Issues and suggestions regarding the Draft Greater Sydney Water Strategy

(consultation closes 8th November 2021)

From Dr Charles I Essery

I have attached an article recently published that highlights the background, limitations and missed opportunities in the latest iteration of this multi decadal cycle of glossy plans that continue to leave Sydney's citizens and industry under the threat of failing water supply and mismanagement of our water and wastewater cycles.

This opinion piece should cover the issues surrounding the current draft and its dismissive token consultation. The article provides some "f*ood for thought*" for the Minister and those interested in the ultimate development of a safe secure, resilient water supply and an effective future management of Greater Sydney's many water cycles.

The plan should have been delivered 2 years ago but has been (for no sound reason) delayed by Covid. Using this as cover for face-to-face consultation, the Executives from DPIE held its first consultation on 29th October 2021, while closing consultation on the 8th November 2021. I attended this webinar, which was poor quality, with little detail. The staff were unable and unwilling to answer questions that did not come from "friendly" attendees across state and local government. Unanswered questions were committed to be answered after the webinar. This did not happen, instead they released the raw recording of the webinar.

This is hardly an example of sound, transparent community consultation. Indeed, not only is the Draft GSWS document weak, the paucity of consultation, particularly the 29th October 2021 Webinar drove me to write the

attached opinion piece and to highlight the following specific issues with this Draft document.

The first three points are items raised during the 29th October21 Webinar which were not answered after the webinar, as promised by the convenor. Perhaps, if the bureaucrats who presented at the webinar believe that they did adequately answer these first three questions, they could make public their recording of the webinar.

1. **What is the budget and plan for community consultation surrounding the topic and issues surrounding potable planned water recycling for drinking water**? Sydney Water (i.e. predecessor, MWSD Board) first considered potable/purified recycled water in 1970, yet during the 29th October 21, their Head of Strategic Planning admitted that they had only just started
2. **Why is Sydney water continuing to delay planned purified recycling water to secure future water supplies**, while initiating yet another pilot study in Western Sydney, when NSW invested millions in establishing the Homebush WRAMS system that recycles effluent and stormwater successfully since 2000.
3. **Why is there no proposed implementation plan for the strategy, nor any clear performance targets for assessing the success of this strategy**. This is particularly significant given that previous iterations of such water strategies have clearly failed to deliver security, resilience and reliability to Sydney's water supply.
4. Why does the document **ignore the reality of existing acceptance of unplanned potable recycled water** use that occurs throughout Sydney's existing drinking water supply, which is particularly acute at the North Richmond water treatment plant.?
5. Why does the strategy **ignore the rainwater harvesting** and existing wastewater issues which should be addressed?
6. The strategy was expected to undertake an integrated water cycle management approach, as regional water utilities across NSW regional water utilities are required to do. **This draft document does not demonstrate that an IWCM approach has been adopted.** The strategy

(as indeed previous iterations under the auspices of the Metro Plans 2006-2017) talks about examples of IWCM in the "*Greater Parramatta Olympic Peninsula Growth Impact Corridor*" and "*Western Parkland*" developments, Yet there seems to be no reference to these. Can the DPIE provide information or links to these IWCM projects? Access to this would demonstrate that DPIE has experience and embraced the fundamentals of IWCM. In the case of GPOPGIC, there is **no mention of an IWCM** approach (City Supported by Infrastructure 2019, Place Plan, 2020). While IWCM is a two decade old and much diluted/constrained version of its original design band has been surpassed by Sustainable Water Cycle Management (see SWCM Essery 21b), it could have at least provide a sound platform for the Draft GSWS strategy. If it is could enough to be claimed to being used in the "flagship" new approach to planning for the GPPOGIC and WP developments, why was it not used for the draft GSWS strategy?

7. **What is the justification for the 68 GL/yr (in excessive of 10% of Sydney's existing supply) commitment to "creating" a more naturally conditioned environment for Sydney**. Basic Water Sensitive Urban Design and Greening guidelines already exist to deliver this. Surely valuable recycled water supplies, particularly highly treated effluent could be better used to trial/demonstrate planned potable water recycling. Equally so, if this 68 GL/yr of water is diverted to this "natural watering" approach to the built environment, then other sources will be needed, and it would appear that the plans to operate the desalination plant full time (as opposed to only in times of drought) would mean that this 68 GL/yr would be replaced by expensive, energy intensive desalinated water.
8. **Where is the evidence that the intended full-time use of the Kurnell desalination plant is a cost effective and sustainable use** of this expensive and costly asset, that is only supposed to be used in drought? Given this is a significant change in policy, can DPIE explain this explanation and provide the studies/processes used to determine this significant u-tun in government's position on the use of this expensive desalination plant.
9. Given that consultation has been so constrained and used webinars to lessen community debate, **why has the DPIE team running this group NOT provided either a recording or transcript form the 29th October 21**

webinar? The same department does this in other webinars (eg the recent Peat Island Rezoning proposal (Many "interesting admissions" where made during the presentations and the subsequent limited discussion/questioning. This would greatly assist the community in their submissions as only 30-50 people attended the webinar which was undertaken in the middle of the day when most citizens are busy. Indeed, of those who did attend, the vast majority were from local state public servants or consultants.

