IPART
New South Wales

Independent Pricing and Regulatory Tribunal

Review of prices for Country Energy's water and sewerage services

From 1 July 2010 to 30 June 2013

Water — Determination and Final Report
June 2010

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Water supply, sewerage and other water services supplied by Country Energy

Determination No. 1, 2010

Contents

Preliminary

1 Background

(a) Section 11 of the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW) permits IPART to conduct investigations and make reports to the Minister on the determination of the pricing for a government monopoly service supplied by a government agency specified in Schedule 1 of the IPART Act.

(b) Country Energy (**Country Energy**) is listed as a government agency for the purposes of Schedule 1 of the IPART Act. The services of Country Energy declared as monopoly services under the *Independent Pricing and Regulatory Tribunal (Country Energy) Order 2008* (**Order**) are:

(1) water supply services;

(2) sewerage services;

(3) trade waste services; and

(4) ancillary and miscellaneous customer services for which no alternative supply exists and which relate to the provision of services of a kind referred to in paragraphs (1) to (3),

(together the **Monopoly Services**).

Accordingly, IPART may determine the prices for the Monopoly Services.

(c) In investigating and reporting on the pricing of the Monopoly Services, IPART has had regard to a broad range of matters, including the criteria set out in section 15(1) of the IPART Act.

(d) In accordance with section 13A of the IPART Act, IPART has fixed the maximum price for the Monopoly Services.

(e) Under section 18(2) of the IPART Act, Country Energy may not fix a price below that determined by IPART without the approval of the Treasurer.

2 Application of this determination

(a) This determination fixes the maximum prices that Country Energy may charge for the Monopoly Services.

(b) This determination commences on the later of 1 July 2010 and the date that it is published in the NSW Government Gazette (**Commencement Date**).

(c) The maximum prices in this determination apply from the Commencement Date to 30 June 2013. The maximum prices in this determination prevailing at 30 June 2013 continue to apply beyond 30 June 2013 until this determination is replaced.

3 Monitoring

IPART may monitor the performance of Country Energy for the purposes of:

(a) establishing and reporting on the level of compliance by Country Energy with this determination; and

(b) preparing a periodic review of pricing policies in respect of the Monopoly Services supplied by Country Energy.

4 Schedules

(a) Schedule 1 and the tables in that schedule set out the maximum prices that Country Energy may charge for water supply services.

(b) Schedule 2 and the tables in that schedule set out the maximum prices that Country Energy may charge for sewerage services.

(c) Schedule 3 and the tables in that schedule set out the maximum prices that Country Energy may charge for trade waste services.

(d) Schedule 4 and the table in that schedule set out the maximum prices that Country Energy may charge for ancillary and miscellaneous customer services.

(e) Schedule 5 sets out the definitions and interpretation provisions.

Schedule 1 — Water supply services

1 Application

This schedule sets the maximum prices that Country Energy may charge for the Monopoly Services under paragraph (a) of the Order (water supply services).

2 Categories for pricing purposes

Prices for water supply services have been determined for 6 categories:

(a) Metered Residential Properties;

(b) Metered Non Residential Properties;

(c) Vacant Land;

(d) Exempt Land;

(e) Multi Premises; and

(f) Pipeline Properties.

3 Charges for water supply services to Metered Residential Properties

The maximum price that may be levied by Country Energy for the provision of water supply services to a Metered Residential Property (connected to the Water Supply System) is the sum of the following:

(a) the water service charge in Table 1, corresponding to the Meter size; and

(b) the following usage charges, as applicable:

(1) the Treated Water usage charge which is:

(A) **for Tier One Average Daily Consumption of Treated Water**, calculated as follows:

$$TW \quad x \quad ADC \quad x \quad D$$

Where:

TW = Treated Water usage charge in Table 2;

ADC = Tier One Average Daily Consumption (in kL) of Treated Water; and

D = number of days in the Meter Reading Period; and

(B) **for Tier Two Average Daily Consumption of Treated Water,** calculated as follows:

$$TW \quad x \quad ADC \quad x \quad D$$

Where:

TW = Treated Water usage charge in Table 2;

ADC = Tier Two Average Daily Consumption (in kL) of Treated Water; and

D = number of days in the Meter Reading Period;

(2) the Chlorinated Water usage charge which is:

(A) **for Tier One Average Daily Consumption of Chlorinated Water,** calculated as follows:

$$CW \quad x \quad ADC \quad x \quad D$$

Where:

CW = the Chlorinated Water usage charge in Table 3;

ADC = Tier One Average Daily Consumption (in kL) of Chlorinated Water; and

D = number of days in the Meter Reading Period; and

(B) **for Tier Two Average Daily Consumption of Chlorinated Water**, calculated as follows:

$$CW \quad x \quad ADC \quad x \quad D$$

Where:

CW = the Chlorinated Water usage charge in Table 3;

ADC = Tier Two Average Daily Consumption (in kL) of Chlorinated Water; and

D = number of days in the Meter Reading Period.

4 Charges for water supply services to Metered Non Residential Properties

The maximum price that may be levied by Country Energy for the provision of water supply services to a Metered Non Residential Property (connected to the Water Supply System) is the sum of the following:

(a) the water service charge in Table 1, corresponding to the Meter size;

(b) the following usage charges, as applicable:

(1) the Treated Water usage charge which is:

(A) **for Tier One Average Daily Consumption of Treated Water**, calculated as follows:

$$TW \quad x \quad ADC \quad x \quad D$$

Where:

TW = Treated Water usage charge in Table 2;

ADC = Tier One Average Daily Consumption (in kL) of Treated Water; and

D = number of days in the Meter Reading Period; and

(B) **for Tier Two Average Daily Consumption of Treated Water,** calculated as follows:

$$TW \quad x \quad ADC \quad x \quad D$$

Where:

TW = Treated Water usage charge in Table 2;

ADC = Tier Two Average Daily Consumption (in kL) of Treated Water; and

D = number of days in the Meter Reading Period;

(2) the Chlorinated Water usage charge which is:

(A) **for Tier One Average Daily Consumption of Chlorinated Water,** calculated as follows:

$$CW \quad x \quad ADC \quad x \quad D$$

Where:

CW = the Chlorinated Water usage charge in Table 3;

ADC = Tier One Average Daily Consumption (in kL) of Chlorinated Water; and

D = number of days in the Meter Reading Period; and

(B) **for Tier Two Average Daily Consumption of Chlorinated Water**, calculated as follows:

$$CW \quad x \quad ADC \quad x \quad D$$

Where:

CW = the Chlorinated Water usage charge in Table 3;

ADC = Tier Two Average Daily Consumption (in kL) of Chlorinated Water; and

D = number of days in the Meter Reading Period;

(3) the Untreated Water usage charge which is the Untreated Water usage charge in Table 4 multiplied by the volume (in kL) of the Untreated Water used in the Meter Reading Period; and

(4) the Effluent Water usage charge which is the Effluent Water usage charge in Table 5 multiplied by the volume (in kL) of the Effluent Water used in the Meter Reading Period.

5 Charges for water supply services to Vacant Land

The maximum price that may be levied by Country Energy for the provision of water supply services to Vacant Land which is not connected to the Water Supply System but is reasonably available for connection to the Water Supply System is the water service charge in Table 6.

6 Charges for water supply services to Exempt Land

The maximum price that may be levied by Country Energy for the provision of water supply services to Exempt Land is the water usage charge in Table 7 multiplied by the volume (in kL) of Treated Water used.

7 Levying water supply charges on Multi Premises

7.1 Water supply charges for Multi Premises

(a) This clause 7 prescribes how the maximum prices in this schedule are to be levied on Multi Premises, specifically how they are levied on persons who own, control or occupy those Multi Premises.

(b) Clause 3 of this schedule does not apply to Metered Properties if this clause 7 is capable of applying to those Properties.

7.2 Strata Title Lot within a Strata Title Building with a Common Water Meter or multiple Common Water Meters

For a Strata Title Lot within a Strata Title Building which:

(a) is connected to the Water Supply System; and

(b) which has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by Country Energy on that Strata Title Lot for the provision of water supply services to that Strata Title Lot is the sum of the following:

(c) the water service charge in Table 1 (with each Strata Title Lot taken to have a Meter size of 20mm); and

(d) the following usage charges, as applicable:

(1) the Treated Water usage charge which is:

(A) **for Tier One Average Daily Consumption of Treated Water**, calculated as follows:

$$TW \quad x \quad ADC \quad x \quad D$$

Where:

TW = Treated Water usage charge in Table 2;

ADC = deemed Average Daily Consumption for the Strata Title Lot calculated in accordance with clause 7.2(e) below, to the extent that it is less than or equal to 1.645kL/day in the Summer Period and 1.096kL/day at any other time; and

D = number of days in the Meter Reading Period; and

(B) **for Tier Two Average Daily Consumption of Treated Water,** calculated as follows:

$$TW \quad x \quad ADC \quad x \quad D$$

Where:

TW = Treated Water usage charge in Table 2;

ADC = deemed Average Daily Consumption for the Strata Title Lot calculated in accordance with clause 7.2(e) below, to the extent that it is exceeds 1.645kL/day in the Summer Period and 1.096kL/day at any other time; and

D = number of days in the Meter Reading Period;

(2) the Chlorinated Water usage charge which is:

(A) **for Tier One Average Daily Consumption of Chlorinated Water,** calculated as follows:

$$CW \quad x \quad ADC \quad x \quad D$$

Where:

CW = the Chlorinated Water usage charge in Table 3;

ADC = deemed Average Daily Consumption for the Strata Title Lot calculated in accordance with clause 7.2(e) below, to the extent that it is less than or equal to 1.645kL/day in the Summer Period and 1.096kL/day at any other time; and

D = number of days in the Meter Reading Period; and

(B) **for Tier Two Average Daily Consumption of Chlorinated Water**, calculated as follows:

$$CW \quad x \quad ADC \quad x \quad D$$

Where:

CW = the Chlorinated Water usage charge in Table 3;

ADC = deemed Average Daily Consumption for the Strata Title Lot calculated in accordance with clause 7.2(e) below, to the extent that it is exceeds 1.645kL/day in the Summer Period and 1.096kL/day at any other time; and

D = number of days in the Meter Reading Period.

(e) the deemed Average Daily Consumption for the Strata Title Lot is determined by the following formula:

$$ADC \quad = \quad \frac{A}{B}$$

Where:

ADC = deemed Average Daily Consumption for the Strata Title Lot;

A = Average Daily Consumption for the Strata Title Building; and

B = total number of Strata Title Lots in the Strata Title Building.

7.3 Multi Premises which is not a Strata Title Building

For a Multi Premises which:

(a) is not a Strata Title Building;

(b) is connected to the Water Supply System; and

(c) has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by Country Energy on the owner of that Multi Premises is the sum of the following:

(d) the water service charge in Table 1 multiplied by the number of Multi Premises Properties in the Multi Premises (with each Multi Premises Property taken to have a Meter size of 20mm); and

(e) the following usage charges, as applicable:

(1) the Treated Water usage charge which is:

(A) **for Multi Premises Tier One Average Daily Consumption of Treated Water**, calculated as follows:

$$TW \quad x \quad ADC \quad x \quad D$$

Where:

TW = Treated Water usage charge in Table 2;

ADC = Multi Premises Tier One Average Daily Consumption (in kL) of Treated Water; and

D = number of days in the Meter Reading Period; and

(B) **for Multi Premises Tier Two Average Daily Consumption of Treated Water,** calculated as follows:

$$TW \quad x \quad ADC \quad x \quad D$$

Where:

TW = Treated Water usage charge in Table 2;

ADC = Multi Premises Tier Two Average Daily Consumption (in kL) of Treated Water; and

D = number of days in the Meter Reading Period;

(2) the Chlorinated Water usage charge which is:

(A) **for Multi Premises Tier One Average Daily Consumption of Chlorinated Water,** calculated as follows:

$$CW \quad x \quad ADC \quad x \quad D$$

Where:

CW = the Chlorinated Water usage charge in Table 3;

ADC = Multi Premises Tier One Average Daily Consumption (in kL) of Chlorinated Water; and

D = number of days in the Meter Reading Period; and

(B) **for Multi Premises Tier Two Average Daily Consumption of Chlorinated Water**, calculated as follows:

$$CW \quad x \quad ADC \quad x \quad D$$

Where:

CW = the Chlorinated Water usage charge in Table 3;

ADC = Multi Premises Tier Two Average Daily Consumption (in kL) of Chlorinated Water; and

D = number of days in the Meter Reading Period.

8 Charges for water supply services to Pipeline Properties

The maximum price that may be levied by Country Energy for the provision of water supply services to a Pipeline Property is the sum of the following:

(a) the water service charge in Table 8, corresponding to the Meter size; and

(b) the Untreated Water usage charge which is:

(1) **for Average Daily Consumption of Untreated Water up to and including 1.096kL,** calculated as follows:

$$UW \quad x \quad ADC \quad x \quad D$$

Where:

UW = the Untreated Water usage charge in Table 9;

ADC = Average Daily Consumption (in kL) of Untreated Water, to the extent that it is less than or equal to 1.096kL; and

D = number of days in the Meter Reading Period; and

(2) **for Average Daily Consumption of Untreated Water exceeding 1.096kL,** calculated as follows:

$$UW \quad x \quad ADC \quad x \quad D$$

Where:

UW = the Untreated Water usage charge in Table 9;

ADC = Average Daily Consumption (in kL) of Untreated Water to the extent that it exceeds 1.096kL; and

D = number of days in the Meter Reading Period.

9 Perilya Limited

IPART has not determined a maximum price that may be levied by Country Energy for the provision of water supply services to Perilya Limited.

Tables 1 to 9

Table 1 Water service charge for a Metered Residential Property or a Metered Non Residential Property ($2010/11)

Meter/Diameter Pipe size	Commencement Date to 30 June 2011 $	1 July 2011 to 30 June 2012 $	1 July 2012 to 30 June 2013 $
Water service charge (per year)			
20mm	230.34	235.89 x $(1+\Delta CPI_1)$	241.58 x $(1+\Delta CPI_2)$
25mm	359.71	368.38 x $(1+\Delta CPI_1)$	377.27 x $(1+\Delta CPI_2)$
32mm	590.04	604.28 x $(1+\Delta CPI_1)$	618.85 x $(1+\Delta CPI_2)$
40mm	921.35	943.58 x $(1+\Delta CPI_1)$	966.34 x $(1+\Delta CPI_2)$
50mm	1,439.87	1474.61 x $(1+\Delta CPI_1)$	1510.17 x $(1+\Delta CPI_2)$
80mm	3,685.41	3774.30 x $(1+\Delta CPI_1)$	3865.33 x $(1+\Delta CPI_2)$
100mm	5,758.45	5897.34 x $(1+\Delta CPI_1)$	6039.58 x $(1+\Delta CPI_2)$
150mm	12,956.77	13269.28 x $(1+\Delta CPI_1)$	13589.33 x $(1+\Delta CPI_2)$
For Meter sizes not specified above the following formula applies	$(\text{Meter size})^2$ x 20mm charge/400	$(\text{Meter size})^2$ x 20mm charge/400	$(\text{Meter size})^2$ x 20mm charge/400

Table 2 Treated Water usage charge for a Metered Residential Property or a Metered Non Residential Property ($2010/11)

Charge	Commencement Date to 30 June 2011 ($/kL)	1 July 2011 to 30 June 2012 ($/kL)	1 July 2012 to 30 June 2013 ($/kL)
Water usage charge			
- Tier One Average Daily Consumption	1.25	1.42 x $(1+\Delta CPI_1)$	1.59 x $(1+\Delta CPI_2)$
- Tier Two Average Daily Consumption	2.51	2.59 x $(1+\Delta CPI_1)$	2.67 x $(1+\Delta CPI_2)$

Note: The limit for Tier One Average Daily Consumption is higher in the summer months. Please refer to the definition of Tier One Average Daily Consumption in clause 1.1 of Schedule 5 of this determination.

Table 3 Chlorinated Water usage charge for a Metered Residential Property and Metered Non Residential Property ($2010/11)

Charge	Commencement Date to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
	($/kL)	($/kL)	($/kL)
Water usage charge			
- Tier One Average Daily Consumption	0.95	0.99 x (1+ΔCPI_1)	1.03 x (1+ΔCPI_2)
- Tier Two Average Daily Consumption	2.12	1.93 x (1+ΔCPI_1)	1.75 x (1+ΔCPI_2)

Note: The limit for Tier One Average Daily Consumption is higher in the summer months. Please refer to the definition of Tier One Average Daily Consumption in clause 1.1 of Schedule 5 of this determination.

Table 4 Untreated Water usage charge for a Metered Non Residential Property ($2010/11)

Charge	Commencement Date to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
	($/kL)	($/kL)	($/kL)
Water usage charge	1.40	1.40 x (1+ΔCPI_1)	1.40 x (1+ΔCPI_2)

Table 5 Effluent Water usage charge for a Metered Non Residential Property ($2010/11)

Charge	Commencement Date to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
	($/kL)	($/kL)	($/kL)
Water usage charge	0.49	0.54 x (1+ΔCPI_1)	0.60 x (1+ΔCPI_2)

Table 6 Water service charge for Vacant Land ($2010/11)

Charge	Commencement Date to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
	$	$	$
Water service charge (per year)	230.34	235.89 x (1+ΔCPI_1)	241.58 x (1+ΔCPI_2)

Table 7 Treated Water usage charge for Exempt Land ($2010/11)

Charge	Commencement Date to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
	($/kL)	($/kL)	($/kL)
Water usage charge	2.13	2.20 x $(1+\Delta CPI_1)$	2.27 x $(1+\Delta CPI_2)$

Table 8 Water service charge for a Pipeline Property ($2010/11)

Meter/Diameter Pipe size	Commencement Date to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
	$	$	$
Water service charge (per year)			
20mm	230.34	235.89 x $(1+\Delta CPI_1)$	241.58 x $(1+\Delta CPI_2)$
25mm	359.71	368.38 x $(1+\Delta CPI_1)$	377.27 x $(1+\Delta CPI_2)$
32mm	590.04	604.28 x $(1+\Delta CPI_1)$	618.85 x $(1+\Delta CPI_2)$
40mm	921.35	943.58 x $(1+\Delta CPI_1)$	966.34 x $(1+\Delta CPI_2)$
For Meter sizes not specified above the following formula applies	$(\text{Meter size})^2$ x 20mm charge/400	$(\text{Meter size})^2$ x 20mm charge/400	$(\text{Meter size})^2$ x 20mm charge/400

Table 9 Untreated Water usage charge for a Pipeline Property ($2010/11)

Charge	Commencement Date to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
	($/kL)	($/kL)	($/kL)
Water usage charge			
- Average Daily Consumption up to and including 1.096 kL	0.69	0.69 x $(1+\Delta CPI_1)$	0.69 x $(1+\Delta CPI_2)$
- Average Daily Consumption exceeding 1.096 kL	1.14	1.09 x $(1+\Delta CPI_1)$	1.03 x $(1+\Delta CPI_2)$

Schedule 2 — Sewerage Services

1 Application

This schedule sets the maximum prices that Country Energy may charge for the Monopoly Services under paragraph (b) of the Order (sewerage services).

2 Categories for pricing purposes

Prices for sewerage services have been determined for 5 categories:

(a) Residential Properties;

(b) Non Residential Properties;

(c) Vacant Land;

(d) Exempt Land; and

(e) Multi Premises.

3 Charges for sewerage services to Residential Properties

3.1 Charges for sewerage services to a Residential Property (other than a Residential Property located in Perilya Area) connected to the Sewerage System

The maximum price that may be levied by Country Energy for sewerage services to a Residential Property (other than a Residential Property located in the Perilya Area) connected to the Sewerage System is the sewerage service charge in Table 10.

3.2 Charges for sewerage services to a Residential Property in Perilya Area connected to the Sewerage System

The maximum price that may be levied by Country Energy for sewerage services to a Residential Property in the Perilya Area which is:

(a) connected to the Sewerage System; and

(b) deemed by Country Energy to be occupied,

is the sewerage service charge in Table 10.

4 Charges for sewerage services to Non Residential Properties

4.1 Charges for sewerage services to a Non Residential Property (other than a Non Residential Property located in Perilya Area) connected to the Sewerage System

The maximum price that may be levied by Country Energy for sewerage services to a Non Residential Property (other than a Non Residential Property located in the Perilya Area) connected to the Sewerage System is:

(a) the sewerage service charge in Table 11, corresponding to the Meter size; and

(b) the sewerage usage charge in Table 12.

4.2 Charges for sewerage services to a Non Residential Property located in the Perilya Area connected to the Sewerage System

The maximum price that may be levied by Country Energy for sewerage services to a Non Residential Property located in the Perilya Area connected to the Sewerage System with a Meter or multiple Meters is:

(a) the sewerage service charge in Table 11 for each Meter (assuming that each Meter is a 100mm Meter); and

(b) the sewerage usage charge in Table 12.

5 Charges for sewerage services to Vacant Land

The maximum price that may be levied by Country Energy for sewerage services to Vacant Land which is not connected to the Sewerage System but is reasonably available for connection to the Sewerage System is the sewerage service charge in Table 10.

6 Charges for sewerage services to Exempt Land

The maximum price that may be levied by Country Energy for sewerage services to Exempt Land is the sewerage usage charge in Table 12.

7 Levying charges for sewerage services on Multi Premises

7.1 Sewerage service charges for Multi Premises

(a) This clause 7 prescribes how the maximum prices in this schedule are to be levied on Multi Premises, specifically how they are levied on persons who own, control or occupy those Multi Premises.

(b) Clauses 3 and 4 of this schedule do not apply to Properties connected to the Sewerage System if this clause 7 is capable of applying to those Properties.

7.2 Strata Title Lot which is a Residential Property

For a Strata Title Lot (which is a Residential Property) within a Strata Title Building where that Strata Title Building is connected to the Sewerage System, the maximum price that may be levied by Country Energy on that Strata Title Lot for the provision of sewerage services to that Strata Title Lot is the sewerage service charge in Table 10.

7.3 Strata Title Lot which is a Non Residential Property

For a Strata Title Lot (which is a Non Residential Property) within a Strata Title Building where that Strata Title Building:

(a) is connected to the Sewerage System; and

(b) has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by Country Energy on that Strata Title Lot for the provision of sewerage services to that Strata Title Lot is:

(c) the sewerage service charge in Table 11, corresponding to the Meter size; and

(d) the sewerage usage charge determined by the following formula:

$$SUC = \frac{A}{B} \; x \; C$$

Where:

SUC = sewerage usage charge for that Strata Title Lot;

A = the water in kL (recorded by all Common Water Meters);

B = the number of Strata Title Lots in the Strata Title Building; and

C = the sewerage usage charge in Table 12.

7.4 Multi Premises which is not a Strata Title Building

The maximum price that may be levied by Country Energy on a Multi Premises Property which is not a Strata Title Lot connected to the Sewerage System is the sewerage service charge in Table 10.

Tables 10 to 12

Table 10 Sewerage service charge for a Residential Property and Vacant Land ($2010/11)

Charge	Commencement Date to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
	$	$	$
Sewerage service charge (per year)	428.45	450.24 x (1+ΔCPI_1)	473.13 x (1+ΔCPI_2)

Table 11 Sewerage service charges for a Non Residential Property ($2010/11)

Charge	Commencement Date to 30 June 2011 $	1 July 2011 to 30 June 2012 $	1 July 2012 to 30 June 2013 $
Sewerage service charge (per year) – Meter size			
20mm	590.1 x df%	631.41 x (1+ΔCPI_1) x df%	675.61 x (1+ΔCPI_2) x df%
25mm	921.97 x df%	986.51 x (1+ΔCPI_1) x df%	1055.56 x (1+ΔCPI_2) x df%
32mm	1510.97 x df%	1616.73 x (1+ΔCPI_1) x df%	1729.92 x (1+ΔCPI_2) x df%
40mm	2360.42 x df%	2525.64 x (1+ΔCPI_1) x df%	2702.45 x (1+ΔCPI_2) x df%
50mm	3687.87 x df%	3946.02 x (1+ΔCPI_1) x df%	4222.26 x (1+ΔCPI_2) x df%
80mm	9441.66 x df%	10102.56 x (1+ΔCPI_1) x df%	10809.79 x (1+ΔCPI_2) x df%
100mm	14752.6 x df%	15785.25 x (1+ΔCPI_1) x df%	16890.3 x (1+ΔCPI_2) x df%
150mm	33193.07 x df%	35516.52 x (1+ΔCPI_1) x df%	38002.86 x (1+ΔCPI_2) x df%
For Meter sizes not specified above the following formula applies	[(Meter size)^2 x 20mm charge/400] x df%	[(Meter size)^2 x 20mm charge/400] x df%	[(Meter size)^2 x 20mm charge/400] x df%

Note: A Discharge Factor is applied to the charge based on the volume of water discharged into the Sewerage System.

Table 12 Sewerage usage charge for a Non Residential Property and Exempt Land ($2010/11)

Charge	Commencement Date to 30 June 2011 $	1 July 2011 to 30 June 2012 $	1 July 2012 to 30 June 2013 $
Sewerage usage charge, per kL of water used	1.03 x df%	1.08 x (1+ΔCPI_1) x df%	1.13 x (1+ΔCPI_2) x df%

Note: A Discharge Factor is applied to the charge based on the volume of water discharged into the Sewerage System.

Schedule 3 — Trade waste services

1 Application

This schedule sets the maximum prices that Country Energy may charge for the Monopoly Services under paragraph (c) of the Order (trade waste services).

2 Categories for pricing purposes

Prices for trade waste services have been determined for 5 categories:

(a) Category 1 Trade Waste Discharge discharged pursuant to a trade waste agreement with Country Energy;

(b) Category 1a Trade Waste Discharge discharged pursuant to a trade waste agreement with Country Energy;

(c) Category 2 Trade Waste Discharge discharged pursuant to a trade waste agreement with Country Energy;

(d) Category 3 Trade Waste Discharge discharged pursuant to a trade waste agreement with Country Energy; and

(e) Trade waste discharged by Perilya Limited as a result of its activities in the Perilya Area.

3 Category 1 Trade Waste Discharge

The maximum price that may be levied by Country Energy for Category 1 Trade Waste Discharge discharged pursuant to a trade waste agreement with Country Energy is calculated as follows:

$$TW1 = A1 + C1 + T1$$

Where:

TW1 = maximum price for Category 1 Trade Waste Discharge;

A1 = trade waste discharge application fee ($);

C1 = annual trade waste fee ($); and

T1 = trade waste re-inspection fee ($),

each as set out in Table 13.

