Murray Irrigation

Murray Irrigation Limited
Submission to the National Water Reform 2024 - Interim Report
Productivity Commission

3 May 2024

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Murray Irrigation Position Statement to a revised NWI

Murray Irrigation Limited (MIL) recognise the need for a revised National Water Initiative (NWI) and thank the Productivity Commission for their considered advice on a revised NWI.

We are disappointed that there are two consultation activities underway[1], both led by the Australian Government, both on a revised National Water Initiative, but with completely different consultation requests.

We are concerned that the unrealistic consultation timelines set by DCCEEW[2] for a revised NWI and lack of future consultation would send a message that there are pressing timelines at play, rather than working to understand what is really important to Australians in 2024. We suggest that food security and water required for agriculture would be more prominent in the DCCEEW discussion paper if there was more consideration of this.

For a revised NWI, all reasonable options need to be on the table and transparently assessed, to ensure water security is achieved at least cost to the Australian community and to sustain the underlying health of water systems. In any negotiation, there are always 'no go zones' (for example, a government underwritten water right underpinned by a state-based register) and we encourage the Commonwealth to understand these issues.

The strong position the 2004 NWI created to establish state-based rights to water and defined entitlements should not be undermined by any new initiatives, as it will lead to greater uncertainty or ownership. Wherever the Government can, water rights should be maintained or enhanced, and collaboration should be a key principle of water planning.

MIL has made strenuous efforts to partner and collaborate with Governments. We understand that there is a place for collaboration in Water Management and achieving revised NWI objectives and outcomes; everything works best when we work together.

The harsh reality that we all need to be cognisant of when reviewing the NWI is that Australia's population of 27 million[3] is projected to reach between 34.3 and 45.9 million people by 2071.[4] In 50 years' time the agriculture sector might reasonably be expected to contribute to feeding an extra 10 million Australians each day.

More than ever, irrigators remaining within the NSW Murray region are seeking reliable research, extension and education programs to enable them to adapt their irrigation practices and farming systems to become more resilient, more sustainable and more profitable.

Ideally, a revised NWI will:

- Focus on maximising outcomes from our limited resources and collaboration to achieve environmental improvements, rather than simply trying to recover more water from the consumptive pool.

[1] DCCEEW and PC review of a revised NWI.

[2] https://app.converlens.com/climate-au/seeking-views-on-a-future-national-water-agreement

[3] Australian Bureau of Statistics (2022-base---2071), Population Projections, Australia, ABS Website, accessed 22 April 2024. These projections are not predictions or forecasts. They are a representation of what would happen to Australia's population over time if the assumed changes for each population component (births, deaths and migration) were to occur.

[4] ABS. As above

- Address the need for appropriate funding of the delivery of agreed NWI principles and initiatives
- Attach funding to delivery of all provisions, not to selective implementation.
- Force inclusive and robust monitoring, evaluation and reporting against the risk assignment framework
- Recognise the highly variable nature of our water resources that enables an equitable sharing of change between all classes of users (including modifying any prescribed or rules-based flows to accommodate a changing and more variable climate)
- Foster a framework for genuine and meaningful community consultation and co-design with any water reform
- Address the need for appropriate funding of the delivery of agreed NWI principles and initiatives

1.1 Background

MIL is Australia's largest private irrigation company delivering water to over 1,300 family-farm businesses through 2,778km of gravity fed channels and operating $1 billion of infrastructure. We have also owned and operated one of Australia's largest water exchanges since privatisation which has provided considerable value to our farmers within our area of operations.

We play a critical role in the delivery of water within the Murray-Darling system. The gross value of agricultural production, which is dominated by irrigated agriculture, for the Murray Valley is over $1.5B annually.

MIL is licensed by the NSW Government and manages mostly NSW Murray (general security) water entitlements along with smaller volumes of other NSW Murray water entitlement types (conveyance, high security, and town entitlements).

