

A smarter approach to energy management and carbon reduction

Lisa Wilkinson Director t-mac Technologies Ltd

ESTA Spring Events Bradford, Peterborough, London & Bristol

A smarter approach to energy management and carbon reduction



To reduce cost you need to measure energy consumption.

You need to know what you are consuming, when, where
and why.



A smarter approach to energy management and carbon reduction

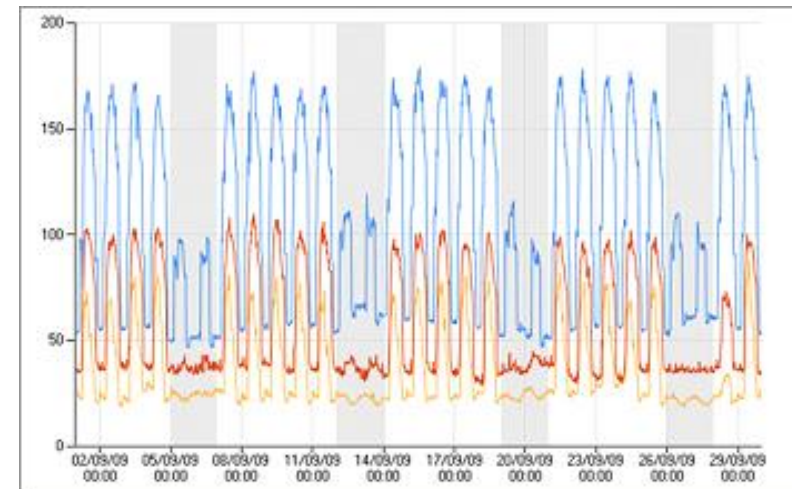
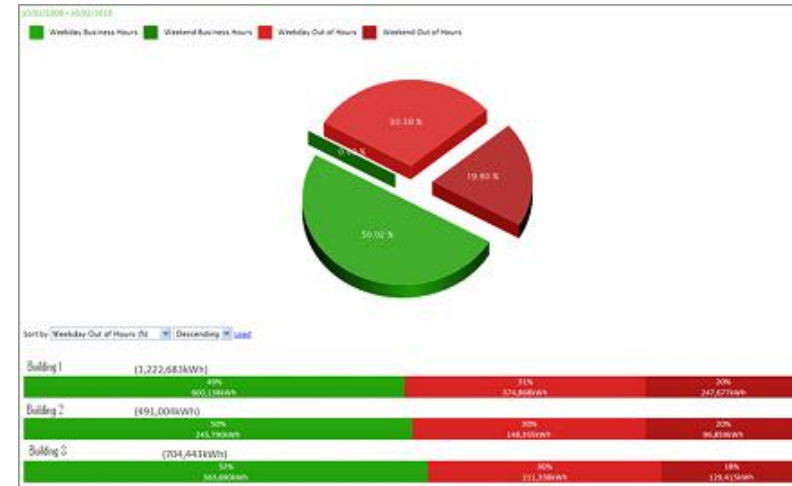
AMR / smart metering is a good start, but alone cannot create efficiency and associated energy reduction.

It CAN

- help with bill validation and cash flow
- provide an energy profile
- help find inefficiencies / waste

But, it CANT

- tell you **what** 'causes' consumption
- tell you the 'reasons' **why**
- tell you **where**



A smarter approach to energy management and carbon reduction

Smarterer energy management is the next step after AMR.

- It provides **real time** metering data from mains supply and from sub-metering of activity areas / equipment.
- It Incorporates **environmental monitoring** of building and equipment performance.
- It takes into consideration the element of **control** to reduce consumption.

Smarterer energy management could help businesses reduce more and achieve up to 30% energy reduction.

