

National Water Grid Connections funding pathway

2021

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Foreword

The Australian Government is investing in packages of water infrastructure projects, brought forward by state and territory governments right across the country to improve water reliability and efficiency.



Having grown up and worked on the land, I appreciate the value of water and the critical role it has in our communities. It is an enabler of our regions. With secure and reliable supplies of water, we can keep our regional jobs, supply chains and economies growing. If we make our regions stronger, we will make Australia stronger.

Right now, the Rookwood Weir in Queensland is the biggest water infrastructure project underway in Australia. This landmark project has brought hundreds of jobs to central Queensland and once it is complete, it will yield up to 86,000 megalitres. This water will give more certainty to our farmers, and can help support them in getting more value out of each crop.

Smaller scale water infrastructure projects are just as important as the larger scale ones. They are a very effective way of addressing water security and deliver benefits to our communities faster. They can help build the linkages across the National Water Grid.

We have been working hard with our state and territory partners to get shovels into the ground and water to our regions. Together, we have identified 40 new water infrastructures projects across regional and rural Australia through the National Water Grid Connections funding pathway. This takes our total number of projects from 30 to 70 – significantly boosting water security and economic growth in our regional communities. All of these new projects will be delivered alongside our larger scale projects. Our investment of \$108 million, is leveraging more than \$214 million in partner funding from state and territory governments and other third parties. The total value of the entire package of Connections projects is more than \$322 million. Importantly, this shows that we are driving the right outcomes and providing confidence to all levels of government and the private sector.

Investment dollars is just one component though; what we are building will be felt on the ground and in our backyards. These new projects, mean more jobs to our regions, more water storage and availability, better access to water, and new opportunities to grow new and existing businesses. Collectively, this will make the Australian economy more dynamic and will contribute to drought resilience.

These new projects will be delivered over the next two years, so we will be seeing benefits in Australian communities in no time.

I look forward to working with state and territory governments to continue to identify, plan and deliver projects across our regions to build the National Water Grid.

The Honourable Barnaby Joyce MP Deputy Prime Minister Minister for Infrastructure, Transport and Regional Development



The National Water Grid

The Australian Government is investing a total of \$3.5 billion through the **National Water Grid Fund** to get vital infrastructure built across the country.

The **National Water Grid Authority** works in partnership with state and territory governments to identify, plan and invest in water infrastructure, which will develop the National Water Grid.

The **National Water Grid** is a series of region-specific systems that will help grow Australia's agriculture, build resilience to drought and support regional prosperity. The National Water Grid is made up of all nationally important, non-urban regional water systems in Australia. It comprises of state and territory water systems and assets including:

- natural water systems, such as rivers, lakes and groundwater
- built infrastructure, such as dams, weirs and pipelines.

A combination of water storage and distribution networks will help ensure that sufficient water is available to meet demand. Infrastructure options and combinations include dams, reuse, desalination, groundwater, natural waterways, channels and pipelines.

The National Water Grid Connections funding pathway is delivering targeted water infrastructure projects to provide the important links within the National Water Grid.

Collectively, the water systems and assets that make up the National Water Grid provide long term water security across Australia's regions, which responds to the effects of climate change and will improve resilience to drought.



What can a water grid look like?

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The Connections funding pathway

The Australian Government is investing in water infrastructure projects across the country to make improvements to water reliability and efficiency.

In early 2021, the Australian Government announced the National Water Grid Connections funding pathway (Connections) through the \$3.5 billion National Water Grid Fund. It will enable the delivery of targeted water infrastructure projects to bring more immediate benefits to Australia's regional communities. Connections recognises that while small scale infrastructure projects individually may make localised improvements to water outcomes, collectively they will make nationally significant contributions to the National Water Grid.

Up to \$20 million in water infrastructure funding was made available for each state and territory with an Australian Government contribution of up to \$5 million per project.





Connections packages across Australia

The Connections packages are made up of 40 new projects. Collectively, these packages will deliver significant improvements to regional communities over the next two years, including the construction of new off-stream storage dams, water pipelines, and recycled water irrigation systems.

