National Water Reform Draft Report

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Submission from

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About the Author

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Introduction

The Draft 230-page report of the Productivity Commission[1] is a comprehensive and diligent review of the management of water in a market system undertaken by a Commission primarily versed in serving government needs for economic growth. Indeed, the government has no other Commission to undertake the task for there is no Sustainability Commission or other government body to deliver what needs to be primarily a sustainability task.

It is recognised that the Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed most simply, is to help governments make better policies in the long term interest of the Australian community. However my view and that of many others is that the Government sees the Commission as primarily relevant to government policy in economic growth and development and its membership is predominately orientated to this goal.

In this submission the focus is mainly but not entirely on "The Commission's tasks"

- The interaction of water policy with other policy areas (such as climate, energy, agriculture, forestry, land use planning and urban development)
- The policy ramifications of climate change on water resources

It is noted that the report does not define sustainability although the word is mentioned in the text several times. Nor does it ask whether its report addresses this key issue for the future of Australia.

Although this submission is critical of the Draft Report there is much respect for the work the Commission does in many areas and for the credentials of the Commissioners. The Draft Report is based on information from the NWI and its regulators which just does not reflect the situation on the ground.

This submission presents an alternative viewpoint for the Commission to consider in the hope that some of these contrasting thoughts can be included in the final report and recommendations made for the significant expansion of their remit.

Essentially this submission expresses deep concern with the health and human survival aspects of a 3 degree temperature rise in Australia this century and whether the Draft Report understands this issue and its implications. Sustainability is the most important issue facing Australia today. The section "Environmental Sustainability" on page 179 suggests little understanding. Accordingly the submission contends that a significant change in thinking is required to address it.

This submission regards the concept of sustainable development as described by the 1987 Bruntland Commission Report as "development that meets the needs of the present without

[1] National Water Reform Draft Report. https://www.pc.gov.au/inquiries/current/water-reform-2020/draft

compromising the ability of future generations to meet their own needs." The concepts of economic and social sustainability both depend on environmental sustainability.

Summary

The submission provides a dossier of evidence and discussion that the National Water Initiative NWI and related legislation and regulation are very unlikely to provide a sustainable future of Australia. A National Statutory Authority is vital to scientifically plan water use and deliver sustainable outcomes. The Productivity Commission would be a necessary part of a reformed and effective process.

Conclusions and recommendations are detailed in Section V.

I. Water Conservation is the Prime Sustainability issue for Australia

The alternative viewpoint to that expressed in the Productivity Commission Draft Report is that water, instead of being regarded as a "given" for all possible usage, is recognised as a life support system for human life and survival and indeed for the survival of the natural environment of which we are part and on which we depend.

This is a far cry from the attitude frequently expressed in the Draft Report.

The NWI (National Water Initiative) continued a reform agenda focused on establishing the environment as a <u>legitimate</u> water user, providing statutory environmental water provisions and improving the balance in over-allocated systems.

In coming to terms with this view we must recognise that we are part of a world with increasing water shortage and as stated in the UN World Water report 2020 ;-

Around one million animal and plant species are facing extinction. Freshwater species have suffered the greatest decline, falling by 84% since 1970. Humans are also affected: around four billion people currently experience severe physical water scarcity for at least one month per year, a situation that has been exacerbated by the climate crisis

Much of inhabited Australia is likely to suffer "severe physical water scarcity" this century because of the rapid advance of climate change (see sections II and III).

Establishment of Priorities

It is therefore considered that water resource management should be based upon a simple understanding of priorities, a change in thinking and attitudes in a revised plan.

As a first priority water must be provided for the basic needs of people, particularly considering the physiological requirement for water in high temperatures..

Secondly water is vital for the sustainability of the biodiversity and ecological services and for food production.

As the third priority the remaining water is needed for economic activity but will require its own list of proprieties based on usage and its economic importance to the nation.

The need for water is a human right, and this right indicates it should not be contaminated.

Human Right to Water

The legal opinion expressed by the Environmental Defenders Office in their Submission to the Productivity Commission on the National Water Reform Inquiry 21 August 2020 is as follows 20201103_EDO Submission to the Productivity Commission on the National Water Reform Inquiry.pdf.

