



# Legislative Assembly Portfolio Committee No. 7

Inquiry into the rational for and impacts of,  
new dams and other water  
infrastructure in NSW

October 2020



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6 October 2020

The Director  
Portfolio Committee No. 7 – Planning and Environment  
Parliament House  
Macquarie Street  
Sydney NSW 2000.

To whom it may concern,

**Re: Inquiry into the Rationale for, and impacts of, new dams and other water infrastructure in NSW**

The Central NSW Joint Organisation (CNSWJO) and Regional Development Australia Central West (RDACW) Boards thank you for the opportunity to provide a joint submission to the Committee's inquiry into the rationale for, and impacts of, new dams and other water infrastructure in NSW.

### **Scope of the Inquiry**

We understand that the Portfolio Committee No.7 - Planning and Environment will inquire into and report on the rationale for, and impacts of, new dam and mass water storage projects proposed by Water NSW including Wyangala, Mole River and Dungowan Dam projects, the Macquarie River reregulating storage project and the Western Weirs project, particularly:

- (a) the need for the projects, including the historical allocation of water and consideration of other options for ensuring water security in inland regions,
- (b) the economic rationale and business case of each of the projects, including funding, projected revenue, and the allocation and pricing of water from the projects,
- (c) the environmental, cultural, social and economic impacts of the projects, including their

impact on any national or state water agreements, or international environmental obligations,

- (d) the impacts of climate change on inland waterways, including future projections, and the role of dams and other mass water storage projects in ensuring security of water supply for social, economic and environmental outcomes
- (e) water infrastructure technologies that may promote enhanced environmental outcomes,
- (f) any other related matter.

We note that the committee will report by 22 March 2021.

### **About the Central NSW Joint Organisation**

Local Government Regional Joint Organisations (JOs) were proclaimed in May 2018 under the NSW Local Government Act 1993. The Central NSW Joint Organisation (CNSWJO) represents over 200,000 people covering an area of more than 50,000sq kms comprising the Local Government Areas of Bathurst, Blayney, Cabonne, Cowra, Forbes, Lachlan, Oberon, Orange, Parkes, Weddin, and Central Tablelands Water.

Tasked with intergovernmental cooperation, leadership and prioritisation, JOs have consulted with their stakeholders to identify key strategic regional priorities. The CNSWJO Strategic Plan can be found here:

[https://docs.wixstatic.com/ugd/51b46b\\_31886650ecf546bc916f15e99a733b3e.pdf](https://docs.wixstatic.com/ugd/51b46b_31886650ecf546bc916f15e99a733b3e.pdf)

The CNSWJO Board's interest in water is at two levels:

- Firstly, in the context of member Council's ownership of Local Water Utilities, adopting a regional approach to town water security.
- Secondly, in facilitating sustainable economic growth for the region.

### **NSW Joint Organisation Collaboration**

The CNSWJO has been engaging through the collaborative approach of the NSW JO Chairs Forum, they have been meeting every quarter since May 2018, with support through the Office of Local Government.

### **Key messages about the role of Joint Organisations**

1. Joint Organisations in NSW are a network of 13 organisations established to strengthen collaboration and engagement between State and Local governments; and improve infrastructure and service delivery to regional communities.
2. Collaboration between the NSW Government and Joint Organisations means;
  - Active and engaged inter-agency collaboration,
  - A regional approach to dealing with a number of Local Government entities,
  - Support from Local Government when machinery of government changes are being implemented to maintain continuity, knowledge sharing and capacity building,
  - Financial savings by avoiding duplication, partnerships and facilitated aggregated procurement,
  - Better application and implementation of solutions, better relationships and corollary, and
  - The ability to assess and analyse potential solutions beyond traditional boundaries, systems and regions.
3. Joint Organisations identify government partners and key stakeholders to work with member Councils to deliver outcomes for towns and regional communities throughout NSW.

4. Each Joint Organisation has a Statement of Strategic Regional Priorities containing the programs, projects and initiatives that the Joint Organisation is to focus on.
5. There are examples of where Joint Organisations have transformed the way the NSW Government and local councils collaborate, plan, set priorities and deliver important projects in the regions.
6. Joint Organisations are intended to be a key mechanism through which the NSW Government delivers funding and programs to regional NSW. This intent is critical to delivering the collaborative function of Joint Organisations and the financial sustainability of Joint Organisations.
7. One such opportunity is the strategic planning and policy framework for the administration and delivery of urban water for regional communities in NSW.
8. The NSW Government's Safe and Secure Water Program offers funding to Councils and Joint Organisations for the development of Regional Town Water and Integrated Water Cycle Management strategies, and with the introduction of Regional Water Strategies and their impending implementation, there is an opportunity to collaborate to make confident and informed investment decisions regarding the State's water resources.

### **About Regional Development Australia – Central West**

Regional Development Australia Central West (RDACW) is a not-for-profit organisation. They work in partnership with governments, local communities and other stakeholders to develop initiatives that enable the Central West region to grow sustainably. The RDACW strategic plan is available here:

<https://rdacentralwest.org.au/wp-content/uploads/2020/05/Framework.pdf>

The RDACW Board's mission is to promote new thinking and partnerships across government, industry and community to realise the region's vision and economic potential. With respect to water security, RDACW works to:

- Ensure there is investment in water infrastructure across the Central West; and to
- Support communities as they grapple with natural disasters such as drought, increasing the capacity and resilience of communities to ensure opportunities can be increased when conditions improve.

RDACW and the CNSWJO have a Memorandum of Understanding (MoU) to record the determination of their respective Boards to cooperate to progress identified priorities and challenges in Regional Development. This includes, but is not limited to, the following areas;

- Investment attraction
- Transport and logistics
- Quality and secure water supply
- Health
- Telecommunications
- Value Adding to Agriculture
- Employment, Education and skills
- Planning
- Energy
- Culture and Arts

The MoU aims to facilitate better economic, social and environmental outcomes for the Councils, communities, industries and organisations within Central NSW JO and RDA Central West boundaries.

### **About the Central West region**

The Central West region of New South Wales is renowned for its food and wine and excellent agricultural produce.

Unique in its diversity of economy, the Central West Region of NSW is rich in natural resources with agriculture, mining and tourism significant drivers of jobs and opportunities. Increasingly, health and education have taken on a significant role in the region's economy.

The agriculture and mining industry output is underpinned by abundant natural resources within rich soil and mineral deposits. Additionally, varied topography and climatic conditions across the region provide various opportunities ranging from forestry, cool climate produce, dairy, sheep and beef livestock, as well as a variety of irrigation and broad acre crops.

Central NSW Councils aim is for their region to be one of the 7 top contributors to National Gross Regional Product,<sup>1</sup> where agriculture is identified as the primary economic driver.

Members Councils Community Strategic Plans and the NSW Government's Regional Economic Development Strategies and 20-year Regional Economic Vision for NSW identify the areas of comparative advantage across the region.

For details see the CNSWJO Strategic Plan found here:

[https://docs.wixstatic.com/ugd/51b46b\\_31886650ecf546bc916f15e99a733b3e.pdf](https://docs.wixstatic.com/ugd/51b46b_31886650ecf546bc916f15e99a733b3e.pdf)

Safe, secure water essential for the growth and prosperity of our towns, to support agriculture and industry and sustain the environment, regional water security and network planning is of the highest priority for both the CNSWJO and RDACW Boards.

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<sup>1</sup> Infrastructure Australia, Australian Infrastructure Plan 2015 cited in the Central NSW JO Strategic Plan page 9

## Profile of the Region

The Central West of NSW is a diverse area that covers around 47,000km<sup>2</sup> with a population estimated to be 157,686 persons.\*

Infrastructure Australia identified in the Australian Infrastructure Plan that the Central NSW region was a significant contributor to the national economy.