The company has 788,444 NSW Murray General security water entitlements. This represents approximately 50 percent of all NSW Murray River general security water entitlements on issue. Average water delivery to MIL's customers since the creation of MIL as an irrigator-owned company in 1995 has halved, from around 1,200GL/yr in 1995 to around 600GL/yr today. During this transition we have observed sharp declines in local irrigation-dependent industries such as dairy and rice (i.e. since the introduction of the Murray Darling Basin Plan and the water recovery programs related to this initiative). Meanwhile the company's ~$1.0B in infrastructure (canals, regulators, supply-outlets, bridges, culverts etc.) has continued to require maintenance and replacement, despite water delivery halving over this time.

MIL is committed to long-term sustainability of our operations and communities that depend on us. Achieving the balance between environmental responsibility and agricultural production is at the core of our business model and that of our customer shareholders.

Together with our farmers, we have developed agile solutions to the challenges of drought and water shortages and are acutely aware of the importance of water for our local ecosystems and communities.

1.2 The 2004 NWI

For the farmers whose livelihoods depend almost entirely on viable annual allocations from the NSW general security water entitlements held in southern NSW, the overwhelming concern is always the fair access to water. The concept of further reductions in water security, creating a repeat more frequently of consecutive years of water scarcity (such as experienced during 2002-2004, 2006-2009 and 2016-2019) could have devastating consequences on the region, its natural assets, and its inhabitants.

Since the NWI was established and signed off by participants in 2004, the social, economic and environmental landscape of the Murray Darling catchment has changed. The NWI 2004 prioritised addressing overallocation to improve environmental health and particularly the facilitating of water trade.

The run of dry seasons, and the dramatic fall in available irrigation water available following the 'Bridging the Gap' water recovery programs has presented a new range of challenges for the health of the river system, the landholders throughout the region, and the communities that depend on irrigation industries.

Predictably, these challenges have led to a well-known exodus of irrigators (particularly from the dairy industry), population decline, an increase in the age of the regional population, a change in focus from traditional irrigated crops and irrigation practices.

As such, the revised NWI should prioritise actions and commitments by all states that deliver:

- Policies and sharing principles that recognise the impacts of increasing climate variability.
- Genuine triple-bottom line outcomes in water allocation, that actively prioritise maintaining the *diversity and resilience* of irrigated crop-types throughout the Murray-Darling Basin region.
- Maintain a sustainable scale and diverse range of irrigated agricultural production which includes a sensible balance of both permanent plantings (almonds, grapes, citrus) and annual irrigated crops (irrigated cereals, oilseeds, high performing irrigated pasture varieties, lucerne, rice and cotton crops) in the national interest, and the interests of regional communities, and regional Australia.

Ideally, a revised NWI will:

- **Focus on maximising outcomes from our limited resources and collaboration to achieve environmental improvements.**
- **Force inclusive and robust monitoring, evaluation and reporting against the risk assignment framework.**
- **Recognise the highly variable nature of our water resources that enables an equitable sharing of changes in water-availability between all classes of users (including modifying any prescribed or rules-based flows to accommodate a changing and more variable climate).**
- **Foster a framework for genuine and meaningful community consultation and co-design with any water reform.**
- **Address the need for appropriate funding of the delivery of agreed NWI principles and initiatives.**
- **Attach funding to delivery of all provisions, not to selective implementation.**

There are a number of long standing and emerging risks to the landscape, the environment and the resilience of the farming community that should also be considered.

- Further purchase of environmental water by the Commonwealth that may undermine the viability of users of shared infrastructure, including not only irrigation supply, but irrigated produce milling and processing facilities.
- The sale of water from the region (even by willing sellers), reducing annual utilisation of shared high-capacity water supply infrastructure and further reducing regional productive capacity, employment opportunities for all and regional services.
- Climate change leading to more severe droughts and further reductions in average annual allocations – particularly for MIL's General Security water- entitlement holders
- Changes to water sharing rules or changed river management practices that institutionalise a lasting delivery of a smaller share of annually available water to MIL landowners. For example, any changes to release

patterns from the Snowy Hydro Scheme that may reduce the current Required Annual Release (RAR) to the Murray and Murrumbidgee Rivers.

