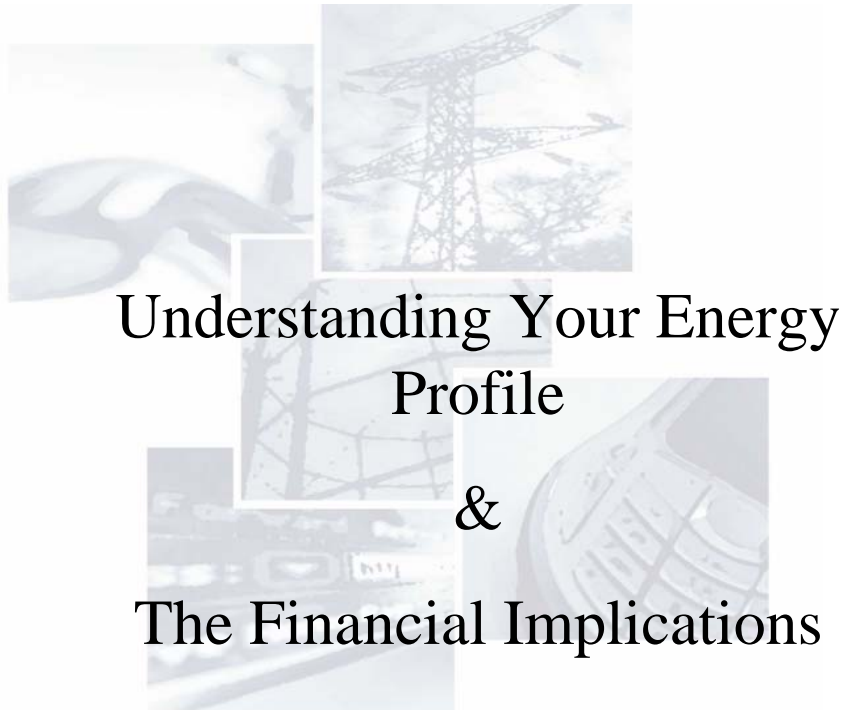




Microsoft®



Understanding Your Energy
Profile
&
The Financial Implications



CATALYST

Recent Energy Survey

Q. A recent energy survey asked 2,000 companies, two simple questions.

1. How do you measure your energy?
2. Do you have an energy policy for the business?

“44% of the companies stated that they got the information from the bills, and they had no policy in place for energy”

Q. What's the harm in that?

Measuring Energy - Two Types of Electricity Supply

There are generally three types of commercial electricity supply.

- Domestic
 - Non Half Hourly (NHH)
 - Half Hourly (HH)
-
- Approximately 2.4 million commercial meters in the UK
 - Approximately 107,000 HH meters
 - The remaining 2.3 million are NHH meters
 - Approximately 26 million domestic meters
-
- 01,02 Profiles
 - 03,04,05,06,07,08 Profiles
 - 00 Profiles

CRC (CRC Energy Efficiency Scheme)

- Starting in April 2010, the CRC (recently renamed the CRC Energy Efficiency Scheme) is the UK's first mandatory carbon trading scheme.
- The initial phase of the Carbon Reduction Commitment will be compulsory for organisations that consume over 6,000 MWh (6,000,000 kWh) of half-hourly metered electricity during the period from January 2008 to December 2008.
- At today's prices, this is roughly equivalent to total half hourly electricity bills of approximately £500,000 per year.
- Affects approximately 5,000 organisations in the UK
- While the scheme doesn't officially start until April 2010, many organisations will need to make preparations before that date to ensure that they comply with all legal requirements and fully participate in the scheme.
- HH Sites < 6,000MWh will have to make an '**information disclosure**' of consumption to the CRC registry.

NHH Meters

NHH – Non Half Hourly Meter

- NHH – Is a dumb static meter
- Typically installed in the 1960's
- Normally hidden in a dusty cupboard or under the stairs
- These meters have no communication devices fitted and they simply measure the amount of historical electricity used
- Unless you provide regular meter readings to your supplier, you will be lucky if your meter is officially read more than once every 2-years
- The majority of these meters are billed on a quarterly basis, and based on the suppliers best estimate of your consumption
- Over this period of time you could end up with a large debt or in credit with the supplier (Cash flow implications)



HH Meters

HH – Half Hourly Meter



- HH - Have a peak load above 100kW and are equipped with a ‘half hourly’ primary meter
- These commercial electricity meters, cover all sites that have a large commercial supply of electricity and the electricity meter is read every 30-minutes of the day, hence the name half hourly meter.
- Communications link equipped, telephone line, radio packet so your consumption is sent directly to your supplier for invoice purposes
- These meters provide a good source of information for energy management (Through the HH data).

