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NMBM Cost of Supply Study
Model Guide

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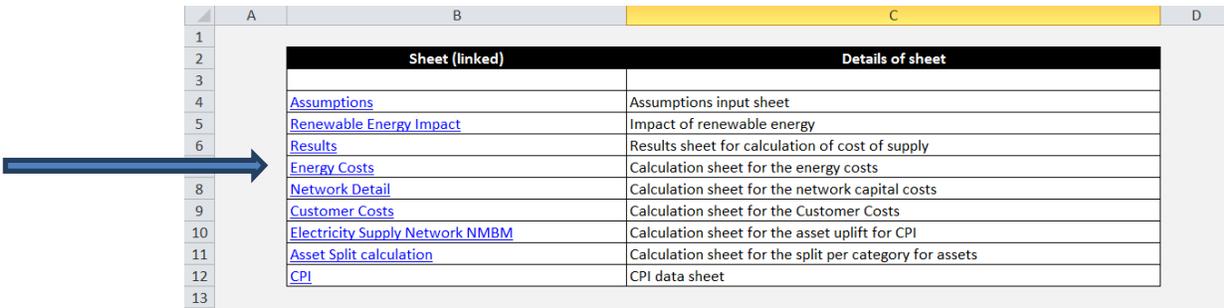
Abbreviation List

AMEU:	Association of Municipal Electricity Utilities
APP:	Average purchase price
ASP:	Average selling price
ATTP:	Assistance to the Poor
CAGR:	Compound Average Growth Rate
COS:	Cost of Supply
Customers Groups:	
Dom Credit:	Domestic credit
Dom PPM:	Domestic Pre paid meter
Small Bus:	Small Business
Med Bus:	Medium Business
Large Bus:	Large Business
STR:	Street lighting
FBE:	Free Basic Electricity
CPI:	Consumer Price Index
GIZ:	Gesellschaft für Internationale Zusammenarbeit
IBT:	Inclining Block Tariffs
kWh:	Kilowatt-hour
LV:	Low Voltage
MSP:	Maximum Selling Price
MYPD:	Multiyear price determination
NAC:	Network Access Cost
NBV:	Net Book Value
NERSA:	National Energy Regulator of South Africa
NMBM:	Nelson Mandela Bay Municipality
Off/Pk:	Off peak
PPP:	Public Private Partnership
PV:	Photovoltaic
R/kWh:	Rand per kilowatt-hour
RE:	Renewable Energy
RND:	Reduced Network Diagram
ROD:	Record of Decision
RRM:	Regulatory Reporting Manual
SAGEN:	South African . German Energy Programme
SSEG:	Small Scale Embedded Generator
Stnd or std:	Standard
TOC:	Trended Original Cost
TOU:	Time of Use
Tx:	Transmission
WACC:	Weighted Average Cost of Capital

1. INTRODUCTION

1. This guidance document has been created to aid a user on how to use the NMBM COS Excel Model. This is a summary on how to adjust the model and an explanation of the results that are calculated by the model.

2. The excel model contains a number of sheets that have been used to calculate the cost of supply:

    2.1. Index Sheet: Guides the user on all the sheets within the model.

    2.2. Assumptions Sheet: Assumptions that need to be inserted in developing the ultimate results calculation.

    2.3. Renewable Energy Impact Sheet: Impact of using renewable energy on the cost of supply.

    2.4. Results Sheet: Final output of this model. It shows the cost of supply for different customer categories.

    2.5. Energy Costs Sheet: Computation of the energy costs for the cost of supply.

    2.6. Network Detail Sheet: Asset costs computation for the cost of supply.

    2.7. Customer Costs Sheet: Customer costs computation for the cost of supply.

    2.8. Electricity Supply Network NMBM Sheet: Asset register computation for the cost of supply.

    2.9. Asset Split Calculation Sheet: Asset split computation per customer category used in the cost of supply model.

    2.10. CPI Sheet: This sheet contains the South African CPI value per year that is used in the uplift of asset values for the asset register.

