

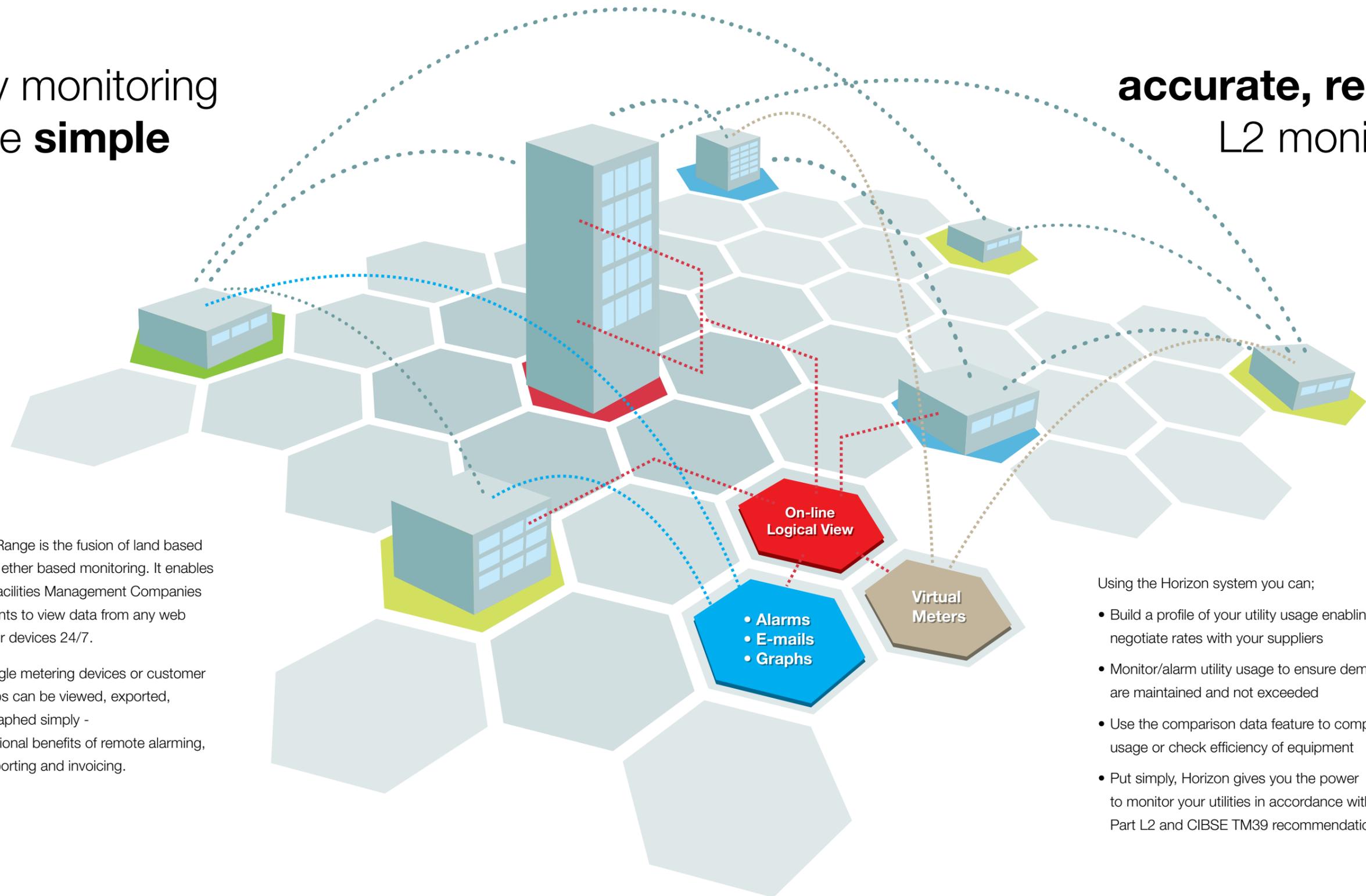
# HORIZON giving you total control

utility monitoring  
made **simple**

**accurate, reliable**  
L2 monitoring

The Horizon Range is the fusion of land based metering and ether based monitoring. It enables End Users, Facilities Management Companies and Consultants to view data from any web enabled PC or devices 24/7.

Data from single metering devices or customer defined groups can be viewed, exported, emailed or graphed simply - with the additional benefits of remote alarming, automatic reporting and invoicing.