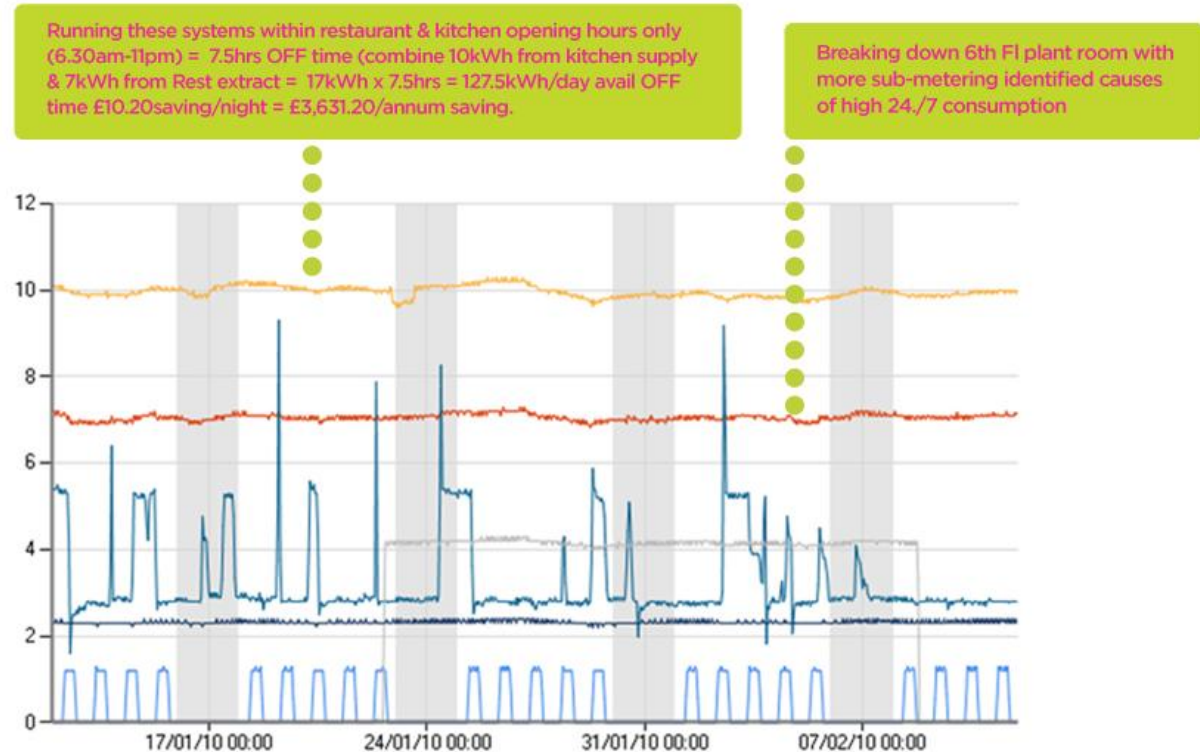
Here's how...



A smarter approach to energy management and carbon reduction

1) Exception reports / alerting of unusual base-loads from **real-time data** results in actions being made **INSTANTLY**

2) Sub-metering activity areas identifies the **causes** behind inefficiencies to help make an **INFORMED** action.



A smarter approach to energy management and carbon reduction

3) Environmental monitoring of building conditions identifies **REASONS** for consumption (i.e. high store/office Temp @ 24C instead of 21C)



4) Monitoring equipment performance identifies **REASONS** for consumption (i.e. a poorly operating machine can result in a higher load.)



These steps provide a story from which you can implement **CHANGES** and reduce consumption.



Here's how...



Smarter energy management starts with metering
but ends with control..