2 NWI Renewal Advice

MIL endorse the Productivity Commissions proposed renewal advice, particularly retaining the foundations of the 2004 NWI, and being transparent with this.

2.1 Retaining and modernising the NWI

MIL support the PC recommendations. We strongly support the PC's advice that a renewed NWI should improve and expand on the existing agreement while retaining its foundations. We are concerned some government entities are reinterpreting some components of the NWI. Clearly defined, statutory entitlements are critical to sound water management and water market operation and all licence holders have a right to negotiate fair and reasonable access to water. Property rights and dealings with risk in relation to them must be retained as per the original intent of the NWI.

2.2 A way forward

We provide the following comments on a way forward for all signatories.

- **Retaining elements and principles of the NWI.** We fully support the PC's expert opinion that it recommends retaining the NWI's existing objectives in their current order and form. Identifiable, ownable and tradeable water rights are the key instrument for security and investment certainty. We are concerned some government agencies, are seeking to erode these elements and effectively undermine property rights and the statutory frameworks that have been built by jurisdictions over the last 20 years.
- **Collaboration is key.** Jurisdictions need to plan for threats to water quality and availability from an increased risk of flooding, storms, bushfires and sea level rise, as well as drought, and working together will be essential. For example, as a water delivery service provider for over 1,300 family farms, MIL is already working with the Commonwealth Environmental Water Holder to help deal with increased incidence of hypoxic blackwater events in mid-Murray River systems causing by deoxygenation of flood water from adjacent forests.
- **Resilience through Agricultural Diversity.** We strongly object to the continued and simplistic encouragement of moving from 'lower value' to 'high value' irrigated crops at any cost. There has been a push by water managers for a movement by irrigation water users from annual irrigated crops (irrigated wheat, rice, cotton, corn, pasture) to 'high value' crops which have a near-fixed annual demand for water (e.g. almonds, grapes, citrus). The successful adoption by investors has meant delivering this aim has pushed a greater proportion of water available in all years into permanent irrigated crops which have very little flexibility in annual demand. Such measures have the potential to conflict with the development of valley-wide resilience as we move into a period with a dryer climate and more variable rainfall and often much lower run off. We strongly encourage a NWI that actively encourages maintaining a strong diversity of irrigated agricultural types, particularly throughout the connected MDB, that are fit-for-purpose relative to the river flows, variable climate and the security of water entitlements available.
- **Feeding Australians.** MIL agree that Water resource management is a shared responsibility, not only between states but between water managers, environmental managers, Traditional Owners of the land and city and rural communities. The harsh reality that we all need to be cognisant of when developing a revised

NWA is that Australia's population of 27 million[5] is projected to reach between 34.3 and 45.9 million people by 2071.[6] In 50 years' time the agriculture sector might reasonably be expected to contribute to feeding an extra 10 million people within Australia each day. A national food strategy should be an important consideration in parallel with a NWI.

- **National Resilience should be included in an objective.** We have seen the impacts that China had on export sanctions for the wine and seafood industry, and we do not want to be left vulnerable by international import/exports sanctions. This risk could be mitigated by ensuring fair access to water for Agriculture for a diversity of irrigated agricultural types.
- **Planning for water security and Integrated Water Management should be a focus.** As of 30 June 2022, 67% of Australians lived in capital cities. This proportion is projected to increase to 68% by 2032. Capital City growth is the highest on record and more than double the growth rate of Regional Victoria. We suggest that the focus of a renewed NWI is for water security in Coastal Australia (*ref 1.2.4: this is an opportunity to develop principles and guidance for improved and integrated management that includes stormwater, recycled water and desalinated water powered by renewable energy*).
- **Climate adaptation assistance.** The 2004 NWI prescribed Government support for adaption to climate change where reduction of water availability was required beyond a certain prescribed threshold of reduction. We suggest what is now proposed is better information about how the supply of water is changing and assistance in how communities will adapt. In addition, we think we need to be careful the solid elements of the 2004 document, particular the attribution of costs associated with dealing with the risks in lower water availability, are not diluted into objectives that diminish the rights of current water owners. In developing a sensible approach to adapting, MIL would like to see work in developing solutions for adaption strategies that include recognising the current trend towards underuse (where water users are using less water per ML allocated than was the case 15 or 20 years ago). There is clear evidence the current suite of water management activities designed to limit use in the NSW and Victorian connected Murray system are reducing annual diversions by irrigators use to the point where we are undershooting prescribed source by source sustainable diversion limits (SDL's) year after year. Immediate action needs to be taken to free-up access in many southern MDB catchments, to avoid a continuation of the unnecessary economic and social impacts of regular under-use and the resultant lower production levels.