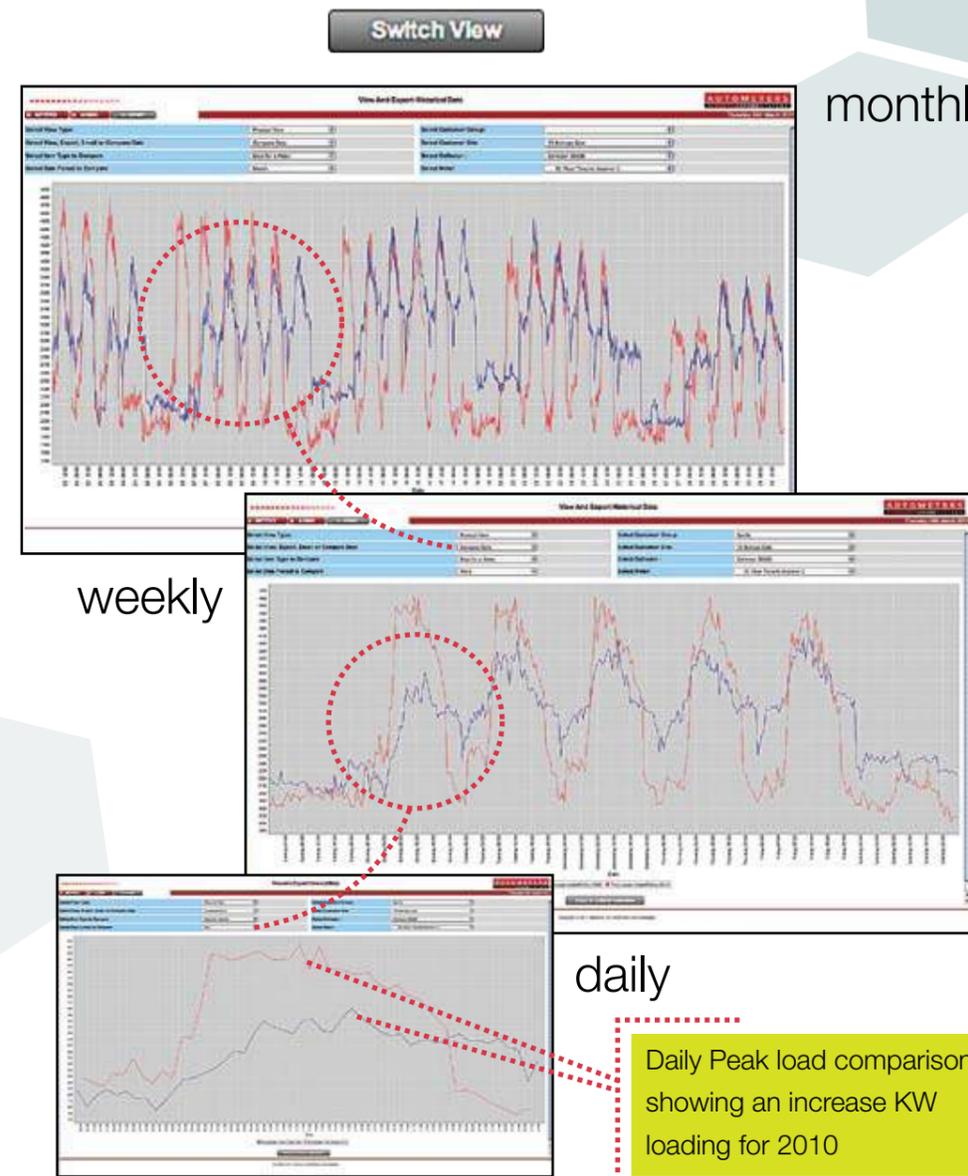
Using the Horizon system you can;

- Build a profile of your utility usage enabling you to negotiate rates with your suppliers
- Monitor/alarm utility usage to ensure demand levels are maintained and not exceeded
- Use the comparison data feature to compare usage or check efficiency of equipment
- Put simply, Horizon gives you the power to monitor your utilities in accordance with Part L2 and CIBSE TM39 recommendations

# comparison of data

With the ever increasing cost of energy, having the ability to compare data is imperative. Horizon enables information from any meter to be compared on a daily, weekly, monthly or yearly basis. Data can be used for efficiency monitoring or simply to monitor the effect climatic conditions have on the energy usage.

