



**Central Coast  
Community Environment Network Inc.**

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*An alliance of community and environment groups from Lake Macquarie, Wyong and Gosford.*

Independent Pricing and Regulatory Tribunal  
PO Box Q290  
QVB Post Office  
1230

24 th March 2006

**Re: Review of Recycled Water Prices for Hunter Water and Gosford and Wyong Councils**

Dear Sir,

The Community Environment Network Inc. (CEN) is a not for profit, volunteer based, non-government community group that works in the Gosford, Wyong and Lake Macquarie region for *Ecologically Sustainable Development (ESD)*. We have over 300 members including over 90 groups.

In September 2004 CEN provided a detailed submission on water pricing for the Gosford and Wyong areas. The key issues relating to recycled water from the submission of September 2004 are repeated below for your consideration. In addition, CEN has taken the approach of considering the barriers to water reuse.

However, firstly some background from the point of view of environmental philosophy (Albrecht, 2006);

The system of private property rights (individualism) for land is deeply implicated in the historical failure to protect ecosystems and their services (clean air, water and productive soil). The exercise of private property rights has resulted in excessive land clearing, urban sprawl, industrial sites, over-stocking and cropping and mismanagement that has rendered (much) of the privately owned land in Australia ecologically distressed. The mere possession of a right does not make for sustainability. This should not surprise us since the concept of property 'rights' evolved within the historical context of the exploitation of natural resources for profit in a secular, individualistic, competitive and manipulative private enterprise system. Such a context is inconsistent with the interdependencies and symbiotic relationships that exist within ecosystems.

Similarly, the idea of water rights does not make sense on simple ecological and economic grounds. Water is embedded within a natural water cycle where it flows, evaporates, forms clouds, falls as rain, forms lakes, floods, flows underground, is constitutive of organic bodies and ecosystems etc., and is not something that can be

privately 'owned' according to classical economic theory. All water is recycled ... some is recycled more than others (eg water from the Colorado with all the jokes about how many sets of kidneys a molecule of water passes through before it gets to LA.)

Water is a common pool natural resource that simply cannot be totally contained and made the exclusive property for the use of a single private owner. Even where water 'appears' to be contained in dams and apparently available for exclusive use, there are major implications for human and non-human downstream users. There is inherent uncertainty over water property rights because water is a non-excludable component of the total living (organisms and ecosystems) and non-living environment (the earth) and cannot ultimately be regulated by exclusive rights or other market instruments.

Therefore, standard conceptions of pricing water forces it into the private ownership box where it does not belong and this is a source of continued non-sustainable practices with respect to water.

A possible way of creating an economy for water would be to charge not for the water used but for the degree of exclusivity present (an economic factor that can be accurately measured). The more a user prevents spontaneous recycling from occurring thus taking away otherwise free ecosystem services for others and/or polluting water so that it is no longer potable or available for reuse without 'artificial cleansing' (rendering such water highly exclusive), the higher the charge should be. The more clean, fresh, water is 'free' to re-enter the water cycle, the cheaper it should be. If we engineer the pollution of water, as with the big pipes stormwater system currently in use, we should pay a lot more than having storm water re-enter the water cycle via water sensitive urban design (wetlands, swales etc etc).

Hence, the least sustainable water use would support the most sustainable water use.

So, water that is naturally recycled and is 'clean' should be 'free'. Recycled water that is polluted and needs to be 'cleansed' should be the base rate for a pollution charge. Highly polluted 'exclusive' water that needs to be artificially purified should obviously face a higher still pollution charge.

The polluter pays ... not for the water, but for the cost of transforming dirty water into clean water and returning it to the water cycle. Therefore, in principle, huge users of water who take clean water in and put clean water back out should not face any charge for the use of that water (eg Hydro electricity producers). In this system the degree of sustainability will correlate with the quality of the water and its price. The more sustainable the system, the cleaner the water and the cheaper the price and vice versa.

### **Structural Barriers**

Need to be considered as they are often the major limitation to sewerage harvesting. One example that is apparently having considerable success is Melbourne Water, which includes both the headworks (bulk supply) and sewerage system (disposal) as one organization. The water retailing is divided amongst 3 organisations; Eastern, Western

and Northern water suppliers. This structure fits with the environmental philosophy outlined above and builds sustainability into the organisational structures.

