Neil Bland – Leisure Energy

How Energy Savings can help your business
Increase Revenue or Reduce Costs?

- Assuming a 2% “profit” margin
- A £1,000 saving in energy costs = £50,000 increase in revenue
- Over 100 new monthly direct debit members
- How much would you invest to get 100 new members?
In the last 15 years, average electricity prices have increased by 230%. They are expected to continue to rise. Gas has fluctuated more but is still 33% higher.

In the last 10 years, Environmental Levies have increased by almost 500%. They now account for almost \( \frac{1}{3} \) of electricity costs and are expected to rise further.
How Can You Reduce Costs?

• Procure energy when there is a dip in the market
  • Crystal Ball needed
• Shift usage out of high cost time periods (4pm – 6pm)
  • Customer satisfaction
• Reduce your energy use
  • Spend to save
  • Projects must be installed!
Why is the Sector Not Doing More?

• No reliable source of unbiased information
  • Last report by the Carbon Trust undertaken in 2006
  • Sport England publications out of date (2015)
• Lack of leadership & ownership
• Lack of understanding & expert knowledge within the sector
• Contractual arrangements?
• Lack of funding
Watt is Energy?

• Energy is Power x Time
• We talk about kWh as the usual unit for energy (gas or electricity)
• E.g. Eight 50W spot lights in your kitchen running constantly
• \[8 \times 50 \times 24 \times 365 \div 1000 = 3,504 \text{ kWh}\]

• At domestic rates of approx. 15p/kWh = £525.60 a year!!
How Do We Save Money?

• Turn them off!
• Only having them on 6 hrs a day saves nearly £400
• Swap for 5W LED energy saving equivalent
• 10 pack for £20 @screwfix
• New energy bill is 5W x 8 x 6h x 365 x 15p = £13 a year
• Investing in “staff” training and equipment saves over £500 a year
Technologies - LED Lighting

- Daylight and movement controls
- Huge savings in sports halls and swimming pools
- Scene setting for different levels of activity e.g. county badminton v trampolining
- Colour changing e.g. in spin classes
Air Handling Units

- Sensors
- Filters
- Heating
- Cooling
- VSD
- Dampers
- Heat Recovery
Examples – Air Handling Unit

- £8,000 annual saving
- 6.1 year Simple Payback

61,561 kWh saved in a full year
36.3% reduction in electricity
21,642 kg of CO₂e saved
Building Management System

• What is BMS?
• A simple computer with a clock
• Binary inputs and outputs
• Analogue inputs and outputs
• Simple logic, IF, THEN, ELSE, AND etc
• Talks to valve actuators, contactors, lighting, VSDs etc
Building Management System

• What can go wrong?!
• Computers are stupid
• Sensor calibration
• Time slipping - 5 sec per day = 30 minutes a year
• Daylight saving
• Plant Overrides
• Try to be lean with time schedules – It is possible to shut down some systems before the centre closes without any noticeable difference
Technologies – High Efficiency Motors

• 11kW motor costs about £12,000 per year!
• Select IE3 motors minimum 10% saving
• Payback circa 5 years
• Use Variable Speed drives (and control them)
Technologies - Combined Heat and Power

- Uses gas like a boiler
- Generates electricity at the same time
- Over 90% efficiency
- Large costs savings due to gas 5 times cheaper than electricity
Examples – Solar Thermal

- Standard pool £6,000 annual saving
- Receives government cash called Renewable Heat Incentive
- 6.0 year Simple Payback
How We Reduce your Energy Cost

Reducing energy costs = increasing profit

*We operate as Principle Designer and Contractor for CDM 2015 regulations*
Award Winning

- Recently won the Energy Manager’s Association award 2019
- Consultancy Partnership of the year
- Highlighted our installation work over 4 sites with
  - Freedom Leisure
  - Derbyshire County Council
  - Installed Pool filtration controls, LED lighting, New AHU, Energy Metering
Q & A