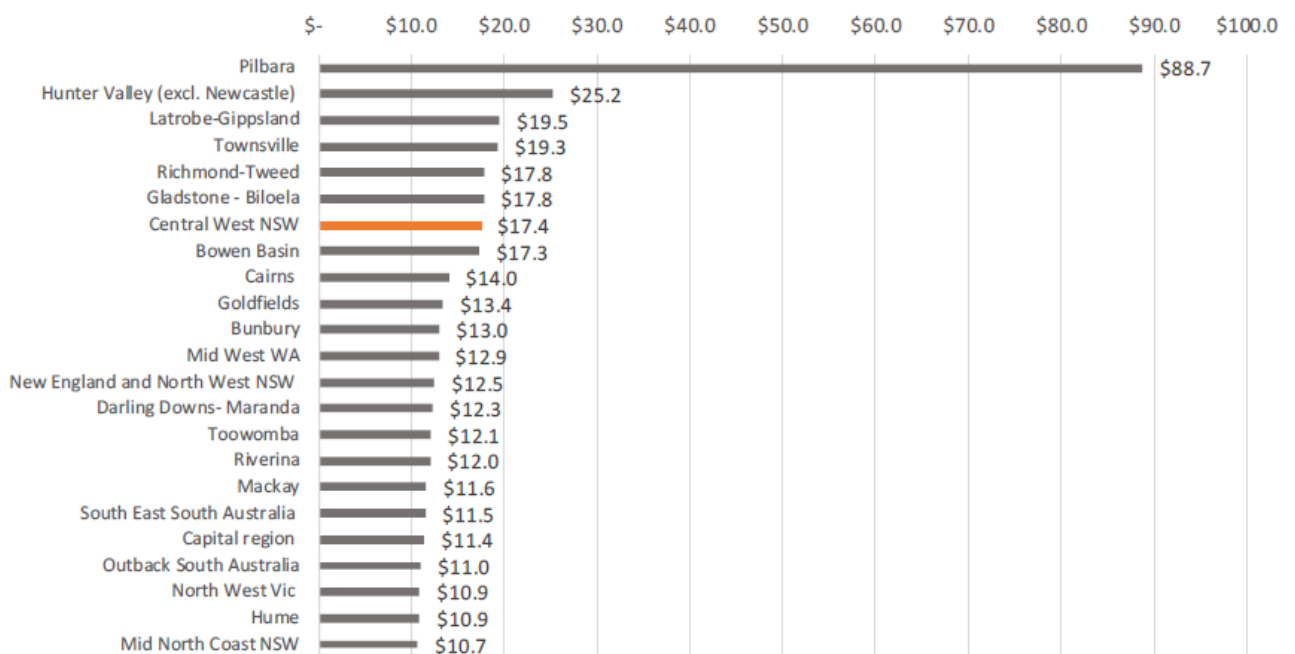
Infrastructure Australia ranked the Central NSW region as one of the top 20 regional growth areas in Australia.

Central NSW region was second behind the Hunter Valley area in the assessment of NSW based regional growth areas.

Investing in infrastructure including the Inland Rail and creation of three activation precincts in the Region provide the framework for ongoing prosperity of the region.

The graph below shows an estimate of the value the Region will add in 2031.

Infrastructure Australia - fastest growing regional areas \$bn  
GDP projection in 2031



\* Office Local Government – Council statistics – based on 2016 Census data. Accessed December 2018

### Contribution to Gross Regional Product

The contribution to Gross Regional Product (GRP) and the contribution to Gross State Product from the member councils as estimated by the National Institute of Economics and Industry Research for 2016-17 year is shown below.

Central NSW LGA	2017 GRP (\$M) (NIEIR estimates*)	Trend compared to previous year	Share of Gross State Product (%)
Bathurst Regional Council	2,121	▲	0.39
Blayney Shire Council	829	▼	0.15
Cabonne Council	736	▼	0.13
Cowra Shire Council	576	▲	0.10
Forbes Shire Council	482	▲	0.09
Lachlan Shire Council	441	▲	0.08
Oberon Council	366	▲	0.07
Orange City Council	2,354	▲	0.43
Parkes Shire Council	917	▲	0.17
Weddin Shire Council	226	▲	0.04

## RESPONSE TO THE TERMS OF REFERENCE

### Key messages

- **Water security has historically been a challenge in the Lachlan Valley and is limiting economic growth for the region. The valley has been subject to severe town water restrictions with long periods of little or no general security, agricultural water availability and restricted high security water.**
- **Many studies have recommended the need for additional storage in the Lachlan catchment and have analysed a range of long-term infrastructure options developed to address water supply security and reliability- the raising of Wyangala dam wall has been found to be the superior option.**
- **a key consideration that should inform funding or financing of new water infrastructure is the value that is placed on urban water and the economic effects of water restrictions on the regional, state and national economy.**
- **Equally, improved flood mitigation capability has a major economic benefit which must be factored in.**
- **the Wyangala Dam wall raising project presents an opportunity to ensure policy and water management settings are right in the Lachlan Valley to not only solve long-term water security for urban communities, but to drive growth and prosperity through increased reliability of supply.**
- **The project together with the Regional Water Strategy presents an opportunity to consider, not just urban water, but water for productive uses including manufacturing and business, agriculture and mining in a whole of catchment approach.**

- ***we welcome the 'fast tracking' of this project but seek the development of a business case informed by in depth consultation with key stakeholders that is transparent and fully accountable.***
- ***The project will develop and grow skills, capacity and supply chains across the region and generate employment opportunities delivering more than long-term water security but a much-needed economic stimulus in the short-to-medium term.***
- ***Advice from the Bureau of Meteorology (BOM), CSIRO and others that predicts hotter dryer summers and more extreme storm events, projects such as the Wyangala Dam wall raising seek to provide the infrastructure to store water in times of plenty for times when we don't have any.***
- ***While advocating for the need for additional storage for the Lachlan Valley, the region continues to investigate a range of multi-source options including the potential for aquifer recharge, recycled water schemes and more stormwater harvesting all of which may promote enhanced environmental outcomes in urban settlements.***
- ***It is critical that ongoing collaboration continues between Councils and those State agencies with responsibility in the water space and that any high-level decisions made with respect to strategic water management for regional communities is informed by the expertise, on-the-ground knowledge and lived experience of utilities and the communities' they represent.***

Following is the joint response from the Central NSW Joint Organisation and Regional Development Australia Central West Boards to the terms of reference of this inquiry as they specifically relate to the Wyangala Dam wall raising project.

**(a) the need for the projects, including the historical allocation of water and consideration of other options for ensuring water security in inland regions.**

The Lachlan Valley is believed to have some of the poorest levels of water security and reliability in the state in terms of regulated/licensed irrigation and urban water supply.<sup>2</sup> The valley has been subject to severe town water restrictions with long periods of little or no general security, agricultural water availability and restricted high security water. The vulnerability of the valley was exposed during the millennium drought and has been no more evident than during the recent drought.

Over the last 20 years there has been increased year to year variability. This high variability affects water security, reliability and flood impacts.

In 2016 there were 1,495,000 ML inflows to Wyangala, and 900,000 ML were released from Wyangala between August-November 2016. But in 2017/28 Wyangala inflows were only 165,000 ML, and in 2018/29 inflows fell to 88,000 ML, with the result that access to 43% of the water held in GS accounts was suspended – only 2.5 years after the last flood event.

If 650,000 ML of the 900,000 ML could have been retained in 2016, the Lachlan would not have been in such dire straits during the recent drought and some of the flood damage of 2016 could have been reduced.