3. This guide will explain how to adjust the model in the following ways:

    3.1. How to use the Index sheet (Section 2).

    3.2. How to understand the Results sheet (Section 3).

    3.3. How to adjust the Energy Costs sheet and sheets related to energy costs (Section 4).

    3.4. How to adjust the Network Detail sheet and sheets related to network detail costs (Section 5).

    3.5. How to adjust the Customer Costs sheet and sheets related to customer costs (Section 6).

    3.6. How to understand the Renewable energy impact results and the adjustments required in related sheets (Section 7).

2. INDEX SHEET

4. This sheet contains a list of all the sheets within the model and links to each sheet in the model.

5. To go to a specific sheet please use your cursor to click on the sheet required in column B, this will automatically take you to the sheet that you require.

6. For example if you would like to go to the ±Energy Costsqsheet, click on cell B7.

	A	B	C	D
1				
2		**Sheet (linked)**	**Details of sheet**	
3				
4		Assumptions	Assumptions input sheet	
5		Renewable Energy Impact	Impact of renewable energy	
6		Results	Results sheet for calculation of cost of supply	
		Energy Costs	Calculation sheet for the energy costs	
8		Network Detail	Calculation sheet for the network capital costs	
9		Customer Costs	Calculation sheet for the Customer Costs	
10		Electricity Supply Network NMBM	Calculation sheet for the asset uplift for CPI	
11		Asset Split calculation	Calculation sheet for the split per category for assets	
12		CPI	CPI data sheet	
13				

3.   RESULTS SHEET

7.   The "Results" sheet is the final output for the cost of supply model. This sheet contains the outputs for all the assumptions and inputs into the model. No adjustments is required on this sheet.

8.   An example of the final output in the "Results" sheet is shown below:

		Average	Cost Of Supply			
			Energy Cost (Rands / kWh)	Network Cost (Rands / kWh)	Customer Cost (Rands / kWh)	Total cost (Rands / kWh)
Dom Credit						
	Summer	0.62	0.25		0.43	1.30
	Winter	1.50	0.25		0.43	2.18
Dom PPM						
	Summer	0.62	0.27		0.70	1.58
	Winter	1.50	0.27		0.70	2.47
Small Bus						
	Summer	0.52	0.56		1.76	2.84
	Winter	0.98	0.56		1.76	3.29
Med Bus						
	Summer	0.49	0.32		0.62	1.43
	Winter	0.80	0.32		0.62	1.74
Large Bus						
	Summer	0.43	0.19		0.03	0.66
	Winter	0.69	0.19		0.03	0.92
Streetlights						
	Summer	0.52	0.22		-	0.73
	Winter	1.05	0.22		-	1.27
FBE						
	Summer	0.62	0.39		-	1.01
	Winter	1.50	0.39		-	1.89

(Header row 2: 2014/2015)

9.   The costs are expressed on a Rand per kWh basis:

9.1.   Column J, as indicated above shows the total cost of supply per customer category on a winter or a summer basis.

9.2.   Column I, as indicated above shows the customer costs, per customer category.

9.3. Column H, as indicated above shows the network costs, cost of supply per customer category.

9.4. Column G, as indicated above shows the energy cost, per customer category on a winter or a summer basis.

3.1.1. Assumptions Sheet

10. Cell G4 (in yellow) as indicated in the example above shows under which assumption the model is currently applying energy costs. From this example we can see that the average cost is currently being used.

11. To change the energy costs to peak, off peak or standard one must go to the ±Assumptionsqsheet and change cell C101 to the required rate.

	A	B	C	D
98				
99	9	Current year	2014/2015	
100				
101	10	Energy Cost - rate	Average	
102			Off peak	
103			Std	
104			Peak	
105			Average	
106				

12. A drop down box has been created (cell C101) in the ±Assumptionsqsheet where a user can choose one of the options (Off peak, Std, Peak, or average). Please refer to the example shown above.

13. In addition cell C99 needs to be changed according to what cost of supply year is being calculated. The example shows 2014/15. If the year needs to be changed simply type in the new year in cell C99.

