

National Water Initiative Pricing Principles

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Introduction

1. The National Water Initiative (NWI), agreed in 2004 by the Council of Australian Governments, is the national blueprint for water reform.
2. The NWI represents a shared commitment by governments to increase the efficiency of Australia's water use, leading to greater certainty for investment and productivity, for rural and urban communities, and for the environment.
3. Under the NWI, governments have made commitments to best practice water pricing including to:
 - (i) promote economically efficient and sustainable use of:
 - (a) water resources;
 - (b) water infrastructure assets; and
 - (c) government resources devoted to the management of water.
 - (ii) ensure sufficient revenue streams to allow efficient delivery of the required services;
 - (iii) facilitate the efficient functioning of water markets, including inter-jurisdictional water markets, and in both rural and urban settings;
 - (iv) give effect to the principle of user-pays and achieve pricing transparency in respect of water storage and delivery in irrigation systems and cost recovery for water planning and management; and
 - (v) avoid perverse or unintended pricing outcomes.
4. A stocktake on approaches to water charging was prepared by the Steering Group on Water Charges (SGWC)¹ identified three areas where differences in pricing approaches across jurisdictions were most marked:
 - (i) approaches to recovering capital expenditure;
 - (ii) approaches to setting urban water tariffs; and
 - (iii) approaches to recovering the costs of water planning and management.
5. The SGWC developed draft pricing principles in each of the above areas to assist jurisdictions in moving towards consistent approaches to pricing as required under the NWI (paragraphs 65 (iii) and 67 refer).
6. An additional set of pricing principles for recycled water and stormwater reuse have also been developed to assist states and territories to meet their commitments under paragraph 66 (ii) of the NWI to develop pricing policies for recycled water and stormwater reuse that are congruent with pricing policies for potable water.

¹ The Steering Group on Water Charges was established by the National Water Initiative Committee to provide technical advice on water pricing to support the implementation of National Water Initiative pricing reforms.

7. These four sets of principles:
 - (i) the principles for recovering capital expenditure;
 - (ii) the principles for setting urban water tariffs;
 - (iii) the principles for recovering the costs of water planning and management; and
 - (iv) the principles for recycled water and stormwater reuseare collectively referred to in this document as the NWI pricing principles.
8. The NWI pricing principles do not limit the ability of governments to address equity issues related to the provision of water services.
9. These NWI pricing principles draw on those in the 1994 Council of Australian Governments (COAG) Water Reform Framework, the 1999 Tripartite agreement, and the NWI as well as the report of the Expert Group on Asset Valuation Methods and Cost Recovery Definitions for the Australian Water Industry (the Expert Group).
10. These principles have been agreed by Australian governments as the basis for setting water prices/charges in their jurisdictions. Governments agree that if a decision was made not to apply these principles in a particular case, the reasons for this would be tabled in parliament.
11. A review of the NWI pricing principles will be undertaken in 2010 to ensure consistency between the pricing principles and the Commonwealth *Water Act 2007*, as well as take into account any further changes required as a result of COAG water reforms.

1. Principles for the recovery of capital expenditure

Background

1. Capital expenditure constitutes the major proportion of costs recovered through water charges. Capital expenditure includes expenditure: for replacement of existing assets; and to expand the stock of assets to meet increases in demand, meet required service standards, and any increases in regulatory obligations.
2. These principles apply only to capital expenditure incurred to provide water services. They do not cover capital expenditure incurred to provide wastewater services or stormwater services¹.
3. The COAG pricing principles, upon which the NWI pricing principles are based provide for the use of a renewals annuity to fund future asset refurbishment/replacement (lower bound pricing), and a return of and on capital to reflect the cost of asset consumption and cost of capital (upper bound pricing). The COAG pricing principles are provided at Appendix A.
4. The Expert Group that played a role in developing the COAG pricing principles made a number of recommendations in their paper on asset valuation and cost recovery, including:
 - a) the adoption of the deprival value methodology for asset valuation for charging purposes;
 - b) that, as far as practicable, provision be made in charging arrangements for the loss of service delivery capacity² on the basis of full replacement cost;
 - c) to the extent that it is not practicable to charge on this basis, that, as a minimum, provision be made in charging arrangements for the preservation of the ongoing service delivery capacity based on the infrastructure annuity approach where users desire that the service delivery capacity in the assets continue.

Approaches to providing for capital investment

5. The two main approaches used to calculate the revenue requirement for capital investments are:
 - a) the annuity approach; and
 - b) the Regulated Asset Base (RAB), or building blocks approach.
6. The annuity approach forecasts asset replacement and growth costs over a fixed period and converts these to a future annualised charge. The annuity approach is commonly applied to provide the cash requirements needed to renew non-financial assets over a medium to long-term time period.

