




National Irrigators' Council

Food and fibre for the Nation

National Irrigators' Council Annual Report 2014-2015



Working for a vibrant and
sustainable irrigation industry



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Front Cover: Irrigation Channels, Gunnedah

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Sandy Creek Bridge, Barber Creek, Barham

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CRDC Field Days, Gunnedah

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Our Advocacy in 2014-2015

The National Irrigators' Council is dedicated to a viable and productive irrigated agriculture sector. Irrigation has the ability to enable farmers to significantly diversify and enhance their agricultural and horticultural opportunities and inject lifeblood into rural and regional communities across Australia. The flow on effect is food and fibre production for domestic and export purposes, regional jobs and skills training.

The NIC has long argued the case for a balance between social, economic and environmental outcomes to ensure the Murray-Darling Basin Plan is fair and workable. This is critical to ensure communities do not bear the cost of a Basin Plan that is unsatisfactory.

Reforms under the Basin Plan should not solely focus on water as the only environmental management solution to a complex structure of environmental challenges in the Basin. The Basin Plan must be balanced; it must consider the needs of people, communities and food and fibre production in parallel with the environment. Objectives must be maximised through the building and/or upgrading of existing, environmental supply and efficiency measures, with a focus on projects under the localism model. As promised during the development of the Plan, and in keeping with NIC principles, any rule and operating changes must see the characteristics and reliability of water entitlements maintained with no third party impacts, unless otherwise agreed by all stakeholders.

National leadership

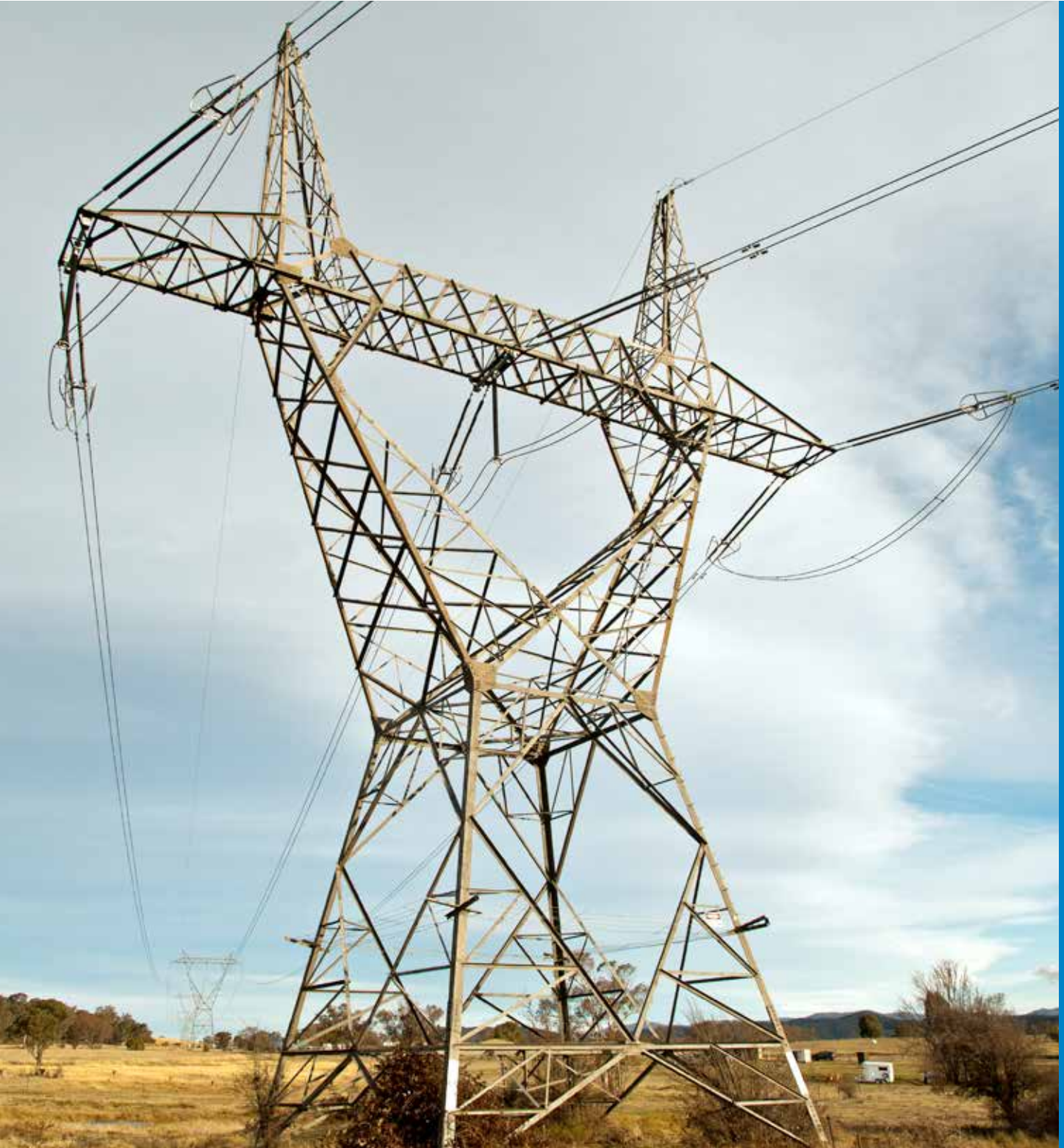
The legislated 1500 gigalitre (GL) cap on water buybacks in the Murray-Darling Basin which recently passed through the Australian parliament is a welcome outcome. The Government is commended for its commitment to irrigated agriculture and its understanding of the benefits of water left in production. Critical bipartisan support from the Labor Opposition and Labor Basin states saw the 1500 GL cap finally legislated. The cap represents an important signal to communities, helping to improve business confidence in the sector and provide a degree of longer term certainty for those who depend on the Basin's water resources.

NIC Chair Gavin McMahon and CEO Tom Chesson argued the case for the promised 1500 gigalitre cap on behalf of members at a public hearing of the Senate Environment and Communications Legislation Committee which met to hear from stakeholders on the provisions of the Water Amendment Bill 2015, namely to:

- amend the Water Act 2007 to impose a duty on the Commonwealth not to exceed the 1500 GL limit on surface water purchases in the Murray-Darling Basin at the time of entering into a water purchase contract; and
- amend the Murray-Darling Basin Plan 2012 to provide increased flexibility in the recovery of 450 GL of water through efficiency measures funded under the Water for the Environment Special Account.

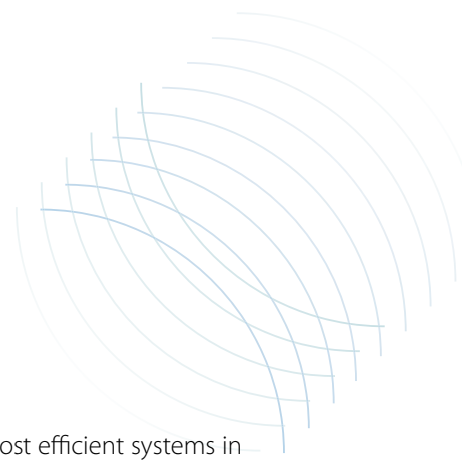
The Council put a strong case to state water ministers in New South Wales, Queensland, Victoria and South Australia, seeking their bipartisan support for the Government's proposed cap. This followed Labor Shadow Minister Mark Butler's comments that he would *'seek to understand the view of the four Basin states prior to the Opposition reaching a view about the wisdom or otherwise of imposing a legislated 1500 GL cap on water buybacks.'*

The cap does not change the volume of water to be recovered under the Plan, but forms part of the mix of policy and programs used to recover the remaining volume of water required to 'bridge the gap' between previous levels of extraction and the requirements of the Basin Plan. Beyond the cap, water will be recovered by investment in on-farm and distribution system efficiency projects. Our members and the irrigation industry more broadly are active participants in efficiency projects and are committed to deliver projects to implement the Plan.



