WWF submission

Assessment issues in the 2004 NCP Assessment

Framework for Water Reform

Scope of the issues addressed in this submission

In this submission WWF will address two issues:

- CoAGs requirements and the National Competition Council's (NCC) process for the assessment of new rural water infrastructure, specifically new dams and;

- Western Australia's progress in implementation of full cost recovery regime with particular reference to pricing water from the Ord River Scheme.

New rural water infrastructure

In 2004 the NCC plans to review the planned construction of dams in Tasmania and Queensland to assess their conformance to clause 3 (d) (iii) of CoAG's water reform framework for New Rural Infrastructure. This requires that projects be demonstrated to be environmentally sustainable and economically viable.

WWF is concerned that the NCC does not assess, **prior to construction**, a project's ability to achieve the full recovery of costs (clause 3 (d) (i) (ii)), or the transparency of Community Service Obligations (CSO's) committed to the project by the government (clause (a) (ii)).

A. Dams to be assessed by the NCC

Meander Dam –Tasmania

The Meander Dam is in its final stages of government approval. The Tasmanian Conservation Trust (TCT) has raised various issues concerning the environmental sustainability of the dam. The Department of the Environment and Heritage has approved the project. However, TCT has appealed the approval with the decision on the appeal pending. Environmental management plans also remain to be completed.

WWF believes it is important to understand the level of government subsidies that will be provided to the project, both as initial investment and any on-going price supports. The NCC should consider whether dams should be approved for construction before their ability to fully recover costs is assessed and the level of required government subsidies are fully disclosed.

Burnett River Dam-Queensland

In its 2003 NCP assessment the NCC concluded that the Queensland government had demonstrated that the Burnett River Dam was environmentally sustainable and economically viable. Government approval has been received for the project (except for the Ned Churchward Weir) and construction has begun.

Six studies by various consultants were commissioned by the Queensland government to demonstrate the project's economic and commercial viability. Unfortunately only the first of these, prepared by NECG (2001) was available for public scrutiny. Access

to the remaining studies was denied to the public on the basis that they contained "commercial-in-confidence" information. It is difficult to understand this lack of transparency by the Queensland government given the level of public funds paid to consultants to generate the information and the level of funding expected to be committed to the project by the government.

Queensland Conservation Council (QCC) and Australian Conservation Foundation (ACF) raised serious questions on the environmental sustainability and economic viability of the project. A key assumption in the NECG report is that 40% of the water available will be used to expand the sugar industry. This is unlikely to occur, since the industry is currently unprofitable and in the future is likely to be even more so given the rising value of the Australian dollar.

Issues were also raised by both QCC/ACF and the "Burnett River for All" group on the commercial viability of the project. Some of the key comments were:

- A high price of water will be required to achieve to achieve full cost recovery;
- given the state of the industry, sugar growers will be unable to pay a reasonable price for additional water; and
- the demand for water by sugar growers, given depressed cane and sugar prices, is likely to be low. At lower levels of demand the project would not be economically viable.

These points were rebutted by the government based on information unavailabe to the public, withheld via confidential studies.

In the NCC's 2003 NCP assessment of the Burnett Water Dam Project, the following was stated relative to the project's commercial viability based on studies prepared by PricewaterhouseCoopers (PWC):

- Customers are prepared to pay an up-front amount to purchase water allocations in excess of ARMCANZ minimum price benchmark.
- Some customers (notably, sugar growers) do not have capacity for up-front payments.
- Price setting tender procedure is being explored, including setting a reserve price equal to at least the minimum price recovery benchmark
- Implications of potential community service obligations (CSO's) are being considered.

Queensland's lack of transparency makes it difficult to comment on the dam's ability to recover the costs of providing water to irrigators and the level of government susidisation (CSO's) the project may require.

