irrigation channels reducing leakage and infiltration; wetting up of channels and increased system efficiency.</p> <p>Channel Fencing</p> <p>This project will design and construct 314 km of fencing adjacent to the channel system, to provide access for JIL and contractors, as well as protecting the channels and other infrastructure from potential damage caused by stock. This damage includes erosion, widening, and low points where stock crossings occur.</p> <p>Channel Automation Software</p> <p>This project will improve the productivity of approximately 90 irrigators within the district by installing an automatic channel control system to compliment JIL’s existing automation and SCADA systems. The software will enhance JIL’s ability to control its automated gate network driving improvements in delivery efficiency, reliability, and overall improvement in the viability of the system, especially in marginal years.</p> <p>Automated Gates</p> <p>This project will provide 28 new automated regulators and 101 automated farm offtakes within the Jemalong Irrigation District (JID) to improve the delivery efficiency and overall level of performance within the scheme. It is expected that the project will improve the level of service to the irrigators thereby improving</p>



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		farm production and a more reliable monitoring and control the delivery network.
NSW	Mallawa Irrigation	<p>Siphon Upgrade – Carnarvon Highway</p> <p>The project will invest in a siphon designed to fit the demands of the users and will increase delivery of water to the outer reaches of the St George irrigation area by 50%.</p> <p>Mallawa Stock & Domestic system upgrade</p> <p>This project will provide clean, safe, reliable, and secure water supplies through upgrading the stock and domestic delivery arrangements for around 50 landholders in the region.</p> <p>Mallawa Telemetry</p> <p>Installation of telemetry to assist in water delivery and efficiency saving approximately 2000ML/year. The project will assist the network/region/farmers/community by reducing water losses through overflows, reduced time in delivering water and provide additional accuracy in water delivery.</p>
NSW	Marthaguy Irrigation Scheme	<p>Seepage and Evaporation Management</p> <p>Investigation has identified seepage and evaporation from the channel, plus dead water issues as major sources of loss. These increase the costs for the scheme and reduce the volume of water available for use. Activities to address these issues include lining leaky areas, reducing channel capacity and removing dead water and non-beneficial water from the system by re-grading channels.</p>
NSW	Moira Private Irrigation District	<p>Moira PID System Modernisation</p> <p>This project aims to complete a full irrigation supply system modernisation of the Moira Private Irrigation District (MPID), which services approximately 53 members, delivering irrigation and stock and domestic supplies to some 94 properties. Modernising, including lining of the delivery network will save in the order of 2,400 – 4,200 ML/year (seepage and evaporation reduction), improve the accuracy of water measurement and delivery, and allow the delivery of stock and domestic water to meet critical human and livestock needs.</p> <p>Moira PID system reconnection</p> <p>This reconfiguration project would have the ability to delivery water 24 hours/day, 7 days/week to all properties within the scheme area. The project is structured around construction of a new supply channel from the Murray River to the MPID pumping station. The new connection point would be located upstream of the Barmah Choke, and run through the Murray National Park to</p>