Power Lines, Murrumbidgee Region

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Water efficiency

Investment in upgrading and modernising irrigation systems is building on some of the most efficient systems in the world; this is providing short and long term benefits for communities. Short term stimulus is occurring through the construction phase of projects. Water savings from infrastructure projects are shared and result in water being retained on farm. This contributes to direct employment in irrigated agriculture and potential opportunities for downstream processing industries. This employment provides the social and economic underpinnings of many Basin communities.

Contracted water recovery in the Basin is estimated at 1951 GL or 71% of the targeted 2750 GL. Until the 2750 GL water recovery is achieved, and there is a full account by Government that it has been directed for the purposes for which it was intended, then it would be premature to recover a further 450 GL of 'up-water'. This point was made during the Senate public hearing on the Water Amendment Bill 2015.

Irrigators have long supported healthy working rivers and river systems; it is in their interests to do so and the interests of the communities in which they reside. We continue to challenge the theory of 'just add water' as the solution to a complex structure of environmental challenges in the Basin.

The 2004 National Water Initiative (NWI) sought to achieve economically efficient water use and investment that maximises the economic, social and environmental value of Australia's water resources. At the inception of the Basin Plan in 2012, and in good faith, irrigation communities well understood the principle that some water would be returned to the environment for the broader benefit, including to ensure sustainable extraction into the future. At that time, irrigation communities highlighted the risk of potential social and economic dislocation the recovery of 2750 gigalitres of long term cap equivalent water would unleash on Basin communities.

Working with stakeholders

Meetings between NIC leadership and the former and newly appointed Parliamentary Secretary for the Environment are a critical part of our advocacy and building relationships. Engaging federal Ministers, Senators and Members across all parties keeps parliamentary representatives briefed on the issues of importance to our members and enables the organisation to hear first-hand about alternative policy approaches across all parties.

Regular face to face meetings of the Council during the year brought members together to discuss and develop policy. Members' input is critical in the development of submissions to Government and NIC's position statements, the latter developed through the NIC sub-committee process and ad hoc reference groups. Importantly, each statement is underpinned by the organisation's guiding principles and includes a series of key messages. Further detail on the position statements is available in this Annual Report.

Council meetings were also a forum for members to discuss the most pressing issues impacting on the sector with senior officials from the MDBA and Department of Environment, the Commonwealth Environmental Water Holder (CEWH), the Bureau of Meteorology and other stakeholders.



Building recognition

The NIC has focused its efforts on building the reputation of the organisation as the national peak body for irrigated agriculture. This is reflected in the appointment of NIC Chair Gavin McMahon to the expert panel as part of the Commonwealth's 2014 review of the Water Act 2007. While the Government has not yet responded to the review recommendations of the expert panel, NIC members are actively participating on a number of fronts, providing input into the measures already underway. These initiatives include:

- The ACCC's Review of Water Charge Rules
- The Bureau of Meteorology's (BOM) Interagency Working Group
- Discussion around establishing an industry-led scheme of regulation for water market intermediaries.

CEO Tom Chesson's appointment to the federal government's informal Water Infrastructure Group and the ACCC/AER Consultative Committee on the issue of electricity prices is further recognition of the organisation's role as a strong advocate for the sector, supported by the significant knowledge of our membership on a wide range of issues.

Electricity prices

Our dedicated campaign to reduce the cost of electricity for irrigated agriculture continues. Relationships were forged with other peak organisations to advocate to governments and decisions makers on this critical issue. NIC played a key role in establishing the Irrigated Agriculture Electricity Taskforce in September 2014, as part of a sector-led campaign against high electricity prices. We consistently argued the case to the federal government and the Australian Energy Regulator (AER) highlighting the impacts on the sector. Through the AER pricing determination process, we specifically pursued the justification for unreasonably high network charges imposed by electricity network companies.

Increases have been far in excess of the consumer price index (CPI), typically representing around 50% of farmers' electricity bills; financial pressures caused by high electricity prices have impacted on the ability of farmers to move to new pressurised water efficient systems. The 'water efficiency versus energy efficiency' conundrum has also impeded farmers' ability to make new water efficient systems profitable.

NIC argued for greater scrutiny of network companies' proposals submitted to the AER and closer examination of the data presented, including:

- the weighted average cost of capital (WACC) submitted in network companies' proposals
- the calculation of the cost of a company's debt – debt and equity raising costs, and
- income tax, (*where we pushed for greater scrutiny on the taxation allowances for privately owned distributors*)

While we set out to achieve in the order of a 30% reduction in electricity costs, recent AER determinations in fact reflect a level of cost reductions. South Australia has seen a 25% drop in charges across the state while in New South Wales, a 10-25% reduction. Queensland has also seen improvements, remembering that Queensland prices remain regulated by the state government. In Queensland in the 2015-16 year there will be no percentage increase in prices, in contrast with previous years that saw a year by year 10% increase in costs imposed by companies.

Progress continues on a number of fronts as we work with the Australian Renewable Energy Agency (ARENA) to ensure irrigated agriculture is a key priority as ARENA undertakes a review of its business strategies. We have engaged the Clean Energy Finance Corporation (CEFC) to identify opportunities to undertake projects on behalf of the sector for investment in renewable energy and low emissions technology. Our effort is ongoing to bring about much needed change in the governance arrangements of Australian energy markets to achieve a more balanced pricing regime for all consumers.

Input into Government policy

Government inquiries, green papers and policy initiatives have provided a platform for the organisation to step up its advocacy on behalf of members on issues important to the sector. Submissions were provided to:

- Review of the Water Act 2007
- Basin wide environmental watering strategy
- Senate Inquiry: National Water Commission (Abolition) Bill 2014
- MDBA Basin wide environmental watering strategy
- Personal Properties Securities Act (PPSA) 2009
- Australian Government Energy Green paper
- Competition Policy Review: water references (Harper Review)
- Australia's Agricultural Competitiveness
- Senate Inquiry: electricity network prices
- Australian Energy Regulator (AER) reset process (Qld)
- Australian Energy Regulator (AER) reset process (SA)
- Department of Industry & Science: Australian Energy Markets Governance Arrangements
- Australian Competition and Consumer Commission (ACCC) Issues paper on Water Charge Rules
- Senate Environment and Communications Legislation Committee: Water Amendment Bill 2015 (*1500 GL cap on water buybacks and the 450 up-water*)

Working in partnership

We partnered with other peak agricultural organisations in the development of a booklet titled: *Powering Regional Australia – The case for Fuel Tax Credits*. The publication highlights the case for the retention of fuel tax credits and the importance to agricultural industries in removing or reducing the incidence of fuel tax from business inputs.

The NIC will work to identify further opportunities to partner with irrigated agriculture organisations across Australia and build alliances, draw on local knowledge and expertise to ensure the voice of the sector is heard.

National Irrigators' Council

The National Irrigators' Council is the peak body representing irrigators in Australia, supporting 27 member organisations covering the Murray Darling Basin states, irrigation regions and the major agricultural commodity groups. Council members collectively hold approximately 6,000,000 megalitres of water entitlement.