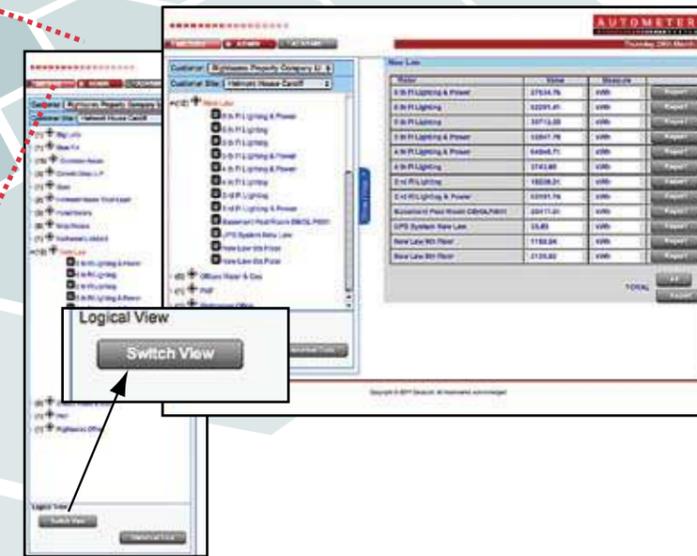
Below are three graphs comparing the month of December for 2009 and 2010. The initial graph shows the full month with the highlighted circled areas showing the expansion possibilities from weekly to daily comparison for more detailed analysis.



# simple logical displaying of information

Information is only useful if it can be used! Horizons "logical" view enables meters to be collated to suit either cost centres, load type or user definable groups. Modbus and Pulse Meters can be grouped together to enable whole group or specific meter monitoring.

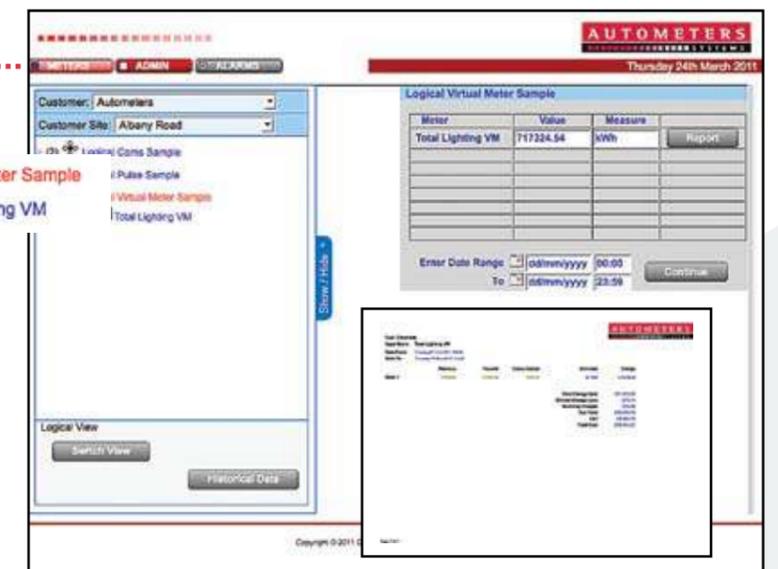
From these groups both manual and automated reporting can be set. Invoices can be printed and overall group costs can be reported in simple user friendly PDF format.



# virtual meters

Virtual meters can be created from actual meters in the form of either summated or net calculations. This can be done for both Modbus and Pulse Meters, once created these meters can then be viewed in the logical view and operate, log and export data as if they were actual devices. These are especially useful when total loads are required to be known for either utilities or individual clients etc.

For example, a virtual meter could be created for total lighting. This would enable all lighting meters to be summated to give simple total lighting usage and cost analysis



# reporting alarms

## Knowledge is important!

Knowing that you are near to critical levels or when you have lost supplies in today's busy environment is imperative. Horizon offers remote email or on screen alarming for all critical data.



# CRC – Carbon Reduction Commitment

The CRC came into force in April 2010 and aims to significantly reduce UK carbon emissions not covered by other pieces of legislation. The primary focus is to reduce emissions in non-energy intensive sectors and as such has become an everyday concern of building managers. Whether your utility supply is kWh mains electricity, natural gas or litres of diesel on mobile generators, Horizon can log the CO<sub>2</sub> and enable tabulated or graphical information to be viewed at the click of a mouse.

