



ACCC INQUIRY INTO WATER MARKETS IN THE MURRAY – DARLING BASIN

SUBMISSION BY BEGA CHEESE LIMITED.

INTRODUCTION

The ACCC MDB water markets inquiry Issues paper has provided the terms of reference and background to the water market arrangements currently in operation.

The paper also provides a discussion on the principles and objectives underpinning the water market. These are stated as requiring:

- Clearly defined property rights
- A clearly defined resource cap
- No unreasonable barriers to trade
- No discrimination against who can trade
- Appropriately address externalities and third party interests
- Appropriate transaction costs and charges
- Sufficient available information.

These principles result in water being treated purely as a commodity – not a national resource which needs to be shared between environment, agriculture and community.

These may be admirable principles, but Bega Cheese Ltd. (Bega) does not believe the stated objectives listed below are being met, in particular:

1. Allocating and using water which optimises economic, social, and environmental outcomes
2. Allocating scarce water resources to their most valuable and productive uses at a point in time, subject to appropriate rules and controls.
3. Supporting the environment and appropriately protecting third party interests

Our submission considers how the current water market fails to meet these objectives, as the trading of water does little to optimise regional economic or environmental outcomes.

We don't believe water is going to the most valuable and productive use (definition required) and third party interests are not being protected (regional communities).



1.0 NTH VICTORIAN DAIRY INDUSTRY.

The Northern Victorian and Southern Riverina Dairy Industry is in significant decline as a result of:

1. Millennium drought followed by the current drought
2. Water extraction to the environment (MD Plan)
3. Increased competition for water from alternative industries (and associated water prices), and
4. Widespread lack of confidence in water policy moving forward.

In 2018/19 the Murray Dairy Region produced 1.8 Bl of milk, worth an estimated \$1.55B in Regional Income which supported 5,300 jobs. **This is approximately half the volume generated in 2002/03.**

Of critical importance is the dependence of this Region on irrigation water and the fact that there are seven major Regional milk processors located within 120Km the Goulburn Murray Irrigation District (GMID). These milk processors generate an estimated \$670M in value adding, and are major employers.

Milk processing businesses are now only situated in the GMID. This sets the GMID apart from most other MD communities, as milk processing provides critical regional employment and value adds. This Processing has been based upon our supply farms accessing reliable water reserves at affordable pricing – both are now at significant risk.

To date Victoria has handed back (to the environment) 280 Gl of high security water, and 77Gl of low security, in comparison NSW has handing back 20Gl of high , 150 Gl of general security and 30 Gl conveyance water and 13.3GL unregulated. This has damaged irrigated dairy significantly as the main pools for environmental water recovery have been from the GMID and MIL.

The recent Dairy Australia 2019 national dairy farmer survey identifies that only 21% of Murray Dairy farmers expect to make a profit in 2019/20, 9% are in the process of exiting with a further 11% saying they would not be in business in 2021/22. This expected exodus is on top of already high exit rates as a result of water availability and pricing. Water is now fetching >\$580/ML for both the major irrigation systems, and dairy traditionally cannot manage >\$300/ml.

A Bega Cheese survey of suppliers (2017) indicates on average, our dairy managers own 30% of their water and need to access the remainder via the market (or carryover), this market exposure is a major issue. This finding is consistent with that described below.

“The dairy industry sold more entitlement than any other industry, is now more exposed to higher water prices and relies more heavily on temporary water on the allocation market. Dairy farmers are now using about 60 per cent more water than they own” **Victorian Farm Modernisation Project Options Review, July 2018**

Our Milk supply this year is running at close to 60% of two years ago as dairy farmers adjust their businesses to the low water allocations and water pricing settings. Whilst we believe each dairy company is trying to maintain their milk supply through support mechanisms, they will continue to



review what can be done to assist their production base and indeed, to transition their businesses going forward based upon commercial decisions.

2.0 GMID REGIONAL IMPACTS

The Goulburn Murray Irrigation District comprises some 200,000 Ha of irrigable land in Nth Victoria. The district draws water from both the Murray and Goulburn river systems and is the key water resource centre for the Southern connected basin. The Region has typically produced \$3B annually in agricultural production and enjoys strong income and employment multipliers.

Traditionally the Region has been strengthened through a diversity of agricultural industries which has supported each other (horticulture, dairy, grazing and cropping work in a symbiotic way). This diversity has allowed for the efficient use of water and since water trading commenced, water has been moving between sectors to maintain the Regional economy.

Typically when there's plenty of water – all industries flourish. When water is in shortage cropping/grazing sell to dairy who sell to horticulture, but the Regional economy has been able to manage.

As a result of the drought, water prices and the recent expansion in horticulture through corporate development (typically in lower Murray system), this agricultural diversity has been significantly and potentially irreversibly impacted.