¹ Stormwater services refer to the stormwater transportation network as distinct from stormwater reuse as a water supply option.

² The Pricing Principles Steering Group interprets “loss of service delivery capacity” to mean depreciation.

7. The RAB approach includes an allowance for a return of capital (depreciation) and a return on capital³. Under the RAB approach the ‘building blocks’ equations are as follows:

Revenue requirement =
Benchmark operating expenditure (including operations, maintenance, administration costs)
+
Return on capital (RAB)
+
Return of capital (RAB) or depreciation.

8. Where a water business is using a RAB approach to recover capital expenditure, a number of factors have an effect on the revenue requirement: determination of the initial value for the asset base; the process for rolling forward the asset base over time; and the assumptions used to calculate the WACC.
9. There are a number of matters that need to be considered in establishing the initial asset base. These include:
- a) the methodology used to value the initial asset base⁴ (including decisions on whether and where to draw a ‘line in the sand’). In establishing this initial value, consideration is given to the extent to which past capital expenditure is deemed to be excessive for the needs of current users or was contributed by others and therefore excluded from the initial asset base; and
 - b) the way in which contributed assets are dealt with in the establishment of the initial, and the rolled forward, asset base⁵.
10. It is common practice for some jurisdictions to draw a ‘line-in-the-sand’ to differentiate between past (legacy) investment decisions and new investment decisions. Where a line in the sand is drawn, an opening RAB value is set (which essentially locks in the past rate of return on previous investments). The RAB is then updated (or rolled forward) each year to reflect prudent capital additions, disposals and depreciation⁶.
11. The principles distinguish between past (legacy) investment decisions made prior to the legacy date and new investment decisions made after the legacy date.
12. Some jurisdictions have not drawn a ‘line in the sand’ (defined a legacy date) and therefore do not currently differentiate between legacy investment decisions and new investment decisions.

³The ‘return of capital’ applied to the capital value invested reflects annual consumption of economic benefit or service capacity and is referred to as depreciation. The ‘return on capital’ reflects the opportunity cost of the investment.

⁴ The initial asset base may be valued in a number of ways, including through: Depreciated Replacement Cost (DRC); Depreciated Optimised Replacement Cost (DORC); Optimised Replacement Cost (ORC); Economic Valuation; Optimised Deprival Value (ODV); Depreciated Actual Cost (DAC); or using another recognised asset valuation method.

⁵ Contributed assets are those assets that are provided/funded by water users, or provided/funded on behalf of users by a third party (e.g. governments).

⁶ This approach is also known as the financial capital maintenance approach and is an application of the deprival value approach to establishing and updating the RAB. The deprival value approach was recommended by the Expert Group.

Principle 1: Cost recovery for new capital expenditure

13. For new or replacement assets, charges will be set to achieve full cost recovery of capital expenditures (net of transparent deductions/offsets for contributed assets and developer charges – refer to principle 6 – and transparent community service obligations)^{i,ii} through either:
 - a) a return of capital (depreciation of the RAB) and return on capital (generally calculated as rate of return on the depreciated RAB); or
 - b) a renewals annuityⁱⁱⁱ and a return on capital (calculated as a rate of return on an undepreciated asset base (ORC)).
14. Where jurisdictions have drawn a ‘line in the sand’, this principle would apply only to new investment decisions made after the date the line in the sand was drawn (the legacy date). For investment decisions made prior to the legacy date, see principles 3 and 4.
15. The rate of return should be consistent with the Weighted Average Cost of Capital (WACC^{iv}) with the cost of equity derived from the Capital Asset Pricing Model (CAPM).

Notes:

- i. Charges may be set to achieve up to full cost recovery of capital expenditures in the rural and regional sector where it is demonstrated that it is not practicable to move towards upper bound pricing as per the terms identified in clause 66 (v) of the NWI.
- ii. See also Principles 4 and 5.
- iii. To ensure revenue outcomes generally consistent with option (a), the renewals annuity should be structured as a sinking fund to include a provision on a forward-looking basis for the cost of replacing the relevant asset and/or asset components. In calculating the undepreciated asset base, the ORC should not include the renewals reserve.
- iv. The WACC return sought should be tuned to the RAB valuation methodology adopted. The WACC used should be consistent with the form of asset valuation methodology used (e.g. a nominal WACC applies to a historical cost valuation, and a real WACC applies to a current cost valuation). The use of replacement cost valuations can give rise to capital gains and losses measured against the Consumer Price Index (CPI). Where an asset value is used to determine revenue requirements, a systematic escalation in the value of assets above the increase in the CPI will give rise to a capital gain in real terms, all other things being equal. Where an asset on revaluation is subject to a systematic decrement in real terms, a capital loss will result. Where replacement cost valuations methods are used, the WACC will need to be adjusted to cater for systematic capital gains or losses.