4. ENERGY COSTS SHEET

14. The 'Energy Costs' sheet contains the actual costs that have been obtained from Eskom bills for the prior year. The NMBM Eskom bills contain three different sections containing different tariffs (Megaflex Diversity, Megaflex and Megaflex Diversity MSP).

15. The three sections of the Eskom bills need to be used to fill out the first three tables in the 'Energy Costs' sheet from the information contained in the Eskom bills. There are three different tables in the 'Energy costs' sheet that need to be filled out (Megaflex, Megaflex Diversity and Megaflex Diversity MSP). The following is an example of one of the tables relating to Megaflex . all the information required to fill out the tables can be obtained from the monthly Eskom bills.

	R/kWh	Type	July	August	September	October	November	December	January	February	March	April	May	June
		Off peak	0.30	0.30	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.30
9		Std	0.56	0.56	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.56
10		Peak	2.14	2.14	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	2.14
12	Usage (kWh)	Off peak	2 134 620.13	1 992 887.43	2 034 711.05	1 849 552.64	1 725 173.72	2 238 041.43	1 970 564.92	1 799 082.24	2 094 988.76	1 781 300.35	1 796 744.43	1 964 391.39
13		Std	2 235 010.72	2 209 294.97	1 908 288.59	2 132 909.50	1 893 839.27	1 676 260.95	1 930 476.38	1 795 793.73	1 744 552.27	1 779 103.40	1 966 224.23	1 871 306.06
14		Peak	855 372.45	835 715.10	681 510.52	814 901.43	706 708.73	566 579.53	707 205.08	666 139.39	614 782.65	685 422.26	739 761.75	665 507.86
16	Administration Charges	Total cost	2 393.20	2 393.20	2 316.00	2 393.20	2 316.00	2 393.20	2 393.20	2 161.60	2 393.20	2 316.00	2 393.20	2 316.00
18	TX Network Access Charge	Total cost	81 996.16	81 996.16	81 996.16	81 996.16	81 996.16	81 996.16	81 996.16	81 996.16	81 996.16	62 698.41	62 698.41	62 698.41
20	Network Access Charge	Total cost	161 063.89	161 063.89	161 063.89	161 063.89	161 063.89	161 063.89	161 063.89	161 063.89	161 063.89	123 157.58	123 157.58	123 157.58
22	Excess NAC Charge	Total cost	434 110.24	437 471.44	327 002.24	216 416.96	173 896.52		207 090.51	222 669.50		36 910.17	84 100.00	142 243.44
24	Network Demand Charge	Total cost	233 274.08	233 626.20	222 054.34	210 470.28	206 016.04	190 393.89	209 493.15	211 125.14	196 684.07	191 666.43	196 609.70	202 700.24
26	Reactive energy charge	Total cost	300.49	1 456.33										1 776.70
28	Electrification and rural subsidy	R/kWh	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
30	Retail environmental levy	R/kWh	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04

16. In this example, Cell D8 to O30 (above) needs to be filled out using the information contained on the Eskom bills.

17. Once the monthly Eskom bills have been used to fill out the tables (as above) the following table will automatically be populated to attain a R/kWh cost of energy on a winter and a summer basis for peak, off-peak, standard and average. An example of the summary table is provided below.

Energy Costs			2014/2015 Actual
Percentage Increase in energy cost			0%
Summary			Energy (r/kwh)
Summer (Sep - May)		Off peak	0.40
		Std	0.50
		Peak	0.73
		Average	0.49
Winter (Jun - Aug)		Off peak	0.44
		Std	0.69
		Peak	2.21
		Average	0.83

18. The energy costs calculated from the Eskom bills are for the last full year that bills have been received. Should a cost of supply need to be calculated for the following year, an increase assumption has been built in (cell D120). Cell D120 (as indicated above) can be changed (this applies an average increase that is required for the energy costs for the year following the Eskom bills). In the example above the percentage increase in energy

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costs is 0%. If required, manually insert the percentage increase required in cell H5 of the ±Assumptionsqsheet, (for example should a 5% increase be required, insert 5% into cell H5 in the ±Assumptionsq sheet). Cell D120 in the ±Energy Costsq sheet will then automatically be updated.