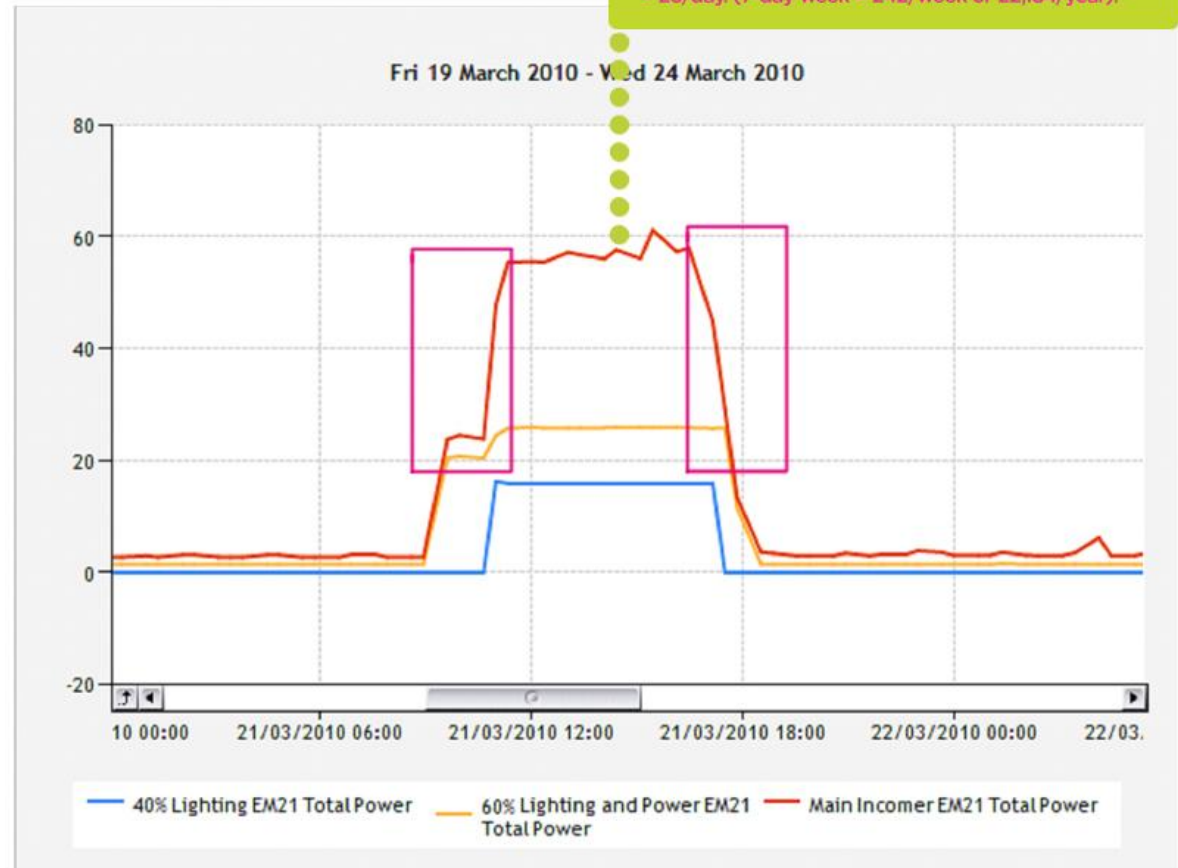
CONTROL can...

Remedy time clock issues (day light saving)

Ensure heating not fighting a/c

Stage lighting controls (circa £2k annum saving)