## excess alarms

### failure or low level alarms

**Main Incomer Meter Alarm Setup**

High (Over) Alarm Settings		Low (Under) Alarm Settings	
L1 Amps:	A	L1 Amps: 0.00	A
L2 Amps:	A	L2 Amps: 0.00	A
L3 Amps:	A	L3 Amps: 0.00	A
T Amps:	A	T Amps:	A
L1 Volts:	V	L1 Volts:	V
L2 Volts:	V	L2 Volts:	V
L3 Volts:	V	L3 Volts:	V
L1 KW:	KW	L1 KW:	KW
L2 KW:	KW	L2 KW:	KW
L3 KW:	KW	L3 KW:	KW
T KW:	KW	T KW:	KW
L1 KVA:	KVA	L1 KVA:	KVA
L2 KVA:	KVA	L2 KVA:	KVA
L3 KVA:	KVA	L3 KVA:	KVA
T KVA:	KVA	T KVA:	KVA
Profile Usage:	kWh	Profile Usage:	kWh
Non Usage Alarm (kWh): <input type="checkbox"/>			

UPDATE MAIN

## highlighted alarmed values

**Main Incomer Meter Alarm Setup**

High (Over) Alarm Settings		Low (Under) Alarm Settings	
L1 Amps:	10.00	L1 Amps: 0.00	A
L2 Amps:	A	L2 Amps: 0.00	A
L3 Amps:	A	L3 Amps: 25.00	A
T Amps:	A	T Amps:	A

screen "pop" to notify



**View Historical Alarms**

Customer: Autometers  
Customer site: Albany Road  
Alarm Date Tripped Between: 01/01/2010 and 24/03/2011  
Select Collector: HCl Master Collector 106081  
Select Meters or Pulses: Meters  
Search For Alarms Under: All Meters Under Selected Collector

Meter Name	Modbus Description	Alarm Type	Date Alarm Tripped	Date Alarm Reset
Main Incomer	L1 Amp	Over Usage	18/01/2010 12:26:53	18/01/2010 12:30:32
Main Incomer	L3 Amp	Over Usage	18/01/2010 12:26:53	18/01/2010 12:30:32
Main Incomer	L2 Amp	Over Usage	18/01/2010 12:26:53	18/01/2010 12:30:32
Main Incomer	L3 Amp	Under Usage	05/08/2010 09:36:52	05/08/2010 10:21:09

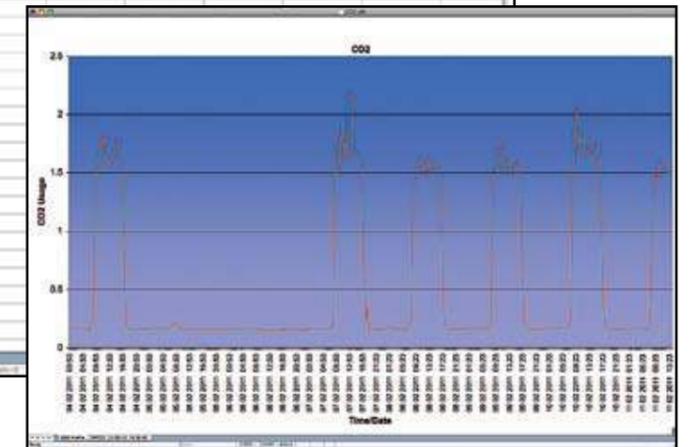
Historical alarms are stored showing the time the alarm was activated **and** the time it was reset.

## On-line Logical View

- Alarms
- E-mails
- Graphs

Date	CO2
04 02 2011 00:53	0.17
04 02 2011 01:23	0.17
04 02 2011 01:53	0.17
04 02 2011 02:23	0.17
04 02 2011 02:53	0.16
04 02 2011 03:23	0.15
04 02 2011 03:53	0.17
04 02 2011 04:23	0.16
04 02 2011 04:53	0.17
04 02 2011 05:23	0.16
04 02 2011 05:53	0.16
04 02 2011 06:23	0.17
04 02 2011 06:53	0.15
04 02 2011 07:23	0.22
04 02 2011 07:53	0.24
04 02 2011 08:23	1.2
04 02 2011 08:53	1.41
04 02 2011 09:23	1.56
04 02 2011 09:53	1.65
04 02 2011 10:23	1.77
04 02 2011 10:53	1.68
04 02 2011 11:23	1.79
04 02 2011 11:53	1.84
04 02 2011 12:23	1.55
04 02 2011 12:53	1.56
04 02 2011 13:23	1.61
04 02 2011 13:53	1.63
04 02 2011 14:23	1.73