19. Next, an average energy cost for each specific category needs to be developed. To do this, the ±Assumptionsqsheet needs to be adjusted based on the proportion of electricity usage during each time period for each user category.

4.1.1.   Assumptions Sheet

20. The energy usage per time of use for each customer category needs to be adjusted in the ±Assumptionsqsheet. The above table illustrates an example of the adjustment.

20.1. Large Business: Cells C113 to C115 needs to be updated based on relative usage by time of use for large business (this example uses a sample)

20.2. Medium Business: Cells C118 to C120 needs to be updated based on relative usage by time of use for medium business (this example uses a sample)

20.3. Small Business: Cells C123 to C125 needs to be updated based on relative usage by time of use for large business (this example uses a mix of medium and domestic energy usage by time period, as there is insufficient data available for small business currently)

20.4. Domestic customers: Cells E130 to E132 needs to be updated based on relative usage by time of use for domestic customers (this example uses an Eskom study of relative usage by domestic customers. Should assumptions or data availability change, these usages will then need to be adjusted)

20.5. Streetlights: Cells C136 to C138 needs to be updated based on relative usage by time of use for streetlights (this example uses proportion of the day that streetlights are on. Should assumptions or data availability change, these numbers will then need to be adjusted)

21. The average in winter and summer will automatically pull through to the 'Energy Costs' sheet as the average rates, and will then automatically pull through to the 'Results' sheet.

5. NETWORK DETAIL SHEET

22. The ±Network Detailq sheet contains the calculations of the network capital costs attributable to each customer category. The table below is the final output for this sheet:

	B	C	D	E	F
24					
25	**Returns Per Category (R/Kwh)**			**2014/2015**	
26					
27	Dom Credit			0.25	
28	Dom PPM			0.27	
29	Small Bus			0.56	
30	Med Bus			0.32	
31	Large Bus			0.19	
32	Streetlights			0.22	
33	FBE			0.39	
34	**Total**			**2.19**	
35					

23. Column E in the example above shows the final R/kWh network cost that is attributable per customer category. These results are automatically filtered through to the ±Resultsq sheet (Column H) from the ±Network Detailqsheet.

24. The sheets that need to be updated in order to obtain the final output as per the example above (column E) are the ±Assumptionsqsheet, the ±Electricity Supply Networkqsheet, the ±Asset Split Calculationqsheet and the ±CPIqsheet. We will deal with each of these sheet adjustments separately below.

5.1.1. Assumptions Sheet

25. The percentages of assets used by each customer category may need to be updated if assumptions change. These splits were obtained through discussion with NMBM network specialists. Cell C61 to I91 contains the inputs that need to be updated. Once updated, these numbers will filter through into the ±Asset Split Calculationqsheet. An example of the asset split assumptions can be seen below.

