

**Jemena Gas Networks  
(NSW) – Access  
Arrangement Information –  
Appendix 9.3**

**Effective Tax Rate**

**26 August 2009**



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# Table of Contents

<b>1</b>	<b>Calculation of effective tax rate</b>	<b>3</b>
<b>2</b>	<b>Effective tax rate</b>	<b>3</b>
2.1	Tax asset base	5
2.2	Opening tax asset base as at 1 July 1999	5
2.3	Roll forward of tax asset base from 1999-2010	7
2.4	Roll forward of tax asset base from 2011-15	8

## 1 Calculation of effective tax rate

Jemena Gas Networks (NSW) Ltd (**JGN**) elects to use a pre-tax revenue approach to calculate its building blocks revenue under rule 72(1)(h), which requires the estimation of the effective tax rate and the tax asset base (**TAB**). Using this approach, JGN estimates its effective tax rate at 28.35 per cent for the next access arrangement (**AA**) period.

This appendix:

- outlines the method for calculating the effective tax rate
- describes the roll-forward of JGN's TAB.

## 2 Effective tax rate

JGN estimates the effective tax rate using the Australian Energy Regulator (**AER**) method as the ratio of two internal rates of return (**IRRs**) as follows:

Effective tax rate = 1 –	$\frac{\text{IRR}(\text{Post-tax cash flow to equity})}{\text{IRR}(\text{Pre-tax cash flow to equity})}$
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The relevant cash flows are modelled over the 66 year life of JGN's projected asset base. The pre-tax cash flows to equity are nominal revenue less:

- operating expenses
- capital expenses
- interest payments
- repayment of debt.

Subtracting off JGN's assumed tax expense gives the post-tax cash flows to equity. Here, tax is payable on tax revenue less tax costs recognised by the Australian Tax Office (**ATO**). Tax-deductible costs include interest or debt servicing, tax depreciation allowances and tax operating expenses. Tax depreciation is estimated by rolling forward JGN's tax asset base through the regulatory period (see section 2.3).

Figure 2-1: Summary of effective tax rate calculation

	Regulatory Period															
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>Calculation of Effective Tax</b>																
<b>Asset Values</b>																
Regulatory Asset Base	2,449.95	2,585.05	2,714.53	2,850.37	2,998.68	3,041.51	2,971.60	2,902.08	2,832.92	2,765.40	2,701.20	2,644.82	2,597.25	2,546.03	2,491.02	2,432.08
Equity Component	979.98	1,034.02	1,085.81	1,140.15	1,199.47	1,216.60	1,188.64	1,160.83	1,133.17	1,106.16	1,080.48	1,057.93	1,038.90	1,018.41	996.41	972.83
Debt Component	1,469.97	1,551.03	1,628.72	1,710.22	1,799.21	1,824.90	1,782.96	1,741.25	1,699.75	1,659.24	1,620.72	1,586.89	1,558.35	1,527.62	1,494.61	1,459.25
<b>Nominal Equity Cash Flow Analysis</b>																
Return on Capital (post-tax)		274.67	289.82	304.34	319.57	336.19	341.00	333.16	325.36	317.61	310.04	302.84	296.52	291.19	285.45	279.28
Depreciation		31.22	38.78	45.43	52.98	64.52	69.91	69.52	69.16	67.52	64.20	56.39	47.56	51.23	55.01	58.94
Plus OPEX		137.32	145.09	160.04	169.14	179.29	-	-	-	-	-	-	-	-	-	-
Plus Tax		23.33	26.67	29.25	33.20	38.70	41.62	43.46	44.87	45.53	45.42	43.72	41.63	43.45	45.11	46.63
Post-tax allowed revenue		466.55	500.35	539.05	574.88	618.71	452.53	446.14	439.39	430.66	419.66	402.95	385.72	385.87	385.56	384.85
Plus Capitalisation of equity in final year		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Less Tax OPEX		137.32	145.09	160.04	169.14	179.29	-	-	-	-	-	-	-	-	-	-
Less Capital Expenditure	2,449.95	166.33	168.25	181.27	201.30	107.34	-	-	-	-	-	-	-	-	-	-
Less Interest Payments		156.45	165.08	173.34	182.02	191.49	194.22	189.76	185.32	180.90	176.59	172.49	168.89	165.85	162.58	159.07
Less Repayment of Debt	- 1,469.97	- 81.06	- 77.69	- 81.50	- 88.99	- 25.69	41.95	41.71	41.49	40.51	38.52	33.83	28.54	30.74	33.01	35.37
Pre-tax equity cash flows	- 979.98	87.52	99.62	105.91	111.42	166.28	216.36	214.67	212.57	209.25	204.55	196.63	188.29	189.28	189.97	190.41
Less Tax Paid		29.17	33.33	36.56	41.50	48.38	52.03	54.33	56.08	56.92	56.78	54.66	52.04	54.32	56.39	58.28
Post-tax equity cash flows	- 979.98	58.35	66.29	69.35	69.92	117.90	164.33	160.34	156.49	152.33	147.77	141.97	136.25	134.96	133.59	132.13
Plus Imputation credits		-	5.83	6.67	7.31	8.30	9.68	10.41	10.87	11.22	11.38	10.93	10.41	10.86	11.28	11.66
Post-tax equity cash flows + imputation credits	- 979.98	64.18	72.96	76.66	78.22	127.58	174.74	171.21	167.71	163.71	159.13	152.91	146.66	145.83	144.87	143.78
<b>Internal Rate of Return</b>																
Pre-tax equity cash flows	15.53%	CHECK														
Post-tax equity cash flows	11.13%															
Effective equity tax rate	28.35%															
Post-tax equity cash flows + Value of Imputation Credits	12.06%	12.06%														
Net cash flow to debt	7.45%															
Return on debt	10.64%	10.64%														
Effective debt tax rate	30.00%															