Half Hourly Data

- What is it? How do you get it?
- All HH meters are billed in 30-minute intervals and a record is produced to show the supplier how many units of electricity have been consumed.
- All suppliers are now required to collect this information, and provide access to your data.
- But, just because suppliers will now have to give you access to your meter data, it doesn't mean they should let you have it for free.

Without the HH data

- Energy bills estimated
- Cost is estimated
- Poor cash flow
- No accurate budgets
- No energy base line
- No carbon reporting
- Associated costs are high
- Energy saving devices
- Industry comparisons
- Accurate P&L reports

Your usage - in detail

Meter readings for meter number **7123156781**

Your current tariff is **Standard**

Previous reading	Recent reading	Units used	Units as kWh	Pence per kWh	Charges for energy used
80235 (ELECTRICITY)	80898	N/A	663 over 90 days	First 222 kWh at 17.312 p Next 441 kWh at 8.635 p	Please calculate Please calculate
7391 (GAS)	7604	213	6695 over 90 days	First 1430 kWh at 4.152 p Next 5265 kWh at 2.513p	Please calculate Please calculate
14 January (reading)		14 April (estimate)			

Total charges: **Please calculate**

Estimated meter readings

Estimated readings are based on your previous usage to date. If we don't hold details of your previous usage, we base the readings on average consumption levels.

To make sure you receive accurate bills, please contact us directly to submit your meter readings.

How we calculate your gas charges

We convert gas units to kilowatt hours as follows: units used x 2.83 (metric conversion factor) x 1.02264 (volume conversion factor) x 39.1 (calorific value) divided by 3.6 (kilowatt hour conversion factor).

Services for customers with specific needs

If you have any special needs, please contact us to let us know. We can send you your bills in large print or in braille, or on audio tape if required.

To find out what we can do to help you, please call us on 0845 123 4567.

Smart Meters (AMR)

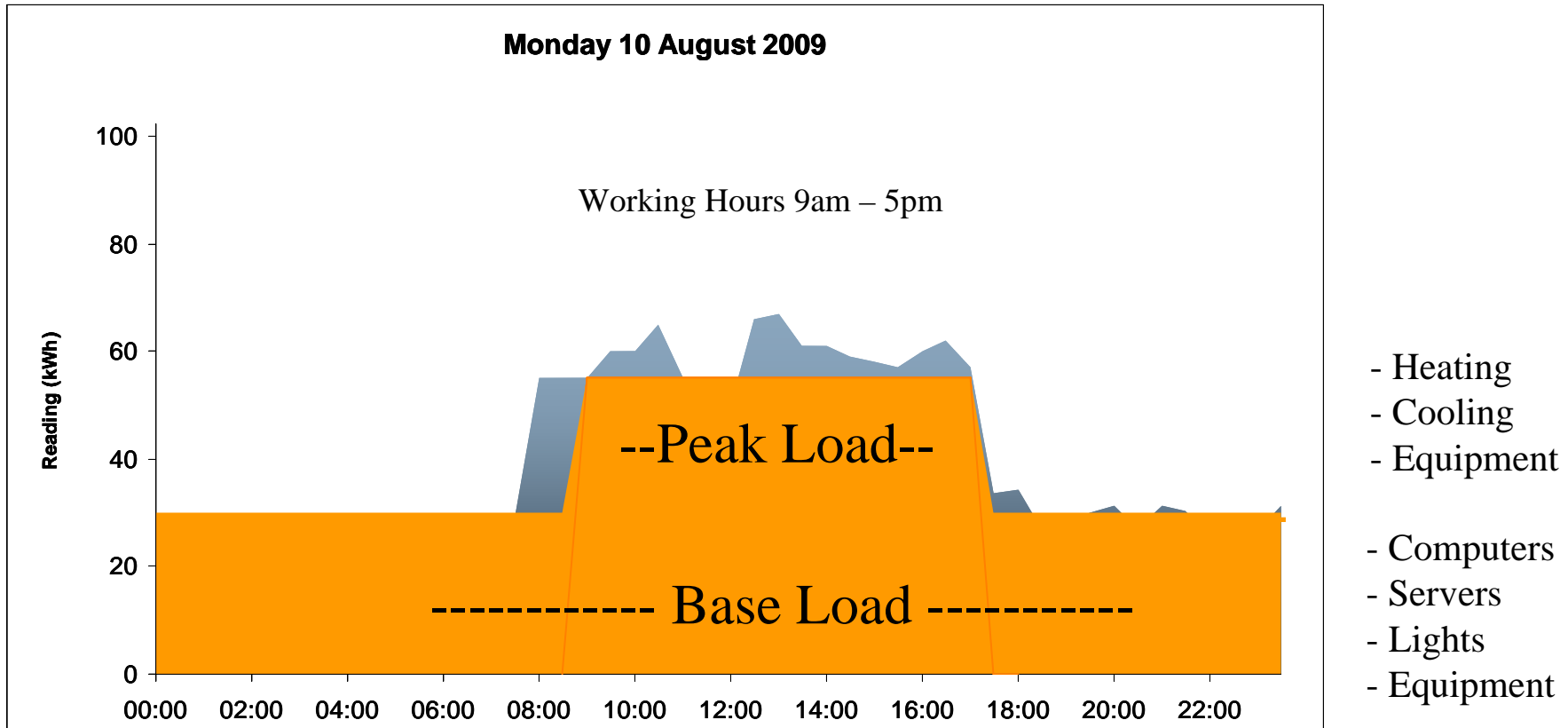
(Automatic Meter Reading) or the brand name of “Smart Meters”