30 minute CO<sub>2</sub> profile



## non usage alarms

Available for both Pulse and Modbus Meters the kWh non usage ensures that an alarm is raised in the event that no kWh have been consumed on a pre determined log interval. This is extremely useful for client monitoring or for domestic applications.

reduction can only start with knowledge of use . . . **tick that box**

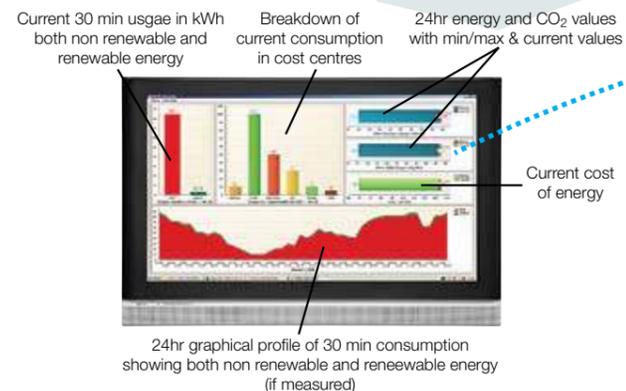
"Participants in the CRC will need to measure and report their carbon emissions annually,"

Whether you are a single building company or a multi location, multinational conglomerate, Horizon enables individual meter, total site and overall group monitoring, logging and reporting of CO<sub>2</sub> consumption.

# public awareness

Showing our energy awareness and commitment to reducing our carbon footprint is something we all want to do.

Horizon enables - with its public awareness monitor - the display of current and historical energy consumption in an easy to read graphical format



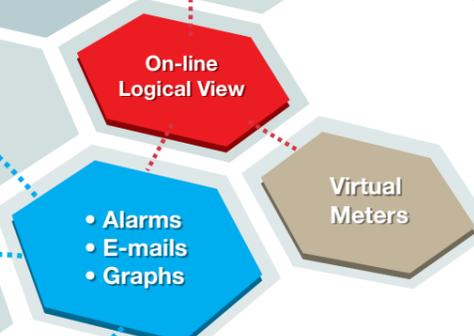
Automatically updating with every log, the display is a constant reminder of the energy usage.

Display information can be formatted to show the split of energy use and the amount of renewable energy being used.

# invoicing

Manual and automatic invoicing is available, if subscribed, from the Horizon website. These can be raised for single or grouped meters based on the logical view configuration. Separate templates can be created for each logical group enabling specific departmental or customer invoicing.

Invoices can be created with customer logos and all invoices are created with sequential numbering. All elements of the invoice are programmable - including the description.



Each line represents a meter with previous and present readings, PPU and standing charges all shown clearly for client information.

Define Billing for Emailing

Select Customer Group: Customers

Select Billing: Mail Invoice

Select Billing Template: Customers Standard

Select Email Group: All Meters and Meters in the Logical Group

Select Billing Interval: Monthly

Next Billing Date: 20/03/11

Invoices can be emailed Automatically in user defined intervals, to user defined groups. The initial time and date of these invoices can be set to co-ordinate with client requirements.

Meter Reading Certificate

Customer Number: D000180

Meter Ref: 2002011

Reading Date: 20/03/11

Reading Time: 08:00:00

Reading Location: 2002011

Reading Value: 1234.56

Reading Unit: kWh

Reading Type: Current

Reading Status: OK

Reading Error: 0.00

Reading Accuracy: 0.00

Reading Tolerance: 0.00

Reading Offset: 0.00

Reading Multiplier: 1.00

Reading Divisor: 1.00

Reading Conversion: 1.00

Reading Description: 2002011

Reading Remarks: 2002011

VAT Invoice

Customer Number: D001288

Date Issued: 20/03/11

Our Ref: 10000000

VAT Reg. No: 815 888 81

Acting as Agent for: Autometers Systems Limited

Invoice To: 40 Albany Road, Clifton Court Hardy, Manchester, M21 2JW

Date Day	Meter Ref	New Charges	Sub	Previous	Present	Usage	PPU	VAT	Energy	OCL	Standing	VAT Amt	Gross Amt
20/03/11	2002011	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
20/03/11	2002011	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
20/03/11	2002011	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
Total:													3000.00

