

AUSTRALIA'S URGENT NEED FOR BETTER WATER INFRASTRUCTURE

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I would like to draw your attention to a discussion paper I have written titled "Make it Flow". It calls on Federal Government and Business to act and find the will to do the right thing for Australia. To create a truly beneficial infrastructure project that will bring immediate and long term benefits for all Australians. In so doing, begin the task of saving the Murray Darling Basin by initially piping water from the Burdekin to the headwaters of the Murray. At a later date this project can develop into a national water grid project, a larger version of what is currently in place in SE QLD.

This concept has been mentioned before however times have changed;

1. Our northern hemisphere neighbours are currently going through major water shortages. This will increase dramatically over the next few years putting further pressure on world food supplies.
2. There is a current shortage of food worldwide. The projected growth in population requires 80 million extra mouths to be fed each year.
3. Man made climate change has led to Southern Australia getting dryer and Northern Australia getting wetter. It follows that we should move the extra water to where we need it.
4. With less water in the Murray Darling Basin, many businesses are closing down. This has serious implications on the viability of many country towns. Diverting water for efficient irrigated agriculture will reinvigorate these local economies.
5. For the environmental lobby it is important to realise that wildlife always follows food and water. Increasing water flow will increase wildlife number as seen with the periodic refilling of Lake Eyre and the birdlife that follows.
6. In a recession, the first jobs to be lost are in construction and building. This is a building project that will build a wealthy Australian future.
7. Previous project concepts have been based around water diversion using open channels. This project is founded on building a pipe which eliminates all water losses associated with seepage and evaporation. We can build a maximum efficiency based around **"100% water"**.

The last time a costing was put forward was by Richard Pratt with a \$7 Billion proposal in 2007. Even if this project would cost \$14 Billion it would increase Australia's capacity to export quality food and reduce our Federal borrowings. By assembling the right team, we can quickly evaluate the costings and feasibility of this project.

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MAKE THE WATER FLOW



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The vision

Australia needs immediate action to take advantage of the huge opportunity this country has in agriculture. Ongoing droughts are strangling the south and extended floods are immobilising the north. There is an urgent need to pipe excessive volumes of water from Northern Australia to the head of the Murray Darling River. It is the first stage of water proofing Australia and must coincide with a national law on water use efficiency. What we require is a national water infrastructure building project with bipartisan support.

The critical facts

It's important not to cloud emotion with the facts;

- The Murray Darling Basin is the 21st largest catchment in the world, 15th longest river in the world
- Murray Darling accounts for one seventh of the continent, 28% of mammal species, 48% of birds, 19% of reptiles with 30,000 wetlands
- In 2005, gross value of Agriculture was \$35.6 billion, irrigated agriculture was \$9 billion (25% of total value from 0.5% of agricultural land)
- Murray Darling accounts for 40% of nations gross agricultural value, 85% of irrigation takes place in Murray Darling basin
- Up to 30% of irrigation water is lost in delivery to farm gate, 20% lost in distribution around the farm
- 60% of irrigation in Australia uses flood irrigation
- up to 15% of water lost due to over watering - no water scheduling
- northern Australia receives most of Australia's rainfall
- since 1885, average flow is 24,000GL per annum but not recently
- When the water flows 13,000 GL is diverted, 11,500 for Agriculture
- currently the Burdekin Dam spillway has been overflowing since mid December 2008. Up to 100GL/hour flows through the spillway - ABC News Feb 6, 2009. At this rate, reaching 13,000GL would take 5.4 days.

Extremes in rainfall

Over the last few years there has been a political battle over saving the Murray-Darling Basin. On one hand are the environmentalists (who want more water for water ecology and wildlife) and on the other hand are the water users (led by agriculture, towns and cities). It's a race against time with the goalposts constantly changing. CSIRO has identified Southern Australia is getting dryer and Northern Australia is getting wetter and over the next fifty years this will get worse. Major cutbacks in water allocations from southern QLD to South Australia have reduced Australia's ability to produce food and employ people. Adding to these pressures, Adelaide is now under Level 5 water restrictions, affecting everyday people with cracked foundations and hundreds of dying public gardens around the city. Victoria has complicated the solution by capping water trading. Victoria hopes to divert some of this water to other areas as a result of implementing water use efficiencies. This is likely to go to the High Court and may cost hundreds of millions of dollars.

A global opportunity if we get this right

What we need is a truly national development plan that focuses our efforts on our most precious resource, water. With 40% of our national agricultural production coming from the Murray Darling, its not possible or warranted to move all our agricultural industries and towns north. Across the world countries are scrambling to secure dwindling water resources. In California, water resources have reduced by half and China is concerned about rapidly declining water tables across large areas of the country. With the world's population tipped to increase from 6.7 billion to 8 billion by 2020, the world must feed another 100 million people per year. Australia has a huge opportunity and responsibility to utilise excessive water and do what we do best, produce quality food for a growing world population.

National Law on Water Use Efficiency

The project outlined is a huge. The investment will build a national asset that all Australian's will benefit from for generations to come. It's a tangible asset that protects the environment, drives investment and rural development. It will initially entail building a steel pipe from Northern QLD to the headwaters of the Murray Darling to eliminate evaporation. It is simplified by the fact this infrastructure can all be done in one state. It must coincide with a national law on water use efficiency. Flood irrigation must be seriously questioned, with priority given to irrigation systems that don't require open channels (like pivots, under tree sprinklers and drip irrigation). Using the latest pivot technology from the US and drip and sprinkler irrigation from Israel is our future; wastage must be outlawed.