- By replacing your 1960’s electricity meter with a 2-way communication device (Smart Meter) it is possible to capture your NHH supply in the same way as a HH meter (every 30-minutes)
- Data should be available day + 1
- Multiple Utilities – Gas and Water can be captured in a similar way, and measured in the same 30-minute intervals

With Half Hourly Data

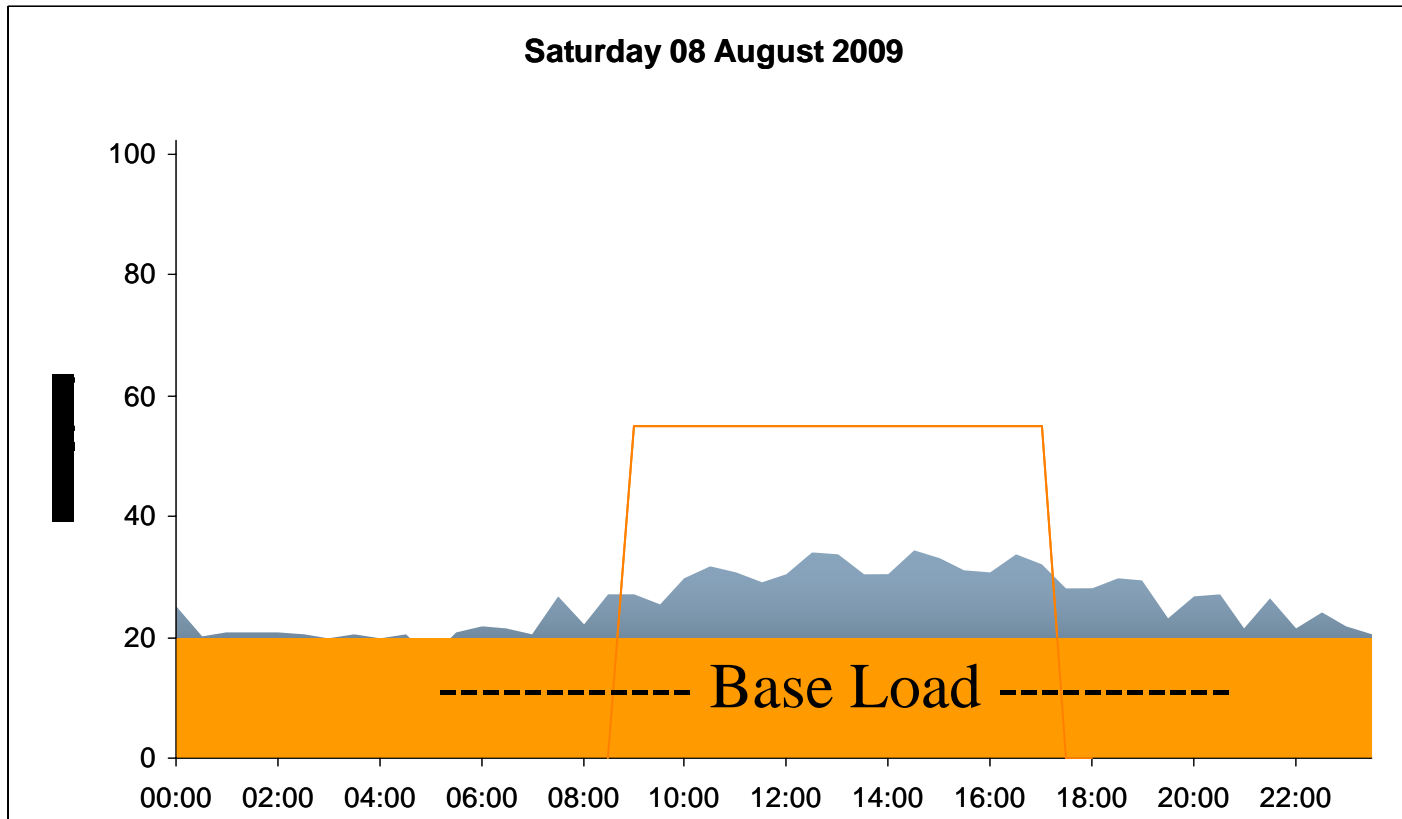
- No more estimated invoices
- Accurate forecasting and budget control
- Accurately measure energy saving solutions
- Accurately report your companies CO2
- Reduce associated costs, checking invoices, meter reads
- Turn those estimated bills into a viable chart or graph
- Identify and monitor exceptional usage patterns.
- Benchmark energy consumption between buildings or processes.
- Identify potential control setting problems & energy cost penalty.
- Increase visibility gives greater incentive to reduce & control costs.
- Improve data for future procurement contract renewals and tariff optimisation.

