



A Comparison of Crude Oil Prices and Electricity Tariff Band Structures

National Audit Office

June 2015

Terms of Reference

1. During the Public Accounts Committee meeting dated 10 June 2015, the National Audit Office (NAO) was requested to review fluctuations in the international price of crude oil as well as changes in electricity tariff rates charged. The Hon. Minister Dr Owen Bonnici requested the NAO's review to cover the 2008-2013 legislature, whereas the Hon. Tonio Fenech requested that the Office's review be extended to the present day. In view of the general consensus reached, the NAO's period of review ranged from March 2008 to May 2015.

Collection of Data

2. In seeking to address this matter, the NAO requested the relevant information from the Enemalta Corporation and the Malta Resources Authority.
3. In order to establish electricity tariff rates for the period under review, the NAO made reference to relevant legislation, namely:
 - a. Legal Notice 99/2003;
 - b. Legal Notice 330/2008;
 - c. Legal Notice 164/2009;
 - d. Legal Notice 34/2010;
 - e. Legal Notice 108/2014; and
 - f. Legal Notice 107/2015.

The relative date of effect corresponding to each of the indicated legal notices is presented in Table 1.

Table 1: Legislative amendments leading to electricity tariff rate changes

Legal Notice	Date of Effect
Legal Notice 99/2003	5 April 2003
Legal Notice 330/2008	1 October 2008
Legal Notice 164/2009	1 April 2009
Legal Notice 34/2010	1 January 2010
Legal Notice 108/2014	31 March 2014
Legal Notice 107/2015	31 March 2015 onwards

4. In this review, the NAO limited its analysis to electricity tariff rate bands, and therefore, fixed costs such as installation charges as well as service charges were not considered. Furthermore, the possible ramifications of tariff deductions arising out of eco-deductions for different household compositions were similarly not considered.
5. Another limitation with respect to this analysis related to the electricity tariffs applicable during the period March to September 2008. Here, the electricity tariff band structure was different to that in force during the remainder of the period under review, that is, from October 2008 to May 2015 and comparison, through the approach adopted by the NAO was not possible. Table 2 illustrates the significant differences in tariff bands between the two periods. In view of these considerations, the period March to September 2008 was scoped out of this review.

Table 2: Electricity tariff band structure comparison

Electricity Tariff Bands [March 2008 – September 2008]		Electricity Tariff Bands [October 2008 – May 2015]	
Category	Band	Category	Band
Domestic	0 – 600	Residential	0 – 2,000
	601 – 1,400		2,001 – 6,000
	1,401 – 6,400		6,001 – 10,000
	> 6,400		10,001 – 20,000
Commercial	hotel and guest house rate		> 20,000
	other commercial rate	Non-residential	0 – 2,000
Industrial	industrial consumers on a single tariff		2,001 – 6,000
	heavy consumers on dual tariff (day/night)		6,001 – 10,000
			10,001 – 20,000
			20,001 – 60,000
			60,001 – 100,000
			100,001 – 1,000,000
			1,000,001 – 5,000,000
			> 5,000,000
		Domestic	0 – 2,000
			2,001 – 6,000
			6,001 – 10,000
			10,001 – 20,000
			> 20,000

6. In addition to the categories listed in Table 2, during the period October 2008 to March 2009, another category was established, that is, 'Hotels, Guesthouses or Factories'. However, this category was rendered obsolete when Legal Notice 164 of 2009 came into effect and therefore, not featured as part of the analysis undertaken by the NAO.
7. For fuel prices, the NAO based its analysis on the monthly average ICE Brent crude oil Platts price, which data was obtained from the Enemalta Corporation. The monthly averages corresponding to the period under review are presented in Table 3.

Table 3: Monthly average ICE Brent crude oil Platts prices

	ICE Brent Crude (\$/bbl)							
	2008	2009	2010	2011	2012	2013	2014	2015
January	-	\$45.71	\$77.05	\$96.89	\$111.46	\$112.28	\$107.05	\$49.79
February	-	\$43.86	\$74.84	\$104.01	\$119.02	\$116.03	\$108.82	\$58.91
March	\$102.87	\$47.42	\$80.00	\$114.67	\$124.50	\$109.52	\$107.73	\$56.96
April	\$110.43	\$51.39	\$85.86	\$123.07	\$120.46	\$103.44	\$108.12	\$61.28
May	\$124.68	\$58.59	\$77.03	\$114.44	\$110.20	\$103.28	\$109.18	\$65.61
June	\$133.74	\$69.20	\$75.70	\$113.72	\$95.93	\$103.38	\$111.92	-
July	\$134.56	\$65.75	\$75.35	\$116.66	\$102.72	\$107.37	\$108.24	-
August	\$115.29	\$73.07	\$77.15	\$109.91	\$112.61	\$110.38	\$103.40	-
September	\$100.87	\$68.26	\$78.44	\$109.77	\$112.98	\$111.20	\$98.63	-
October	\$73.68	\$74.01	\$83.52	\$108.67	\$111.47	\$109.43	\$88.11	-
November	\$54.75	\$77.62	\$86.16	\$110.48	\$109.39	\$107.89	\$79.61	-
December	\$43.05	\$75.24	\$92.25	\$107.65	\$109.15	\$110.65	\$63.27	-

