



Independent Pricing and Regulatory Tribunal

Review of developer charges for Gosford City Council and Wyong Shire Council

Water — Issues Paper
June 2012



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The Tribunal members for this review are:

Mr Peter J Boxall AO, Chairman

Mr James Cox PSM, Chief Executive Officer and Full Time Member

Ms Sibylle Krieger, Part Time Member

Inquiries regarding this document should be directed to a staff member:

Lucy Garnier (02) 9290 8453

Con Read (02) 9290 8436

Independent Pricing and Regulatory Tribunal of New South Wales
PO Box Q290, QVB Post Office NSW 1230
Level 8, 1 Market Street, Sydney NSW 2000
T (02) 9290 8400 F (02) 9290 2061
www.ipart.nsw.gov.au

Invitation for submissions

IPART invites written comment on this document and encourages all interested parties to provide submissions addressing the matters discussed.

The submissions from Gosford City Council and Wyong Shire Council are due by 14 September 2012.

Submissions from stakeholders are due by 12 October 2012.

We would prefer to receive them electronically via our [online submission form](#).

You can also send comments by fax to (02) 9290 2061, or by mail to:

Gosford and Wyong Councils' Developer Charges Review 2012
Independent Pricing and Regulatory Tribunal
PO Box Q290
QVB Post Office NSW 1230

Our normal practice is to make submissions publicly available on our website <www.ipart.nsw.gov.au>. If you wish to view copies of submissions but do not have access to the website, you can make alternative arrangements by telephoning one of the staff members listed on the previous page.

We may choose not to publish a submission—for example, if it contains confidential or commercially sensitive information. If your submission contains information that you do not wish to be publicly disclosed, please indicate this clearly at the time of making the submission. IPART will then make every effort to protect that information, but it could be disclosed under the *Government Information (Public Access) Act 2009* (NSW) or the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW), or where otherwise required by law.

If you would like further information on making a submission, IPART's submission policy is available on our website.

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1 Executive Summary

The Independent Pricing and Regulatory Tribunal of NSW (IPART) is responsible for setting the maximum prices that may be charged by Gosford City Council (Gosford Council) and Wyong Shire Council (Wyong Council) for providing water, sewerage, stormwater drainage and other related services. Our most recent determination for developer charges for Gosford Council and Wyong Council (the Councils) was issued in September 2000 and still applies today.¹ The determination can be found on IPART's website: <www.ipart.nsw.gov.au>.

Developer charges are up-front charges levied by water agencies on land developers to recover some of the costs of providing water-related infrastructure to new developments. They help signal the cost of developing land in a particular area, and also pass on to developers some of the risk associated with infrastructure provision. Our pricing approach for developer charges sets a methodology for water agencies to calculate their own developer charges rather than fixing specific charges.

In May 2012, Wyong Council requested that IPART make a new determination for Wyong Council's developer charges to specify new parameters (calculation parameters) for the methodology.² Consequently, we have decided to make a new developer charges determination that sets new calculation parameters for both Wyong Council and Gosford Council to take effect from 1 July 2013.

This paper outlines our approach to this review and the key issues we will need to consider. We regard the key issues to be the specification of the calculation parameters listed in Wyong Council's request. The Councils and other interested stakeholders are invited to provide responses to the issues raised in this paper and to any issues they consider to be important to this review, and to attend a public hearing on 12 November 2012 to express their views.

Issues for this review are discussed throughout this Issues Paper. A complete list of information requirements for each Council can be found in Appendix A. A complete list of questions on which we ask stakeholders to provide comment can be found in Appendix B.

¹ IPART, *Developer Charges Determination No 9, 2000*. The determination also applies to Sydney Water Corporation and Hunter Water Corporation but in 2009 the NSW Government decided to set the developer charges of the 2 corporations at zero.

² Letter to Mr Jim Cox from Ms Gina Vereker, 10 May 2012.

The remainder of the Issues Paper provides more detail on the issues on which we require comment and is structured as follows:

- ▼ Chapter 2 provides the context for this review. It discloses our objectives in making this review, the process we intend to follow, the purpose of this Issues Paper and some background to our determination of developer charges.
- ▼ Chapter 3 discusses the issues on which we seek comment and the information we require from the Councils.