10. **Will the DPIE please provide access to the results from the online survey**, as this hopefully will provide some limited insight into the broader community views on this strategy (who may have been unable to attend the single DAY-TIME Webinar held on the 29th October 21). It would also be useful that the analysis o this online survey incorporates a breakdown that includes, number of participants and their professional/residential/customer breakdown.
11. **Can the DPIE provide access to other public submissions (assuming the authors have been given information to allow this).** I see no direct comment on the web site/portal for this important strategy that mentions this, but I feel it would be most helpful given the constraints/limitations for debate due to the recent Covid pandemic.

Greater Sydney (and indeed the Lower Hunter) is in desperate need of a successful water supply strategy. It is hoped that the Minster and his DPIE bureaucrats deliver a strategy that is comprehensive and succeed in meeting the water needs of the community for decades to come.

I urge the Minister and his colleagues in aligned portfolios to finally address the 'elephant in the room', namely an open and honest engagement on the issue of planned and unplanned potable/purified recycled water. This issue was actively smothered by the then Minister for both water Utilities and Dept of Planning (Frank Sartor) during the development of the first Metro Water Strategy of 2006/7. *It appears that given many of the now senior bureaucrats in DPIE stem from those days, that the same ministerially directed smothering of both planned and unplanned potable/purified water recycling would appear to be continuing, despite a change in Government over a decade ago*.

Addressing this one issue, would be the single most effective approach to achieving a sustainable, "*rainfall-independent*, "*enduring*" secure and safe drinking water supply. In addition, grasping this important issue would help Sydney attain its goal to achieve Net Zero Emissions and should it so desire move one step forward and reap the environmental and social and economic benefits of Net Zero Discharge (Essery 21, NZD Essery 21a).

The current draft does not serve the future customers/residents of Greater Sydney well. I hope that the "sister" draft for Lower Hunter Valley is better 9 although given that they have rules out recycled water in their November 2020 "facts sheets". The Draft GSWS strategy document is already 2 years behind schedule (apparently due to the impacts of Covid). Perhaps the DPIE could be asked to address planned and unplanned potable/purified water recycling in an upfront, transparent and decisive approach. It's worked for Singapore, Florida and California. It was accepted in Brisbane back in 2008-10 (until canned by a change in political commitment) and is now being implemented indirectly in Perth through their aquifer replenishment infrastructure in the water Beenyup-Cockburn source.

Sydney Water first considered planned potable/purified recycled water in 1970. After 50 years of technological/scientific progress, this water source is now attainable, cheaper and less energy intensive than desalinated water. Indeed, even the desalination plant could be repurposed to deliver purified recycled water from our wasteful effluent discharges from the 5 ocean outfalls that waste as this valuable resource. Sydney could encourage the other capital cities to embrace this water source and develop experience/expertise that could then assist regional urban communities to secure their water supplies.

Article to be published (Opinion on Line, 6th November 2021)

The world's media is focused on Net Zero Emissions…. what about better water management and Net Zero discharges of wastewater?

Across the globe, climate activists, policy makers and vested interests are flying to Glasgow COP 26, having been given expensive carbon offset tickets from their employers (mainly government, funded by our taxes). This four-yearly talkfest is being ignored by the Chinese, Russians and Iranians. Apparently, they have more pressing and immediate crises surrounding the resources they need to keep their citizens content and improve their economies when the global Covid Pandemic passes.

Water is one of these resource crises that all the world's governments are striving to resolve, with many either in a drought or supply shortage. Over the last 50 years urban water planning has been ineffective and failed to address the challenges for our cities and towns, and the productivity and environmental needs of our massive inland catchments, such as those in the Murray Darling Basin. Literally $billions have been spent on programs, infrastructure, policy initiatives and planning. National reviews by the Productivity Commission, COAG, National Water Commission, etc have been critical of the outcomes; the Murray Darling is a social, environmental, and economic mess and our capital cities are still facing supply crisis every 5-7 years.

Independent reviews over the last three decades have all given clear recommendations on potential solutions to these endless water crisis management cycles. Why are these solutions not accepted or addressed? Quite simply, it must be either: mismanagement; a lack of political will/vision; corruption; or the barriers are controlled by the multiple layers of Federal, State and Local Government bureaucrats who fear true community consultation. I fear it is the latter, namely inefficient, constraining, government bureaucracy.