4 Category 1a Trade Waste Discharge

The maximum price that may be levied by Country Energy for Category 1a Trade Waste Discharge discharged pursuant to a trade waste agreement with Country Energy is calculated as follows:

TW1 = A1 + C1 + T1 + (NWU1 × C)

Where:

TW1 = maximum price for Category 1a Trade Waste Discharge;

A1 = trade waste discharge application fee ($);

C1 = annual trade waste fee ($);

T1 = trade waste re-inspection fee ($); and

NWU1 = non compliant trade waste usage charge ($/kL)[1],

each as set out in Table 14; and

C = volume (in kL) of liquid trade waste[2] discharged to the Sewerage System.

5 Category 2 Trade Waste Discharge

The maximum price that may be levied by Country Energy for Category 2 Trade Waste Discharge discharged pursuant to a trade waste agreement with Country Energy is calculated as follows:

TW2 = A2 + C2 + T2 + (TWU2 × C)

Where:

TW2 = maximum price for Category 2 Trade Waste Discharge;

A2 = trade waste discharge application fee ($);

C2 = annual trade waste fee ($);

1 The non compliant trade waste usage charge applies where Country Energy determines that the required pre-treatment equipment has not been installed or properly maintained.

2 The volume of liquid trade waste is the volume of water used by the property multiplied by the trade waste discharge factor. The trade waste discharge factor is the percentage of liquid trade waste determined by Country Energy to be discharged into the Sewerage System.

T2 = trade waste re-inspection fee ($);

TWU2 = trade waste usage charge ($/kL) or the non compliant trade waste usage charge ($/kL)[3], as the case may be,

each as set out in Table 15; and

C = volume (in kL) of liquid trade waste[4] discharged to the Sewerage System.

6 Category 3 Trade Waste Discharge

The maximum price that may be levied by Country Energy for Category 3 Trade Waste Discharge discharged pursuant to a trade waste agreement with Country Energy is calculated as follows:

$$TW3 = A3 + C3 + T3 + (FWD \times B) + PH + BOD + EMC + NEMC$$

Where:

TW3 = maximum price for Category 3 Trade Waste Discharge;

A3 = trade waste discharge application fee ($);

C3 = annual trade waste fee ($);

T3 = trade waste re-inspection fee ($);

FWD = annual food waste disposal unit fee ($/bed) per bed in the hospital, nursing home or other facility in which the food waste unit is installed;

PH = charge for exceeding approved PH range charge ($);

BOD = charge for exceeding approved BOD range charge ($),

each as set out in Table 16;

B = number of beds in the hospital, nursing home or other facility in which the food waste disposal unit is installed;

EMC = total excess mass charge ($) as set out in Table 17; and

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3 The non compliant trade waste usage charge applies where Country Energy determines that the required pre-treatment equipment has not been installed or properly maintained.

4 The volume of liquid trade waste is the volume of water used by the property multiplied by the trade waste discharge factor. The trade waste discharge factor is the percentage of liquid trade waste determined by Country Energy to be discharged into the Sewerage System.

NEMC = non compliant excess mass charge ($) as set out in Table 17.

7 Trade waste discharged by Perilya Limited

(a) In the absence of a trade waste agreement between Country Energy and Perilya Limited, the maximum price that may be levied by Country Energy for:

(1) Category 1 Trade Waste Discharge;

(2) Category 1a Trade Waste Discharge;

(3) Category 2 Trade Waste Discharge; or

(4) Category 3 Trade Waste Discharge,

discharged by Perilya Limited as a result of its activities in the Perilya Area, is the annual trade waste fee per operating mine set out in Table 18.

(b) If a trade waste agreement between Country Energy and Perilya Limited has been entered into, the maximum price that may be levied by Country Energy for:

(1) Category 1 Trade Waste Discharge;

(2) Category 1a Trade Waste Discharge;

(3) Category 2 Trade Waste Discharge; or

(4) Category 3 Trade Waste Discharge,

discharged by Perilya Limited as a result of its activities in the Perilya Area is to be determined in accordance with clauses 3 to 6 of this schedule (as applicable).

Tables 13 to 18

Table 13 Category 1 Trade Waste Charges ($2010/11)

Charge	Commencement Date to 30 June 2011 $	1 July 2011 to 30 June 2012 $	1 July 2012 to 30 June 2013 $
Trade waste discharge application fee[a] ($ per application)	182.42	195.18 x (1+ΔCPI_1)	208.85 x (1+ΔCPI_2)
Annual trade waste fee ($ per year)	84.61	90.54 x (1+ΔCPI_1)	96.88 x (1+ΔCPI_2)
Trade waste re-inspection fee ($ per inspection)	79.12	84.66 x (1+ΔCPI_1)	90.58 x (1+ΔCPI_2)

a The application fee is not applicable where the trade waste customer is exempt from obtaining an approval for liquid trade waste discharge in accordance with the Country Energy Policy for the Discharge of Liquid Trade Waste.

Table 14 Category 1a Trade Waste Charges ($2010/11)

Charge	Commencement Date to 30 June 2011 $	1 July 2011 to 30 June 2012 $	1 July 2012 to 30 June 2013 $
Trade waste discharge application fee[a] ($ per application)	182.42	195.18 x (1+ΔCPI_1)	208.85 x (1+ΔCPI_2)
Annual trade waste fee ($ per year)	84.61	90.54 x (1+ΔCPI_1)	96.88 x (1+ΔCPI_2)
Trade waste re-inspection fee ($ per inspection)	79.12	84.66 x (1+ΔCPI_1)	90.58 x (1+ΔCPI_2)
Non-compliant trade waste usage charge ($/kL)	1.58	1.69 x (1+ΔCPI_1)	1.81 x (1+ΔCPI_2)

a The application fee is not applicable where the trade waste customer is exempt from obtaining an approval for liquid trade waste discharge in accordance with the Country Energy Policy for the Discharge of Liquid Trade Waste.

Table 15 Category 2 Trade Waste Charges ($2010/11)

Charge	Commencement Date to 30 June 2011 $	1 July 2011 to 30 June 2012 $	1 July 2012 to 30 June 2013 $
Trade waste discharge application fee[a] ($ per application)	182.42	195.18 x (1+ΔCPI$_1$)	208.85 x (1+ΔCPI$_2$)
Annual trade waste fee ($ per year)	567.03	606.72 x (1+ΔCPI$_1$)	649.19 x (1+ΔCPI$_2$)
Trade waste re-inspection fee ($ per inspection)	79.12	84.66 x (1+ΔCPI$_1$)	90.58 x (1+ΔCPI$_2$)
Trade waste usage charge ($/kL)	1.58	1.69 x (1+ΔCPI$_1$)	1.81 x (1+ΔCPI$_2$)
Non-compliant trade waste usage charge ($/kL)	14.51	15.52 x (1+ΔCPI$_1$)	16.61 x (1+ΔCPI$_2$)

a The application fee is not applicable where the trade waste customer is exempt from obtaining an approval for liquid trade waste discharge in accordance with the Country Energy Policy for the Discharge of Liquid Trade Waste.

Table 16 Category 3 Trade Waste Charges ($2010/11)

Charge	Commencement Date to 30 June 2011 $	1 July 2011 to 30 June 2012 $	1 July 2012 to 30 June 2013 $
Trade waste discharge application fee[a] ($ per application)	182.42	195.18 x (1+ΔCPI$_1$)	208.85 x (1+ΔCPI$_2$)
Annual trade waste fee ($ per year)	as determined by Country Energy on a case by case basis depending on complexity	as determined by Country Energy on a case by case basis depending on complexity	as determined by Country Energy on a case by case basis depending on complexity
Trade waste re-inspection fee ($ per inspection)	79.12	84.66 x (1+ΔCPI$_1$)	90.58 x (1+ΔCPI$_2$)
Charge for exceeding approved ph range	as per the Country Energy Policy for the Discharge of Liquid Trade Waste	as per the Country Energy Policy for the Discharge of Liquid Trade Waste	as per the Country Energy Policy for the Discharge of Liquid Trade Waste
Charge for exceeding approved BOD range	as per the Country Energy Policy for the Discharge of Liquid Trade Waste	as per the Country Energy Policy for the Discharge of Liquid Trade Waste	as per the Country Energy Policy for the Discharge of Liquid Trade Waste
Annual food waste disposal unit fee ($/bed)[b]	23.08	24.69 x (1+ΔCPI$_1$)	26.42 x (1+ΔCPI$_2$)

a The application fee is not applicable where the trade waste customer is exempt from obtaining an approval for liquid trade waste discharge in accordance with the Country Energy Policy for the Discharge of Liquid Trade Waste.

b Applies to existing food waste disposal units where their installation is approved.

Table 17 Excess mass charge ($2010/11)

	Commencement Date to 30 June 2011 $/kg	1 July 2011 to 30 June 2012 $/kg	1 July 2012 to 30 June 2013 $/kg
Biochemical Oxygen Demand (BOD)	0.71	0.76 x (1+ΔCPI$_1$)	0.82 x (1+ΔCPI$_2$)
Suspended Solids	0.91	0.98 x (1+ΔCPI$_1$)	1.04 x (1+ΔCPI$_2$)
Total Oil and Grease	1.27	1.36 x (1+ΔCPI$_1$)	1.46 x (1+ΔCPI$_2$)
Ammonia (as Nitrogen)	2.16	2.32 x (1+ΔCPI$_1$)	2.48 x (1+ΔCPI$_2$)
Total Dissolved Solids	0.05	0.06 x (1+ΔCPI$_1$)	0.06 x (1+ΔCPI$_2$)
Acid demand, pH>10	0.71	0.76 x (1+ΔCPI$_1$)	0.82 x (1+ΔCPI$_2$)
Alkali demand, pH<7	0.71	0.76 x (1+ΔCPI$_1$)	0.82 x (1+ΔCPI$_2$)
Aluminium	0.71	0.76 x (1+ΔCPI$_1$)	0.82 x (1+ΔCPI$_2$)
Arsenic	71.43	76.43 x (1+ΔCPI$_1$)	81.78 x (1+ΔCPI$_2$)
Barium	35.16	37.63 x (1+ΔCPI$_1$)	40.26 x (1+ΔCPI$_2$)
Boron	0.71	0.76 x (1+ΔCPI$_1$)	0.82 x (1+ΔCPI$_2$)
Bromine	14.22	15.22 x (1+ΔCPI$_1$)	16.28 x (1+ΔCPI$_2$)
Cadmium	329.67	352.74 x (1+ΔCPI$_1$)	377.44 x (1+ΔCPI$_2$)
Chloride	No charge	No charge	No charge
Chlorinated Hydrocarbons	35.16	37.63 x (1+ΔCPI$_1$)	40.26 x (1+ΔCPI$_2$)
Chlorinated Phenolic	1,424.16	1523.85 x (1+ΔCPI$_1$)	1630.52 x (1+ΔCPI$_2$)
Chlorine	1.48	1.59 x (1+ΔCPI$_1$)	1.70 x (1+ΔCPI$_2$)
Chromium	23.89	25.56 x (1+ΔCPI$_1$)	27.35 x (1+ΔCPI$_2$)
Cobalt	14.79	15.83 x (1+ΔCPI$_1$)	16.93 x (1+ΔCPI$_2$)
Copper	14.79	15.83 x (1+ΔCPI$_1$)	16.93 x (1+ΔCPI$_2$)
Cyanide	71.43	76.43 x (1+ΔCPI$_1$)	81.78 x (1+ΔCPI$_2$)
Fluoride	3.52	3.76 x (1+ΔCPI$_1$)	4.03 x (1+ΔCPI$_2$)
Formaldehyde	1.48	1.59 x (1+ΔCPI$_1$)	1.70 x (1+ΔCPI$_2$)
Herbicides / defoliants	712.08	761.93 x (1+ΔCPI$_1$)	815.26 x (1+ΔCPI$_2$)
Iron	1.48	1.59 x (1+ΔCPI$_1$)	1.70 x (1+ΔCPI$_2$)
Lead	35.16	37.63 x (1+ΔCPI$_1$)	40.26 x (1+ΔCPI$_2$)
Lithium	7.14	7.64 x (1+ΔCPI$_1$)	8.18 x (1+ΔCPI$_2$)
Manganese	7.14	7.64 x (1+ΔCPI$_1$)	8.18 x (1+ΔCPI$_2$)
Mercaptans	71.43	76.43 x (1+ΔCPI$_1$)	81.78 x (1+ΔCPI$_2$)
Mercury	2,373.60	2539.75 x (1+ΔCPI$_1$)	2717.54 x (1+ΔCPI$_2$)
Methylene Blue Active Substances (MBAS)	0.71	0.76 x (1+ΔCPI$_1$)	0.82 x (1+ΔCPI$_2$)
Molybdenum	0.71	0.76 x (1+ΔCPI$_1$)	0.82 x (1+ΔCPI$_2$)
Nickel	23.89	25.56 x (1+ΔCPI$_1$)	27.35 x (1+ΔCPI$_2$)
Nitrogen (as TKN Total Kjedahl Nitrogen)	0.19	0.20 x (1+ΔCPI$_1$)	0.21 x (1+ΔCPI$_2$)

	Commencement Date to 30 June 2011 $/kg	1 July 2011 to 30 June 2012 $/kg	1 July 2012 to 30 June 2013 $/kg
Organoarsenic compounds	712.08	761.93 x (1+ΔCPI$_1$)	815.26 x (1+ΔCPI$_2$)
Pesticides general (excludes organochlorines and organo-phosphates)	712.08	761.93 x (1+ΔCPI$_1$)	815.26 x (1+ΔCPI$_2$)
Petroleum Hydrocarbons (non-flammable)	2.38	2.55 x (1+ΔCPI$_1$)	2.73 x (1+ΔCPI$_2$)
Phenolic compounds (non-chlorinated)	7.14	7.64 x (1+ΔCPI$_1$)	8.18 x (1+ΔCPI$_2$)
Phosphorous (Total P)	1.48	1.59 x (1+ΔCPI$_1$)	1.70 x (1+ΔCPI$_2$)
Polynuclear aromatic hydrocarbons (PAH's)	14.79	15.83 x (1+ΔCPI$_1$)	16.93 x (1+ΔCPI$_2$)
Selenium	50.04	53.55 x (1+ΔCPI$_1$)	57.29 x (1+ΔCPI$_2$)
Silver	1.14	1.22 x (1+ΔCPI$_1$)	1.31 x (1+ΔCPI$_2$)
Sulphate (as SO4)	0.14	0.15 x (1+ΔCPI$_1$)	0.16 x (1+ΔCPI$_2$)
Sulphide	1.48	1.59 x (1+ΔCPI$_1$)	1.70 x (1+ΔCPI$_2$)
Sulphite	1.59	1.70 x (1+ΔCPI$_1$)	1.82 x (1+ΔCPI$_2$)
Thiosulphate	0.25	0.27 x (1+ΔCPI$_1$)	0.29 x (1+ΔCPI$_2$)
Tin	7.14	7.64 x (1+ΔCPI$_1$)	8.18 x (1+ΔCPI$_2$)
Uranium	7.14	7.64 x (1+ΔCPI$_1$)	8.18 x (1+ΔCPI$_2$)
Zinc	14.56	15.58 x (1+ΔCPI$_1$)	16.67 x (1+ΔCPI$_2$)
Non compliant excess mass charge	as per the Country Energy Policy for the Discharge of Liquid Trade Waste	as per the Country Energy Policy for the Discharge of Liquid Trade Waste	as per the Country Energy Policy for the Discharge of Liquid Trade Waste

Table 18 Perilya Trade Waste Charge ($2010/11)

Charge	Commencement Date to 30 June 2011 $	1 July 2011 to 30 June 2012 $	1 July 2012 to 30 June 2013 $
Annual trade waste fee per operating mine ($ per year)	1,286.43	1351.85 x (1+ΔCPI$_1$)	1420.59 x (1+ΔCPI$_2$)

Schedule 4 — Ancillary and miscellaneous customer services

1 Application

This schedule sets the maximum prices that Country Energy may charge for Monopoly Services under paragraph (d) of the Order (ancillary and miscellaneous services that relate to the provision of water supply services, sewerage services or trade waste services).

2 Ancillary and miscellaneous charges

The maximum charge that may be levied by Country Energy for an ancillary and miscellaneous service in the second column of Table 19 is:

(a) **from the Commencement Date to 30 June 2011** - the corresponding charge in the third column of Table 19;

(b) **from 1 July 2011 to 30 June 2012** - the corresponding charge in the third column of Table 19 multiplied by $(1+ \Delta CPI_1)$; and

(c) **from 1 July 2012 to 30 June 2013** - the corresponding charge in the third column of Table 19 multiplied by $(1+ \Delta CPI_2)$.

Table 19

Table 19 Charges for ancillary and miscellaneous services ($2010/11)

No	Ancillary and miscellaneous services	Charge
1	**Conveyancing Certificate**	
	Statement of outstanding charges (s41 *Conveyancing (General) Regulation* 2008)	
	a) Full certificate with meter read	65.21
	b) Updated Meter Read Request (special meter read)	48.89
	c) Full certificate with history search	114.56
	d) Urgent full certificate with meter read (within 48 hours)	112.97
2	**Meter Test**	
	Refunded if meter is > 3%	67.78
3	**Drainage Diagram**	19.10
4	**Plumbing Inspection**	31.63
5	**Plumbers application**	33.79
6	**Site inspection for water and sewerage**	108.86
7	**Statement of available water pressure**	157.03
8	**Building plan approval – extension**	30.50
9	**Building plan approval – new connection**	46.11
10	**Fire service applications**	80.62
11	**Relocation/increase in size of water service (tapping fee)**	78.05
12	**Backflow prevention device testing and certification** (per hour plus materials)	65.37
13	**Install Water Service**	
	20mm service up to 3 metres	669.60
	20mm service over 3 metres and less than 30 metres	1,727.41
	Other	By quotation

No	Ancillary and miscellaneous services	Charge
14	**Alter existing water service**	
	Actual cost	By quotation
	Relocate existing service	Charge for Install Water Service (charge 13) plus charge for Water Service Disconnect (charge 19)
15	**Downgrade meter size**	
	25mm to 20mm	86.06
	All others	By quotation
16	**Repair damaged water service**	
	First repair within five year period	Free
	Second and subsequent repairs (per hour plus materials)	86.06
17	**Rectification of illegal service**	Greater of 209.71 or actual cost
18	**Replace damaged water meter**	
	First replacement within five year period	Free
	Second and subsequent replacements	
	20mm	100.95
	25mm	198.78
	32mm	289.10
	40mm	696.20
	50mm	868.43
	80mm	953.47
	100m or greater	By quotation
19	**Water service disconnect**	
	First disconnect within one year period	Free
	Capping	83.96
	20mm-25mm	140.29
	32mm or greater	By quotation
	Bitumen repairs ($/metre) (minimum 1 metre)	16.33
20	**Water service reconnect**	
	First reconnect within one year period	Free
	Un-capping	90.38
	20mm-25mm	150.97
	32mm or greater	By quotation
	Bitumen repairs ($/metre) (minimum 1 metre)	16.33

No	Ancillary and miscellaneous services	Charge
21	**Asset location**	
	Major or critical infrastructure (per hour)	86.06
	Minor or non-critical:	
	Initial location	Free
	Reinspect asset location (per hour)	86.06
22	**Relocate existing stop valve or hydrant**	By quotation
23	**Replace water main before customer installations**	By quotation
24	**Standpipe Hire**	
	Monthly (minimum charge)	27.81
	Annually	333.78
	Water usage charges:	
	Treated ($/kL)	2.16
	Untreated ($/kL)	1.40
	Effluent ($/kL)	0.44

Schedule 5 — Definitions and Interpretation

1 Definitions

1.1 General definitions

In this determination:

Average Daily Consumption means the water used (in kL) by a Metered Property or a Pipeline Property (as the case may be) during a Meter Reading Period, divided by the number of days in that Meter Reading Period.

Category 1 Trade Waste Discharge means trade waste discharge which:

(a) arises from an activity conducted on a Non Residential Property; and

(b) is deemed by Country Energy to be of a low risk nature and to require nil or minimal pre-treatment prior to its discharge into the Sewerage System.

Category 1a Trade Waste Discharge means trade waste discharge which:

(a) arises from an activity conducted on a Non Residential Property; and

(b) is deemed by Country Energy to be of a low risk nature but to require a more sophisticated prescribed pre-treatment than Category 1 Trade Waste Discharge prior to its discharge into the Sewerage System.

Category 2 Trade Waste Discharge means trade waste discharge which:

(a) arises from an activity conducted on a Non Residential Property; and

(b) is deemed by Country Energy to be of a medium risk nature and to require a prescribed type of liquid trade waste pre-treatment prior to being discharged into the Sewerage System.

Category 3 Trade Waste Discharge means trade waste discharge which:

(a) arises from an activity conducted on a Non Residential Property; and

(b) is deemed by Country Energy to be of either a high volume (over 20 kL per day) and/or of an industrial nature and to require a prescribed type of liquid trade waste pre-treatment prior to being discharged into the Sewerage System.

Chlorinated Water means water that has been treated with a chlorine disinfection process, but not filtered to remove solids and organic particles.

Commencement Date is defined in clause 2(b) of the *Preliminary* section of this determination.

Common Water Meter means a Meter which is connected or available for connection to Multi Premises, where the Meter measures the water usage to that Multi Premises but not to each relevant Property located on or within that Multi Premises.

Country Energy means Country Energy as defined in clause 1(b) of the *Preliminary* section of this determination.

df% or **Discharge Factor** means, in relation to a Property, the percentage of water supplied to that Property which Country Energy assesses or deems to be discharged into the Sewerage System.

Effluent Water means sewerage or waste water that has been treated at a sewerage treatment plant before being re-used or discharged to the environment.

Exempt Land means land described in Schedule 4 of the Water Management Act.

GST means the Goods and Services Tax as defined in *A New Tax System (Goods and Services Tax) Act 1999* (Cth).

IPART means the Independent Pricing and Regulatory Tribunal of New South Wales established under the IPART Act.

IPART Act means the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW).

kL means kilolitre or one thousand litres.

Local Government Act means the *Local Government Act 1993* (NSW).

Menindee Pipeline means the water pipeline which runs from Menindee to Broken Hill.

Meter means an apparatus for the measurement of water.

Metered Non Residential Property means a Non Residential Property that is serviced by a Meter.

Metered Property means a Metered Residential Property or a Metered Non Residential Property.

Meter Reading Period means the period equal to the number of days between:

(a) the date on which the Meter was last read (or taken to have been read by Country Energy); and

(b) the date on which the Meter was read (or taken to have been read by Country Energy) immediately preceding the date in paragraph (a).

Metered Residential Property means a Residential Property that is serviced by a Meter.

Monopoly Services means the Monopoly Services as defined in clause 1(b) of the *Preliminary* section of this determination.

Multi Premises means land where there are two or more Multi Premises Properties located on it.

Multi Premises Property includes:

(a) a Strata Title Lot;

(b) a part of a building lawfully occupied or available for occupation (other than a building to which paragraph (a) applies).

Multi Premises Tier One Average Daily Consumption means an Average Daily Consumption which is:

(a) 1.645kL multiplied by the number of Multi Premises Properties in the Multi Premises/day or less in the Summer Period; and

(b) 1.096kL multiplied by the number of Multi Premises Properties in the Multi Premises /day or less at any other time.

Multi Premises Tier Two Average Daily Consumption means an Average Daily Consumption to the extent that it exceeds:

(a) 1.645kL multiplied by the number of Multi Premises Properties in the Multi Premises/day in the Summer Period; and

(b) 1.096kL multiplied by the number of Multi Premises Properties in the Multi Premises/day at any other time.

Non Residential Property means a Property that is not a Residential Property or Vacant Land.

Order means the Order defined in clause 1(b) of the *Preliminary* section of this determination and published in the New South Wales Government Gazette No. 147 on 14 November 2008.

Perilya Area means that area in or around Broken Hill which is occupied by Perilya Limited for the purpose of its mining and exploration activities.

Perilya Limited means Perilya Limited ACN 009 193 695, a company which undertakes mining and exploration activities in the Broken Hill area.

Pipeline Property means a property which is able to access Untreated Water via a direct connection to the Menindee Pipeline or the Umberumberka Pipeline.

Property includes:

(a) a Strata Title Lot;

(b) a part of a building lawfully occupied or available for occupation (other than a building to which paragraph (a) applies); or

(c) land.

Rateable Land has the meaning given to that term under the Local Government Act.

Residential Property means a Property where:

(a) in the case of that Property being Rateable Land, that Property is categorised as:
    (1) residential under section 516 of the Local Government Act; or
    (2) farmland under section 515 of the Local Government Act; or

(b) in the case of that Property not being Rateable Land, the dominant use of that Property is residential applying the classifications in section 516 of the Local Government Act.

Sewerage System means the sewerage system owned and operated by Country Energy.

Strata Title Building means a building that is subject to a strata scheme under the *Strata Schemes (Freehold Development) Act 1973* (NSW).

Strata Title Lot means a lot as defined under the *Strata Schemes (Freehold Development) Act 1973* (NSW).

Summer Period means the period between 1 December and 24 March in any year.

Tier One Average Daily Consumption means an Average Daily Consumption which is:

(a) 1.645kL/day or less in the Summer Period; and

(b) 1.096kL/day or less at any other time.

Tier Two Average Daily Consumption means an Average Daily Consumption to the extent that it exceeds:

(a) 1.645kL/day in the Summer Period; and

(b) 1.096kL/day at any other time.

Treated Water means water that has been treated with a disinfection process and filtered to a standard that is primarily intended for human consumption.

Umberumberka Pipeline means the pipeline which runs from Umberumberka to Broken Hill.

Untreated Water means water in its natural state, prior to any treatment process.

Vacant Land means land with no capital improvements on it.

Water Management Act means the *Water Management Act 2000* (NSW).

Water Supply System means the water supply system owned and operated by Country Energy.

1.2 Consumer Price Index

(a) CPI means the consumer price index All Groups index number for the weighted average of eight capital cities, published by the Australian Bureau of Statistics, or if the Australian Bureau of Statistics does not or ceases to publish the index, then CPI will mean an index determined by IPART

(b) $\Delta CPI_1 = \left(\frac{CPI_{Mar\,2011}}{CPI_{Mar\,2010}} \right) - 1$

$\Delta CPI_2 = \left(\frac{CPI_{Mar\,2012}}{CPI_{Mar\,2010}} \right) - 1$

each as calculated by IPART and notified in writing by IPART to Country Energy.