2 Context for this review

Wyang Council considers that some of the calculation parameters in the current 2000 determination for developer charges are out of date. Consequently, Wyong Council has asked us to make a new determination for Wyong Council's developer charges that sets new calculation parameters. We have considered Wyong Council's request. We intend on making a new developer charges determination that sets new calculation parameters for both Wyong Council and Gosford Council to take effect from 1 July 2013. Gosford Council has not made a formal request to us but we consider that it is appropriate to set new calculation parameters for Gosford Council's developer charges to maintain consistency in charging for water customers on the Central Coast.

IPART's current determination for developer charges was made in 2000 and sets a methodology for fixing the maximum price. Unlike the majority of our determinations, the current determination does not specify the period in which the methodology applies. Therefore, it applies until it is replaced by a new determination.

The determination is structured to enable water agencies to calculate their own developer charges, but their calculations must adhere to the methodology that requires certain parameters to be used in the calculations. Wyong Council's request for a new determination is based on its view that some of the parameters are out of date. Wyong Council has not advised us of any concerns with the methodology set out in the determination, and we do not propose to set a different methodology for the Councils as part of this review.

In addition to setting a methodology for the Councils' developer charges, the 2000 determination also sets a methodology for the developer charges for Sydney Water Corporation and Hunter Water Corporation. We do not propose to make a new determination for those other water agencies as part of this review.

2.1 Objectives of the review

The key objectives of this review are to update certain parameters that were defined in the 2000 determination. Particularly to update the following calculation parameters, which are listed in Schedule 5 of the current determination:

- ▼ the real discount rate for pre 1996 assets and associated equivalent tenements (ETs) for the Councils
- ▼ the real discount rate for post 1996 assets and associated ETs for the Councils
- ▼ the real discount rate for the expected net revenues, costs and associated ETs for the Councils
- ▼ the consumption per annum for an average residential customer for the Councils
- ▼ the 85% cap on Wyong Council's developer charges.³

2.2 The review process

In undertaking this review, we invite submissions to the review as part of our consultation process. This Issues Paper was prepared to assist in identifying and understanding the key issues for the review and to elicit stakeholder comment. A range of issues is raised – throughout the paper and in consolidated lists in Appendix A (Information required from Councils) and Appendix B (List of issues for stakeholder comment). However, the Councils and all stakeholders may raise and discuss any other issues they consider are of relevance to the review. Details on how stakeholders can make submissions are given at the front of this Paper (on the page preceding the Table of Contents).

Stakeholders will have a further opportunity to present their views at a public hearing.

We will release a draft report and draft determination following this consultation, and comments from stakeholders will be invited. We will consider the comments received from stakeholders before making our final determination and publishing our final report.

³ IPART, *Developer Charges Determination No 9, 2000*, Schedule 5 (Paragraph 5).

An indicative review timetable is set out below.

Table 2.1 Indicative review timetable

Task	Timeframe
Release Issues Paper	Wednesday 20 June 2012
Receive submissions from the Councils	Friday 14 September 2012
Receive public submissions	Friday 12 October 2012
Public hearing	Monday 12 November 2012
Release draft report	February 2013
Receive submissions to the draft report	March/April 2013
Release final report	May 2013

Note: These dates are indicative and are subject to change.

The Councils are required to justify their proposals by providing us with appropriate information. The Councils' submissions should provide a comparison of their developer charges for 2013/14 based on their proposals and based on the parameters in the current determination (see Appendix A – Information required from Councils).

2.2.1 Purpose of this Issues Paper

To assist us in making a new determination that sets new calculation parameters, we encourage stakeholders to make submissions on their views of issues relevant to this review. To assist stakeholders in making submissions, this Paper explains how the review is to be undertaken, provides background information, and outlines issues on which we particularly seek comments. We are interested in hearing the views of the Councils and stakeholders on the issues that are raised in this Issues Paper. These views are an important input to our review process. All submissions from stakeholders will be considered in making our draft and final determinations.