B. Issues of Concern to WWF

WWF is concerned that dams adjudged to be compliant by the NCC would actually fail to meet CoAG's full cost recovery guidelines and would not transparently show the level of CSO's to be provided by the government. Dams are long term assets, which have the potential to seriously impact the environment. Once dams are

constructed, impacts may be difficult to modify or reverse, and it can be difficult to gain agreement on, and funds for, their decommissioning. Because they are long lived assets, studies quantifying the economic benefits provided by dams over long periods of time can be subject to a large margin of error. The World Commission on Dams has noted that dams designed to provide irrigation water typically fall short of physical targets and do not recover their costs (WCD (2000) also see Appendix 1).

WWF does not agree that a dam must be in operation before its ability to meet full cost recovery criterion can be assessed. The potential for a dam to achieve full cost recovery can be estimated in a similar fashion to its ability to be environmentally sustainable. In essence determining the commercial parameters of a major project is the first step in an analysis of its economic sustainability. How is it possible to determine the appropriate size of dam to build until the future demand for irrigation water is established? This is accomplished by surveying potential users of the water to determine the additional water demanded at a certain *price.* Surveys should be conducted to verify irrigator's willingness to pay for additional water. As will be discussed later, there will need to be mechanisms to ensure that those stating a particular willingness to pay are required to pay in the event the dam is built, for instance through up front payments or through auction mechanisms.

Projects supplying water to irrigators below full-cost recovery pricing will encourage trading of the water allocations from those users unable to economically make use of the additional water to those who can. This will result in windfall profits to irrigators who trade their water allocations. In addition, to the extent that water is traded outside of the irrigation area, revenue to the water business could decline potentially stranding water delivery assets.

In order to ensure that demand for additional water exists and to avoid the problem of stranded assets, Goesch (2001) has suggested that the water supply business enter into long term contracts with irrigators for the output of the water infrastructure before committing to its construction. The contracts would consist of a fixed obligation to repay infrastructure costs and a variable charge for water use. If traded, the obligation to pay for the dam infrastructure would also transfer. In this way irrigator's willingness to pay will determine whether or not the investment is made. Contracts will provide a market test on new investments in water infrastructure, with irrigators prepared to pay for additional water only to the extent that they perceive it will provide an adequate return to their business.

WWF considers it imperative that new water infrastructure's ability to recover its full costs be assessed prior to commencement of construction and in those cases that costs will not be able to be recovered, the level and method of providing the necessary subsidy should be detailed and justified. Means of verifying that the demand for additional water exists should be encouraged. The use of long term contracts with users has the potential of market testing demand and assuring that assets for delivery of water are justfied. Alternatively, performance bonds could be required which would assist in funding decommissioning, should the dam fail to meet anticipated targets over a defined period.

Full Cost Recovery

The NCC, in its 2004 water reform assessment framework, has provided guidelines for the application of full cost recovery. The minimum costs (lower-bound) to be recovered by water businesses in addition to direct costs and exernalities, includes interest on debt and dividend payments.((NCC (2004) Appendix 1 #5). The maximum costs (upper-bound) to be recovered specify that a return on capital invested be achieved in place of interest payments and dividends. ((NCC (2004) Appendix 1 #4).

A more accurate definition of the lower-bound cost recovery would be that it will provide the minimum amount of revenue necessary for the water business to survive. This might be more accurately called its *minimum business survival level.* What has been described as the upper-bound for cost recovery is actually the *minimum level required for commercial viability.* A commercial venture will not invest in a project that does not at least return its opportunity cost of capital. Commercial enterprises actually aim to invest in projects that have the potential to deliver above their opportunity cost of capital. Therefore the upper-bound level actually represents a *minimum* requirement for new investment rather than a maximum bound, in particular given the uncertainty of returns and the permanent nature of investment in water infrastructure. The upper-bound level has been set to prevent monopoly pricing but there has been no evidence of this occurring, in fact there has been a has been a huge transfer of wealth from the state to the private sector.