2.3 Aboriginal and Torres Strait Islander water interests.

Where there are opportunities, MIL want to work with, support and learn from Aboriginal and Torres Strait Islander Peoples' holistic and sustainable management of water.

- We want to see continued efforts in 'Closing the Gap' by all governments and all Australians.
- **Action Plans/joint projects**. What MIL need is guidance on how Irrigation, Agriculture and Aboriginal and Torres Strait Islander Peoples' water interests can work together and support communities. Particularly (referencing the discussion paper) in relation to Aboriginal and Torres Strait Islander Peoples having shared decision-making authority when discussions are underway, or policies are being developed and implemented, that affect their rights to own, access and manage water. We want to see First Nations Landowner and Irrigators supported to join the cohort of successful irrigation farmers in Australia in greater numbers.

[5] Australian Bureau of Statistics (2022-base---2071), Population Projections, Australia, ABS Website, accessed 22 April 2024. These projections are not predictions or forecasts. They are a representation of what would happen to Australia's population over time if the assumed changes for each population component (births, deaths and migration) were to occur.

[6] ABS. As above

- For the **Murray Irrigation Area**, we invite the opportunity to work collaboratively to achieve outcomes that will elevate First Nation water interests via water delivery and environmental restoration and also direct investment in irrigated agriculture.
- **Treaty of inland waters.** MIL want to better understand Aboriginal and Torres Strait Islander Peoples seeking the transfer and power of inland waters through water access rights (rivers, billabongs etc) and how this will work. In the MIL area alone, we believe there are opportunities for improved Red Gum Forest management and enhanced wetland-driven tourism.

2.4 Water management principles that could be used to achieve the objectives and outcomes.

- **Informed decision making.** These principles should be developed through consultation. However, the consultation should provide sufficient context and information, particularly around Agricultures role in providing food security and economic stability for the country.
- **Collaboration in decision making**. All parties need to be flexible, work more closely together and aim to achieve multiple positive outcomes where possible**.**
- **National Resilience.** Food and water security are under threat across the world. Australia is a very dry country. At the very least, Australia must prioritise and protect water supplies and food security.
- **Equity**. To the extent community values have changed, the Government (on behalf of the broader community) and should be contributing more rather than expecting that water users (the irrigators) should be shouldering the burden of policy shifts which reduce access to water for agriculture.
- **Bipartisan support for the revised NWI.** We don't want a long-term agreement to suffer at the hands of changing government and political priorities.

2.5 Collaboration in action Case Study: Restoring Murray Waterways

MIL has commenced one of Australia's largest targeted environmental watering initiatives called *Restoring Murray Waterways.*

On-ground works include:

For Creeks:

- Upgrade landholder crossings to allow fish passage and delivery of environmental water.
- Upgrade fence creek crossings so they are flood tolerant.
- Install environmental delivery outlets so they can deliver targeted volumes of water identified by the environmental water manager.

For On-Farm Wetlands:

- Habitat enhancement works to maximise the chance of threatened species recovery and improve the quality of native flora.
- Water supply delivery works so water can be delivered to the wetland site.

With previous experience as the Implementation Authority for Australia's largest integrated environmental program, the Murray Land and Water Management Plans, MIL is well placed to be a partner implementing this program.

What are the environmental outcomes?