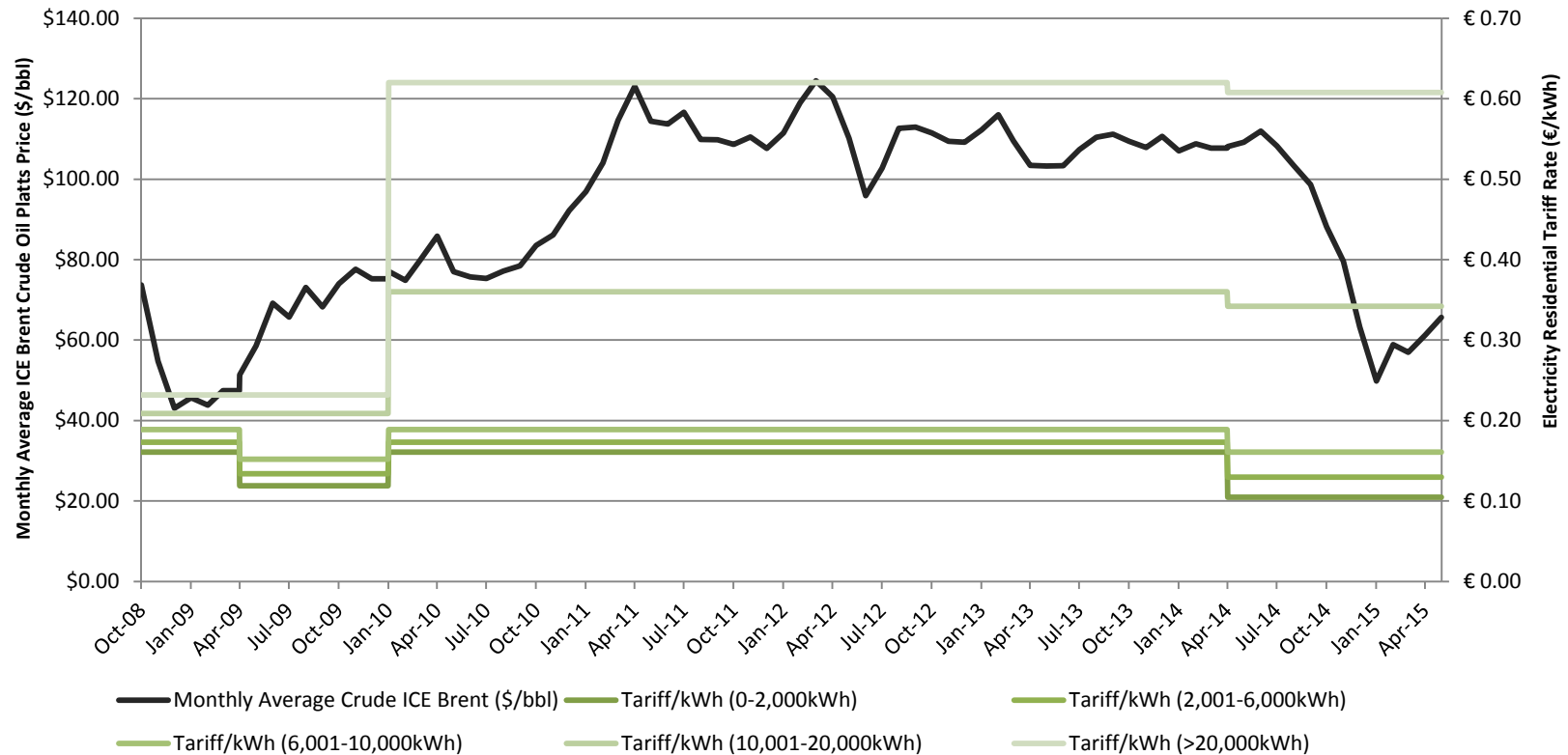
Analysis

8. In its comparison of ICE Brent crude oil Platts prices with electricity tariff data, the NAO analysed three customer categories as presented in Table 2, namely:
 - a. Residential;
 - b. Non-residential; and
 - c. Domestic.
9. The NAO did not correlate the crude oil Platts price with electricity tariff data, as the latter variable only changed six times with respect to the aforementioned three categories over a period of eight years, whereas the price of crude oil was inevitably in a state of

