Cannon Electrical Services Ltd

Industrial &Commercial Electrical Engineers

6A Pickering Street
Leeds LS12 2QG
Telephone: 0113 2319700
Date: - 6th July 2014.

Do you know how much it's costing right now in electricity to run your establishment?

Intenwatch.com

The International Energy Watch System (Intenwatch) will in almost real-time, show you what the electricity you are using is costing you. This can be viewed either on your PC or via your mobile phone. It will also assist organizations with half hour metering to gather the data required for them to meet statutory requirements on Carbon Emissions (KgCO2e).

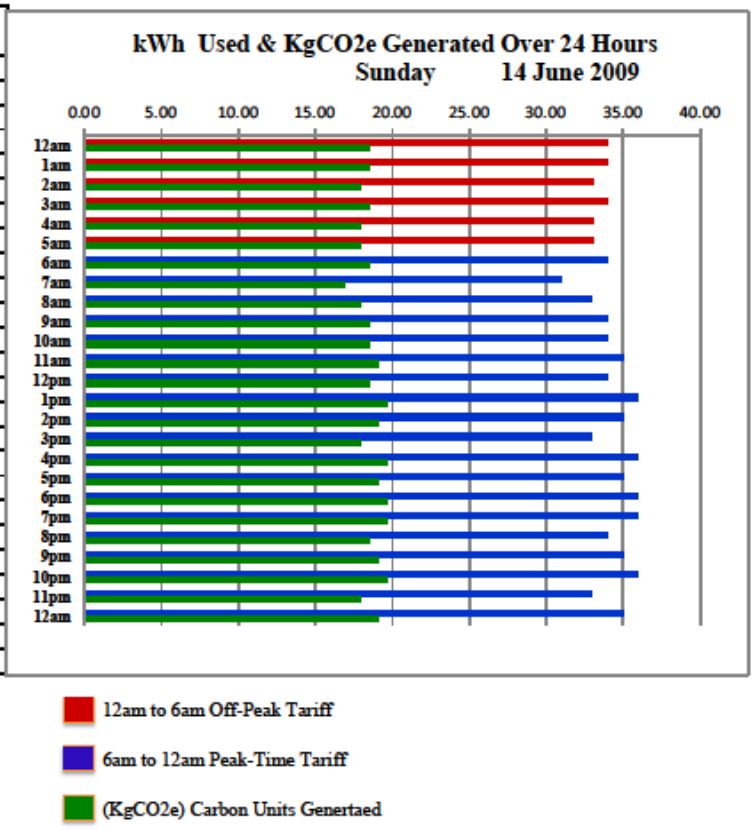
Three case Studies of the benefits of Intenwatch Smart Metering.

All local and national government bodies and commercial organizations are now aware what their Carbon Footprint is. One of the most difficult problems organizations face is how to help both management as well as staff, at all levels to understand this and to implement methods of savings.

Example 1:- A large multi storied local council office building using £85.60 of electricity on a Sunday in June 2009, with few staff on site. After one week with an Intenwatch Smart Meter on site reading every one hour it was found that although the central heating had been turned off for over a month the two circulating pumps had been left on 24/7 and using 5 kWh (@10p per kWh), total per day £24.00, if these were put on a timer over £100 per week on one item could be saved. Please see attached example 1a Intenwatch meter print out of cost per day in hours and cost per kWh.