<sup>2</sup> WaterNSW, 20 Year Infrastructure Options Study- Rural Valleys, June 2018, page 38



Extensive studies have been done on water security in the Lachlan Valley over the past decade including:

- **Centroc Water Security Study** in 2009
- **2014 NSW State Infrastructure Strategy** – Lachlan identified as high priority catchment due to low drought security and low flood management capability
- **Phase I Lachlan Valley Water Security Investigation** by WaterNSW commenced 2014
- **Phase II of the Water Security Investigation** started 2016 – Wyangala dam wall raising identified as one of top 4 options
- WaterNSW **20 Year Infrastructure Options Study** in 2018 identified Wyangala upgrade as a project to improve water security and reliability.
- **2018 NSW State Infrastructure Strategy** reconfirmed Lachlan is a high priority catchment for drought security and flood management.

<https://www.centroc.com.au/publications/water-infrastructure/>

[https://www.waternsw.com.au/\\_data/assets/pdf\\_file/0019/132616/20-Year-Infrastructure-Options-Study-June-2018.pdf](https://www.waternsw.com.au/_data/assets/pdf_file/0019/132616/20-Year-Infrastructure-Options-Study-June-2018.pdf)

<https://www.waternsw.com.au/projects/infrastructure-studies/belubula>

**All of these studies have recommended the need for additional storage in the catchment and have analysed a range of long-term infrastructure options developed to address water supply security and reliability including:**

Potential Options to Improve Water Availability	Preliminary Capital Cost* (\$ Million)
Raising Wyangala Dam by 10 m	650
Constructing a pipeline between Carcoar Dam and Lake Rowlands	17
Raising the Lake Rowlands Dam on behalf of Central Tablelands Water for urban water supply	58
Constructing a new 700 GL dam at the Abercrombie site	1000
Re-regulating weir on the Belubula River at Cranky Rock	30
Constructing a new 700 GL dam at the Cranky Rock site	1001

\* The above options will be assessed in detail under the current Lachlan Valley Water Security Study

Source: WaterNSW, 20 Year Infrastructure Options Study- Rural Valleys, June 2018, page 38

The most recent study, the Lachlan Valley Water Security project was undertaken by WaterNSW and carried out in two phases.

- Phase 1: scoping studies for a dam on the Belubula River which recommended investigating a new dam near Cranky Rock, completed 2014
- Phase 2: broader investigations to look at all possible options including Cranky Rock, and prepare a preliminary business case, completed 2017. This phase included:
  - Review of all identified options to develop a shortlist of options for further assessment
  - Detailed environmental and geotechnical field investigations
  - Preparation of a preliminary business case
  - Stakeholder consultation – Community Reference Group, Customer Reference Group

The preliminary business case identified three projects that in combination would produce the needed step-change in drought security, flood management and water availability these were:

- Water transfer pipeline between Lake Rowlands and Carcoar dams.
- Lower Lachlan water efficiency options.
- Raising Wyangala Dam.

Compared against the option to construct a new dam near Cranky Rock, the Wyangala Dam wall raising project was found to be superior in terms of cost, hydrological modelling benefits, construction risk and for sustainability reasons. Cranky Rock has larger costs compared with Wyangala and risks inundating Cliefden Caves.<sup>3</sup>

In addition, a Dam Safety Upgrade has been identified for Wyangala Dam to provide acceptable flood capacity management in accordance with Dam Safety Guidelines. The cost of this is estimated at over \$200M.

The Lachlan Valley Water Security investigations found raising Wyangala Dam wall and construction of a pipeline between Lake Rowlands and Carcoar Dam could provide improved water security for the region.

The Lake Rowlands to Carcoar pipeline would allow transfer of surplus water from Lake Rowlands Dam to Carcoar Dam to allow more efficient storage of available water and improve operational flexibility. The project planning stage for this project commenced in the second quarter of 2019 and the development of the Final Business Case has commenced and is expected to be completed in the third quarter of 2020.

The Wyangala Dam project involves:

- Raising of the embankment and downstream rockfill to add up to an additional 650GL of storage
- Raising the spillway and intake towers of the dam by up to 10m
- Working to ensure safe access on the crest and downstream areas

WaterNSW estimates that the upgrade of Wyangala Dam will provide a 53% increase in storage capacity. That's an additional 21,050 ML/year for general security (GS) usage, as well as significant flood mitigation benefits. The project Fact Sheet can be found here:

[https://www.watarnsw.com.au/\\_data/assets/pdf\\_file/0020/149051/Wyangala-Dam-Raising-Fact-Sheet-14.10.2019.pdf](https://www.watarnsw.com.au/_data/assets/pdf_file/0020/149051/Wyangala-Dam-Raising-Fact-Sheet-14.10.2019.pdf)

<https://www.watarnsw.com.au/projects/new-dams-for-nsw/wyangala-dam>

Further to the above-mentioned studies, the CNSWJO and RDACW Boards have welcomed recent development by the NSW Government's Department of Primary Industry and Environment (Water) of a

<sup>3</sup> WaterNSW- <https://www.watarnsw.com.au/projects/infrastructure-studies/belubula>

Regional Water Strategy for the Lachlan Valley and in particular efforts to engage with Local Government in its development.

The intention is that the Regional Water Strategy will bring together the most up to date information and evidence to integrate policy, planning, regulatory and infrastructure solutions to:

- o Deliver and manage water for local communities
- o Enable economic prosperity
- o Recognise and protect Aboriginal cultural values and rights
- o Protect and enhance the environment
- o Identify least cost policy and infrastructure options.

Where previous studies have all identified the need for additional storage for the Lachlan valley, the Regional Water Strategy (currently in draft) has included an assessment of the water supply system and its security focussing on:

1. Current performance: How effective is the existing system in providing water to different users, noting each user will likely have a different way of measuring 'performance' (e.g. towns will focus on water security or 'Levels of Service', irrigators on 'reliability', etc).
2. Required/appropriate performance: What is the required or an appropriate level of performance of each user? Are there legislated minimum supply performance requirements? Or
3. Current vs required performance: Does the existing performance (for difference users) meet the expectations of that user/customer, or is there a need for some form of augmentation or improvement?

The draft Strategy includes a long list of options for improvement of performance of the water supply system in the Lachlan Valley including through:

- o Modification/augmentation of system infrastructure: new storages, connection pipelines, etc.
- o Operational efficiencies: modifying the way in which the system is operated (e.g. when and how water is delivered, changes to the water sharing rules to target specific user improvement, etc) without necessarily changing the system itself
- o Management of demand: adjusting/adapting demand behaviours or requirements to more closely match the existing systems ability to supply (examples include demand management programs for urban centres, changes in irrigation methods to reduce inefficiencies (e.g. from flood irrigation to spray irrigation), etc).

The options can be, and often are, a combination of the above elements and are subject to further investigation.<sup>4</sup>

The raising of the Wyangala Dam wall project as well as the Lake Rowlands to Carcoar Pipeline and augmentation of Lake Rowlands (identified in the Centroc Water Security Study) are infrastructure solutions included in a draft long list of 48 options in the draft Strategy.

WaterNSW estimate that the raising of the Wyangala Dam wall will see a 21,050 ML/year increase in reliability for general security. This does not mean 21,050 ML every year – in a year like 2019/20 it may equate to 70,000 ML, which would have meant no suspension of the general security water already in accounts, and with irrigated agriculture earning \$760/ML at the farm gate, the benefit is major. In a year like 2016/17 there would be no increase. It is essential we see the detailed hydrological modelling to better understand what the 21,050 ML/year average translates to over a longer period.<sup>5</sup>

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<sup>4</sup> Draft Lachlan Regional Water Strategy

<sup>5</sup> Source- Lachlan Valley Water Association

The NSW Water Sharing Plan and Basin Plan are clear that usage cannot increase above the Plan Limit and Sustainable Diversion Limit, but currently the Lachlan's long term average usage is modelled at about 23,000 ML below the limit, therefore improved reliability will assist usage to reach the limit, and support economic gains for the whole community.