continuous flux. Furthermore, the price of crude oil changes in real time, whereas the alteration of electricity tariff rates is subject to the policy process, hence implying an understandable delay. In this context, a correlation of crude oil prices with the corresponding electricity tariff rates would not have provided meaningful insight into the relationship between these two variables. Moreover, while the price of crude oil certainly influences the setting of tariffs, the link between the two is not one of direct causality and multiple other factors are at play. The wider political, economic and social considerations are but one aspect of such factors. Processes internal to the Enemalta Corporation, such as the actual cost incurred in the procurement of fuel and hedging undertaken represent another aspect. These are but two facets of a complex system, which must be kept in mind when reviewing this Office’s analysis corresponding to the request put forward by the Public Accounts Committee.

Residential

Figure 1: Plot of Crude Oil Prices and Applicable Residential Electricity Tariff Rates (Oct 2008 – May 2015)

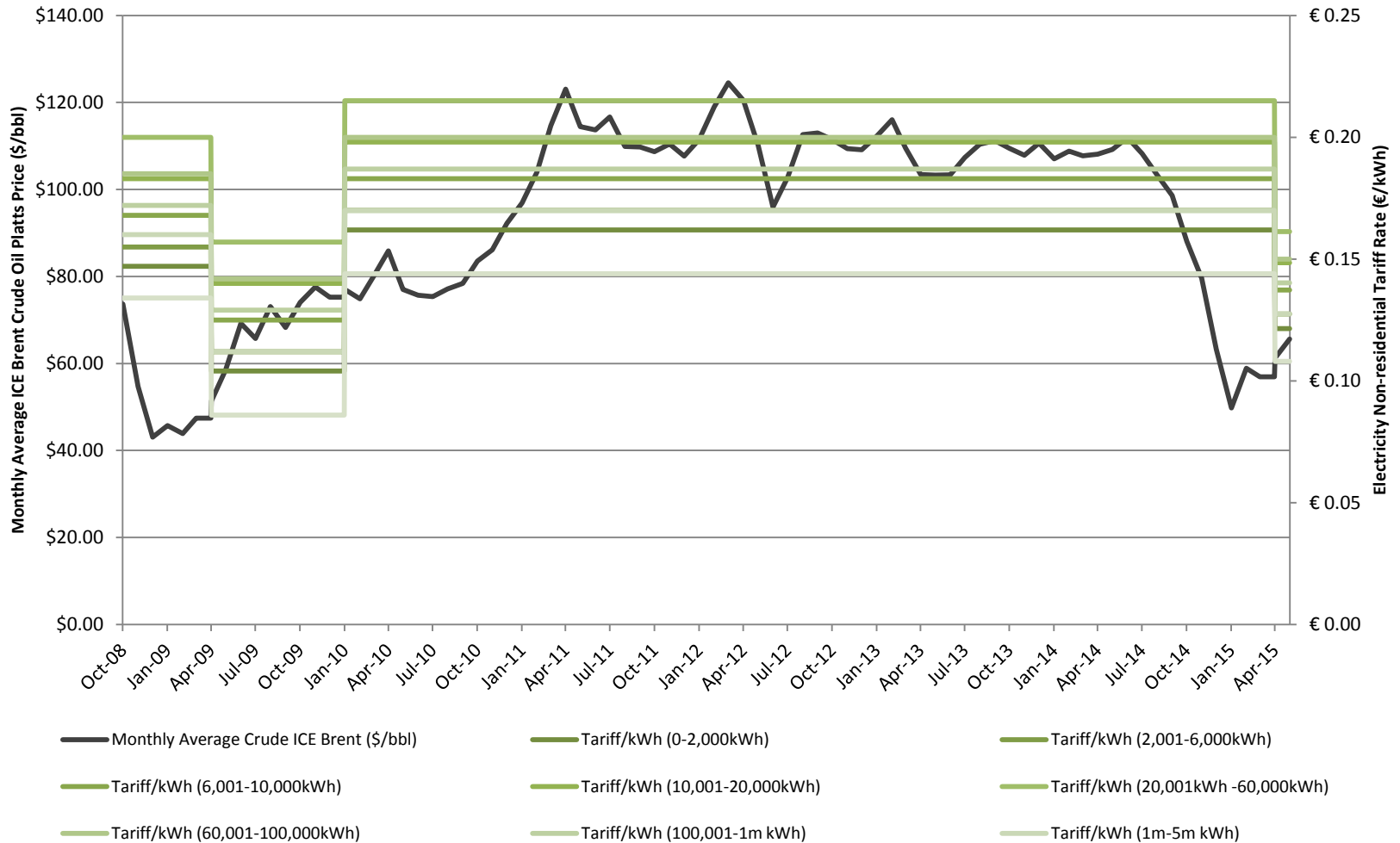


10. Figure 1 presents a plot of the monthly average ICE Brent crude oil Platts prices and the corresponding applicable residential electricity tariff rates for the period October 2008 to May 2015. The ensuing points are of note:
- a. Following a slump in crude oil prices (hovering around the \$45 to \$50/bbl mark) registered between November 2008 and May 2009, a reduction in the lowest three residential electricity tariff bands was implemented by virtue of Legal Notice 164/2009. The tariff bands of consumption ranging between 10,001 to 20,000kWh as well as consumption in excess of 20,000kWh remained unchanged.
 - b. Crude oil prices subsequently stabilised at around the \$75 to \$80/bbl mark (compared to the previous \$45 to \$50/bbl mark), and this was followed by an increase in residential electricity tariff rates brought into effect by means of Legal Notice 34/2010. The lowest three bands returned to their previous levels (pre Legal Notice 164/2009), while the remaining two bands registered a substantial increase in rates. The 10,001 to 20,000kWh band increased from €0.21/kWh to €0.36/kWh, while consumption in excess of 20,000kWh was revised upwards from €0.23/kWh to €0.62/kWh.
 - c. Notwithstanding the notable increase in the price of crude oil registered between February 2011 to March 2014, consistently in excess of the \$100/bbl mark, the residential electricity tariffs charged remained constant.
 - d. Residential electricity tariff rates were eventually reduced in March 2014, as a result of Legal Notice 108/2014. The tariff reductions were more pronounced with respect to the first three bands, and represented the lowest rate charged with respect to the period under review for the first two bands, that is, the 0 to 2,000kWh band as well as the 2,001 to 6,000kWh band. The NAO noted that the reduction in bands implemented in March 2014 did not follow a decline in crude oil prices, as the price of oil remained above the \$100/bbl mark up to August 2014, following which, a notable decrease was in fact registered.