Example 1a **Site 5**

14 June 2009 Time	kWh Used	kWh Used Over 2 Readings	Cost of kWh Used	Carbon Units Generated
12am	4049.00	34.00	£3.40	18.54
1am	4083.00	34.00	£3.40	18.54
2am	4117.00	33.00	£3.30	17.99
3am	4150.00	34.00	£3.40	18.54
4am	4184.00	33.00	£3.30	17.99
5am	4217.00	33.00	£3.30	17.99
6am	4250.00	34.00	£3.40	18.54
7am	4284.00	31.00	£3.10	16.90
8am	4315.00	33.00	£3.30	17.99
9am	4348.00	34.00	£3.40	18.54
10am	4382.00	34.00	£3.40	18.54
11am	4416.00	35.00	£3.50	19.08
12pm	4451.00	34.00	£3.40	18.54
1pm	4485.00	36.00	£3.60	19.63
2pm	4521.00	35.00	£3.50	19.08
3pm	4556.00	33.00	£3.30	17.99
4pm	4589.00	36.00	£3.60	19.63
5pm	4625.00	35.00	£3.50	19.08
6pm	4660.00	36.00	£3.60	19.63
7pm	4696.00	36.00	£3.60	19.63
8pm	4732.00	34.00	£3.40	18.54
9pm	4766.00	35.00	£3.50	19.08
10pm	4801.00	36.00	£3.60	19.63
11pm	4837.00	33.00	£3.30	17.99
12am	4870.00	35.00	£3.50	19.08
Total Cost per Day 12am-12am			£85.60	
Total kWh Used per Day 12am-12am			856.00	
Total KgCO2e Used per day			466.71	
Projected Total kWh Used per Year			313,296.00	
Projected Total KgCO2e Used per Year			170,815.25	
Projected Total Cost per Year			£31,329.60	



Data Provided By Intenwatch Ltd - Contact Tel: - 0113 2319700

The Intenwatch system is designed to analyze your electricity consumption. It will aid your organization to record and monitor in a non electro technical format your use of electricity and without difficulty help you to understand how to reduce you electricity consumption and Carbon Emissions (KgCO2e).

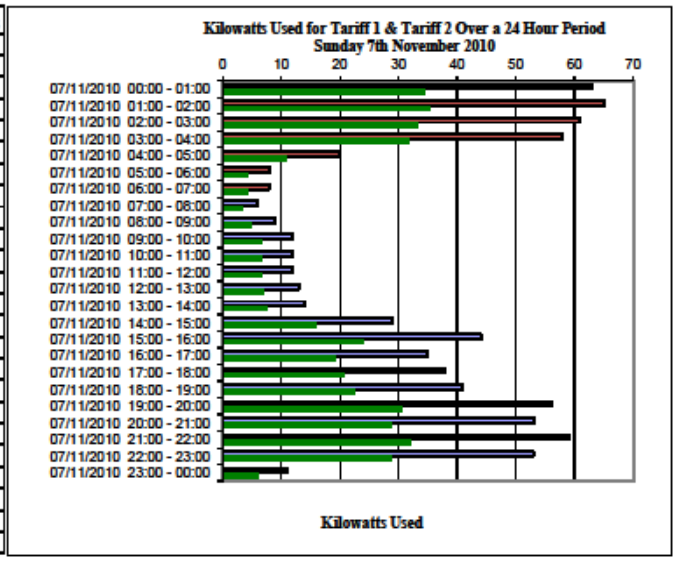
Example 2:- The owners of a large converted mill complex with a nightclub/bar in it were charging their tenants an electricity inclusive rent. Following the installation of an Intenwatch Smart Meter, after one month's use, because the bar only really started after 11pm on Thursday, Friday and Saturday. The landlord only became aware due to the large lighting and PA rigs plus excessive use of air conditioning and refrigeration for drinks what the true cost of the electrical consumption of the bar was costing, due to not having individual tenant's meters. This soon changed after the above readings were presented to the bar owners and a large back payment was promptly agreed for the electricity used over the previous years. Due to this and its poor condition we also were contracted to replace the antiquated mains distribution system costing over £20,000.00. Please see attached example 2a's meter readings. One with the bar running Sunday and one without Monday