(c) The subtext (for example $_{Mar\ 2010}$) when used in relation to paragraph (b) above means the CPI for the quarter and year indicated (for example the March quarter for 2010).

2 Interpretation

2.1 General provisions

In this determination:

(a) headings are for convenience only and do not affect the interpretation of this determination;

(b) a reference to a schedule, annexure, clause or table is a reference to a schedule, annexure, clause or table to this determination;

(c) words importing the singular include the plural and vice versa;

(d) a reference to a law or statute includes all amendments or replacements of that law or statute;

(e) a reference to an officer includes a reference to the officer which replaces him or her or which substantially succeeds to his or her powers or functions;

(f) a reference to a body, whether statutory or not:

(1) which ceases to exist; or

(2) whose powers or functions are transferred to another body,

is a reference to the body which replaces it or which substantially succeeds to its powers or functions.

2.2 Explanatory notes and clarification notice

(a) Explanatory notes do not form part of this determination, but in the case of uncertainty may be relied on for interpretation purposes.

(b) IPART may publish a clarification notice in the NSW Government Gazette to correct any manifest error in this determination as if that clarification notice formed part of this determination.

2.3 Prices exclusive of GST

Prices or charges specified in this determination do not include GST (unless indicated otherwise).

2.4 Billing cycle of Country Energy

For the avoidance of doubt nothing in this determination affects when Country Energy may issue a bill to a customer for prices or charges under this determination.

IPART
New South Wales

Independent Pricing and Regulatory Tribunal

Review of prices for Country Energy's water and sewerage services

Water — Final Report
June 2010

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The Tribunal members for this review are:

Mr James Cox, Acting Chairman and Chief Executive Officer

Ms Sibylle Krieger, Part Time Member

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Contents

1 Executive summary

In November 2008, Country Energy's water and sewerage functions were declared to be government monopoly services. As a result, the Independent Pricing and Regulatory Tribunal of NSW (IPART) was made responsible for regulating the prices Country Energy[1] can charge for providing water, sewerage, trade waste and miscellaneous services to the city of Broken Hill and surrounding environs.

We have undertaken a review of these prices, and have made our first price determination for the period 1 July 2010 to 30 June 2013 (the 2010 determination period). As part of our review, we asked Country Energy to make a submission setting out its pricing proposal, and invited its customers and other stakeholders to express their views and concerns. We considered all the information we received, and undertook our own analysis of Country Energy's costs to understand its revenue requirements. On this basis, we made a draft determination of prices which, along with an accompanying report, were released for public comment in March 2010. We considered all submissions received before making our final determination.

The purpose of this final report is to explain our final determination, including how and why we made our pricing decisions and how prices change under the determination.

1.1 What has changed between the draft and final determinations

There is little variation between the prices proposed in the draft and final determinations. For example, a residential Broken Hill customer consuming 300kLs of water a year will have a combined water and sewerage bill (in 2009/10 dollars) in the final determination of $1,160.93 in 2012/13 compared to $1,164.23 in the draft determination.

1 A division of Country Energy called Country Water is responsible for the delivery of water and associated services in and around Broken Hill.

The variations resulted from:

- Corrections to some items in our modelling to properly account for inflation.
- Transfer of capital expenditure for "effluent water"[2] projects from the sewerage business to the water business.

These variations are reflected in amended water and sewerage service charges. There are no changes to usage charges. The following table shows the change in service charges from the draft to the final determinations for a treated water customer with a 20mm meter. Tables 1.4 and 1.5 show the change in bills for a treated water customer who uses 300kLs of water per year.

Table 1.1 Comparison of charges under IPART's draft and final determinations ($2009/10, $/year)

	2009/10 current	2010/11	2011/12	2012/13
Draft decision				
Water service charge for 20mm meter				
Residential and non-residential	219.00	223.84	228.79	233.86
% increase		2.2%	2.2%	2.2%
Sewerage service charge for 20mm meter				
Residential	397.00	418.59	441.36	465.37
% increase		5.4%	5.4%	5.4%
Non-residential	537.00	576.60	619.12	664.78
% increase		7.4%	7.4%	7.4%
Final decision				
Water service charge for 20mm meter				
Residential and non-residential	219.00	224.28	229.69	235.23
% increase		2.4%	2.4%	2.4%
Sewerage service charge for 20mm meter				
Residential	397.00	417.19	438.40	460.69
% increase		5.1%	5.1%	5.1%
Non-residential	537.00	574.59	614.81	657.85
% increase		7.0%	7.0%	7.0%

[2] Country Energy sells treated effluent to customers who use it for various watering purposes where potable water is not required. Therefore it is more correctly allocated to the water business.

1.2 How do prices change under the final determination?

In general, the determination results in real increases[3] in the price of water and sewerage services over the determination period. In our view, these increases are necessary to ensure that Country Energy's prices more closely reflect the efficient costs it incurs in providing these services - including the costs of renewing and replacing the assets required to ensure the Broken Hill area has a safe and secure water supply, and earning an appropriate rate of return on these investments.

The prices and price increases for water and sewerage services under the determination are summarised on Table 1.2 below. The prices of trade waste services increase by the same percentage as sewerage service charges, and miscellaneous charges increase by a percentage equal to the change in the consumer price index (CPI).

3 'Real' price increases are increases on top of the change required to keep pace with inflation.

Table 1.2 Prices and price increases for Country Energy's water and sewerage services under IPART's determination ($2009/10)

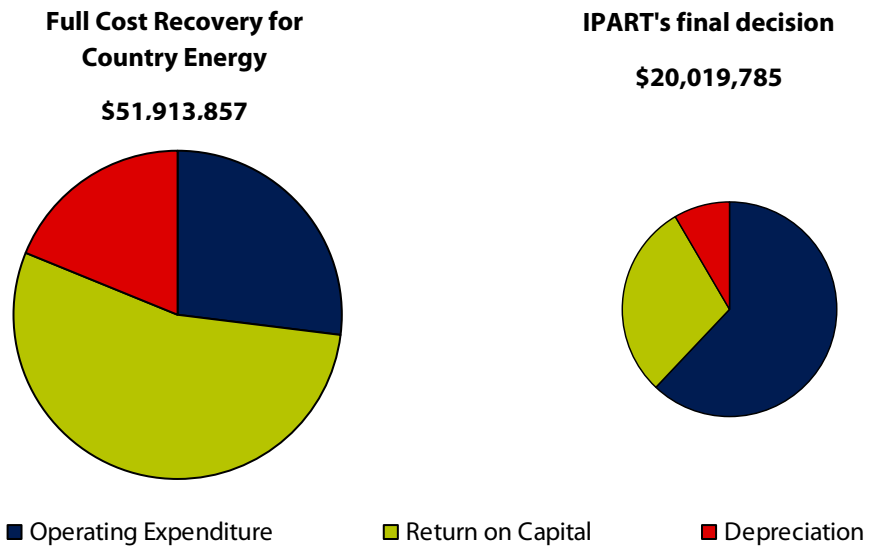
		2009/10 current	2010/11	2011/12	2012/13
Water services					
Service charge for 20mm meter	$/year	219.00	224.28	229.69	235.23
% increase			2.4%	2.4%	2.4%
Usage charge					
Treated water					
Tier 1	$/kL	1.05	1.22	1.38	1.55
% increase			15.9%	13.7%	12.0%
Tier 2	$/kL	2.36	2.44	2.52	2.60
% increase			3.4%	3.3%	3.2%
Chlorinated water					
Tier 1	$/kL	0.89	0.93	0.96	1.00
% increase			4.1%	4.0%	3.8%
Tier 2	$/kL	2.24	2.06	1.88	1.70
% increase			-8.0%	-8.7%	-9.6%
Untreated water (non-residential)	$/kL	1.36	1.36	1.36	1.36
% increase			0.0%	0.0%	0.0%
Untreated water (Pipeline)					
Tier 1	$/kL	0.67	0.67	0.67	0.67
% increase			0.0%	0.0%	0.0%
Tier 2	$/kL	1.17	1.11	1.06	1.00
% increase			-4.8%	-5.1%	-5.4%
Sewerage services					
Service charge for 20mm meter					
Residential	$/year	397.00	417.19	438.40	460.69
% increase			5.1%	5.1%	5.1%
Non-residential	$/year	537.00	574.59	614.81	657.85
% increase			7.0%	7.0%	7.0%
Usage charge					
Non-residential	$/kL	0.95	1.00	1.05	1.10
% increase			5.1%	5.1%	5.1%

We recognise that for some services, the price increases are high. However, overall these price increases are less than would have been the case had we accepted Country Energy's proposed revenue requirement. Country Energy nominated 4 options for transitioning prices towards the level required to generate this revenue. Country Energy's proposed revenue is substantially higher than the revenue it currently earns from water and sewerage services. It is also substantially higher than our decision on its annual revenue requirements. Therefore, the price increases

associated with all 4 of Country Energy's proposed price transitioning options are higher than those under our determination.

Figure 1.1 shows the revenue Country Energy would receive in 2012/13 on the basis of its definition of full cost recovery compared to the revenue we have allowed for in our determined prices. The full cost recovery option would lead to the highest increase in charges under Country Energy's 4 options and Country Energy accepts that the increase in prices needed to fully recover those costs within the determination period would be unacceptably high.

Figure 1.1 Revenue in 2012/13 from Country Energy's proposal and IPART's decision ($2009/10)



In the first 2 years of the determination period, the price increases under the determination are also less than required to generate our decision on Country Energy's annual revenue requirement. However, we consider the price increases required to generate this revenue in the first two years of the determination to be too high. Therefore, we have decided to adopt a glide path approach to minimise price shocks for customers. This means we have increased prices to the level required to generate the annual revenue requirement gradually over the 3 years of the determination period.

In making our pricing decisions, we assessed their potential impact on Country Energy's customers, on the financial viability of its water business, and on the environment. We consider that our decisions strike an appropriate balance between the different and sometimes competing needs of these stakeholders.

1.3 What is the impact of these price changes on customers?

The impact of the price increases under our final determination on customers varies, depending on factors such as how much water the customer uses, whether they are a residential or non-residential customer, whether they receive a pensioner rebate, and the type of water they receive (eg, treated water, chlorinated water, or untreated water). To illustrate the potential impact, we have analysed how the determination affects the annual water and sewerage bills of a range of customers with different water usage and different types of water service. The results of this analysis are summarised below.

Please note that all figures shown on the tables below, and throughout this report, are in 2009/10 dollars (unless otherwise stated). This is discussed further in section 1.4. Impacts on residential customers

Table 1.3 shows the impact of the determination on residential customers supplied with water and sewerage services and consuming between 100 kLs per year and 1500 kLs per year of treated water.

Table 1.3 Comparison of existing and future annual water and sewerage bills for residential customers supplied with treated water ($2009/10)

	2009/10 Current	2010/11	2011/12	2012/13	Total increase
Residential - non-pensioner					
100 kLs	721.00	763.14	806.43	850.93	
increase		42.14	43.29	44.50	129.93
200 kLs	826.00	884.80	944.76	1,005.93	
increase		58.80	59.96	61.17	179.93
250 kLs	878.50	945.64	1,013.93	1,083.43	
increase		67.14	68.29	69.50	204.93
300 kLs	931.00	1,006.47	1,083.09	1,160.93	
increase		75.47	76.62	77.83	229.93
400 kLs	1,036.00	1,128.14	1,221.43	1,315.93	
increase		92.14	93.29	94.50	279.93
500 kLs	1,189.96	1,295.52	1,402.24	1,510.17	
increase		105.56	106.72	107.93	320.21
750 kLs	1,779.96	1,905.52	2,032.24	2,160.17	
increase		125.56	126.72	127.93	380.21
1,500 kLs	3,549.96	3,735.52	3,922.24	4,110.17	
Increase		185.56	186.72	187.93	560.21

	2009/10 Current	2010/11	2011/12	2012/13	Total increase
Residential – pensioner					
100 kLs	546.00	588.14	631.43	675.93	
increase		42.14	43.29	44.50	129.93
200 kLs	651.00	709.80	769.76	830.93	
increase		58.80	59.96	61.17	179.93
250 kLs	703.50	770.64	838.93	908.43	
increase		67.14	68.29	69.50	204.93
300 kLs	756.00	831.47	908.09	985.93	
increase		75.47	76.62	77.83	229.93
400 kLs	861.00	953.14	1,046.43	1,140.93	
increase		92.14	93.29	94.50	279.93
500 kLs	1,014.96	1,120.52	1,227.24	1,335.17	
increase		105.56	106.72	107.93	320.21
750 kLs	1,604.96	1,730.52	1,857.24	1,985.17	
increase		125.56	126.72	127.93	380.21
1,500 kLs	3,374.96	3,560.52	3,747.24	3,935.17	
increase		185.56	186.72	187.93	560.21

Table 1.4 shows the impact of the determination on the annual bill for residential non-pensioner customers who use 300 kL per year of treated water compared to Country Energy's pricing proposals. Under the IPART determined prices their bill increases by a total of $229.93 over the 3-year determination period, or by 7.63% per year. The table also compares the bill for the same customer based on Country Energy's proposals to increase bills by 10%, 15% or 20% per year.

Table 1.4 Annual water and sewerage bill for residential non-pensioner customers supplied with treated water ($2009/10, 300 kL consumption)

	2009/10 current	2010/11	2011/12	2012/13	Total increase
IPART - Draft decision	931.00	1,007.44	1,085.16	1,164.23	233.23
% increase		8.2%	7.7%	7.3%	25.1%
IPART - final decision	931.00	1,006.47	1,083.09	1,160.93	229.93
% increase		8.1%	7.6%	7.2%	24.7%
Country Energy					
10%	931.00	1,024.10	1,126.51	1,239.16	308.16
% increase		10.0%	10.0%	10.0%	33.1%
15%	931.00	1,070.65	1,231.25	1,415.93	484.93
% increase		15.0%	15.0%	15.0%	52.1%
20%	931.00	1,117.20	1,340.64	1,608.77	677.77
% increase		20.0%	20.0%	20.0%	72.8%

Residential customers who receive a pensioner rebate from the NSW Government will face the same increases in dollar terms as shown above. However, this increase will be higher in percentage terms because these customers' current annual bill is lower than non-pensioners' due to this rebate, and the rebate is provided as a fixed amount per year, rather than as a percentage of the total bill. Therefore, while their annual bill will increase under the determination, the amount of the pensioner rebate will not. The NSW Government, not IPART, determines the size of the pensioner rebate.

Table 1.5 shows the increase in a pensioner customer's bill who uses water and sewerage services based on a yearly consumption of 300 kLs. Table 1.5 also shows the impact of adopting Country Energy's proposals.

Table 1.5 Comparison of annual water and sewerage bill for residential pensioner customers supplied with treated water ($2009/10, 300 kL consumption)

	2009/10 current	2010/11	2011/12	2012/13	Total increase
IPART - Draft decision					
300 kLs	756.00	832.44	910.16	989.23	
increase		76.44	77.72	79.07	233.23
% increase		10.1%	9.3%	8.7%	
IPART - final decision					
300 kLs	756.00	831.47	908.09	985.93	
increase		75.47	76.62	77.83	229.93
% increase		10.0%	9.2%	8.6%	
Country Energy proposals					
300 kLs					
10% increase pa (for residential customers)[a]	756.00	849.10	951.51	1,064.16	
Increase		93.10	102.41	112.65	308.16
% increase for pensioners		12.3%	12.1%	11.8%	
15% increase pa (for residential customers)[a]	756.00	895.65	1,056.25	1,240.93	
Increase		139.65	160.60	184.69	484.93
% increase for pensioners		18.5%	17.9%	17.5%	
20% increase pa (for residential customers)[a]	756.00	942.20	1,165.64	1,433.77	
increase		186.20	223.44	268.13	677.77
% increase for pensioners		24.6%	24.8%	23.0%	

[a] Country Energy's 10%, 15% and 20% increases are before the deduction of pensioner rebates.

We recognise that around one-third of Country Energy's water customers in and around Broken Hill are pensioners, and have been mindful of the potential impact of our pricing decisions on these customers. We note that other water utilities we regulate operate different schemes to alleviate the burden of water and sewerage charges on pensioner customers. For example, Sydney Water provides a rebate to its eligible customers that covers 100% of the water service charge, 50% of the stormwater drainage service charge, and 83% of the sewerage charge.

We believe that there is a strong case for increasing and/or altering the way that the pensioner rebates are calculated for pensioners in and around Broken Hill, and have written to the NSW Government recommending that they review the rebates (see Chapter 10).[4]

Residential customers who are supplied with chlorinated water and pipeline customers supplied with untreated water will face lower impacts than those supplied with treated water. For example, the annual water bill for a residential customer who uses 300 kL of chlorinated water a year will increase by a total of $49.23 over the 3-year determination period, or by an average of 3.3% per year. The annual bill for a pipeline customer who uses the same volume of untreated water will increase by a total of $16.23, or an average of 1.3% per year.

These lower impacts are the results of adjustments we made to the relative price levels for the different services Country Energy provides. These adjustments aim to ensure that the charges for each specific service more closely reflect the efficient costs of providing that specific service.

We also made some adjustments to the relative levels of Tier 1 and Tier 2 water usage charges because we found that the current difference is greater than justified on economic grounds.

1.3.2 Impacts on non-residential customers

Table 1.6 provides an indication of the potential impact of the determination on annual water and sewerage bills for non-residential customers who are supplied with different volumes of treated water. For example, it shows that the bill for a non-residential customer who uses 1,000 kL of treated water per year will increase by around $785.20 over the 3-year determination period, or an average of 5.8% per year (in real terms).

4 IPART has written to the NSW Government recommending that it undertake a review of current pensioner rebates.

Table 1.6 Impact of determination on the annual water and sewerage bill for non-residential customers supplied with treated water ($2009/10)

	2009/10 current	2010/11	2011/12	2012/13	Total increase
Draft decision					
250 kLs	1,124.34	1,214.44	1,307.65	1,404.20	279.86
% increase		8.01%	7.68%	7.38%	24.89%
1,000 kLs	4,244.71	4,504.27	4,772.63	5,050.40	805.69
% increase		6.11%	5.96%	5.82%	18.98%
5,000 kLs	25,771.82	27,029.75	28,339.85	29,705.70	3,933.88
% increase		4.88%	4.85%	4.82%	15.26%
Final decision					
250 kLs	1,124.34	1,212.51	1,303.50	1,397.50	273.16
% increase		7.84%	7.50%	7.21%	24.30%
1,000 kLs	4,244.71	4,498.32	4,759.88	5,029.91	785.20
% increase		5.97%	5.81%	5.67%	18.50%
5,000 kLs	25,771.82	26,996.10	28,267.54	29,589.22	3,817.40
% increase		4.75%	4.71%	4.68%	14.81%

1.4 Figures in IPART's final report compared to its final determination

All figures in this report are in 2009/10 dollars (unless otherwise stated) while prices in the determination are in 2010/11 dollars.

We have chosen to show figures in the report in 2009/10 dollars because that is the last year when actual expenditures and revenues are incurred. We believe that comparisons of costs and revenues are best represented and more easily understood when they are shown in the current year's dollars. For consistency, we asked Country Energy and Halcrow Ltd[5] to provide their contributions to our review in 2009/10 dollars.

We have chosen to show determination prices in 2010/11 dollars because the prices we have determined will initially apply in the 2010/11 financial year. Therefore, when customers receive their next bill, the prices will be the same as listed in our determination.

5 We employed Halcrow to review Country Energy's capital expenditure program

As a consequence, the actual charges in any particular year will reflect the cumulative movement in the CPI to the year in question[6]. Rather than forecast future movements in the CPI, we use the actual figures from each of preceding years. Thus the table below shows the difference in charges and bills for 2010/11 calculated in 2009/10 dollars and 2010/11 dollars. To make the calculation in 2010/11 dollars we used the annual change in inflation for 2010/11 of 2.7%.

Table 1.7 Comparison of charges and bills for residential customers for 2010/11 under the report and determination

		Final report	Final determination
		($2009/10)	($2010/11)
Charges			
Water services			
Service charge for 20mm meter	$/year	224	230
Usage charge for treated water			
Tier 1	$/kl	1.22	1.25
Tier 2	$/kl	2.44	2.51
Sewerage services			
Service charge for 20mm meter	$/year	417	428
Bills - non-pensioner			
100 kLs	$/year	763	784
300 kLs	$/year	1,006	1,034
750 kLs	$/year	1,906	1,957

6 From 2009/10 if referring to charges in the report and from 2010/11 if referring to charges in the determination.

1.5 What does the rest of this report cover?

The rest of this report explains our decisions and decision-making process for the final determination in detail, including the analysis supporting each decision. The report is structured as follows:

- Chapter 2 outlines the scope and context for our review, including our review process, Country Energy's operating environment, and Country Energy's submission and pricing proposal.
- Chapter 3 explains our price setting approach, including our decisions on the broad regulatory approach and the approach to calculating Country Energy's annual revenue requirement over the determination period.
- Chapter 4 provides an overview of our decisions on the annual revenue requirement, while Chapters 5 and 6 explain our decisions on the revenue required for operating expenditure and capital expenditure in more detail.
- Chapter 7 explains our decisions on the allowances for a return on assets, depreciation and our calculation of the RAB.
- Chapter 8 explains our pricing decisions on water and sewerage charges, including the forecast metered water sales and customer numbers we used in calculating those prices.
- Chapter 9 explains our pricing decisions on trade waste and miscellaneous charges.
- Chapter 10 discusses the implications of our determination for Country Energy's customers, its financial viability, and the environment.

2 Scope and context of this review

The purpose of our review is to determine the maximum prices Country Energy can charge for the water, sewerage, trade waste and miscellaneous services it provides to the residents and businesses in the city of Broken Hill and the surrounding areas.

This is the first time we have undertaken a review of water-related prices in the Broken Hill area, and it is important that stakeholders understand the context for our review – especially the legal requirements we must meet in conducting price reviews. In particular, we are required to take account of a wide range of factors in making our decisions, and to achieve a balance between the competing needs and interests of the different parties affected by these decisions.

The following sections outline the context for our review, including our review process, the matters we must consider as part of the review, Country Energy's water operations, and Country Energy's pricing proposal.

2.1 IPART's review process

Our review has included an extensive investigation and public consultation process. To date, we have:

- released an issues paper in July 2009
- invited Country Energy to make a submission to the review, setting out its pricing proposals
- invited other interested parties to make submissions in response to our issues paper and Country Energy's submission
- held a public hearing in Broken Hill on 18 November 2009 to give stakeholders an additional opportunity to communicate their views
- engaged Halcrow Pacific Pty. Ltd. (Halcrow) to review Country Energy's capital expenditure proposals and processes
- released a draft determination and draft report in March 2010
- invited interested parties including Country Energy to make submissions in response to the draft determination and report.

Copies of our issues paper, the draft determination and report, the submissions we received from Country Energy and other parties, Halcrow's report and the transcript from the public hearing can be obtained from www.ipart.nsw.gov.au.

2.2 Matters we considered

We are empowered to review and make determinations on Country Energy's water and sewerage prices under the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act). Section 15 of this Act requires us to consider a broad range of matters when conducting reviews. These matters include:

- **Consumer protection**—protecting consumers from abuses of monopoly power; maintaining the standards of quality, reliability and safety of the services concerned; taking account of the social impact of decisions, and the effect on inflation.
- **Economic efficiency** — encouraging greater efficiency in the use and supply of services; promoting competition; taking account of the effect of functions being carried out by another body.
- **Financial viability** — taking account of the rate of return on public sector assets including dividend requirements; considering the impact on pricing of borrowing, capital and the dividend requirements of agencies.
- **Environmental protection** — promoting ecologically sustainable development by appropriate pricing policies; considering demand management and least-cost planning. (The section 15 requirements are listed in full in Appendix E.)

In considering these matters, we have balanced the diverse needs and interests of stakeholders while ensuring that Country Energy is adequately recompensed for the services it provides. We also took into account the principles developed by the Council of Australian Governments (COAG) and contained in the National Water Initiative (NWI) including consumption based pricing, full cost recovery and the removal of cross subsidies.

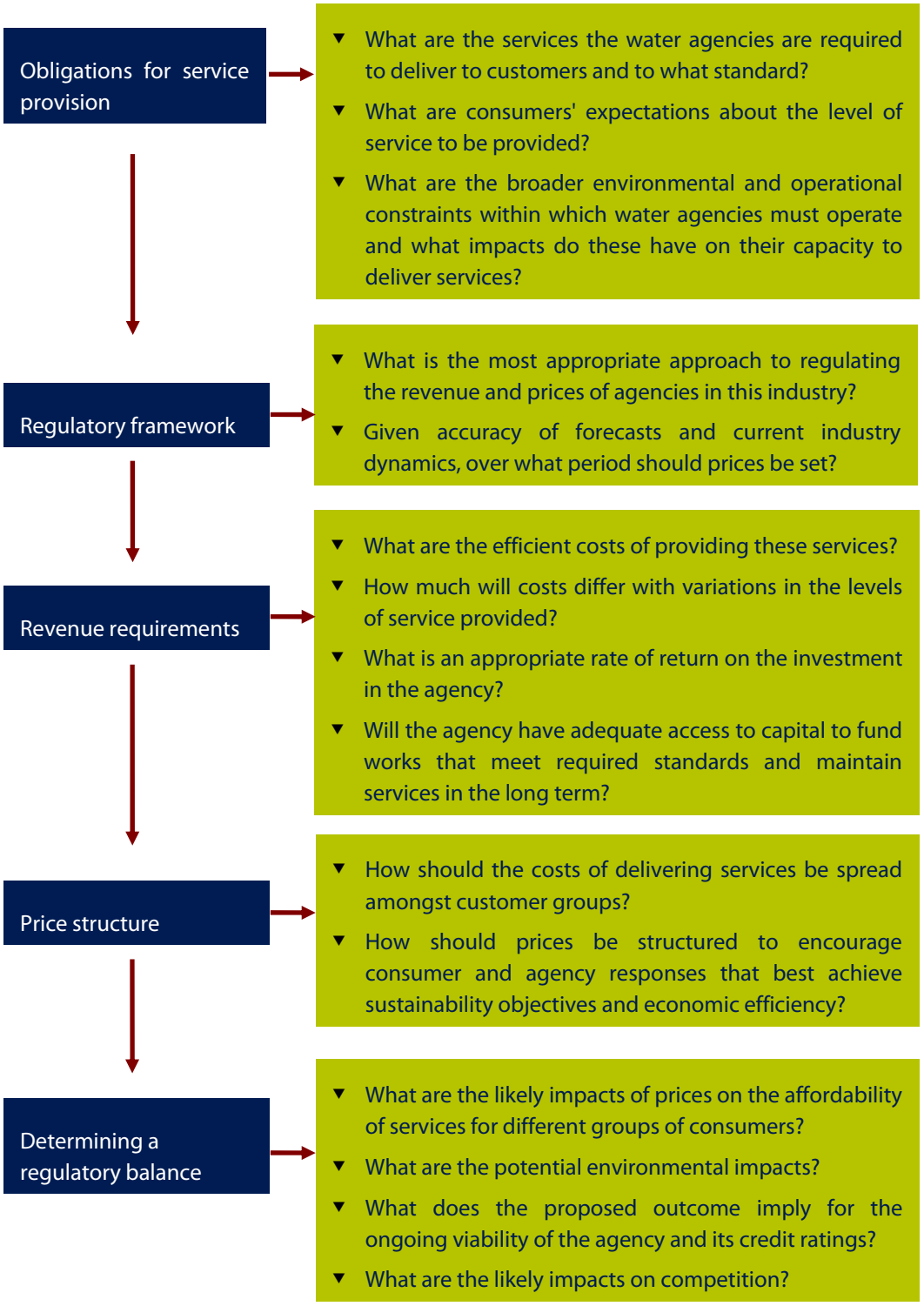
For this determination, one of our primary objectives was to set charges that reflect the efficient costs incurred by Country Energy in providing each of its water and related services. However, we were also concerned to manage the impact of our pricing decisions on water consumers. In particular, we had regard to their specific circumstances, including that Broken Hill has:

- an arid climate (with average annual rainfall of only 225 millimetres)
- high levels of lead in its soil, which make it particularly important for residents to maintain ground cover plantings (to reduce their contact with soil and dust)
- a declining population, a large proportion of which are pensioners and so have low incomes, and
- ageing water and sewerage infrastructure that needs to be renewed to ensure a reliable water supply.