Principle 2: Valuation of new assets

16. New and replacement assetsⁱ should be initially valued at efficient actual costⁱⁱ.

Notes:

- i. A new asset refers to any investment (be it on a new asset or a replacement asset) that occurs after the legacy date.
- ii. To avoid circularity in price setting the amount included in the RAB should not be based on the net present value of cash flows.

Principle 3: Valuation of legacy assets

17. Legacy assetsⁱ that are to be retained should be valued at Depreciated Replacement Cost (DRC); Depreciated Optimised Replacement Cost (DORC); Optimised Replacement Cost (ORC), indexed actual cost, Optimised Deprival Value (ODV)ⁱⁱ or using another recognised valuation method.

Notes:

- i. Legacy assets are those which existed as at the legacy date (see iii for a definition of the legacy date).
- ii. This is consistent with the findings of the expert group on asset valuation methods which stated that the deprival value approach to asset valuation should be adopted⁷.
- iii. The legacy date equates to the date where a line in the sand has been drawn. Where jurisdictions have not drawn a line in the sand, the legacy date will be no later than 1 January 2007 and may be in accordance with earlier dates as determined by governments or economic regulators.

Principle 4: Recovery of legacy capital expenditure

18. In respect of legacyⁱ investment decisions, and on the assumption that assets are to be retained, charges will achieve cost recovery by way of a depreciation charge or annuity charge and a positive returnⁱⁱ on an asset value used for price setting purposes as at the legacy dateⁱⁱⁱ. If assets are to be sold then they are to be valued at their net realisable value.

Notes:

- i. Legacy investment decisions are decisions made prior to the legacy date (refer to iii below for a definition of the legacy date).
- ii. The return earned should be no less than the return being achieved at the legacy date, and, if the return being earned before the legacy date is above the current WACC return, no more than the return being achieved at the legacy date.
- iii. The legacy date will be no later than 1 January 2007 and may be in accordance with earlier dates determined by governments or economic regulators. Once set, the legacy date should not change. Costs funded by governments after the legacy date should be reported through a transparent subsidy.

⁷ The deprival value is the value of future economic benefits that would be foregone if the entity is deprived of an asset. If the asset to be lost is to be replaced, it can be valued at its market value, replacement cost or reproduction cost, depending on the circumstances. If the asset is not to be replaced, then it should be valued at its economic value, which is the greater of either the net present value of the income expected to be earned from the asset, or the fair market value. The optimised deprival value is the lesser of the DORC and the economic value of the asset.

Principle 5: Rolling forward asset values after the legacy date

19. The RAB comprising prudent new investments and legacy investments should be rolled forward each year in accordance with the following formula, which can be expressed in nominal or real termsⁱ:

$$\text{RAB}_t = (\text{RAB}_{t-1} + \text{Prudent Capital Expenditure}_t - \text{Depreciation}_t - \text{Disposal}_t \text{ (discarded assets)}).$$

(Where t = the year under consideration).

20. Where assets are optimisedⁱⁱ, they should not be subject to further optimisation unless there are relevant changes in market circumstances.
21. Where DRC or DORC is used as a basis for asset values, the RAB comprising new investments and legacy investments should be re-valued through an independent appraisal on a rolling basis in accordance with Accounting Policy Standards.
22. Where a renewals annuity is used, asset values should not be depreciated.

Notes:

- i. When applicable, CPI or other relevant indexation factor may be used.
- ii. The RAB should be adjusted for ‘unplanned’ excess capacity through optimisation (that is, delivery of an equivalent service that reflects least cost planning reflecting prudent engineering and technological advancements), where ‘unplanned’ excess capacity is capacity which is not the result of a planned level of utilisation.

Principle 6: Contributed assets

23. New contributed assets^{i,ii,iii} (i.e. grants/gifts from governments and contributions from customers (e.g. developer charges)) should be excluded or deducted from the RAB or offset using other mechanisms so that a return on and of the contributed capital is not recovered from customers^{iv}. If a renewals annuity is used, it should include provision for replacement of contributed assets.