The Council is the voice of irrigators who produce food and fibre for Australia and significant export income. Irrigation produces goods to the value of about \$9 billion per annum and is critical in providing essential foodstuffs such as milk, fruit, vegetables, rice, grains, sugar, nuts, meat and other commodities such as cotton. The Council's vision is to support a vibrant, sustainable irrigation industry and we aim to achieve this by developing projects and policy to ensure the efficiency, viability and sustainability of Australian irrigated agriculture and the security and reliability of water entitlements.

The Council is funded by irrigators, for irrigators and the communities they support and is directed by our guiding principles designed to underpin our current and future policy decisions:

- A healthy environment is paramount
 - Sustainable communities and industries depend on it
- Protect or enhance water property rights
 - Characteristics of water entitlements should not be altered by ownership
- No negative third party impacts on reliability or availability
 - Potential negative impacts must be compensated or mitigated through negotiation with affected parties
- Irrigators must be fully and effectively engaged in the development of relevant policy
- Irrigators expect an efficient, open, fair and transparent water market
- Irrigators require a consistent national approach to water management subject to relevant geographical and hydrological characteristics
- Irrigators expect Government policy to deliver triple bottom line outcomes
- Regulatory and cost burdens of reform be minimised and apportioned equitably.

Throughout 2014-15, the Council have sought to clearly define our vision, mission and objectives to ensure that our efforts are correctly focussed. They are:

Vision

Our vision is for a vibrant and sustainable irrigation industry.

Mission

Our mission is to secure the long term interests of our members and our industry.

Objectives

- Continue to be recognised by Government and Industry as the national peak body for irrigated agriculture
- Protect or enhance water as a property right.
- Promote the importance of irrigated agriculture.

Sub-Committees

Council sub-committees provide additional focus and expertise on key policy areas and have been instrumental in guiding and informing members on critical issues impacting on irrigators. They are at the centre of policy development, providing advice to the broader membership in the development of Council position statements and keeping members informed on these policy areas.

Groundwater sub-committee

The committee was established in 2009 to provide input on groundwater policy and management, particularly in relation to the Basin Plan. Working with other industry organisations the committee was instrumental in successfully challenging the proposed reductions in groundwater sustainable diversion limits in the Guide to the Basin Plan.

The committee continues its keen focus on the MDBA groundwater trading rules and provided input into the national Groundwater Strategic Framework which aims to prioritise the assessment of groundwater resources as part of effective management of these resources.

Energy sub-committee

The committee has participated in a number of initiatives and forums to bring to the attention of governments and other decision makers, the impact of the unsustainable cost of electricity on the irrigated agriculture sector. The committee has provided submissions to government inquiries, media releases and meetings with relevant bodies to highlight the impact of increasing electricity costs, particularly the network cost component charged by electricity network companies.

The National Irrigators' Council, through the committee, aimed to achieve in the order of a 30% reduction in electricity costs. Through the Australian Energy Regulator (AER) price determination process, the sector has seen electricity price reductions in South Australia and New South Wales. In 2015-16 there will be no percentage increase in prices in Queensland, in contrast with previous years that saw an average of a 10% increase in costs imposed by network companies. Other measures in Queensland such as the setting up an Agricultural Energy Council and the waiving of the fixed charge component of electricity prices by the state government in drought affected areas of south east Queensland also represent changes that will assist the irrigated agriculture sector.

The committee is working with experts in the economic regulation of networks and electricity market design, and through appropriate bodies, to identify a suite of electricity tariffs most appropriate to irrigation businesses.

Irrigation infrastructure sub-committee

The committee participated in key measures underway from recommendations of the expert panel as part of the Government's review of the Water Act 2007. The committee provided input into the Australian Competition and Consumer Commission (ACCC) review of Water Charge (Infrastructure Rules) 2010, Water Charge (Termination Fee) Rules 2009 and the Water Charge (Planning and Management Information) Rules 2010. The review is part of the federal government's promise to reduce the administrative burden on businesses without removing or altering the principles for the rules. NIC, through the committee has advocated for a reduction in the regulatory burden and highlighted the significant costs involved in members' complying with water charge rules, particularly the Water Charge (Infrastructure) Rules.

The committee has also been at the forefront of advocating for a more streamlined approach to water information reporting requirements. Again, as a result of a recommendation of the expert panel as part of the Government's review of the Water Act 2007, the committee have provided input into the Interagency Working Group, established by the Bureau of Meteorology to undertake a review of water information reporting burdens. The Interagency Working Group membership comprises agencies with water information collecting powers under the Water Act. These include the Australian Competition and Consumer Commission, the Department of the Environment and the Murray-Darling Basin Authority.

Message from the Chair



Gavin McMahon,
Chair National Irrigators' Council

Issues that impact on the business of Council members and our sector, are our business. As the Murray-Darling Basin Plan implementation process reaches some important milestones, we have found opportunities to maximise the visibility of the National Irrigators' Council, adding weight to public debate on behalf of members, and grow the reputation of the Council as the peak body for irrigated agriculture.

We have pursued every opportunity to elevate discussion about why achieving a legislated 1500 gegalitre (GL) cap on water buybacks is so important to our members, their businesses and the social and economic fortunes of rural and regional communities in the Basin. We dedicated significant time and energy to this issue and we can report that the 1500GL cap is now legislated. We lobbied parliamentary representatives across all parties, including Basin state water ministers seeking their support for the cap. We again put our case during a public hearing of the Senate Committee examining the legislation, following our submission to that Committee.

We have strongly advocated to governments and decision makers to bring about change to reduce the cost of electricity. Our campaign, in collaboration with Irrigated Agriculture Electricity Taskforce members, to bring this matter to Government and public view has over time delivered results. The latest pricing determinations by the Australian Energy Regulator (AER) have resulted in price reductions in New South Wales and South Australia. In Queensland in the 2015-16 year there will be no percentage increase in prices, in contrast with previous years that saw an average of a 10% increase in costs imposed by companies. The establishment of an Agricultural Energy Council and the waiving of the fixed charge component of electricity prices by the state government in drought affected areas of south east Queensland will go some way in assisting our sector in that state.

Our efforts continue as we work with the relevant bodies to identify a suite of electricity tariffs most appropriate to irrigation businesses and with the Clean Energy Finance Corporation (CEFC) on potential projects for the benefit of our sector. I particularly thank my Board colleagues for their contribution on the electricity front.

The Council has been involved in a raft of Government initiated inquiries and consultations and added our voice on behalf of our members. Activities underway in response to recommendations of the 2014 review of the Water Act 2007, are providing an opportunity for Council members to directly participate in the Australian Competition and Consumer Commission (ACCC) review of water charge rules and the Bureau of Meteorology interagency working group, established to reduce regulatory burden on industry and water managers relating to water information requirements

Our presence in Canberra affords the Council direct access to decision makers, critical to our advocacy. We also saw a portfolio reshuffle resulting in a new Parliamentary Secretary for the Environment in Bob Baldwin, with whom we have worked to build a constructive dialogue, a key factor in keeping our issues at the forefront of Government. I thank the former Parliamentary Secretary Simon Birmingham for his diligence in the role and for being accessible to our membership. Access to other federal Ministers, Senators and Members enables us a vehicle to put our case across all parties on our key priorities



of business sustainability, strategic outcomes such as the Government's response to the recommendations of the review of the Water Act 2007 and the social and economic impacts of the Basin Plan.