These conditions mean that residential consumers are likely to need to use more water than some other residents in NSW, to make their environment more comfortable and safe (for example, by regularly using evaporative water cooling systems and watering their gardens). This, and the high proportion of consumers on low incomes, means that many are particularly concerned about the impact of higher water prices on their standard of living. However, the fact that the population is declining and the infrastructure is ageing means that the costs of maintaining adequate service levels will need to be shared between fewer and fewer households.

Because of the numerous complex and sometimes conflicting requirements we must meet, we followed a determination process that provides a framework to efficiently deal with these requirements. The process is summarised in Figure 2.1.

Figure 2.1 IPART's price determination process



2.3 Country Energy's water operations

Country Energy's water operations represent only a small part of its overall business. Its water service area is the most arid in NSW and experiences extreme climatic variations, including frequent droughts. These operating conditions influence its need for operating and capital expenditure.

Country Energy's water-related functions include providing:

- water supply services to residential and non-residential customers in Broken Hill and the surrounding areas
- sewerage services to residential and non-residential customers in Broken Hill
- liquid trade waste services to non-residential customers in the city of Broken Hill
- miscellaneous (or ancillary) services.

2.3.1 Water supply services

Country Energy supplies treated water to Broken Hill, Menindee and Sunset Strip, and chlorinated (but presently unfiltered) water to Silverton. It also provides non-potable water to rural users along the Menindee to Broken Hill pipeline for stock and domestic purposes.

Country Energy supplies a total of 5,200 ML of water per year to over 20,000 residential customers and around 600 non-residential customers. The largest non-residential customer is the mining company, Perilya Ltd. (Perilya), which uses approximately 20% of the total water supplied. The supply arrangements between Country Energy and Perilya, including the price, are governed by a contract which is outside the scope of our review.[7]

The Broken Hill area's main water source is the Menindee Lakes Scheme on the Darling River. As this is located some 120 km from the city, Country Energy must pump the water along a pipeline of this distance to Broken Hill. This, and the frequent drought conditions in the area, means that Country Energy is also required to treat much of the water it supplies. It is building a new water treatment plant (Mica Street WTP) to replace its previous, obsolete plant. It undertakes a stringent regime of testing and quality assurance to ensure the potable water it supplies meets Australian Drinking Water Guidelines.

Country Energy also has 3 other water sources and associated pipelines – the Steven's Creek Reservoir, Umberumberka Dam and Imperial Lake – which it manages and maintains.

7 Perilya also uses sewerage and trade waste services supplied by Country Energy. However, these services are not covered by the contract and we have set prices for these as part of our determination.

2.3.2 Sewerage services

Country Energy provides sewerage services to approximately 10,000 properties in the city of Broken Hill, including some houses and other buildings in the Perilya lease area. Unlike water services to Perilya, these services are within the scope of this review.

Country Energy operates 2 sewage treatment plants. Around half the treated effluent is sold for non-drinking purposes, the remaining half is discharged to the environment through evaporation ponds.

2.3.3 Trade waste and miscellaneous services

Country Energy provides liquid trade waste services to non-residential customers in the city of Broken Hill only. It also provides a range of miscellaneous services to customers, generally for one-off services including, but not limited to, connections and disconnections, replacing damaged services, plumbing inspections, site inspections and building plan approvals.

Further details of Country Energy's water and sewerage operations in the Broken Hill area are provided in Appendix A.

2.4 Country Energy's submissions

Country Energy has provided 2 submissions to this review. Its initial submission was in response to our Issues Paper and contained its views on its preferred options for setting prices. After we released our draft determination, Country Energy provided a second submission containing its views on certain aspects of the draft determination.

Country Energy provided its pricing submission to IPART in September 2009. In this submission, it argued that its revenues from water, sewerage and associated services are well below the costs it incurs in providing these services when the infrastructure and other assets required to deliver those services are valued on an optimised depreciated replacement costs (ODRC) basis.

Rather than suggest specific price increases, Country Energy proposed that we determine its annual revenue requirement, and require it to set the prices of its services so that the total revenue it generates from these services does not exceed this annual amount (this approach to regulating prices is known as a revenue cap). It also proposed maintaining the current price structure, and adopting a 3-year determination period from 1 July 2010 to 30 June 2013.

In relation to the methodology we should use to calculate its annual revenue requirement, Country Energy indicated that it favoured a 'building block' approach. This is the approach we currently use in regulating other water businesses in NSW. Using this approach would involve estimating Country Energy's forecast operating costs for each year of the determination period, plus allowances for a return on assets, a return of capital (depreciation) and a return on working capital. In addition, calculating the allowances for the return on assets and depreciation would involve (among other things) establishing an opening value for Country Energy's regulatory asset base (RAB). This is the estimated value to be used for pricing purposes of all the infrastructure and assets Country Energy uses to provide its water-related services (eg, the pipelines and pumps, water treatment plant, sewage treatment plants).

There are a range of methods for calculating asset values. Country Energy proposed using the ODRC method to value its RAB. It argued that this method would provide the correct economic signals and replicate a competitive market valuation. It also put the view that the optimisation process involved in this method would ensure that current customers do not pay for over-specified assets.

Country Energy applied the building block method, using the ODRC method to value assets, to calculate its proposed annual revenue requirement over the next 3 years. This resulted in an annual revenue requirement of more than $53 million in 2010/11, which is substantially higher than the revenue of around $16 million it generated from water-related services in 2009/10.

Country Energy argued that it should be able to set prices to fully recover this amount. However, it also acknowledged that this would lead to significant price increases for customers. To manage these price increases, it proposed that we adopt transitional pricing arrangements, whereby the annual revenue it can generate increases gradually over the 2010 determination period, with its proposed annual revenue requirement as the target. These transitional arrangements would mean that prices also increase gradually, and by a significantly lower amount per year than would otherwise be the case.

Country Energy proposed several options for the transitional arrangements, including increasing the revenue it can generate from water-related services by 10%, 15% or 20% a year, or increasing this revenue by an equal percentage amount in each of the next 3 years to reach the total revenue requirement in 2012/13.

Table 2.1 shows Country Energy's proposed annual revenue requirement compared to its current revenue, and its proposed options for transitioning towards this annual amount.

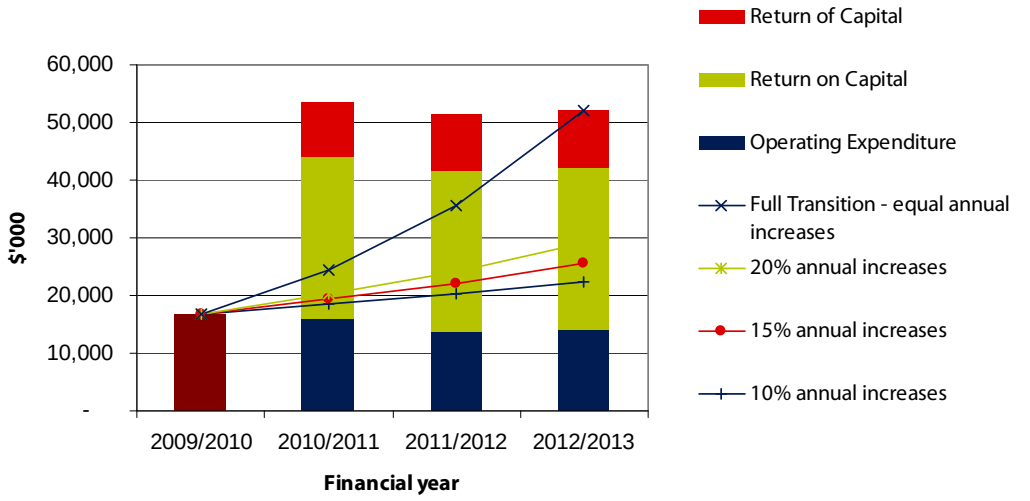
Table 2.1 Country Energy's proposed annual revenue requirement and the revenue it would generate under each of its transitional arrangement options ($000, 2009/10)

	2009/10 (current revenue)	2010/11	2011/12	2012/13
Proposed revenue requirement	16,790	53,610	51,476	51,914
Options for transitioning revenue towards this target				
10% increase in revenue per year	16,790	18,469	20,316	22,347
15% increase in revenue per year	16,790	19,309	22,205	25,535
20% increase in revenue per year	16,790	20,148	24,178	29,013
3 equal annual increases to reach total by 2012/13	16,790	24,460	35,635	51,914

Source: Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds p 37; IPART has converted the values to $2009/10.

Figure 2.2 shows the same data in graph form. The bars show the revenue Country Energy generated from water-related services in 2009/10 compared to its proposed annual revenue requirement over the next 3 years, broken down into the 'cost blocks' that comprise these annual amounts. The lines show how much of proposed revenue requirement would be generated through prices under each of Country Energy's transitional arrangement options. The figure shows that under the 10%, 15% and 20% annual revenue increase options, Country Energy would not recover its proposed revenue requirement by 2012/13, and is not likely to do so for many years.

Figure 2.2 Country Energy's proposed annual revenue requirements compared to revenue paths under its transitional arrangement options ($2009/10)



Source: Country Energy submission, Figure 5, p 38.

At the public hearing, we asked Country Energy to nominate its preferred option for the transitional arrangements. However, it declined to do so and asked that we make that decision.[8]

In its pricing proposal, Country Energy did not link service levels to the increased revenue it would generate under its proposed transitional arrangement options. Nor did it provide any analysis of customers' willingness to pay for changes to service levels. Therefore, in analysing this proposal, we have assumed that the forecast expenditures that underlie the proposal are required to maintain existing service levels and to meet current regulatory requirements (eg, drinking water quality, wastewater plant discharges), and not to improve service standards.

Following the release of our draft determination and report, Country Energy provided a second submission with comments on certain aspects of our draft report. In particular, Country Energy was concerned about:

- Our decisions regarding the allocation of overheads by Country Energy.
- Halcrow's and our use of benchmarking to judge Country Energy's performance.
- Our decision not to adopt Country Energy's proposal to use its cost escalators to forecast operating expenditure levels.
- Our statements regarding deficiencies in the information supplied to us by Country Energy.

Our responses to Country Energy's concerns are made in the relevant sections throughout this report but we have some concerns of our own about Country Energy's submissions. We have tailored this review to the size of Country Energy's water business and the complexity of the matters to be considered. We conducted the analysis in-house with the exception of a desk top review of the proposed capital expenditure which was undertaken by a specialist engineering consultant. However, we note that Country Energy has devoted considerable resources, including the extensive use of external consultants, to help frame their submissions. IPART is keen to keep the cost of reviews to a minimum consistent with achieving sound regulatory outcomes. It would be regrettable if we had to expand our review for the next determination of Country Energy's prices to respond to an escalation in advocacy effort on the part of Country Energy.

A problem we encountered in undertaking this review was the lack of clear accounting separation between Country Energy's water division and the other parts of its business. Because our pricing decisions relate only to the monopoly services provided by the water division, we need specific information associated with those services.

8 Transcript of Proceedings, Public Hearing 18 November 2009, p 28.

In its response Country Energy stated[9] that all information supplied was for the water business only and that its accounting separation is independently audited on an annual basis. While we sighted audited financial accounts for the Country Energy business as a whole, we were only provided unaudited and incomplete financial statements for the water business. There are also gaps in the information return that Country Energy supplied to us for this determination including operating costs broken down into individual costs such as labour costs and material costs. We expect Country Energy to ensure that it is able to supply the specific information for our next determination in 2013.

2.5 Submissions from other interested parties

After releasing our Issues Paper and following receipt of Country Energy's pricing submission, we allowed an additional period of time for interested parties to comment on Country Energy's proposals and to make submissions on the range of matters discussed in our Issues Paper.

We received 2 submissions from stakeholders that addressed the various issues mentioned in our Issues Paper and in Country Energy's pricing submission. The submissions received were from Broken Hill City Council and Silverton Village residents. Further submissions were received after the public hearing on 18 November 2009. These submissions were from individuals.

Broken Hill City Council was concerned about the significant increase in revenue proposed by Country Energy. Council was concerned that transactions between the electricity and water divisions of Country Energy such as electricity supply need to be competitive and at arm's length because both businesses are part of Country Energy. It also expected that forecast increases in capital expenditure should result in reductions in operating expenditure. It was particularly concerned about a forecast increase of 43% in operating expenditure for pipelines given the capital expenditure proposed to replace pipeline components. Broken Hill Council also believed that the weighted average cost of capital proposed by Country Energy was excessive given the nature of the services provided by Country Energy.

The Council favoured a revenue cap approach to setting prices with increases limited to changes in the CPI. It also favoured a 3-year pricing path.

Silverton Village residents were concerned that the price rises proposed by Country Energy would not result in service improvements to Silverton, particularly as Country Energy's major works predominantly provide improvements to services to the larger populated sites of its service area.

9 Country Energy, *Response to IPART draft determination*, April 2010, p 10.

Silverton Village residents were also concerned about the construction of a wind farm and its impact on water availability and quality. They also asked that specific consideration be given to the unique situation in the Silverton Village with its need for lengthy water service pipes (from the mains to individual properties) and for water meters to be located a considerable distance from properties often resulting in costly leaks for customers.

The individual submissions addressed issues regarding the obsolescence of current infrastructure such as the Umberumberka and Stephens Creek Dams. The submissions suggested that the assets are more accurately described as liabilities and should not be included in the asset base as their replacement in the future was not economically viable. Mr Graham Walkom questioned the prudence of capital expenditure on projects such as:

- The new pumping station at Copi Hollow.
- Water pumped from Menindee Lakes to Stephens Creek including a levee to confine the pumped water.
- The reverse osmosis plant.

The examples were cited to demonstrate that Country Energy should control costs and improve the efficiency of the operations.

Other points raised addressed the funding of previous capital projects and questioned whether a return on assets should be received when Country Energy (or its predecessors) were given the assets or received funding to make interest payments on loans. It was argued that Country Energy's allocation of corporate overheads to the water business was excessive.[10]

With respect to operating practices the submissions queried the continued use of chlorine dosing and cited potential health issues and costs associated with the activity.

In general, the individual submissions did not agree with Country Energy being permitted to set prices within a revenue cap. In addition, submissions stressed the difficulties of living in the area and the importance of being able to afford water to maintain environmental amenity.

2.6 The public hearing

We convened a public hearing in Broken Hill on 18 November 2009. The objective of the public hearing was to provide stakeholders with the opportunity to discuss issues relating to the determination of prices that customers will be called upon to pay in future years and to allow issues of concern to be raised with the Tribunal.

10 Mr Roger Edwards, submission to Country Energy Review, 12 November 2009, p 6.

The hearing was well attended. We found the hearing to be valuable in informing us of the views of residents about many local issues. In particular, residents:

- expressed concerns about the potential impact on the high percentage of low income earners in Broken Hill if prices were to rise sharply
- expressed concerns about the impact of higher prices on water usage given the unique environmental conditions in Broken Hill
- expressed concerns about the declining population of Broken Hill and how the costs of water supply will be met by that future population.

2.7 Submissions on the Draft Determination and Report

Following release of our draft determination and report, we received 3 submissions from individual customers, and submissions from Broken Hill Council and the Silverton Village Committee.

The submissions from individual customers express concern over the proposed increases in water bills and the impact on the many low income residents of Broken Hill, particularly when increases in other essential services are imminent.

Broken Hill Council reiterated comments regarding the impact on low income customers and foreshadowed that the level of council rates may be impacted because of the increase in the cost of water used by Council.

The Silverton Village Committee is happy with the draft determination. The committee also reports that, subsequent to the public hearing, Country Energy has approached the committee with a view to improving the quality of water supplied to Silverton residents.

3 IPART's approach to setting prices

As part of our review, we considered and made decisions on the approach to use to set prices for Country Energy's water and sewerage services. In particular, we made decisions on:

- the broad regulatory approach for setting prices for the 2010 determination
- the approach for calculating Country Energy's notional revenue requirement, and
- the length of the determination period.

The section below provides an overview of our decisions on these matters. The following sections discuss each decision in more detail.

3.1 Overview of final decisions on approach to setting prices

Our final decision is to use a 'pure price cap' form of regulation to set Country Energy's prices for water and sewerage services. This means we have determined a maximum price for each individual service in each year of the determination period. This approach ensures that we have explicitly addressed each of the matters we are required to consider under the IPART Act, including the impacts of our determination on Country Energy's customers.

In relation to the approach for calculating Country Energy's notional revenue requirement, our decision is to use a building block approach. This is the approach Country Energy proposed, and the one we use in regulating other water businesses in NSW.

In relation to the length of the determination period, we have made a decision to adopt a 3-year determination period – from 1 July 2010 to 30 June 2013. We consider that this best balances the advantages and disadvantages of longer and shorter determination periods.

3.2 Broad regulatory approach

Decision

1 IPART's decision is to use a pure price cap approach for this initial determination for Country Energy's water and sewerage prices – that is, we have determined the maximum price it can charge for each service in each year of the determination period.

We looked at a range of broad regulatory approaches for determining Country Energy's water and sewerage prices, then narrowed this down to the 3 approaches we considered best reflect the unique circumstances of its water operations and the Broken Hill area:

- a pure revenue cap
- a revenue cap with side constraints, and
- a pure price cap, which means we would set a maximum price for each service in each year of the determination period.

3.2.1 Pure revenue cap

In its submission, Country Energy indicated that it would prefer us to use a revenue cap mechanism. Under this approach, we would determine the maximum amount of revenue Country Energy is entitled to generate from water-related services in each year of the determination period (the revenue cap). Country Energy would then set the prices it charges for these services so as to generate no more than this revenue cap per year.

One of the shortcomings of this approach is that to calculate price levels that will allow it to generate revenue equal to the revenue cap, Country Energy will need to forecast how many customers it will have in each year of the determination period, and how much water these customers will consume. If the actual customer numbers and water usage turn out to be significantly different from these forecasts, it will generate either more or less revenue than the revenue cap. Therefore, we would need to establish an 'unders and overs' account to keep track of the difference between the actual revenue it generates and the revenue cap per year. Then, at the start of the second and subsequent years of the determination period, and at the start of the next determination period, we would need to adjust the revenue cap to correct for this difference.

We have previously used a pure revenue cap approach to determine prices in the electricity sector, and our experience with this approach has been mixed. We found that it creates an administrative burden, and can introduce substantial price volatility. It also shifts all the risk associated with using forecasts to set prices to customers, and provides no opportunity for us to test the reasonableness of these forecasts.

3.2.2 Revenue cap with side constraints

Under this approach, we would also determine the maximum amount of revenue Country Energy is entitled to generate from water-related services in each year of the determination period, and allow it to set its own prices for individual services so as to generate this amount. However, we would also place additional constraints on either its price setting process or its prices. For example, we might require it to use approved customer number and water usage forecasts, or set a limit on the extent to which the forecasts it uses differ from approved forecasts. Alternatively, we might require that when setting prices, Country Energy must ensure that no individual customer's annual water bill increases by more than a certain percentage.

This approach would give us more ability to control factors we consider important for reaching our regulatory objectives. For example, side constraints can be designed to manage the impact of Country Energy's prices on customers, and the volatility of prices during the determination period.

3.2.3 Pure price cap – determining a maximum price for each specific service

Under the pure price cap approach, we would determine a specific maximum price for each specific service for each year of the determination period. For example, we would set a water service charge, a sewerage service charge, a water usage charge and trade waste charges for each year in the determination period. This is the approach we currently use in regulating the major urban water utilities in the Sydney, Hunter and Central Coast regions of NSW. We calculate prices for each service provided based on the cost of each service.

We consider that this approach is the most appropriate one to use for Country Energy, at least for this initial determination. It gives us the greatest scope for balancing the potentially competing interests of Country Energy, its customers and the environment, as we are required to do under the IPART Act. In addition, this approach means prices will be certain during the determination period. Further, it addresses the concerns expressed by individual stakeholders in submissions and at the public hearing about Country Energy setting its own prices. Comments similar to the following[11] were also made at the Public Hearing:

> I have great concerns at allowing Country Energy the freedom to set tariffs on their own.

Therefore, we have decided to adopt this form of regulation in this initial determination of prices for Country Energy. However, we are willing to reconsider this approach at the next determination.

11 Mr Roger Edwards, submission to Country Energy Review, 12 November 2009, p 4.

3.3 Approach for calculating the notional annual revenue requirement

Decision

2 IPART's decision is to use a building block method to calculate Country Energy's notional annual revenue requirement.

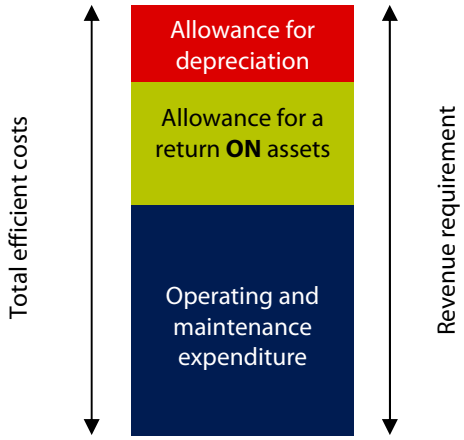
We have decided to use a building block method to calculate the notional annual revenue requirement as it ensures that the full, efficient costs of providing the regulated services are measured and monitored in a rigorous and transparent way. It is also consistent with the approach we use in regulating other water businesses and industries in NSW.

To apply the building block approach, we have made decisions on:

- The revenue Country Energy requires for operating expenditure over the determination period, based on our forecasts of efficient operating and maintenance costs.
- The revenue it requires for capital investment over the determination period. This comprises two building blocks:
  - an allowance for a return on Country Energy's water and sewerage assets
  - an allowance for a return of assets (or depreciation).

The sum of these amounts represents our view of Country Energy's total efficient costs over the determination period, or its notional revenue requirement (Figure 3.1).

Figure 3.1 Building block approach



3.4 Length of the determination period

Decision

3 IPART's decision is to determine prices for Country Energy for the period between 1 July 2010 and 30 June 2013.

We considered a range of factors when deciding on the length of the determination period, including the advantages and disadvantages of longer periods compared to shorter periods.

One of the advantages of a longer determination period is that it would enable us to provide stronger incentives for Country Energy to increase its efficiency. It would also mean that Country Energy's revenue stream is more stable and predictable (which may lower its business risk and assist its investment decision-making). In addition, it would reduce the costs of regulating Country Energy, both for us, Country Energy and other stakeholders (as the shorter the determination period, the more price reviews need to be conducted). Finally, a longer period would give customers greater certainty over future prices, which can assist them with their own planning and budgeting.

One of the main disadvantages of a longer determination period is the increased risk that the forecast costs used to determine prices will prove to be inaccurate and therefore prices either over- or under-recover actual costs. For example, if Country Energy can reliably forecast its operating and capital expenditure profiles for only 2 years, a shorter determination period may be more appropriate. Other disadvantages include possible delays in customers benefiting if Country Energy makes efficiency gains during the determination period (because prices will not be set at levels that take account of these gains until the next determination), and the risk that changes in the industry will affect the appropriateness of the determination.

Another important factor that we took into consideration is that Country Energy currently receives a subsidy from the NSW Government which reduces the level of efficient costs it needs to recover through prices. The agreement under which this subsidy is provided will conclude in 2013, and it is uncertain whether it will be renewed and if so, at what level.

Given all of the above, we have decided to make our initial determination for a period of 3 years, ending on 30 June 2013. This addresses the uncertainties about the continuation of the currently subsidy. It is also long enough to enable us to create incentives for Country Energy to improve its efficiency, and to provide it and its customers with reasonable stability and predictability.

4 Overview of Country Energy's revenue requirement

One of the most important issues that we considered when determining maximum prices for Country Energy was the amount of revenue Country Energy should be entitled to receive to efficiently provide water and sewerage services and earn a return on its asset base. This is known as the 'notional revenue requirement'. As discussed in more detail in Chapter 3, we have calculated Country Energy's notional revenue requirement using the 'building block' approach.

Once the notional revenue requirement was established, we considered the potential impacts on customers of the prices that would be needed to generate that revenue, after taking into account the income to be received from Perilya Ltd. and subsidies from the NSW government. We then adjusted the notional revenue, having regard to the impact of bill increases on customers. This adjusted revenue is known as the target revenue.

This Chapter discusses:

- Country Energy's revenue proposals
- IPART's building block calculations to establish the notional revenue requirement
- IPART's adjustments to the notional revenue requirement to arrive at the target revenue value.

4.1 Country Energy's proposals

Country Energy prefers a cost building block approach to determine its revenue requirement. It accepts the need to manage impacts on customers and that the revenue requirement can be different from the maximum allowed revenue.

Country Energy's proposals are based on:

- Forecast operating expenditure levels utilising the 2009/10 budget as the base year and projections calculated using a formula based approach. The formula incorporates a growth factor for wages and materials and a network growth factor.