Notes:

- i. For contributed assets other than developer charges, funding should be recognised as an asset contribution only where there is clear contractual or policy evidence that this funding was meant to be used to lower long-term prices.
- ii. For the purposes of principle 6, contributed assets exclude gifts or grants where there is clear contractual or policy evidence that charges be set to achieve full cost recovery, inclusive of the value of the gift or grant.
- iii. Equity injections should be distinguished from grants /gifts /contributions.
- iv. It is acceptable for principle 6 to apply to legacy contributed assets if adequate information is available to identify them.

2. Principles for urban water tariffs

Background

1. These principles are developed for a situation where there are large monopoly water providers and an absence of water trading and associated competitive pressures to bring about efficient levels of cost recovery and associated tariff structures.
2. When water is traded as a commodity, the value (price) of water is set in the market, determined by the consumers' willingness to pay. The willingness of water users to pay for water is determined either by the profitability of the output derived from its use, whether agricultural or industrial, or from the value derived from household use, or by the value derived from its environmental use.
3. For a range of reasons, the operation of water trading in an urban context is limited, and in some cases, is likely to remain so due to physical limitations. When water cannot be traded, the water service availability and usage charges determine the cost of water to users. Throughout the principles the term 'service availability charge' is used to describe the access/connection/fixed charge and 'water usage charge' to describe the variable charge.
4. As urban water markets become subject to greater contestability it is likely that competitive pressures will have a greater role in determining water charges.
5. These principles apply only to charges levied to provide water services to urban users. They do not apply to charges levied to provide wastewater services or stormwater services¹.

Approaches to setting urban water tariffs

6. Charging structures adopted by urban water businesses generally comprised a service availability charge and a water usage charge, with the service availability charge determined as the residual component to be recovered to meet the revenue requirement after the revenue from water usage charges has been estimated. The usage component of the charge is generally set with reference to the long run marginal cost of supply, and may comprise of more than one tier (often referred to as an 'inclining block tariff').
7. Water charges in the urban water sector may be differentiated by supply nodes (nodal based pricing) or may be uniform across a supply network or geographical area ('postage stamp' based pricing). A nodal pricing approach identifies the cost of service delivery to individual customers, or groups of customers, within a given geographical area or supply node.
8. Water charges may also include up-front developer charges – to signal the infrastructure cost of servicing new developments or additions/changes to existing developments.

¹ Stormwater services refer to the stormwater transportation network as distinct from stormwater reuse as a water supply option.

Principle 1: Cost recovery

9. Water businesses should be moving to recover efficient costs consistent with the National Water Initiative (NWI) definition of the upper revenue bound: ‘to avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a Weighted Average Cost of Capital (WACC)’ⁱ.

Notes:

- i. Application of this principle would be in the context of commitments to full cost recovery in accordance with paragraph 66 of the NWI.

Principle 2: Tariff structures

10. Two-part tariffs (comprising a service availability charge and a water usage charge) should be used to recover the revenue requirement from retail residential and non-residential and bulk customers^{i,ii}

Notes:

- i. Unless this is demonstrated to not be cost effective.
- ii. This does not preclude charging for peak capacity.

Principle 3: Cost reflective tariffs

11. The water usage charge should have regard to the long run marginal cost of the supply of additional water¹.

Notes:

- i. On economic efficiency grounds the water usage charge should comprise only a single usage charge. However, governments may decide on more than one tier for the water usage charge for policy reasons, e.g. sending a strong pricing signal to encourage efficient water use; and having regard to equity objectives.

Principle 4: Setting the service availability charge

12. The revenue recovered through the service availability charge should be calculated as the difference between the total revenue requirement as determined in accordance with Principle 1 and the revenue recovered through water usage charges and developer charges.
13. The service availability charge could vary between customers or customer classes, depending on service demands and equity considerations. Unattributable joint costs should be allocated such that total charges to a customer must not exceed stand-alone cost or be less than avoidable cost where it is practicable to do so.

Principle 5: Pricing transparency

14. Urban water tariffs should be set using a transparent methodology, through a process which seeks and takes into account public comment, or which is subject to public scrutiny.

Principle 6: Over recovery of revenue

15. Where water usage charges lead to revenue recovery in excess of upper bound revenue requirements in respect of new investments, jurisdictions are to address the over recovery. In addressing the over recovery, revenues should be redistributed to customers as soon as practicable.

Notes:

- i. This principle recognises that in some cases, long run marginal cost may exceed average cost.

Principle 7: Differential water charges

16. Water charges should be differentiated by the cost of servicing different customers (for example, on the basis of location and service standards) where there are benefits in doing so and where it can be shown that these benefits outweigh the costs of identifying differences and the equity advantages of alternatives¹.

Notes:

- i. Differential pricing may be achieved by upfront contributions, including developer charges.