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		<p>the existing pumping station. When the Murray River flows fall below 2,500 ML/d, water levels drop such that the pumping station cannot operate. MPID must be able to (as a minimum) supply S & D and water to high value (horticulture) crops year-round.</p>
NSW	Murray Irrigation Ltd	<p>Upgrade of Public Bridges</p> <p>This project will first assess then immediately commence the upgrade of 416 public bridges along Murray Irrigation’s channels to allow the transport of agricultural products to meet Gross Vehicle Mass (GVM) requirements. The poor state of many of these bridges is a significant financial risk to councils (who own the structures), to Murray Irrigation (that maintain them and need to pass water under these structures) and to the local community that needs to cross over them for everyday travelling and farmers transporting agricultural produce.</p> <p>Emphemeral Creek Restoration</p> <p>This project will restore flows into the Jimaringle-Cockran-Gwynnes as well as the Yarrein and Murrain-Yarrein creek systems using upgraded Murray Irrigation infrastructure. The creeks have been largely disconnected from the adjoining rivers for several decades. The creeks regularly connected with the rivers providing productivity boosts for aquatic foodwebs that supported healthy native fish populations. This project can help to reinstate these environmental values plus provide ongoing social, cultural and economic benefits to the region.</p> <p>Infrastructure Rationalisation Project</p> <p>This project will reduce the infrastructure liability base that Murray Irrigation is required to look after through either the removal, modification, or handover of these structures to the value of around \$100 million. Compared to privatisation in 1995 the company delivered around 1,000GL of water for consumptive use, today the delivery of water in total is less than half of this amount yet our infrastructure liability has stayed the same at around \$1 billion.</p> <p>Upgrade of Access Bridges</p> <p>This project will address issues with 787 Access Bridges and Culverts that are no longer fit for purpose by upgrading the bridges to handle modern day agricultural machinery. The project will significantly improve farm efficiencies and productivity through significantly improved access to meet requirements of modern-day machinery and transport.</p> <p>Solar Powered Pumping and Desalination Pilot</p>



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	Murray Irrigation Ltd	<p>The aim of this proposal is to initially develop a pilot project to determine the feasibility of extracting and desalinating shallow groundwater in the Wakool-Tullakool Sub Surface Drainage Scheme area building on the successful groundwater extraction scheme currently in place. If the pilot was successful it would lead to not only addressing problems caused by shallow saline water tables but provide a tangible benefit to the irrigation district by adding a meaningful volume of consumptive water into the system - estimated at up to 10GL annually.</p> <p>Restoring Farm Wetlands</p> <p>Murray Irrigation has a very large network of channels that are strategically located to deliver targeted environmental water to ephemeral creeks, rivers and wetlands located throughout the area of operation. There are an estimated 2,000 wetlands located on farms throughout the area. Many have the potential to be restored to be healthy wetlands and achieve substantial environmental outcomes. This can occur by completing a range of on-ground works and incentivising landholders to participate in these projects. This project is to commence restoring the health of 200 of those wetlands.</p> <p>Channel Capacity Upgrades</p> <p>Increase the flow capacity of 100KM of channel systems. A key driver of productivity and efficiency in gravity fed irrigation systems is higher irrigation flow rates. There are some parts of the channel system that do not have enough capacity to meet customer demand and this has a direct impact on their agricultural productivity and Murray Irrigation’s capacity to volumes.</p>
NSW	Murrumbidgee Irrigation Ltd	<p>MI Stage 3 Automation Project Proposal</p> <p>This project is required to complete MI’s final stage of automation of its supply network to allow the full benefits of automation to be captured. It will allow MI to be more efficient, agile and adaptable in the way water is delivered and will underpin customer business resilience and growth.</p> <p>MI Capacity Increase</p> <p>Recent investment in automation of the delivery network has improved water delivery precision. However, several structural constraints within the main arteries of the network significantly limit MI’s ability to meet customer demand for flow rate during peak usage periods. This project will widen and refurbish concrete and clay lined channel and increase the flow capacity of multiple bridges and culverts.</p> <p>Urban Channel Rationalisation</p> <p>This project will provide over 1000ML of water savings through piping and rationalisation of low volume irrigation channels in and around urban areas of the Leeton and Griffith townships. The</p>