In the application of the full cost recovery principles, arguments have been made that irrigators should only be required to meet the minimum business survival level of cost recovery. Retrospective price increases have been implemented for water delivered through existing infrastructure in most jurisdictions as part of water reform processes. However, little or no attempt has been made to include a return on investment on the cost of the original assets. This is based on the premise that much of the water infrastructure provided by the government historically was aimed at promoting economic development, with little consideration of commercial viability. Low cost water was provided to new farmers and they were encouraged to establish irrigated agriculture businesses. It is argued that it would now be inequitable to expect irrigators to pay the full cost of this over-capitalised water infrastructure. WWF does not fully accept this line of argument. Although much of the early water infrastructure was established on a non-commercial basis, many irrigators have benefited substantially from the availability of inexpensive water and should be obliged to pay an equitable cost for its provision. WWF does not consider that these equity arguments relating to historic infrastructure are at all valid when considering the construction of <u>new</u> infrastructure. Additional water supplied by new infrastructure provides the key input for expansion of irrigated agriculture businesses. These businesses expect to make a commercial return on the use of this additional water. There is little justification for the supplier of that input to not also expect to achieve a return its investment.

WWF considers that the government should achieve full cost recovery for all *new* investment in water infrastructure, providing a return to capital sufficient to meet the minimum level of commercial viability. Supplying water to irrigation enterprises at below its cost of supply will distort the markets for water, leading to its inefficient use. A lower cost of water will encourage a higher quantity of water to be extracted

and a commensurate reduction of water available for maintaining the health of the river system.

Currently the NCC is not requiring dams to demonstrate their ability to fully recover costs before they become operational. If dams are allowed to be constructed and on becoming operational are unable to recover an adequate level of costs, there is virtually no scope for their removal. The dams will become "sunk costs", with classic economics justifying the continued supply of water to irrigators as long as variable supply costs are covered, in effect locking in government subsidies. There needs to be a plan for decommissioning established at the time of approval, in the event that a dam fails to meet its expectations.

Consultants' reports and work done by WWF has shown that there is little scope for water supplied by the Meander Dam project to be priced at a level that would allow it to operate as a commercially viable enterprise. Even if the proposed subsidies are included, consultants estimate that the price charged would need to be approximately $100/ML to recover even the lower bound costs. This is 80% higher than irrigators have indicated they are willing to pay. WWF has estimated that irrigators would need to pay a significantly higher price to achieve minimum commercial viability.

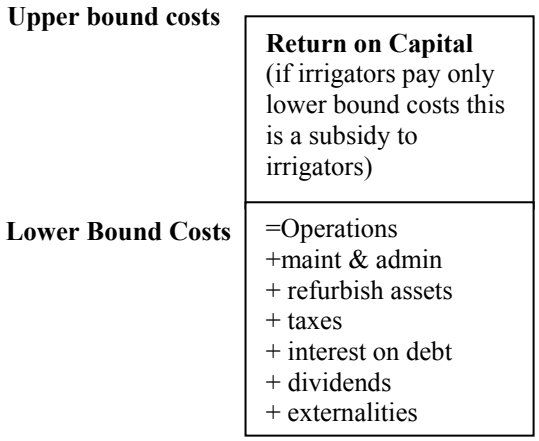
As indicated previously, there has been a distinct lack of transparency by the Queensland government on the commercial and economic impacts of the Burnett River Dam project. Early submissions by QCC/ACF and the Burnett Free Water group raised issues concerning lack of commercial viability of the project. Analysis by WWF on data in the NECG report estimated that in excess of $100/ML would need to be charged to irrigators to achieve minimum commercial viability. Notes provided by the NCC (NCC (2004)) indicate that the Queensland government will contract an external organisation to market water allocations using a tender process or other means. However they have indicated that the reserve price will be "equal to at least the minimum price recovery benchmark" which will provide a minimum survival level for the water business but will not recover investment costs. As with the Meander Dam, it is clear that this project will require a significant level of government subsidies. The study by PWC has considered the implications of the project to the Queensland government's CSO position but these implications have not been made available.