- Connecting of ephemeral creek and river systems back to the Murray River (Figure1).
- Rehabilitating on-farm wetlands.
- Deliver oxygen-rich water to floodplains to prevent mass native fish deaths.
- Redistribution of native fish back into key habitat sites.
- Long term protection and enhancement of threatened species habitat.
- Delivering drought refuge water to prevent mass fish deaths and maintain the health of high priority wetland ecosystems.

A large number of wetlands and creeks are available for rehabilitation in our 724,000ha area of operation.

Size and scale of project

Current funding from the Commonwealth Government supports the development of a business case to understand the options and scale of a fully implemented program. This business case is currently being completed.

Location

Within the entire MIL area of operations, with a priority on the western half of the footprint.

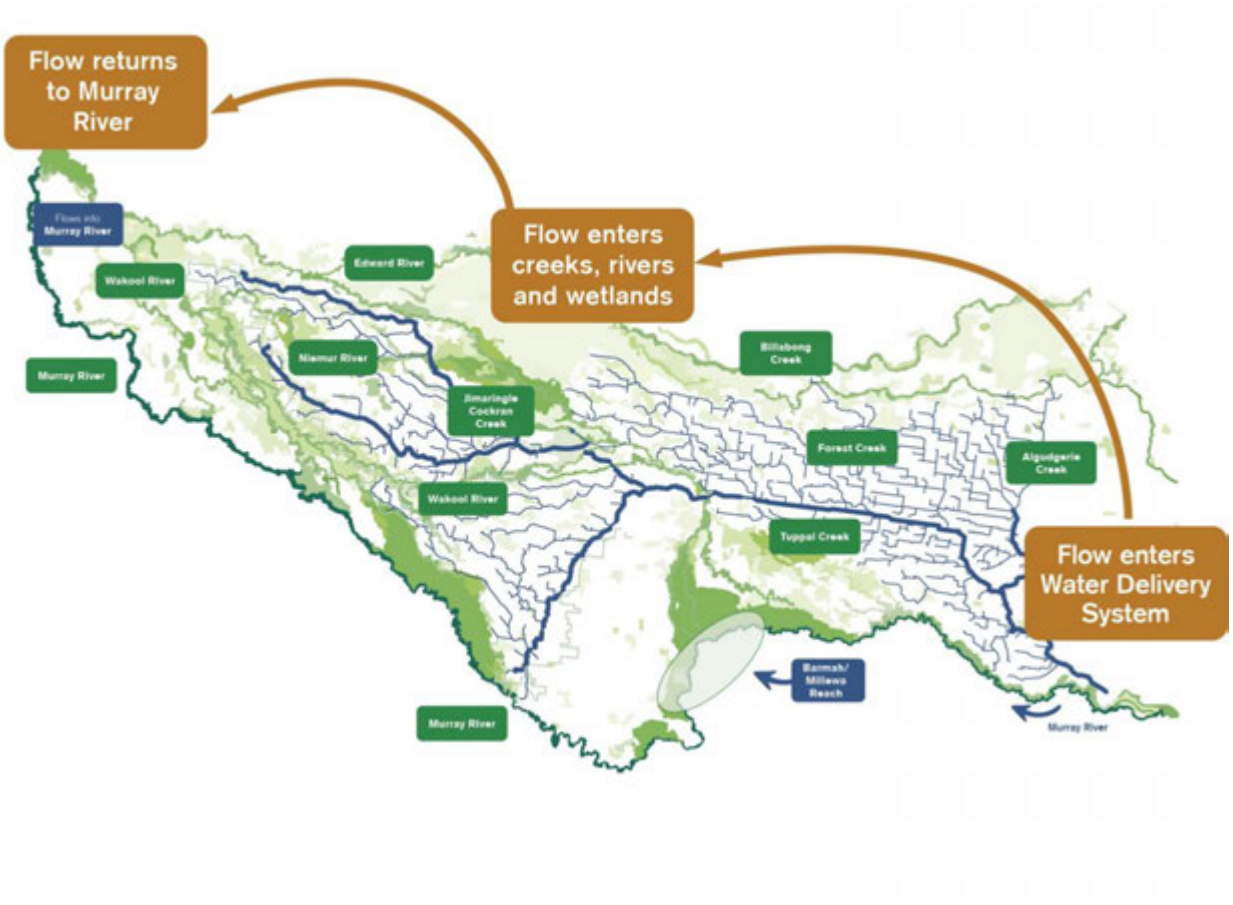

Figure 1: Location of MIL area of operations and its ability to strategically deliver water to achieve environmental outcomes.