Source: The Effective Tax sheet of the AA10-SR-82103E JGN Regulatory Model.

Note: The resultant value of 28.35 per cent has been used in determining a pre-tax rate of return (refer chapter 9).

## 2.1 Tax asset base

JGN calculates its tax asset base (**TAB**) in three stages:

- Establish the opening TAB as at 1 July 1999
- Roll-forward the TAB from 1 July 1999 to 30 June 2010
- Roll-forward the TAB from 1 July 2010 to 30 June 2015

## 2.2 Opening tax asset base as at 1 July 1999

The calculation of an effective tax rate requires, among other things, an assessment of tax depreciation which is, in turn, a function of the TAB from which tax depreciation is calculated. Independent Pricing and Regulatory Tribunal of New South Wales (**IPART**) approach did not require a TAB because it relied upon a benchmark effective tax rate based on the statutory tax rate.

The opening TAB as at 1 July 1999 has been established by taking:

- the cost of individual assets that constituted the regulatory capital base as at 1 July 1999 (including any capital contributions), together with
- the year in which each asset was commissioned for tax purposes and the applicable tax treatment of assets commissioned at that time
- to determine the tax written down value of each asset and hence the opening TAB for the regulatory capital base assets as at 1 July 1999. Where the tax regime offered the option of prime cost (historic cost straight line) or diminishing value depreciation, JGN has used the diminishing value method.

JGN calculates the opening TAB on an asset-by-asset basis. The results are summarised by asset class in Table 2-1.

**Table 2-1: JGN's opening TAB as at 1 July 1999 (\$nominal)**

Asset Class	Initial cost	Initial Tax Life (years)	Remaining Tax Life (Years)	Cumulative tax depreciation to 1 July 1999	TAB 30 June 1999
Trunk Wilton-Sydney	65.5	65.1	0.5	65.5	65.1
Trunk Sydney-Newcastle	84.0	82.6	1.4	84.0	82.6
Trunk Wilton-Wollongong	13.2	13.1	0.1	13.2	13.1
Contract Meters	9.1	5.1	4.0	9.1	5.1
Fixed Plant – Distribution	23.0	22.1	0.9	23.0	22.1
HP Mains	239.4	220.4	19.0	239.4	220.4
HP Services	3.7	3.2	0.5	3.7	3.2
MP Mains	1,143.8	932.7	211.0	1,143.8	932.7
MP Services	348.0	267.3	80.7	348.0	267.3
Meter Reading Devices	1.1	0.6	0.5	1.1	0.6
Country POTS	4.2	3.0	1.2	4.2	3.0
Tariff Meters	115.2	77.6	37.7	115.2	77.6
Building	5.1	0.8	4.3	5.1	0.8
Computers	16.5	3.9	12.6	16.5	3.9
Software	28.9	18.1	10.8	28.9	18.1
Fixed Plant	19.9	9.7	10.3	19.9	9.7
Furniture	7.1	3.5	3.6	7.1	3.5
Land	6.4	-	6.4	6.4	-
Leasehold Improvements	5.6	0.1	5.5	5.6	0.1
Low value assets	-	-	-	-	-
Mobile Plant	5.5	2.7	2.8	5.5	2.7
Vehicles	15.0	7.3	7.7	15.0	7.3
<b>Total</b>	<b>2,160.3</b>	<b>1,738.8</b>	<b>421.5</b>	<b>2,160.3</b>	<b>1,738.8</b>

## 2.3 Roll forward of tax asset base from 1999-2010

The 1 July 1999 opening TAB was then rolled forward to 1 July 2010 by:

- taking into account assets (including any capital contributions) added to the regulatory capital base from 1 July 1999 onwards
- deducting tax depreciation applicable to those assets and to the assets in the 1 July 1999 opening TAB
- deducting the tax written down value of any assets disposed of during the period.

