

**IN THE MATTER** of the Resource Management  
Act 1991

**AND**

**IN THE MATTER** of Notices of Requirement by  
Central Plains Water Limited

**AND**

**IN THE MATTER** of Applications for Resource  
Consent by the Central  
Plains Water Trust

### **Statement of Geoffrey Vernon Butcher**

#### **1. INTRODUCTION**

1. My name is Geoffrey Vernon Butcher. I am a consulting economist of Christchurch. I hold an MA (Hons) in Economics from Canterbury University. I worked at the Institute of Economic Research from 1979-1984 and since then have been a consulting economist in the private sector, apart from two years in the Tongan Ministry of Finance and a year lecturing at Lincoln University in the areas of business economics, cost benefit analysis and economic impact analysis. I have appeared in a number of hearings before the councils, commissioners and the Environment Court on Resource Management Act related matters. With respect to irrigation matters I have undertaken economic impact assessments on numerous schemes including several in Central Otago, Downlands, Rangitata, Hunter Downs and a generic assessment of the economic impacts of the Central Plains scheme in 2000 for Central Plains Water. I also prepared for MAF in 2002 a report entitled "Role of Central Government in Community Water Projects in which I reviewed the relevant economic efficiency arguments related to irrigation.

2. I do not consider that my earlier work on Central Plains Water causes any conflict of interest in my reviewing the applicant's economic assessment because in my earlier generalized work I was given no information which was not in the public domain, the scheme being conceptual at the time. In addition, a major funder of Central Plains Water at that time was Selwyn District Council, on whose behalf I am presenting this evidence.

3. An initial economic review of the Notice of Requirement and the Resource Consents lodged by the Applicant was undertaken on behalf of Selwyn District council by Dr Nick Brown. When personal circumstance led to him being unable to attend this

hearing, I was asked if I would be prepared to review his work, add any additional comments I thought necessary and present his statement to this hearing. The objective was to provide a statement in a timely and cost-effective manner. I have worked with Dr Brown on numerous projects and having reviewed his evidence and the reports and correspondence on which it was based, having discussed various issues with him and being in agreement with his conclusions, I agreed to do that. In the next section I draw attention to what I think are the major economic issues that need to be borne in mind when processing these applications under the RMA, and express my support for Dr Brown's conclusions.

## **2. ADDITIONAL COMMENTS - BUTCHER**

4. The commissioners will have read Dr Brown's statement. I share Dr Brown's concerns with regard to key financial assumptions which underlies Donnelly's conclusion that the project represents an efficient use of resources from a market perspective. I wish to expand on a few points:

### **Capital Costs**

5. The applicant's refusal to provide detail on the capital costs means that I am unable to comment on whether various costs have been treated in a manner which is appropriate from an economist's viewpoint. It also means that I am unable to comment on the appropriateness of Donnelly's capital cost sensitivity analysis, which I would want to interpret in the context of how contingency costs have been treated in the base data.

6. The failure to provide even high order information on alternative project options (e.g. piped versus canals or variable scheme command areas) means that it is not possible to comment on whether the project as proposed is an efficient use of resources.

### **Water as a free Good**

7. Water is not a free good, and there is a contradiction between the applicants' insistence that it is an almost limitless resources (and hence free) and their acceptance that the water they are applying for will be used by others if it is not used by Central Plains (hence implying that it has an economic opportunity cost). The applicant should have described in broad detail why it was at least likely that the proposed use was likely to be a more efficient use of water than potential alternative uses. This should also have been done for varying command areas so that we were informed of the value of the water requested at the margin. The fact that the size of scheme may not be optimal is suggested by the January 2002 feasibility study<sup>1</sup>, which suggests a significantly lower cost per Ha if the Springfield – Sheffield area is excluded, and also suggests that for both schemes the minimum cost is at about 80 % of the total area. The cost per Ha for 80 % of the area excluding Springfield and Sheffield was estimated at \$299 / Ha, whereas the costs for 100 % of the area including Springfield and Sheffield was estimated to be \$344 / Ha. If one takes into account the enormous variations in changes in EBIT per Ha according to farm type (\$87 / Ha for dryland livestock to \$683 for irrigated mixed livestock, \$1,750 for irrigated arable and \$4,870 for irrigated dairying), then it may very well be better to irrigate only some of the land in the CP scheme and leave some of

---

<sup>1</sup> P 5-5.

the water for other potential schemes which may have land suitable for either arable or dairying.