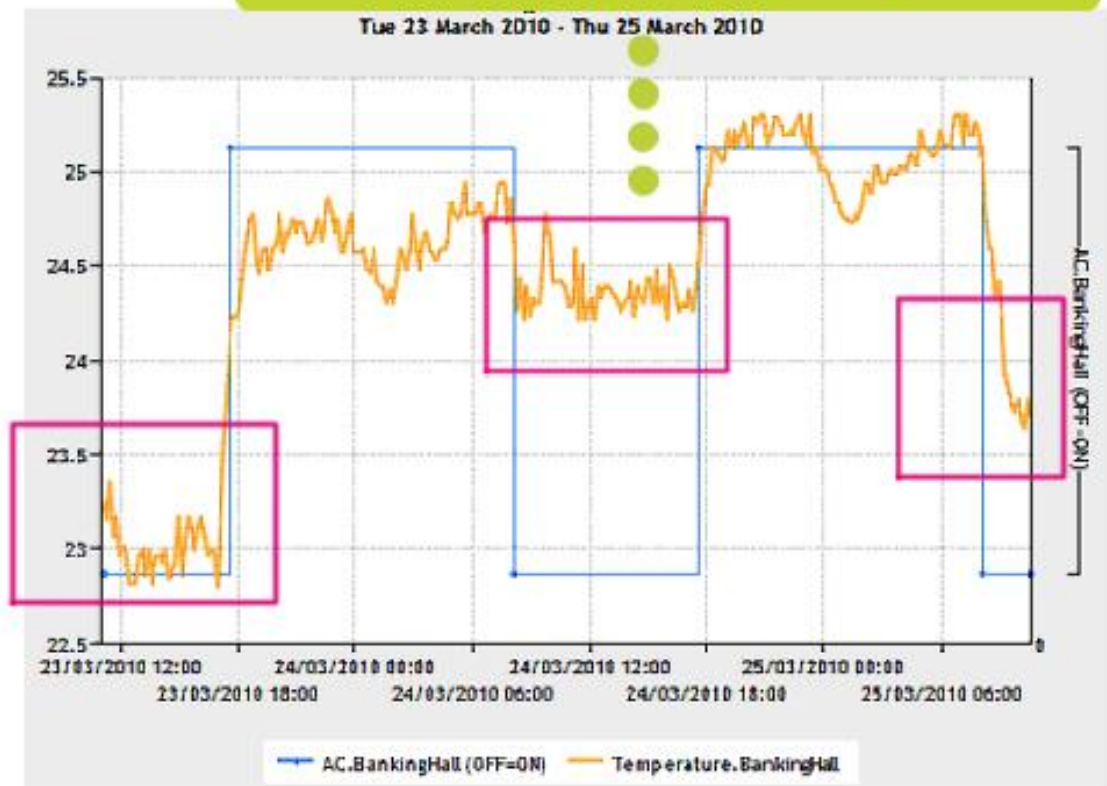
60% on at 9am & off at 6pm; 40% on at 11am & off at 5.30pm = saving 2.5hrs/day = 75kWh @ £0.08/kWh = £6/day. (7-day week = £42/week or £2,184/year).



Manage air conditioning systems

- Limit set-point controls on a/c (see right)
- Operation / use - by heating only to 20C or cooling down to 23C
- Sliding set-point: (making use of external temp)

23C on 23March but changed set-point to 24.5C on 24March. 1C = 3% increase energy consumption