	Percentage of asset used by which customer category	Dom Credit	Dom PPM	Small Bus	Med Bus	Large Bus	Streetlights	FBE	Total
61	11 kV Overhead Lines	7.3	66	2	25				100.0
62	Alternator - Gas Turbine	2	21	6	25	44	2		100.0
63	Battery - Substation	7	20	1	13	55	2	2	100.0
64	Control Panel - Gas Turbine	2	21	6	25	44	2		100.0
65	Electricity Meter - Domestic-2010	11	89						100.0
66	Electricity Meters - Commercial			37	63				100.0
67	Electricity Meters - Domestic	9	91						100.0
68	Electricity Meters - Industrial					100			100.0
69	Engine - Gas Turbine	2	21	6	25	44	2		100.0
70	Fuel Tank - Gas Turbine	2	21	6	25	44	2		100.0
71	Gas Turbine - Building	2	21	6	25	44	2		100.0
72	Gas Turbine - Battery (DC Unit)	2	21	6	25	44	2		100.0
73	LV Board - Substation	16	44	2	29		4	5	100.0
74	Neutral Resistor - Substation	7	20	1	13	55	2	2	100.0
75	Overhead Lines 132 kV	7	20	1	13	55	2	2	100.0
76	Overhead Lines 22 kV	9	80	1		10			100.0
77	Overhead Lines 6 kV	9	90	1					100.0
78	Overhead Lines 66 kV	7	20	1	13	55	2	2	100.0
79	Remote Telemetry Unit - Substation	7	20	1	13	55	2	2	100.0
80	Substation - Building	7	20	1	13	55	2	2	100.0
81	Substation: Fibre Optic Multiplexor	7	20	1	13	55	2	2	100.0
82	Substation: LAND	7	20	1	13	55	2	2	100.0
83	Switchgear - Gas Turbine	2	21	6	25	44	2		100.0
84	Switchgear Equipment - Substation	7	20	1	13	55	2	2	100.0
85	Testing Equipment	7	20	1	13	55	2	2	100.0
86	Transformer - Substation	7	20	1	13	55	2	2	100.0
87	Transformer - Gas Turbine	2	21	6	25	44	2		100.0
88	Underground Cables 11 kV		68	2	25	1	2	2	100.0
89	Underground Cables 132 kV	3	26	6	33	30	2		100.0
90	Underground Cables 22 kV	1	2	1	25	70		1	100.0
91	Underground Cables 66 kV	2	21	6	25	44	2		100.0

26. In addition, the date of the asset register and the WACC utilised needs to updated in the assumptions sheet. Cell I9 needs to be updated to be the new asset register date and the new WACC needs to be inserted in I10.

	A	B	C	D	E	F	G	H	I
7	2	Assumptions used for electricity Supply Network Asset Register							
8		Per Month days average							30.4375
9		Date of asset register							30-Jun-13
10		Weighted Average Cost of Capital (Real pre-tax)							7.65%

5.1.2. CPI Sheet

27. The £CPIqsheet contains all the CPI increases per year for South Africa. The £CPIqsheet needs to updated for the relevant CPI for the year of calculation of the cost of supply. For example, cell F82 is currently showing the CPI for 2014, this needs to be updated when doing a 2015 cost of supply calculation - i.e. insert the 2015 CPI in cell F83.

		A	B	C	D	E	F
					2014/2015 Uplift Factors		
4							
5							
6							
7				Year	CPI	Uplift factor	Annual inflat
68				2000	78.09	2.21	5.34%
69				2001	82.55	2.09	5.70%
70				2002	90.11	1.92	9.16%
71				2003	95.39	1.81	5.86%
72				2004	96.71	1.79	1.39%
73				2005	100.00	1.73	3.40%
74				2006	104.64	1.65	4.64%
75				2007	112.07	1.54	7.10%
76				2008	125.00	1.38	11.54%
77				2009	133.91	1.29	7.13%
78				2010	139.62	1.24	4.26%
79				2011	146.99	1.18	5.28%
80				2012	154.95	1.12	5.41%
81				2013	164.090	1.05	5.90%
82				2014	172.787	1.00	5.30%

5.1.3.   Electricity Supply Network Sheet

28. The £Electricity Supply Networkqsheet contains the calculations for the uplift factor for the assets that are contained in the network. This sheet needs to be updated to include new assets or the new asset register and also uplifted by the CPI for the applicable cost of supply year. The extract below is an example of what needs to be updated in this sheet.

29. All the cells in column V needs to be updated for the new CPI figures as described in the £CPIqsheet above. For example when doing the 2015 cost of supply, we need to change the formula for all the cells in column V. The formula for all the cells in column V currently states =VLOOKUP(U2,CPI!$C$8:$F$8**2**,3). This formula needs to be changed/updated to =VLOOKUP(U2,CPI!$C$8:$F$8**3**,3) to pick up the 2015 CPI uplift value from the £CPIq sheet (cell C83).