### **Dairy Farm Budgets**

8. Some key parameters used in the farm budgets do not sustain close scrutiny, particularly with regard to assumptions about both dairy prices and increases in physical production per Ha under the Central Plains scheme compared to dairy land which is already irrigated.

9. The increase in assumed long term milk productivity prices and revenues for the irrigated scenarios between April 2006 (\$4 / kg and \$6,020 / Ha), April 2007 (\$4.20 and \$6,772 / Ha – up 12 %) and July 2007 (\$5.53 / Kg and \$8,918 / Ha – up a further 32 %) is concerning, with \$5.53 being 12 % above the moving average for the last 8 years<sup>2</sup>.

10. The presumed 20 per cent increase in dairy production per Ha is particularly difficult to comprehend. On the one hand MRB argues that existing irrigated dairy farms will buy into the scheme because they will get either cheaper water or greater reliability. Common sense suggests that they will only convert if profitability increases. But if profitability increases, then presumably the financial pressures on farmers will be less than they are now. If that is the case then why will they have to become more efficient? The argument seems to me to have been turned on its head to say that they will have to be more efficient because otherwise they will not be able to afford the water, which implies that the new water is more expensive than the old. Conversion to the new scheme hence seems to be a high risk option for existing farmers, and MRB acknowledge that there is an assumption that all farmers on the scheme will have to be top tier farmers. Not only that, but it is assumed that when existing water rights are re-allocated to current dryland farm then they will also be operated by another group of top tier farmers, in spite of the fact that these farmers will presumably face financial conditions similar to those faced by farmers currently irrigating from ground water who are, according to the MRB scenarios, not top tier farmers.

11. It has also been suggested by MRB that dairy productivity will increase because of increased water reliability, but I was unable to find figures on current levels of water reliability to verify that water reliability will indeed be significantly improved.

12. It is the July 2007 price and productivity figures which are assumed by Donnelly in his cost benefit analysis to last for the next 30 odd years. I have used Donnelly's model to test the sensitivity of the results to these assumptions. The results suggest that the effect of reducing product prices by 12 % back to the average of the last 10 years is to reduce the NPV of the scheme to \$214 million (10 per cent discount rate). If one also assumes that dairy productivity per Ha will be the same under both scenarios, the NPV declines to -\$297 million at a 10 per cent discount rate.

13. My focus on dairy farming in this discussion is based on the fact that milk production generates 73 % of total gross farm income post CPI, and dairy farm total

---

<sup>2</sup> The most recent MAF forecasts (August 2007) give an 8 year moving average dairy solids price (actual 2004-2007 and forecast 2008-2011) of \$4.76 / kg, or \$4.95 if the current expected figure for 2007-08 of \$7.00 is used.

income (which includes milk and other products) generates 88 % of total gross farm income post CPI.

### **Relevance of Commercial Analysis**

14. The applicants' lawyers have quoted Greig J, in *NZ Rail v Marlborough District Council* [1994] NZRMA 79 as saying "*It is the broad aspects of economics rather than the narrow consideration of financial viability which involves the consideration of the profitability or otherwise of the venture and the means by which it is to be accomplished which should be considered under section 104(1)*" as implying that there is debate as to whether financial analysis from the farmer perspective is necessary. I can not comment from a legal perspective, but if the judge meant that that the financial viability is only a part of a broader picture, then from an economist's perspective I would totally agree, and would add that this consideration of profitability is a crucial component of that wider picture. This perspective also seems to be consistent with the comments of Jackson J in the Marlborough ridge case

### **3. CONCLUSION**

15. After reviewing the information available to Dr Brown, I also am unable to confirm that the proposed CP project represents an efficient use and development of natural and physical resources, at least from the perspective of market values.

Geoffrey Butcher  
*January 2008*