Council meetings provide a forum for members to debate issues and do a stocktake on the progress and focus of our advocacy. Recognising the diversity of our membership, it is important that we understand the issues that most affect members in their respective businesses and their regions and critical that we are able to fully canvass members' views through these forums.

Our trip to the Barossa Valley for the Council meeting in March was a great success with a large number of members attending. The Shadow Minister for Water, Mark Butler was guest speaker at the Council dinner and generously responded to members' questions on a broad range of topics. I thank Barossa Infrastructure CEO Paul Shanks, who organised our visit to the wineries prior to the commencement of the two-day meeting program. Members were also briefed on the operations of Barossa Infrastructure by Paul and I thank him for his efforts in making the South Australian visit the success that it was.

While in South Australia and following the two days of formal meetings, members were joined by the South Australian Minister for Water and the River Murray, Ian Hunter and the MDBA Chair, Neil Andrew on a visit to the Murray Mouth and Lower Lakes. The tour was organised with the assistance of NIC members and local farmers, to see first-hand, issues faced by irrigated agriculture producers in that unique region, including the need for better management of the Lower Lakes and new infrastructure solutions. I acknowledge Leslie and Mick Fisher for their generous hospitality when we visited their property on Lake Alexandrina.

The Council is grateful to the senior officials from the MDBA, the Department of Environment, the Commonwealth Environmental Water Holder (CEWH), the Bureau of Meteorology (BOM) and others who make themselves available to attend Council meetings and engage with members. These occasions provide members with a forum to discuss the most pressing issues impacting on our sector, as do peak bodies meetings convened by the MDBA throughout the year.

Finally, I thank Council members for their contribution during the development of key policies, submissions and our position statements. In an organisational sense the National Irrigators' Council is a small outfit and I believe we have added some weight to public debate this past year covering a broad range of issues impacting on our sector. This would not have been possible without the generous support of members, who have provided critical input on key issues.

Koondrook Perricoota Forest

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Message from the CEO



Tom Chesson,
CEO National Irrigators' Council

In the six years since inception, the National Irrigators' Council is now recognised as a senior voice in Australia's water politics and water policy development. As part of the organisation's maturing process, we have focused our efforts on developing our foundational documents including the 2015-20 strategic plan. Building on our policy platform, we have finalised ten key position statements designed to provide Governments with a clear guide on a triple bottom line approach to managing the country's rural water resources.

Notwithstanding our focus on updating and developing our core branding and strategic direction, we have delivered on National Irrigators' Council key objectives this year.

We have long advocated that water should not be used as the only management tool as part of reforms under the Basin Plan. Solutions must incorporate a suite of measures that give equal balance to food and fibre production, the environment and the socio economic outcomes for communities.

We have argued the case for maximising objectives through the building and/or upgrading of existing, environmental supply and efficiency measures, with a focus on projects under the localism model. To this end we have achieved our core goal to have the Commonwealth Government legislate a 1500 gigalitre cap on water buybacks in the Murray Darling Basin. We pushed hard for bipartisan support at a federal and state level despite strident opposition from at least one state government when the policy was first announced.

The Council has been at the forefront to ensure that Basin Governments are on track to deliver environmental outcomes equivalent to 650 gigalitres of water. The recent independent stocktake of projects, or 'supply measures', suggests that it is now plausible that the commitment by Basin Governments could well be achieved.

We have advocated for other parallel measures to ensure the environmental health of the Basin. For example we have raised the issue of feral animals such as pigs and carp benefiting from environmental watering. The Government has allocated additional funds for feral pig control and is currently seeking regulatory approvals to release the Koi Herpes Virus, a carp specific biological control measure.

The Expert Panel appointed to undertake the Review of the Water Act 2007 included the Council's Chair, Gavin McMahon. The recommendations coming out of the Review have been widely welcomed by the irrigation industry and our goal will be to ensure that they are adopted by the Government and legislated over the coming year.

With a small team of one full-time and two part-time staff, NIC continues to punch above its weight. Through our efforts in developing strategic alliances and pursuing a robust media strategy, we have helped to deliver cheaper electricity prices for NIC members in NSW and South Australia, and improved outcomes in Queensland. We remain committed to ensuring these gains are not eroded and will continue to pursue a range of measures underpinning electricity governance arrangements and the price setting processes at both a state and federal level and ensure our voice is heard.

Our key focus has been on calling for a closer examination of the network costs charged by electricity network companies. As a result, we are now engaged as a key partner in the Government's plans to roll out renewable energy products with irrigated agriculture included.



In collaboration with the National Farmers' Federation, the Minerals Council of Australia and a group of other peak organisations, we have extracted commitments from both the Government and the Opposition to continue the Diesel Fuel Rebate (Fuel Tax Credits) despite a strong push from the Greens and green groups for its abolition.

The coming year will be critical for irrigators and our communities. Lower inflows into storage catchments along with the removal of over four million mega litres of water from the consumptive pool over last decade, are putting irrigated communities under significant social and economic stress. High temporary water prices and the inevitable shrinking of the Basin's irrigation footprint are issues which will continue to be at the forefront of Council's advocacy.

In 2016 we will be strongly focused on the Sustainable Diversion Limit (SDL) Adjustment process including the Northern Basin Review process. These issues are critical milestones for our membership on the road to implementing the Basin Plan. We cannot afford to take our eye off the ball on these issues in our effort to ensure that Basin communities have a sustainable future.

I thank NIC members who have participated in the numerous activities and combined effort in putting together, through our ad hoc reference groups and NIC sub-committees, thirteen submissions this past year. As an organisation whose members fund their own travel it is gratifying to see members step up and make the long journey to Canberra, Sydney and Adelaide this year to appear at Parliamentary Inquiries and to speak directly with Parliamentarians and key bureaucrats. This is a critical part of our advocacy and recognition as the national peak body for irrigated agriculture.

Baby Spinach, Lachlan Valley

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The Board

The Board manages the administration of the Council with the CEO responsible for the day to day operations of the organisation. The Board includes a mix of state representation and skills-based experience. With a presence in Canberra, the Board has direct access to decision makers at a political level ensuring the voice of irrigators across Australia is heard directly at the point of decision on policy.



**Gavin McMahon
(Chair)**

Gavin is the CEO of Central Irrigation Trust (CIT) in South Australia. He is also a Director of CIT and the CIT Water Exchange. Originally hailing from Queensland, Gavin has formal qualifications in environmental science and business. Gavin was appointed to National Irrigators' Council Board in 2010 and to the position of Chairman in 2012.



**Tim McKindlay
(Deputy Chair)**

Elected to the National Irrigators' Council Board in 2012, Tim is also a director of Murray Irrigation Ltd, the largest private irrigation company in Australia. He holds a Bachelor of Agricultural and Resource Economics from the University of New England and is a graduate of the Australian Institute of Company Directors (AICD). Tim and his family run a mixed cropping and livestock operation near Deniliquin in NSW.



**Michael Murray
(Treasurer)**

Michael is the General Manager, Operations for Cotton Australia and was formerly Chief Executive Officer of the Gwydir Valley Irrigators' Association, based in Moree in northern NSW. Michael is also a board member of NSW Irrigators' Council. He was elected to the NIC board in 2009.



Karen Hutchinson

Karen is part of the senior management at Murrumbidgee Irrigation Limited, one of the largest privately owned irrigation corporations in Australia. She has been at the cutting edge of water policy development for the last decade. Karen is currently a member of the MDBA's Basin Community Committee and a member of the RDA – Riverina Committee. Karen has an Honours degree from the Australian National University, is a graduate of the Australian Institute of Company Directors and was awarded the prestigious RIRDC NSW Rural Women of the Year in 2011.