Central NSW Councils all operate local water utilities so the security and availability of town water supplies for their communities is core business for the councils in this region.

Through the millennium and more recent drought, Councils in the Lachlan Valley have learned a great deal around multi-sourced water supply options and demand management and continue to implement initiatives aimed at reducing consumption in their communities. Councils such as Parkes have done award winning work on recycled water, while others such as Cowra and Lachlan continue to work on bore and pipeline projects to shore up supplies for their communities.

[https://www.parkes.nsw.gov.au/environment/water/recycled-water-scheme/#:~:text=Parkes%20Shire%20Council's%20new%20Recycled,\(non%2Ddrinking\)%20use.](https://www.parkes.nsw.gov.au/environment/water/recycled-water-scheme/#:~:text=Parkes%20Shire%20Council's%20new%20Recycled,(non%2Ddrinking)%20use.)

<https://www.cowraguardian.com.au/story/6886622/funding-in-the-pipeline-cowra-to-receive-10-million-to-help-future-water-security/>

The extensive work that Central NSW Councils has undertaken collaboratively on water security for the region through the Centroc Water Security Study, development of regional Demand, Drought and Integrated Water Cycle Management Plans and identification of water infrastructure priorities informs a deep knowledge of the region's water needs and an integrated approach to region-wide water security planning.

Central NSW Councils in collaboration with the NSW Government continue to work on a range of town water security solutions with a number of emergency water projects funded by the NSW Government over the past 18 months. Despite these initiatives there continues to be a need for an augmented supply for the Lachlan valley.

In the millennium drought the solution to pulse the Lachlan River failed to deliver water to the community. Forbes, Parkes and Cowra were only months away from day zero. Additional storage is need in the Lachlan valley to ensure that this doesn't happen again.

Further detail is provided on the economic and social need for this project under(c) and (d).



*Water released from Wyangala Dam 2012*



Wyangala Dam 2020

**(b) the economic rationale and business case of each of the projects, including funding, projected revenue, and the allocation and pricing of water from the projects.**

**(i) Economic Rationale, Funding and Projected revenue**

Following identification of the Wyangala Dam project as the 'superior option' to improve security of supply in the Lachlan Valley, the NSW Government announced \$650 M through the Snowy Hydro Legacy Fund as a 2019 election commitment. Of this, \$32 M was allocated in 2019/20 NSW Budget for investigations.

In October 2019 it was announced that the Commonwealth and NSW Government would provide \$650 M funding on joint basis. Half of the Commonwealth funding is to be from the National Water Infrastructure Development Fund and half from the National Water Infrastructure Loan Facility, which will ultimately need to be repaid by NSW Government.

On 22 September 2020 the Commonwealth Government announced an additional \$283.5 million for the Wyangala Dam project as part of the 2020-21 Budget increasing its total commitment to \$325 million.

A Dam Safety Upgrade has been identified for the Wyangala Dam wall to provide acceptable flood capacity management in accordance with Dam Safety Guidelines. This work needs to be done irrespective of the wall raising and is estimated will cost over \$200M. It makes sense to combine these projects to get multiple benefits.

***Equally, improved flood mitigation capability has a major economic benefit which must be factored in.***

The Newell Highway was closed for 42 days due to the 2016 flooding. The total direct gross cost from the national perspective of the closure of the highway is estimated at \$<sub>CVM</sub>\*112 million. The impact of lost total gross regional product (GRP), in terms of the flow-on impact for lost increases and household consumption expenditure on the economy, is modelled at minimum \$<sub>CVM</sub>138 million, up to \$<sub>CVM</sub>153 million and the loss of two million hours of work with the contribution of some loss of employment, but most likely under-employment, of a conservative 5194 workers.<sup>6</sup>

<sup>6</sup> The Newell Highway closure in 2016 from flooding: The direct and indirect effects - National Institute of Economic and Industry Research (NIEIR) August 2017

\*\$<sub>CVM</sub> = \$ chain volume measure million, which is flows of constant 2014-15 value converted from current values by the ABS using their chain volume methodology.

[https://www.infrastructure.gov.au/transport/freight/freight-supply-chain/submissions/Newell\\_Highway\\_flood\\_report.pdf](https://www.infrastructure.gov.au/transport/freight/freight-supply-chain/submissions/Newell_Highway_flood_report.pdf)

It is understood that a Benefit Cost Ratio approach is being used to evaluate the Wyangala Dam wall raising project in line with Treasury Guidelines and that this will shape the dollar values that inform the costs and benefits for the project. The region seeks to understand how using the Treasury Guidelines water will be valued for this project.

We have welcomed acknowledgement by NSW Treasury of previous advocacy by this region on the funding framework for critical water infrastructure reflected in a risk-based approach to funding in the Safe and Secure Water Program version 2. This approach recognised that Benefit Cost Ratio is a blunt instrument and 'lived scenarios' a critical component to any assessment that values hydrological outcomes for urban water needs.

The funding mechanism was changed in version 2 of the program so that funding is no longer contingent on restrictive Cost-Benefit Ratios allowing projects to be funded based on risk assessments.

***This region advocates that a key consideration that should inform funding or financing of new water infrastructure is the value that is placed on urban water and the economic effects of water restrictions on the regional, state and national economy.***

***Water security has historically been a challenge in the Lachlan Valley and is limiting economic growth for the region. The valley has been subject to severe town water restrictions with long periods of little or no general security, agricultural water availability and restricted high security water.***

The CNSWJO has considerable expertise through lived-experience of managing communities through high levels of water restrictions over the millennium and most recent drought and contemplation of 'day-zero'.

The CNSWJO has commissioned consultants from within the Central NSW region with expertise in the economic analysis and local and regional experience in the reality of towns faced with 'day zero' emergencies and the threat of business closures to the region's communities and economy.

Regional communities contemplate 'day zero' and the impact on productive water including the closure of industry or evacuation of a city in their response to drought. Our members have done work that considers the economic cost of this to NSW and the nation. This has included work undertaken by Treasury and the Department of Premier and Cabinet to go to the Expenditure Review Committee.

Central NSW Councils have been involved both individually and collectively in valuing water for decades. Working collectively, this region has also developed advice on water restrictions where most communities in Central NSW are consistently on a low level of restriction reflecting the scarcity of water and its importance to industry. The region adopted a regime of restrictions developed in 2012 and recommended it to members, most of whom adopted these restrictions. At Level 6 closure of schools and various industries is affected. It is important to note that the modelling for this was based on a 50% reduction in water availability which frequently corresponded with a 50% drop in output for industries.

Lachlan Valley councils have been refreshing their approach which includes consideration at level 6 of closing various industries.

The communities of Bathurst and Orange have undertaken detailed work on the costs of closing industry in extreme drought. They have estimated the cost at level 5 at \$200,000 per year and at level 6 \$700,000,000 per year with a corresponding reduction in employment of 800 and 4000 jobs respectively. At Level 6 Bathurst uses around 3,300ML per year and at level 4 around 4,400ML per year. At Level 6 this becomes \$460,000/ML. For affected industries the value per mega litre is even higher.

It is accepted that the value of water to industry will be different to every community. Parkes in the Lachlan Valley have undertaken high level work dividing GRP by ML used and identified the value of water in Parkes is \$363K/ML and for Orange \$491K/ML. Typically the larger the community the greater the industry value, though there will be some exceptions. Also important is recognition that the regional economy is multi-tiered with smaller regional centres relying on the larger centres.