2.2.2 History of developer charges

IPART's developer charges methodology was developed over many years in consultation with stakeholders including the general public, developers, government, and the water agencies. Our approach sets a methodology for fixing the maximum developer charges rather than fixing specific charges.

The principles and objectives of developer charges have remained broadly unchanged since our first developer charges determination in 1995. A number of refinements and clarifications to the methodology were incorporated in a supplementary note in 1997 and again in a revised determination in 2000 (the current determination). In 2008, we decided to further refine the determination as changes (eg. the introduction of the Building and Sustainability Index (BASIX) scheme⁴) had

⁴ The BASIX scheme requires reductions in average water use in new houses and multi-unit dwellings in NSW.

occurred in the water industry since the 2000 determination had been made. We made a series of draft decisions and released a draft report and determination.⁵ However, before we completed our review, the NSW Government decided to set developer charges for Sydney Water and Hunter Water customers at zero. Consequently, we suspended the review and did not make a new determination. This means that the 2000 determination is still the current determination that must be used by our regulated water agencies to calculate their developer charges.⁶

In 2006, we made a determination to calculate recycled water developer charges.⁷ It is based on a methodology similar to the methodology for water, sewerage and stormwater services but incorporates a set of guidelines that agencies must follow to calculate periodic charges for recycled water services. This determination is still current.

2.2.3 IPART's developer charges methodology

The developer charges methodology is used to calculate developer charges to recover the capital costs of providing water-related infrastructure to land developments.⁸ The charge is based on the cost of assets required and the nexus concept. However, to avoid 'double dipping'⁹ of recovery of costs of customers, there is an adjustment for future operating surpluses (or deficits) expected to be earned from the periodic charges to be paid by customers in the development area. The methodology uses a net present value (NPV) approach which allows costs and revenues to be reconciled to a single value by discounting them to today's dollars.

The methodology calculates the developer charge per lot (or ET) as:

- ▼ the present value (PV) of the existing and future assets used to service the development area
- ▼ less the PV of the future net operating profits (or losses) expected from providing the services to the development area (also called the reduction amount)
- ▼ divided by the PV of the number of ETs in the development area.

⁵ IPART, *Review of developer charges for metropolitan water agencies Sydney Water Corporation Hunter Water Corporation Gosford City Council Wyong Shire Council - Draft Determination and Draft Report*, July 2008.

⁶ The 2000 determination still applies to Sydney Water and Hunter Water, therefore it would apply if the NSW Government decided to remove the zero cap.

⁷ IPART, *Pricing arrangements for recycled water and sewer mining Sydney Water Corporation Hunter Water Corporation Gosford City Council and Wyong Shire Council - Determinations and Report*, September 2006.

⁸ A full explanation of IPART's approach to, and determination of, developer charges is in Appendix C.

⁹ Double dipping occurs where customers are charged more than they should be (or twice for certain aspects) for the assets they use.

The determination requires water agencies to publish a development servicing plan (DSP) for each development area. As well as the calculation of charges, the DSPs must contain specified information to assist developers in deciding where to undertake land development. The required information includes:

- ▼ land use planning information
- ▼ the extent of the DSP area
- ▼ the services required over the development period
- ▼ the calculated developer charge and the basis on which it is calculated.

The determination requires agencies to review their DSPs once, and only once, every 5 years or as required by IPART. After review, water agencies must publicly exhibit their draft DSPs for 30 days before adoption of the charges. Developers are able to view and query aspects of the DSP during this time. The agency must assess any complaint but if this process does not resolve the complaint then the developer can have the matter considered before an independent arbitrator.

3 Issues for determination

This chapter outlines the nature of the issues for this review and invites comment from the Councils and stakeholders in response to them. This will inform our analysis of these issues and help us reach decisions on these matters.

As stated in section 2.1, the objectives of this review are to assess some of the calculation parameters that are listed in Schedule 5 of the current developer charges determination.¹⁰ The current calculation parameters in Schedule 5 that we wish to review are listed in Box 1.

¹⁰ IPART, *Developer Charges Determination No 9, 2000*.