30. In addition column X needs to updated depending on how many years of depreciation have passed. As the asset register used in this example is at 30 June 2013, and we are calculating a 1 July 2014 cost of supply, 1 extra year of depreciation needs to be included. If you are calculating a cost of supply for 2015 using the exact same asset register, 2 extra years of depreciation need to be accounted for (i.e. simply multiply the second half of the formula by 2).

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V2 f_x =VLOOKUP(U2,CPI!$C$8:$F\82,3)

	U	V	W	X	Y	Z
1	Year of acquisition	Uplift factor (2014)	Revalued balance as at 1 July 2014	Accumulated depreciation as at 1 July 2014	Net revalued balance as at 1 July 2014	
2	1945	73	576 635 245	-177 372 098.89	399 263 146	
3	1945	73	1 412 290	-1 392 115	20 175	
4	1945	73	2 863 093	-2 822 186	40 907	
5	1945	73	3 042 841	-2 977 642	65 200	
6	1945	73	7 318 222	-7 161 403	156 819	
7	1945	73	7 318 222	-7 161 403	156 819	
8	1949	73	796 506	-741 509	54 996	
9	1977	29	2 599 337	-1 373 935	1 225 402	
10	1979	23	713 759	-312 270	401 490	
11	2012	1	1 802	-18	1 784	
12	1952	73	362 613	-318 583	44 030	
13	1952	73	2 027 343	-1 781 162	246 181	
14	1965	66	2 285 461	-1 599 816	685 645	
15	1979	23	877 673	-383 984	493 689	
16	2012	1	2 216	-22	2 194	
17	1952	73	436 791	-383 749	53 043	
18	1951	73	885 493	-790 623	94 870	
19	1967	61	2 569 226	-1 706 704	862 523	
20	2000	2	69 790	-47 108	22 681	
21	1950	73	424 580	-385 147	39 433	
22	1972	50	2 056 787	-1 219 377	837 411	
23	1945	73	1 540 070	-1 507 067	33 003	
24	1945	73	876 911	-864 386	12 525	
25	1945	73	263 071	-257 432	5 638	
26	1963	70	5 897 630	-4 254 726	1 642 904	

31. The results of this sheet will automatically filter through to the ‡Asset Splitqsheet and from there will automatically filter through to the ‡Resultsqsheet.

6. CUSTOMER COSTS SHEET

32. The 'Customer Costs' sheet contains the cost portion attributable for customer costs. This sheet feeds into the 'Results' sheet. The 'Customer Costs' sheet does not need to be updated, although the information that feeds into this sheet which comes from the 'Assumptions' sheet needs to be updated.

6.1.1. Assumptions Sheet

	A	B	C	D	E	F	G	H	I	J
11										
12	3	Assumptions used for electricity usage - Consumption per kwh								
13							Forecast	Forecast	CAGR	
14			2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015		
15		Dom Credit	295 856 000	270 473 000	251 776 000	238 944 000	226 516 617	214 735 577	-5.20%	
16		Dom PPM	706 567 000	702 997 000	711 351 000	739 581 000	748 072 766	756 662 034	1.15%	
17		Small Bus	28 439 000	25 498 000	31 212 000	30 496 000	31 033 090	31 579 639	1.76%	
18		Med Bus	470 131 000	471 721 000	446 475 000	438 685 000	431 157 811	423 759 778	-1.72%	
19		Large Bus	1 861 761 000	1 918 365 000	1 941 579 000	1 718 048 000	1 683 887 738	1 650 406 691	-1.99%	
20		STR	54 120 000	56 892 000	56 892 000	58 172 000	59 231 543	60 310	1.82%	
21		FBE	99 868 000	86 561 000	59 231 000	54 468 000	46 808 012	40 225	-14.06%	
22										
23			3 516 742 000	3 532 507 000	3 498 516 000	3 278 394 000	3 226 707 578	3 177 679		
24										
25	4	Customer Numbers								
26							Forecast	Forecast	CAGR	
27			2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015		
28		Dom Credit	34 029	32 010	30 002	28 813	27 639	26 513	-4.07%	
29		Dom PPM	254 995	265 723	276 492	283 637	291 287	299 143	2.70%	
30		Small Bus	2 958	2 768	3 144	3 089	3 123	3 157	1.09%	
31		Med Bus	5 665	5 514	5 413	5 201	5 091	4 983	-2.11%	
32		Large Bus	290	302	298	297	299	301	0.60%	
33		STR	-	-	-	-				
34		FBE	-	-	-	-				
35										
36			297 937	306 317	315 349	321 037	327 438	334 096		
37										
38										
39	5	Weighting Factors								
40			Dom Credit	Dom PPM	Small Bus	Med Bus	Large Bus	STR	FBE	
41		Weighting Factors	2	1	10	30	100	0	0	
42										
43	6	Total Customer Costs per year				2012/2013	2013/2014	2014/2015		
44						910 120 520	901 548 720	991 775 800		
45										