Once again, JGN rolls forward the TAB at the individual asset level. The results are summarised by asset class in the following table:

**Table 2-2: TAB roll forward from 1999-2010 (\$nominal)**

Asset Class	TAB 1 July 1999	Depreciation	Net Expenditure	TAB 30 June 2010
Trunk Wilton-Sydney	0.5	0.4	0.1	0.1
Trunk Sydney-Newcastle	1.4	1.3	0.3	0.4
Transmission pipeline (Wilton-Wollongong)	0.1	0.1	0.0	0.0
Contract Meters	4.0	7.4	8.1	4.7
Fixed Plant – Distribution	0.9	11.7	42.9	32.0
HP Mains	19.0	57.0	134.6	96.6
HP Services	0.5	0.6	0.3	0.2
MP Mains	211.0	261.9	180.1	129.2
MP Services	80.7	170.2	256.0	166.6
Meter Reading Devices	0.5	6.2	18.2	12.5
Country POTS	1.2	1.4	2.6	2.4
Tariff Meters	37.7	99.1	184.3	122.8
Building	4.3	0.9	-0.5	2.8
Computers	12.6	12.8	1.4	1.1
Software	10.8	33.2	33.7	11.3
Fixed Plant	10.3	10.4	5.2	5.1
Furniture	3.6	2.6	0.1	1.1



Asset Class	TAB 1 July 1999	Depreciation	Net Expenditure	TAB 30 June 2010
Land	6.4	-	-1.9	4.6
Leasehold Improvements	5.5	2.0	6.9	10.4
Low value assets	-	0.1	0.1	0.0
Mobile Plant	2.8	2.7	1.5	1.6
Vehicles	7.7	24.0	24.1	7.8
<b>Total</b>	<b>421.5</b>	<b>706.0</b>	<b>898.1</b>	<b>613.6</b>

## 2.4 Roll forward of tax asset base from 2011-15

JGN applies the principles described above to roll forward the tax asset base for each asset class from 2011-15. The results, summarised by asset class, are in Table 2-3 :

**Table 2-3: TAB roll forward from 2011-15 (\$nominal)**

Asset Class	TAB 1 July 2010	Depreciation	Net Expenditure	TAB 30 June 2015
Trunk Wilton-Sydney	0.1	0.5	3.1	2.7
Trunk Sydney-Newcastle	0.4	2.2	10.6	8.8
Transmission pipeline (Wilton-Wollongong)	0.0	0.2	0.8	0.7
Contract Meters	4.7	2.1	1.1	3.7
Fixed Plant – Distribution	32.0	21.2	38.8	49.7
HP Mains	96.6	64.7	139.0	171.0
HP Services	0.2	0.2	0.7	0.7
MP Mains	129.2	72.6	105.0	161.5
MP Services	166.6	111.4	239.9	295.1
Meter Reading Devices	12.5	5.4	1.4	8.6
Country POTS	2.4	4.7	19.8	17.5
Tariff Meters	122.8	89.2	227.6	261.2
Building	2.8	0.3	-	2.5

Asset Class	TAB 1 July 2010	Depreciation	Net Expenditure	TAB 30 June 2015
Fixed Plant	5.1	4.3	2.1	3.0
Furniture	1.1	0.8	-	0.4
Land	4.6	-	-	4.6
Leasehold Improvements	10.4	1.3	0.9	10.0
Low value assets	0.0	0.0	-	0.0
Mobile Plant	1.6	1.4	1.6	1.7
Vehicles	7.8	11.3	22.2	18.7
<b>Total</b>	<b>613.6</b>	<b>431.2</b>	<b>928.0</b>	<b>1,110.4</b>

Table 2-4 shows the annual calculation (in aggregate for all asset classes):

**Table 2-4: Roll forward of TAB from 2011-15 (\$nominal)**

	2010-11	2011-12	2012-13	2013-14	2014-15
Opening Balance	613.6	706.1	791.4	879.7	984.9
Add Net Capital Expenditure	172.1	170.9	175.6	194.0	215.4
Less Depreciation	79.6	85.5	87.3	88.8	89.9
<b>Closing Balance</b>	<b>706.1</b>	<b>791.4</b>	<b>879.7</b>	<b>984.9</b>	<b>1,110.4</b>