Box 3.1 Current calculation parameters

The following calculation parameters currently apply:

1. The parameters for the NPV calculation for Gosford City Council are:
 - a) A zero per cent (0%) real Discount Rate for Pre 1996 Assets.
 - b) A seven per cent (7%) real Discount Rate for Post 1996 Assets.
 - c) A seven per cent (7%) real Discount Rate for expected net revenues and costs.
 - d) Consumption of 207 kilolitres per annum for an average residential customer.
 2. The parameters for the NPV calculation for Wyong Shire Council are:
 - a) A zero per cent (0%) real Discount Rate for Pre 1996 Assets.
 - b) A seven per cent (7%) real Discount Rate for Post 1996 Assets.
 - c) A seven per cent (7%) real Discount Rate for expected net revenues and costs.
 - d) Consumption of 205 kilolitres per annum for an average residential customer.
 - e) Developer Charges are to be capped at 85% of the charge calculated under the developer charges formula.
-

3.1 Discount rates to apply to the capital component and the reduction amount

The discount rate used in the calculation of developer charges should reflect the opportunity cost to the water agency of funding infrastructure works. In providing infrastructure prior to development, water agencies may face a number of risks. These risks include the reliability of estimates about the rate of connection, the cost of construction, and possible changes in interest rates. Costs of infrastructure already provided to service a development should take into account the opportunity cost of capital ie, the finance costs incurred or the interest foregone.

The real discount rate for Pre-1996 assets under the current determination for both Councils is 0%. We decided on this level of discount rate in 2000 because we considered that a higher rate would lead to large increases in charges.

The real discount rate for Post-1996 assets under the current determination for both Councils is 7%. We adopted this figure in 2000 because it reflected the weighted average cost of capitals (WACCs) we had adopted in the periodic pricing determinations of the water agencies at that time. It had the advantage of aligning the periodic pricing and developer charges pricing regimes.

There are a number of options for determining appropriate discount rates including:

- ▼ In line with our decision in 2000, set a fixed rate that would not change until the next developer charges determination was made (eg, the rate could be the WACC determined for the Councils' periodic charges at the time of the commencement of the new developer charges determination).
- ▼ Set a variable discount rate that would change in line with the WACC determined for the Councils' periodic charges. Periodic charges are determined at regular intervals and so this would better reflect market conditions at the time of calculation and would bring a level of consistency between elements of the two charging systems. This would ensure that revenues from developer charges and revenues from periodic charges (which are also included in the calculation of developer charges) are on a common basis. The benefits of this method are that:
 - values will be updated automatically with each periodic pricing determination
 - values are easily accessed by the public
 - values will be aligned in both the developer charges and periodic prices determinations.
- ▼ Set a variable discount rate obtained from a recognised source. For example in our recent draft Technical Paper, *Modelling Local Development Contributions, May 2012*, we recommended that local Councils should use the NSW Treasury Corporation 10-year bond rate, adjusted for inflation, when calculating financial contributions towards new infrastructure when approving new development.¹¹

We seek comment and feedback from stakeholders on:

- 1 The appropriate method for defining discount rates.

3.2 Average consumption parameter

Schedule 5 of the 2000 Determination specifies the annual consumption for an average residential customer that the Councils must use when calculating the reduction amount. The specified consumption figure reflects consumption levels in 2000, but actual consumption is now significantly lower because of various initiatives, including demand management measures initiated by water agencies. The impact on developer charges of using the 2000 Determination's values is that the reduction amount is larger, and hence the developer charge smaller, than they would be if current consumption figures were used.

¹¹ IPART, *Modelling Local Development Contributions - Technical Paper*, May 2012, p 2.

There are various options for determining the annual consumption for an average residential customer (this figure should be expressed as the consumption per ET) including:

- ▼ Set a fixed consumption figure that would not change until the next developer charges determination was made (eg, the rate could be the consumption figure determined for the Councils' periodic charges at the time of the commencement of the new developer charges determination).
- ▼ Set a variable consumption parameter that would change in line with the average residential consumption figure of a single detached dwelling used in the periodic charges determination current at that time. If the figure was not set out in the current periodic pricing determination, then the figure to be used could be specified by us. The benefits of this method are that:
 - values will be updated automatically with each periodic pricing determination
 - values are easily accessed by the public
 - values will be aligned in both the developer charges and periodic prices determinations.