Site 4

Example 2a/1

Time Stamp	T1 kWh	T1 Cost	T2 kWh	T2 Cost	Total kWh	Carbon Units
07/11/2010 00:00 - 01:00			63	£4.73	63	34.35
07/11/2010 01:00 - 02:00			65	£4.88	65	35.44
07/11/2010 02:00 - 03:00			61	£4.58	61	33.26
07/11/2010 03:00 - 04:00			58	£4.35	58	31.62
07/11/2010 04:00 - 05:00			20	£1.50	20	10.90
07/11/2010 05:00 - 06:00			8	£0.60	8	4.36
07/11/2010 06:00 - 07:00			8	£0.60	8	4.36
07/11/2010 07:00 - 08:00	6	£0.70			6	3.27
07/11/2010 08:00 - 09:00	9	£1.05			9	4.91
07/11/2010 09:00 - 10:00	12	£1.41			12	6.54
07/11/2010 10:00 - 11:00	12	£1.41			12	6.54
07/11/2010 11:00 - 12:00	12	£1.41			12	6.54
07/11/2010 12:00 - 13:00	13	£1.52			13	7.09
07/11/2010 13:00 - 14:00	14	£1.64			14	7.63
07/11/2010 14:00 - 15:00	29	£3.40			29	15.81
07/11/2010 15:00 - 16:00	44	£5.15			44	23.99
07/11/2010 16:00 - 17:00	35	£4.10			35	19.08
07/11/2010 17:00 - 18:00	38	£4.45			38	20.72
07/11/2010 18:00 - 19:00	41	£4.80			41	22.35
07/11/2010 19:00 - 20:00	56	£6.56			56	30.53
07/11/2010 20:00 - 21:00	53	£6.21			53	28.90
07/11/2010 21:00 - 22:00	59	£6.91			59	32.17
07/11/2010 22:00 - 23:00	53	£6.21			53	28.90
07/11/2010 23:00 - 00:00	11	£1.29			11	6.00

Total Cost Per Day (T1 & T2)	£79.46
Total kWh Used Per Day (T1 & T2)	780
Total kgCO2e Used Per Day	425.27
Projected Total Cost Per Year (T1 & T2)	£29,001.70
Projected Total kWh Used Per Year (T1 & T2)	284700
Projected Total kgCO2e Used Per Year	112696.974



Tariff 1 Tariff 2

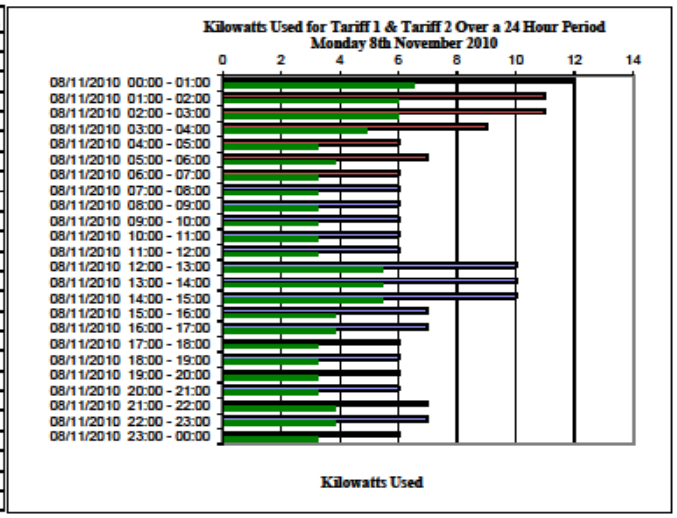
Tariff 1 Cost p/kWh	0.11713p
Tariff 2 Cost p/kWh	0.075064p

