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Queensland Competition Authority  
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Dear Sir/Madam

### **Submission on QCA Irrigation Prices for SunWater Schemes: 2011-2016**

Proserpine District Canegrowers Cooperative and Proserpine Co-Operative Sugar Milling Association Limited are pleased to respond to the issues papers prepared for the Queensland Competition Authority's (QCA) Review of Irrigation Prices for SunWater Schemes: 2011-2016.

The majority of the issue papers are descriptive in nature and thus we wish to focus on those issues that are of most concern to our Water Supply Scheme (WSS).

The Water Resources Commission constructed Peter Faust Dam in the last 1980s to provide for urban, industrial and agricultural expansion in addition to providing protection to the community from frequent flooding. The dam provides some 53,500 ML per annum of entitlement, of which 39,000ML is for irrigation, 14,200 for urban and industrial. In addition SunWater holds unallocated supply of some 10,000 ML per annum. There are two water boards - Kelsey Creek holds 10,000ML per annum for 35 customers and Six Mile 1,200ML per annum for 13 customers. The only constructed distribution infrastructure is the channels built by the Water Boards. At the time of dam construction, sugar cane was either dryland or irrigated using groundwater.

### **Response to the Issues Papers**

The **form of price control** should be set to encourage SunWater to better manage for the impact of demand variability on revenue. Given the variability of supply in our area, there should be explicit consideration of the trade-off between risk to customers and risk to SunWater.

In general **recreational costs** should not be recovered from SunWater customers but from the communities that benefit from the use of these facilities. We encourage the QCA to request the SunWater to establish the additional costs associated with recreational facilities in each WSS.

We are satisfied with a continuation of SunWater's **renewals annuity** approach. There should be increased transparency and consultation at an individual WSS level on the specifics of asset management plans.

Given the history of the WSS and dam construction the application of a **rate of return** on bulk assets is not justified and should be zero. There is a large body of evidence relating to the history and basis of irrigation development. We believe that there is no basis for charging a rate of return on an asset that was established with an understanding on charges. It is noted that the National Water Initiative recognises this situation and allows for pricing reforms to take into account legacy issues. We are happy to provide further documentation of the history of development if requested.

We agree with the principle of **headworks utilisation factors**. It seems appropriate that these should be assessed on the basis of the performance of each scheme over the 15 year term which reflects the poorest hydrological performance for supply for medium priority use.

The **safety standards** on Peter Faust Dam were considered adequate at time of construction in the late 1980s. Flood mitigation was a key driver of the construction. In the future if government changes requirements they should take full responsibility for spillway upgrade costs.

It is disappointing that the Issues Paper on **Capacity to Pay** has not been released as scheduled. The QCA should undertake consultation as soon as possible after the release of this Issues Paper. If it is not being released, then the QCA should prepare a framework that articulates how it will take capacity to pay into its considerations.

We have information and analysis available on circumstances in our region, and will make this available when the QCA has described its needs. The capacity to pay assessment should be based on an individual scheme level and the analysis should be robust and comprehensive. We have provided some initial notes on our expectations of this process, which are attached to this letter.

When considering capacity to pay, it is instructive to consider the intent of the pricing reforms. Increased prices should increase economic efficiency. This is most often achieved by revealing the true costs of infrastructure development. In the case of sunk infrastructure with an agreed renewals plan the price reforms have no impacts on decision making of SunWater or the Government. In the case of our scheme, the focus of any price reforms should be on appropriate pricing for new infrastructure developments and upgrades.

The impact of reform in this case are likely to be borne by a group (irrigators) that is unable to meet increased costs without hardship, have no direct influence on major infrastructure decisions and developed their industry based on previous agreements on water charges that did not include a return on capital.