We seek comment and feedback from stakeholders on:

- 2 The appropriate value or method to calculate the average residential consumption figure for a single detached dwelling (expressed as the consumption per ET) to be used in the calculation of developer charges.

3.3 Wyong Council's 85% cap

Wyong Council has requested that we remove the 85% cap that applies to its developer charges under the 2000 determination.

The 85% cap was originally imposed in the 1995 Determination. The 1995 Determination replaced individual developer charges pricing regimes that the water agencies employed before we began regulating them. Therefore, we applied a number of individual variables to each water agency to counter various factors we considered would impede the smooth introduction of the determination. A general concern in 1995 was the possibility of pricing impacts arising from the introduction of the new process.

We seek comment and feedback from stakeholders on:

- 3 Whether removing the 85% cap on Wyong Council's developer charges is justified, and if so,
- 4 The method for removing the cap.

3.4 General information required from the Councils

The Councils are required to justify their proposals by providing appropriate information. The Councils' submissions should provide a comparison of their developer charges for 2013/14 based on their proposals, and based on the parameters in the current determination (see Appendix A - Information required from Councils).



Appendices

A Information required from Councils

Discount rates

- 1 The discount rates or the method to be used to determine the discount rates for pre-1996 assets.
- 2 The discount rates or the method to be used to determine the discount rates for post-1996 assets.
- 3 The discount rates or the method to be used to determine the discount rates for the revenue portion and operating expenditure portion in the calculation of the reduction amount.

Consumption parameter

- 4 The appropriate value or method to calculate the average residential consumption figure for a single detached dwelling (expressed as the consumption per ET) to be used in the calculation of developer charges.

Wyong Council's 85% cap

- 5 Wyong Council only - What are the impacts that the 85% cap on developer charges has on Wyong Council's business?
- 6 Wyong Council only - What are the possible impacts of removing the 85% cap on Wyong Council's charges?

General information requirements - For 2013/14, each Council should provide a list of its developer charges under the current determination and separate lists for each of the following:

- 7 The Council's developer charges if its proposals for discount rates are adopted.
- 8 The Council's developer charges if its proposals for the average residential consumption figure are adopted.
- 9 Wyong Council only - Its developer charges if its proposal for the removal of the 85% cap is adopted.
- 10 The Council's developer charges if all of its proposals are adopted.

B List of issues for stakeholder comments

Discount rates

- 1 The appropriate method for defining discount rates. 8

Consumption parameter

- 2 The appropriate value or method to calculate the average residential consumption figure for a single detached dwelling (expressed as the consumption per ET) to be used in the calculation of developer charges. 9

Wyong's 85% cap

- 3 Whether removing the 85% cap on Wyong Council's developer charges is justified, and if so, 9
- 4 The method for removing the cap. 9

C IPART's approach to developer charges

This appendix outlines the objectives underlying our approach to developer charges, explains the rationale for establishing a methodology rather than setting particular charges, and describes the methodology including its relationship to periodic prices for water-related services.¹²

C.1 Why a methodology?

Under the *Independent Pricing and Regulatory Tribunal Act 1992*, IPART may fix maximum prices or may set a methodology for fixing the maximum prices. We have set a methodology for fixing developer charges rather than fixing individual prices because:

- ▼ a consistent and transparent approach to setting developer charges was needed to ensure efficiency and certainty for developers
- ▼ determining prices for each development area would require considerable time and resources for both the water agencies and IPART. This could delay development and impose significant regulatory costs
- ▼ it enables agencies to establish new DSPs as they are required
- ▼ it provides for oversight by IPART and the development industry to ensure the methodology is applied properly.

C.2 What is the relationship between developer charges and other tariffs?

One of the key principles underpinning our current water pricing framework is that prices should fully recover the costs of providing water-related services from the users of those services. This includes full cost recovery from new customers regardless of whether they are located in new development areas or in redevelopments in existing areas.