Principle 8: Setting developer charges

17. Developer charges should reflect the investment in both new and existing assets required to serve a new development¹ and have regard to the manner in which ongoing water usage and service availability charges are set.

Notes:

- i. Where there are benefits beyond the boundary of the development, the developer charge should have regard to the share of capacity required to serve the development.

Principle 9: Capping developer charges

18. Developer charges should not exceed the costs of serving new developments which includes investment in both new and existing assets required to serve a new development.

Principle 10: Revenue from developer charges

19. To avoid over-recovery, revenue from developer charges should be offset against the total revenue requirement either by excluding or deducting the contributed assets from the RAB or by offsetting the revenue recovered using other mechanisms.

3. Principles for recovering the costs of water planning and management activities

Background

1. Water planning and management aims to ensure the long term sustainability of the water resource, thereby enabling continued water use while maintaining the health of natural ecosystems¹.
2. Conceptually, water planning and management activities can include a broad range of activities that are undertaken as a result of water use or may occur irrespective of water use (e.g. activities to reduce water pollution from land uses).
3. Water planning and management activities may be undertaken by a range of parties: including government agencies, water businesses (both government-owned and private), government bodies (e.g. catchment management authorities or natural resource management councils), non-government organisations and private landholders.
4. Water planning and management aims to provide clear rights to water while managing the negative external impacts of water use on other water users and the environment. These rights are provided to both consumptive users (e.g. rights to extract water for irrigation and stock and domestic use) and non-consumptive users (e.g. – rights for environmental flows). In providing these rights, water planning and management helps to address water users' obligation or duty of care to ensure their activities accord with environmental, social and economic objectives.

National Water Initiative cost recovery context

5. In the context of the NWI and for the purpose of cost recovery, water planning and management are those activities undertaken by, or on behalf of governments as a result of water use (or potential water use e.g. where a water access entitlement holder/licence holder is not using water) only. Water planning and management does not include activities undertaken to manage land-based impacts such as those associated with land clearing for example.
6. Water planning and management covers a wide range of activities to meet a wide range of demands for which the associated costs need to be allocated between water users and governments (representing the community) on the basis of cost sharing principles, noting that these principles do not preclude the total cost of a particular activity being allocated to one party. The activities may be of an operating (recurrent) and/or capital nature.
7. The water planning component of water planning and management is concerned with establishing transparent (statutory based) frameworks for ensuring an appropriate balance between economic, environmental and public benefit outcomes. It aims to

¹ Water use, for the purposes of this definition refers to all forms of water use (including extractive and non-extractive water use).

ensure the future integrity of the resource by facilitating adjustments to the total consumptive pool in response to scientific input and establishing pathways to adjust for over-allocation and/or overuse. Water planning also provides the mechanism through which resource security outcomes are determined through the specification of shares in the consumptive pool and the rules to allocate these shares.

8. The water management component of water planning and management is concerned with operationalising water planning, including the implementation of statutory plans which aim to codify water management decisions to meet economic, environmental and social objectives, noting that water management has both strategic and operational dimensions. Water management activities also occur in water systems that do not have water plans.
9. In the context of the NWI, water planning and management involves activities:
 - a) to promote the long term sustainability of the resource and to maintain the health of natural ecosystems by minimising impacts associated with water extraction; and
 - b) that are necessary to manage the impacts of past, current and future patterns of water extraction; or
 - c) that are concerned directly with the hydrology of surface and groundwater systems (as opposed to wider catchment management activities, although there are close linkages); or
 - d) that protect the integrity of the entitlement system and the security of users' authorised access to water.
10. The activities broadly cover:
 - a) collecting and analysing data to gain a better understanding of the levels of extractions as well as the potential implications of extraction for the water system, and managing this data;
 - b) developing policies to manage the resource, including managing the interstate sharing of the resource;
 - c) developing plans and strategies/frameworks to allocate water among users and the environment, and to remediate impacts associated with water use;
 - d) implementing these plans/strategies/frameworks and monitoring compliance against the plans;
 - e) undertaking capital works, such as the modification of weirs to achieve environmental outcomes;
 - f) administering water entitlements, compliance, metering and trading systems.
11. Governments have committed in the NWI to publicly report the total cost of water planning and management and the proportion of the total cost of water planning and management (where water planning and management is defined in accordance with paragraphs 5 and 6 above) attributed to water access entitlement holders and the basis on which this proportion is determined (Paragraph 68 of the NWI refers).
12. The water planning and management activities framework (at Appendix B) provides the basis on which water planning and management activities can be classified on a consistent basis.