According to the Lachlan Valley Water Association irrigated agriculture earns \$760/ML at the farm gate. Any suspension of general security water in accounts can have a major impact on the region's economy. In 2016 there were 1,495,000 ML inflows to Wyangala, and 900,000 ML were released from Wyangala between August-November 2016. But in 2017/28 Wyangala inflows were only 165,000 ML, and in 2018/29 inflows fell to 88,000 ML, with the result that access to 43% of the water held in GS accounts was suspended – only 2.5 years after the last flood event.<sup>7</sup>

To put the potential impact of restrictions into perspective, in its Australian Infrastructure Plan 2015, Infrastructure Australia identified the Central NSW region as a significant contributor to the national economy with the potential to be one of the 7 top contributors to National Gross Regional Product,<sup>8</sup> by 2031. To realise this potential requires a secure and reliable water supply.

The impact of water shortages on a region's future growth, economic development, and reputation are enormous and must not be under-valued. It is critical that any economic assessment of the Wyangala Dam wall raising project considers the cost to the local, regional, state and national economy of a total water supply failure leading to total industry shut down and evacuation of towns in the region. This analysis must be undertaken in the benefit cost analysis phase of assessment.

***Funding support from the NSW and Commonwealth Governments for the Wyangala Dam wall raising project presents an opportunity for a step change in water management in the Lachlan Valley that has the potential to not only solve long-term water security for urban communities but also to drive growth and prosperity in the Lachlan valley through increased reliability of supply.***

See the Case Study provided in (c) for additional advice about the potential for additional revenue from this project.

## **(ii) Business Case**

The NSW Government has committed to the 'fast-tracked' delivery of this project including 'shovels in the ground' within 12 to 15 months and construction commencement within two years. Since then the Wyangala Wall project has been identified as a Critical State Significant Infrastructure (CSSI) project in the Water Supply (Critical Needs) Act 2019.

The 'fast tracking' of this project demands a different way of planning, engaging and delivering a project of this scale. Where a huge amount of background work has already been completed through various studies detailed in (a), it is understood that a business case is in development but is being developed in parallel, with other processes that are normally run separately. All studies to date have confirmed the need for additional storage for the highly vulnerable Lachlan Valley.

For an update on the status of the project delivery.

<https://www.waternsw.com.au/projects/new-dams-for-nsw/wyangala-dam>

Where a project that will provide additional water security for the region has been the subject of advocacy by this region for well over a decade, ***we welcome the 'fast tracking' of this project but seek the***

<sup>7</sup> Lachlan Valley Water Association

<sup>8</sup> Infrastructure Australia, Australian Infrastructure Plan 2015 cited in the Central NSW JO Strategic Plan page 9

***development of a business case informed by in depth consultation with key stakeholders that is transparent and fully accountable.***

Most importantly we seek the opportunity that this project presents to optimise any additional water security for the social and economic well-being and growth of the region.

We continue to seek engagement with WaterNSW in the development of the business case and to understand issues including how costs will be attributed to beneficiaries and what this translates to in terms of \$/ML for existing licences. Further it is essential we see the detailed hydrological modelling to better understand what the 21,050 ML/year average translates to over a longer period.

While the benefits of the project to the region are yet to be quantified, water security has a significant community-wide benefit for towns, environment, licence holders and farmers, and this must be properly assessed and factored into costs.

With the enabling of Joint Organisations to strengthen collaboration and engagement between State and Local Governments; and improvements in infrastructure and service delivery to regional communities, there is an opportunity and need for regional NSW to do business differently with the State and Federal Governments in regional water management.

***Where the region's focus has historically been on urban water, the Regional Water Strategies, planned Regional Town Water Strategies and the raising of Wyangala Dam wall project presents an opportunity to consider, not just urban water, but water for productive uses including manufacturing and business, agriculture and mining in a whole of catchment approach.***

***The key message here is that engagement by the NSW Government with Councils and other key stakeholders in this region in the development of the Lachlan and Macquarie Regional Water Strategies and the Wyangala Dam project presents an opportunity to ensure policy and water management settings are right. There needs to be more storage and a change in how the Murray Darling Basin Plan is administered to sustain growth, particularly in the context of drought for inland communities.***

The potential social and economic benefits of the project are considered in response to (c).

**(c) the environmental, cultural, social and economic impacts of the projects, including their impact on any national or state water agreements, or international environmental obligations.**

**(i) Social and economic impacts of the project**

As the failure of urban water supplies is socially unacceptable and economically enormously costly, the CNSWJO and RDACW Boards have welcomed the announcement of the Wyangala Dam wall raising project as a long-term option that will offer substantive improvements in security and reliability of water for town, agricultural, industrial and mining needs.

***The upgrading of Wyangala Dam has the potential to significantly improve catchment reliability and presents an opportunity for the Lachlan Valley region to take advantage of the additional stored water through relatively minor re-allocation of the water entitlements that will result from the upgrade, with no detriment to current water holders.*** The Wyangala Dam augmentation project is about improving security and reliability and allowing usage to reach the Plan Limit not increasing usage above the Plan Limit.

While towns only use around 2% of the water stored in dams in NSW, it is critical to the sustainability of the region's towns that it is not overlooked in the Wyangala Dam wall raising project and that the project is optimised in the longer-term planning processes. Any investment in additional storage must be augmented with improvements in distribution networks for town water supplies.



From the extensive work by the region in water security it is clear that with the right storage and pipe network there is plenty of water for town water supplies for Central NSW communities and to enable substantive growth in high value agriculture- it's just a matter of getting it to the right place, at the right time and for the right price.

***Additional storage is not about more water, it's about more reliable water, not just for towns, but to underpin regional growth, new industries, high value-add industries, new mining developments, activation precincts etc. The reliability of water supply is a major factor in having the confidence to plan ahead, invest and run a profitable business.***

***Further, increased security of supply for urban water is key to Government's policy for decentralisation with increased population pressures on our cities and the opportunities for remote working afforded by the Covid pandemic, there is an unprecedented opportunity to ensure secure, reliable water supplies to support regional development.***

The Wyangala Dam wall project together with the announcement of Parkes as the first Special Activation Precinct (SAP) in NSW presents a real opportunity for a Government-led strategy for sustainable agriculture similar to the Dutch national commitment to produce twice as much food using half as many resources. See Case Study below.

#### **Infrastructure development and productivity – A Case Study**

The Wyangala Dam wall project together with the announcement of Parkes as the first Special Activation Precinct (SAP) in NSW presents a real opportunity for a Government-led strategy for sustainable agriculture similar to the Dutch national commitment to produce twice as much food using half as many resources.

Special Activation Precincts are dedicated areas in regional NSW that have been identified by the NSW Government as places where businesses in many sectors will thrive. These precincts will create jobs, attract businesses and investors, and fuel economic development in regional NSW to ensure regions are well placed to grow and meet future economic needs. All Special Activation Precincts will be delivered as part of the \$4.2 billion Snowy Hydro Legacy Fund.

The two principal investment opportunities that have been identified for the Parkes SAP is Freight and Logistics and High-Value Agriculture. A 5,600-ha area just west of Parkes has been identified as the principal region to locate the activities of the SAP and a master plan is being developed.

To ensure the additional water security created by the Wyangala Dam upgrade project is optimised, it is suggested that modelling needs to be done of the impact of converting a portion of General Security to High Security. If the modelling supports High Security conversion, a component of the water security improvement could be attributed to increasing High Security and town water. This has the potential to catalyse a range of high value industries, creating jobs and wealth for the Lachlan region. If the improved security is apportioned to existing users, there will be only a modicum of change.