To be eligible for funding, the state and territory project packages had to demonstrate a public benefit that will contribute to the wider Australian community (such as: securing the nation's water security, building resilience to future drought, creating jobs), as well as increasing the availability, reliability, efficiency and/or quality of water for agricultural purposes.

All projects met the following targeted priority themes:

- Theme 1: Improve water access and security.
- Theme 2: Promoting regional economic growth and sustainability.
- Theme 3: Building resilience to drought and a changing climate.

Across Australia, the Connections packages will result in:

- an increase in irrigable land
- new properties and customers being connected to water supply
- new ongoing and seasonal jobs
- new water infrastructure jobs
- an increase in water storage capacity.

Expected benefits of Connections packages across Australia



More than **7000 hectares**increase in irrigable land



Supporting more than **2500 ongoing jobs**



Plus up to **500 jobs** during seasonal periods



Plus up to **1175 jobs** during construction



Up to **33.6 gigalitres** additional water storage capacity



Up to **31.3 gigalitres** increase in water availability



Australian Government funding across Connections packages



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Improving water access and security



Improving water access and security for agricultural and industrial use encourages growth and opens up new opportunities for water users. It can position regions so that access to water sources is not a limiting factor.

Improved and increased water access can provide new opportunities, such as utilising existing dryland, increasing irrigated cropping and grazing land or additional crop rotation.

Greater access to water sources can reduce the dependence on unreliable rainfall, expensive water carting and increase the production value of farms. This can provide vital income to Australian farmers, irrigators and businesses during dry times. To improve the delivery of water during periods of drought and high demand, some Connections projects will construct new pipelines or upgrade existing pipelines to support and enhance regions that experience service interruptions.

Additional water will be available for more water users as some Connections projects identified opportunities to reuse existing water sources, such as converting municipal wastewater and urban stormwater into useable irrigation water.







Case study: Gascoyne Irrigation System Augmentation and Modernisation

The Gascoyne Irrigation System Augmentation and Modernisation project is located in Carnarvon, 900 kilometres north of Perth in Western Australia.

The project will upgrade essential water infrastructure in the Gascoyne region so that it can supply more water each year. This will ensure the system can manage peak demands, based on the water users' needs. They will also modernise the local irrigation water distribution system to deliver real-time reporting and operational control. A north to south interconnection line will be installed so that water can be supplied as the industry expands in the region.

As the infrastructure will allow additional water to be supplied, more water will be available to increase horticultural production and growth in the region. This will allow farmers greater flexibility in crop selection, while being able to use their water allocation more efficiently. The modernised irrigation system will make the supply more reliable, and the water will be delivered at a uniform level of service as the industry expands.

Promoting regional economic growth and sustainability



Investments in water infrastructure can promote regional economic growth and sustainability through increased water supply.

Regional economic growth begins at the construction phase, with new jobs and increased consumption of goods and services. When the project is operational, the additional water supply will provide greater labour opportunities and productivity.

Increasing water supply enables farmers, businesses and agriculture and primary industry sectors, to plan and invest in the long term, and it can position regions for growth. This growth can be achieved through the increase in production, regional jobs, and the move to higher-value agriculture. To attract high-value industries to the region, including agricultural commodities and value-chain manufacturing, several of the Connections projects will deliver additional water supplies to regional areas that do not currently have a connection. As such, this new water will become an enabler for these areas and will draw new farmers and businesses to start-up or move into the regions.

In order to recover water losses and pass on water savings to irrigators for further productivity, some projects will replace and construct new pipelines. This will also improve the reliability and management of water levels, particularly during high-demand periods.







Case study: South Arm Recycled Water Pipeline

The South Arm Recycled Water Pipeline project is located on the outskirts of the greater Hobart area in Tasmania.

The project will construct a new transfer and distribution pipeline and upgrade tertiary water processing to be able to produce Class A recycled water. The additional water will supply an area that has potential to be productive, but currently has no reliable supply of irrigation water. An affordable and reliable water supply will support agricultural operations expanding across this region.

The new recycled water irrigation scheme will provide sustainable and reliable high-quality irrigation water for the region's primary producers, resulting in increased productivity. This will also generate additional employment for the region and support the development of local agricultural enterprises.