13. It is important to note that the costs of all activities listed in the water planning and management activities framework (at Appendix B) will not be fully recovered from water users. Charges for activities undertaken for the Government (such as policy development and Ministerial or Parliamentary services) are excluded. Costs of the remaining activities will be apportioned between water users and governments in accordance with Principle 4. Where costs are recoverable from water users, they will be tested for cost-effectiveness by an independent party in accordance with Principle 3.

Principle 1: Water planning and management activities

14. Water planning and management activities include the activities outlined in the water planning and management activities framework provided at Appendix B.

Principle 2: Government activities

15. Water planning and management charges levied on to water users should exclude the cost of activities undertaken for government such as policy developmentⁱ and Ministerial or Parliamentary servicesⁱⁱ (Paragraph 67 (ii a) of the NWI refers). These activities are marked with an asterisk in the activities framework provided at Appendix B, and the associated activity costs should be allocated entirely to governments.

Notes:

- i. Policy development includes the development and/or refinement of overarching policy frameworks designed to plan for, and manage water resources. Policy development will typically be characterised by the development of comprehensive strategies that articulate the long-term policy objectives for sustainable water management and the overarching policy and institutional framework for achieving these objectives. This includes overarching legislation (e.g. *Water Act 2000* (Qld), *Water Management Act 2000* (NSW), *Natural Resource Management Act 2004* (South Australia)) or overarching policy frameworks (e.g. the State Water Plan (Western Australia), *Securing our Future Together – White Paper* (Victoria) and the State Water Management Outcomes Plan (NSW)). Developing and refining statutory, catchment/valley/regional-level water plans or other secondary/subordinate legislation that operationalises water planning and management activities does not constitute policy development or a Ministerial or Parliamentary service and the associated activity costs should not be exempt from cost recovery.
- ii. Ministerial or Parliamentary services include reporting to parliament; advising parliament on issues where the agency has expertise; answering parliamentary questions; briefing Ministers and responding to Ministerial correspondence.

Principle 3: Cost-effectiveness test

16. Having identified water planning and management costs to be recovered from water users, in whole or in part, activities should be ‘tested’ for cost-effectiveness by an independent party and the findings of the cost-effectiveness review are to be made public.

Principle 4: Cost allocation

17. Costs are to be allocated between water users and governments using an impactorⁱ pays approach.

Notes:

- i. An impactor is any individual, group of individuals or organisation whose activities generate costs, or a justifiable need to incur costs. The impactor pays approach seeks to allocate costs to different individuals, groups of individuals or organisations in proportion to the contribution that each individual, group of individuals or organisation makes to creating the costs, or the need for the costs to be incurred.

Principle 5: Differentiation of costs

18. Water planning and management costs are to be identified and differentiated by catchment or valley or region and by water source where practicable. Water planning and management charges should in turn, recover the costs of the activities concerned and be differentiated by catchment or valley or region and by water source (e.g. regulated, unregulated or groundwater sources) where practicableⁱ.

Notes:

- i. It would not be considered practicable to differentiate water planning and management charges by catchment or valley or region where a jurisdiction can demonstrate that water planning and management costs do not vary significantly across catchments or valleys or regions or by water source, or it is excessively costly to determine costs at these levels. Where this is currently the case, a broader charge (such as a state-wide charge) may be applied.

Principle 6: Community Service Obligations

19. Where practical, jurisdictions should aim to reduce or eliminate subsidies or Community Service Obligations. Any shortfall between the revenue required to achieve cost recovery from water users and the total costs recovered through water charges, should be transparently reported.

4. Pricing principles for recycled water and stormwater use

Background

1. The National Water Initiative (NWI) specifies that States and Territories: “agree to develop pricing policies for recycled water and stormwater that are congruent with pricing policies for potable water, and stimulate efficient water use no matter what the source, by 2006” (paragraph 66 (ii) refers).
2. These principles are intended to assist States and Territories in meeting their commitments to paragraph 66 (ii) of the NWI. It is not expected that these principles should be applied to prices retrospectively. It is also not expected that these principles should take precedent over any existing principles jurisdictions may have developed for recycled water and stormwater use.
3. The principles are intentionally flexible in some areas due to the heterogeneous and evolving nature of recycled water and stormwater reuse products and the widely different scenarios under which these schemes are implemented.

Principle 1: Flexible regulation

4. Light handed and flexible regulation (including use of pricing principles) is preferable, as it is generally more cost-efficient than formal regulation. However, formal regulation (e.g. establishing maximum prices and revenue caps to address problems arising from market power) should be employed where it will improve economic efficiency.