Transparent disclosure of Community Service Obligations-Government subsidies for water

The CoAG water reform framework requires transparency in the treatment of community service obligations (CSO's) in determining prices to meet full cost pricing requirements. CSO's can consist of costs absorbed or assets contributed by the government in the interests of securing benefits for the community. The NCC has specified that CSO's should have an explicit public benefit; be clearly defined; transparently reported and directly funded, with full costs disclosed. (NCC (2004)).

The level of CSO's that must be accounted for is the difference between achieving the minimum commercial return and the project's expected financial performance.

This is illustrated by the following figure included in the Queensland Government's information paper on water pricing (Queensland Government (2002)).



It is evident, from the information on the two dams being assessed by the NCC in 2004, that the government expects to contribute assets at no return to allow water to be priced to be at a level that would be acceptable to irrigators.

The Meander Dam is planned to be operated by an external party as a commercial water business. However, the proponents have indicated that the Tasmanian government will support the project by contributing $ 7 million to its construction, with the Commonwealth providing an additional $2.6 million. This amounts to 40% of the cost of constructing the dam for irrigation. At present the nature and conditions attached to these contributions is not clear. Even if the funds are provided to the enterprise as interest free loans rather than grants, their value would be approximately $575,000 per year (@ 6%). This benefit will allow the commercial water supplier to increase demand by reducing the cost of water to irrigators.

Economic studies supporting the Meander Dam project show that the vast majority of the economic benefits provided by the dam will be enjoyed by irrigators. Based on the data provided, WWF has estimated this benefit at $ 257/ML. Irrigators receiving the additional water appear to be willing to pay only a fraction of this amount. Given this, it is important to ask why the government is willing to subsidise such benefit to irrigators.

There is no direct information on the level of CSO's required for the Burnett River Dam project. Price subsidies required to make water affordable to irrigators could be significant however, given the cost of water needed to achieve full cost recovery. The NCCs statements on the studies prepared by PWC indicate that while most customers could pay the lower bound price for water, some customers cannot.

If the governments determine that providing subsidised water to irrigators is justified, they should consider what the most equitable and effective means of providing the subsidy would be. Pricing water at below its cost will distort the water market promoting unsustainable levels of use of this scare and valuable resource. It will not provide sufficient incentive for water conservation and provide inexpensive

water to successful irrigation businesses well able to pay its full cost. WWF considers that should governments choose to subsidise irrigated agriculture, they should provide subsidies directly to those irrigators who demonstrate that they are unable to pay for the additional water rather than through a general reduction in the price of water . This would effectively target those in need of assistance, the level of subsidy would be transparent, there would be a greater incentive to reduce water use and the cost to the government would be less. Subsidising irrigators directly will also remove distortions from the market and allow water supply businesses to achieve commercial returns.

C. Recommendations

The NCC is currently assessing the economic viability and environmental sustainability of the Meander Dam in Tasmania and the Burnett River Dam in Queensland as required by CoAG (clause 3 (d) (iii)).

In conjunction with this WWF would ask that the NCC:

- Assure the proposed dams demonstrate the ability to price water supplied to irrigators to achieve the full recovery of costs as required by CoAG clause 3 (d). WWF considers it essential that this assessment occur before the dam is constructed and in operation. Water supply businesses should be encouraged to enter long term contracts with irrigators to assure sufficient demand exists at a price that will recover costs of the infrastructure.

- Require that, for *new* water infrastructure, water be priced to achieve to the minimum level that provides commercial viability, including the opportunity cost of capital. (As defined in #4 Appendix 1, 2004 Assessment Guidelines)

- If the project is unable to achieve full cost recovery, the level of Community Service Obligations provided by the government should be fully disclosed as required by clause 3 (a), prior to allowing construction of the Dam. Alternatives could be sought to avoid sunk cost problems, such as seeking performance bonds, or long-term contracts in advance to minimise the CSO requirement over time.