Building resilience to drought and a changing climate



Water infrastructure tailored to each region, based on their needs and weather patterns, can build resilience to drought and a changing climate.

Regions can build resilience to drought and a changing climate through constructing and/or upgrading infrastructure that captures and stores water from rainfall or runoff. This will avoid water wastage.

Some Connections projects will expand and construct additional water storage facilities to create more capacity to capture water, particularly in regions that recently experienced drought and water restrictions. Other regions may benefit from recycling and reusing water, especially when rainfall is unpredictable. Some projects will construct recycled water facilities to provide additional water sources for their regions. As recycled water has less reliance on rainwater, it can be used to supplement groundwater and surface water.





LOCATION: New South Wales ESTIMATED PROJECT COST: \$7 million AUSTRALIAN GOVERNMENT FUNDING: \$3.5 million

Case study: Lake Wyangan Water Sustainability

The Lake Wyangan Water Sustainability project is located in Griffith, New South Wales.

The Connections project will make modifications and purchase equipment for the Griffith Water Reclamation Plant and construct a new pipeline to Lake Wyangan.

Treated and disinfected reclaimed water will then be fed into Lake Wyangan, providing farmers with an additional water source. The additional water source will enable some farmers to expand their agricultural enterprise and utilise existing dryland.

During droughts, the reclaimed water will help replace water that is lost to evaporation. This will keep Lake Wyangan South at a level that allows the farmers to extract water on a continuous basis. This means that farmers can maintain their productivity with a reliable water source, that is not always reliant on rainfall.



Delivering targeted water infrastructure projects

Connections packages will add to the momentum of water infrastructure projects already being delivered across Australia as part of the National Water Grid Authority's water infrastructure program.

The Connections packages were brought forward by the state and territory governments.

The project packages will target the important linkages that will contribute to the building of the National Water Grid.

Connections demonstrates what can be achieved if all levels of government, including local councils, and private investors, work in partnership.

Although benefits from Connections packages are likely to be experienced on a regional or local level, the fundamental key is that all projects help to build water security and resilience. By supporting local industries and regional economies, these projects will have flow-on benefits to the whole of the country.





Did you know?

State and territory governments are responsible for the regulation, planning and management of water resources, including water infrastructure development and maintenance.

National Water Grid funding is provided directly to state and territory governments under a Federation Funding Agreement. These arrangements assign responsibility for all aspects of delivering projects to the state and territory governments, even where a project is delivered by a third party.

Local governments, irrigators and other project advocates have an important role to play in identifying water infrastructure projects that will build the National Water Grid to support agriculture and primary industries in our regions.

Western Australia Connections package

TOTAL COST ESTIMATE: \$43.8 million

AUSTRALIAN GOVERNMENT FUNDING: \$20 million

The Western Australia Connections package includes nine projects that will increase horticultural production capability, improve water management and efficiency, increase runoff and water storage and provide more reliable water sources. These construction projects will undertake improvements, such as the replacement of pipelines, new tanks and pumps, a reverse osmosis desalination system, replacement of degraded bitumen and the modernisation of distribution systems.



The new projects in this package include:

- Cave Springs Road Tail Water Return System – Water recycling systems will be constructed in the Ord River Irrigation Area, resulting in water savings.
- Agricultural Area Dams and Strategic Community Water Supplies – Infrastructure facilities will be constructed including pipework, tanks, solar pumps and standpipes at dam sites. This will increase resilience and water security in farming communities in the region.
- Katanning to Kojonup Pipeline
 Enhancement A number of sections of the existing pipeline between Katanning and Kojonup will be replaced, increasing water reliability and supply to all farmland customers.
- Jerramungup Dam Catchment Improvement Degraded bitumen will be replaced with a plastic liner enabling increased runoff and water storage, and improving reliability to almost all water users in the Jerramungup catchment.
- Gascoyne Irrigation Scheme Augmentation and Modernisation – Essential infrastructure in the Gascoyne region will be upgraded, including



additional production bores and modernisation of irrigation systems. This will increase horticultural production capability in the region.