In addition, open dams must be covered to reduce evaporation that can get as high as 3m per year (up to 3000L/m²/yr). Some high water consuming crops like rice and soybeans may not be allowed to be grown where they traditionally used to be grown.

Farmers must also be directed towards building soil humus, stable broken down organic matter. Soil humus can hold up to 20 times its weight in water and stops valuable nutrients from leaching. It is critical in reducing erosion, protecting water quality, improving fertiliser efficiency and buffering crops against extremes in climate. Cultural practices like green manure crops and using quality compost must become part of the norm. Recycling of nutrients and resources must be a standard best management practice. There is a massive volume of compostable material in and around the major cities. This must be utilised to improve water use efficiencies by building soil humus. We have the soils, climate, the water, political stability and financial ability to build a bigger future. This is the Snowy River project of the 21st century.

Its technically feasible

Diverting water by pipeline is not a recent idea. The Goldfields Water Supply Scheme is a very long pipeline that connects Mundaring Weir near Perth to Mount Charlotte Reservoir in Kalgoorlie, 530 kms away. The pipeline was commissioned in 1896 and was completed in 1903. At the time it was thought to be unachievable but now it is seen as visionary.

The South East QLD Water Grid was started in 2006 in response to extreme drought and ever declining dam levels. It is a \$2.5 billion project that connects the existing dams, salinity plants and treatment plants. These pipelines measure more than 200 kilometers in length providing security to this growing region. It shows that when a water crisis hits we can find swift technical solutions to providing water to power stations, cities, the environment and agriculture.

On the 23rd February 2007, Australia's billionaire Richard Pratt offered to pay the \$6 billion to divert water from north Queensland to the the Warrego River (headwaters of the Murray Darling Basin). With the right team this project is now feasible.

The opportunity is now

Australia's Finance Minister, Lindsay Tanner, has announced that he has secured \$200 billion for further nation building projects. Money that many countries presently would love to have. We have now spent \$50 billion dollars so far. There is hope that it will revive the nation. Hope that it will kick start domestic demand so that we can weather the coming financial "Tsunami". If I can use an analogy it is like sand that quickly falls through the fingers. What we need is to convert this sand into concrete and build a foundation that will last generations. Either we spread the money thinly, cross our fingers and hope or we set a vision for the future. Drought and floods are part of our history and historically our weakest point has been dealing with their extremes. It has caused a lot of heartache and cost both Federal and State governments a fortune in amelioration strategies.

Solutions to move us forward

There are a number of positive steps that can be taken to ensure Australia's sustainable competitive advantage is taken into the future. These are the things that a Government should be doing and are the things they should be measured against.

1. A working group must be set up which includes business and the federal government (it will include specialists, engineers and companies like Bluescope). This group will outline a clear timeline and budget. It may include fund raising options like the old "Aussie Bonds" where the public lend money to the federal government for investment projects.
2. Water has to be initially piped from the Burdekin Dam to the headwaters of the Murray Darling Basin. This will eliminate evaporation and could be funded by the Federal Government, public and private investment.
3. A twenty five year water security strategy for Australia must be drawn up. Here all options for utilising excessive water from the north must be investigated. If you want to guarantee our current way of life into the future, we will need to invest in water infrastructure now.
4. A water use efficiency law must be brought into effect banning wastage of water. Here no water will be allocated to any business, city, town or agricultural enterprise unless they adhere to these strict rules of water conservation.
5. Water scheduling (monitoring water before, during and after irrigation) must be compulsory and overwatering must be dealt with severely. Here tight benchmarking according to each soil type will set new national standards

6. All water use must be governed by one National Authority. Gone are the days where water management is dependent on what state you reside or do business in.
7. Organic wastes and manures must be properly utilised to build soil humus. Waste separation must be enforced and the material used to produce both quality compost and mulches. All agricultural activities must preserve with the view to increase present levels of soil humus.
8. Overgrazing of dryland areas within catchment must be stopped. Historically, large areas of the Murray Darling Basin have been overgrazed leading to wind, sheet and gully erosion and the resultant phosphate contamination of our waterways. In particular, rangelands must be destocked and pulse/time/cell grazing techniques adopted as the industry standard. The national water policy must also encompass a grazing management strategy across all agricultural areas.

Water can be our strength

We now have an opportunity to build a secure future. For any nation, in order to be strong you have to work on your weak points. Water is our weak point and wars in the northern hemisphere will be fought over it in the near future. Now is the time for bipartisan support to develop industries that have a real future. We grow great food, have the expertise and the fastest growing population is at our doorstep. We can both protect the environment and build a prosperous country by bringing together the right team. “Its common sense that isn’t so common”.

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23 Years experience in soil and plant nutrition, agronomy, horticulture, composting and project management

After graduating, he worked as a Soil Conservation Officer with Soil Conservation Service, Inverell, Northern NSW. From 1990 to 1993, he worked as a District Soil Conservation Officer with Conservation and Environment, Swifts Creek, High Country, Victoria. It was during this period that he was introduced to the regenerative practices of keyline and organic farming. In the early 1990’s, Adam traveled throughout Asia from Malaysia, Thailand, India, Nepal, Tibet, Sichuan to Taiwan. From 1996 until 1999 he worked as a District Agronomist for DPI NSW in both Hillston and Taree. In 1999 he set up Soil Systems and in 2002, he set up and ran Australia's first commercial prescription compost operation in Harlin, SE QLD.

He specialises in linking natural and organic agricultural production to each soil type. By building stable soil humus and matching the nutrition of the plant to the soil type, crops and pastures are able to reach their genetic potential. By utilising low cost local resources, farming becomes more profitable despite the extremes in climate.