**Other barriers to water reuse:**

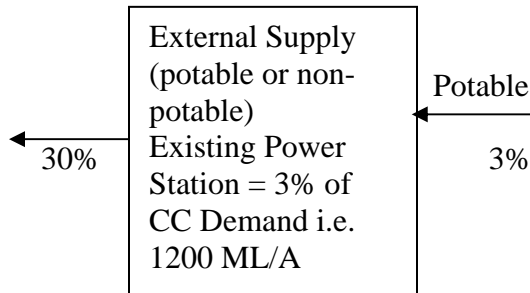
Both the Gosford and Wyong Councils' Joint Water Authority and Delta Electricity are public institutions. Both are established under different legislation and report to different Ministers and/or departments. However, their individual interests do not optimize the public interest in the wise use of a scarce resource such as water.

For example, the power stations operated by Delta Electricity currently use 3% of the potable supply from the Wyong System. Until about 1990, the price of water to the power industry was higher than to other users. This cross subsidy was abolished following COAG and the creation of the Tribunal. These earlier price determinations reduced the price to industry and created the current level playing field approach. While water conservation is clearly a social obligation it is unlikely to be paid for as such. The industry is a state owned trading enterprise and is required to justify any capital expenditure on the basis of a business case. The technology is now available for use of treated effluent and internal water reuse with a reverse osmosis plant, but the low price of water has contributed to the failure of **water reuse to be implemented**.

At nearby Eraring Power Station a similar plant has saved Hunter Water huge quantities of potable water. The JWA claims that; to provide treated water in this way would be more expensive than potable water from the reticulated system. However, their figures are based on recycled water being provided externally by the JWA rather than from internal sources, which would enable savings in infrastructure, waste water and cheaper energy to reduce the costs. (See examples in the diagrams below) The estimated costs of reuse at Vales Point and Munmorah have not been subjected to independent public scrutiny and there is no simple mechanism to do so. By contrast, the actual water quantities, operating costs and capital requirements are readily available for water reuse at Eraring power station which is also a public trading enterprise. The schemes can only be viable if treated effluent is supplied to users at no cost. This could happen if access to sewer mains was made available at cost and with no charge for the effluent. Hence, CEN agrees with the IPART approach as outlined in section 3.2.2

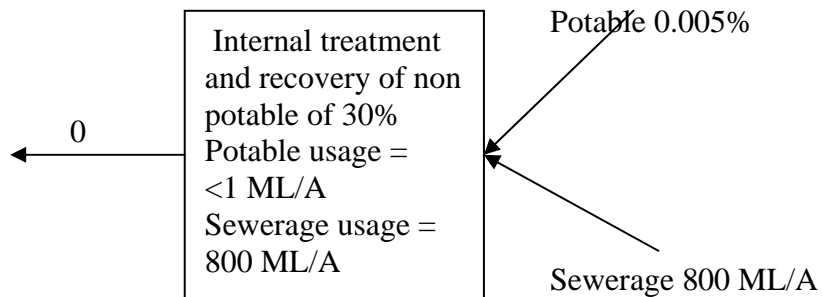
### Case 1

External supplier of either potable water or treated effluent  
Usage same in both cases = 1200 ML/A either all potable or .005% potable with the balance being recycled effluent.



### Case 2

Internal water treatment plant with 30% recovery of effluent and drainage.  
This reduces the size of the plant and costs of operation.



**Case 2** uses more recycled effluent at a lower cost and reduces the potable water usage to a negligible amount. On a whole of government approach this could yield significant public benefit at lower costs.

### Comment:

Contrary to Section 1.3.1 of the Issues Paper, CEN considers that the Tribunal should give consideration to localised on site recycling where this involves public authorities regardless of their legislative arrangements. Normal market mechanisms or regulation are not occurring in these instances to maximise the value of a scarce resource.

**Incentives:**

These examples demonstrate the need for price incentives and other drivers to promote the introduction of water reuse technologies. The State government has adopted *The Progress Report of the Metropolitan Water Plan (2006)* as a policy document. Significant incentives are provided to allow government bodies and business to apply for assistance for water efficiency projects. Similar programs to the Water Savings Fund are needed for the Central Coast with similar funding sources.

**Environmental:**

CEN has concerns regarding the potential for recycled effluent escaping into waterways and into groundwater tables. Elevated levels of nitrogen and phosphorous could potentially cause degradation of natural waterways. Recently the state government announced that barriers to residential users recycling grey water would be reduced by changes to planning regulations. CEN has no information at this time on the potential impacts as we are waiting to see the details of the proposals.

CEN is also unconvinced and does not support schemes which seek to use treated effluent in place of environmental flows to allow greater extraction from natural waterways. Environmental flows sought to be replaced in these schemes are usually very low percentages of the natural flow (typically 5% or less) and occur under dry weather conditions.

Yours sincerely,

Jane Smith

Executive Officer