In addition, there is a need to ensure policy and water management settings are right. There needs to be more storage and a change in how the Murray Darling Basin Plan is administered to sustain growth, particularly in the context of drought.

The Wyangala Dam upgrade, Parkes SAP and review of the Water Sharing Plan presents the opportunity to potentially address long-term water needs for Lachlan Valley towns and communities while delivering an economic driver through increased high security water.

Taking into consideration the Case Study above, it is noteworthy that the consulting advice we have for various high value crops is as follows- cotton at \$814 GVA/ML, oranges at \$3513 GVA/ML, nuts and berries \$3965 GVA/ML and grapevines \$1940 GVA/ML.<sup>9</sup>

Where it is challenging to get information on the value per ML for mining, back of the envelope figures from Parkes who supply North Parkes Mine is \$100,000 gross return/ML. Advice from Orange is that the value of water in 2011 for Cadia was \$80,000/ML. At that time the gold price per ounce topped at \$1800. In 2019 it topped at \$2800.<sup>10</sup>

It is anticipated that the delivery of the project will prioritise and leverage local contractors and services providing a stimulus for local businesses and communities

***The project will develop and grow skills, capacity and supply chains across the region and generate employment opportunities. With the impact of the drought compounded by Covid, the project stands to deliver more than long-term water security but a much-needed economic stimulus in the short-to-medium term.***

In August it was reported that 288 local businesses had registered their interest in the project which will be shared with the main contractor and create hundreds of jobs for the life of the project.<sup>11</sup>

Wyangala's public school has just seven pupils and is expecting a jump in numbers as contractors move to the village that was created when the existing dam wall was built in the 1960s. A local man has already announced plans to open a coffee shop to service dam workers when they start preliminary work in October.<sup>12</sup>

## **(ii) Environmental Impacts**

An Environmental Impact Statement (EIS) is being prepared and is expected to be out for public submissions in June 2021. WaterNSW have advised that work on the dam wall cannot commence until required approvals are granted. Issues that it is understood WaterNSW will consider through the EIS process include:

- Detailed water balance for groundwater and surface water
- Impacts to river hydrology, hydraulics and geomorphology
- Extent and changes in longitudinal and lateral hydrologic connectivity
- Anticipated impacts to flood flow transmission and continuity
- Changes to groundwater recharge and levels
- An assessment of the project's consistency with laws and rules that govern the use or impacts of water, or affect water users.
- Assessment of terrestrial, riparian and floodplain biodiversity and ecology that addresses all direct, indirect and prescribed impacts of the project on flora and fauna, threatened species, populations and communities for the construction and operation of the asst, including flows dependent and groundwater dependent ecosystems

<sup>9</sup> ABS Water Account 2017-18, ABS Value of Agricultural Commodities 2017-18, ABS Agricultural Commodities 2017-18, Food and Agriculture Organization of the United Nations (FAO) and Mizrahi, Y., Raveh, E., Yossof, A., Nerd, A. and Ben-Asher, J., 2007, New Fruit Crops With High Water Use Efficiency, Page 216 to 222, In: Issues in new crops and new uses, 2007, Janick, J., and Whipkey, A., (eds), ASHS Press, Alexandria, VA.

<sup>10</sup> <https://goldprice.org/gold-price-charts/20-year-gold-price-history-in-australian-dollars-per-ounce>

<sup>11</sup> <https://www.dailytelegraph.com.au/news/nsw/wyangala-dam-wall-raising-project-to-create-hundreds-of-jobs/news-story/099d3d0ed2122ee2e695256a4b415942>

<sup>12</sup> ibid

- Assessment of impacts to listed threatened species and ecological communities, migratory species and wetlands of international importance.
- A description and assessment of how the dam and associated water infrastructure will be managed over the full range of operating conditions, and how this relates to aquatic biodiversity mitigation and offsetting strategies.<sup>13</sup>

Our understanding is that it's not the case that these issues are not being properly assessed but that they are being assessed in parallel with other processes that have been conducted separately in the past. Given the pressures Lachlan valley communities have faced through the recent drought, we welcome this new 'fast-tracked' way of working in anticipation that the long-identified need for additional storage will be delivered for our communities.

Concerns have been expressed by some parties about the impact on floodplain flows near the end of the system. In 2016/17 there were also very large inflows to the Lachlan system downstream of Wyangala Dam, and WaterNSW reported that 1,800,000 ML flowed past Willandra Weir in 2016/17.

***The detailed modelling to be undertaken as part of the studies for this project should include whether retaining an extra 650,000 ML in Wyangala under such conditions would have had a significant impact on outcomes in the lower Lachlan. It should also investigate how it would improve reliability and also how it would have helped to reduce the flood impacts downstream.***

### **(iii) Impacts on water agreements**

The NSW Water Sharing Plan and Basin Plan are clear that usage cannot increase above the Plan Limit and Sustainable Diversion Limit, but currently the Lachlan's long term average usage is modelled at about 23,000 ML below the limit, therefore improved reliability will assist usage to reach the limit, and support economic gains for the whole community.<sup>14</sup>

The last 20 years have seen large year-to-year variability, and this high variability affects water security, reliability and flood impacts. If climate change accentuates this, a project that helps manage it will be of high value.

Where the NSW Parliament passed a Water Supply (Critical Needs) Bill 2019 that specifically identifies the Wyangala Dam wall raising project as a critical state significant dam-related development, advocacy is ongoing with the NSW Government around the need to get the state government's policy settings right to facilitate the delivery of water supplies including policies around triggers for environmental flows and to enable the operation of critical infrastructure. These triggers need to be part of the ongoing framework so we can call on them as required and not need legislation, such as a Critical Water Bill to turn the taps.

***The project presents a profound opportunity to deliver quality secure water supplies to sustain and grow communities in Central NSW while reviewing higher order issues around water management including:***

- o High security raw water networking***
- o Water sharing and water use productivity***
- o Managed Aquifer Recharge***
- o Groundwater modelling.***

At a national level there is significant scope for a renewed National Water Initiative (NWI) to contribute to addressing water management in the Lachlan valley by providing high level guidance, independent evidence-based resources and promoting rigorous cost-benefit analysis of regulatory changes.

<sup>13</sup>WaterNSW website <https://www.watarnsw.com.au/projects/new-dams-for-nsw/wyangala-dam> link to EIS Requirements

<sup>14</sup> Lachlan Valley Water Association

Where water management requires a whole of government approach, future reform of the National Water Initiative should contribute to ensuring effective collaboration on water management at the regional level between multiple government agencies, Councils and Joint Organisations, Local Water Utilities and local and regional stakeholders, including in water reliant industries.

This requires a willingness of Governments to engage in meaningful fit-for-purpose collaboration with processes co-designed to optimise outcomes in the strategic space.

While we're making inroads at state-level we now need some consideration at the Federal level to enable broader strategic conversations and decisions around productive water. An example is how this region can participate in discussions around the Department of Infrastructure's National Water Grid.

It is understood that demand for water is subject to an access regime, which sets priorities for various types of demand (i.e. environmental water, town water, high security and general purpose licences), Local Government in this region is interested in ensuring an appropriate balance of socio-economic and environmental water needs has broad based acceptance.

**(d) the impacts of climate change on inland waterways, including future projections, and the role of dams and other mass water storage projects in ensuring security of water supply for social, economic and environmental outcomes.**

As detailed in (a) the Lachlan Valley is believed to have some of the poorest levels of water security and reliability in the state in terms of regulated/licensed irrigation and urban water supply.<sup>15</sup> The region was dramatically impacted by the millennium and more recent drought and is highly vulnerable to the affects of more extremes in climate.