For the Councils, the total cost of providing new development with water related services is recovered through a combination of periodic charges and developer charges. For the same level of cost recovery, higher periodic charges will result in a lower developer charge and vice versa.

We set periodic charges based on the 'building block' approach. This involves determining a water agency's overall revenue requirement which consists of efficient operating costs and a return on and of efficient capital costs. The revenue requirement is recovered from customers through water-related usage and fixed charges.

¹² See generally IPART, *Developer Charges Determination No 9, 2000*.

The developer charges methodology calculates the value of the assets serving a particular development area and deducts the operating surplus water agencies earn from periodic charges. This avoids 'double dipping'.

Developer charges are linked to periodic charges through the regulatory asset base (RAB).¹³ Under our approach to periodic price setting, all capital expenditure (for the existing system and for growth) is added to the RAB. However, the RAB is adjusted downwards over time by the amount of developer charges received from developers. Since periodic prices depend on the size of the RAB, the collection of developer charges by the water agencies results in a corresponding downward adjustment in periodic prices.

C.3 IPART's developer charges methodology

The basic principles underlying our developer charges methodology are that developer charges should:

- ▼ involve full recovery of relevant costs to service new development
- ▼ reflect variations in the costs of servicing different development areas
- ▼ result in new development areas meeting the costs of the services provided through a combination of developer charges and/or annual charges, and
- ▼ cover only infrastructure expenditures on water, sewerage and stormwater assets that can be clearly linked to the development.

The methodology uses a NPV approach to calculate developer charges. This allows costs and revenues to be reconciled to a single value by discounting them to today's dollars.

Box C.1 shows the existing methodology for calculating the developer charges. The methodology calculates the developer charge per lot (or ET) as:

- ▼ the PV of the existing and future assets used to service the development area
- ▼ less the PV of the future net operating profits (or losses) expected from providing the services to the development area – also called the reduction amount
- ▼ divided by the PV of the number of equivalent tenements in the development area.

¹³ The RAB is IPART's valuation of a regulated water agency's asset base.

Box C.1 Methodology for calculating developer charges

The Developer Charge per Equivalent Tenement is calculated as follows:

$$DC = \frac{K_1}{L_1} + \frac{K_2}{L_2} - \frac{NPV(R_i - C_i)}{L_3} \quad \text{for } i = \text{years } 1, \dots, n$$

Where:

DC – Developer Charges per Equivalent Tenement

K₁ – the Capital Charge for the Pre 1996 Assets which will serve the DSP Area calculated on an NPV basis discounted at rate r1 discounted from 1 January 1996

K₂ – the Capital Charge for the Post 1996 Assets which serve the DSP Area calculated on an NPV basis discounted at rate r2

L₁, L₂, L₃ – the Present Value of the number of Equivalent Tenements in the DSP Area, or to be developed in the DSP Area, calculated at Discount Rate r1, r2, r3 respectively

R_i - the future periodic revenues expected to be received from new customers in the DSP Area in each year (i)

C_i - the future expected annual operating, maintenance and administration costs of providing services to new customers in the DSP Area in each year (i)

r₁ - the Discount Rate to be used in the calculation of the Net Present Value of Pre 1996 assets under Schedule 5

r₂ - the Discount Rate to be used in the calculation of the Net Present Value of Post 1996 assets under Schedule 5

r₃ - the Discount Rate to be used in the calculation of the Net Present Value of expected revenues and costs under Schedule 5

n – is 30 years from the date of review of the Developer Charge as required by this Determination. It is the forecast period for the assessment of expected revenues and costs.

Source: IPART, *Developer Charges Determination No 9, 2000*, Schedule 4.

Each component of the formula is described below.

C.3.1 Capital charge (K)

The capital charge (K) is the net present value of the efficient cost of assets (whether existing or future assets) used to service the development area. These costs are initially funded by the water agency. The capital charge can include:

- ▼ Headworks – for example dams, water and sewage treatment plants and ocean outfalls.
- ▼ Works such as pumping stations, water and sewer mains and reservoirs.