There have been a series of perverse outcomes relating to the implementation of the Murray Darling Plan and the freeing up of water markets on GMID rural industries and the associated Regional economy.

- 2.1 The upgrading of the GMID has cost over \$2B and resulted in the movement of active water ownership of approx. 24% from GMID irrigators back to the environment. We now find the GMID has much less active water as investor's purchase HRWS and take it away from land ownership or water is transferred out of the GMID for river diversion. The costs of running the GMID is now excessive as connected farms are left with delivery shares. Active water is leaving the GMID to be either stored for later use or sale (including investors) or delivered down river via the Murray and Goulburn rivers where irrigators pay limited infrastructure fees.
- 2.2 The on farm water return program in the GMID has resulted in most irrigation farmers reducing their HRWS ownership, as a result their reliance on trade and carryover water has increased dramatically – we understand >70% of dairy farm water is now needing to be sourced from the market and carryover. The availability and price of this is extremely volatile as droughts and water returns to the environment are resulting in interstate and lower Murray industries needing to access more reliable Victorian water.
- 2.3 The excessive development of horticulture along the lower Murray (in NSW, Vic and SA) appears to have gone largely under the radar. This has resulted in corporate investment developing large scale horticulture systems based upon leased water from



predominantly upstream permanent water holders (retired irrigators and investors). The Barmah choke remains a major restriction to conveyance of Murray water, resulting in the majority of delivery being made via the Goulburn River from the Goulburn storages. Water use by lower Murray river horticulture is up from 196 GI in 2004 to 430 GI in 2017/18.

- 2.4 High river flows in both the Murray and Goulburn last season have now resulted in significant environmental damage – something the plan was designed to address? The high in river delivery also resulted in a significant increase in conveyance losses (GMW have reported 1000GI?) due to evaporation and seepage in the river system. These losses are paid for from the allocation pool and reduce access to productive users.

We understand that GMW still needs to deliver 1 MI when it is ordered, whether this is for an upper catchment water diverter, a GMID user, or a lower Murray diverter, with the associated losses being worn by the general allocation. We appear to be taking water from efficient state of the art gravity delivery and taking it downstream where we experience significant delivery efficiency loss, to pumped systems (energy dependant) and areas where there is minimal value add processing and labour availability.

- 2.5 The Northern Vic resource manager reported the environment carried over some 540 GI of water in the Murray and Goulburn systems into this season, when both NSW and Nth Victoria were under extremely dry conditions. In mid-September 2019, the environment had 726 GI available to it. The entire productive agriculture base in the Murray and Goulburn system had 879 GI available, and we understand irrigated horticulture will require 500GI of this when developed (Aither 2019).

Environmental water releases for a “spring flush” down the Goulburn and Murray systems has resulted in this water passing through prime agricultural lands who had 0% to 40% allocations available. In October this year at it’s peak, the Goulburn River at Shepparton had some 8500MI of water running under the bridge (worth \$5.5M/day on the water market) only to meet up with the Murray River flows which were substantially higher than the Goulburn’s.

The agricultural water sector does not fully comprehend the environment’s need to deliver so much water during times of drought, especially following an extended period of high summer river flows for irrigation delivery downstream?

- 2.6 The national dairy industry production continues to drop as the Northern states exit dairy as a result of drought and operating costs. The Murray Dairy region has dropped from its peak production of 3.1BI in 2001/02 to 1.78BI in 18/19. Last year, milk production dropped a further 12.9% from an already reduced production. We believe Nth Victoria could drop a further 10-20% this season. This will significantly affect the Regional Economy as dairy and its support industries rapidly restructure as a result of drought, water policy and scarcity.



Perverse outcomes are occurring from water allocation trading being allowed down river without consideration of:

- **Conveyance losses** which result from supplying water via river systems- these losses (GMW est 1000 GI per annum) come from the productive water pool in Murray and Goulburn systems and could have been used more efficiently in the upper and mid catchment for agricultural production.
- The **environmental damage** being caused by record high river flows in summer/autumn as the authorities send large volume of water downstream to meet demand out of the Goulburn and upper Murray systems.
- The **economic damage** being incurred 3.0 by mid catchment rural industries as water achieves prices well above their marginal return levels on the back of diminished water pools due to conveyance loss.
- The **underuse of irrigation infrastructure** in the GMID is enormous (after spending \$2.2B in efficiency and water recovery works) despite 100% allocation levels in 2018/19 in Victoria)

Where is the **impact on third parties and Regional communities** being adequately addressed by the water market (see water market objectives)?

3.0 DEFINING “MOST VALUABLE AND PRODUCTIVE RESOURCES”

A stated objective of the water trading market is to “allocate scarce water resources to their most valuable and productive uses at any point in time, subject to appropriate rules and controls”

Is “value and productive” simply the farm economic output per MI used – if so, then in times of water shortage a monoculture will develop – probably horticulture? But why allow development of monocultures in Regions that result in significant economic, environmental and social impacts to other Regional economies through losing community, accelerating environmental damage and resulting in underutilisation of national investment?