Chad Prescott

Chad is a cotton and cattle producer from near St George in south western Queensland. He is the former secretary of SmartRivers, a stakeholder organisation representing the interests of irrigators in the Lower Balonne region. Chad is a founding Director of the National Irrigators' Council, initially elected to the Board in 2008.



Peter Duggin

Peter is a winegrape grower from Renmark in South Australia and Chairman of the Renmark Irrigation Trust, Australia's oldest irrigation trust. He was elected to the National Irrigators' Council board as South Australia's representative in 2010. Peter is also a member of the SA MDB NRM Board, and SAMI Upper Murray representative.



Dale Holliss

Dale is the CEO of Bundaberg CANEGROWERS Ltd and Company Secretary for the Bundaberg Regional Irrigators Group. He has a background in sustainable agricultural management, rural finance and economics. He also has extensive experience in irrigated sugar cane production systems across Queensland as well as a diverse range of horticultural crops. He was elected to the NIC board in 2012.



Bernie George

Bernie was elected to the NIC board in 2012. He is the General Manager of Auscott's operations in the Namoi valley of NSW, where the company grows and processes, warehouses and markets cotton and rotation crops. Bernie has extensive experience in large scale irrigated agriculture as well as land and water resource development. Bernie is a past Chairman of Cotton Australia and a graduate of the Australian Rural Leadership Program.



John Culleton CSC, psc, pcpsc, BA, GAICD

John was appointed to the National Irrigators' Council in 2011. John is also a director on the NSW Rice Marketing Board and Chief Executive of Coleambally Irrigation Co-operative Limited (CICL). Prior to assuming his role with CICL in late 2008, John spent 32 years in the Australian Regular Army commanding at platoon, company and battalion level. He has lived and worked in Malaysia, Canada and the USA and served with the United Nations in the Middle East. His final posting in the Australian Army was as Australia's Defence Attaché to the United Nations in New York.

After leaving the Army in 2002, John was the NSW/ACT State Manager of the Royal Australian College of General Practitioners and

subsequently the Deputy Chief Investigator of the NSW Office of Transport Safety Investigations.

John is a graduate of the Royal Military Command, Duntroon; the Australian Army Command and Staff College; the Canadian Services Command and Staff College and the Australian Institute of Company Directors. He holds a Bachelor of Arts from UNSW (Economics and Government) and was awarded the Conspicuous Service Cross for his leadership and work in the remote communities of Cape York, the Gulf Country and the Torres Strait while commanding the 51st Battalion, the Far North Queensland Regiment.



Picking Oranges, Murrumbidgee Irrigation Area.

Copyright Murrumbidgee Irrigation

Our Members

Our members represent a diverse of organisations from food and fibre industries to irrigation infrastructure operators. Member organisations are represented at Council by a nominated delegate from their organisation. Council members are not individual. An 'irrigator' is defined as 'a person or body with irrigation entitlement for commercial agricultural production'.

The Council is a non-federated body with with equal voting rights on all issues including policy development. The Council is committed to representing all irrigators regardless of their location or the food and fibre they produce. Council members meet three times per annum to discuss and debate matters of policy. Adoption of policy is on a consensus basis.

Membership

Almond Board of Australia	Murrumbidgee Groundwater
Auscott Limited	Murrumbidgee Irrigation Ltd
Barossa Infrastructure Ltd	Murrumbidgee Private Irrigators' Inc
Border Rivers Food and Fibre	Namoi Water
Bundaberg Regional Irrigators Group	Olam Orchards Australia Pty Ltd
Central Downs Irrigators Limited	Pioneer Valley Water
Central Irrigation Trust	Renmark Irrigation Trust
Coleambally Irrigation Co-operative Limited	Ricegrowers' Association of Australia Inc
Cotton Australia	Riverina Winegrapes Marketing Board
Gwydir Valley Irrigators Association Inc	Smartrivers
Lachlan Valley Water	South Australian Murray Irrigators
Macquarie River Food and Fibre	Southern Riverina Irrigators
Murray Irrigation Ltd	Western Murray Irrigation Limited
Murray Goulburn Co-operative Co Ltd	

**Energy Field Days,
Gunnedah**

*Copyright National
Irrigators' Council*





Renmark Irrigation Trust Pump Station, Renmark

Copyright National Irrigators' Council



The Hon Sussan Ley, federal member for Farrer, the Hon Bob Baldwin, Parliamentary Secretary to the Minister for the Environment and the Hon Neil Andrew AO, MDBA Chair.

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Position Statements

In 2014, the Council took action to develop a series of position statements focussed on the key issues impacting our members. This year we have developed another 2 position statements, one on water shepherding and another on cultural flows.

Underpinned by our guiding principles, all position statements incorporate key messages which provide a strong platform for our advocacy and support our stakeholder engagement. The key messages of all ten statements are included below.

Constraints Management Strategy

- The National Irrigators' Council will fully engage in all phases associated with the development and implementation of the Constraints Management Strategy (CMS)
- The MDBA's modelling which underpins the CMS and the recovery of an additional 450 gigalitres known as the 'Hydrologic modelling of the relaxation of operational constraints in the southern connected system: Methods and results October 2012' makes it clear that the benefits of the additional 450 gigalitres of water will only be realised if the eight key constraints are all relaxed. If the eight key constraints cannot be relaxed within the \$200 million allocated, the NIC queries the rationale for spending a further \$1.57 billion to recover an additional 450 gigalitres LTAAY.
- We do not support compulsory acquisition of easements or any other private property
- We do support maximum use of environmental water which may result in achieving environmental outcomes and benefits including achieving offsets with less water.
- We strongly support adherence to the statement in the Constraints Management Strategy 2013-2014 document namely:
 - The Strategy does not put forward anything that would mean individual water entitlements would change. One of the Strategy's overarching principles is that there will be no new risks to entitlement holders.
- While we support genuine and effective engagement and consultation with local committees and communities, the CMS process must also take into account any potential broader impacts across the Basin
- We believe that all activity in relation to the CMS be undertaken without negatively impacting third parties; where potential third party impacts are identified the activity should not proceed.
- There appears to be no clear articulation of the environmental, social and economic benefits of the CMS.

Entitlement Framework

- Irrigators must be engaged at the earliest opportunity to discuss any proposed changes to the entitlement framework and assist to identify the real impact on consumptive water users – not only the modelled impacts.
- The NIC recognises that changes to the entitlement framework may be mutually beneficial, provided rules are applied consistently across all owners.
- The NIC will judge proposed changes to the entitlement framework against NIC principles.
- It is unacceptable for the MDBA to propose changing characteristics of certain entitlements without first undertaking a full analysis of how entitlements can best be used under all current operational conditions, including carryover and spill rules.
- The Commonwealth and related agencies must not assume State authorities have undertaken consultation:
 - The NIC will act as a conduit to ensure the relevant irrigation stakeholders are consulted and provided every opportunity to be engaged in changes that may have a local impact.
- The benefits cited for proposed changes must be derived by robust examination of all relevant factors/evidence.
- Before a change is proposed to improve the delivery of environmental water, there should be proper examination of whether current arrangements are being fully utilised.
- Any changes must be agreed by all affected parties before implementation.