Principle 2: Cost allocation

5. When allocating costs, a beneficiary pays approach — typically including direct user pay contributions — should be the starting point, with specific cost share across beneficiaries based on the scheme’s drivers (and other characteristics of the recycled water/stormwater reuse scheme).

Principle 3: Water usage charge

6. Prices to contain a water usage (i.e. volumetric) charge.

Principle 4: Substitutes

7. Regard to the price of substitutes (potable water and raw water) may be necessary when setting the upper bound of a price band.

Principle 5: Differential pricing

8. Pricing structures should be able to reflect differentiation in the quality or reliability of water supply.

Principle 6: Integrated water resource planning

9. Where appropriate, pricing should reflect the role of recycled water as part of an integrated water resource planning (IWRP) system.

Principle 7: Cost recovery

10. Prices should recover efficient, full directⁱ costs — with system-wide incremental costs (adjusted for avoided costs and externalities) as the lower limit, and the lesser of stand alone costs and willingness to pay (WTP) as the upper limit. Any full cost recovery gap should be recovered with reference to all beneficiaries of the avoided costs and externalities. Subsidies and Community Service Obligation (CSO) payments should be reviewed periodically and, where appropriate, reduced over time.

Notes:

- i. Direct costs include any joint/common costs that a scheme imposes, as well as separable capital, operating and administrative costs. This definition of direct costs does not include externalities and avoided costs.

Principle 8: Transparency

11. Prices should be transparent, understandable to users and published to assist efficient choices.

Principle 9: Gradual approach

12. Prices should be appropriate for adopting a strategy of ‘gradualism’ to allow consumer education and time for the community to adapt.

COAG Water Resource Pricing Principles.

1. Prices will be set by the nominated jurisdictional regulators (or equivalent) who, in examining full cost recovery as an input to price determinations, should have regard to the principles set out below.
2. The deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method.
3. An annuity approach should be used to determine the medium to long term cash requirements for asset replacement/refurbishment where it is desired that the service delivery capacity be maintained.
4. To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or TERs [tax equivalent regime], provision for the cost of asset consumption and cost of capital, the latter being calculated using a WACC [weighted average cost of capital]. [Upper Bound pricing]
5. To be viable, a water business should recover, at least, the operational, maintenance and administrative costs, externalities, taxes or TERs (not including income tax), the interest cost on debt, dividends (if any) and make provision for future assets refurbishment/replacement (as noted in (3) above). Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome. [Lower Bound pricing]
6. In applying (4) and (5) above, economic regulators (or equivalent) should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level.
7. In determining prices, transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, and tax equivalent regimes.

Notes:

- i. The reference to 'or equivalent' in principles 1 and 6 is included to take account of those jurisdictions where there is no nominated jurisdictional regulator for water pricing.
- ii. The phrase 'not including income tax' in principle 5 only applies to those organisations which do not pay income tax.
- iii. 'Externalities' in principles 5 and 7 means environmental and natural resource management costs attributable to and incurred by the water business.
- iv. 'Efficient resource pricing' in principle 6 includes the need to use pricing to send the correct economic signals to consumers on the high cost of augmenting water supply systems. Water is often charged for through a two-part tariff arrangement in which there are separate components for access to the infrastructure and for usage. As an augmentation approaches, the usage component will ideally be based on the long-run marginal costs so that the correct pricing signals are sent.
- v. 'Efficient business costs' in principle 6 are the minimum costs that would be incurred by an organisation in providing a specific service to a specific customer or group of customers, or the minimum amount that would be avoided by not provided the service to the customer or group of customers. Efficient business costs will be less than actual costs if the organisation is not operating as efficiently as possible.

Appendix B:**A framework for classifying water planning and management activities**

This Appendix outlines a framework which classifies water planning and management activities. It is important to note that the costs of some of these activities will be allocated entirely to governments (e.g. water reform, strategy and policy). An asterisk (*) denotes the activities where this is the case.

It should be noted also that there will be capital and corporate services costs associated with each of the activities listed in the framework.

Capital costs can include the provision of infrastructure (e.g. physical works such as streamflow gauging stations, monitoring bores and control weirs) and systems (e.g. water registers and water accounting systems).

Corporate services can include the delivery of corporate services (e.g. legal, IT, communications, human resources, financial management and records management) and corporate planning functions (business and strategic planning and reviewing performance against these plans).

A. WATER REFORM, STRATEGY & POLICY (*)**1. Development of intergovernmental agreements**

- a) e.g. the National Water Initiative, Murray-Darling Basin Agreement, Lake Eyre Basin Intergovernmental Agreement etc.