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	<p>existing delivery network consists of open concrete lined and earth channels and is no longer fit for purpose.</p> <p>MI Seepage Reduction</p> <p>The project will line approximately 8% of channel network (90 km) to produce water savings of 4000 ML annually and develop a sound knowledge of seepage losses across the network. 75% of the capital expenditure is projected to flow to local contractors. The project will also assist with the training and work experience for four PhD scholars and three post-doctorates from the fields of groundwater modelling, hydrogeology and groundwater monitoring.</p> <p>Surge Management Project Proposal</p> <p>This project proposes four additional surge reservoirs with a combined capacity of 16GL, strategically located within the water delivery network to ensure river orders are taken and river shortfalls are met to minimise excess being released from the storages and not utilised. On average every year 70GL of releases intended for MI are not taken at the offtake. MI believes that approximately 50% of these releases are losses.</p> <p>MI Solar Capacity Project Proposal</p> <p>This project will remove energy constraints on operating our pressurised water delivery systems by installing solar panels on 10 pump stations resulting in an increase regional productivity and land use potential for several hundred agricultural businesses.</p> <p>Cudgel Creek S&D Project Proposal</p> <p>Cudgel Creek is a typical natural water way that is not purpose built for the efficient conveyance of stock and domestic water. This project will secure access to year-round on demand clean stock and domestic water for landholders and reduce conveyance losses by up to 100ML per year.</p> <p>Lake Wyangan Project Proposal</p> <p>This project will address serious water quality issues in Lake Wyangan by facilitating increased circulation of water in the North Lake. Construction of a pump station and pipeline to turn-over water in the lake will improve water quality and provide irrigation capabilities for adjacent farmers.</p>
NSW	<p>Narromine Network Upgrade</p> <p>This project will reduce irrigation water losses, increase water delivery for important food and fibre crop production as well as enhancing the network's operations to meet current and future demand. Works include lining of 4km channel, installation of meters and connect 20 users and the Golf Club to a piped S&D system.</p>



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NSW	Rubicon	<p>A Precision Irrigation Scheduling and Climate Forecasting Service for The Southern Basin</p> <p>The project will provide 16,000 irrigators in the Southern Basin with the ability to accurately schedule their irrigations and achieve demonstrated efficiency savings (circa 20%) and increased agricultural production.</p>
NSW	Tenandra Scheme	<p>Matching Scheme capacity to future demands</p> <p>This project will redesign the channel to match system capacity with current and future demands including the delivery of lower flow rates the full length of the Scheme. It is designed as a second stage of modernisation and focuses on resizing and clay lining of parts of the channel network and improving water delivery and management.</p>
NSW	Trangie Nevertire Co-operative Ltd	<p>Modernisation Completion</p> <p>To increase water delivery efficiency by replacing the leaking inverted concrete syphon and completing the lining of the remaining 38km earthen channel sections. If the current syphon fails, TNCL will be unable to deliver water to the majority of its members. This will have disastrous financial impact on members as there is no alternate water supply for the \$25 million of irrigator crops. There will be an estimated water saving of 330 megalitres per annum regardless of total volumes pumped.</p>
VIC	Victoria	<p>Goulburn Murray Water - Water Efficiency Project</p> <p>For more information see; https://www.agriculture.gov.au/water/mdb/programs/basin-wide/off-farm-efficiency-program and https://www.g-mwater.com.au/policy-and-projects/water-efficiency-project</p> <p>Goulburn Murray Water - Wakiti Creek Water Loss Recovery Project</p> <p>The Wakiti Creek Water Loss Recovery Project was included in Victoria's Northern Water Infrastructure Prospectus released in October 2018. Further feasibility is required. The Wakiti Creek is a flood anabranch of the Goulburn River located near Kotupna in Northern Victoria. The creek fills with water during high-flow events and from water pumped to supply irrigation and domestic and stock water to the Wakiti Irrigators Co-operative Society syndicate. An opportunity exists to improve water security and environmental features along the creek and its users (and recover water). There are several potential options for consideration that are being explored with stakeholders.</p> <p>Coliban Water - Rural Water Supply System upgrade for efficiency and economic viability</p>