Metering and Monitoring the use of Environmental Water

- It is imperative that Environmental Water Holders (state and federal) work with local stakeholders to outline the specific objectives they want to achieve out of their environmental water portfolio for each valley in which water is held.
 - Local stakeholders must be engaged to ensure 'localism' can work;
 - Based on clearly defined ecological and hydrological baselines;
 - Baselines must be evidence based and publicly available.
- Objectives need to be specific enough to be measurable.
 - The "River Murray and fringing wetlands" is too broad to effectively monitor outcomes;
 - The MDBA identified 18 sites where "a water regime that delivers their environmental water requirements is likely to also meet the environmental water requirements of many other key environmental assets"¹ that would provide a more localised but representative monitoring area.
- Environmental watering must be measurable.
 - Site specific watering at locations such as Hattah Lakes or through the Koondrook-Perricoota cutting must be metered just the same way as consumptive diversions are metered.
- Environmental water holders must report publicly against the objectives including:
 - Where objectives are not met and why;
 - Where watering occurred in isolation or in association with natural events or where outcomes were achieved only through natural events.
- All monitoring programs under the different jurisdictions must be cooperative and consistent.
 - Outcomes from one program must inform other programs;
 - States and federal agencies must share knowledge and avoid duplication.
- All reporting of environmental water should be viewed in the context of social, economic and environmental outcomes.
- Legacy costs must be properly determined.
 - Environmental programs for the public good, including monitoring programs, must be funded by the public purse.

1 Guide to the Proposed Basin Plan, Technical Background, Volume 2, Part 1, MDBA, 2010, p92

Electricity

NIC seeks significant reductions in electricity costs with the aim of ensuring that network supplied electricity remains a cost-effective energy source for irrigators. NIC seeks reductions in electricity costs through the following mechanisms:

- 30% from network charges
- 8% from the removal of the Carbon Tax.

NIC proposes that the Australian Energy Market Commission (AEMC) approve a rule that would allow irrigators to be a separately classified customer across Australia. Irrigators (and other network supplied electricity users) should not pay a disproportionate share of the cost of government policies that encourage alternative energy programs eg, the Carbon Tax, the Renewable Energy Target (RET) and solar feed in tariff.

NIC seeks a national suite of volume-based specific irrigation tariffs, reflecting irrigation demands on the network in terms of base load and off-peak use and including worthwhile time-of-use incentives for irrigation during off-peak periods and during weekends.

NIC will form coalitions with NSWIC, Cotton Australia, CANEGROWERS and other key groups to persuade the federal government and the AEMC to introduce specific irrigation food and fibre tariffs.

NIC will encourage state and federal governments and network providers to implement further measures to help reign in the unsustainable electricity prices. These may include:

- Implementation of volume based irrigation tariffs, reflecting irrigation demands on the network in terms of base load and off-peak use and including worthwhile time-of-use incentives for irrigation during off-peak periods and over the weekend.
- Revaluing the regulated asset base to remove the impact of over investment from the underlying cost base.
- Promotion of increased competition in the electricity market.
- Funding for both on-farm energy audits and to implement best practices energy efficient measures.
- Development and implementation of strategies to manage peak demand which will help to optimise the efficiency of network investment, such as use of generators during peak demand.

NIC will help to identify and transition irrigators with commercial buying group, off-grid and other opportunities to escape unsustainable pricing mechanisms and to enable irrigators to be sustainable.

Power Lines, Murrumbidgee Valley

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Environmental Water Recovery

- The commitment to cap buyback at 1500GL must be maintained.
- There must be no acquisition of 'up' water until the Government has proven it is using 2750GL fully and effectively.
- All water recovery must uphold the triple bottom line principles and must have either neutral or improved social and economic impacts for the communities from which the water is being removed.
 - There needs to be transparency about the social and economic impacts of water recovery.
 - The "public good" argument is of no consequence to the people of an irrigation town if their major industry collapses.
- The Commonwealth must focus on achieving in valley targets first.
 - Where surplus water has been acquired it must either be:
 - Credited to the downstream recovery in connected systems; or
 - Returned to the consumptive pool in terminal systems by resale of entitlement.
 - No further water recovery should take place in a terminal system where the in-valley target has been reached.
- The Government must consider all market options as part water recovery process.
 - The focus does not need to be on permanent entitlements.
- The Government must consider innovative and collaborative ways with a whole of Government focus to enable water recovery.
- The SDL adjustment mechanism must be explained.
 - What is the benchmark model?
 - Have the TLM projects been taken out of the benchmark model as requested by then Minister Burke?
 - What projects have been proposed and what offsets are they expected to achieve.



Naas River, Murrumbidgee Valley

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Groundwater – surface water trading

- The Murray Darling Basin Authority (MDBA) must clarify the scope of proposed trading between groundwater and surface water as a first step
- Irrigators must be engaged with Commonwealth and State agencies in the development of the trading framework at an early stage
- We recognise that trade between groundwater and surface water may be beneficial providing the trading framework ensures water entitlements retain their characteristics of timing, reliability and volume
- The trading framework should ensure there are no negative third party impacts as a result of trading between groundwater and surface water.
- We do not believe the further development of groundwater trade rules, particularly for surface/groundwater trade and inter-aquifer trade, should be a high priority work program for the MDBA.
- Where trade rules are developed, the priority should be on ensuring the rules codify existing market practice.
- Any development of trading rules must be done with extensive consultation with entitlement holders at a catchment level.

Northern Basin Review

- The Northern Basin, and the individual valleys that comprise it, is genuinely different to the Southern Basin, each having its own characteristics determined by hydrology, community, environment, society and development; a different approach to the Basin Plan is warranted in both Basins.
- There is in-principle support for the Northern Basin Review and the Northern Basin Advisory Committee provided it operates to a clear Terms of Reference and undertakes a process of genuine engagement with irrigators in all SDL regions of the Northern Basin to address issues raised in the development of the Basin Plan.
- The National Irrigators' Council does not support the introduction of, or modelled assumptions based on, 'shepherding' of environmental water. In the absence of such arrangements being available to other licence holders, shepherding represents a fundamental change in the characteristics of water entitlement and poses an unacceptable risk of third party impacts.
- The MDBA has failed to develop a case for change to existing diversion limits in the Northern Basin established via State based legislation. On this basis, the NIC rejects the SDLs that have been set for the Northern Basin as being too low, particularly in the absence of a review of the performance of the existing limits and targets imposed by stated based legislation.
- Further, the Council rejects the "just add water" approach that underpins the Basin Plan.
- The NBAC must have the power to directly influence upward revision of the SDLs in each of the northern SDL regions where it can be demonstrated that environmental targets can be achieved with less water.
- The Council supports efficiency projects, including both environmental works & measures and irrigation efficiency projects, as the preferred way of recovering water where there is a residual gap to meet SDLs. These projects must be developed in consultation with irrigators in all SDL regions of the Northern Basin to ensure no third party impacts.



**Regulator,
Koondrook
Perricoota Forest**

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MDBA Institutional Arrangements

- The Water Act and the Basin Plan require multiple agencies to be responsible for planning, managing and monitoring environmental and consumptive water use and reporting.
- There remains a lack of clarity about how the agencies work together to compliment rather than duplicate what others are doing.
- There must be an ongoing effort to reduce duplication and streamline regulation related to the Water Act and the Basin Plan in an effort to minimise costs and maximise efficiencies.
- The cost of delivering joint programs under the Murray-Darling Basin Agreement must be open and transparent and should be put through an independent determination process as applies to other bulk water agencies.
- The cost of fully implementing the Basin Plan and delivering the associated environmental water portfolio must continue to be met by the Commonwealth to reflect reform in the 'national interest'.
- Reviews and planning of water reform and management must draw on local and water industry expertise.