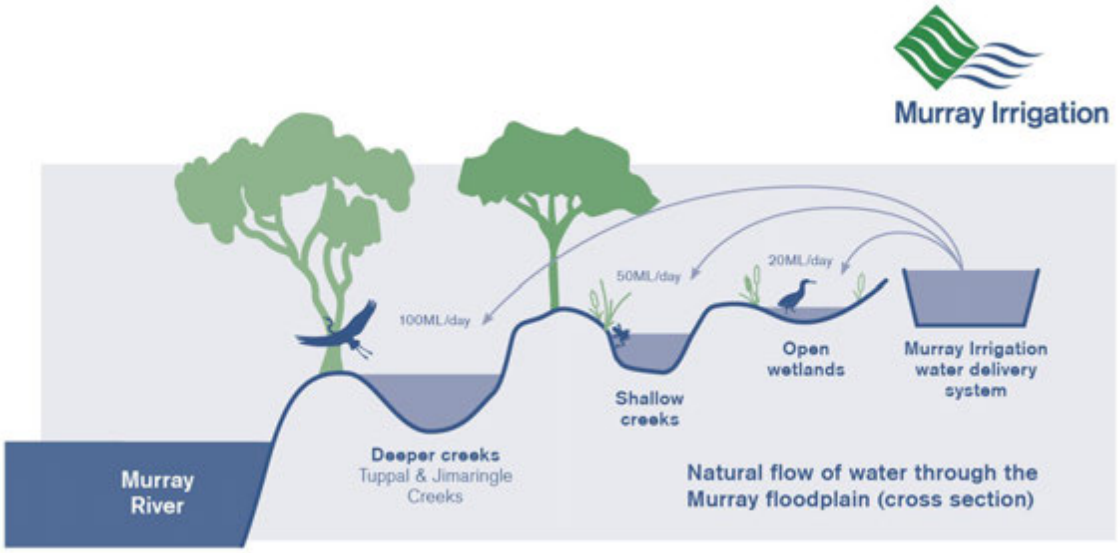

Figure 2. Cross section showing how MIL's water delivery system is positioned in the landscape relative to nearby rivers, creeks and wetlands.

Potential complementary measures

MIL has been working with the MDBA on the Barmah Millewa Feasibility study to investigate solutions to the reduced flow of water through the Barmah–Millewa Reach caused from the build-up of sand on the riverbed via the increased use of the MIL infrastructure by using existing outlets and upgrading selected outlets.

Further details around this project can be found here:

https://www.mdba.gov.au/publications-and-data/publications/barmah-millewa-program-reports-and-publications

There is an emerging concept of being able to use both consumptive water and environmental water for environmental purposes under the Basin Plan while on its journey to the final destination (Figure 3). The *Restoring Murray Waterways* project as the potential to assist with this.