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	<p>This project is concept, is yet to be consulted with stakeholders and requires further development. The project aims to ensure Coliban Water’s rural water supply system can meet climate challenges and be economically self-sufficient by significantly improving system efficiencies. Coliban Water’s rural water supply system currently has significant water losses. The eight separate systems would employ a bespoke solution tailored to the needs of the customers, the location and configuration of the supply.</p> <p>Lower Murray Water – Sunraysia private Diverters Channel Upgrades</p> <p>This proposal was included in Victoria's Northern Water Infrastructure Prospectus released in October 2018. Further feasibility is required. There are approximately 16 private channels in the Sunraysia region that are estimated to incur significant seepage and evaporation losses. The Sunraysia Private Diverters Channel Upgrades would install more accurate measurement points and either pipeline, plastic line and/or re-profile these existing earthen private channels to reduce seepage and evaporation losses.</p> <p>Lower Murray Water – Replacement of Ageing Spurlines and Channels</p> <p>This proposal was included in Victoria's Northern Water Infrastructure Prospectus released in October 2018. Further feasibility is required. In the primarily piped LMW irrigation districts, there is over 500 km of low-pressure pipelines. Much of this network was installed in the 1950’s. As these assets now approach their end of life, the system is inefficient at meeting growing customer demands and experiencing higher than expected water losses. This project would target existing high loss spur pipelines and open channels to reduce seepage and evaporation losses for optimal and cost-effective water recovery.</p> <p>Goulburn-Murray Water - Sunday Creek Reconfiguration (Lake Moodemere)</p> <p>This project is concept, is yet to be consulted with stakeholders and requires further development. The Sunday Creek Reconfiguration project aims to change how irrigation water is delivered to Sunday Creek. It provides a direct pump and pipeline connection to the River Murray, enabling Lake Moodemere and its fringing marshes to be bypassed and for the ecological values of the site to be restored by reinstating a more natural watering regime. Importantly, the project also provides an improved reliability of supply for 14 irrigators (predominantly vigneron) that provide employment for over 200 people and enhance tourism in the area through open-door cellars.</p> <p>Grampians Wimmera Mallee Water- Rocklands (Toolondo) to Taylors Lake Project</p>



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		<p>This project is concept, is yet to be consulted with stakeholders and requires further development. It proposes to replace the existing open channel between Rocklands Reservoir and Taylor's Lake with transfer pipeline of approximately 70 km. The only remaining channels in the Grampians headwork system are the channels that transfer water from different headworks given the integrated nature of the Grampians headwork system. Rocklands Reservoir plays a significant role in underpinning the security of the Wimmera Mallee water supply system as well as being a point source for the delivery of environmental water into the Glenelg River. By building the pipeline it has potential to create water savings of approximately 2-5 GL per annum in most years, that is currently being lost through evaporation and seepage.</p>
NSW	West Corugan Private Irrigation District	<p>West Corugan PID system modernisation</p> <p>This project aims to complete a full irrigation supply system modernisation of the West Corugan Private Irrigation District, which services approximately 298 members, delivering irrigation and stock and domestic supplies to its members. Modernising, including lining, of the delivery network will save in the order of 5-10,000 ML/year (seepage and evaporation reduction), improve the accuracy of water measurement and delivery, and allow the delivery of stock and domestic water to meet critical human and livestock needs.</p> <p>This project aims to implement a supply system modernisation of a specific component of the West Corugan Private Irrigation District, construct a piped and pressurised stock and domestic system to its 298 existing members, whilst also expanding the footprint of the S & D network beyond its existing member base.</p> <p>West Corugan PID system expansion and upgrade (feasibility)</p> <p>This project aims to implement a supply system modernisation of a specific component of the West Corugan Private Irrigation District, construct a piped and pressurised stock and domestic system to its 298 existing members, whilst also expanding the footprint of the S & D network beyond its existing member base.</p>
NSW	Western Murray Irrigation	<p>Improving peak flows to meet changing demands of Western Murray Irrigation customers</p> <p>This project will improve water supplies during peak summer periods through upgrading the network infrastructure to better meet the current and future demand profile for around 400 landholders/horticulturists in the region</p>