Cultural Flows

- NIC seeks to be engaged on all aspects of the Cultural Flows debate including consultation by the MDBA at the earliest opportunity to discuss the outcomes of the National Cultural Flows Research Project when it is completed in 2016.
- Any Cultural Flow outcomes must not result in third party impacts on Current Water Entitlements or their reliability.
- Irrigators seek to be kept advised in relation to any analysis of impacts and outcomes of any cultural flow trials.
- NIC supports the use, access and management of both planned and held environmental water entitlements by Indigenous groups in a way that is consistent with and complementary to environmental needs.
- NIC does not support the creation of special purpose water entitlement for Indigenous groups as this violates the principle of no change in entitlement characteristics due to a transfer of ownership.
- NIC contends that Indigenous aspiration around water for economic purposes should be separated from the Basin Plan and considered as part of the wider issue of Indigenous economic growth.

Water Shepherding

The NIC submits that:

- the PPM project plan currently in development in New South Wales as part of the Basin Plan, must be submitted in a timely way to all individual valleys' water groups and peak stakeholder organisations to enable them to provide comprehensive feedback on the project
- water shepherding has the potential to risk:
 - changing the characteristics of entitlements which were purchased for all entitlement holders, and
 - impacting reliability and availability
- any shepherding model must be made public with opportunity for the model to be openly reviewed and assumptions tested.



Rice ready to harvest

Copyright Vince Bucello

History of Irrigation

The first major irrigation schemes were introduced in Australia during the 1880s. In 1915 the River Murray Waters Agreement was signed, establishing basic conditions for the river's water use which remain in force today.

Following negotiations beginning in 1985 the Murray–Darling Basin Agreement was signed in 1987 which established the Murray–Darling Basin Commission. In its initial form, the Murray–Darling Basin Agreement was as an amendment to the River Murray Waters Agreement. Five years later, in 1992, a new Murray–Darling Basin Agreement was signed, replacing the River Murray Waters Agreement. The Agreement was given full legal status by the Murray–Darling Basin Act 1993 which was passed by all the contracting governments. Queensland and the Australian Capital Territory later joined the agreement.

The stated purpose of the Murray–Darling Basin Agreement was 'to promote and coordinate effective planning and management for the equitable, efficient and sustainable use of the water, land and other environmental resources of the Murray–Darling Basin'.

To achieve this, the Agreement established new institutions at the political, bureaucratic and community levels. These were:

- the Murray–Darling Basin Ministerial Council (MDBMC);
- the Murray–Darling Basin Commission (MDBC); and
- the Community Advisory Committee (CAC).

The lack of satisfactory progress under the Murray–Darling Basin Agreement and the emergence of a variety of water policy problems elsewhere in Australia led to the adoption of the National Water Initiative in 2004. Key elements of the Initiative included promotion of water trading and a commitment to restore at least 500 gigalitres of environmental flows to the Murray Darling Basin.

The Commonwealth Water Act 2007 commenced in March 2008 and was amended by the Water Amendment Act 2008 in December 2008 following the March 2008 Memorandum of Understanding on Murray Darling Basin Reform and the July 2008 Intergovernmental Agreement on Murray Darling Basin Reform.

The Murray Darling Basin Authority (MDBA) was established under the federal Water Act 2007 as an independent, expertise based statutory agency. The MDBA is the body responsible for overseeing water resource planning in the Murray–Darling Basin. The Water Act also established the Commonwealth Environmental Water Holder (CEWH) to manage the Commonwealth's environmental water.



Sugarcane, Bundaberg Region

Copyright Canegrowers

Irrigation Facts

Irrigators contribute in a significant way to Australia's food and fibre production, creating local and downstream job opportunities.

The total Gross Value of Irrigated Agricultural Production (GVIAP) for Australia was \$14.6 billion in 2013-14, an increase of 9% from 2012-13. The total Gross Value of Agricultural Production (GVAP) was \$50.9 billion, an increase of 6% over the same period. (Reference: [Australian Bureau of Statistics](#)).

Irrigators operate in all states of Australia producing a variety of fresh and bulk foods and other commodities. Major irrigated foods include fruit and vegetables, dairy products, nuts, rice, fruit juice, wine, sugar, cereal grains and sheep and beef cattle. Sustainable irrigation is the key that has made the Australian cotton industry a global leader and a highly sought after product.

The Millennium Drought, the worst in 110 years, saw the lowest inflows on record in the Murray-Darling Basin in 2006. Water use by irrigation in 2007-08 and 2008-09 was around one third that of pre-drought levels. In 2007-08 and 2008-09 overall water use in irrigation was down to about 31% and 33% respectively of the 2000-01 value. (Reference: [Australian Agricultural & Resource Economics Society, Feb 2012](#)) The gross value of irrigated agricultural production in the Murray-Darling Basin has recovered strongly following the Millennium Drought and increased from \$4,349 million in 2008-09 to \$6,691 million in 2011-12. Key reasons for this increase include good rainfall in some areas, productivity gains and better use of water on farms.

Access to Water

Agriculture uses 65-70 per cent of the water consumed in Australia per annum and irrigation uses 90 per cent of that. The vast majority of irrigated water use is controlled by regulations and licences. Irrigators need an authorised allocation to extract specified amounts of water from rivers or bores (groundwater) or from irrigation supply systems. For some products such as rice, irrigators require special permission from governments to grow the crop.

Irrigators do not have a guaranteed right to water every year. In surface water systems they have water entitlements that allow them a percentage share of the available pool of water every year.

Governments make allocation announcements throughout the year based on the needs of the environment and urban communities and the amount of water stored in dams, rainfall and run-off or the amount of water flowing in rivers and streams.

The amount of water available for irrigation varies from year to year, as does the level of production from water use. During the Millennium Drought, Australian rice production virtually ceased, cotton production significantly declined and dairy farmers substituted purchased grains and other feed for irrigated pastures.

Some irrigators rely on delivery of water through government or privately owned schemes and channels, while others pump directly from rivers into private dams, subject to strict government rules.

Water Statistics

In 2012-13, 43% of Australia's agricultural water (5.1 million megalitres) came from irrigation channels, 25% (2.9 million megalitres) was sourced from rivers, creeks and lakes. Groundwater made up 16% (1.9 million megalitres) and on-farm dams and tanks accounted for 15% of agricultural water (1.8 million megalitres).

Water supplied by irrigation channels was the major source of water for agriculture in the Murray-Darling Basin, accounting for 49% of agricultural water sourced in the region (4.2 million megalitres).

Outside of the Murray-Darling Basin, groundwater was the major source of water for agriculture at 35% (1.2 million megalitres). (Ref: [ABS: Water Use on Australian Farms, 2012-13](#))

A number of Australia's agricultural industries depend on irrigation. These have developed around irrigation schemes, particularly in the Murray–Darling Basin (which covers parts of the mainland eastern states as well as South Australia). In 2010–11 irrigated agriculture used less than one per cent of agricultural land in Australia but made up nearly 30 per cent of the gross value of agricultural production. The major irrigated industries, by value, are vegetables, fruit (excluding grapes) and dairy (Ref: [Department of Agriculture: ABARES Research report Research Report, February 2014](#)) With the global demand for food and fibre steadily rising, Australia is well positioned to respond to this demand. Successful irrigated agriculture depends on farmers having access to reliable and secure water resources.