"Objectives" and "Key Elements" of the NWI do not explicitly mention water quality, and more generally that it tends to be separated out from other water planning and land use legislation. However, water quality is often linked to water quantity and/or development (of different stripes) and accordingly ought to be dealt with in a more integrated fashion. Similarly, binding water quality objectives for rivers and aquifers need to be built into jurisdictional legislation. In making this comment, we note that Tasmania, for example, does not have published (or binding) water quality objectives".

*Furthermore, water quality is linked to fundamental human rights (notably the Right to Life) ** and is an element of Sustainable Development Goal 6 (SDG 6). Regrettably, the EDO has many Aboriginal and non-Aboriginal clients across numerous jurisdictions who are unable to routinely access water that is safe to drink or bathe in and who are consequently unable to fully exercise their Right to Life. This is a function of a range of factors, including poor water management (for example ongoing over-extraction, which can increase salinity and the likelihood of algal blooms) and systemic racism (which results in the de-prioritisation of clean water supply to Aboriginal communities*).

***The Right to Life is an established human right and is notably recognised in Article 6 of the International Covenant on Economic, Social and Cultural Rights (which is binding under international law)*

Water Quality and Contamination

Essentially it is a denial of a human right when water becomes unfit to drink. In the draft report there is scant mention of water quality except and appropriately for Section 9:- Securing Aboriginal and Torres Strait Islander people's interests in water.

It is important to recognise that with rapidly advancing climate change, water quality will be adversely affected as a result of higher water temperatures, reduced dissolved oxygen and therefore a reduced self-purifying capacity of freshwater bodies. There are further risks of water pollution and pathogenic contamination caused by flooding or by higher pollutant concentrations during drought.

There are many existing problems which have not been addressed or remedied since the commencement of the NWI. The situation in many outback communities in South Australia is appalling.[2] In Tasmania there are many problems with metal contamination from disused mines.

By far the most concerning problem is the threat from gas mining. If we accept the premise that the Great Artesian Basin must be preserved as a secure source of potable water for human use (see section II) during the emerging climate crisis this century, we must recognise that its water is being used for many developments in a way that transgresses many of the existing current requirements in the NWI. This is particularly the case in Queensland. The main health concern is the potential contamination by Endocrine Disrupting Chemicals, Polycyclic Aromatic Hydrocarbons (PAHs) and other chemicals from gas mining which may be the cause of many diseases such as cancer and birth defects reported in US gas fields. See Points 1-3 in this Submission to the IPC on the Narrabri Coal Seam Gas Project.[3]

II. Where are the Reserves of Water to fulfil these Human Rights?

This is the first question which should be asked by government. The answer is two-fold. The possible reserves are several deep water basins, the largest being the Great Artesian Basin, which are currently being plundered with and without government approvals (see section III). Secondly, the groundwater resources must be managed under an effective NWI, which in effect is what the Productivity Commission is trying to effect-- but with scant recognition of Priorities 1-3.

[2] https://indaily.com.au/news/2020/03/05/safe-drinking-water-for-remote-sa-back-on-table/

[3] https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/project-submissions/2020/03/narrabri-gas-project/20200810t165753/submission-to-ipc-narrabri-gas-project_haswell-shearman.pdf

The Great Artesian Basin (GAB)

The Basin spans almost 1.7 million square kilometers (over one-fifth of the Australian continent) and has a storage capacity of 64,900 million ML. It connects with the Murray–Darling Basin and the Lake Eyre Basin and lies beneath parts of the Northern Territory, Queensland, South Australia and New South Wales. It includes the Eromanga, Surat and Carpentaria geological basins.[4]

The national usage of GAB water tells us much about the philosophy of current water usage. In 2011 Doctors for the Environment Australia discussed the claims for use of GAB water in a submission "Management of the Murray Darling Basin – impact of mining coal seam gas" with Professor Peter Doherty as a co-author.[5] Our concerns were the connectivity of the Murray Darling Basin (MDB) to the GAB and the impacts of overuse and contamination of the MDB as Australia's food bowl by mining. To express this in terms of sustainability, we were concerned about the compromise of priorities1 and 2 by inappropriate use of priority 3. We wrote

If very carefully used this Basin (GAB) is potentially a source of potable water for some generations to come, a vital resource in a drying continent. Studies of its sustainability are inadequate, but suggest that its renewal is extremely limited –perhaps non-existent. In the last 100 years some 50 million mega litres have been withdrawn with 80% of the water wasted. It is estimated that only 20 million mega litres or so of available water remains.