Non-residential

11. In the case of the analysis undertaken with respect to the non-residential electricity tariff rates, the NAO based its review on the kWh metering system and on flat rates. Therefore, kVAh metering as well as the different day/night tariff rates applicable at various instances during the period under review were not considered in this analysis. Here, the NAO assumed that the fluctuations in these various tariff rates were consistent with one another and the trend that would have emerged would have been similar to that plotted in Figure 2.

Figure 2: Plot of Crude Oil Prices and Applicable Non-residential Electricity Tariff Rates (Oct 2008 – May 2015)



12. The issues of note emerging from Figure 2 are the following:

- a. Similar to the point raised in paragraph 10.a, the decline in crude oil prices recorded between November 2008 and May 2008 was followed by a reduction in non-residential electricity tariff bands, which was implemented by means of Legal Notice

164/2009. However, contrary to reductions registered with respect to the residential category, the decrease in non-residential rates applied to all tariff bands.

- b. As stated in paragraph 10.b, crude oil prices steadily climbed towards the \$80/bbl mark, at which point non-residential electricity tariff rates were revised upwards. These revisions were brought about by means of Legal Notice 34/2010, effective 1 January 2010, and entailed a uniform upward revision of all tariff bands within this category. The NAO noted that the uniformity in increases registered across all tariff bands within this category contrasted with corresponding revisions effected within the residential category, where the two highest bands registered a far more substantial increase in rates than the lower brackets.
- c. The non-residential electricity tariff rates remained stable until 31 March 2015, when Legal Notice 107/2015 resulted in their downward revision to levels marginally higher than those of April 2009 to December 2010 (Table 4 refers). Two points merit attention in this regard. First, as noted in paragraph 10.c, notwithstanding the notable increase in the price of crude oil registered between February 2011 to March 2014, the non-residential electricity tariffs charged remained constant. Second, the revision in non-residential rates followed a slump in the price of crude oil, from figures hovering around the \$110/bbl in the second quarter of 2014 to less than \$50/bbl in January 2015. The lag in implementing corrective tariff pricing was consistent with similar delays noted in reacting to volatile market movements.