According to research by the CSIRO Drought Resilience Mission, drought interacting with extreme climate events are threatening the viability of many Australian rural communities and the vision of supporting a \$100 B agricultural industry by 2030 (from \$60 B in 2017). What is required is thinking, planning and doing things differently across scales for building resilience including increasing water efficiency to realise this vision.<sup>16</sup>

The CSIRO maintain that frequent, severe and longer-lasting droughts will have serious implications for individual farmers, rural families, businesses and communities. Drought affected communities are likely to have: 20% higher cases of financial stress; 30% higher cases of mental illness ; 15% increased risk of male suicide.

Impacts will not be restricted to farmers. Towns and service industries all experience the effects of drought leading to loss of revenue, decreases in population and the potential closure of townships.

Having experienced some of these effects through the Millennium Drought, in 2009 Central NSW councils completed their national award winning Centroc Water Security Study which used stochastic modelling to forecast urban demand for the region's towns for a 50-year horizon through to 2059. As a result, 29 communities in the Central NSW region were found to be at risk requiring substantial improvements to their water security.

***This concluded that the long-term water security solution revolved around increased storage reserves high in the Lachlan catchment with pipeline linkages to the major urban water supply networks in the region. This is still the endorsed long-term regional strategy. These findings have been supported by more recent studies as detailed in (a).*** <https://www.centroc.com.au/publications/water-infrastructure/>

<sup>15</sup> WaterNSW 20 Year Infrastructure Options Study Rural Valleys -June 2018

<sup>16</sup> Presentation by the CSIRO Land and Water Business Unit to the Central West Orana Drought Task Force Meeting - 26 August 2020

Since completing this study and from the lived-drought experience in the Central NSW region, the CNSWJO board policy is to secure water for our communities from multiple sources, both surface and groundwater as well as stormwater and wastewater, and to manage demand to extend the life of those sources.

Central NSW Councils learned a great deal in the millennium drought around multi-sourced supply and demand management and continue to implement initiatives aimed at reducing consumption in their communities and have achieved some amazing results in reducing usage. Communities like Orange at the top of the Macquarie catchment for example, got down to between 120- 140 litres per person per day compared to Sydney where usage is around 210 litres.

Through the drought, our Councils working collaboratively and with the State Government, have done great work on diversifying our water supplies and planning for the future. Many local solutions including pipelines, bores, recycling and storm water harvesting schemes have been implemented by our Councils to ensure communities do not run out of water.

The work by Orange City Council to shore up supplies, notably in storm water harvesting, is a prime example of this : <https://www.orange.nsw.gov.au/water/stormwater/>

as is work by Parkes Shire Council to proactively work towards future-proofing water security for the Shire. <https://www.parkes.nsw.gov.au/environment/water/water-security-management/>

So far as intra-regional transfers are concerned, several of the linkages envisaged in the Water Security Study have since been constructed. Water is transferred in agreed circumstances through bi-lateral water supply agreements between the region's separate local water utilities.

There are still some linkages required to complete the grid network. There is also work underway on additional projects to enhance water security for individual utilities, both infrastructure and non-infrastructure solutions. Details of our emergency water infrastructure projects is available on request.

In addition to the Wyangala Dam and Lake Rowlands to Carcoar Dam projects, the NSW Government has invested in the Central Tablelands Water Security project for construction of pipelines that will provide a means to flow water in both directions between the Macquarie and Lachlan catchments to offset dry localised conditions under emergency circumstances.

***But... this is not enough when faced with the extreme climatic condition of the past two years and advice from the Bureau of Meteorology (BOM), CSIRO and others that we must expect a future with hotter dryer summers and more extreme storm events. We still need shovels in the ground for the big-ticket items such as the Wyangala Dam wall raising to drought proof towns is large parts of inland NSW into the future. These extend well beyond an individual Council's remit.***

Projects such as the Wyangala Dam wall raising seek to provide the infrastructure to store water in times of plenty for times when we don't have any.

If 650,000 ML of the 900,000 ML could have been retained in 2016, the Lachlan would not have been in such dire straits during the recent drought and some of the flood damage of 2016 could have been reduced. If climate change accentuates this, a project that helps manage it will be of high value.

There are challenges currently in NSW with embedding the lessons learned from the millennium drought and the current drought (2017-) into water resource plans and strategies.

This has certainly been demonstrated in the Central NSW region. Communities such as Bathurst and Orange on the unregulated Macquarie River who do not rely on state regulated dams have historically been overlooked. This has led to significant challenges in managing 'day zero' and through the potential closure

of industry the drought has shown a desperate need for more collaboration and coordination at the regional level. Oberon Council also reports particular challenges through the recent drought. More detail can be provided on request.

***We cannot lose sight of the need to progress all current and future initiatives for the long-term water security of the Central West, particularly the need for additional storage. The aim is not only to avoid a situation in the future where major regional towns and vibrant villages are critically short of water for human needs, but water availability is not an impediment to the regional growth for which Central NSW is otherwise well poised.***

It is very important that methodologies that underpin the Regional Water Strategies to value water security options do not undersell the value of growing both urban communities and high value agriculture to regional and national economies. Valuing different hydrological outcomes under Regional Water Strategies is not just about assuring water during times of scarcity, it is about investing in growth with opportunities to leverage the upgrade of Wyangala Dam being contemplated.

Further, transparency around the models used to determine the impacts of climate change and the identification of strategies to deal with it are an essential part of the Regional Water Strategies otherwise we will see towns and communities becoming less viable.

Advice through consultation on the development of the Strategies is that they will be underpinned by new climate data and modelling that improves our understanding of past climate conditions and plausible climate futures, providing a more accurate picture of extreme climate events.

This improved data will be used in DPIE Water's hydrologic models to gain a better understanding of the risks faced by water users and the environment within each region, and to investigate the potential benefits and impacts of options identified through the strategy development process.<sup>17</sup>

DPIE Water are using a new four-step approach to better understand past and future climate risk and provide the following description:

1. *Historical data – in the first step, we analyse past 130 years of recorded climate data and the climate drivers that influence past and present climate. This gives us an understanding of the variability of our climatic system, but we recognise that 130 years is not enough to understand the likelihood of extreme events, especially long-term droughts.*
2. *Paleoclimate data - using scientific methods, we are supplementing our historical record of climate conditions with new paleoclimate data (reconstructed from sources such as tree rings, cave deposits and coral growth). Combining these two elements gives us over 500 years of climate data.*
3. *Stochastic methods - we can then use a stochastic modelling method (based on the statistical characteristics of the new climate data) to help us quantify climate variability. This type of modelling tells us much more about possible climatic extremes and the natural variability in the climate.*
4. *Climate projections – we can then apply the NSW Government's climate projections to this new data set to understand the impacts if climate change scenarios eventuate.<sup>18</sup>*

We look forward to the finalisation of the Regional Water Strategies in anticipation that these will bring together the most up-to-date information and evidence to integrate policy, planning, regulatory and infrastructure solutions.

The CNSWJO Board sought an issues paper through the Western Research Institute to assist with informing governments and other stakeholders of the impact of the drought on the Central NSW region and making recommendations about solutions. A copy can be provided on request.

<sup>17</sup> DPIE Water <https://www.industry.nsw.gov.au/water/plans-programs/regional-water-strategies/about>

<sup>18</sup> <https://www.industry.nsw.gov.au/water/plans-programs/regional-water-strategies/climate-data-and-modelling>

**(e) water infrastructure technologies that may promote enhanced environmental outcomes.**

As detailed in (d) faced with 'day-zero' a number of our communities have been leaders in the development of state-of-the-art stormwater harvesting systems and recycled water initiatives.