In general governments do not accept the existing recharge data because they wish to exploit the GAB and indeed do so. For example BHP's proposed expansion of the Olympic Dam copper-uranium mine (ODM) included a request to increase extraction of water from the Great Artesian Basin to an annual average rate of 50 million litres a day (Ml/d), an increase from the current maximum of 42 Ml/day.

An Indenture from 1982 provided for priority GAB water extraction by BHP far ahead of the start of mining in 1988. In fact the Indenture was passed to overrule opposition on environmental and other grounds and to overrule future human needs and any future objections in advance of mining operations. The evidence of impacts on GAB water has not been publicly re-assessed since 1997

The Mound Springs which are essential for the region's environmental sustainability are disappearing[6] --so much for the human rights of Aboriginal people who use them.

On reflection the Indenture Act overruling human need in the driest state in Australia was a disgrace. This philosophy remains in force though rarely stated and has been applied in the case of GAB water use in the Carmichael and Surat Basins and in many other GAB regions.

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[4] https://www.agriculture.gov.au/water/national/great-artesian-basin

[5] https://www.dea.org.au/wp-content/uploads/2017/05/MDB_CSG_Senate_submission_June_2011.pdf

[6] https://www.smh.com.au/environment/sustainability/south-australia-s-disappearing-springs-raise-questions-for-miner-bhp-20201117-p56f6m.html

Since the Doctors for the Environment Australia submission in 2011, concerns for over-usage have increased particularly because of the disregard of CSIRO modelling on climate change with the consequence of insufficient water being allocated to the environment (Section III). The recharging of the Basin is still not understood but if there is recharging it will certainly have slowed with the significantly decreased rainfall over the likely catchments in eastern Australia where rainfall has decreased over the past decade. Nor can we be sure that pressures measured to assess usage are relevant because the impediments to water redistribution in such huge volumes are unclear.

Indeed, health and wellbeing are still ignored in water planning. For example, the Draft Great Artesian Basin Strategic Management Plan 2019[7] lists seven guiding principles, none of which mention human health or sustainability.

However, the Plan did contain one paragraph of reality.

Groundwater in the basin although substantial is finite. In most parts of the Basin recharge rates have declined over geological time so the reuse is in natural decline. This means that, even if humans were not extracting water the volume of water and water pressure in the basin would continue falling. As the extraction of water has significantly increased the speed of this decline, the plan seeks to encourage actions which ensure judicious use of water.

Proposal for security for human use

Water should be quarantined for human needs and food production. The identification of the appropriate resources, for example the GAB and other Basins, would be by water experts from the IESC and independent scientific organisations such as the AAS.

Quarantining is a formidable task. To take the example of the GAB, its current management is the responsibility of the four jurisdictions acting under their NRM/water legislation. Each jurisdiction has in place some form of management plan which guides extraction of water from the Basin --and which are not observed in many cases. These would probably need to be radically and uniformly revised to limit future extraction to human and food priorities. Unfortunately the resource is owned ultimately by the Crown in the right of each State/Territory and the Commonwealth has no clear constitutional authority to constrain extraction directly.

The reality is that the current work of the GAB Coordinating Committee and the overlying Ministerial Council appears to be in abeyance, as a result of a review of inter-governmental arrangements more generally following the establishment of the new National Cabinet to deal with the COVID crisis. So there is not even a forum at present to discuss any possible collaborative approach to tightening the extractive regime for the GAB. The Coalition government has no interest in any such arrangements – likewise, for the Lake Eyre Basin, and it's Community Advisory Committee.

[7] https://haveyoursay.agriculture.gov.au/37538/documents/85283

The acceleration of Climate Change which demands Protection of Large Water Basins –

Governments do not want to recognise that current efforts to mitigate greenhouse emissions are very likely to be insufficient to keep the world's temperature rise below 1.5 and indeed below 2 degrees is now very doubtful.[8]

For Australia this would bring confronting changes with more severe droughts and catastrophic fires and human inability to tolerate heat. However taking into account the mitigation inactivity of governments, much scientific opinion recognises that a 3 degree rise is likely this century.[9]

A rise of 3 degrees for the world would probably be even higher for Australia and civilisation as we understand it would not inhabit this continent. Professor Hans Joachim Schellnhuber, one of the world's leading authorities on climate change, has said that people

still don't want to see the truth about the state we're in. Based on sober scientific analysis, we are deeply within a climate emergency state but people are not aware of it, we don't want to see the truth.