- An asset base valuation that is calculated using an Optimised Depreciated Replacement Cost (ODRC) methodology which results in an opening value for the asset base at 1 July 2010 of $334.9 million.[12]
- Depreciation of the asset base calculated on a straight line basis utilising projected asset lives.[13]
- A real pre tax weighted average cost of capital of 8.88%.[14]

Application of these parameters results in the following forecast unsmoothed annual revenue requirements for the regulatory period:

Table 4.1 Country Energy's proposed unsmoothed annual revenue requirement ($000, 2009/10)

	2010/11	2011/12	2012/13
Return on capital	28,330	28,136	28,178
Regulatory depreciation	9,459	9,576	9,752
Operating expenditure	15,821	13,764	13,984
Unsmoothed annual revenue requirement	53,610	51,476	51,914

Notes:

1. IPART has applied a CPI index to provide values in $2009/10.
2. Totals may not add due to rounding.

Source: Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, p 37.

By comparison, Country Energy's projected total revenue in the 2009/10 year is expected to be $16.8 million.

Country Energy believes that the regulatory asset base and cost building blocks should be set at a full ODRC value initially so that the true cost of service can be made transparent to all stakeholders, but accepts the need to manage price impacts on customers. Country Energy proposes that any customer impacts be managed through other means including transitional pricing and side constraints on prices.

12 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009, p 25.

13 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009, p 23.

14 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009, p 28.

4.2 IPART's decision on the notional revenue requirement

A key component of our approach to calculating the notional revenue requirement was assessing future cash flow needs. The notional revenue requirement needs to be sufficient to cover:

- The operation, maintenance and administration costs of Country Energy's water business (see Chapter 5).
- Regulatory depreciation, to allow for the progressive consumption or use of assets through time (see Chapter 7). This is also referred to as a return of capital.
- A return on the capital investment of Country Energy in its water business (see Appendix C for a discussion on the calculation of the weighted average cost of capital or WACC).
- An allowance for working capital (the allowance for working capital is not discussed any further in this report as this relatively small allowance does not have a significant impact on prices).

The sum of these amounts represents our view of Country Energy's total efficient costs over the determination period, or its notional revenue requirement:

Table 4.2 IPART's decision on the notional revenue requirement ($000, 2009/10)

	2010/11	2011/12	2012/13
Draft decision			
Operating expenditure	12,924	12,665	12,412
Regulatory depreciation	1,518	1,573	1,647
Return on assets	5,273	5,545	5,948
Return on working capital	51	38	47
Notional revenue requirement	19,766	19,822	20,054
Final decision			
Operating expenditure	12,911	12,652	12,399
Regulatory depreciation	1,514	1,568	1,642
Return on assets	5,255	5,528	5,931
Return on working capital	51	38	47
Notional revenue requirement	19,730	19,787	20,020

Note: IPART's final decision varies slightly from the draft report due to updates in the CPI forecasts.

Our application of the building block approach resulted in a lower notional revenue requirement than proposed by Country Energy. This is due to differences in each of the components and also in the valuation of Country Energy's asset base.

The notional revenue requirement has changed between the draft and final reports due to minor corrections in the calculations for conversions between real and nominal figures and for updated CPI forecasts. We have also reallocated some capital expenditure from the sewerage business to the water business but this does not affect the overall totals.

4.3 IPART's decision for Country Energy's target revenue

We have made adjustments to the notional revenue requirement to calculate the revenue to be recovered from the water and sewerage charges covered by this determination. We have deducted from the notional revenue requirement the following:

- the revenue received from Perilya Ltd. under its contract with Country Energy and the NSW government
- the subsidy received from NSW Treasury each year
- the revenue Country Energy is forecast to earn from fees and charges other than regulated water and sewerage charges such as trade waste charges and miscellaneous charges.

These deductions ensure that residents are only called upon to contribute to the net revenue requirement (if the subsidy and the revenue from Perilya were included when converting the revenue requirement into prices, Country Energy would recover these amounts twice – once from Perilya and the NSW Government, and once from its other customers). We have also had regard to the impact on customers of recovering this tariff revenue.

We are concerned that recovery of the tariff revenue requirement in the first year of the determination would place too great a burden on Country Energy's customers. We are required to have regard to the potential impacts of our pricing decisions on customers under section 15 of the IPART Act. Consequently, we have decided to use a glide path approach to determining the level of revenue to be recovered each year. The glide path approach works by increasing revenue (and hence prices) gradually over the determination period so that in the final year of the determination period the target revenue requirement is the same as the notional revenue requirement. This approach has similarities to Country Energy's proposed transitionary pricing approach.

The target revenue requirement has changed between the draft and final reports due to changes in the notional revenue requirement as discussed in section 4.2.

Table 4.3 IPART's decision on the target revenue requirement ($000, 2009/10)

	2010/11	2011/12	2012/13
Draft decision			
Notional revenue requirement	19,766	19,822	20,054
Less government subsidy and revenue from Perilya	4,848	4,848	5,668
Notional revenue from tariffs	14,918	14,974	14,386
Target revenue from tariffs	12,843	13,616	14,386
Difference	-2,075	-1,358	0
Final decision			
Notional revenue requirement	19,730	19,787	20,020
Less government subsidy and revenue from Perilya	4,848	4,848	5,668
Notional revenue from tariffs	14,882	14,939	14,352
Target revenue from tariffs	12,833	13,594	14,352
Difference	-2,049	-1,345	0

Chapter 5 deals in greater detail with IPART's deliberations in relation to deciding on an efficient level of operating expenditure to allow Country Energy in the determination of prices.

Chapter 6 deals with the capital expenditure levels that we believe are efficient and achievable over the determination period.

5 Revenue required for operating expenditure

To determine how much revenue County Energy will require for operating expenditure over the 2010 determination period, we assessed the efficient level of operating and maintenance costs it will need to incur to provide water, sewerage and associated services over this period. As part of this assessment, we examined the forecast operating expenditure Country Energy included in its pricing proposal. We also undertook our own analysis, including benchmarking Country Energy's recent historic operating expenditure against that of comparable regional water businesses and considering the potential for Country Energy to make efficiency gains.

The sections below summarise our decision on the revenue required for operating expenditure, and then discuss Country Energy's proposal and our assessment in more detail.

5.1 Summary of our decision on operating expenditure

Decision

4 IPART's decision is that the operating expenditure to be included in calculating Country Energy's notional revenue requirement is as shown in Table 5.1.

Table 5.1 IPART's decision on forecast operating expenditure ($000, 2009/10)

	2010/11	2011/12	2012/13	Total
Draft decision				
Water	10,399	10,191	9,987	30,578
Sewerage	2,524	2,474	2,424	7,423
Total	12,924	12,665	12,412	38,001
Final decision				
Water	10,387	10,179	9,976	30,542
Sewerage	2,523	2,473	2,423	7,420
Total	12,911	12,652	12,399	37,962
Country Energy's proposal				
Water	12,620	11,011	11,224	34,856
Sewerage	3,073	2,666	2,718	8,456
Total	15,693	13,677	13,942	43,312
Difference between Country Energy's proposal and IPART's decision	-2,782	-1,025	-1,543	-5,350

Note: Totals may not add due to rounding.
Note: IPART's final decision varies slightly from the draft report due to updates in the CPI forecasts.
Source: Country Energy's information return.

Our decision on the total forecast operating expenditure over the 3 years is around $5.35 million less than Country Energy proposed.

To reach our decision, we derived a base year figure for Country Energy's operating expenditure by averaging its actual annual operating expenditure for the period 2007 to 2010. This approach smoothed out year-to-year fluctuations in Country Energy's recent operating expenditure to achieve a base level figure that we consider is a reasonable reflection of its operating costs in a typical year.

We then derived Country Energy's forecast operating expenditure for the period 2010/11 to 2012/13 by inflating the base level figure by the forecast level of general inflation minus 2% (CPI -2%)[15] in each year of the period (cumulative). We decided to use the CPI -X% approach because we consider there is scope for Country Energy to achieve efficiency gains in its water and sewerage operations, and this approach will create incentives for it to pursue these gains. We decided that an X factor of -2% is appropriate, as it is in line with the targets for efficiency gains we have used in recent determinations for other NSW water businesses. We note that this level of efficiency gains may also be considered conservative, given that our benchmarking shows Country Energy's water and sewerage operating costs per property are high compared to those for comparable water agencies.

5.2 Country Energy's proposed forecast operating expenditure

In its pricing submission, Country Energy proposed using its 2009/10 budgeted operating expenditure as the basis for forecasting its operating expenditure over 2010/11 to 2012/13. It used the following formula to project this operating expenditure on an annual basis:

(1) $\text{Operating expenditure}_{t+1} = \text{Opex}_t * (1+F+G)$

Where:

- F is a real wage and material cost growth factor
- G is a network growth factor

Country Energy based the real wage and material cost growth factor on market expectations of real wage and material cost increases. In its pricing submission, it attached a report it had commissioned which calculates cost escalation factors to apply in the gas industry under the National Gas Rules and is consistent with the methodology applied by the Australian Energy Regulator (AER) for its final determinations for electricity businesses. The report provides escalation factors for aluminium, steel, polyethylene, concrete, crude oil and construction costs.[16]

15 Our figures differ slightly from the draft report due to updates in the CPI forecast.

16 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009, Appendix E, Table 1.

Country Energy calculated the network growth factor on its forecast water consumption growth rate. It noted that this approach reflects the fact that growth in the utilisation of assets will lead to increased maintenance and reflects the marginal cost associated with providing the additional output.

In our draft determination, we decided not to adopt County Energy's methodology which uses growth factors to forecast operating expenditure. We have decided to follow this course for the final determination.

In response to our draft determination, Country Energy states:

> Country Energy believes that IPART needs to consider amending its approach to forecasting expenditures by applying the accepted cost escalation methodology developed by KPMG Econtech.

Country Energy engaged consultants Deloitte Australia to provide comments on our draft decision regarding operating expenditure forecasts. Country Energy also provided a report prepared by KPMG Econtech which provides labour cost growth forecasts. The report was commissioned by the Australian Energy Regulator for its 2009 electricity transmission and distribution revenue determinations. The report provides labour cost growth forecasts and commentary for the Mining, Gas and Water Supply and Construction industries.

Table 5.2 shows Country Energy's historic operating expenditure and its proposed forecast operating expenditure. Country Energy noted in its pricing submission that in forecasting this expenditure, it allocated corporate expenses to the water business in accordance with the Australian Energy Regulator's cost allocation method.[17] It then split this amount between the water and sewerage businesses in line with the ratio of its water to sewerage operating expenditure.

[17] Note that IPART did not check that this allocation complied with the AER's cost allocation method.

Table 5.2 Country Energy's proposed forecast operating expenditure and recent historic expenditure ($000, 2009/10)

	2006/07 actual	2007/08 actual	2008/09 actual	2009/10 budgeted	2010/11 forecast	2011/12 forecast	2012/13 forecast
Water							
Inspection	8	161	92	-	-	-	-
Quality	519	809	89	-	-	-	-
Reservoirs	857	304	266	393	535	486	495
Pipelines	669	250	293	478	651	592	603
Pumping Stations	3,750	2,517	2,004	2,391	3,257	2,961	3,016
Reticulation	2,853	1,844	2,047	1,399	1,906	1,732	1,765
Treatment Plant	3,257	2,736	2,586	2,605	3,548	3,226	3,286
Effluent Water	55	36	125	191	260	237	241
Corporate	1,984	1,844	2,051	832	2,463	1,777	1,817
Total water opex	13,951	10,501	9,654	8,291	12,620	11,011	11,224
Sewerage							
Pumping Stations	324	284	304	312	425	386	393
Reticulation	924	657	618	576	785	713	727
Treatment Plants	1,014	967	1,674	869	1,183	1,076	1,096
Corporate	386	415	746	230	680	491	502
Total sewerage opex	2,647	2,323	3,343	1,987	3,073	2,666	2,718
Total opex	16,598	12,824	12,997	10,278	15,693	13,677	13,942

Note: Totals may not add due to rounding.

Source: Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, p 31, and Annual Information Return.

5.3 IPART's assessment of Country Energy's efficient forecast operating costs

To assess Country Energy's efficient level of forecast operating and maintenance costs we examined its proposed forecast expenditure, and considered the results of our benchmarking analysis and the potential for Country Energy to make efficiency gains.

5.3.1 Analysis of Country Energy's proposed forecast operating expenditure

We have considered Country Energy's proposed forecast operating expenditure and the methodology used to derive this expenditure. We have concerns about aspects of this methodology. In particular, we note that Country Energy's actual operating expenditure has varied quite significantly in recent years. Therefore, any single year's expenditure is not likely to provide a reasonable basis for projecting future expenditure. For this reason, we have decided to use the average of the last 4 years as the base year for our calculations.

In addition, we are not convinced that indices suitable to escalate costs in the electricity industry for example (ie, Country Energy's real wage and material cost growth factors) are necessarily applicable to the water industry. The indices quoted are for the electricity, gas and water and waste industries combined. If, as forecast, there will be large investment in the electricity industry in the near future then costs for the electricity industry are likely to escalate sharply. These conditions may not necessarily cause similar increases in the water industry. In past reviews[18] other water utilities have proposed that costs be escalated on a basis other than CPI and we concluded that CPI is the appropriate index to escalate costs for our pricing purposes.[19] As well, we have sought to replicate Country Energy's calculations for projected operating expenditure based on their methodology but have been unable to do so.

We are also concerned that the problems associated with allocating overheads identified by Halcrow's review of past and forecast capital expenditure (discussed in Chapter 6) may also apply to Country Energy's forecast operating expenditure.

5.3.2 Results of benchmarking analysis

Benchmarks

To gain insight into Country Energy's Broken Hill water business performance relative to other water businesses, we compared Country Energy with a number of other regional water utilities in NSW. In undertaking our analysis we considered the National Performance Report[20], which independently and publicly benchmarks water pricing and service quality of water utilities across Australia on an annual basis, to be a reliable source of data. However, it is important to note that as indicated by Country Energy in its submission[21] to our draft report, care needs to be taken when using the reported indicators to compare the performance of different water utilities since:

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18 Hunter Water submission to IPART on prices to apply from 1 July 2009, Appendix B, January 2009.

19 IPART, *Review of prices for water, sewerage, stormwater and other services for Hunter Water Corporation*, Appendix I, July 2009.

20 The National Performance Report is compiled by the National Water Commission and contains audited figures.

21 Country Energy, *Response to IPART Draft Determination*, Appendix A, p 9, April 2010.

> Different operating environments, geographic and climate conditions, regulatory requirements, customer bases etc, all influence the result of any given indicator.

In consideration of the above, for the draft report we selected 10 utilities, largely based on size that we considered to be the most appropriate comparators for Country Energy's water business in Broken Hill[22]. However, Country Energy has argued in its submission[23] that because we have not considered other significant differences in Country Energy's operating environment when selecting the 10 utilities that we have not used the most appropriate comparators and this reflects unfavourably on Country Energy's performance.

In response, Country Energy has identified 5 specific factors which it considers to be important influences on its performance and thus should be considered when selecting appropriate benchmarks for Country Energy. The factors include customer numbers, customer density, climate, average residential water supplied and the proportion of large industrial/commercial customers to the total customer base.

Using the above 5 factors, Country Energy has provided a list of the utilities it considers to be the most appropriate benchmarks[24]. The top 5 comparator utilities include:

1. Power and Water (Alice Springs).
2. Goldenfields Reticulation.
3. Water Corporation–Kalgoorie-Boulder.
4. SA Water – Whyalla.
5. South Gippsland Water.

We note that in our draft report we didn't include the above utilities and that Country Energy has a valid point that there are other factors that could have influenced the results of the benchmarking analysis. Therefore, in completing the final report we have addressed this issue by adding Country Energy's recommended comparator utilities to our existing sample for the purposes of our benchmarking analysis. However, of the 19 water utilities that Country Energy has recommended only 4 of these utilities have reported results for the indicators (for both water and sewerage) we have taken from the 2008/09 National Performance Report. Therefore, for a meaningful comparison we have included the following 4 utilities, from the top 10 recommended by Deloitte, in the benchmarking analysis:

1. Power and Water (Alice Springs).
2. South Gippsland Water.
3. Clarence Valley.
4. Bega Valley.

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22 The comparator utilities were selected based on total water customers. Most comparators were within the 10,000 to 20,000 connected properties band while a couple of larger utilities were included to show how they compare with the smaller utilities.

23 Country Energy, *Response to IPART Draft Determination*, p 6, April 2010.

24 Country Energy, *Response to IPART Draft Determination*, Table 1, p 13, April 2010.

Indicators

In undertaking the benchmarking analysis we also had to choose appropriate indicators with which to compare the water utilities' performance. Whilst we reported a range of indicators of performance, we considered the 'operating costs per property' to be the critical indicator of efficiency. When interpreting the results of this indicator it must be remembered that there are factors other than efficiency (such as climate and rainfall and distance that water must be transported) that will impact on a utility's operating costs per property that need to be recognised.

Operating costs divided by the number of properties is considered a more appropriate normalisation than operating costs per mega litre supplied because operating costs should not significantly increase with the level of usage. In its submission, Country Energy has argued that because its industrial customers account for more than half of total water supplied and they are servicing a low density area, then the 'per property' normalisation overstates its operating costs. On this basis, Country Energy considers that operating costs per mega litre (ML) removes the bias caused by its industrial customers and therefore is a better indicator of its operating efficiency. While we recognise these factors are likely to impact on its fixed costs per property relative to the other water utilities, its operating costs are not driven by mega litre supplied. Therefore, following the approach taken by the National Performance Report, we continue to use operating costs per property in our analysis.[25]

Further, since we only focussed on examining the comparative efficiency of different water utilities we didn't provide any indicators on the relative effectiveness of services provided by the water utilities in the benchmarking analysis. Country Energy has proposed 2 additional indicators on effectiveness to be included within the benchmarking analysis:

1. Water main breaks (per 100km of water mains).
2. Average duration of unplanned interruptions.

Both indicators are reported in the National Performance report, however, for the sample of utilities that we have selected, there is very limited available data for the 'average duration of unplanned interruptions'. This makes any meaningful comparisons difficult. Therefore we have included water main breaks (per 100km of water mains) to gauge the relative effectiveness of services provided by the different water utilities in our benchmarking analysis.

Results

Table 5.3 compares Country Energy's Broken Hill water business with the other regional water utilities in Australia that we have selected (including those recommended by Country Energy).

25 National Water Commission, *National Performance Report urban water utilities 2008-2009*

The results show that Country Energy has one of the highest operating costs per property and income per property, that the annual water and sewerage bill for 200 kLs consumption is around the middle of the comparison, and that the bill calculated for a residential customer with the average residential consumption for each particular water agency's operating area is lower than average.

While the table shows that Country Energy's income per property is one of the highest among the selected utilities, this is misleading as the figure shown includes the income it receives from Perilya Ltd. and the NSW Government, not just income from regulated prices.

Table 5.3 Comparative statistics for similar water agencies (2008/09)

	Country Energy	Power & Water (Alice Springs)	South Gippsland Water	Clarence Valley	Bega Valley	Gosford	Dubbo	Tamworth	Albury	Bathurst	Eurobodalla	Kempsey	Lismore	Queanbeyan	Shoalhaven
Total water customers	10,000	12,000	18,000	21,000	14,000	70,000	16,000	20,000	22,000	15,000	19,000	12,000	14,000	16,000	46,000
Annual ave res water supplied (kLs pa)	284	532	124	176	154	140	331	226	222	240	129	156	159	198	152
Annual water & wastewater bill – 200 kLs	$757	$621	$833	$941	$1,440	$821	$781	$1,011	$590	$768	$1,252	$1,065	$916	$925	$818
Annual water & wastewater bill - ave consumption	$833	$870	$748	$911	$1,344	$721	$901	$1,036	$602	$798	$1,132	$1,017	$846	$922	$770
Water main breaks (per 100km water main)	11	80	26	10	5	27	7	12	12	9	4	24	20	1	14
Income/prop	$1,629	$1,297	$1,147	$1,233	$1,483	$839	$1,131	$1,648	$899	$1,237	$1,287	$1,075	$1,044	$968	$1,018
Opex/prop.	$1,138	$1,112	$844	$647	$967	$566	$789	$673	$524	$732	$714	$716	$781	$746	$685
Opex/prop. excluding pumping costs	$888														

Note: Income for Country Energy includes revenue from Perilya Ltd. and an annual subsidy from NSW Treasury. This influences the size of the income per property.

Source: National Performance Report 2008/09.

Our benchmarking showed that Country Energy's operating cost on a per property basis is the highest among the sample of businesses we selected.

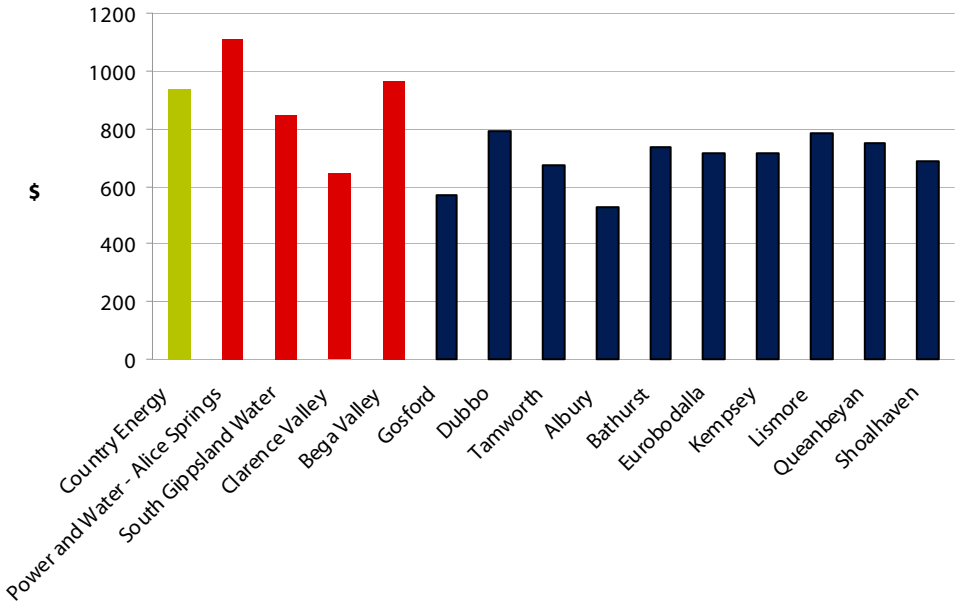
Country Energy indicated in its submission that a significant driver of its operating expenditure is pumping costs, which account for 22% of this expenditure.[26] As Chapter 2 discussed, the main water source is located around 120km from Broken Hill, so Country Energy is required to pump water over considerable distances. Given this, we also compared Country Energy's operating cost per property *excluding pumping costs* with the total operating cost per property of the other businesses. We estimated operating cost per property less pumping costs at 78% of the total operating cost per property, which resulted in a cost of $888 per property.

We found that Country Energy's operating cost per property is still at the higher end (although no longer the highest) compared to the other businesses', even when its pumping costs were excluded (see Figure 5.1). Power and Water (Alice Springs), Bega Valley and Country Energy have the highest operating costs per property in the sample, but this is likely to be explained by other factors influencing the indicator. For example, even though we have removed pumping costs from Country Energy's operating costs, there are other costs associated with operating and maintaining this pipeline that increases Country Energy's costs relative to its peers. They include travel costs associated with the import of materials over long distances and associated travel to infrastructure requiring maintenance[27]. Country Energy's desert climate is also likely to help explain the higher than average operating costs per property. Similar factors are also likely to explain the high operating costs per property for Power and Water (Alice Springs).

26 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009, p 34.

27 Country Energy, *Response to IPART's Draft Report*, Appendix A, p 10, April 2010.

Figure 5.1 Country Energy's operating cost per property (excluding pumping costs) compared to other NSW water businesses (2008/09)



Data source: 2008/09 National Performance Report.

5.3.3 Potential for efficiency gains

In making determinations for other water utilities in NSW, we have frequently adjusted their forecast operating expenditure to include targets for efficiency gains. For example, in our 2005 determinations for Sydney Water, Hunter Water and Sydney Catchment Authority, we accepted the view of our consultants Atkins/Cardno that efficiency targets be based on the concepts of continuing efficiency and catch-up efficiency:

> Continuing efficiency is the scope for top performing or frontier utilities to continue to improve their efficiency. It reflects the continuing efficiencies being gained across all major sectors through innovation and new technologies.
>
> Catch-up efficiency is the scope for all other utilities to reach the performance of a frontier utility.[28]

In calculating the notional revenue requirement for these utilities, we adjusted their forecast operating expenditure in the following ways:

- For Sydney Water, we reduced its forecast controllable operating expenditure by between 3.5% and 9.0% per annum (cumulative), which effectively created a 27% efficiency target in the final year of the determination.[29]

[28] Atkins/Cardno – Supplementary Submission Review, September 2005, *Sydney Water Corporation – Final Report*, p 6.

- For Hunter Water, we reduced its forecast controllable operating expenditure by between 0.5% and 3.8% per annum (cumulative),[30] which created an 8% efficiency target in the final year of the determination.

The size of these targets reflected our view of each utility's potential to reduce its operating costs by taking measures to increase its efficiency – for example, by introducing systems such as activity-based costing. This potential was on top of the gains from planned efficiency measures they had specified in their submissions and factored into their forecast operating expenditure.

We acknowledge that the climatic and other conditions of Country Energy's operating environment may increase its operating costs compared to other water businesses. However, as mentioned above, there is an expectation that all utilities should achieve efficiency gains and this is reflected in our past decisions to impose efficiency gains on all the water utilities that we regulate, regardless of the level of their reported operating costs per property and whether or not they have achieved efficiency gains in the past. It is for this reason that we consider that Country Energy has scope to begin to target efficiency and has potential to reduce its operating costs per property.

We note that in explaining its proposed forecast operating expenditure, Country Energy indicated that it had applied forecast growth factors to its current expenditure, but did not specify that it had incorporated the impact of any planned efficiency measures into this calculation.

Taking all of the above into account, we decided that it is reasonable to incorporate incentives for Country Energy to make operating efficiency gains over the 2010 determination period. In addition, we decided that the most appropriate way to incorporate these incentives was to use a CPI-X approach in forecasting Country Energy's efficient operating cost. Under this approach, the base year figure is increased by the change in the CPI less a certain percentage in each year of the determination period, with that percentage representing the efficiency target.