This is not a long term plan – it is purely opportunistic and reactionary, when the water returns, which irrigation industries and associated infrastructure will remain to be able to utilise (and pay for) the water? We are already seeing the Rice Industry shutting down infrastructure and dairy is not far behind.

Table 2.1 provides indicative gross returns for the various irrigated crops/grazing systems embedded in the M-D Basin. (Source: 018/19 RMCG internal documents).

What is missing from these tables is a column which describes the Regional employment and income multipliers which are derived by enterprise – not profit/MI at farm level (last column assumes 10% of gross income retained).



Table 2-1: Estimated gross income per ML and indicative profit per ML across industries

CROP	INDICATIVE CAPITAL (EXCLUDES WATER VALUE)	PRICE	YIELD	ML/HA	GROSS INCOME (+/- 25%)		
Horticulture – high value needing a non-interruptible irrigation supply (no flexibility to substitute irrigation water)							
Glasshouse crops	\$1M- \$2M/ha	>\$2. Kc packed	>500 t/ha	10	>\$1 M	>\$100,000	>\$10,000/ML
Apples (Shepparton)		\$1.60 kc packed	45t/ha	6	\$72,000	\$12,000	\$1,200/ML
Stonefruit	\$100- 200K/ha (depending on trellis, netting, Farm packing, refig. etc)	\$2,500/t	25t/ha	11 Sunraysia		\$4,545 (Sunraysia)	\$454/ML (Sunraysia) \$833/ML (Shepparton)
				6 Shepparton	\$50,000	\$8,333 (Shepparton)	
Table grape		\$3,000/t	20t/ha	10	\$60,000	\$6,000	\$600/ML
Horticulture – medium value needing a non-interruptible irrigation supply (no flexibility to substitute irrigation water)							
Canning Pears (Shepparton)		\$400/t	44t/ha	6	\$17,600	\$3,000	\$300/ML
Citrus	\$40K- \$80K/ha	\$700/t	35t/ha	12	\$24,500	\$2,040	\$204/ML
Almonds		\$8.50 kc	3t/ha	14	\$25,500	\$1,820	\$182/ML
Dried fruit	(depending on trellis etc)	\$1,800/t	7.5t/ha	8	\$13,500	\$1,690	\$169/ML
Wine grape (Sunraysia)		\$500/t	25t/ha	8	\$12,500	\$1,560	\$156/ML
Medium value irrigated agriculture a partially-interruptible irrigation supply (limited flexibility to substitute irrigation with feed or not planting)							
Barn Dairy	\$20K- \$30K/ effective ha	0.40c/l	12,000l/cow 10 t DM/cow - 70% home grown = 7 t DM grown/cow	7 ML/ha (maize at 21 t DM/ha) with bought in protein (3t/ML)	\$6,300 feed value /ha or \$300 feed Converts to	\$900 feed/ML converts to \$2000 milk/ML	\$90 to \$200 ML

³ This will vary enormously- typically, negative to 20% of income with 10% being assumed as a long term value, which assumes the sum of all costs is 90% of income. Current industry profitability will be different than the long term values shown, for example dairying is expected to be low or negative and this Reports and a decline in milk production and an increase in farm exits. Over the long term an irrigator cannot afford to spend more than their profit on additional water costs, but occasionally it is rational to pay more to finish a crop or to maintain future production, contracts or plantings.

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CROP	INDICATIVE CAPITAL (EXCLUDES WATER VALUE)	PRICE	YIELD	ML/HA	GROSS INCOME (+/- 25%)		
			= 7/3= 2.3t/ML		\$14,000 milk/ha value		
			12,000/2.3= 5,000 l/ML		\$667 milk/t		
Dairy	\$10K- \$20K/ effective ha	0.40c/l	7,000l/cow, 2.5cows/ha	6	\$7,000	\$1,100	\$110/ML
Maize (grain)	\$5k- \$15K/ha	\$400/t	15t/ha	7	\$6,000	\$830	\$83/ML
Cotton	\$5K/ha	\$550/bale	12b/ha	9	\$6,600	\$730	\$73/ML
Low value irrigated agriculture an-interruptible irrigation supply (flexibility to not crop in some years)							
Rice		\$400t/ha	12t/ha	13	\$4,800	\$370	\$37/ML
Winter cropping	\$3K- \$5K/ha	\$230/t	8t/ha	3 plus winter rain	\$1,800	\$300	\$30/ML
Irrigated livestock		\$100/dse	20dse/ha	3 plus winter rain	\$2,000	\$330	\$33/ML
Dryland							
Dryland cropping		\$230/t	4t/ha 2t/ha	NA	\$900 \$450	NA	NA
Shepparton Mallee							
Dryland grazing	\$2K/ha Mallee \$4K/ha Shepp					NA	NA
Shepparton Mallee		\$100/dse	8dse/ha 2dse/ha	NA	\$800 \$200		NA

The level of capital in the table is indicative only and is shown to illustrate relative industry differences;

Regional economies are based around the use of irrigation water, and are not able to simply shut down when water becomes too expensive or scarce (usually at the same time). For example, the dairy industry is considered to have significant Regional income multipliers, whereby nearly 100% of income generated is retained in the Regional community, Horticulture is closer to 30% etc.