The situation is compounded by the impacts of climate change on the stability of nations, water wars actual and impending and the increasing instability of many governments reflected in reduced democratic functioning over the past 15 years.[10]

Water is so essential that inadequate management leads to conflict, often evident between the states comprising the Murray Darling Basin. Decisions become political and not based on science.[11]

We are facing a failure of democratic systems and in particular, for those elected, party unity and therefore maintenance of power being more important than the future of coming generations. This is so in many democracies and particularly in Australia. In addition the elected appear not to have sufficient understanding of the complexities of the crisis.

In terms of a sustainable water policy, many see that survival will need decisions to be made outside the political sphere by a Statutory Sustainability Commission or similar Authority.

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[8] https://www.unep.org/emissions-gap-report-2020

[9] https://thebreakthrough.org/issues/energy/3c-world

[10] https://www.economist.com/graphic-detail/2021/03/11/democratic-institutions-continued-to-weaken-in-2020

[11] https://theconversation.com/morrison-government-plan-to-scrap-water-buybacks-will-hurt-taxpayers-and-the-environment-145613

III. Sustainability, Climate Change and the Draft report

Does the draft report take into account the realities of the likely scenarios over the next 79 years of this century?

In my view it does not.

The Murray Darling Basin (MDB)

Current scientific opinion is that the demise of the MDB is now inevitable due to mismanagement. The fundamental problem has been detailed by Richard Beasley, former senior counsel assisting the Murray-Darling Royal Commission in his book 'Dead in the water: a very angry book about our greatest environmental catastrophe – the death of the Murray Darling Basin' (Allen & Unwin, Feb 2021). Essentially maladministration by the Authority commenced with a recommendation of 4-7 thousand billion litres of water for environmental needs to sustain the integrity of the river system on the basis of CSIRO modelling for the impacts of climate change. This was reduced to 2.7 by threatening the CSIRO with reduced funding. Today there is still no modelling and the river system and the population on which it depends are in dire straits. Over the years the situation has been compounded by further political disruption, state conflicts of water and frequent state and Federal political decisions.[12]

Essentially the suppression of climate modelling data negates much of current policy and the interim report of the ACCC Murray-Darling Basin water markets inquiry.[13]

Regions out with the MDB

Essentially the NWI, despite what the Productivity Commission feels are adequate laws and regulations, water use has been corrupted by the sidetracking of regulations for perceived political gain. The malfeasances would require a dossier to list them. Furthermore, all decisions are taken without climate modelling.

The draft report suggests there are two reasons for this problem, the Commission's own perception of climate change, and the failure to acknowledge major instances of malfeasance in relation to approval of major resource developments which use water.

Firstly an analysis of the many statements referring to climate change in the Report demonstrates little understanding of the problem. On most occasions 'climate change" is added to a sentence as a qualifier—'but account will need taken of climate changes'

[12] https://theconversation.com/morrison-government-plan-to-scrap-water-buybacks-will-hurt-taxpayers-and-the-environment-145613

[13] https://www.accc.gov.au/focus-areas/inquiries-ongoing/murray-darling-basin-water-markets-inquiry/interim-report

The most comprehensive section commences at 2.4

Finally, a renewed NWI needs to identify the key issues that water management will need to deal with over the next 10 to 20 years to ensure proper stewardship of Australia's water resources. These will be dominated by the effects of climate change, coupled with the needs of a growing population.

This identifies the need for modelling but the need is not just for 10-20 years but to look ahead for many decades, as dictated by a 3 degree rise, for even if this is not possible with some degree of accuracy, decision must be taken now to prepare.

This has some acknowledgement:-

Projections point to reduced water supply across Australia

Recent modelling by CSIRO scientists (adapted from Zheng et al. (2019)) points to declines in water availability across Australia (figure 2.6).