- Community Water Supplies Partnership Program with Local Government – New and improved non-potable water supplies will be developed in priority areas for farming communities to access.
- Ravensthorpe Dam Catchment Extension The catchment area of the Ravensthorpe dam will be expanded, which will increase the water storage capacity in the dam.
- Cranbrook Dam Catchment Improvement Degraded bitumen will be replaced in Cranbrook Dam 1 catchment, increasing the volume of water in the dam for agricultural and primary industry use.
- Wongutha Independent Water Security
 Pilot A small scale, solar powered water
 reverse osmosis desalination system pilot will
 be installed, producing additional fresh water.

Western Australia Connections package benefits



561 hectares increase in irrigable land



Supporting up to **40 ongoing jobs**



Plus more than **400 jobs** during construction



11.5 gigalitres additional water storage capacity



6437 megalitres increase in water availability

Northern Territory Connections package

TOTAL COST ESTIMATE: **\$41.3 million**

AUSTRALIAN GOVERNMENT FUNDING: \$7.4 million

The Northern Territory Connections package includes two projects that will enable diversification of agriculture and primary industries and exploration of commercial viability of growing produce in the region. These construction projects will include improvements, such as the construction of new water mains, water supply tanks, bores, centre pivots and pump generators.







The new projects in this package are:

- Katherine Logistics and Agribusiness Hub Water Supply – The critical water supply network will be developed to support the development of the Katherine Logistics and Agribusiness Hub. This will enable growth for agricultural and primary industry in the region.
- Emerging Agribusiness Precinct Gunn
 Point Peninsula A pilot project will conduct
 crop trialling on leased sites, to explore the
 commercial viability of agriculture opportunities
 that could be rolled out on a broader scale.



Northern Territory Connections package benefits



More than **300 hectares**

increase in irrigable land



Supporting more than **1170 ongoing jobs**



Plus more than **450 jobs** during construction



11.2 megalitres additional water storage capacity



Up to **2700 megalitres** increase in water availability

Queensland Connections package

TOTAL COST ESTIMATE: **\$9.5 million**

AUSTRALIAN GOVERNMENT FUNDING: \$4.8 million

The Queensland Connections project is the Warrens Gully System Capacity Upgrade project. This project will upgrade the infrastructure in the Warrens Gully System and enhance water services to existing customers and facilitate the expansion of the agricultural industry.



Storage Distribution Storage and Distribution



New South Wales Connections package

TOTAL COST ESTIMATE: **\$40 million**

AUSTRALIAN GOVERNMENT FUNDING: \$15.8 million

The New South Wales Connections package includes five projects that will enable the expansion of the agricultural industry in the state. Specifically, they will provide new water supplies and improved water security, through the construction of new pipelines, off-stream storage dams and water tanks and upgrades to distribution networks.



WATER INFRASTRUCTURE TYPE



The new projects in this package include:

- Lake Wyangan Water Sustainability The Griffith Water Reclamation Plant will be modified and a new pipeline will enable the expansion of the local citrus industry and irrigation of dry land farming areas.
- Walcha Off-Stream Water Storage A new off-stream storage dam will be constructed to improve water reliability to the Walcha community and agricultural users.
- West Wyalong Water Reliability The existing distribution network in West Wyalong will be upgraded to support the expansion of the Lake Cowal Gold Mine as well as to provide a water supply to agribusiness customers in the region.
- Broken Hill to Menindee Graziers Pipeline A new pipeline will be constructed to support graziers, providing a dedicated water source for graziers with improved reliability and quality.
- Urbenville Water Supply The existing Urbenville Water Treatment Plant will be expanded, including the installation of raw water tanks, increasing certainty of supply for livestock, dairy and crop production.





New South Wales Connections package benefits



More than

240 hectares increase in irrigable land



Supporting more than **234 ongoing jobs**



Plus more than **60 jobs** during construction



1650 megalitres additional water storage capacity



4380 megalitres increase in water availability

NATIONAL WATER GRID CONNECTIONS FUNDING PATHWAY

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Victoria Connections package

TOTAL COST ESTIMATE: \$46.3 million

AUSTRALIAN GOVERNMENT FUNDING: \$20 million

The Victoria Connections package includes nine projects that will increase agricultural capability and productivity, provide additional irrigation water and offer better water availability. These construction projects include improvements, such as new pipes, pipelines and pump stations, replacement of old channels and a new wastewater facility.