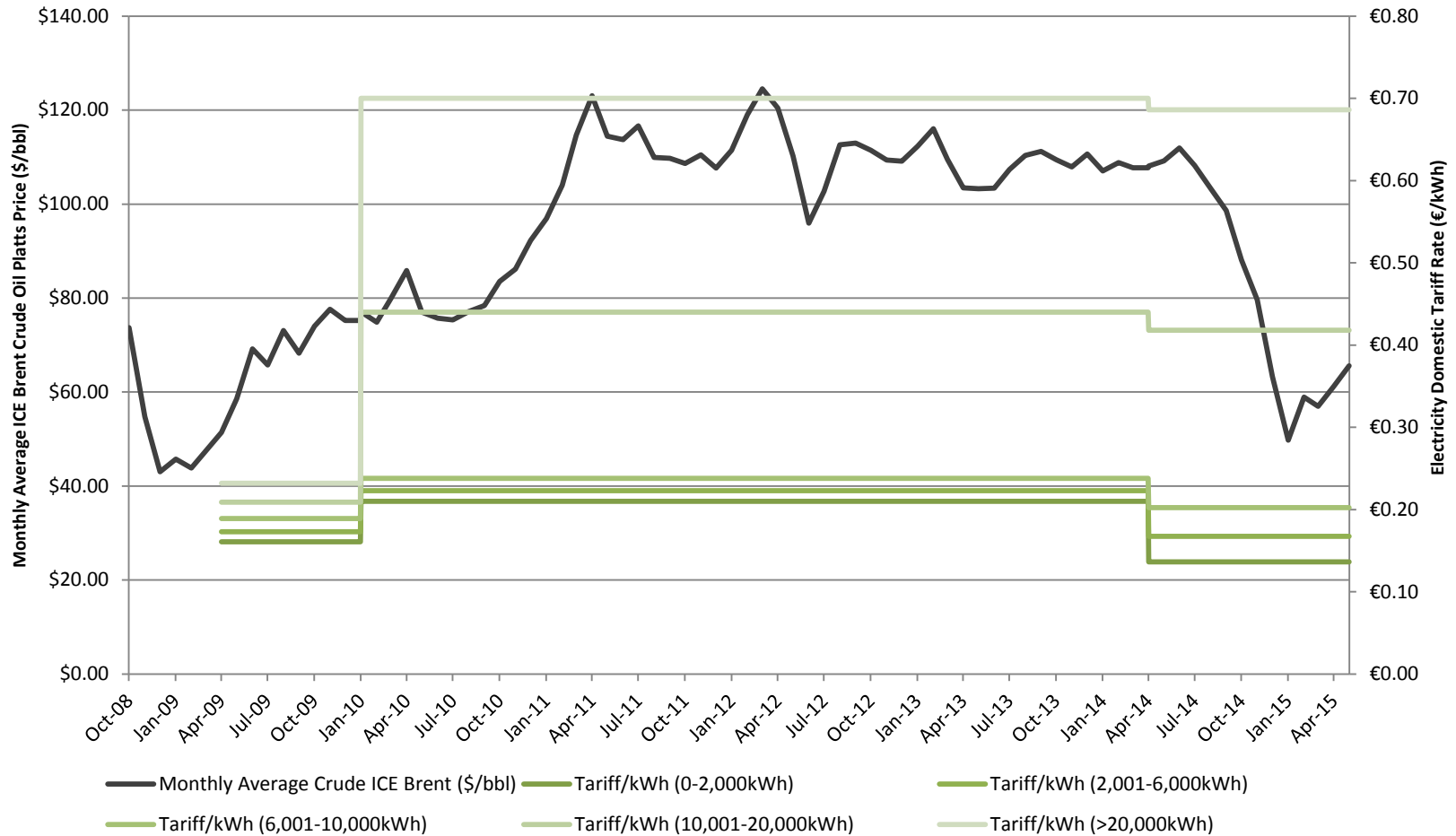
Table 4: Comparison of non-residential electricity tariff bands for April 2009-December 2010 to March 2015

Bands	April 2009 to December 2010	31 March 2015 onwards
0kWh – 2,000kWh	€0.10	€0.12
2,001kWh – 6,000kWh	€0.11	€0.13
6,001kWh – 10,000kWh	€0.13	€0.14
10,001kWh – 20,000kWh	€0.14	€0.15
20,001kWh – 60,000kWh	€0.16	€0.16
60,001kWh – 100,000kWh	€0.14	€0.15
100,001kWh – 1,000,000kWh	€0.13	€0.14
1,000,001kWh – 5,000,000kWh	€0.11	€0.13
> 5,000,000kWh	€0.09	€0.11

Domestic

- 13. The domestic electricity tariff rate category came into effect in April 2009, by virtue of Legal Notice 164/2009. Whereas the review of data with respect to the previous two categories extended back to October 2008, the comparison of domestic tariff data with crude oil prices was only possible from April 2009 to May 2015 (Figure 3 refers).

Figure 3: Plot of Crude Oil Prices and Applicable Domestic Electricity Tariff Rates (Oct 2008 – May 2015)



14. The salient points that emerge when comparing domestic electricity tariff data bands with movements in crude oil prices ensue:
 - a. The first revision to domestic tariff rates came as a result of Legal Notice 34/2010 and entailed an upward revision of all bands, most notably so with respect to the highest two brackets, that is, from 10,001kWh to 20,000kWh as well as consumption in

excess of 20,000kWh. As stated in paragraphs 10.b and 12.b, this revision followed consistent upwards movements registered with respect to crude oil prices, from approximately \$50/bbl in April 2009 to just under \$80/bbl in January 2010.