- If governments determine that CSO's are justified, the NCC should recommend that governments pay the subsidies directly to disadvantaged irrigators rather subsidising the reduction of water prices to all users. This will maintain the integrity of water markets.

- Require governments to make sufficient information available to the public to enable informed comment on the impact of proposed water infrastructure. When public funds are to be invested commercial confidentiality should not over-ride the public's right to be informed. Queensland should be encouraged to release the results of key consultants' reports to the public.

D. Conclusion regarding new rural water infrastructure

The NCC may consider that some of the issues discussed in this submission are beyond its terms of reference, as being matters for the National Competition Policy as a whole. However, WWF believes the NCC does need to consider those issues that can have a significant impact on the water markets and have the potential to undermine overall policy objectives of the strategic framework for establishing an efficient and sustainable water industry. The construction of new dams and pricing of water supplied by those dams are critical issues. Further, there is room for interpretation of the CoAG requirements, and WWF considers the NCC interpretation presents potential precedents for damaging developments.

WWF considers that some key questions should be addressed:

- Given the condition of our water systems, does it make sense to continue to subsidise increased water use by pricing water at less than it costs to supply it?

- Should profitable agriculture businesses be provided with cheap water at the expense of taxpayers?

- If government chooses to provide subsidies to segments of the agricultural industry, wouldn't it be more effective to provide them directly to the affected farmers rather than through reduced water prices?

A key issue for WWF is that these dams may set a precedent for future construction of major new rural water infrastructure. The willingness of governments, in particularly the Commonwealth, to subsidise these projects in the face of evidence that their main beneficiaries, irrigation businesses are unwilling to pay for the water is baffling.

The NCC has indicated that it is not obliged to assess compliance with CoAG pricing obligations until a scheme is operational (Per comm S. Drummond 17/3/04). However, WWF is not aware of any specific directive by CoAG restricting the NCC to assessing the ability of new infrastructure projects to achieve full cost recovery or fully disclose CSOs until after the project has been constructed and is in operation. Once a dam is constructed and operating on a non-commercial basis, it is just too late for the NCC to insist that it must now recover its costs.

Western Australia's progress in implementation of full cost recovery regime

The NCC has determined that rural water pricing will be assessed in 2004 for all states and territories. Western Australia lags most States in implementation of a pricing regime to achieve CoAGs full cost recovery and consumption based pricing objectives. In its 2001 assessment the NCC noted that some irrigation schemes were not achieving full cost recovery and that the Government was subsidising rural water services as part of a broad CSO rather than by separately identified subsidies.

WWF supports the assessment of rural water pricing in WA by the NCC. It is of particular concern that the cost base for pricing includes externalities. Resource management costs need to be identified and included in prices. The state water strategy recently completed by the West Australian government (WA 2003) commits

to “Undertake an investigation of the applicability of implementing a water resource management charge.” This commitment is well short of what is required by CoAG.

In relation to existing water infrastructure, WWF looks forward to the NCCs assessment of CoAGs full cost recovery objectives on water supplied by the Ord Irrigation Scheme. WWF is concerned that the price of water supplied by the Ord does not meet even the lower bound of CoAGs full cost recovery guidelines and that CSOs are not fully disclosed. Recent studies show that the price of water supplied by the Ord River Scheme remains heavily subsidised. (ANCID (2001)). The Ord Dam has not achieved either economic or financial viability. In its first 33 years of operation it was estimated to have resulted in a loss to the nation of over $500 million (Hassall (1993)). It is now estimated to be providing a marginally positive benefit but will never achieve a return on the original investment. It is important that new projects being considered for expansion of the Ord River Scheme not only achieve economic viability but also indicate the ability to price water to fully recover costs and provide a return on investment. In the event the project will not achieve full cost recovery the level of required subsidies need to be fully disclosed.