WATER INFRASTRUCTURE TYPE



The new projects in this package include:

- Kyneton Recycled Water Irrigation A recycled water pipeline will be constructed, which will provide recycled water to irrigate previously dry farmland.
- Gisborne to Sunbury Recycled Water Interconnector – Stage 1 – The first stage of a two stage interconnection for the Gisborne and Sunbury recycled water schemes. Stage One will construct a transfer pipeline into the existing Sunbury recycled water scheme for irrigation.
- Horsham Agriculture SmartWater for Grains Municipal wastewater will be converted into high quality irrigation water improving water quality for agricultural use in the Horsham region.
- Victoria's Emergency Water Supply Point Network – Emergency Water Supply Points will be constructed, repaired and upgraded to support the agricultural industry during drought conditions and other emergency periods.
- Bacchus Marsh Resilience and Critical Infrastructure – Channels will be upgraded with new pipelines providing water savings for irrigators.



- Macalister Resilience and Critical Infrastructure

 Pipes will be upgraded to transfer water
 between channels, creating a more resilient
 system for Macalister Irrigation District customers.
- Sunday Creek Irrigation and Reconfiguration Sunday Creek Irrigation Scheme will be reconfigured by constructing a new pipeline to directly supply water from the Murray River through Sunday Creek. This will address current water losses.
- Goulburn-Murray Irrigation District Channel Embankment Infrastructure Improvement – Parts of the existing channel system will be upgraded across the Goulburn-Murray Water Irrigation Supply District providing reliable irrigation supply to irrigators.
- Critical Headworks Infrastructure for the Modernised Goulburn-Murray Irrigation
 District – Critical components of headworks infrastructure will be upgraded to support improvements to the delivery of high reliability water to irrigators in northern Victoria.

Victorian Connections package benefits



664 hectares increase in irrigable land



Supporting more than **125 ongoing jobs**



Plus up to **100 jobs** during construction



900 megalitres additional water storage capacity



1700 megalitres increase in water availability

Tasmania Connections package

TOTAL COST ESTIMATE: \$52.1 million

AUSTRALIAN GOVERNMENT FUNDING: \$20 million

The Tasmania Connections package includes four projects that will provide additional water for irrigators and improve water allocation, reduce spills from sewage infrastructure, provide new connections and support increased irrigation. These construction projects will include improvements to convert open channels to new and extended pipelines, upgrade sewage pump stations, build a new recycled water irrigation scheme and expand a recycled water scheme.



The new projects in this package are:

- Greater Meander Irrigation Scheme Augmentation – Open supply channels will be converted to new and extended pipelines, to providing additional water for irrigators.
- Shellfish Lease Water Quality
 Improvement Program Sewage pump
 stations will be upgraded, to improve
 water quality for shellfish production.
- Penna Recycled Water Scheme
 Expansion An existing reuse scheme
 will be expanded to enable effluent to be
 reused, increasing availability and reliability
 of water for local agricultural producers.
- South Arm Recycled Water Pipeline A new recycled water irrigation scheme will be upgraded, to provide high-quality irrigation water for the region's primary producers to transition to higher value agriculture.

WATER INFRASTRUCTURE TYPE





Tasmania Connections package benefits



More than **2945 hectares** increase in irrigable land







Plus more than **50 jobs** during construction



295 megalitres additional water storage capacity



14.2 gigalitres increase in ongoing water availability

South Australia Connections package

TOTAL COST ESTIMATE: \$89.4 million

AUSTRALIAN GOVERNMENT FUNDING: \$20 million

The South Australian Connections package includes ten projects that will increase water security and reliability, provide new water sources to service new customers. These construction projects include improvements, such as new pipelines, pump stations, water treatment plants, a reverse osmosis plant and wetlands for stormwater catchment.