The work by Orange City Council to shore up supplies, notably in storm water harvesting, is a prime example of water infrastructure technology that promotes enhanced environmental outcomes:

<https://www.orange.nsw.gov.au/water/stormwater/>

A drier future, albeit with more extreme storm events, makes stormwater harvesting from an urbanised catchment a sensible option to consider. The challenge is to adaptively manage the scheme's use so that the downstream impact is not significant and that the needs of downstream users and the aquatic environment are not compromised. The urbanisation of creek catchments within Orange, compared to their natural condition, has generated additional stormwater runoff. The harvesting schemes have been designed and will be operated to capture and use this extra runoff.

The stormwater harvesting schemes were constructed and will operate without risk of serious or irreversible damage; without degrading the health, diversity and productivity of the environment for future generations; and without jeopardising biological diversity or ecological integrity.<sup>19</sup>

Similarly, Parkes Shire Council is proactively working towards future-proofing water security for the Shire.

<https://www.parkes.nsw.gov.au/environment/water/water-security-management/>

The Parkes Integrated Water Infrastructure Renewal Program has included the following works:

- A new Water Treatment Plant
- A new Sewage Treatment Plant
- Refurbishment of Bore 8; a new bore was sunk to deliver a better spread for the aquifer
- Lachlan River Intake Upgrade; the upgrading and formalisation of the temporary pumps
- Active Leak Detection Program and upgrading of raw water pipes; to allow for increased capacity
- Recycled Water Scheme to deliver a consistent, high quality and safe recycled water source for municipal irrigation year-round.

These combined projects will optimise power usage, allow for remote monitoring, and strengthen the reuse of our limited water supply. Securing water for Parkes will allow for the sustainable growth of the town and support current and future expansion, both residential and industrial/commercial.

The environmental benefits of the program have been recognised with a number of prestigious awards.<sup>20</sup>

***While advocating for the need for additional storage for the Lachlan Valley, the region continues to investigate a range of multi-source options including the potential for aquifer recharge, recycled water schemes and more stormwater harvesting all of which may promote enhanced environmental outcomes in urban settlements.***

The CNSWJO Water Utilities Alliance hosted a regional workshop with Water Service Association Australia in December 2019 on their All Options on the Table report on recycled water for potable use and have recently advocated to the NSW Productivity Commission in support of any work that will assist with community education on recycled water.

<sup>19</sup> <https://www.orange.nsw.gov.au/water/stormwater/>

<sup>20</sup> <https://www.parkes.nsw.gov.au/environment/water/water-security-management/>

Further, the intention is that the Lachlan Regional Water Strategy will bring together the most up to date information and evidence to integrate policy, planning, regulatory and infrastructure solutions to:

- Deliver and manage water for local communities
- Enable economic prosperity
- Recognise and protect Aboriginal cultural values and rights
- Protect and enhance the environment
- Identify least cost policy and infrastructure options.

The Lachlan Regional Water Strategy includes a long-list of options across a wide range of water infrastructure technologies. The key message is, however, that these are in addition to the need for additional storage.

The Draft Lachlan Regional Water Strategy can be found on the DPIE Water website [here](#).

<b>(f) any other related matter.</b>
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Where anecdotally the Central NSW region has been viewed as restricted by a deficit of water, particularly through the recent drought, the opportunity exists through the development of large scale regional water security infrastructure and options in the Regional Water Strategies to look at high value water uses and how a change in the water regime could be used to strategically grow the region's economy.

***Where the region's focus has historically been on urban water, the Regional Water Strategies, planned Regional Town Water Strategies and raising of Wyangala Dam wall presents an opportunity to develop a Productive Water Policy that takes an integrated long-term approach to all areas of water (social, environmental, economic) to ensure our communities grow and prosper.***

We are in the early days of doing work on productive water, which is all water excluding environmental water, but it needs to be considered in the context of all water inclusive of environmental water.

Local Councils as urban water managers in regional NSW are heavily invested in ensuring that the methodologies used to evaluate water security infrastructure projects and policy settings are right to enable strategic management of water resources for their communities.

***It is critical that ongoing collaboration continues between Councils and those State agencies with responsibility in the water space and that any high-level decisions made with respect to strategic water management for regional communities is informed by the expertise, on-the-ground knowledge and lived experience of utilities and the communities' they represent.*** This would provide a level of confidence for all levels of Government and the Minister in the design and implementation of the Regional and State Water and other strategies and methodologies across the state. Ideally this would be enabled by better timeframes and governance arrangements.

In the interests of long-term town water security, we must continue to build on this and be in a position where Local Government is a partner with the State in delivering the solutions.



The CNSWJO and RDACW Boards welcome identification of the Wyangala Dam project as the superior option to ensure a reliable and secure water supply for the Lachlan Valley and advocates as follows:

- *As the failure of urban water supplies is socially unacceptable and economically enormously costly, investment in long-term options that offer substantive improvements in security and reliability of water for town, agricultural, industrial and mining needs are supported.*
- *Further investigation of preferred options from the Lachlan Valley Water Security Investigation to improve water security for the Lachlan Valley are welcomed with the expectation that the outcome will ensure evidence-based decision making on options including the raising of the Wyangala Dam wall and, subject to greater certainty, clarity about the management of water.*
- *The Wyangala Dam augmentation project is about improving security and reliability and allowing usage to reach the Plan Limit not increasing usage above the Plan Limit.*
- *Increasing storage capacity in Wyangala Dam will provide significant benefits in flood management capability.*
- *As a matter of priority, the development of a Business Case for the raising of the Wyangala Dam wall, or any other options, be informed by in depth consultation with key stakeholders that is respectful, transparent and fully accountable.*
- *Investment in additional storage must be augmented with improvements in distribution networks for town water supplies.*
- *The reality is that with the right storage and pipe network there is plenty of water for town water supplies for Central NSW communities and to enable substantive growth in high value agriculture- it's just a matter of getting it to the right place, at the right time and for the right price.*

The benefits from this project can be summarised as follows:

- Increased storage capacity by 53% by creating capacity for an additional 650 GL (to 1,218 GL).
- A significant improvement in drought resilience, water security, flood attenuation and water reliability for the Lachlan Valley.
- Maximised local opportunities from the construction of the project.
- Increased capability to manage high flow / flood events.
- Improved water security for agriculture, for example vegetable and some cereal crops.

Local government is the front line of regional communities and a part of the solution for a sustainable region is a safe, secure and reliable water supply that supports population growth in our region and that will sustain business and industry into the future.

Water and its scarcity are top of mind in Central NSW with many of our communities not out of the woods yet in terms of water security. As urban water managers our members are heavily invested in ensuring that any bulk water infrastructure solutions address urban water needs but also opportunities to sustain and grow our region.

The key message here is that engagement by the NSW Government with Councils and other key stakeholders in this region in the development of the Lachlan and Macquarie Regional Water Strategies and the Wyangala Dam project presents an opportunity to ensure policy and water management settings are right. There needs to be more storage and a change in how the Murray Darling Basin Plan is administered to sustain growth, particularly in the context of drought for inland communities.

The CNSWJO Board would welcome the opportunity to provide further detail to the Committee on the work we have undertaken in this space.

Further we extend an invitation to the Committee to assist in hosting a public hearing and listening tour in the region.

Thank you for considering the information provided in this submission. Please contact Ms Jenny Bennett, the Executive Office of the Central NSW JO on 0428 690 935 should you wish to discuss further.

Yours sincerely,



Cr John Medcalf, OAM  
**Chair**  
Central NSW Joint Organisation (CNSWJO)



Christine Weston  
**Chair**  
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