We look forward to specific and detailed consultation with the QCA around the issues relevant to the Proserpine WSS, specifically:

1. Rate of Return and the Regulatory Asset Base;
2. Capacity to Pay.
3. Headworks Utilisation Factors; and

Sincerely

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Canegrowers

Ian McBean  
Proserpine Sugar Mill

# General Response on Capacity to Pay Issues

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## 1. Background

The Queensland Competition Authority (QCA) is yet to release its proposed ‘Capacity to Pay’ Issues Paper. However, the QCA has provided information on the scope of the Issues Paper. According to QCA, the paper will:

- a) identify alternate appropriate approaches to establishing capacity to pay and in particular:
  - (i) distinguish capacity to pay from willingness to pay;
  - (ii) identify the principles involved in determining whether capacity to pay should be determined on a scheme, industry grouping, individual customer or other basis;
- b) identify the key available measures or indicators for establishing capacity to pay relating to each approach and;
  - (i) the relevance and reliability of those measures and indicators; and
  - (ii) whether those measures are capable of incorporating future farm enterprise productivity gains and, if not, how could this be achieved;
- c) identify any limitations of the alternative options for the purpose of setting future prices including accounting for uncertainty in assessing capacity to pay (both now and into the future); and
- d) identify, in relevant Australian jurisdictions:
  - (i) where capacity to pay has been explicitly taken into account in pricing or regulatory decisions (particularly for the purpose of establishing the initial regulatory asset base, line-in-the-sand asset values or for irrigation purposes);
  - (ii) the limitations identified in its application; and
  - (iii) any identified future intentions of regulators (where evident).

## 2. Response to each major issue

### 2.1 Alternate appropriate approaches to establishing capacity to pay

The major issue highlighted in this section concerns whether the capacity to pay should be determined on a scheme, industry grouping, individual basis. The following discussion considers the merits of each of these options.

Costs associated with the delivery of and/or access to water, are incurred on an area basis (catchment or sub-catchment) and by water source (regulated, unregulated and groundwater). Like water suppliers in other states, SunWater also provides water supply services on an area basis through the operation of water delivery schemes.

In the absence of revenue transfers from other schemes and/or funding from other sources, long-term revenue generated from the operation of each scheme must be sufficient to cover the efficient costs of water delivery to users. There are good reasons for any transitional arrangements, aimed at smoothing adjustment to these efficient costs, to be also implemented by the water supplier at a

scheme level. For reasons of both economic efficiency and practical implementation, decisions about the operation and costs of water infrastructure need to be taken at a scheme level. It follows that if capacity to pay studies are to be influential in setting price paths, they need to relate to specific schemes operated by SunWater.

Although capacity to pay studies could be targeted at particular industries or regions, an analysis of capacity to pay on a scheme basis will also often address significant industry/regional pressures by default. Many of the factors that influence farm level profitability (eg, crop yields, farm size, costs of production), and a farmers capacity to pay by implication, are correlated with location. By default most of these factors will therefore be accounted for by an analysis of water charge effects at a scheme level. In summary, to inform the setting of water charges, there are good grounds for capacity to pay to be primarily assessed on a scheme basis.

QCA's scoping of the issues paper raises the option of assessing capacity to pay at a finer level of either industry groupings or at the finest scale possible of individuals. In regard to the first option, the capacity to pay of major industries will largely be reflected in scheme level studies. In assessing capacity to pay, it is necessary to focus on a particular group of water users. An industry is a natural grouping of users with some degree of similarity in terms of inputs and outputs, and importantly, some similarities in their potential responses to water price increases. In more detailed studies, adequately representing these responses is central to the credibility of the results.

The second option refers to capacity to pay studies undertaken at an individual water user level. Although the focus is at an individual level, the main rationale for such studies should be to draw inferences about the effects of water charges on water users more generally. In effect, an analysis of individual impacts only serves as a case study of more general effects. To be useful for this purpose, any case study of individual effects needs to be representative of the population being considered. Any attributes of the individual's situation that are not observed in the broader population act to limit the generality of the findings.

It is worth noting that capacity to pay studies, at either an industry or individual level, would not generally be used as a basis for differential water charging either amongst industries or individuals. Differential water charging is difficult to support either on economic efficiency (obtaining the maximum value from the use of resources) or equity (treating all individuals and industries equally) grounds.

**Principle:** Capacity to pay should be assessed on a scheme basis given that is the unit on which water charges are set and that a scheme level analysis should capture important regional differences in financial circumstances and capacity to pay.

## **2.2 Identify the key available measures or indicators for establishing capacity to pay relating to each approach**

A number of measures could be used to gauge users' capacity to pay. At a basic level, it would be useful for SunWater to provide estimates of typical changes to total water bills in each of their scheme areas based on the proposed price paths. Such an analysis could be disaggregated to represent some of the diversity in license size and water usage patterns (proportion of entitlement used each year) among users in each scheme. This analysis should be able to be undertaken relatively quickly and easily and would provide an initial understanding of the pressures facing users.