On balance, we decided that an operating efficiency target of 2% per annum (cumulative) is appropriate for this initial determination. We consider that such a target is relatively conservative and consistent with the decisions to impose efficiency gains on other water utilities that we regulate and thus consider it is achievable for Country Energy.

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29 We did not apply the efficiency targets to the operating expenditure over which Sydney Water had no control. For example, bulk water purchases.

30 These figures are based on a weighted average of the savings applied to each part of the business.

6 Capital expenditure

To decide how much of Country Energy's past and forecast capital expenditure should be included when rolling forward the value of the RAB, we assessed whether past expenditure was prudent, and whether forecast expenditure is prudent and efficient. By including only prudent, efficient capital expenditure in the RAB we ensure that customers are not required to pay for capital expenditure that represents a poor investment.

To assist us in making this decision, we examined the information on past and forecast capital expenditure Country Energy included in its submission. We also engaged engineering consultants Halcrow Pacific Pty. Ltd. (Halcrow)[31] to examine Country Energy's reported past and forecast capital expenditure, and to review its asset management planning.

6.1 Country Energy's submission

Country Energy provided information in its submission on its past capital expenditure, forecast capital expenditure and asset management planning.

6.1.1 Past capital expenditure

Country Energy's submission indicated that in recent years, its capital expenditure program was focussed on replacing and refurbishing assets to ensure the long-term security of its water and sewerage networks. Table 6.1 shows its actual or estimated expenditure for the past 4 years.

Table 6.1 Past capital expenditure – Country Energy's submission ($000, 2009/10)

	2006/07	2007/08	2008/09	2009/10 (estimate)	Total
Country Energy proposed	4,367	10,262	20,255	30,018	64,902

Note: Totals may not add due to rounding.

Source: Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, p 16.

[31] Halcrow's report can be found on the IPART website: www.ipart.nsw.gov.au

The unusually high levels of expenditure in 2008/09 and 2009/10 were due to the construction of the Mica Street WTP at a total cost of $41.3 million ($nominal). This new plant replaces a 50-year-old plant considered obsolete. Country Energy indicated that the new plant is significantly more reliable, more efficient and fully automated in operation.

In addition, further capital expenditure was needed to comply with government regulations and standards. This included work on the Stephen's Creek reservoir, on the Umberumberka pumping station, and on the Warren Street sewerage pumping station. Capital expenditure was also needed to replace sections of the critical Menindee to Stephen's Creek and Stephen's Creek to Broken Hill pipelines.

6.1.2 Forecast capital expenditure

Country Energy's submission indicated that its forecast capital expenditure program is aimed at renewing assets to ensure they perform at a level that meets government standards and customer expectations. Table 6.2 shows Country Energy's forecast expenditure for the 3 years of the determination period.

Table 6.2 Forecast capital expenditure – Country Energy's submission ($000, 2009/10)

	2010/11	2011/12	2012/13	Total
Country Energy proposed	5,611	12,350	12,308	30,269

Source: Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, p 19.

Planned capital expenditure on water supply assets include:

- refurbishing the Umberumberka Dam
- conducting a study to identify options for the Imperial Lake Reservoir
- replacing various sections of the Menindee to Broken Hill pipeline and refurbishment of the Umberumberka and Imperial Lake pipelines.

For sewerage system assets, major planned expenditure includes replacing the Wills Wastewater Treatment Plant (WWTP).

6.1.3 Asset management

Country Energy's submission indicated that it has developed a Water Asset Management Plan (WAMP). The WAMP sets out an Asset Management Framework (high-level strategies) along with an approach for identifying capital investments (augmentation needs, reliability criteria, renewal requirements) and principles for good asset management practices. This plan directs the water business' general asset management approach, which in turn drives its capital expenditure program.

6.2 Halcrow's review

We asked Halcrow to perform a 'desk-top' review of Country Energy's past and forecast capital expenditure, employing the documentation provided by Country Energy, investigating the assertions made in individual submissions, and drawing on Halcrow's wide experience in reviewing other water utilities in Australia. As part of this review, Halcrow:

- reviewed Country Energy's asset management planning and implementation
- reviewed and made recommendations on a selection of its capital projects to assess the reasonableness of the expenditure (including overheads and contingencies), and considered whether they comply with the asset management plan.

Halcrow's report can be found on our website at www.ipart.nsw.gov.au.

6.2.1 Asset management planning and implementation

Halcrow found that Country Energy's WAMP outlines the principles of good asset management. However, it also found that the documentation Country Energy submitted did not provide sufficient evidence for it to conclude that Country Energy has been applying these principles in practice. One notable exception was the information provided on the Mica Street WTP project. Halcrow found that this information demonstrated that Country Energy had followed good asset management practice, including considering alternative solutions, risk, and financial impacts during the approval process.

Halcrow also compared Country Energy's asset performance indicators with those of other similar-sized urban water utilities, using data from the National Performance Report.[32] Halcrow commented that asset performance can be used as an indicator of the effectiveness of asset management practices. It considered that the results of this comparison indicate that Country Energy has scope to improve its asset management performance in both the water and sewerage sides of the business.

In its response to the draft determination, Country Energy engaged Deloitte Australia to assess Halcrow's and our approach to benchmarking Country Energy's operating and capital expenditure performance. Country Energy's submission highlights concerns that capital expenditure per property has been used to draw conclusions about Country Energy's asset management practices. Country Energy notes that, in recent years, its capital expenditure profile has been shaped by its large investment in the Mica Street Water Treatment Plant. We acknowledge that this indicator will certainly have been affected by this expenditure and note that the indicator was provided for information.

32 NWC, *National Performance Report 2007/08, comparison with utilities with between 10,000 and 20,000 connected properties,* August 2009.

6.2.2 Capital projects

Halcrow selected a number of Country Energy's capital projects to review in detail. The projects selected comprised 76% of the proposed capital expenditure on water supply assets being considered as part of this review, and 99% of the capital expenditure on sewerage assets. Halcrow identified concerns about a number of these projects. These concerns are summarised by project below.

Mica Street Water Treatment Plant (WTP) replacement

Halcrow accepted there was sufficient evidence to justify replacing the existing plant, noting that this plant has a limited remaining life. It found that Country Energy had carried out comprehensive analysis before awarding a contract to construct the new WTP. However, it identified 2 major concerns with this project.

First, Halcrow expressed concern about the quantum of overheads allocated to the project. Halcrow noted that this allocation represents 32%[33] of the direct project cost (excluding a contingency allowance for unforseen circumstances) whereas, in its experience, the normal rate of overhead allocations in the water industry is between 15% and 20% of the direct cost.

Second, Halcrow was concerned that the business case for this project's approval was based on the direct cost estimate without accounting for the overhead allocation. However, this estimate included a 10% contingency. Halcrow noted that adding a contingency of 10% is at the high end of an acceptable range given that specific allowances had already been included for delays and other contingencies within the direct cost estimate.

The effect of these additions results in the approved capital expenditure increasing from $31.977 million ($ nominal) to $41.255 million ($ nominal).

In Halcrow's view, the business case should be based on the total expenditure to allow accurate analysis.[34]

Halcrow concluded that the prudent level of expenditure on the Mica Street WTP was $33.4 million, including overheads and contingency allowances.

Mica Street WTP No 1 Tank Replacement

This project involves replacing the existing 5.9 ML No 1 concrete tank at Mica Street WTP with a new 9 ML steel tank. Halcrow noted that the overheads allocated to this project represent 74.7% of its direct cost. It also noted that the evidence provided by Country Energy to support the need for a 9 ML tank is not strong enough. Therefore, it concluded that a prudent and efficient level of expenditure on this project would

33 Halcrow Report, January 2009, Table 3.3, p 15. This equates to 29% of the direct projects costs (including contingency).

34 Country Energy has commented that they follow NSW Treasury Guidelines that suggest that incremental costs form the best basis for business case assessments.

reflect an overhead allocation of 20% (which is more in line with the normal overhead rate in the water industry), and a 6 ML steel tank.

Menindee to Stephens Creek pipeline replacement

This 100km pipeline is the most critical of Country Energy's water-related assets. Country Energy has obtained and reviewed consultants' advice on maintaining the pipeline, and based on this advice proposes to replace 600 metres of pipeline each year. Halcrow found this to be a reasonable approach, and considered the estimated direct costs to be a reasonable expenditure forecast. However, it considered that the allowances for contingencies and corporate overheads of between 74% and 102% per annum on top of the direct costs to be too high. It concluded that a prudent and efficient level of expenditure on this project would reflect overhead and contingency allowances more in line with the normal water industry rate.

Umberumberka pipeline replacement

This 30km pipeline is the second-most critical to Country Energy's water business. Country Energy has also obtained and reviewed consultants' advice on maintaining this pipeline. Halcrow considered that the project cost based on this advice is sufficient for Country Energy's needs. However, again, it considered that the allowances for contingencies and corporate overheads of between 74% and 102% per annum to be too high, and a prudent and efficient level of expenditure would reflect rates more in line with the water industry norm.

Stephens Creek Reservoir cover

While there has been some capital expenditure on this project in the past, Country Energy has not included any forecast expenditure in its submission.

Warren Street Sewerage Pumping Station (SPS)

This project was completed in 2008/09, but Halcrow could not obtain suitable data on the costs involved to make an accurate assessment. It did note that a recent valuation of the project made for reporting purposes is significantly less than the expenditure reported to IPART. Therefore, it questioned both the reasonableness and prudence of this past expenditure.

Wills Street Sewerage Treatment Plant (STP) Replacement

This project involves replacing the Wills Street Sewage Treatment Plant and is in the early stages of development. Based on its analysis of recent condition assessment reports, Halcrow found that while replacement is required for some asset items, most other assets at the STP can be repaired to extend their estimated life by between 10 and 20 years. Therefore, it considered that not all of Country Energy's forecast expenditure on this project was efficient and prudent.

Other projects

Halcrow also noted that Country Energy had submitted information on forecast capital expenditure for 2 other projects that it considered to be more appropriately classified as operating expenditure. The projects are specific dam safety works related to leakage monitoring, measurement and control at the Umberumberka Dam, and refurbishment expenditure to clean, repair, and recoat the interior and exterior of the Hebbard Street Service reservoir. However, Halcrow did not include any amendment for these items in its final recommendations.

6.2.3 Halcrow's recommendations

Halcrow concluded that the overall levels of capital expenditure included in Country Energy's submission are too high to be considered prudent and efficient. The primary reason for this is that the rates of corporate overheads and allowances allocated to capital projects are higher than the 15% to 20% typical for water businesses in Australia.

Therefore, Halcrow recommended that we adopt the levels of forecast capital expenditure shown in Table 6.3 for the purpose of determining prices. As the table indicates, these levels are considerably lower than those included in Country Energy's submission.

Table 6.3 Halcrow's recommended levels of forecast capital expenditure ($000, 2009/10)

	2010/11	2011/12	2012/13
Country Energy proposed			
Water	4,899	5,975	5,993
Sewerage	713	6,375	6,314
Country Energy Total	5,611	12,350	12,308
Halcrow recommended			
Water	2,858	4,715	4,717
Sewerage	628	2,585	2,529
Halcrow Total	3,485	7,300	7,246

Note: Totals may not add due to rounding.

6.3 IPART's decision on past and forecast capital expenditure

Decision

5 IPART's decision is that the levels of past and forecast capital expenditure to be included in rolling forward Country Energy's RAB are as shown in Table 6.4.

Table 6.4 IPART's decision on capital expenditure to be included in rolling forward the RAB ($000, 2009/10)

	2008/09	2009/10	2010/11	2011/12	2012/13	Total forecast
	past	past	forecast	forecast	forecast	
Draft decision						
Water	16,759	25,703	2,858	4,715	4,717	12,290
Sewerage	592	1,184	628	2,585	2,529	5,742
Total	17,351	26,887	3,485	7,300	7,246	18,031
Final decision						
Water	16,949	25,925	2,858	4,715	4,717	12,290
Sewerage	502	962	628	2,585	2,529	5,742
Total	17,451	26,887	3,485	7,300	7,246	18,031

Note: Totals may not add due to rounding.

For the draft report, we considered the information provided in Country Energy's submission and Halcrow's findings and recommendations, as well as Country Energy's information return and its comments on the Halcrow report. We noted that the main reason Halcrow recommended lower levels of capital expenditure than Country Energy included in its submission was its concerns about the levels of corporate overheads and allowances Country Energy had allocated to water-business capital projects. We also noted that Country Energy's procedure for allocating overheads to the water business is based on the approach it uses for allocated overheads to its regulated electricity business when submitting information to the Australian Energy Regulator.

Country Energy's submission to the draft report challenged our draft findings and re-iterated that the method has been accepted in its energy review submissions. Country Energy contends that its overhead allocations appear high because its direct costs are low in comparison with other utilities. Further, Country Energy argues that to adopt different overhead methodologies for different parts of its business would lead to incompatible and flawed results.

We retain the view that overhead allocations that are appropriate for electricity businesses are not necessarily appropriate for Country Energy's water and sewerage business. We still maintain that the allocation levels derived from this approach are not in line with typical allocation rates in Australian water businesses. Since the draft report we have further reviewed the methodologies used by other water utilities we regulate toeto allocate corporate overheads and have confirmed that these agencies do not allocate corporate overheads to capital projects. It is common practice to allocate only staff overheads (such as leave and superannuation allowances) to capital projects for the specific staff and time worked on the project. Sydney Water, for example, has a dedicated division to handle capital projects and only the overheads of the staff in this division are allocated to the capital projects. In our experience, it is more usual to allocate corporate and other general overheads to

operating expenditure. However, the allocation of these overheads to Country Energy's operating expenditure would only serve to increase this expenditure. As explained in Chapter 5, Country Energy's levels of operating expenditure have been found to be high without the added burden of additional overheads.

Therefore, we have decided to maintain our draft decision regarding capital expenditure and adopt Halcrow's advice on the level of overheads to include in both past and future capital expenditure levels. We decided to adopt Halcrow's recommendations for the levels of capital expenditure for the capital projects it reviewed.

For the final report and determination we have made a few minor corrections to the capital expenditure calculations. More specifically, we have re-allocated the capital expenditure for 'effluent water'[35] from the sewerage business to the water business. We have also corrected a conversion from nominal to real dollars and have updated the CPI forecasts. These amendments have had minor impact on the final figures.

[35] Country Energy sells treated effluent to customers who use it for various watering purposes where potable water is not required. Therefore it is more correctly allocated to the water business.

7 Revenue required for capital investment

As Chapter 4 discussed, the revenue required for capital investment comprises 2 cost blocks: an allowance for a return on its regulatory asset base (return on assets), and an allowance for depreciation of this asset base (regulatory depreciation). We determined a value for each of these allowances by taking the following 4 steps:

1. Assessing Country Energy's past capital expenditure to decide whether it was prudent and should therefore be incorporated into the opening value of its regulatory asset base (RAB), and assessing its forecast capital expenditure over the next 3 years to decide whether it is efficient and prudent and should therefore be included when rolling forward the RAB (see Chapter 6).
2. Calculating the value for Country Energy's RAB over the determination period by establishing its initial RAB, then rolling this forward to establish the opening and closing value of this RAB in each year of the determination period.
3. Calculating the allowance for a return on assets by deciding on an appropriate rate of return for Country Energy, and multiplying the annual value of the RAB over the determination period by this rate.
4. Calculating the allowance for regulatory depreciation by deciding on an appropriate depreciation method and asset lives for Country Energy's existing and new assets.

The section below summarises our decisions on the allowances for a return on assets and regulatory depreciation. The following sections explain how we reached these decisions by discussing steps 2, 3 and 4 above.

7.1 Summary of IPART's decisions on allowances for return on assets and regulatory depreciation

Decision

6 IPART's decisions on the allowances for a return on assets and regulatory depreciation to be included in Country Energy's notional revenue requirement are as shown iin Table 7.1.

Table 7.1 IPART's decisions on the allowances for a return on assets and regulatory depreciation ($000, 2009/10)

	2010/11	2011/12	2012/13	Total
Draft decision				
Return on assets	5,273	5,545	5,948	16,766
Regulatory depreciation	1,518	1,573	1,647	4,739
Final decision				
Return on assets	5,255	5,528	5,931	16,715
Regulatory depreciation	1,514	1,568	1,642	4,724

Our decision on the total allowance for a return on assets over the determination period is around $67.9 million less than Country Energy proposed, and our decision on the total allowance for regulatory depreciation is around $25.7 million less than Country Energy proposed[36].

The main reason for these sizable differences is that we decided to use an alternative approach for calculating the opening value of the RAB compared to what Country Energy proposed. As a result, our calculated value for the RAB is significantly lower than Country Energy's – around $72 million as at 1 July 2010 compared to Country Energy's calculated value of around $335 million.[37]

In addition, we decided to include less capital expenditure when rolling forward the RAB than Country Energy proposed. We also used a different rate of return to calculate the return on assets allowance – 7.4% compared to 8.88%[38] – and different asset lives to calculate the regulatory depreciation allowance.

7.2 Calculating the value of Country Energy's RAB over the determination period

To calculate the value for Country Energy's regulatory asset base (RAB) over the determination period, we first established the value of its initial RAB. Then we rolled this value forward to establish the value of the RAB at the start of the determination period (ie, as at 1 July 2010), and at the end of each year in the determination period (ie, as at 30 June 2011, 2012 and 2013).

36 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009, Table 9, p 26, converted by IPART to $2009/10.

37 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009, p 26.

38 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009, p 28.

7.2.1 Calculating the value of the initial regulatory asset base

Because this is our first determination for Country Energy's water business, we needed to establish the initial value of its RAB. This value is established purely for the purpose of setting prices. It needs to be set at a level that results in prices sufficient to enable Country Energy to maintain and renew the assets required to provide regulated water and sewerage services into the future, and to provide appropriate price signals for new investment.

The initial value of the RAB can be calculated as at the start date of the determination period (which would mean it is also the opening value of the RAB) or as at a date prior to this start date (which means the initial value needs to be 'rolled forward' to establish the opening value of the RAB). We decided to calculate the initial value of the RAB at as at 1 July 2008, so that Country Energy's significant capital expenditure on the new Mica Street WTP in 2008/09 and 2009/10 will be incorporated into the opening value of the RAB.

To calculate the initial value of the RAB, we decided to use an economic valuation approach, rather than the ODRC approach proposed by Country Energy. This approach involves valuing the existing investment required to provide water and sewerage services by estimating the cash flows likely to be generated from an asset over its expected life. The cash flows take account of the funds likely to be generated from the sale of the services embodied in an asset minus the cost of producing those services. The cash flows are usually measured in present value terms[39] in recognition of the time value of money.

In applying this approach for other determinations, we have generally assumed that the business entity has a perpetual life. That is, we have assumed that the business will remain a going concern into perpetuity, and its earnings growth will be constant for perpetuity. However, while this assumption may approximate reality for large water utilities such as Sydney Water, this is not necessarily the case for Country Energy's water business in Broken Hill. Because Broken Hill is a small mining town with a declining population, it is more realistic to assume that the water business has a limited life.

For this reason, in valuing Country Energy's initial capital base we assumed that its water assets have a life of 46 years and its sewerage assets have a life of 47 years. In addition, in assessing the cashflows to be taken into account in calculating the initial capital base, we had regard to the cash likely to be generated from future sales[40] as well as future expenditure requirements to renew assets. We also had regard to the income to be generated to support those renewals over their expected lives. We measured all costs and renewals in present value terms.

The resulting initial value of Country Energy's RAB is $28.7 million ($2008/09, see Table 7.2 below).

39 Equivalent value today of a future benefit or cost.
40 Including water sales to Perilya under its contract with Country Energy.

7.2.2 Methodologies for rolling forward the RAB

Once we set the initial value of the RAB, we rolled this value forward to establish the annual value of the RAB in each year of the determination period. First, we calculated the opening value of Country Energy's RAB at the start of this period (ie, as at 1 July 2010). To do this, we rolled forward the initial value of the RAB from 1 July 2008 to 1 July 2010 by:

- adding the value of Country Energy's prudent capital expenditure in 2008/09 and 2009/10 (in line with our decision, as shown in Table 6.4)
- deducting the annual value of regulatory depreciation in 2008/09 and 2009/10
- deducting the value of any regulatory asset disposals in 2008/09 and 2009/10
- inflating the closing value of the RAB in 2008/09 and 2009/10 by actual or forecast inflation (assuming that half the capital expenditure and disposals occurred at the beginning of the year (and therefore receive a full year of indexation) while the other half occurred at the end of the period (and therefore are not indexed).

Second, we calculated the annual value of the RAB in each year of the determination period. To do this, we rolled forward the opening value of the RAB from 1 July 2010 to 30 June 2011, then to 30 June 2012, and then to 30 June 2013 by:

- adding the value of Country Energy's forecast efficient capital expenditure in the relevant year (in line with our decision, as shown on Table 6.4) to the closing value of the RAB for the previous year
- deducting the value of forecast regulatory depreciation for the relevant year
- deducting forecast asset disposals for the relevant year, and
- inflating the closing value of the RAB for the previous year by forecast inflation.

7.2.3 IPART's decision on the annual value of the RAB

Decision

7 IPART's decisions on the annual value of the RAB over the 2010 determination period are as shown in Table 7.2 below.

Table 7.2 Decisions on annual value of Country Energy's RAB ($000, 2009/10)

	2008/09 (Initial value)	2009/10 (calculations for rolling forward to start of determination period)	2010/11	2011/12	2012/13
Water					
Opening value	4,014	20,866	46,769	48,596	52,241
Closing value	20,866	46,769	48,596	52,241	55,840
Sewerage					
Opening value	24,666	24,644	25,084	25,174	27,204
Closing value	24,644	25,084	25,174	27,204	29,149
Combined					
Opening value	28,680	45,510	71,853	73,770	79,445
Closing value	45,510	71,853	73,770	79,445	84,989

We noted the view expressed in some submissions from individual stakeholders that it was questionable whether Country Energy was entitled to earn a return on regulatory assets where its (or its predecessors) had received some assets 'free of charge' and/or received government assistance in financing loans for other assets. We consider that the approach we used to calculate the value of the RAB addresses this view.

As discussed above, we used an economic value approach to establish the initial value of the RAB, rather than the ODRC method proposed by Country Energy. This resulted in an initial RAB of $28.7 million. Also as discussed above, this approach took into account the cash flows likely to be generated by the sale of services that rely on the regulatory assets, minus the efficient costs of producing those services (ie, operating costs). We consider this approach will ensure that Country Energy earns a return on the assets that reflects its existing equity in this part of its business and to support future investment.

7.3 Calculating the allowance for a return on assets

To calculate the allowance for a return on assets, we determined the appropriate rate of return for Country Energy's water business, then multiplied the annual value of the RAB over the determination period by this amount.

There are several approaches for calculating the rate of return. We decided to use our preferred approach, which involves 2 steps. The first is calculating the weighted average cost of capital (WACC) for the business concerned to determine an appropriate range for this rate. The second is to decide on the appropriate point within this range to use. The WACC for a business is the expected cost of its various classes of capital (debt and equity), weighted to take into account the relative share of debt and equity in the total capital structure. As with previous determinations, we used a real pre-tax WACC.

For Country Energy, we calculated a real pre-tax WACC of 7.4%. This resulted in the annual allowances for a return on assets shown on Table 7.1 above.

More information on our approach to determine the WACC range and point estimate is provided in Appendix C.

7.4 Calculating the allowance for regulatory depreciation

To calculate the allowance for regulatory depreciation, we used the straight-line depreciation method. Under this method, the assets in the RAB are depreciated by an equal amount in each year of their economic life, so that their real written-down value describes a straight line over time, from the initial value of the asset at the beginning of the period to zero at the end of the asset's life. We consider that this method is superior to alternatives in terms of simplicity, consistency and transparency.

To apply this approach, we needed to determine the economic life and remaining life of Country Energy's regulatory assets. Country Energy calculated the economic life and remaining life of its assets based on the written down values for each asset category. Based on this approach, it proposed an average remaining asset life of 33.6 years[41] for its assets.

Country Energy also provided a consultancy report by GHD Ltd, which evaluated the optimised depreciated replacement costs of the assets that form Country Energy's water and sewerage business. We decided to use the raw data from the GHD report to calculate the asset lives, using the optimised depreciated replacement costs as weights. The results differ from those proposed by Country Energy, however, we considered it more appropriate to calculate the asset lives using GHD's raw data as these data are based on expert, independent analysis. Our calculation resulted in a weighted average remaining life for all assets of between 46 and 47 years.

The straight line depreciation and remaining asset lives of 46 years for water assets and 47 years for sewerage assets resulted in the allowances for regulatory depreciation shown in Table 7.1 above.

41 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009, p 23.

8 Pricing decisions for water supply and sewerage services

Once we had determined the amount of target revenue to be generated from water and sewerage services in each year of determination period (see Chapter 4), the next step was to convert these amounts into maximum prices for these services. This involved deciding on:

- the level of forecast water metered sales in each year of the determination period, and the forecast number of residential and non-residential customers
- the price structure
- how much revenue should be generated through variable usage changes, and how much through fixed service charges.

Our decisions on each of these matters, and the resulting maximum price levels for water usage and service charges and sewerage charges are discussed in the sections below.

As Country Energy proposed that IPART only determine its revenue requirement, and not set maximum prices, its submission did not include proposals for price levels.

8.1 Forecast metered water sales and customer numbers

Decision

8 IPART's decision is to use the forecast metered water sales and forecast customer numbers shown in Tables 8.1 and 8.2 for the purpose of setting prices.

Table 8.1 Decision on forecast metered treated water sales (kLs)

	2010/11	2011/12	2012/13
Residential	2,798,848	2,796,714	2,804,598
Commercial	1,311,055	1,312,111	1,313,168
Exempt properties	250,000	260,000	260,000
Total	**4,359,903**	**4,368,825**	**4,377,766**

Source: Country Energy information return.

Table 8.2 Decision on forecast customer numbers

	2010/11	2011/12	2012/13
Residential	9,893	9,893	9,893
Commercial	605	605	605
Pipeline	47	47	47
Total	**10,545**	**10,545**	**10,545**

Source: County Energy information return.

The forecasts used in setting prices have a significant impact on the levels of those prices. The forecast water sales affects the water usage charge (ie, the price per kL of water used) and the forecast customer numbers affects the water and sewerage service charges (ie, the price per year).

In its information return, Country Energy provided forecasts of metered water sales and customer numbers over the determination period. These forecasts were prepared for it by an independent consultant, using a methodology comparable to the one we used in making our recent Sydney Water determination. We consider that these forecasts are the best available and therefore decided to accept them for pricing purposes. More information on this draft decision is provided in Appendix D.