Typical Daily Consumption – Office Weekday



- Benchmark for working week days
- During working hours
- Outside of working hours

Typical Daily Consumption – Office Weekend



- Benchmark for the weekends

Monthly Data - Baseline



- With this information we can look at our monthly profile
- Compare this to our normal working practice
- Start to make small changes in your habits

Simple Housekeeping Measures – No Cost

- **Occupancy** - when people come and go
- **HVAC - heating, ventilation and air conditioning**
- How is the heating **controlled**? Is it on a timer? When is it set to come on and off?
- **Lighting** - What controls when the lights come on and off? Are they automatically controlled (e.g. by a sensor that detects movement or light-levels), or are they turned on and off by staff?
- Are there enough light-switches? For example, if one person is working late in a large open office, will 100 lights remain on to light just one desk?
- **Office equipment** - Do staff turn their computers off when they leave work?
- Is there office equipment such as photocopiers / printers? Is it turned off when not in use?

Simple Housekeeping Measures – Low Cost Measures

- Site Survey – Energy Report
- Better energy efficient equipment
- Install programmable thermostats
- Install occupancy sensors in conference rooms or other areas not continuously occupied
- Replace incandescent light bulbs with more efficient compact fluorescent bulbs
- Staff awareness training
- Implementation of products such as PC Power Down, to reduce overall energy consumption.

Monthly Data – Achieved Goal



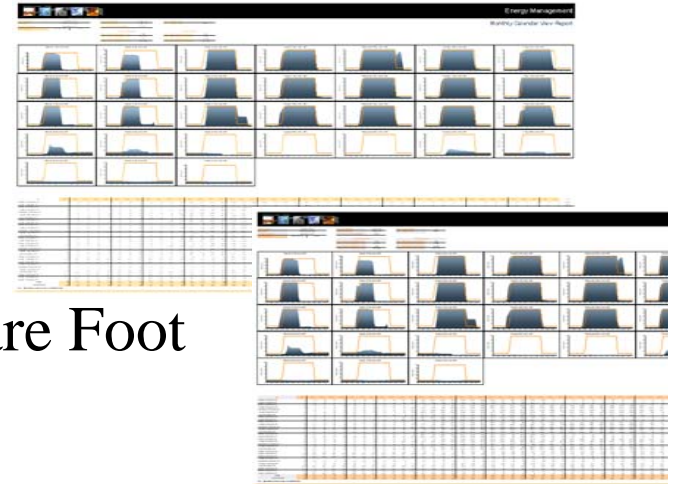
- Worked hard to reduce areas of wasted energy
- Improved cost and budgets
- Top Hat energy profile

Measure Exceptions

- Energy use is under control, we have identified our working patterns and lowered our demand for energy.
- We now set our demand exceptions, so if any of these thresholds are broken we are instantly alerted and can implement immediate change. Where previously we would of waited for the invoice to arrive.
- Immediately measure any further energy saving solutions.

Other Benefits

- Compare trends over weeks or months
- Compare one site to another site
- How energy efficient is a building by Square Foot
- Compare energy from year to year
- Total CO2 Emissions (CO2 kg)
- Daily, Weekly, Monthly, per annum
- Track a costing throughout the month, ahead of any invoice
- Accurate energy budgets
- Better purchasing power



Better Purchasing Power

- Energy Suppliers don't like surprises
- They like to build a shopping cart of required energy
- They love big chunks of energy and consumption certainty
- Combined Base Load & Peak
- HH data for both NHH and HH sites
- Type of tariff analysis single rate, day/night etc

Carbon Reporting – CRC

- How do you measure your carbon baseline? What does a tonne of carbon look like?
- 2,326 kWh electricity £190 = 1 tonne carbon
- 5,263 kWh gas - £150 = 1 tonne carbon
- Recommended starting price for carbon trading - £12 per tonne
- Who knows where it will end?

Recent Energy Survey

Q. A recent energy survey asked 2,000 companies, two simple questions.

1. How do you measure your energy?
2. Do you have an energy policy for the business?

“100% of the companies stated that they got the information from the HH data and this forms part of our energy policy”

Loading...

Thanks for listening, any questions?

Guidance through... VISION



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