Every state capital has been churning out water strategy documents since the mid-1970s, and indeed the major urban water utilities seem to produce a revised strategy every five years. Sydney has just released its latest Draft Greater Sydney Water Strategy (GSWS) which is simply a rehash of the previous 30 years' strategies. This time it is no longer governed by an Independent Expert Panel (which was never really independent) and is delivered via websites and webinars by the very bureaucrats that devised the strategy…the joy of the post Covid-19 world of "Zoom-based" community engagement!

I attended one of the first webinars on 29th October 2021. It had 30-50 attendees, most of whom came from various levels of government and obviously worked with each other given the chit chat during the event. So, for a population of 5 million, only 0.00001% were involved, and the vast majority were government bureaucrats. Slides were bland and showed no detail (much like the actual GSWS document) and most questions were supportive. Three questions were not, and in

every case, the bureaucrats used stale deflections to avoid answering these questions, to reduce actual criticism of their GSWS document.

Key weaknesses of the strategy include:

- No implementation plan to identify activities and performance assessed against tangible targets
- Lack of a total water cycle approach, instead focussing only on water supply while ignoring the management and use of wastewater; and
- Deflection of the key issue for all cities around the world, namely the use of potable/purified recycled water…. the "honest elephant" in the room.

I support purified/potable water recycling. I also support desalination, when it's appropriate, as it ostensibly uses the same technology used in purified water production. In this modern technology and health driven world, countries like Singapore and the US (California and Florida) are delivering purified water as drinking water to their citizens. Meanwhile Sydney and Melbourne are following the least cost-effective strategy of desalination at greater energy/pollution cost, and hence are contributing to the "*globe's greatest existential threat*" i.e. excessive use of energy. COP26 delegates should be appalled. – "*How dare they?*"

Capital cities in Australia do not have a shortage of water supply. Rather they just continue to apply ineffective strategies on a five-year cycle. None of these strategies have been performance-tested (i.e. did they achieve tangible goals), nor do they address the elephant in the room, namely the need to communicate, educate, discuss and assist community/customers/society to understand the key issue. Planned potable water recycling is just as healthy as, and cheaper than, desalinated water and the unplanned recycled water that water utilities have been selling us for decades through our household taps.

My following comments are related to the failings of the current draft Greater Sydney Water Strategy (GSWS), but I urge you all to examine your capital or regional city strategies. Now is the time to do this, while dams are mostly full and the current climate is in the wet part of the cycle. Waiting until the next crisis management activities of government is too late, if you want sustainable, resilient, and enduring solutions.

Sydney discharges more water into its rivers and oceans than it consumes through its water supply (dams and desalination plant). There is no water shortage. Sydney discharges vast quantities of primary treated (i.e. basically raw) effluent via three massive ocean outfalls 3km offshore. The fish/algae are the only beneficiaries of these valuable and nutrient rich discharges. In addition, Sydney wastes equally vast quantities of stormwater that discharge into rivers, estuaries, and beaches. This is all untreated runoff from rainfall and includes large amounts of untreated sewage that leak from Sydney's aging sewerage system. If you visit Sydney after a rainstorm, you are still advised not to swim near stormwater drains for health reasons. This wasted water could be treated to both non-potable and potable levels for valuable use to the community. Such water is a key solution to resilient water supplies.

I recently listened to the internationally experienced CEO of Sydney Water during a one-hour podcast where he stated that our customers say potable recycling is "*almost a no brainer*". I was pleasantly surprised to hear his common-sense realism and refreshing approach. In contrast, during the Friday 29th October consultation webinar run by a team of NSW senior bureaucrats, they were defensive and dismissive of my request for them to explain their distain for purified water recycling

as sustainable water supply for a growing Sydney. How odd that we have a well-respected internationally experienced CEO (French) who has delivered secure safe water and wastewater around the world, yet our elite spin doctoring bureaucrats continue to offer unsustainable, expensive, energy-hungry strategies that dismiss his common-sense view on the water cycle.

I have had the pleasure of debating the urban water cycle with pupils, students, community groups and utilities around the world over the last 35+ years. I have rarely found resistance from those who have listened to and questioned my questions surrounding recycled water,….. with the exception of one group, namely the webinars bureaucrats who control the planning, expenditure, and communication for this critical global resource. Their uniquely strong negative response suggests that they:

- don't want to step on their fellow bureaucrats' toes in other government silos (mainly Environment, Health and Planning);
- don't want to challenge their Minister's short-term demands (i.e. no difficult issues); or
- won't admit the reality of unplanned water recycling that underlies the majority of our existing safe drinking water supplies.