Future opportunities are presented for the National Irrigators' Council to play a role outside the Basin, with the Commonwealth Government's push to develop northern Australia with irrigated agriculture as a key component, the Ministerial Dams Taskforce, the self-management reforms in Queensland and the new irrigation greenfields sites in Tasmania.

Environmental Focus

Sustainable irrigation practices are the key to Australia's ability to continue to produce food and fibre. In 1995, a 'cap' was introduced for diversions in the Murray Darling Basin. The 2012 Basin Plan, developed under the Water Act 2007, provides a coordinated approach to water use across the Basin's four States and the ACT. Introduced over a period of seven years, the Basin Plan aims to achieve a balance between environmental, economic and social considerations.

The Plan limits water use at environmentally sustainable levels by determining long-term average Sustainable Diversion Limits for both surface water and groundwater resources.

The National Irrigators' Council lists the importance of a healthy environment at number one on our Statement of Principles.

Irrigators will continue to play a key role in the water reform process.

Food and fibre producers in Australia also continue to work through a range of industries to find water efficiencies. The Australian cotton industry has achieved a 40% increase in water productivity over the past decade. ([The Australian Cotton Water Story, 2012](#)) The industry is considered the most water-efficient in the world, producing 'more crop per drop' than any other nation at two and a half times the world's average yields. Identifying appropriate crop varieties through significant research effort and using the latest technologies has assisted the Australian cotton industry to farm using less water per hectare than in the past.

Australia's cotton growers have improved their water use efficiency by 3-4% per year since 2003. ([Third Australian Cotton Industry Environmental Assessment, September 2012](#)). Growers have almost doubled their Irrigation Water Use Index, producing 1.1 bales per mega litres in 2000-01 to an increase of 1.9 bales per mega litre in 2009-10. Australian growers are now producing more cotton with less water. (Source: [The Australian Cotton Water Story, 2012](#))

The rice industry operates within a rigorous restrictions regime. Allowable water consumption levels for rice growing are set by irrigation companies utilising climatic data records by the CSIRO. If these limits are exceeded, farmers may face fines, restrictions on the use of individual paddocks for rice in subsequent years, or the banning of rice production on those paddocks.



Dairy Cow, Lachlan Valley
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The industry undertakes a range of measures to ensure that rice grown is of high quality and water efficient:

- The industry adheres to strict regulations for the growing of rice such as location, soil types and water availability
- In some locations, growers plant shorter season rice varieties which require substantially less water to grow
- Many growers plant a winter crop directly into the remaining soil moisture following the rice crop harvest, resulting in two crops for the one application of water
- Rice farmers are required to implement actions consistent with local Land and Water Management Plans designed to minimise the impact of irrigation on environments.

{Source: Ricegrowers' Association of Australia Inc}

Dairy is the largest irrigation-based livestock industry in the Murray Darling Basin, and accounts for 28% of Australia's total milk production. The Basin dairy industry's 2014-15 farm gate milk value was \$1.3 billion, with regional processing worth \$3250 million in value-added dairy products. Producing more milk with less water is critical to the industry's future prosperity with less water available under the Basin Plan and climate change.

Over the last 15 years, dairy farmers have accordingly adapted their production systems and modernised their on-farm irrigation infrastructure. For example, more than 60% of participants in government-funded on-farm irrigation efficiency programs in the Goulburn Murray Irrigation District are dairy farmers, with many more opting to fund their own water-saving infrastructure works. Upgrades include automation, pipes and risers to better regulate water flow, computerised soil moisture sensing, and pivots. The Basin dairy industry has also initiated programs such as Accelerating Change, designed to increase farmers' understanding and uptake of new technologies to boost water efficiency and improve pasture and fodder production. {Source: Dairy Australia}

Drip Irrigation on grapevines, Renmark

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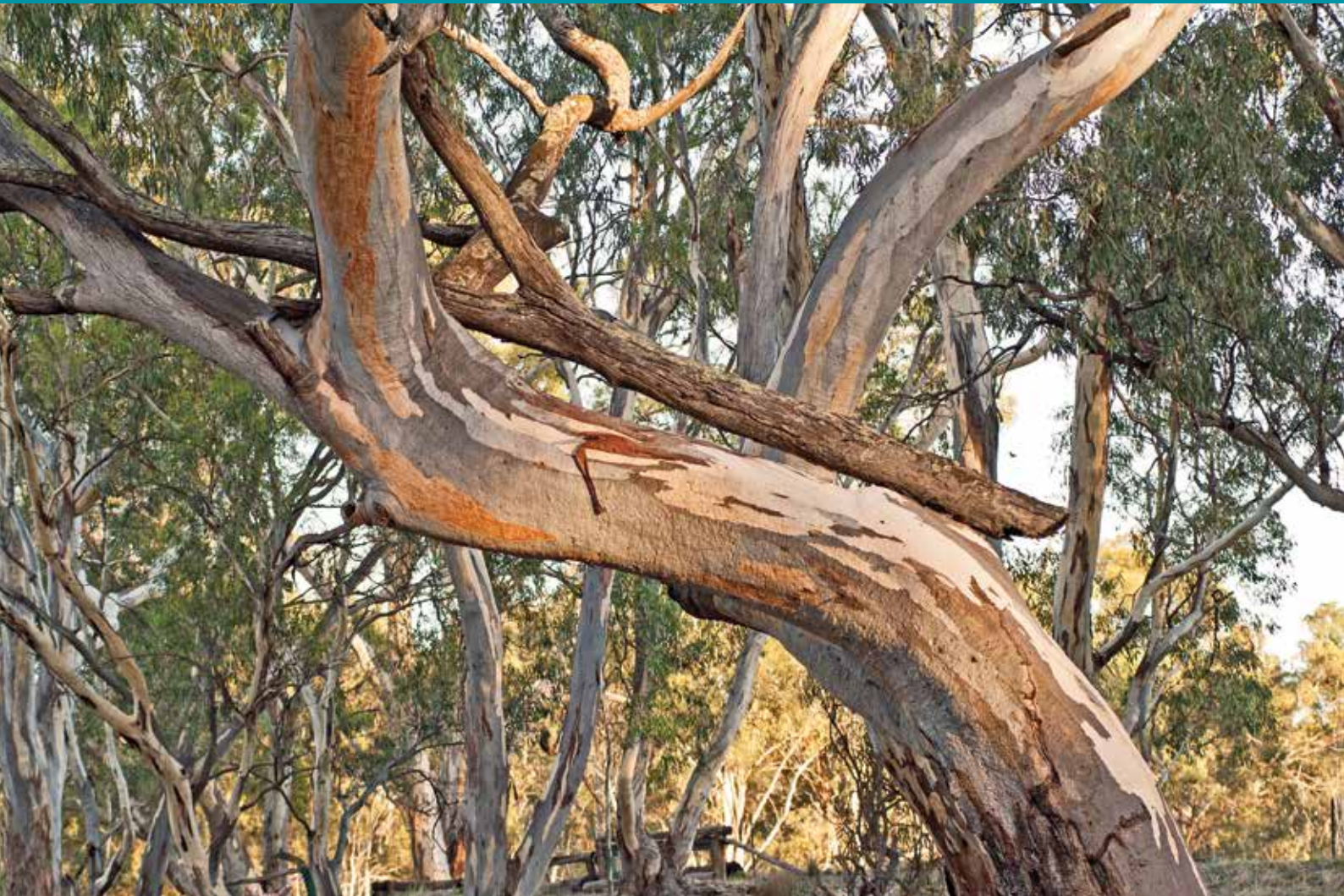
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