33. Updating consumption: Cells H15 to H21 needs to be updated with the new consumption numbers for the relevant year.

34. Updating customer numbers: Cells H28 to H34 needs to be updated with the new customer numbers for the relevant year.

35. Updating weighting factors: Cells C41 to I41 needs to be updated with the new weighting factors (if assumptions change).

36. Updating customer costs: Cell H44 needs to updated with the new forecast budgeted customer costs for the relevant year.

37. Once the above have been updated, these figures will automatically pull through to the 'Customer Costs' sheet and the 'Results' sheet.

7. RENEWABLE ENERGY IMPACT SHEET

38. This sheet contains the results for the impact of renewable energy on the costs of supply.

39. To adjust the cost input of renewable energy, go to the 'Assumptions' sheet. Cell G95 to G97 can be adjusted to reflect an updated cost of renewable energy (per renewable energy source) on R/kWh basis.

40. Cell I95 to I97 can be adjusted to reflect what percentage of energy is required to be supplied by renewable energy.

41. After the adjustments have been changed in the 'Assumptions' sheet, refer back to the 'renewable Energy Impact' sheet. See the cells AG37, AH37 and AI37 to assess the impact of the changes. The example, below which is an extract from the 'Renewable Energy Impact' sheet, shows that if:

41.1. 2% of energy supplied is supplied by renewable energy, the average cost increase would be 0.4% (refer to cell AG37).

41.2. 5% of energy supplied is supplied by renewable energy, the average cost increase would be 0.9% (refer to cell AH37).

41.3. 10% of energy supplied is supplied by renewable energy, the average cost increase would be 1.8% (refer to cell AI37).

				AF	AG	AH	AI	AJ

Percentage increase by using RE at an average RE cost compared to actual

		2%	5%	10%
		Supplied by RE	Supplied by RE	Supplied by RE
Dom Credit	**Dom Credit**			
Summer	Summer	0.6%	1.5%	3.0%
Winter	Winter	0.0%	0.0%	-0.1%
Dom PPM	**Dom PPM**			
Summer	Summer	0.3%	0.8%	1.7%
Winter	Winter	0.0%	0.0%	0.0%
Small Bus	**Small Bus**			
Summer	Summer	0.6%	1.6%	3.2%
Winter	Winter	0.0%	0.0%	-0.1%
Med Bus	**Med Bus**			
Summer	Summer	0.8%	2.0%	4.1%
Winter	Winter	0.0%	0.0%	-0.1%
Large Bus	**Large Bus**			
Summer	Summer	1.0%	2.4%	4.8%
Winter	Winter	0.0%	0.0%	-0.1%
Streetlights	**Streetlights**			
Summer	Summer	0.9%	2.3%	4.7%
Winter	Winter	0.0%	0.0%	-0.1%
FBE	**FBE**			
Summer	Summer	0.8%	1.9%	3.8%
Winter	Winter	0.0%	0.0%	-0.1%
	Average increase	0.4%	0.9%	1.8%

8. CONCLUSION

42. This ultimate result of the cost of supply model is shown in the ±Resultsq sheet and the ±Renewable Energy Impactq sheet. The total cost of supply per customer category and the impact of renewable energy can be assessed from these two sheets.