Site 4

Example 2a/2

Time Stamp	T1 kWh	T1 Cost	T2 kWh	T2 Cost	Total kWh	Carbon Units
08/11/2010 00:00 - 01:00			12	£0.90	12	6.54
08/11/2010 01:00 - 02:00			11	£0.83	11	6.00
08/11/2010 02:00 - 03:00			11	£0.83	11	6.00
08/11/2010 03:00 - 04:00			9	£0.68	9	4.91
08/11/2010 04:00 - 05:00			6	£0.45	6	3.27
08/11/2010 05:00 - 06:00			7	£0.53	7	3.82
08/11/2010 06:00 - 07:00			6	£0.45	6	3.27
08/11/2010 07:00 - 08:00	6	£0.70			6	3.27
08/11/2010 08:00 - 09:00	6	£0.70			6	3.27
08/11/2010 09:00 - 10:00	6	£0.70			6	3.27
08/11/2010 10:00 - 11:00	6	£0.70			6	3.27
08/11/2010 11:00 - 12:00	6	£0.70			6	3.27
08/11/2010 12:00 - 13:00	10	£1.17			10	5.45
08/11/2010 13:00 - 14:00	10	£1.17			10	5.45
08/11/2010 14:00 - 15:00	10	£1.17			10	5.45
08/11/2010 15:00 - 16:00	7	£0.82			7	3.82
08/11/2010 16:00 - 17:00	7	£0.82			7	3.82
08/11/2010 17:00 - 18:00	6	£0.70			6	3.27
08/11/2010 18:00 - 19:00	6	£0.70			6	3.27
08/11/2010 19:00 - 20:00	6	£0.70			6	3.27
08/11/2010 20:00 - 21:00	6	£0.70			6	3.27
08/11/2010 21:00 - 22:00	7	£0.82			7	3.82
08/11/2010 22:00 - 23:00	7	£0.82			7	3.82
08/11/2010 23:00 - 00:00	6	£0.70			6	3.27

Total Cost Per Day (T1 & T2)	£18.48
Total kWh Used Per Day (T1 & T2)	180
Total kgCO2e Used Per Day	98.14
Projected Total Cost Per Year (T1 & T2)	£6,743.49
Projected Total kWh Used Per Year (T1 & T2)	65700
Projected Total kgCO2e Used Per Year	26006.994



Tariff 1 Tariff 2

Tariff 1 Cost p/kWh	0.11713p
Tariff 2 Cost p/kWh	0.075064p

The use of in-house computer equipment can be used for data analysis, with substantial savings.

Example 3:- After installing four Intenwatch Smart Meters in an engineering factory for several days set to read in 15 minute time stamps, one of the items noted was, over the weekend when the factory was unused, at regular intervals a surge of use was observed. This subsequently turned out to be the immersion heater in the hot water heater in the toilets switching in and out. Now on Friday afternoon at 3.30pm the spur is switched off and on Monday morning at 6am it is turned back on again. Only a small saving in a very large factory but "every little helps" as they say. Please see attached example 3a.

Cannon Electrical Services Limited

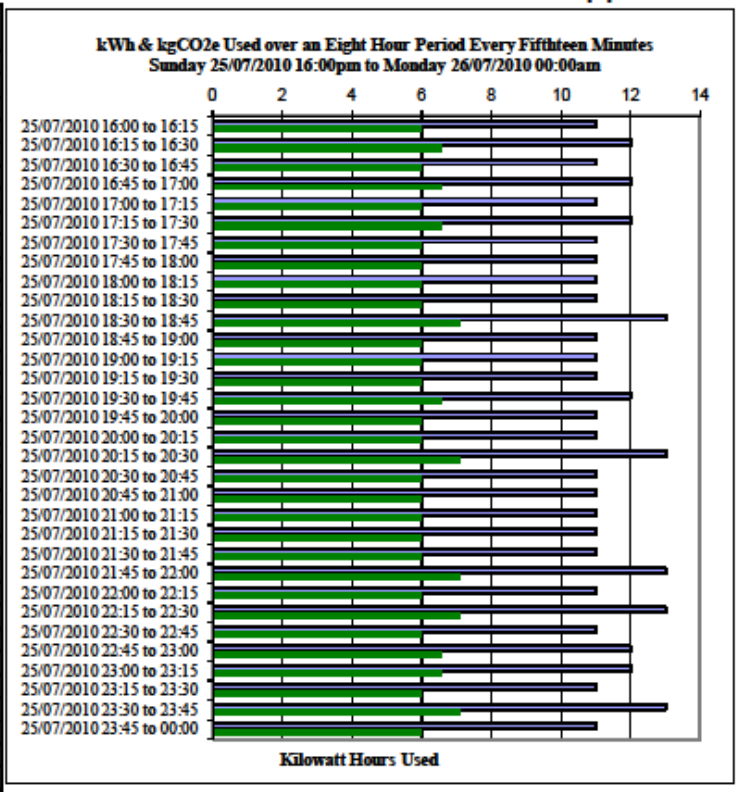
Industrial and Commercial Electrical Engineers