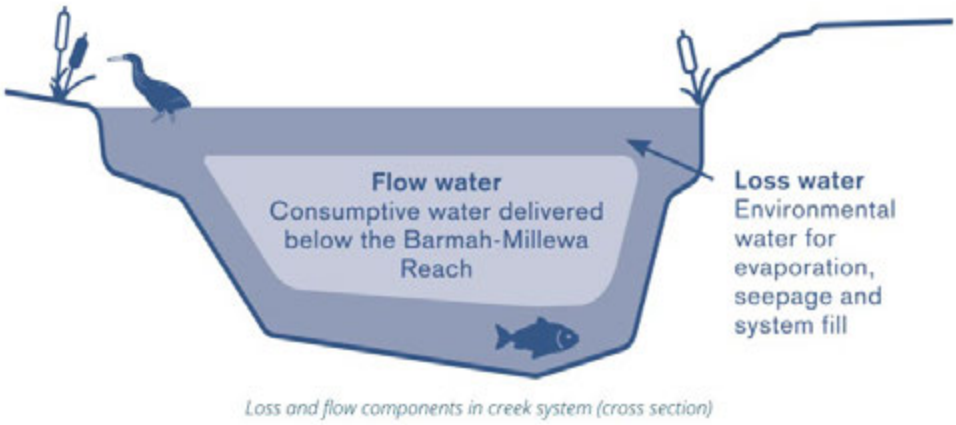

Figure 3: Diagram outlining how MDBA river operations water can be used as the "flow" water while Held Environmental Water covers the "loss" component, working together to achieve an environmental outcome in an ephemeral creek system.

MIL's supply system is extensive and has the capacity to achieve these outcomes in addition to Held Environmental Water (HEW) delivery annually. Given these benefits to riparian systems and the ability to assist with water delivery security to the lower lakes, funds under current basin programs could be used to investigate options to achieve environmental outcomes recognised under Basin Plan targets.

The *Restoring Murray Waterways* and *System Optimisation* concept is just one of a number of ideas that demonstrate how to achieve environmental equivalent outcomes while not negatively impacting basin communities that rely on water to keep them thriving.

MIL has submitted a document titled "Ideas to Deliver the Murray-Darling Basin Plan" which outlines concepts that can be applied across the basin. This concept was inspired by working closely with environmental water managers on projects in our valley. This document can be found here: https://www.murrayirrigation.com.au/about#Submissions

We encourage governments to review these ideas along with many others that can be achieved with the right funding whilst at the same time achieving NWI principles.

3 Issues with a revised NWI

- **The NWI has not led to stronger regional communities, yet.** Our entire NSW Murray community is heavily reliant on access to water for its prosperity, yet LGA's are remaining disadvantaged. The Central Darling is within the 20% most disadvantaged communities in Australia and Edward River, Hay, Balranald are in the 40% most disadvantaged LGA's in Australia (and has measured a steady decline since the WSP were first introduced in 2004). For example, Agriculture is the leading employment sector for Murray River Council accounting for 26% of total employment. The Wakool community has been significantly impacted following the Millennium Drought and the implementation of the Murray Darling Basin Plan and its associated water reform (water recovery) processes. Between 2001 and 2016, the Wakool region population reduced by 45.6% and farm employment has fallen by around 72%. The socio-economic wealth decile for the Wakool Region had diminished considerably reducing the financial capacity of businesses to adapt to change. Although there have been various government incentives to support recovery of the Wakool district, this is one clear example where changes to water policy have significantly and directly impacted small communities.
- **No third party impacts.** Murray Irrigation, its remaining farmers and reliant communities have been left to shoulder the economic burden of water reform in our region. Since 1995 our average water delivery has halved from around 1,200GL/yr to 600GL/yr, yet our infrastructure has largely remained the same with remaining water users required to pay the fixed costs of water delivery. Any further water reform must consider and support impacted third parties and involve them developing solutions to mitigate these impacts.
- **Inland freshwater is a finite resource.** The Murray Darling basin is not seeing population growth or increases in water demand that is (anything) like Australia's coastal regions, and connections to supply state capitals from the greater Murray System is very limited. We suggest that the focus of a renewed NWI is water security in cities and coastal Australia. Desalination and renewable technology should be invested in without risking the resources already committed to inland Australia. Governments must continue to work together to look at population prediction, food security, and alternatives to freshwater.