- b. The second revision to domestic electricity tariff rates came into force in March 2014, implemented following the publication of Legal Notice 108/2014. The tariff reductions were more pronounced with respect to the first three bands, and represented the lowest rate charged with respect to the period under review for the first two bands, that is, the 0 to 2,000kWh band as well as the 2,001 to 6,000kWh band. As stated in paragraph 10.d, the reduction in bands implemented in March 2014 did not follow a decline in crude oil prices, as the price of oil remained above the \$100/bbl mark up to August 2014, following which, a notable decrease was in fact registered.

Appendix

Table 5: Monthly Average Crude ICE Brent and Residential Electricity Tariff Band Rates (October 2008 – May 2015)

Month	Monthly Average Crude ICE Brent (\$/bbl)	Residential Tariff/kWh (0-2,000kWh)	Residential Tariff/kWh (2,001-6,000kWh)	Residential Tariff/kWh (6,001-10,000kWh)	Residential Tariff/kWh (10,001-20,000kWh)	Residential Tariff/kWh (>20,000kWh)
Oct-08	\$73.68	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Nov-08	\$54.75	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Dec-08	\$43.05	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Jan-09	\$45.71	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Feb-09	\$43.86	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Mar-09	\$47.42	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Apr-09	\$51.39	€ 0.12	€ 0.13	€ 0.15	€ 0.21	€ 0.23
May-09	\$58.59	€ 0.12	€ 0.13	€ 0.15	€ 0.21	€ 0.23
Jun-09	\$69.20	€ 0.12	€ 0.13	€ 0.15	€ 0.21	€ 0.23
Jul-09	\$65.75	€ 0.12	€ 0.13	€ 0.15	€ 0.21	€ 0.23
Aug-09	\$73.07	€ 0.12	€ 0.13	€ 0.15	€ 0.21	€ 0.23
Sep-09	\$68.26	€ 0.12	€ 0.13	€ 0.15	€ 0.21	€ 0.23
Oct-09	\$74.01	€ 0.12	€ 0.13	€ 0.15	€ 0.21	€ 0.23
Nov-09	\$77.62	€ 0.12	€ 0.13	€ 0.15	€ 0.21	€ 0.23
Dec-09	\$75.24	€ 0.12	€ 0.13	€ 0.15	€ 0.21	€ 0.23
Jan-10	\$77.05	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Feb-10	\$74.84	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Mar-10	\$80.00	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Apr-10	\$85.86	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
May-10	\$77.03	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jun-10	\$75.70	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jul-10	\$75.35	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Aug-10	\$77.15	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Sep-10	\$78.44	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Oct-10	\$83.52	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Nov-10	\$86.16	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Dec-10	\$92.25	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jan-11	\$96.89	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62

Feb-11	\$104.01	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Mar-11	\$114.67	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Apr-11	\$123.07	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
May-11	\$114.44	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jun-11	\$113.72	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jul-11	\$116.66	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Aug-11	\$109.91	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Sep-11	\$109.77	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Oct-11	\$108.67	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Nov-11	\$110.48	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Dec-11	\$107.65	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jan-12	\$111.46	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Feb-12	\$119.02	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Mar-12	\$124.50	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Apr-12	\$120.46	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
May-12	\$110.20	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jun-12	\$95.93	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jul-12	\$102.72	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Aug-12	\$112.61	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Sep-12	\$112.98	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Oct-12	\$111.47	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Nov-12	\$109.39	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Dec-12	\$109.15	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jan-13	\$112.28	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Feb-13	\$116.03	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Mar-13	\$109.52	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Apr-13	\$103.44	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
May-13	\$103.28	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jun-13	\$103.38	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jul-13	\$107.37	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Aug-13	\$110.38	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Sep-13	\$111.20	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Oct-13	\$109.43	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Nov-13	\$107.89	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62

Dec-13	\$110.65	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Jan-14	\$107.05	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Feb-14	\$108.82	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Mar-14	\$107.73	€ 0.16	€ 0.17	€ 0.19	€ 0.36	€ 0.62
Apr-14	\$108.12	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
May-14	\$109.18	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Jun-14	\$111.92	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Jul-14	\$108.24	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Aug-14	\$103.40	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Sep-14	\$98.63	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Oct-14	\$88.11	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Nov-14	\$79.61	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Dec-14	\$63.27	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Jan-15	\$49.79	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Feb-15	\$58.91	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Mar-15	\$56.96	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
Apr-15	\$61.28	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61
May-15	\$65.61	€ 0.10	€ 0.13	€ 0.16	€ 0.34	€ 0.61