The uncertainty in the extent to which the future climate will be drier, and the potential for significant changes in how water is used in Australia, point to the need for robust water planning and management processes to ensure systems can adapt effectively as baselines shift with climate change.
And while crops such as almonds are very profitable at current commodity prices, the future may look very different. Efficient and effective water markets will be essential to ensure that water keeps moving to where it is most valued. Experiences from 30 years in the MDB provide valuable lessons for reform renewal to better underpin market development in other parts of the country and avoid the potential downsides of trade, including risks of delivery shortfalls, unintended unseasonal flows and erosion (chapter 7).

Figure 2.7 then illustrates future usage for other crops based on water usage
One might ask what is the future of gas mining based on water usage? It seems this is the 'given' instead of water. The massive usage of resource industries is not mentioned.

2.5 In summary: the case for renewed reform effort is convincing
Water reform needs renewal. Significant progress has been made against the objectives and outcomes of the NWI over the 17 years since the agreement took effect, with sizeable benefits to Australian communities.
However, since the agreement was struck, severe droughts and extreme events have exposed vulnerabilities in water resource management and service provision. Management approaches have evolved in each of the jurisdictions. And experience has conferred significant knowledge. Modernisation of the NWI could draw on the lessons from this history to address the vulnerabilities, embed best practice and harness the value of new knowledge.

Yes, the "Water reform needs renewal" but the baseline must be a priority system. We do not agree that significant progress has been made, for the past 17 years has seen Australia have

one of the fastest deteriorating natural environments in any developed country and whilst other factors are at play, water management has certainly played a part. The benefits to the Australian community are gained at the expense of the environment, the ultimate outcome being no natural environment, and no economy. Most importantly decisions have been made without appropriate scientific modelling of climate change progression.

It is essential that the Draft Report acknowledges the gain in national GDP from these developments is greatly reduced by environmental loss. This is detailed in the Dasgupta Review[14] explained by the Economist[15] and its relevance to Australia explained[16].

In the Forward David Attenborough writes;-

"We are facing a global crisis. We are totally dependent upon the natural world. It supplies us with every oxygen-laden breath we take and every mouthful of food we eat. But we are currently damaging it so profoundly that many of its natural systems are now on the verge of breakdown. Every other animal living on this planet, of course, is similarly dependent".

IV. Environmental Sustainability and Resource Development

The Draft Report Section on Environmental Sustainability would be expected to focus on current outcomes in development proposals and how they are achieved.

Environmental sustainability
While the environmental sustainability of a proposed development should be identified through environmental assessments as part of the business case, a project's ecological sustainability should also be contingent on a high quality water plan (based on the best available information) being in place before infrastructure is constructed. The plan should:

- *establish the environmental water provisions necessary to meet agreed environmental outcomes against anticipated regional scale climate changes*
- *set out the social, economic and cultural outcomes sought from the water plan*
- *clearly define the expected reliability of water rights, taking into account the likely impacts of climate change on the region*
- *be developed with robust community engagement to reflect community values.*

Where a major development is approved in an area without a water plan in place, the relevant State or Territory Government should develop a plan that accounts for the impact of that development, and ensure that the plan is in place before the infrastructure is commissioned. A project should also comply with State, Territory and/or Australian Government environmental approval processes (which occur after project selection).

[14] https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review

[15] https://www.economist.com/finance-and-economics/2021/02/06/how-should-economists-think-about-biodiversity

[16] https://reneweconomy.com.au/environmental-collapse-its-time-economists-put-the-planet-on-their-balance-sheets/

This section mentions climate change as an afterthought but demonstrates a profound failure in relation to developments. The usual unsustainable outcome is for the state to ignore water and other environmental advice and for approval to be given on political grounds. This has been our experience in assessing many proposals over the past 10 years, the Acland coal mine, on which we have made 6 submissions, being an example.[17] Despite all the evidence against the proposal both major parties, state and national support the coal mine and only legal action has prevented it.

A recent example is;-

The Olive Downs Coal Mine Approval

The recent approval of the Olive Downs coking coal mine, the third largest in Queensland was on current evidence[18] a purely political decision which overruled all scientific advice.