The changes in prices also need to be put into the context of farm costs and returns. In some jurisdictions, a typical approach to understanding the effects of water price increases on farmers has

been to represent water usage charges as a proportion of variable costs for each crop. This approach has some validity when water usage charges represent a large proportion of overall costs. However, as is the case in other jurisdictions, the water tariff structure of Sunwater is typically set to recover a high proportion of costs through fixed rather than variable water charges. Sunwater currently operates a two-part tariff as follows:

- Part A – a fixed charge (or equivalent to an access fee for network services) that applies per ML of WAE; and
- Part B – a volumetric charge, applied to each ML taken.

According to Synergies (2010), Part A and Part B charges were set to recover a nominated proportion of lower bound costs, with Part A charges typically set to recover around 70% of costs, and Part B charges the residual. SunWater's current tariff structure essentially carries forward arrangements from 2000. Clearly, fixed water charges are a major component of a farmer's water bill and need to be taken into account in any assessment of impacts of proposed changes to water prices and the capacity of farmers to pay.

A better understanding of irrigators' capacity to pay is to assess proposed water charges in the context of total farm costs (covering both fixed and variable costs) and measures of farm profitability and performance. This requires the collection of farm level data, either of a representative farm based on expert opinion, or via official farm survey collections<sup>1</sup>. The extent of water price rises could then be evaluated in terms of their influence on overall farm costs and how they affect indicators of farm performance. Some key indicators of farm performance include whole farm gross margin, net farm income, business return, equity and return to equity. Definitions of these indicators are as follows:

- *Whole farm gross margin* - sum of individual enterprise gross margins (enterprise income less enterprise variable costs);
- *Net farm income* - whole farm gross margin less overhead costs (eg. rates, depreciation, administration etc);
- *Farm business return* - net farm income less imputed cost of operator labour and finance costs (measures overall farm profit);
- *Equity per cent* - net worth expressed as a percentage of total assets (total assets less total liabilities divided by total assets); and
- *Return to equity* - business return expressed as a percentage of farm equity.

Effects on whole farm gross margin and net farm income essentially measure the impacts of any changes on income generation capacity. Net farm income is a measure of farm profit and measures the return to the operator for their labour and management and the return to all capital invested in the farm whether it is borrowed or not. Farm business return, equity per cent and return on equity measures incorporate both the direct reductions in the income generation capacity of irrigation farms and subsequent effects on the debt and asset position of the farm. A positive business return represents an increase in the owner's equity or net worth while the return to equity is a measure of the return to capital owned by the operator.

Putting water prices in the context of overall farm costs and assessing how price changes impact on the above measures of farm performance would provide a 'snapshot' of the effects of water price

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<sup>1</sup> ABARE recently undertook a study of financial performance of Australian sugar cane producers (Hooper 2008) based on a farm survey collection covering the areas serviced by SunWater.

increases. A basic analysis would be to simply assume that farmers maintain all their current land uses and management practices under higher water prices. Thus higher water prices would simply be absorbed by users, equivalent to an assumption that the demand for water is perfectly inelastic (i.e. water demand is totally insensitive to changes in prices). This approach would be credible when the changes mainly affect the fixed component of water prices rather than the variable component related to water usage. In the case where proposed changes have a significant influence on water usage prices, then a more comprehensive analysis would be required. The sensitivity of water demand is a key issue in these circumstances.

If water demand is found to be inelastic, indicating that adjustment to higher water prices is limited, then price rises simply increase costs and lower net farm incomes accordingly. If demand is elastic, then the price changes trigger reductions in water use as users attempt to reduce the effects of price changes. These changes in land use and land management practices can either be small or large. Small price increases might be associated with efforts to improve in-crop water use efficiency, while large price increases might make certain land uses unviable in the long term. The latter situation would have secondary effects on regional communities and may also have implications for the financial viability of the irrigation scheme itself.

Importantly, if the demand for water is elastic, then increasing prices will directly influence the revenue stream of the operator. Capacity to pay studies in these circumstances is highly relevant to both water users and water suppliers.