8.2 Price structure

Decision

9 IPART's decision is to retain the current price structure for this determination.

In its submission, Country Energy indicated that it preferred to retain the current price structure. Country Energy's current tariff arrangements are generally consistent with tariff arrangements applying elsewhere in the state. We have therefore decided to retain the current price structure arrangements although changes have been made to rationalise price levels.

For water supply, the current price structure includes:

- **A 2-tiered water usage charge.** This is a per kL charge, and the price per kL depends on the type of water supplied – eg, treated, chlorinated, or untreated – and whether the customer is residential or non-residential. It also depends on the quantity of water supplied per day. Customers have an average threshold per day, and if the amount they use over a quarter is below this threshold allowance they are charged at the Tier 1 price per kL. If the amount they use exceeds the threshold, they are charged at the higher Tier 2 price for each kL over the threshold. The size of the threshold is higher over the summer period than other periods of the year, in recognition of customers' greater water needs during this period to cope with Broken Hill's unique climatic and environmental conditions (discussed in Chapter 2).

- **A fixed service charge.** This charge is a per annum charge, and the price per annum depends on whether the customer's property has a metered water service or a pipeline service, or is vacant land. The level of the charge for metered and pipeline services also depends on whether the customer is residential or non-residential.

For sewerage charges, the current price structure depends on whether the customer is residential or non-residential:

- residential customers pay a fixed service charge per annum only
- non-residential customers pay a fixed service charge per annum that depends on the size of the water meter fitted to their property, and a usage charge per kL of water used multiplied by a discharge factor.

8.3 Revenue to be generated through usage charges versus service charges

In deciding on the balance between revenue to be generated from usage charges and service charges, we aim to achieve efficiency and cost-reflectivity:

- for prices to be efficient, they need to signal to consumers the costs imposed (or avoided) if they increase (or reduce) their consumption by a small amount
- for prices to be cost-reflective, they need to enable the service provider to recover the full, efficient cost of service provision and recover these costs with the least harm to economic efficiency.

For the other water businesses we regulate, we ensure that water prices are efficient by setting the level of the water usage charge with reference to the long-run marginal cost (LRMC) of the next increment of water supply in the business' area of operation, although this can be a difficult calculation. We then set the water and sewerage service charges at levels required to recover the balance of the business' target revenue from water and sewerage charges (ie, the amount that would not be recovered from the water charges).

For this determination, we were unable to make a robust estimate of Country Energy's LRMC of water supply because the data needed is not available as Country Energy has not advanced any plans to expand its water storage and supply systems. Given this, we first compared Country Energy's current price levels with those of the 4 other water businesses we regulate (Table 8.3). We noted that Country Energy is the only one of these businesses with a 2-tier water usage charge. We considered the relative levels of the Tier 1 and Tier 2 charges, and the relative levels of the charges for the different types of water. We then made decisions on the water usage charges, incorporating some changes to these relative levels to improve the efficiency and cost-reflectivity of the charges. These decisions are discussed in section 8.4 below.

Table 8.3 Comparison of charges for water businesses regulated by IPART for the year 2009/10 ($2009/10)

	Country Energy	Sydney Water Corporation	Hunter Water Corporation	Gosford City Council	Wyong Shire Council
Water					
Residential service charge/year	219.00	101.54[a]	39.94	91.93	101.68
T1 Residential usage/kL	1.05	1.87	1.57	1.78	1.78
T2 Residential usage/kL	2.36	n/a	n/a	n/a	n/a
Non residential service charge/year -20mm	219.00	101.54[a]	39.94	91.93	101.68
Sewerage					
Residential service charge/year	397.00	501.11	495.66	463.59	429.11
Non residential service charge/year - 20mm	537.00	501.11[b]	958.09[b]	346.59	154.59[b]
Non residential usage/kL	0.95	1.42[c]	0.62	0.99[d]	0.77[e]

Notes:

[a] Includes $7.03 for Sydney Catchment Authority cost pass through.

[b] Assumes a discharge factor of 100%.

[c] If the sum of service charge and volume of water supplied multiplied by the usage charge is less than the service charge for a 20mm meter with a discharge of 100% then the minimum charge is assumed to be the service charge for a 20mm meter with a discharge factor of 100%.

[d] If the sum of service charge and volume of water supplied multiplied by the usage charge is less than the residential service charge then the minimum charge is the residential service charge.

[e] If the sum of service charge and volume of water supplied multiplied by the usage charge is less than the residential service charge then the minimum charge is the same as the residential service charge.

Source: Country Energy from NSW Government Gazette No. 93, 26 June 2009; Sydney Water Corporation from IPART Determination No. 1 2008, June 2008 and ABS Consumer Price Index 6401.0; Hunter Water Corporation from IPART Determination No. 4 2009, July 2009; Gosford City Council from IPART Determination No. 1 2009, May 2009; Wyong Shire Council from IPART Determination No.2 2009, May 2009.

Next, we modelled the revenue Country Energy is likely to raise from water usage charges (based on our decisions on the level of these charges, and the forecast metered water sales discussed in section 8.1). We subtracted this amount from Country Energy's target revenue from water and sewerage services (discussed in Chapter 4), and set the service (or access) charges at the levels required to generate the remaining amount.

8.4 Water usage charges

Decision

10 IPART's decisions on the level of the 2-tier water usage charges and single-tier water usage charges are as shown in Tables 8.4 and 8.5 below.

Table 8.4 IPART's decision on the maximum levels for 2-tier water usage charges ($2009/10, $/kL)

	2009/10 current	2010/11	2011/12	2012/13
Treated water – res and non-res				
- Tier 1	1.05	1.22	1.38	1.55
- Tier 2	2.36	2.44	2.52	2.60
Chlorinated water – res and non-res				
- Tier 1	0.89	0.93	0.96	1.00
- Tier 2	2.24	2.06	1.88	1.70
Untreated water – pipeline				
- Tier 1	0.67	0.67	0.67	0.67
- Tier 2	1.17	1.11	1.06	1.00

Note: Unchanged from draft report.

Table 8.5 IPART's decision on maximum single tier water usage charges ($2009/10, $/kL)

	2009/10 current	2010/11	2011/12	2012/13
Treated water - exempt land	2.01	2.08	2.15	2.21
Untreated water – non-residential	1.36	1.36	1.36	1.36
Effluent water – non-residential	0.43	0.48	0.53	0.58

Note: Unchanged from draft report.

As noted above, in setting the 2-tier water usage charges we examined the relationship between the level of the Tier 1 and the Tier 2 charges. We found that the gap between these 2 charges is large, and there is little evidence to support the size of this gap on economic efficiency or cost-reflectivity grounds. Therefore, we decided to gradually reduce the difference between the charges over the determination period, so that by 2012/13, the Tier 1 price is 25% below the average price and the Tier 2 price is 25% above the average price.

We also attempted to analyse how effectively the summer tariff is working in Broken Hill but there was insufficient data for a robust analysis. We intend meeting with Country Energy before the next determination to discuss our information requirements for a summer tariff analysis and the capacity of Country Energy's information systems to supply this data.

In addition, we considered the relationship between the charges for the 3 different types of water for which the 2-tiered usage price structure is available – treated water, chlorinated water, and untreated water (which is available to pipeline customers and non-residential customers only). We found that current relativity between these charges does not reflect the efficient costs associated with supplying each specific service – for example, the chlorinated water charge is excessive. We consider it likely that the prices paid by customers for some water services are cross-subsiding those paid by customers for other water services.

Therefore, within the limits of the data available, we allocated Country Energy's operating costs to each type of water service based on the details of operating expenditure provided by Country Energy in its information return (for example, we allocated all treatment plant costs to treated water services). We then gradually adjusted charges for the different water services so that in the final year of the determination period these charges will more closely reflect the efficient costs of providing each water service.

In setting the single tier usage charge for untreated water for non-residential customers, effluent water for non-residential customers, and treated water for exempt land, we adjusted the levels of these charges so that they will recover the average operating costs associated with these services by the end of the determination period.

We consider that this approach addresses the concerns raised by some stakeholders, including Silverton residents,[42] about inappropriate allocation of efficient costs across services.

8.5 Water service charge

Decision

11 IPART's decision on the maximum water service charge is as shown in Table 8.6 below.

Table 8.6 IPART's decision on the maximum water service charge ($2009/10, $ per year)

	2009/10 current	2010/11	2011/12	2012/13
All residential properties (metered and unmetered, residential and non-residential) and vacant land	219.00	224.28	229.69	235.2

42 Silverton Village Committee submission, September 2009, p 2.

To determine the water service charge, we modelled the revenue Country Energy is likely to raise from water usage charges, based on our decisions on the level of these charges and forecast metered water sales. We then subtracted this revenue from our decision on the target revenue required to cover the full, efficient costs of providing water supply services, and set the water service charge to generate the balance, based on our decision on forecast customer numbers.

8.6 Sewerage charges

Decision

12 IPART's decisions on maximum sewerage charges are as shown in Tables 8.7 and 8.8 below.

Table 8.7 IPART's decision on maximum sewerage charges for customers other than Perilya Ltd. ($2009/10)

	2009/10 current	2010/11	2011/12	2012/13
Residential properties and vacant land				
- service charge ($ per year)	397.00	417.19	438.40	460.69
Non residential properties				
- service charge for 20mm service ($ per year)[a]	537.00	574.59	614.81	657.85
- usage charge ($ per kL)	0.95	1.00	1.05	1.10
Exempt properties				
- usage charge ($ per kL)	0.95	1.00	1.05	1.10

[a] Service charges for non residential properties assume that 100% of water used is discharged into the sewerage system. Charges for larger meter sizes are shown in the legal determination, attached to this report.

Table 8.8 IPART's decision on maximum sewerage charges for Perilya Ltd. ($2009/10)

	2009/10 current	2010/11	2011/12	2012/13
Residential properties				
- service charge ($ per year)	397.00	417.19	438.40	460.69
Non residential				
- service charge for 100mm service ($ per year)	13,425.00	14,364.75	15,370.25	16,446.25
- usage charge ($ per kL)	0.95	1.00	1.05	1.10

The price structure for sewerage services differs for residential and non-residential customers. Residential customers pay a fixed service charge only. Non-residential customers pay a fixed service charge, based on the size of the water meter fitted to the property in question, plus a usage charge based on the volume of water used multiplied by a discharge factor. Discharge factors differ between non-residential properties.

Our overall objective in setting sewerage charges was to ensure that the level for each charge reflects the cost of the service it applies to. We noted that Country Energy's current sewerage charges reflect the NSW Government's *Guidelines for Best Practice Management of Water Supply and Sewerage*. These guidelines specify that the charge for a non-residential customer who discharges 70% of the water it purchases into the sewerage system should equate to the charge for a residential customer.[43] Over recent years, Country Energy has restructured its sewerage service charges with the aim of complying with this guideline. In setting these charges for this determination, we have continued this process.

As Chapter 2 discussed, the mining company Perilya Ltd. is Country Energy's largest water customer. The prices it pays for water services are outside the scope of this review, as they are determined under an agreement between Perilya, the NSW Government and Country Energy. However, IPART is responsible for setting the charges Perilya pays for sewerage services to the houses and other buildings located within the Perilya lease area. In setting these charges, we adopted the same tariffs as we applied to the other residential and non-residential properties serviced by Country Energy.

[43] DWE Management Guidelines, Appendix G, p 341.

9 Pricing decisions for trade waste and miscellaneous services

In general, IPART does not use the same approach for setting trade waste and miscellaneous services as it uses for water and sewerage services. As Chapter 4 discussed, these charges tend to be paid by only a subset of customers, or paid on a one-off or infrequent basis. Therefore, we usually set these charges by deciding how they should change relative to their current level.

Our decisions on Country Energy's trade waste and miscellaneous services are set out in the sections below. We note that Country Energy did not cover trade waste or miscellaneous charges in its pricing proposal.

9.1 Trade waste charges

Decision

13 IPART's decision is to increase Country Energy's current trade waste charges by 7.0% per year, in line with the increase in the sewerage service charge for a 20mm non-residential customer.

The cost to water utilities of handling trade waste is usually higher than the cost of handling domestic sewage. Trade wastes typically involve much higher strength discharges than domestic sewage and consequently can impact on downstream infrastructure. The presence of higher strength substances can adversely affect the biological processes within a sewage treatment plant and present a significant safety risk for sewerage system operations and maintenance personnel.

The costs associated with trade waste services include:

- the cost of transporting and treating the trade waste and maintaining the infrastructure involved
- the costs associated with monitoring trade waste discharges, such as site inspections
- administration costs associated with issuing and ensuring compliance with licence agreements (which specify the allowable contents and volume of the trade waste the customer is permitted to discharge).

In setting trade waste prices, we aimed to ensure that these prices reflect the full, efficient costs of providing trade waste services. Often during the determination process we employ consultants with expertise in measuring the costs of trade waste services to provide recommendations to assist us in setting prices. We have decided not to follow this path for this initial determination of trade waste charges. Instead, we considered several options for increasing these prices. The options included increasing current trade waste charges:

- By the annual change in CPI over the determination period. This is the simplest method.
- By the average annual increase in all water and sewerage charges under this determination. This option has the disadvantage that it is difficult to ascertain whether trade waste costs will increase at the same rate as overall costs.
- By the annual increase in sewerage prices under this determination. This option takes account of the fact that trade waste is disposed of via the sewerage system and therefore contributes to many of the same costs.
- By the annual increase in the operating expenditure cost block of the revenue requirement. This option takes account of the fact that trade waste costs generally reflect operating rather than capital costs.

We decided to increase trade waste charges by the annual increase in sewerage charges under this determination, as we consider that this option is likely to result in more cost-reflective price changes than the other options.

9.2 Miscellaneous charges

Decision

14 IPART's decision is to increase Country Energy's current miscellaneous charges in line with the annual change in CPI over the determination period.

Country Energy provides a range of miscellaneous services to its water and sewerage customers, generally for one off services such as connections and disconnections, replacing damaged services, plumbing inspections, site inspections and building plan approvals. These charges are levied on a relatively small number of customers, and are charged on an as incurred basis.

We considered 2 options for increasing the current level of each charge:

- By the change in the annual forecast CPI over the determination period. This approach assumes that the costs of providing miscellaneous services will change in line with general inflation.
- By the average annual increase in all water and sewerage charges under this determination. This option has the disadvantage that it is difficult to ascertain whether miscellaneous costs will increase at the same rate as overall costs.

We decided to increase miscellaneous charges by the change in CPI because this option is simple to apply, and is consistent with our recent decisions for most of the other water businesses we regulate.

10 Implications of pricing decisions for Country Energy's customers, financial viability and the environment

As part of our determination process, we analysed and considered the implications of our pricing decisions for Country Energy's customers and financial viability, and for the environment, in line with the requirements in section 15 of the IPART Act (see Chapter 2 and Appendix E for more information). Overall, we are satisfied that these decisions strike an appropriate balance between the different needs and interests of these stakeholders.

Our analysis on the implications of our determination is set out below.

10.1 Implications for customers

In making this determination, we have been mindful of the potential impact of our pricing decisions on customers in and around Broken Hill, particularly the one-third of the customers of Country Energy's water operations who are pensioners.[44]

However, when making pricing decisions, section 15 of the IPART Act requires us to achieve a balance between impacts on customers and on a broad range of other matters. Broken Hill and its surrounding areas face problems similar to other country towns in NSW where the cost of maintaining service levels has to be borne by a steady or declining population.

In Broken Hill's case, a large capital expenditure program has been undertaken in recent times. In particular, construction of the Mica Street Water Treatment Plant has required a large capital injection by Country Energy. It is our responsibility to take account of the needs of Country Energy – and its longer term financial viability – as well as the needs and interests of its customers. To balance these different interests, we have structured water and sewerage prices so that they are not expected to recover the full efficient costs of providing these services in the first 2 years of the determination period but will achieve cost reflectivity in the final year.

[44] The concerns of pensioners were articulated with vigour at the public hearing held at Broken Hill on 18 November 2009. A copy of the transcript of the Public Hearing can be found on our website.

10.1.1 Residential customers

The impact of our pricing decisions on residential customers will vary, depending on factors such as their water usage, water service, and meter size. To illustrate the likely impact, we have compared the current annual water and sewerage bill for a range of customers with the annual bill they would receive under the determination.

Table 10.1 shows the impact of the determination on the annual water and sewerage bills for residential customers (pensioner and non-pensioner) who are supplied with treated water for various levels of consumption. For example, it shows that the annual bill for customers who use 300 kL per year – both pensioners and non-pensioners – would increase by a total of $229.93 over the 3-year determination period.[45] This represents an average increase of 7.6% per year for non-pensioners and 9.3% for pensioners (both in real terms). The reason the average percentage increase is higher for pensioners (even though the dollar increases are the same) is because their current annual bill is lower than that of non-pensioners, due to the pensioner rebates they receive from the NSW Government (Section 10.1.3 below provides further discussion of this issue).

Table 10.1 Impact of determination on the annual water and sewerage bill for residential customers supplied with treated water ($2009/10)

	2009/10 Current	2010/11	2011/12	2012/13	Total increase
Residential - non-pensioner					
100 kL	721.00	763.14	806.43	850.93	
- increase		42.14	43.29	44.50	129.93
200 kL	826.00	884.80	944.76	1,005.93	
-increase		58.80	59.96	61.17	179.93
250 kL	878.50	945.64	1,013.93	1,083.43	
-increase		67.14	68.29	69.50	204.93
300 kL	931.00	1,006.47	1,083.09	1,160.93	
$ increase		75.47	76.62	77.83	229.93
400 kL	1,036.00	1,128.14	1,221.43	1,315.93	
-increase		92.14	93.29	94.50	279.93
500 kL	1,189.96	1,295.52	1,402.24	1,510.17	
-increase		105.56	106.72	107.93	320.21
750 kL	1,779.96	1,905.52	2,032.24	2,160.17	
-increase		125.56	126.72	127.93	380.21
1500 kL	3,549.96	3,735.52	3,922.24	4,110.17	
-increase		185.56	186.72	187.93	560.21

[45] The dollar increases for pensioners and non-pensioners are the same for all levels of consumption.

	2009/10 Current	2010/11	2011/12	2012/13	Total increase
Residential – pensioner					
100 kL	546.00	588.14	631.43	675.93	
-increase		42.14	43.29	44.50	129.93
200 kL	651.00	709.80	769.76	830.93	
-increase		58.80	59.96	61.17	179.93
250 kL	703.50	770.64	838.93	908.43	
-increase		67.14	68.29	69.50	204.93
300 kL	756.00	831.47	908.09	985.93	
-increase		75.47	76.62	77.83	229.93
400 kL	861.00	953.14	1,046.43	1,140.93	
-increase		92.14	93.29	94.50	279.93
500 kL	1,014.96	1,120.52	1,227.24	1,335.17	
-increase		105.56	106.72	107.93	320.21
750 kL	1,604.96	1,730.52	1,857.24	1,985.17	
- increase		125.56	126.72	127.93	380.21
1500 kL	3,374.96	3,560.52	3,747.24	3,935.17	
-increase		185.56	186.72	187.93	560.21

Our analysis shows that the impact of the determination on customers is substantially less than would have been the case had we accepted Country Energy's revenu proposals. As Chapter 4 discussed, their proposals were based on four options for transitioning prices by either 10%, 15% or 20% per year, or by 3 equal percentage amounts, so as to recover their full notional revenue requirement in the final year of the determination. These increases are also less than provided for in our draft report.

Table 10.2 compares the impact of our determination on the annual water and sewerage bill of a residential non-pensioner customer who uses 300 kL of treated water per year with the impact of Country Energy's first 3 transitioning options on this same customer. We note that the impact of Country's Energy's fourth transitioning option would have been significantly higher than under its other options. For comparison we have also included the bills under our draft determination.

Table 10.2 Annual water and sewerage bill of residential non-pensioner customer supplied with 300 kL treated water pa under determination and Country Energy's proposed price increase options ($2009/10)

	2009/10 current	2010/11	2011/12	2012/13	Total increase
Bill under draft determination	931.00	1,007.44	1,085.16	1,164.23	233.23
- % increase		8.21%	7.71%	7.29%	25.05%
Bill under final determination	931.00	1,006.47	1,083.09	1,160.93	229.93
- % increase		8.11%	7.61%	7.19%	24.70%
Bill under CE's 10% option	931.00	1,024.10	1,126.51	1,239.16	308.16
- % increase		10.00%	10.00%	10.00%	33.10%
Bill under CE's 15% option	931.00	1,070.65	1,231.25	1,415.93	484.93
- % increase		15.00%	15.00%	15.00%	52.09%
Bill under CE's 20% option	931.00	1,117.20	1,340.64	1,608.77	677.77
- % increase		20.00%	20.00%	20.00%	72.80%

Table 10.3 shows the impact of the determination on the annual water bills of residential customers who are supplied with chlorinated water and pipeline customers supplied with untreated water. For example, it shows that the annual water bill for a residential customer who uses 300 kL of chlorinated water a year will increase by a total of $49.23 over the 3-year determination period, or by an average of 3.3% per year. The annual bill for a pipeline customer who uses the same volume of untreated water will increase by a total of $16.23, or an average of 1.3% per year.

These increases are significantly less than those faced by a similar customer supplied with treated water (see Table 10.1). This is due to the changes we have made in the relative levels of the charges for different types of water supply, to better reflect the specific costs involved in each type of supply.

Table 10.3 also shows that the annual bill for residential customers who use 750 kL of chlorinated water or more per year, and pipeline customer who use 500 kL of untreated water or more per year will decrease over the determination period. These bills have increased slightly compared to the draft report. This is due to the reallocation of a small proportion of capital expenditure from the sewerage business to the water business. Chlorinated and untreated water customers are located in areas with no sewerage service therefore the increases in the water service charges are not offset by the corresponding decrease in sewerage service charges.

Table 10.3 Impact of determination on annual water bills for residential non-pensioner customers supplied with chlorinated water, and for pipeline customers supplied with untreated water ($2009/10)

	2009/10 current	2010/11	2011/12	2012/13	Total increase
Residential, chlorinated water					
100 kLs	308.00	316.95	326.03	335.23	
increase		8.95	9.08	9.21	27.23
200 kLs	397.00	409.62	422.36	435.23	
increase		12.62	12.74	12.87	38.23
250 kLs	441.50	455.95	470.53	485.23	
increase		14.45	14.58	14.71	43.73
300 kLs	486.00	502.28	518.69	535.23	
increase		16.28	16.41	16.54	49.23
400 kLs	575.00	594.95	615.03	635.23	
increase		19.95	20.08	20.21	60.23
500 kLs	714.45	729.97	745.62	761.39	
increase		15.52	15.65	15.78	46.94
750 kLs	1,274.45	1,244.97	1,215.62	1,186.39	
increase		-29.48	-29.35	-29.22	-88.06
1500 kLs	2,954.45	2,789.97	2,625.62	2,461.39	
increase		-164.48	-164.35	-164.22	-493.06
Pipeline, untreated water					
100 kLs	286.00	291.28	296.69	302.23	
increase		5.28	5.41	5.54	16.23
200 kLs	353.00	358.28	363.69	369.23	
increase		5.28	5.41	5.54	16.23
250 kLs	386.50	391.78	397.19	402.73	
increase		5.28	5.41	5.54	16.23
300 kLs	420.00	425.28	430.69	436.23	
increase		5.28	5.41	5.54	16.23
400 kLs	487.00	492.28	497.69	503.23	
increase		5.28	5.41	5.54	16.23
500 kLs	603.98	603.60	603.34	603.22	
increase		-0.38	-0.25	-0.12	-0.76
750 kLs	896.48	881.93	867.51	853.22	
increase		-14.55	-14.42	-14.29	-43.26
1500 kLs	1,773.98	1,716.93	1,660.01	1,603.22	
increase		-57.05	-56.92	-56.79	-170.76

We note that during our consultations, the residents of Silverton raised concerns that there was insufficient water to manufacture the concrete necessary to pour the footings of the wind farm turbine towers. We view this as a serious and legitimate concern. However, we are not qualified to assess the volumes of water required for this purpose. In addition, it is outside the scope of our role, which is only to determine the maximum prices Country Energy can charge for water-related services. However, we strongly encourage Country Energy to have these concerns thoroughly assessed, and to publicly advise the Silverton Village committee of the outcome.

We also note that, following our public hearing, Country Energy has approached the Silverton Village committee to discuss the possibility of replacing Silverton's chlorinated water supply with a treated water supply.

10.1.2 Non residential customers

The impact of our determination on non-residential customers will also vary depending on factors such as the individual customer's water usage, water service, and meter size. To illustrate the likely impact on these customers, we have compared the current annual water and sewerage bill for a range of customers with the annual bill they would receive under the determination.

Table 10.4 shows the annual water and sewerage annual bill for non-residential customers who are supplied with different volumes treated water. For example, it shows that the annual bill of a non-residential customer who uses 1,000 kL of treated water per year will increase by a total of $785.20 over the 3-year determination period, or an average of 5.8% per year (in real terms).

Total bills have decreased between the draft and final reports. This is due to minor corrections in the calculations for conversions between real and nominal figures and for updated CPI forecasts. We have also reallocated some capital expenditure from the sewerage business to the water business but this does not affect the overall totals.

Table 10.4 Impact of determination on the annual water and sewerage bill for non-residential customers supplied with treated water ($2009/10)

	2009/10 current	2010/11	2011/12	2012/13	Total increase
Draft decision					
250 kLs	1,124.34	1,214.44	1,307.65	1,404.20	
increase		90.10	93.22	96.55	279.86
1000 kLs	4,244.71	4,504.27	4,772.63	5,050.40	
increase		259.56	268.36	277.77	805.69
5000 kLs	25,771.82	27,029.75	28,339.85	29,705.70	
increase		1,257.93	1,310.10	1,365.85	3,933.88
Final decision					
250 kLs	1,124.34	1,212.51	1,303.50	1,397.50	
increase		88.17	90.99	94.00	273.16
1000 kLs	4,244.71	4,498.32	4,759.88	5,029.91	
increase		253.61	261.56	270.03	785.20
5000 kLs	25,771.82	26,996.10	28,267.54	29,589.22	
increase		1,224.28	1,271.43	1,321.69	3,817.40

Note: We assumed a discharge factor of 0.83 in calculating the bills.

It is important to note that because non-residential customers' include a wide range of commercial and industrial businesses, these customers water consumption varies widely. They also have different sewerage discharge factors. Therefore, the analysis shown in Table 10.4 provides an indication of the potential impact on non-residential customers only.