Remittance Advice - Please include with your Payment

Send Payments/Remittance to: Please Make Cheques Payable to: Autometers Systems Limited

Account Name: 40 Albany Road, Clifton Court Hardy, Manchester, M21 2JW

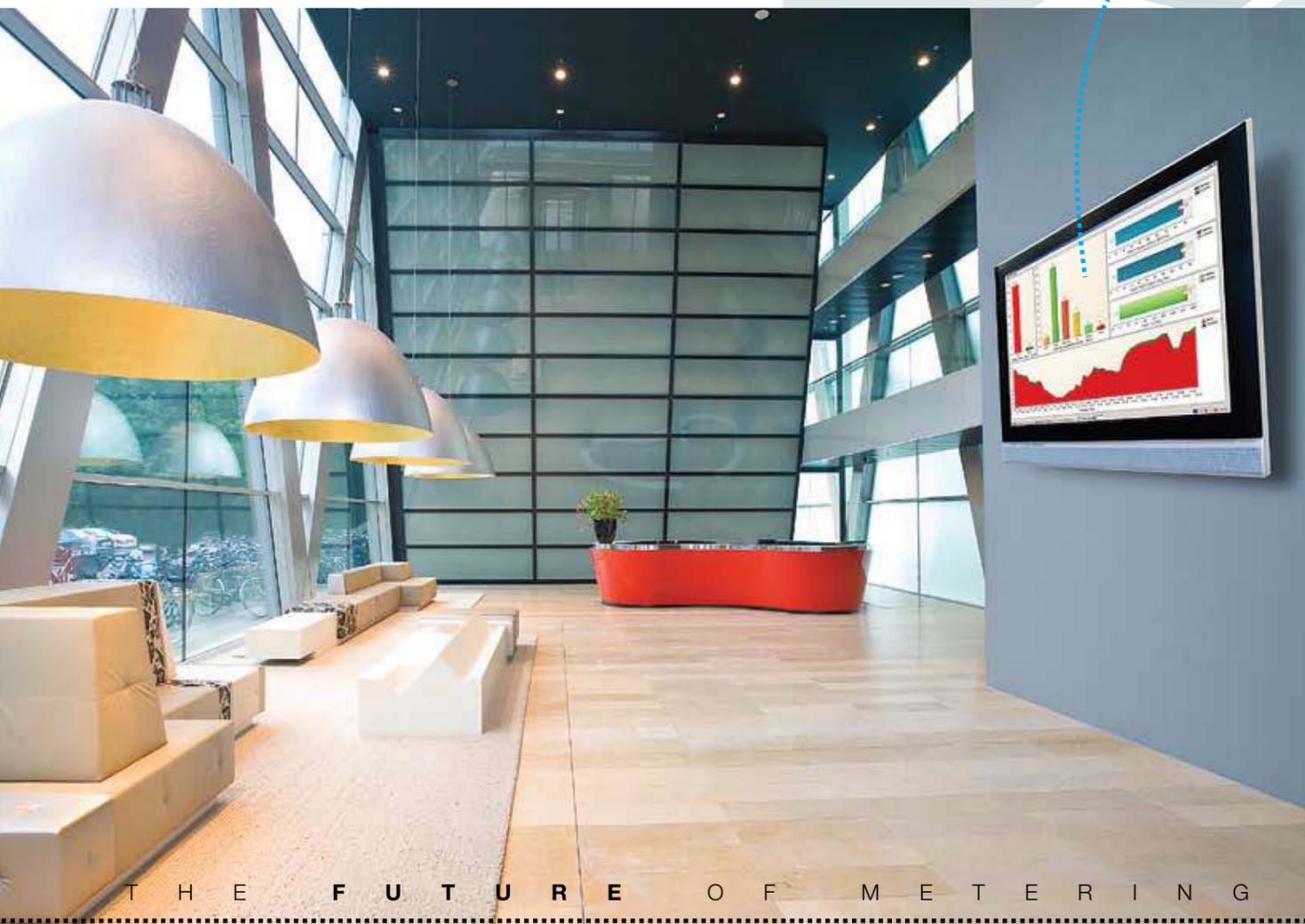
Account No: 2002011

Branch: 2002011

Changes on This Invoice: 20.476.00

Amount Paid: \_\_\_\_\_

A remittance advise slip is included for return payment



# wiring schematic