The determination excludes a number of assets from the capital charge. For example:

- ▼ any assets provided by developers free of charge to the water agency
- ▼ the capacity of an asset that was made available due to changes in land use
- ▼ assets commissioned prior to 1970
- ▼ parts of assets not directly attributable to growth, such as amendments to environmental legislation
- ▼ parts of assets that are deemed to be unreasonably oversized having regard to the demographic statistics available at the time.

The costs included in the capital charge calculation should be the minimum costs of undertaking the activity. This implies that there should be a clear nexus between the assets included in the calculation and the DSP area. Costs of assets should reflect the least expensive way of providing the quality of service that the community requires.

To calculate the capital charge, water agencies must:

- ▼ identify which assets, existing or future, are part of the system servicing a DSP area
- ▼ apportion assets that service more than one development area, and
- ▼ exclude any assets not allowed by the determination.

The current developer charges determination allows the inclusion of both existing and future assets in the calculation of developer charges. However, pre-1970 assets are excluded because their costs are considered to have been fully recovered by the agencies.

C.3.2 Operating surplus (Ri and Ci)

The operating surplus is the net present value of the difference between expected operating revenue (Ri) and expected operating costs associated with the DSP area (Ci). Its inclusion in the methodology takes into account income received from periodic charges and avoids 'double dipping' (where customers are charged more than they should be for the assets they use).

The current developer charges determination specifies the consumption per residential house that each agency must use when calculating its operating surplus. This was based on average household consumption of single dwelling properties at the time of the current determination.

C.3.3 Equivalent tenements (ET)

To calculate the developer charge per lot, both the capital charge and the operating profit must be divided by the present value of the number of ETs in the development area (L). The current developer charges determination defines an ET as:

...a measure of the demand a development will place on the infrastructure in terms of the water consumption and [sewage or drainage] discharge for an average residential dwelling.

This measure allows developments of different types and with different water consumptions to be standardised to a multiple of single dwellings. In this way, each development can be charged for equal units of capacity used in the water system, regardless of the type of development.

The number of ETs is discounted to reflect the time preference of consumption. This is based on the same concept as discounting future cash flows due to the time preference for money, where a dollar available today is worth more than a dollar available in the future. If the ETs are not discounted then the income from developer charges will not equal the expenditure on assets when both are expressed as a present value.

C.3.4 Discount rate (r)

The NPV approach involves discounting a stream of future costs and revenues to today's dollars. The discount rate (r) reflects the opportunity cost to the agency of funding infrastructure works. In addition, because agencies provide infrastructure prior to development, they face several risks such as uncertainty in the rate of development, changes in construction costs and changes in interest rates. We have regard to these factors when it sets the discount rate that the agencies must use in their calculations.

The current developer charges determination requires all agencies to use a discount rate of 7% when calculating the net present value of post-1996 assets. This rate was based on the benchmark rate of return used in the corresponding periodic price determinations at that time.

We set a lower discount rate for pre-1996 assets of 3% for Sydney Water and Hunter Water and 0% for Gosford and Wyong Councils. These levels reflect our view that agencies did not expect a full commercial return from developer charges prior to their regulatory introduction in 1996.

C.4 Implementing developer charges

Developer charges are calculated for particular development areas in line with the information presented in water agencies' DSPs. The developer charges determination specifies the format of DSPs and the information they must contain. This includes:

- ▼ Land use planning information
- ▼ The extent of the DSP area
- ▼ The services required over the development period
- ▼ Estimates of future capital and operating costs
- ▼ Standards of service to be provided to customers and design parameters of assets
- ▼ Estimates of lot and dwelling production including demographic assumptions
- ▼ Timing of works and expenditures related to anticipated development and demographic assumptions
- ▼ Asset information including total asset capacity in Equivalent Tenements (if applicable)
- ▼ The calculated developer charge and the basis on which it is calculated
- ▼ A reference to other relevant DSPs.

Water agencies are required to publicly exhibit their DSPs for at least 30 working days before adoption. They must then submit the DSP to IPART for registration. This is to ensure transparency and provide certainty to developers when they have to make investment decisions regarding where to develop.

The determination requires agencies to review their DSPs once, and only once, every five years or as required by IPART. This allows for any significant changes in service requirements to be reflected in the DSPs and the charges updated accordingly.