10.1.3 The effect of pensioner rebates on residential customers' bills

As discussed in section 10.1.1 above, annual water and sewerage bills for residential customers who are pensioners will increase by a higher percentage under our determination than those for residential customers who are not pensioners – even though these bills will increase by the same dollar amounts.

This is because the annual bills of eligible pensioners are currently lower than those of non-pensioners due to the impact of the pensioner rebate provided by the NSW Government, and this rebate is provided as a fixed amount per year, rather than as a percentage of the total bill. Therefore, while their annual bill will increase under the determination the pensioner rebate will not.

To illustrate this effect, Table 10.5 compares the impact of the determination on annual water and sewerage bills of residential pensioner and non-pensioner customers supplied with 300 kL per year of treated water per year.

Table 10.5 Impact of determination on annual water bills of residential pensioner and non-pensioner customers supplied with 300 kL of treated water per year ($2009/10)

	2009/10 current	2010/11	2011/12	2012/13	Total increase
Residential, non-pensioner					
300 kLs	931.00	1,006.47	1,083.09	1,160.93	
$ increase		75.47	76.62	77.83	229.93
% increase		8.11%	7.61%	7.19%	24.70%
Residential, pensioner					
300 kLs	756.00	831.47	908.09	985.93	
$ increase		75.47	76.62	77.83	229.93
% increase		9.98%	9.22%	8.57%	30.41%

We note that other water utilities we regulate operate different schemes to alleviate the burden of water and sewerage charges on pensioner customers. For example, Sydney Water provides a rebate to its customers who are pensioner concession cardholders that covers 100% of the water service charge, 50% of the stormwater drainage service charge, and 83% of the sewerage charge.[46]

We believe that there is a strong case for increasing and/or altering the way that the rebate is calculated for pensioners in and around Broken Hill. We consider that the NSW Government should review current pensioner rebates and make changes to the way they are calculated to ensure that they retain their value as prices increase. Pensioners will continue to be disadvantaged compared to other customers if the rebate is left in its current form. Since the release of the draft report we have written to the Government outlining our concerns.

Recommendation

15 That the NSW Government undertakes a review of the current pensioner rebates with the aim of ensuring they are calculated in a way that allows them to keep pace with changes in regulated prices.

16 That the Local Government Act be amended to reflect any decisions the NSW Government makes to amend the rebates as a result of this review.

46 Sydney Water website.

10.2 Implications for the financial position of Country Energy's water business

While managing the impact of our pricing decisions on customers was a high priority, we also considered the impact of our decisions on Country Energy's water business. In particular, we were concerned that our decisions would ensure that Country Energy generated sufficient revenue from water and sewerage services to operate and maintain its assets, and be willing and able to invest in renewing worn out assets, and build new assets. We are confident that our decisions will not constrain Country Energy from performing any of these core functions.

In deciding to use the building block method to calculate Country Energy's revenue requirements, we have ensured that we took account of its full efficient costs in providing water and sewerage services over the determination period. This included its efficient operating and maintenance costs, and allowances for it to earn a return on the assets it uses to provide these services and for depreciation of those assets. In addition, in deciding on the rate of return to use in calculating the allowance for a return on assets, we ensured that this rate reflected the prevailing market conditions at the time we made the determination.

In addition, in calculating the revenue requirement, we ensured that Country Energy's significant capital expenditure on the Mica Street Water Treatment Plant was included in the regulatory asset base. We also ensured that only the prudent and efficient level of capital on this and other capital expenditure projects was included in this asset base.

Further, in calculating the operating expenditure component of the revenue requirement we included a target for efficiency improvements which we believe is conservative and achievable by Country Energy.

Impact on the Consolidated Fund

Under section 16 of the IPART Act, IPART is required to report on the likely impact to the Consolidated Fund if prices are not increased to the maximum levels permitted. We have assumed that a reduction in income for the water division of Country Energy will result in a reduction in the profits delivered by the corporation as a whole. If this is the case, then the level of tax equivalent and dividends paid to the Consolidated Fund will fall. The extent of this fall will depend on Treasury's application of its financial distribution policy and how the change affects after-tax profit.

Our financial modelling is consistent with a tax rate of 30% for pre-tax profit and dividend payments at 44% of after-tax profit[47]. As dividends are only payable on after-tax profits, a one dollar decline in after-tax profit would result in a loss of revenue to the Consolidated Fund of 44 cents. Including the tax payable on pre-tax profits, a one dollar decline in pre-tax profit would result in a loss of tax revenue to the Consolidated Fund of 30 cents. This coupled with 44% of the after-tax profit of 70 cents gives 61 cents in total.

10.3 Implications for the environment

The NSW Government is responsible for determining the risk of negative impacts of Country Energy's water business on the environment, and imposing standards or requirements on Country Energy to address these risks and minimise any impacts. For example, the Department of Environment and Climate Change and Water is responsible for setting standards for, and monitoring the environmental impacts of, the effluent Country Energy discharges from its treatment plants and sewerage systems.

Country Energy's environment-related programs include, for example:[48]

- water savings initiatives, including:
  - the provision of educational resources and public demonstration sites
  - a retrofit program to address residential water and energy efficiency
  - an educational program to improve efficiency for small businesses
- the re-use of partially treated wastewater (effluent water) for non-drinking purposes, such as water the Silverlea Plant Nursery, the Broken Hill Racecourse Trust and Broken Hill City Council Properties
- the provision of water to assist in suppressing dust and reducing lead levels.

Country Energy's water business has also been proactive in securing community water grants from the Australian Government Water Fund for improving water efficiency.

In determining Country Energy's revenue requirements we have ensured it can fully recover all efficient costs it incurs in meeting its environmental obligations through prices.[49]

47 Estimated from Country Energy, *Statement of Corporate Intent Year Ending 30 June 2009*.

48 Country Energy, Country Water submission to IPART's Review of Prices for Water and Sewerage Services to Broken Hill and Surrounds, September 2009.

49 These do not include costs that have been recovered elsewhere. For example, the Australian Government Water Fund.

Appendices

A Country Energy's water and sewerage operations at Broken Hill

Country Energy provides water and sewerage services in Broken Hill and water supply only in Menindee, Silverton and Sunset Strip in far west New South Wales. Water supply to Broken Hill, Menindee and Sunset Strip is treated before distribution. Water supply to Silverton is chlorinated, but presently unfiltered. Non-potable water is also supplied to rural users along the Menindee to Broken Hill pipeline for stock and domestic purposes. Country Energy provides water services to approximately 10,700 properties and sewerage services to approximately 10,000 properties. Over one third of customers are pensioners.

The service area is the most arid in the state and experiences extreme climatic variations including frequent droughts. Eight years in every ten, town water supply is dependent on water sourced from the Darling River and pumped over 116 kilometres of pipeline to Broken Hill. These unique operational circumstances combined with drought conditions cause salinity and other water quality problems in the raw water that Country Energy must treat.

Country Energy is an end water user and is licensed to extract 10 GL of water per year from the Menindee Lakes Scheme on the Darling River. The Darling River off-take at the Menindee Lakes Scheme is the main source of water for Country Energy. There are 3 other sources of water managed by Country Energy:

- Stephen's Creek - capacity 19,000 ML
- Umberumberka - capacity 7,800 ML
- Imperial Lake (emergency water supply) - capacity 670 ML.

There are two waste water treatment plants in Broken Hill. Treated effluent water use accounts for approximately 50% of effluent water, with the remaining 50% discharged to the environment through evaporation ponds.

Country Energy provides liquid trade waste services to non residential customers in the city of Broken Hill only. Charges are levied based on the category of trade waste customer, dependent on the type and level of discharge of identified trade waste into the sewerage system.

A range of miscellaneous services are offered to customers, generally for one off services including, but not limited to, connections and disconnections, replacing damaged services, plumbing inspections, site inspections and building plan approvals. These charges are levied on a relatively small number of customers, and are charged on an as incurred basis.

A stringent regime of testing and quality assurance ensures Country Energy meets Australian Drinking Water Guidelines set by the National Health and Medical Research Council and the Agriculture and Resource Management Council of Australia and New Zealand. The testing process includes taking water samples from 38 locations including reservoirs, at the inlet and outlet of water filtration plants and from various other locations throughout the water network.

Country Energy complies with the six criteria set by the NSW Government for the best practice management of water supply and sewerage services. Best practice management aims to ensure the effective and efficient delivery of services and promote sustainable water practices and demand management.

Country Energy exercises its water supply functions under the *Water Management Act 2000*. Predecessor organisations of Country Energy operated under the Mine Deficit Funding Legislation (repealed in 2002). Under that legislation, an agreement was established which allowed for the water business' operational deficits to be subsidised by the local mining industry and the NSW Government. The agreement is scheduled to finish in 2012/13.

The mining company Perilya Ltd. is Country Energy's largest water customer. Its water prices are determined by an agreement between Country Energy, Perilya Ltd. and the NSW Government.

B Calculation of the regulatory asset base

B.1 Value of the Initial Regulatory Asset Base

The first step in determining a value for the initial or opening RAB involves valuing the existing assets used by Country Energy to provide water and sewerage services in Broken Hill at a particular point in time. The first step in the process involves:

- 'Drawing a line in the sand' (LIS) or establishing the date at which the initial regulatory asset base will be valued. This date allows us to differentiate between capital expenditures made in the past (sometimes the very distant past) from those that have yet to be made and will need to be supported by price movements into the future.
- Deciding on the approach to use in calculating the value of the initial RAB.

B.1.1 'Line in the Sand' (LIS) operative date

We have decided to a 'draw the line in the sand' and establish the initial RAB value at 1 July 2008 and to then roll this value forward to 1 July 2010 to establish an opening RAB to apply for price setting from that date. The date of 1 July 2008 was selected as this allows us to have regard to Country Energy's construction costs on the Mica Street water treatment plant when setting prices. We considered that Country Energy, having embarked on this investment, should be entitled to recover the efficient costs of this investment over its expected life.

B.1.2 Calculating the Value of the Initial RAB

There are a range of approaches that can be used to calculate the initial value of the RAB for an existing business undertaking, including estimating:

- the opportunity cost (or scrap value) of the assets
- the historical or actual cost of the assets
- the book value of the assets
- the deprival value of the assets, which is the lower of the optimised depreciated replacement cost (ODRC) or economic value.

Typically, the estimated value of the initial RAB will vary widely, depending on which of these approaches is used. The lower band of the potential range for this value is zero. This would occur if all past capital expenditure was considered to be neither efficient nor prudent, the assets were providing no service, and the existing assets were considered to be 'sunk' with no scrap or alternative value.

The upper bound of the potential range is likely to be equal to the ODRC element of the deprival value of assets. Country Energy has estimated the ODRC value of its assets as at 1 July 2009 at $300.4 million.

The potential value of the initial RAB therefore spans the range from zero to $300.4 million.

The economic value of Country Energy's assets represents the present value of the expected net benefits likely to flow from the assets. We have estimated this value using discounted cash flow analysis. This involved:

- Estimating the cashflows generated from Country Energy's normal business activities in the 2007/08 year given that the value was to be made effective from 1 July 2008. This estimation takes account of revenues received and operating expenses.
- Estimating future renewals expenditures since 1 July 2008 along with the revenue that Country Energy would be entitled to receive in respect of these expenditures from the sale of future services. This revenue is calculated under the 'building block approach' which would see Country Energy receiving a return on and of capital each year over the life of the renewed assets.
- Calculating the value of Country Energy's initial RAB as the net present value (NPV) of these future estimates of cash flows.

In undertaking the analysis we made several assumptions, including the following:

- That the average life of Country Energy's existing asset stock is 46 years for water assets and 47 years for sewerage assets.
- Operating costs for existing assets and any replacement assets would remain constant.
- There would be no increase in customer numbers and revenues due to growth.
- A real, pre-tax Weighted Average Cost of Capital and discount rate of 7.4%.
- That both water and sewerage replacement assets will have an average life of 97 years.

- That the following levels of renewal expenditure will take place:

Table B.1 Renewal capital expenditure

Year	Water renewals $000	Sewerage renewals $000
2008/09 (nominal)	16,473	488
2009/10 ($2009/10)	25,925	962
2010/11 ($2009/10)	2,858	628
2011/12 ($2009/10)	4,715	2,585
2012/13 ($2009/10)	4,717	2,529
2013/14 ($2009/10)	5,704	910
	each year thereafter until 2054	each year thereafter until 2055

The initial RAB valuation of water assets can be summarised as follows:

Table B.2 Calculation of the initial valuation of the RAB for water assets ($000, 2007/08)

Water	$000	$000
Sales revenue		
Revenue from tariffs	6,903	
Revenue from Perilya and CSO reimbursements	3,430	
Annualised revenue required to support future renewals	8,093	
Miscellaneous revenue	22	
Total revenue		18,448
Less		
Operating costs		
Installation inspection	154	
Water quality investigation studies	775	
Reservoirs	291	
Water pipelines	240	
Water pumping stations	2,411	
Water reticulation	1,766	
Water treatment plant	2,621	
Effluent water	34	
Corporate overheads	1,766	
Present value of annualised renewals expenditure	8,093	
Total operating costs and future renewals expenditure		18,153
Net revenue		296
Initial RAB value (Present value of net revenue for 46 years)		3,845

The initial sewerage RAB was derived in a similar fashion and is summarised below.

Table B.3 Calculation of the initial valuation of the RAB for sewerage assets ($000, 2007/08)

Sewerage	$000	$000
Sales Revenue		
Revenue from tariffs	3,858	
CSO reimbursements	140	
Annualised Revenue required to support future renewals	1,127	
Miscellaneous revenue	39	
Total Revenue		5,164
Less		
Operating costs		
Sewerage pumping stations	272	
Sewerage reticulation	629	
Sewerage treatment plants	926	
Corporate overheads	398	
Present value of annualised renewals expenditure	1,127	
Total Operating Costs and future renewals expenditures		3,352
Net Revenue		1,812
Initial RAB Value (Present Value of net revenue for 47 years)		23,629

Notes

1. It has been assumed that the net revenue remains constant over the remaining life of the assets.
2. Weighted average Cost of Capital of 7.4% has been used as a discount rate to calculate annuities and present values).

B.2 Rolling forward the RAB

After calculating the initial value of the RAB, 2 more steps were necessary to establish RAB values for each year of the determination period. Broadly, the initial RAB value was 'rolled' forward each year to take account of capital expenditure required to purchase assets, an allowance for the value that assets lose through wear and tear (depreciation), the value of assets that have been sold, and an allowance for the change in CPI.

To establish the opening value of Country Energy's RAB at 1 July 2010, we:

- established an initial RAB value by calculating a LIS value at 1 July 2008
- rolled forward the initial 1 July 2008 RAB to 1 July 2010 on the basis of actual prudent capital expenditure over this period
- deducted annual regulatory depreciation for 2008/09 and 2009/10

- deducted asset disposals for 2008/09 and 2009/10
- indexed the annual closing regulatory asset base in 2008/09 and 2009/10 for actual/forecast inflation (assuming that half the capital expenditure and disposals occurred at the beginning of the year (and therefore receive a full year of indexation) while the other half occurred at the end of the period (and therefore are not indexed).

To roll forward the RAB to the end of the determination period (i.e., from 1 July 2010 to 30 June 2013), we:

- added the forecast efficient capital expenditure (related to both the existing system and growth) to the closing value of the RAB for the previous year
- deducted regulatory depreciation
- deducted forecast disposals of assets
- indexed the annual closing RAB for forecast inflation.

The RAB values for each year were used to establish the value of the building blocks for calculating the annual notional revenue requirements.

Table B.4 shows our decision on the level of each year's RAB over the determination period.

Table B.4 Decision on annual value of Country Energy's RAB ($000, 2009/10)

	2008/09 past	2009/10 budget	2010/11 forecast	2011/12 forecast	2012/13 forecast
Water					
Opening value	4,014	20,866	46,769	48,596	52,241
Closing value	20,866	46,769	48,596	52,241	55,840
Sewerage					
Opening value	24,666	24,644	25,084	25,174	27,204
Closing value	24,644	25,084	25,174	27,204	29,149
Combined					
Opening value	28,680	45,510	71,853	73,770	79,445
Closing value	45,510	71,853	73,770	79,445	84,989

C Calculation of the weighted average cost of capital

The WACC for a business is the expected cost of its various classes of capital (debt and equity), weighted to take into account the relative share of debt and equity in the total capital structure. There are several approaches for calculating the return on capital on the regulated asset base (RAB). Our preferred approach is to use the weighted average cost of capital (WACC) to determine an appropriate range for the rate of return. A point estimate of the WACC is selected from this range.

We considered and made decisions on a number of input parameters to determine the appropriate range for the WACC. We then made a decision on the appropriate point within the range in making the final determination.

We have recently concluded an extensive review of the WACC.[50] Our final decision for Country Energy's WACC has been calculated in accordance with our findings from this WACC review.

C.1 Overview of our decision on the WACC for Country Energy

Decision

17 Our final decision is that for the purposes of calculating the allowance for a return on assets, a real pre-tax WACC of 7.4% will be applied.

The underlying parameters are detailed in Table C1. These parameters were based on market conditions averaged over the 20 trading days to 23 April 2010.

50 IPART, *IPART's weighted average cost of capital – Final Decision*, April 2010.

Table C.1 Final decision on the rate of return and the parameters used to calculate the WACC

WACC Parameters	Draft Decision	Final Decision
Nominal risk free rate	5.6%[a]	5.8% [b]
Inflation adjustment	2.9%[a]	3.0% [b]
Market risk premium	5.5% – 6.5%	5.5% - 6.5%
Debt margin	2.0% - 3.8%[a]	1.8% - 3.8% [b]
Debt to total assets	60%	60%
Dividend imputation factor (gamma)	0.5 – 0.3	0.5 – 0.3
Tax rate	30%	30%
Equity beta	0.8 -1.0	0.8 – 1.0
Cost of equity (nominal post tax)	10.0% - 12.1%	10.2% - 12.3%
Cost of debt (nominal pre-tax)	7.7% - 9.4%	7.6% - 9.6%
WACC range (real pre-tax)	6.3% - 8.6%	6.2% - 8.7%
WACC (real pre-tax) mid-point	**7.4%**	**7.4%**

[a] Reflects market data sampled over the 20 days to 18 January 2010.

[b] Reflects market data sampled over the 20 days to 23 April 2010.

Source: IPART analysis.

No stakeholder commented on the WACC in response to the draft decision. For the final decision, we have updated our draft decision according to recent market data. As was the case for the draft decision, we selected the midpoint of the range as our point estimate of the real pre-tax WACC. Table C.1 shows that the resulting midpoint of the WACC range is the same for the final decision as for the draft decision (when rounded to 1 decimal place).

The sections below discuss our consideration of the valuation of the WACC parameters to apply for the final decision.

C.2 Nominal risk free rate and inflation

Decision

18 IPART's final decision is to use:

- a nominal risk free rate of 5.8% based on the 20-day average as at 23 April 2010
- an inflation adjustment of 3.0% based on the 20-day average of market swap data to 23 April 2010.

We have sampled the 20-day average of the yield on nominal Commonwealth Government bonds and the inflation adjustment from swap market data to obtain the nominal risk free rate and inflation adjustment respectively. The resulting values are shown in Table C.2.

Table C.2 Risk free rate and inflation adjustment

Parameter	Value
Nominal risk free rate	5.8%
Inflation adjustment	3.0%

Source: Bloomberg and IPART analysis.

C.3 Debt margin

Decision

19 IPART's final decision is to adopt a debt margin range of 1.8% - 3.8% based on market data sampled to 23 April 2010.

We have recently completed an extensive consultation on the approach to set the debt margin in our parallel review of the WACC. We concluded that we will continue to set the debt margin with reference to the "traditional universe" of securities:

> Our final decision is to continue to use our traditional universe of securities without adjustment for maturity. [51]

For the final decision, we have set the debt margin for Country Energy with reference to the traditional universe of securities as shown in Table C.3, plus an allowance of 12.5 basis points for debt raising costs. The lower bound of the range for the debt margin is set with reference to the GPT bond (plus an allowance for debt raising costs). The upper bound is set with reference to the Santos bond (plus debt raising costs).

Table C.3 IPART's proxy bond portfolio – traditional universe

Issue	Maturity	Yield (bps)
Santos	23-Sep-15	369.5
GPT	22-Aug-13	171.0
Snowy	25-Feb-13	287.9
BBB Fair Value	7-year	349.0

Note: Yields are sampled over the 20-day trading window to 23 April 2010 and exclude debt raising costs.
Source: Bloomberg.

51 IPART, *IPART's weighted average cost of capital – Final Decision*, April 2010, WACC Final Report, p 9.

C.4 Equity beta and gearing

Decision

20 Our final decision is to adopt:

- an equity beta of 0.8 to 1.0
- a gearing level of 60%.

Our recent decisions for water utilities (both bulk and metropolitan water and sewerage services) typically adopt an equity beta range of 0.8 to 1.0. We consider that Country Energy's water and sewerage businesses is exposed to similar levels of systematic risk as other businesses regulated by IPART. Therefore, we have decided to adopt this range of values for the final decision.

We consider that a gearing level of 60% is supported by most reliable empirical evidence. As was the case for the draft decision, we have adopted a 60% gearing assumption for the final decision.

C.5 Market risk premium, gamma and tax rate

Decision

21 Our final decision is to adopt

- an MRP within the range of 5.5% to 6.5%
- a gamma value of 0.5 to 0.3
- a tax rate of 30%.

We concluded in our recent review of the WACC to maintain our standard range of values for the MRP and gamma range and assume the statutory tax rate of 30% when setting the WACC.[52] We have therefore applied these values for the final decision.

52 IPART, *IPART's weighted average cost of capital- Final Decision*, April 2010, p 3.

D Assumptions for water sales and customer numbers

We have decided to determine each individual price that Country Energy can levy on its water customers. Therefore, we require information on Country Energy's forecast metered water sales and forecast customer numbers to enable us to determine those prices. In fact, water sales and customer number information have a direct impact on revenue requirements and prices.

Under the 'building block' approach for calculating Country Energy's notional revenue requirements, forecasts for costs are heavily influenced by the forecasts of water and sewerage services and the forecasts for customer numbers. Therefore, higher demand and increasing customer numbers leads to higher revenue requirements.

As well, after determining the target revenue, the next step we take is to set prices to recover that revenue and the level of prices depends on how much water Country Energy is expected to sell and how many customers it is expected to provide services for. Generally speaking, higher forecast water sales will lead to a lower level for the water usage charge, and higher numbers of customers will lead to lower services charges.

It can be seen therefore that if forecasts of water sales and customer numbers are not reasonable then the risk that we will set prices that lead to Country Energy significantly over- or under-recovering its required revenue will increase.

In some previous determinations, we have employed experts to provide estimates of demand and customer numbers. However, we have decided to accept the results of a consultancy review undertaken on behalf of Country Energy in 2008 and adopted by Country Energy in its information return.

In 2008, Country Energy employed the National Institute of Economic and Industry Research (NIEIR) to provide forecasts for water demand and customer numbers. The forecasts have since been updated to reflect the changes brought about by the global financial crisis.

In its analysis, the consultant took into account the unique circumstances in Broken Hill including that it:

- has its main water source over 120 kilometres away
- has an arid climate with a low average annual rainfall of 225 millimetres
- has a customer dependency on evaporative air cooling systems, and
- has high lead levels which can be reduced by ground cover plantings.

Country Energy reports that it serves approximately 10,500 water customers who collectively purchase approximately 5,200 ML of water each year. The vast majority of water consumers are residential customers, each using approximately 320 kL of water per year. In fact, 77% of residential customers use less than 400 kLs per annum. The residential market represents approximately 92% of connections but only 56% of the consumption.

At the public hearing and in submissions, residents of Broken Hill disagreed with an average consumption figure of approximately 300 kLs per year. One resident estimated that a typical 3 bedroom house could use 550 kLs per annum comprising 200 kLs for evaporative air conditioning, 150 kLs to maintain some vegetation to suppress lead contamination, and 200 kLs for indoor usage.[53]

However, the data provided by Country Energy has been calculated by a consultant using a comparable methodology to that used by IPART in its recent Sydney Water determination. We believe that the forecasts are the best available and have therefore decided to accept them for pricing purposes.

Table D.1 Total forecast treated water demand (kLs)

	2010/11	2011/12	2012/13
Residential	2,798,848	2,796,714	2,804,598
Commercial	1,311,055	1,312,111	1,313,168
Exempt properties	250,000	260,000	260,000
Total	**4,359,903**	**4,368,825**	**4,377,766**

Source: Country Energy information return.

Table D.2 Forecast customer numbers

	2010/11	2011/12	2012/13
Residential	9,893	9,893	9,893
Commercial	605	605	605
Pipeline	47	47	47
Total	**10,545**	**10,545**	**10,545**

Source: County Energy information return.

53 Mr Roger Edwards submission to Country Energy Review, 12 November 2009, p 5.

E Matters to be considered by IPART under section 15 of the IPART Act

In making determinations, we are required by the IPART Act to have regard to the following matters (in addition to any other matters we consider relevant):

a) the cost of providing the services concerned

b) the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standard of services

c) the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales

d) the effect on general price inflation over the medium term

e) the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers

f) the need to maintain ecologically sustainable development (within the meaning of section 6 of the *Protection of the Environment Administration Act 1991*) by appropriate pricing policies that take account of all the feasible options available to protect the environment

g) the impact on pricing policies of borrowing, capital and dividend requirements of the government agency concerned and, in particular, the impact of any need to renew or increase relevant assets

h) the impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body

i) the need to promote competition in the supply of the services concerned

j) considerations of demand management (including levels of demand) and least cost planning

k) the social impact of the determinations and recommendations

l) standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).

Table E.1 outlines the sections of the report that address each matter.

Table E.1 Consideration of Section 15 matters by IPART

Section 15(1)	Report Reference
a) the cost of providing the services	Chapters 5,6 and 7
b) the protection of consumers from abuses of monopoly power	Whole report
c) the appropriate rate of return and dividends	Section 7.3
d) the effect on general price inflation	Chapter 8
e) the need for greater efficiency in the supply of services	Chapters 5 and 6
f) ecologically sustainable development	Chapter 8
g) the impact on borrowing, capital and dividend requirements	Chapter 8
h) impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body	Chapter 10
i) need to promote competition	Not applicable
j) considerations of demand management and least cost planning	Chapters 4,5,6 and 7
k) the social impact	Chapter 10
l) standards of quality, reliability and safety	Chapters 3,4 and 9