We believe water value should be defined in a value added context – not just farm level. When this is done, it should be quite clear that water trading is disrupting Regional communities and therefore eroding national wealth.



4.0 TREAT WATER AS A NATIONAL RESOURCE NOT A COMMODITY.

When water was separated from land, water became a commodity, and we are now suffering the consequences of a free commodity market (subject to delivery constraints). The reality is there are some water holders who don't have a use for the water other than trade (retired irrigators and investors). These investors perform a valuable task of supplying capital into the market (when many irrigators cannot), in return for an investment return from the water trading market. In reality they can use carryover to hold onto water that could have been used for productive use in a particular year, with the belief they can make more investment return next year from trade.

What this system of trade does not factor in is that irrigators are the purchasers and users of water, they need to have access to delivery infrastructure. This is paid for by active irrigators via delivery shares (or extraction licences). For some reason, Investors and environment pay a lower storage cost than irrigators as well. So using water that is tied to land is expensive. In all other ways, water holders are treated equally.

There are similarities to water holding to the energy market, if I install a solar power and battery system to my home, and can go off the grid, I still need to pay my fixed charges to access the market and upload my surplus generation – water investors use the system but don't have to pay fixed charges to access the market other than a reduce storage fee? Car owners still need to pay the fixed charges even if they choose not to drive?

Carryover needs to be considered also - All water holders can equally share in carryover provisions, despite the fact that investors will only carry over water if they think they can make more money next year, rather than the irrigator/environment, who want to reduce their risk against low allocations or get early access to water. When weirs spill, all groups are treated equally – despite the fact they are holding over water for different objectives. In a dry series, carryover water does discriminate against the productive user, as less water is used each year as more is carried over.

It's time we treated water as a national community resource, not a commodity, and use it for the nations benefit, not the individual water holder's. We can achieve the environmental benefits (MD Plan) whilst optimising the productive use of the water at a Regional Economic level.

5.0 PROPOSALS

Bega Cheese proposes the following approaches as means to optimising the productive water pool for agricultural industries each season. By optimising this volume, Regional communities and Industries can compete for water on a more stable footing.

1. Leave the water market as it operates currently, but improve transparency by reporting transactions in water holder sectors (e.g. water tied to land, investors, environment, authority, trader accumulations)
2. Intrinsically link water back to land for the purpose of carryover - Develop ABA's which need to be linked (by ownership or agreement) to water use licences (extraction licences) to be able to carryover water. These volumes would need to satisfy the intensity guidelines (e.g. <8MI/Ha), so some water would be deemed investment water. Investors would then need to have an agreement in place with a user for their volume – or have to sell the water



annually or lose the water to next year's allocation. E.g. if an ABA holder has 4,000 MI in their account at the end of the season, and holds a water use licence for 100 Ha then at end of season, 800 MI is deemed as land linked, the remaining 3,200MI is considered investor and is at risk unless land based agreements are in place.

3. When the spill rules are activated, the environmental water holder carryover should spill initially (or a proportion – e.g. 50%), as the environment benefits from natural flooding rivers, then the productive pool can be optimised.
4. Develop ways that ALL water holders share equitably in the infrastructure costs of the irrigation systems. Storage costs are not the only costs associated with holding water. Investors and environment need an irrigation delivery system to deliver their surplus water into to achieve a viable return.
5. The conveyance losses associated with water trades downstream must be accounted for, currently this is against the general water allocation. If it takes 1.5 MI to delivered 1 MI downstream, then the individual water user should cover this cost, not the allocation. A system which calculates the water required to deliver the 1 MI and take 1 plus x (e.g. 1.5 MI) off the individual irrigator entitlement is required.
6. As a national resource, water should be more equitably shared between user groups in times of hardship. For example, to have access to unused environmental/utility water during times of excessive drought (triggers need to be identified), any defined surplus should be made available to agriculture to assist the maintenance of Regional economies. This water might be lent (borrow) or sold into the allocation pool for the season to assist the Regional economy. We understand the current water Act does not allow for this to occur, so we need to get a mechanism developed before irreversible damage has occurred.

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