2. Development of broad strategies for managing water

- b) e.g. State Water Plan (Western Australia), Securing our Future Together – White Paper (Victoria), State Water Management Outcomes Plan (NSW).

3. Development and/or refinement of overarching statutory instruments

- c) e.g. Water Management Act 2000 (NSW), Water Act 2000 (Queensland).
Overarching legislation does not include statutory-based, catchment/valley/regional-level water plans or other secondary/subordinate legislation that operationalises water planning and management.

B. WATER PLANNING**1. Water resource planning**

- a) Development of water resource plans:
 - i. Cross border water plans - sharing and management (inc. allocation) of water resources in cross-border areas;
 - ii. Regional water plans - sharing and management of water resources between catchments where interconnectivity occurs (either naturally, or as a result of infrastructure, i.e. a pipeline);
 - iii. Catchment scale water plans - allocation and sustainable management of water resources (strategic and operational), including planning for current and future water use, environmental flow arrangements;
 - iv. Localised water plans - plans developed to address specific water resource problems (quantity or quality) at a local level;
 - v. Other water plans - plans developed at a local or catchment level to address other water management issues, such as water or floodplain harvesting or drainage issues;

- b) Operationalisation and implementation of plans:
 - i. development of rules for water sharing (including environmental shares);
 - ii. determining water availability and distribution (e.g. announced/seasonal allocations);
 - iii. establishing system operating rules, monitoring and reporting requirements etc.;
 - iv. storage and delivery of water to achieve environmental outcomes;
- c) Monitoring and evaluation of planning outcomes and progress against targets (including compliance);
- d) Review of water resource plans / development of new plans.

2. Environmental and ecosystem management planning

- a) Development of environmental management plans where related to water resources (e.g. salinity, blue green algae, riverine management);
- b) Development of plans to manage water-dependent ecosystems (e.g. riverine zones, estuaries, wetlands).

C. WATER MANAGEMENT

1. Measures to improve water use

- a) Water use efficiency programs (irrigation, commercial, urban);
- b) Development of property level water management plans;
- c) Great Artesian Basin Sustainability Initiative;
- d) Flood Plain Management.

2. Construction of works (not significant water supply infrastructure)

- a) Construction of weirs, replacement of bores etc., to achieve water management outcomes.

3. Environmental works

- a) Works to reduce or remediate environmental impacts arising from water use.

D. WATER MONITORING & EVALUATION

1. Monitoring and evaluation of water resources

- a) Water resource monitoring:
 - i. Streamflow gauging;
 - ii. Groundwater bore monitoring (pressure and levels);
 - iii. Water quality monitoring (surface and groundwater resources).
- b) Water use monitoring:
 - i. Collection of water use information (metering, surveys).
- c) Water resource assessment:
 - i. Hydrological and hydraulic assessment;
 - ii. Water quality assessment (e.g. turbidity, nutrient monitoring, salinity, algal blooms etc);
 - iii. Surface water / groundwater interconnectivity;
 - iv. Effects of land use change, land clearing, climate change, etc.

2. Monitoring and evaluation of water dependent ecosystems

- a) Monitoring and evaluation of riverine health (flow and non-flow elements), wetland health, estuary health.

E. INFORMATION MANAGEMENT & REPORTING

1. Water resource accounting

- a) Development of frameworks and systems;
- b) Data collection and processing.

2. Publication of water resource information

- a) Water use statistics, water trading statistics, resource condition and assessment reporting, etc.

F. WATER ADMINISTRATION & REGULATION

1. Administration of entitlements and permits

- a) Granting of water allocations, entitlements and permits to users (incl. bulk water entitlements);
- b) Processing of applications and transactions;
- c) Management of bulk water entitlements;
- d) Ensuring compliance with licence and other conditions;
- e) Regulation of water-related works or developments (e.g. dams, bores, pumping equipment);
- f) Benchmarking costs and standards of water planning and management activities (where applicable).

2. Development of entitlement frameworks

- a) Overland flow, interception, non-use 'entitlements'.

3. Administration of water trading arrangements

- a) Development and regulation of trading frameworks;
- b) Facilitation and administration of water trading.

4. Business administration

- a) Pricing review and implementation;
- b) Financial management and reporting (e.g. costing, revenue monitoring);
- c) Billing and debt management.

5. Administration of water metering arrangements

- a) Development of metering requirements and standards;
- b) Implementation of metering requirements;
- c) On-going management of metering activities.

G. WATER INDUSTRY REGULATION

1. Oversight of water businesses

- a) Review of water business operations to ensure compliance with statutory requirements.