- A highly critical assessment on surface and ground water from the IESC not only to regional water resources but to impacts on the Great Barrier Reef from run-off[19]
- Likely permanent damage to these water resources including the Isaac River and its important 4000h flood plain
- Concerns from the governments own environmental assessors
- Damage to productive agricultural lands
- In addition there were many concerns that the development could be stranded early in its expected 80 year life span by the development of green steel

There have been many such decisions in Queensland (and some in other states) which defy any scientific assessments on water sustainability. They reinforce the view that the major decisions of the NWI are easily negated by short term political decisions and the sustainability of Australia needs to be managed by a Statutory Commission such as suggested by the Australian Panel of Experts on Environmental Law.[20]

In an analysis of the role of the IESC in the approval of several projects in Queensland, it is clear that the state government is reluctant to use this 'trigger" and when IESC advice is available attempts are made to counter it by a single state selected water expert. State approvals are given with the blithe statement that the risks are "manageable".

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[17] https://www.dea.org.au/wp-content/uploads/2021/01/Acland-submission-2020.pdf

[18] https://www.abc.net.au/news/2021-03-10/pembroke-olive-downs-coal-mine-approved-despite-water-concerns/13226368

[19] http://www.iesc.environment.gov.au/advice/scientific-advice

[20] http://apeel.org.au/

The Management of Ground and Surface Water

The question of the management of Basin water has been covered in Section III to provide hope for quarantine on a water source for human long term use as a key role in sustainability.

However much more remains to be examined in the Draft Report. It is difficult to share the rather positive outlook on progress of water policy expressed in the Draft report. The story is very different when outcomes are assessed.

The Murray Darling Plan has been operating without the intended climate science modelling with resulting shortage of environmental allocations and demise of the system. Similarly decisions are being made around Australia on the use of ground and surface water without climate modelling.

Indeed, considering the use of water by resource developments together with their damage to natural water systems, their approval and regulation appear to be considered in a parallel universe where decisions are made by politicians with advice from fossil fuel industries and Coordinator-generals with the tacit approval of the Commonwealth Departments of the environment via an enfeebled EPBC Act. This silo for approvals will be assisted by the revised EPBC Act handing more responsibility to the states and by a failure to reform the Act's health impact assessment regulations thus removing from consideration water as a human health issue.

It is important therefore to recognise that there are different and important views on the NWI which are far from optimistic. The views expressed by The Australian Panel of Experts on Environmental Law in 2017 of which the late Hon Murray Wilcox AO QC was a member are still applicable today despite the passage of three years.

The next few decades may see a 60% increase in Australia's population, coal and gas developments, doubling of Australia's food production (dependent on energy and water), and water scarcity due to droughts and climate change.80 The NWI sought 'Integrated Management of Water for Environmental and Other Public Benefit Outcomes', but water law and policy still struggle to address systemic connections such as between water and energy/mining developments; water quantity and water quality; natural resource management; and land use planning.

Recent attempts to integrate mining, unconventional gas and other extractive industries through state and national reforms (for example, the 'water trigger') have been only partially successful. Remaining challenges include: developing a coordinated approach involving industry and multiple government agencies; water planning linked to gas project approval; accurate accounting of water takes; and implementing adaptive management as conditions of approvals.[21]

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21 https://static1.squarespace.com/static/56401dfde4b090fd5510d622/t/58e600d06a496356f0260720/1491468507651/APEL_Terrestrial_biodiversity_conservation_NRM.pdf

Currently one of Australia's leading water experts notes

Our national water policy is outdated, unfair and not fit for climate challenges.[22]

Indeed defects the NWI in the face of increasing water scarcity are inferred several times in the Draft Report of the Productivity Commission with wording such as

The fundamental components of the NWI framework are largely in place. However, water entitlement frameworks need to consider all key water uses, including mineral and petroleum industries and interception activities (for example, farm dams and bores, floodplain harvesting and plantation forestry), and all water sources, including alternatives such as stormwater and recycled water.

This uses the words key users i.e. resource industry and others which are not "key" in terms of sustainability.

This then leads to proposals for the institution of ecological and hydrological triggers which like the water trigger (IESC) function to provide some veneer of care without affecting the inevitable political decision which is based on the economic imperative for re-election.

The Draft Report says

Most jurisdictions have more than 80 per cent of water use managed under water plans. This means the sharing of water resources between consumptive uses and the environment has been established in consultative processes, and informed by scientific and other assessments. However there has been inadequate progress to incorporate climate change and extreme events into water planning.