Table 6: Monthly Average Crude ICE Brent and Non-residential Electricity Tariff Band Rates (October 2008 – May 2015)

Month	Monthly Average Crude ICE Brent (\$/bbl)	Non-residential Tariff/kWh (0-2,000kWh)	Non-residential Tariff/kWh (2,001-6,000kWh)	Non-residential Tariff/kWh (6,001-10,000kWh)	Non-residential Tariff/kWh (10,001-20,000kWh)	Non-residential Tariff/kWh (20,001kWh-60,000kWh)	Non-residential Tariff/kWh (60,001-100,000kWh)	Non-residential Tariff/kWh (100,001-1m kWh)	Non-residential Tariff/kWh (1m-5m kWh)	Non-residential Tariff/kWh (>5m kWh)
Oct-08	\$73.68	€ 0.15	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.19	€ 0.17	€ 0.16	€ 0.13
Nov-08	\$54.75	€ 0.15	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.19	€ 0.17	€ 0.16	€ 0.13
Dec-08	\$43.05	€ 0.15	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.19	€ 0.17	€ 0.16	€ 0.13
Jan-09	\$45.71	€ 0.15	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.19	€ 0.17	€ 0.16	€ 0.13
Feb-09	\$43.86	€ 0.15	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.19	€ 0.17	€ 0.16	€ 0.13
Mar-09	\$47.42	€ 0.15	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.19	€ 0.17	€ 0.16	€ 0.13
Apr-09	\$51.39	€ 0.10	€ 0.11	€ 0.13	€ 0.14	€ 0.16	€ 0.14	€ 0.13	€ 0.11	€ 0.09
May-09	\$58.59	€ 0.10	€ 0.11	€ 0.13	€ 0.14	€ 0.16	€ 0.14	€ 0.13	€ 0.11	€ 0.09
Jun-09	\$69.20	€ 0.10	€ 0.11	€ 0.13	€ 0.14	€ 0.16	€ 0.14	€ 0.13	€ 0.11	€ 0.09
Jul-09	\$65.75	€ 0.10	€ 0.11	€ 0.13	€ 0.14	€ 0.16	€ 0.14	€ 0.13	€ 0.11	€ 0.09
Aug-09	\$73.07	€ 0.10	€ 0.11	€ 0.13	€ 0.14	€ 0.16	€ 0.14	€ 0.13	€ 0.11	€ 0.09
Sep-09	\$68.26	€ 0.10	€ 0.11	€ 0.13	€ 0.14	€ 0.16	€ 0.14	€ 0.13	€ 0.11	€ 0.09
Oct-09	\$74.01	€ 0.10	€ 0.11	€ 0.13	€ 0.14	€ 0.16	€ 0.14	€ 0.13	€ 0.11	€ 0.09
Nov-09	\$77.62	€ 0.10	€ 0.11	€ 0.13	€ 0.14	€ 0.16	€ 0.14	€ 0.13	€ 0.11	€ 0.09
Dec-09	\$75.24	€ 0.10	€ 0.11	€ 0.13	€ 0.14	€ 0.16	€ 0.14	€ 0.13	€ 0.11	€ 0.09
Jan-10	\$77.05	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Feb-10	\$74.84	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Mar-10	\$80.00	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Apr-10	\$85.86	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
May-10	\$77.03	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jun-10	\$75.70	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jul-10	\$75.35	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Aug-10	\$77.15	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Sep-10	\$78.44	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Oct-10	\$83.52	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Nov-10	\$86.16	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Dec-10	\$92.25	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jan-11	\$96.89	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Feb-11	\$104.01	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14

Mar-11	\$114.67	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Apr-11	\$123.07	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
May-11	\$114.44	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jun-11	\$113.72	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jul-11	\$116.66	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Aug-11	\$109.91	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Sep-11	\$109.77	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Oct-11	\$108.67	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Nov-11	\$110.48	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Dec-11	\$107.65	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jan-12	\$111.46	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Feb-12	\$119.02	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Mar-12	\$124.50	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Apr-12	\$120.46	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
May-12	\$110.20	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jun-12	\$95.93	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jul-12	\$102.72	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Aug-12	\$112.61	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Sep-12	\$112.98	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Oct-12	\$111.47	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Nov-12	\$109.39	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Dec-12	\$109.15	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jan-13	\$112.28	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Feb-13	\$116.03	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Mar-13	\$109.52	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Apr-13	\$103.44	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
May-13	\$103.28	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jun-13	\$103.38	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jul-13	\$107.37	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Aug-13	\$110.38	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Sep-13	\$111.20	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Oct-13	\$109.43	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Nov-13	\$107.89	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Dec-13	\$110.65	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jan-14	\$107.05	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14