WATER INFRASTRUCTURE TYPE



The new projects in this package include:

- Callington Connection A new pipeline will be constructed to connect a recycled water storage facility, to supply primary production.
- Greenway's Irrigation Trust The current river pumping station will be upgraded, enabling producers to shift to higher value crops.
- Improving water deliverability and accessibility in the Lower Murray Reclaimed Irrigation Area – Irrigation water delivery infrastructure will be upgraded, as part of a pilot project to ensure continued access to water for irrigation.
- **Project 312 The Olive Oil Project** A pipeline extension will be constructed to the Northern Adelaide Irrigation Scheme distribution network, with capacity for additional connections.
- Recycled Water Pipeline to Nairne –
 Stage 1 A pipeline will be constructed from a recycled water storage facility, improving access to primary producers in the region.
- Regional Recharge Farms Groundwater recharge areas will be created to refill aquifer and groundwater supply to minimise reductions in water allocations for primary producers.
- Water Recycling Project Seven Point Pork A water recycling plant will be upgraded, this will reduce the dependency on main water supplies.



- Barossa Wine Grape Water Source
 Diversification New infrastructure will be constructed to supply additional water from a new source into an existing agricultural water supply system for wine producers.
- Pogona Barbata Water for High-tech
 Horticulture A reverse osmosis plant and water retention and supply systems will be developed and constructed to improve water efficiency for high yield and high margin produce.
- Waikerie Irrigated Agricultural Water Access and Security Project – Wetland and stormwater pipe infrastructure will be constructed for primary producers in the region.



South Australia Connections package benefits



More than **1867 hectares** increase in irrigable land

Supporting up to **850 ongoing jobs**



Plus up to **60 jobs** during construction



1225 megalitres additional water storage capacity



1895 megalitres increase in water availability

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Glossary of terms

Terms that are used to describe different water storages within this publication.

Bore: A deep, narrow hole made in the ground to locate water.

Centre pivot: A crop irrigation system that: irrigates in a circular pattern around a central point.

Desalination: The process of removing salt from seawater.

Dryland: A place where water is scare, where rainfall may be limited or may only be abundant for a short period.

Graziers: A person who rears or fattens livestock and game for market.

Grazing land: Grassland suitable for livestock and game to graze off.

High-demand periods: Peak water demand periods where the volume of water requested by users is high.

Irrigation: The artificial application of water to land for the purpose of agricultural production.

Irrigable area: An area which can be used for irrigation in a certain location.

National Water Grid: A series of region-specific waterstorage and distribution solutions that will secure predictable supplies of water now and into the future.

National Water Grid Fund: A 10-year rolling program to build the dams, weirs and pipelines that will form the National Water Grid.

Off-stream storage: A water storage facility that retains water at a location either attached or off a river of drainage course.

Raw water tanks: A storage tank filled with natural water (e.g. rainwater, groundwater and water from bodies like lakes and rivers) that has not been treated.

Reclaimed water: Wastewater that is treated so that it can be reused for a variety of purposes.

Recycled water: Water that has been treated and disinfected to remove sediment and pollutants. This water is suitable for irrigation and industry use. It can also be suitable for drinking, depending on how the water is treated. **Reverse osmosis**: Technology that is used to remove contaminants from water.

Runoff: A flow of water on the surface, that can no longer be absorbed the by soil.

Stormwater: Water that comes from rain, including snow and ice melt.

Wastewater: The combination of both greywater (water from baths, showers and washing machines) and blackwater (water from toilets).

Water carting:

The transportation of water from one location to another.

Weir: A large wall that holds back water in a waterway (e.g. river) so it can be diverted for other use, such as agriculture.





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The Australian Government acknowledges the Traditional Custodians of Australia and their continuing connection to the land and waters. We value the contribution and rich cultural heritage of Aboriginal and Torres Strait Islander peoples. We are committed to empowering and supporting Aboriginal and Torres Strait Islander peoples through our work and our actions.

Throughout the remainder of this document, the term 'Indigenous' has been used to collectively refer to Aboriginal and Torres Strait Islander peoples. However, we acknowledge the differences in culture, history and language, not just between Aboriginal and Torres Strait Islander peoples, but also between communities.

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