A smarter approach to energy management and carbon reduction



Help with remote diagnostics on equipment

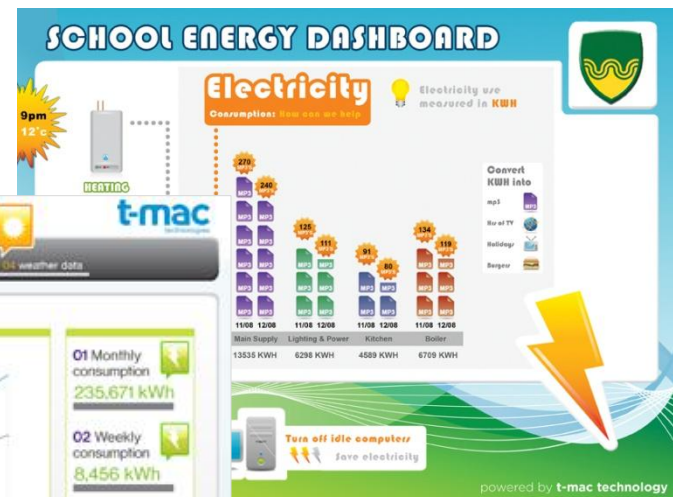
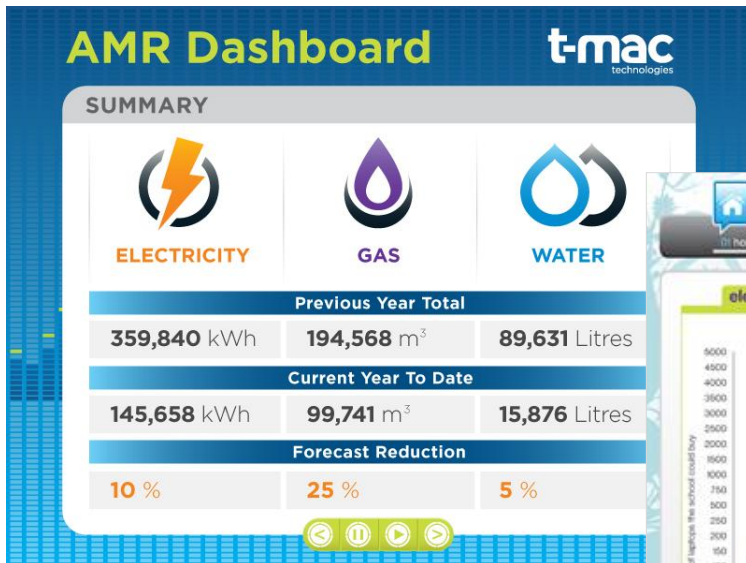
- To manage performance ,operation and use
- For remote maintenance and management



A smarter approach to energy management and carbon reduction

Smarter energy management goes further... It encourages buy-in from colleagues / staff

- Showcase and educate to change behaviours

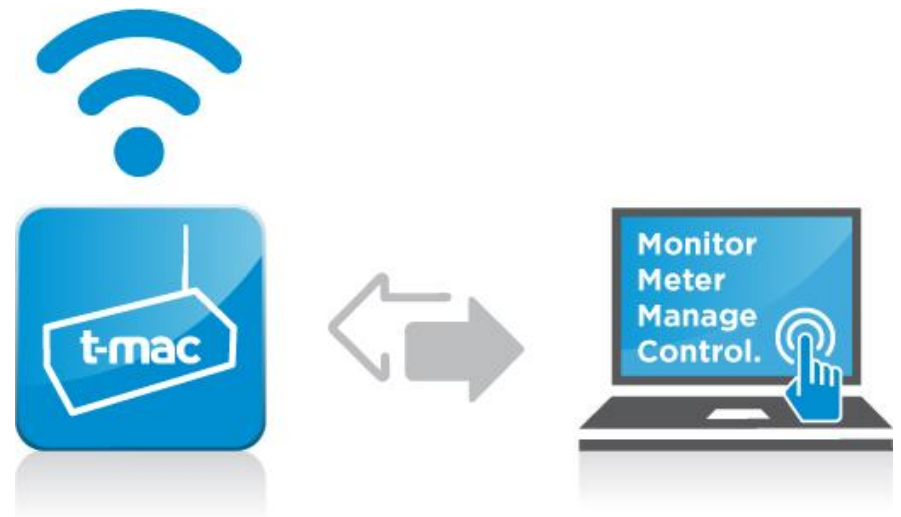


A smarter approach to energy management and carbon reduction

Smarter energy management starts with AMR, but unless you:

- gather real time data
- sub-meter activity areas
- monitor environmental conditions and equipment performance and
- control

you can't actively reduce energy consumption and cost.



A smarter approach to energy management and carbon reduction

Smarter energy management is about efficiency in building / equipment performance, operation and use.

- meter and monitor to target inefficiencies
- identify, analyse and quantify opportunities for change
- make that change by controlling buildings, equipment and people

Do more than AMR/Smart Metering ... incorporate smarter energy management!



Any Questions

t-mac
technologies

Thank you. Any questions

Contact details:

lisa@t-mac.co.uk or

01246 233632



Visit us on stand and try t-mac

lisa@t-mac.co.uk

www.t-mac.co.uk