Feb-14	\$108.82	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Mar-14	\$107.73	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Apr-14	\$108.12	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
May-14	\$109.18	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jun-14	\$111.92	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jul-14	\$108.24	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Aug-14	\$103.40	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Sep-14	\$98.63	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Oct-14	\$88.11	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Nov-14	\$79.61	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Dec-14	\$63.27	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Jan-15	\$49.79	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Feb-15	\$58.91	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Mar-15	\$56.96	€ 0.16	€ 0.17	€ 0.18	€ 0.20	€ 0.22	€ 0.20	€ 0.19	€ 0.17	€ 0.14
Apr-15	\$61.28	€ 0.12	€ 0.13	€ 0.14	€ 0.15	€ 0.16	€ 0.15	€ 0.14	€ 0.13	€ 0.11
May-15	\$65.61	€ 0.12	€ 0.13	€ 0.14	€ 0.15	€ 0.16	€ 0.15	€ 0.14	€ 0.13	€ 0.11

Table 7: Monthly Average Crude ICE Brent and Domestic Electricity Tariff Band Rates (October 2008 – May 2015)

Month	Monthly Average Crude ICE Brent (\$/bbl)	Domestic Tariff/kWh (0-2,000kWh)	Domestic Tariff/kWh (2,001-6,000kWh)	Domestic Tariff/kWh (6,001-10,000kWh)	Domestic Tariff/kWh (10,001-20,000kWh)	Domestic Tariff/kWh (>20,000kWh)
Oct-08	\$73.68	n/a	n/a	n/a	n/a	n/a
Nov-08	\$54.75	n/a	n/a	n/a	n/a	n/a
Dec-08	\$43.05	n/a	n/a	n/a	n/a	n/a
Jan-09	\$45.71	n/a	n/a	n/a	n/a	n/a
Feb-09	\$43.86	n/a	n/a	n/a	n/a	n/a
Mar-09	\$47.42	n/a	n/a	n/a	n/a	n/a
Apr-09	\$51.39	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
May-09	\$58.59	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Jun-09	\$69.20	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Jul-09	\$65.75	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Aug-09	\$73.07	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Sep-09	\$68.26	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Oct-09	\$74.01	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Nov-09	\$77.62	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Dec-09	\$75.24	€ 0.16	€ 0.17	€ 0.19	€ 0.21	€ 0.23
Jan-10	\$77.05	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Feb-10	\$74.84	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Mar-10	\$80.00	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Apr-10	\$85.86	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
May-10	\$77.03	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jun-10	\$75.70	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jul-10	\$75.35	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Aug-10	\$77.15	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Sep-10	\$78.44	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Oct-10	\$83.52	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Nov-10	\$86.16	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Dec-10	\$92.25	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jan-11	\$96.89	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Feb-11	\$104.01	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70

Mar-11	\$114.67	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Apr-11	\$123.07	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
May-11	\$114.44	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jun-11	\$113.72	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jul-11	\$116.66	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Aug-11	\$109.91	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Sep-11	\$109.77	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Oct-11	\$108.67	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Nov-11	\$110.48	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Dec-11	\$107.65	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jan-12	\$111.46	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Feb-12	\$119.02	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Mar-12	\$124.50	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Apr-12	\$120.46	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
May-12	\$110.20	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jun-12	\$95.93	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jul-12	\$102.72	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Aug-12	\$112.61	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Sep-12	\$112.98	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Oct-12	\$111.47	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Nov-12	\$109.39	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Dec-12	\$109.15	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jan-13	\$112.28	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Feb-13	\$116.03	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Mar-13	\$109.52	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Apr-13	\$103.44	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
May-13	\$103.28	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jun-13	\$103.38	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Jul-13	\$107.37	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Aug-13	\$110.38	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Sep-13	\$111.20	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Oct-13	\$109.43	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Nov-13	\$107.89	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Dec-13	\$110.65	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70

Jan-14	\$107.05	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Feb-14	\$108.82	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Mar-14	\$107.73	€ 0.21	€ 0.22	€ 0.24	€ 0.44	€ 0.70
Apr-14	\$108.12	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
May-14	\$109.18	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Jun-14	\$111.92	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Jul-14	\$108.24	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Aug-14	\$103.40	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Sep-14	\$98.63	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Oct-14	\$88.11	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Nov-14	\$79.61	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Dec-14	\$63.27	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Jan-15	\$49.79	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Feb-15	\$58.91	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Mar-15	\$56.96	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
Apr-15	\$61.28	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69
May-15	\$65.61	€ 0.14	€ 0.17	€ 0.20	€ 0.42	€ 0.69