However there is much evidence that the management is ineffective for a range of reasons. For example what is implied by "sharing" in the second sentence? This is a façade to demote sustainability considerations and the environment when a really important economic development is proposed.

In climate change the environmental need will decrease due to diminished rainfall and increased evaporation. It cannot donate any of its "share" because its ecological services to humanity are already compromised. Sustainability –essentially means the needs of the environment are a priority.

It would enhance understanding of the NWI management systems if the final report would study and analyse decisions made on the Surat and Lower Bowen Basin which to the observer are failing most sustainability criteria on water. A detailed study was provided by Doctors for

[22] https://theconversation.com/our-national-water-policy-is-outdated-unfair-and-not-fit-for-climate-challenges-major-new-report-155116

the Environment Australia[23] which indicated unacceptable use of water e.g. unmetered from GAB, bores for agriculture running dry, high use of water for gas mines with more being approved, contamination of ground water by projects which should not have received approval e.g. the Linc Energy development. There was a failure to include the water usage of coal mines in the OGIA report and no complete cumulative study of water usage. Yet mining developments have been proceeding and expanding for much of the 17 years of NWI management.

The Precautionary Principle is fundamental to the work of any Commission working on a sustainability issue. This need is not understood for the word does not appear in the draft report.

V. Conclusions and recommendation

1. In terms of the sustainability of Australia, it is vital that the Productivity Commission Draft Report regards water as a life support system for the survival of mankind and indeed for the survival of the natural environment upon which we depend. Currently the Productivity Commission regards water as a "given" for all possible usage.

Priority use of Water

2. Water is crucial to all human endeavors, consequently the impacts of climate change are central to all considerations. The failure of the Draft Report to recognise this importance of climate change by adjusting policy to inevitable water scarcity with priority for human use is central to necessary revisions. The problem will increase throughout this century; climate modelling and plans for each scenario are required.

3. The use of water must be prioritised. The first priority must be water for drinking, hygiene and basic comfort of people. The second priority is water for the sustainability of biodiversity and ecological services which provide food production. The third priority, economic activity, requires its own priority system based on water usage and importance to the nation of each economic use.

4. Priority one for water use is based on the human right to water and to water which is uncontaminated.

5. The Great Artesian Basin (GAB) and other basins are potentially a source of potable water for generations to come, a vital resource in a drying continent. Currently the plunder is often unmonitored and harmful and it is urgent that the Basins are assessed scientifically for protection.

[23] https://www.dea.org.au/wp-content/uploads/2021/01/Underground-Water-Impact-Report-for-the-Surat-Cumulative-Management-Area-07-19.pdf

6. The current management and regulation of the GAB are divided between so many jurisdictions that prioritisation will be impossible without a single Statutory Authority taking control.

Climate Change and the Draft Report

7. The likely scenario of a 3 degree rise in temperature this century is not addressed in the report so no mechanisms are suggested to address this likely possibility.

8. The future of the Murray Darling Basin has been seriously compromised by malfeasance causing reduction in environmental water during the period of existence of the NWI. These were behind the scenes political decisions involving suppression of climate change modelling. For Australia to be sustainable the malign influence of states and politicians must be provided by a National Authority, scientific and transparent.

9. Management of surface and groundwater is inadequate not so much because of lack of regulation though this is complex. The problem lies with non cooperation, action outside the rules, lack of transparency and political decisions with disregard the scientific evidence. The states and the Commonwealth are failing to understand the many climate change impacts and the nuances of environmental sustainability.

Resource Development as a Regulation Free Zone

10. There are numerous examples of recourse development being a regulation-free zone where state governments approve projects for short term political gain. This is so in Queensland and there is no evidence that this intent will change. The outcomes arise not only because of disregard for NWI initiatives but because of weak regulation in the Commonwealth Department of the Environment (EPBC Act) and Energy (lack of climate change policy).

A Sustainability Commission

11. A Statutory Authority is required to bring together, coordinate and implement policy based on water, environmental sustainability and climate projections and to indicate which development proposals such as irrigation, resource development or whatever.

12. The Productivity Commission might consider acknowledging that the NWI and its own role currently covers only part of these national needs, and indicate its recognition of the need for strict policy implementation based on a Sustainability Commission in which it would be part.