Generations of bureaucrats have spent decades formulating a barrage of regulatory barriers to deter and impose excessive costs on any planned purified water recycling (ARWG, 2008), Yet these same bureaucrats ensure that the existing unplanned recycled water from state owned water corporations" (like Sydney Water) across Australia are allowed to continue with much less stringent regulations/standards (ADWG, 2011).

You may ask what the difference is between unplanned and planned potable water recycling. This is a ploy introduced by a former CEO of Sydney Water when he was defending the $3+billion Sydney desalination white elephant. Quite simply most water supplies around the world have unplanned potable water recycling, which means their "virgin" water supplies collected from catchments are polluted by discharges from upstream towns/cities along with the excrement from millions of native and domestic animals. Engineers/scientists have successfully treated this water for centuries and hence enabled our cities to prosper with the secure knowledge that their tap water is safe to drink.

The bureaucrats want to save us from a safe, heathy, secure, planned, high quality, treated, recycled potable water supply. Yet they defend selling us lower quality, unplanned, potable, recycled water via our existing drinking water supplies, augmented with "bottled electricity" (as former NSW Premier Bob Carr labelled desalinated water). Indeed, one of the lead bureaucrats in the 29th October webinar stated that Sydney will soon run the Kurnell desalination plant full time, irrespective of the former rules which would only use these energy-intensive salt water-fed water factories in times of drought.

The draft GSWS only makes passing commentary about the need for community education on both unplanned and planned potable recycled water and has only started to discuss this (I assume through narrow focus groups run by friendly public relations companies). Given that Sydney Water first considered potable recycled water over 50 years ago, it seems a bit late if they really wanted to take community views into the development of a sustainable water supply strategy. In the past, technological difficulties and reliability were used as barriers recycled potable water. Now that such technical myths have been exposed, the bureaucrats are claiming there is community resistance and an educational barrier that will take decades to overcome. We have had four severe droughts in

Sydney over the last 30 years. No significant attempt was made to address this community acceptance barrier for potable recycled water, until two years ago.

What is so disgraceful is that since 1999, Sydney has had the infrastructure and capacity to demonstrate and test the feasibility of planned potable water recycling of both stormwater and treated effluent. It was built as part of our "Green Olympics 2000" infrastructure at Homebush built by the state-owned Sydney Olympic Park Authority. This scheme supplied standard drinking water and highly treated recycled water for non-potable use. The facility is identical to the type of technology that turns seawater and effluent into drinking water. With suitable technology upgrades, SWC and the NSW Government could have their very own real world working example of the performance of planned potable water recycling for up to 60,000 Sydneysiders. Instead, the GSWS is planning yet another pilot study In Western Sydney from scratch and is only just considering talking about this obvious solution. The Kurnell and Wonthaggi desalination plants are financial white elephants for taxpayers, but excellent investments for Canadian teacher superfunds. Alternatively, a "purified planned water recycling elephant" could deliver secure, reliable, safe and enduring water supply to all our capital cities using our state-owned utilities. These utilities could deliver cost effective drinking water and wastewater management, and significant environmental benefits by harvesting effluent and stormwater discharges to turn into safe drinking water rather than being left to pollute our waterways and beaches.

My recent personal exposure to the bureaucrats' "Zoom-based" approach to consultation demonstrated that bureaucrats are keen to embrace this medium, as it gives them even greater controls/constraints over community input. It's about time politicians remembered that they need vision that surpasses their 3–4 year election cycle and to demand their highly paid, unelected bureaucrats to deliver outcomes (as opposed to cycles of pointless strategy documents) to secure Australia's future urban water supplies.

During two years of "lockdown", we have been consulted via "Zoom-webinars" on the strategies produced by elite bureaucrats (all on full pay working, with home allowances) with little experience of the real world. COP26 and the GSWS are classic examples of bureaucratic "tick-the box" community media consultation, now supported by "Zoom-webinar" constrictions thanks to the Covid 19 crisis. Once ticked they can deliver their unelected agenda with impunity.

Since Federation, Australian bureaucrats have traditionally thrived off crisis management. In water supply, they claim to have 'saved the day' by delivering expensive solutions to the water supply crisis their mismanagement has created. A few dedicated scientists/engineers have developed sophistated planning tools to solve this perpetual water supply problem yet they have been dismissed by the self-serving bureaucracy. We can sustainably deliver 6-star quality purified drinking water by treating our wastewater across Australia, while sustainably managing our water cycles. In addition, if we want to, we can achieve net zero discharges of waste/stormwater into our waterways. If you believe in the COP26 "Net Zero Emissions (NZE)" then why not act locally and demand "Net Zero Discharges (NZD)" from our water planning bureaucrats?

Unlike Net Zero Emissions, Net Zero Discharge and a secure recycled water supply won't take 50-100 years to make a difference or deliver tangible outcomes!

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