### **2.3 Limitations of the alternative options for the purpose of setting future prices**

A major limitation to all levels of analyses is the data requirements. An understanding of first round impacts on users (increases in typical water bills) should be easily obtainable and would at least indicate the extent of increased costs faced by users. Gauging the significance of these impacts is far more challenging and data intensive. This is particularly the case when the proposed price increases are large, or when the changes are likely to influence water usage prices. In both these circumstances, some understanding of adjustment and the elasticity of water demand is required.

A further limitation, with particular relevance to more in-depth studies, is the level of heterogeneity in water users. Increasing heterogeneity makes it more difficult to both define case studies and then to apply the results of those case studies to the population of water users more broadly.

In view of this, there might be merit in considering a more comprehensive analysis of water price effects during the major inquiry process. This would help inform longer term price trajectories and could be complemented with more regular assessments of impacts based on changes in typical water bills.

### **2.4 How capacity to pay has been explicitly taken into account in pricing or regulatory decisions**

A review of previous water pricing determinations in other jurisdictions reveals little in terms of principles concerning 'capacity to pay'. As is the case with the pricing of utilities more generally, concerns about capacity to pay are ultimately reflected in proposed pricing paths.

In the cases of NSW there have been a number of responses to capacity to pay issues. The first is that proposed price increases from State Water have been subject to rigorous analysis and the proposed increases have been rejected.

In recent assessments a cap on the level of price increase for a modelled individual business has been imposed. This has the objective of smoothing transition to higher prices whilst also improving costs recovery levels in the interim.

IPART takes a “building block” approach to determine water prices that involves:

- establishing the efficient operating and capital costs;
- determining the share of these costs that should be paid by water users, using the impactor pays principle;
- setting the split between fixed (entitlement) charges and usage charges;
- determining forecasts for entitlement and usage volumes to set entitlement and usage charges;
- establishing the efficient, incremental cost of specific activities; and
- considering impacts on users, and making relevant adjustments.

In its recent draft determination for bulk water planning and management costs, IPART acknowledged that price increases may be significant. To help mitigate the impact of increases on users, IPART proposed to set prices so that annual increases in bills for most users with assumed usage patterns should not exceed 20%. It should be noted that these impacts were generally on water licence holders who use little irrigation water in unregulated and groundwater systems.

## **2.5 Capacity to pay principles – more general adjustment assistance principles**

A review of previous water pricing determinations in other jurisdictions reveals little in terms of principles explicitly concerning ‘capacity to pay’. There is however, some overlap with a more general set of principles that emerge from decisions government make about providing structural adjustment assistance to particular industry sectors (including agriculture) for policy change. Making determinations on the appropriateness of adjustment assistance often involves some degree of subjectivity. Cases for adjustment assistance should be considered largely on efficiency grounds while informal compensation should be considered on equity grounds.

In terms of economic efficiency, the nature of a policy change needs to be considered from the perspective of whether changes go beyond the scope of market participant’s autonomous adjustment capacity (the existence of an adjustment problem). Principles for considering assistance on efficiency grounds include:

1. the magnitude and timing of change - is the policy likely to impose significant costs on affected individuals and will it be implemented in the short term?
2. the ability of stakeholders to foresee the change - is the change unexpected or does it break long standing traditions about resource access (where moral rights are strong)?
3. the availability of adjustment options - are there limited adjustment options available for individuals to implement on the basis of their own resources?
4. evidence that inappropriate adjustment may occur in the absence of government intervention.

A case for informal compensation can be mounted on 'equity' and 'fairness' grounds. Equity is normally concerned with the distribution of wealth, while fairness is a subjective concept that is open to a wide range of interpretations. Some considerations raised in the context of compensation can be found in Tisdell and Harrison (1999). The case for providing informal compensation because policy change is unfair or inequitable is strengthened when such change:

1. imposes costs on a relatively disadvantaged group of society (i.e. has a regressive distributional effect);
2. involves losses which are concentrated on a minority of individuals, or a particular sector or region and when the broader community is the principal beneficiary;
3. can be directly related to financial losses - a clear linkage exists between a policy change and its effect (Tisdell and Harrison, 1999); and
4. does not relate to the removal of a set of privileges or conditions which may have previously imposed costs on the rest of society (eg cross subsidies, externalities) or is in breach of the duty of care principle.

The significance of many of the above issues, in the context of policy changes, needs to be considered on a case by case basis. Nevertheless, the principles do provide a starting point for examining specific cases for either adjustment assistance or informal compensation.

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