- **Adopt modern risk management.** The resource allocation policies and their application need to be revised to reflect the wider aims and objectives of a revised NWI, ensuring that the scarce water resources generate the optimal outcomes in terms of regional economies and communities. That means recognising and committing to the interests of all licence holders. Murray Irrigation recognise water supply is highly variable and request an approach which enables increased utilisation by irrigators in very wet conditions, reflecting the fact that use by this large user group in many catchments including the NSW Murray, appears to have been reduced by more than was needed to maintain sustainable diversion levels. (i.e. after 20 years since the 2004 NWI's introduction, irrigation use, per ML allocated for use, is falling in key irrigation areas, and allocation policy has not adapted to allow greater utilisation when surplus water is clearly available.)
- **When planning for 'Net zero', do not overestimate. Renewable Energy (Wind and solar) use a great deal less water than fossil fuels and other clean energy.** In reference to the PC interim report:

'The United Nations Expert Group on Water and Climate Change presented preliminary figures to COP28 in November 2023, indicating that by 2030 clean energy mitigation measures alone are estimated to require 900 teralitres of fresh water globally per year (UN Water Expert Group on Water and Climate Change 2023, p. 1).

Renewable Energy (Wind and solar) use a great deal less water than fossil fuels and other clean energy (see Figure 1) (i.e., biofuels, concentrated solar power, carbon capture or nuclear, which "have high water requirements" according to the International Energy Agency report[7]). Importantly, Murray Irrigation supplies water to more than 700,000Ha utilising only gravity to supply its customers, who in turn use mainly gravity-powered on-farm supply irrigation distribution to the crops grown. Conversely many of the new developments utilise high pressure piped and filtered irrigation water supplies, which consume large amounts of energy per Ha and per Kg of irrigated produce.

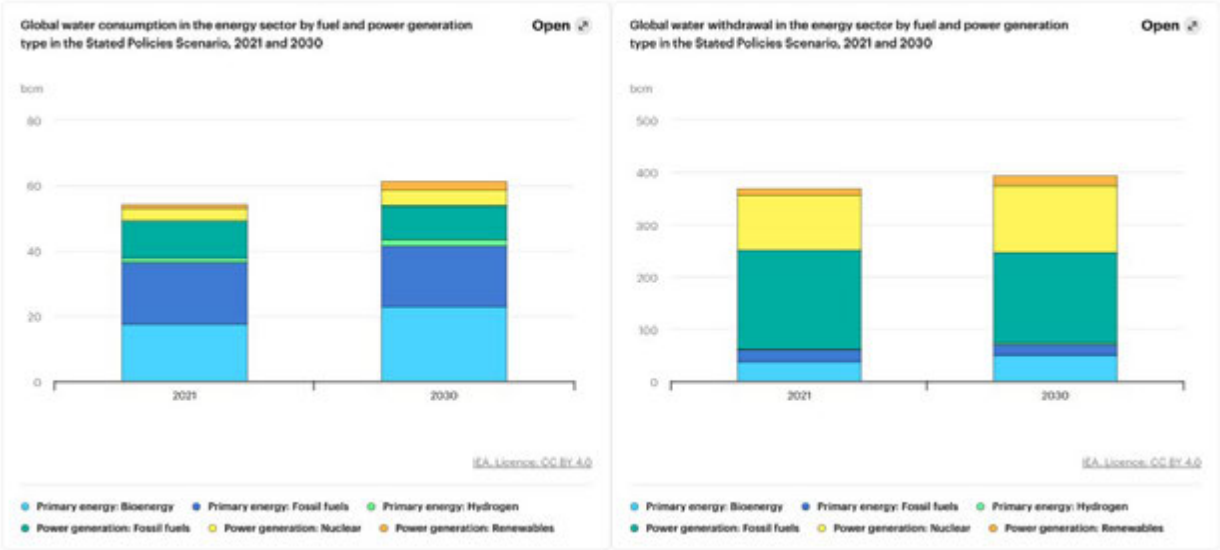

Figure 1. Global water consumption and withdrawal by fuel and power generation (renewables in orange). International Energy Agency report

[7] IEA (2023), Clean energy can help to ease the water crisis, IEA, Paris https://www.iea.org/commentaries/clean-energy-can-help-to-ease-the-water-crisis, Licence: CC BY 4.0