Site 1

Rate: 10p per kWh

No.	Date / Time Between	kWh Used	Cost per Min	Cost per kWh	Carbon Units Generated
65	25/07/2010 16:00 to 16:15	11	£0.02	£1.10	6.00
66	25/07/2010 16:15 to 16:30	12	£0.02	£1.20	6.54
67	25/07/2010 16:30 to 16:45	11	£0.02	£1.10	6.00
68	25/07/2010 16:45 to 17:00	12	£0.02	£1.20	6.54
69	25/07/2010 17:00 to 17:15	11	£0.02	£1.10	6.00
70	25/07/2010 17:15 to 17:30	12	£0.02	£1.20	6.54
71	25/07/2010 17:30 to 17:45	11	£0.02	£1.10	6.00
72	25/07/2010 17:45 to 18:00	11	£0.02	£1.10	6.00
73	25/07/2010 18:00 to 18:15	11	£0.02	£1.10	6.00
74	25/07/2010 18:15 to 18:30	11	£0.02	£1.10	6.00
75	25/07/2010 18:30 to 18:45	13	£0.02	£1.30	7.09
76	25/07/2010 18:45 to 19:00	11	£0.02	£1.10	6.00
77	25/07/2010 19:00 to 19:15	11	£0.02	£1.10	6.00
78	25/07/2010 19:15 to 19:30	11	£0.02	£1.10	6.00
79	25/07/2010 19:30 to 19:45	12	£0.02	£1.20	6.54
80	25/07/2010 19:45 to 20:00	11	£0.02	£1.10	6.00
81	25/07/2010 20:00 to 20:15	11	£0.02	£1.10	6.00
82	25/07/2010 20:15 to 20:30	13	£0.02	£1.30	7.09
83	25/07/2010 20:30 to 20:45	11	£0.02	£1.10	6.00
84	25/07/2010 20:45 to 21:00	11	£0.02	£1.10	6.00
85	25/07/2010 21:00 to 21:15	11	£0.02	£1.10	6.00
86	25/07/2010 21:15 to 21:30	11	£0.02	£1.10	6.00
87	25/07/2010 21:30 to 21:45	11	£0.02	£1.10	6.00
88	25/07/2010 21:45 to 22:00	13	£0.02	£1.30	7.09
89	25/07/2010 22:00 to 22:15	11	£0.02	£1.10	6.00
90	25/07/2010 22:15 to 22:30	13	£0.02	£1.30	7.09
91	25/07/2010 22:30 to 22:45	11	£0.02	£1.10	6.00
92	25/07/2010 22:45 to 23:00	12	£0.02	£1.20	6.54
93	25/07/2010 23:00 to 23:15	12	£0.02	£1.20	6.54
94	25/07/2010 23:15 to 23:30	11	£0.02	£1.10	6.00
95	25/07/2010 23:30 to 23:45	13	£0.02	£1.30	7.09
96	25/07/2010 23:45 to 00:00	11	£0.02	£1.10	6.00

Total Cost Over 8 Hour Period	£36.80
Total kWh Used in 8 Hour Period	368
Total kgCO2e Used in 8 Hour Period	200.64
Projected Total for a Year Over the 8 Hour Period	£13,432.00
Projected Total for a Year of kWh Used in the 8 Hour Period	134320
Projected Total for a Year of kgCO2e Used in the 8 Hour Period	73233.9504



Example 3a

Unit 2 Mains Intake

[Back to Website]