References

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Appendix 1: Cost Recovery-Irrigation Dams

Excerpt from: World Commission on Dams (2000) *Dams and Development: A new framework for Decision Making* Chapter 2

Cost recovery

Public agencies have not always attempted to recover costs associated with public infrastructure projects. Where the services provided by large dams are valued as consumption goods or productive inputs, the absence of cost recovery by the sponsoring agency is often equivalent to a subsidy in the sense that the large dam project provides a benefit for which no fees are paid. Which participants in large dam projects receive these subsidies is examined further in Chapter 4. A lack of cost recovery is not just a matter of subsidy, however. Provision of free services and subsidised inputs often leads to misallocation of resources and inefficient production. Further, it may lead to perverse behaviour as people direct their efforts to obtaining such subsidies (rentseeking behaviour) rather than productive activities.

The analysis here assesses the extent to which cost recovery is an explicit objective in large dam irrigation projects, and the extent to which it has met expectations or, if cost recovery was not anticipated, the extent to which it has occurred in any event. Not surprisingly, recovery of capital costs for irrigation has rarely been a target and is even more rarely achieved. Performance in recovering operational and maintenance (O&M) costs is typically poor, although increasing recognition of the importance of recovery to performance led to institutional innovations that increased collection of O&M charges in the 1990s.

Recovery of operational and maintenance costs

There was mixed performance on the recovery of O&M costs in the three WCD Case Study dams that involved irrigation. In the case of the Aslantas dam, recovery of costs was expected but only made progress after 1995 with the adoption of a water user association (see Box 2.3). In the Indus Basin Irrigation System, where the Tarbela Dam plays a pivotal role, revenues from irrigation fees basically covered operation and maintenance costs up until 1970. Subsequently, revenues have declined, and the gap between O&M expenditure and recoveries reached 44% by 1992 in Punjab and 30% in Sindh. At the same time, an increasing proportion of the revenues was being allocated to agency costs as opposed to maintenance activities. A similar situation occurs in India, where the gross receipts from irrigation charges are considerably less than the recurrent costs of O&M. In the 1960s receipts covered expenditures, however, by the end of the 1980s receipts were only of the order of 10% of expenditures. Annual operational losses became a huge fiscal liability, with annual operational losses exceeding $1 billion by the mid-1990s. The water charges collected represent about 2% of the incremental benefits of irrigation. In the Columbia Basin Project, irrigators pay only a very small portion of the costs of pumping water into the CBP system and nothing for the water itself – which has a large opportunity cost in terms of foregone hydropower production at Grand Coulee.

The information gathered by the WCD on O&M cost recovery is confirmed by the literature in this field. A survey done since 1992 of 18 irrigation systems worldwide shows considerable variation of recovery rates, with public agency systems in the range of 30–50% and some locally managed systems reaching full cost recovery. The 1990 evaluation by the World Bank reports that in 11 of 21 cases, recovery rates were too low to cover irrigation O&M costs. In Mexico, water user associations have proved effective in improving cost recovery and management.

Recovery of Capital Costs

The tendency to poor financial and economic performance and the failure to recover O&M costs suggest that even where it is an explicit objective, recovery of capital costs will be limited. The Aslantas dam provides a fairly stark example of the failure not only to recover these costs but also to stick to agreements made in this regard In the World Bank's 1990 evaluation report on irrigation projects even the cases of 'excellent' cost recovery resulted in only partial recovery of capital costs.

In sum, the assessment of large dam irrigation schemes reveals that while there is considerable variability in performance, such schemes have all too often fallen short of physical targets and failed to recover their costs in cases where that was the intention indicated in the project document. Further, in many cases the economic justification for the approval of the project has not been borne out by actual experience in implementation and operation due to cost overruns and shortfalls in net benefits of agricultural production.