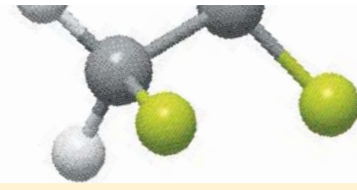


R22 PHASE OUT - THE IMPACT ON THE AIR CONDITIONING MARKET



Current legislation regarding the phase out of R22 refrigerant is keeping our Air Conditioning Division busy – not just with replacement units but also looking at developing the right solutions for each individual application.

After 31st December 2009, virgin refrigerant will no longer be available, and although it is currently proposed that recycled refrigerant will be available until the end of 2014, there are a number of uncertainties relating both to this date and to the cost of recycled HCFCs. As a result, many users are opting for new plant, designed with optimum energy efficiency in mind to meet current and future cooling requirements.

This decision is further reinforced by the fact that new developments mean HVAC technology is becoming cheaper, more flexible and more sophisticated for each kW of cooling provided.

At Mitton, our own calculations back this up. Extended comparisons between an existing R22 system versus a new R 410a system, each running for an average of 10 hours a day, 300 days a year, demonstrate that both energy costs and carbon output can be reduced in the order of 45% - equating to significant financial benefits over a typical life cycle.

It's all about reductions in carbon emissions making good business sense!



THE MORRISONS LINK

Our Contracting Division continues to be busy with building services projects on behalf of Morrisons nationwide.

Converting the Co-Ops

Continuing with the conversion programme of the Co-Operative stores bought by Morrisons earlier this year, Mitton has completed refurbishment works in Faversham, Kent, involving heating, ventilation, air conditioning, hot and cold water services, plumbing and above ground drainage. This brings the total number of Co-Op stores converted this year to Morrisons' exacting specifications to 32.

Supplementary heating

In addition, a planned upgrade of critical refrigeration equipment, designed to increase efficiency and reduce carbon emissions, has meant that in many locations, supplementary waste heat is no longer available to heat the main sales floor.

In response to this requirement, Mitton is installing supplementary modular boiler systems in selected stores, as the refrigeration plant changes to become more efficient, to ensure optimum customer comfort.

.... and additional cooling

Expanding hardware capacity at Morrisons' HQ and disaster recovery facility required additional cooling.

Training for the Future

Recognising the identified skill shortage in building services and particularly in the field of building controls, at Mitton we have developed our own set of training courses designed to enhance the skills and knowledge of our engineers.



Commenting for Mitton's Environmental Division, Ian Barraclough explained why the company had found this necessary. "There are very few appropriate courses available which give the insight and understanding we require from our team," he stated. "What's more, we are already seeing added benefits – the investment in training has identified a number of motivated engineers who really want to learn and progress their skills."

A total of 12 Mitton engineers have already completed the courses, which go beyond the basic grounding in building controls. Four more will complete their training before the end of 2009.



At Morrisons' HQ Mitton has introduced supplementary cooling by connecting to the existing chilled water system with a new circuit dedicated to cooling in the computer hall. At the disaster recovery facility, we have supplied and installed a complete new chilled water system including chiller, pumps, pressurised water units, distribution pipework and controls to service the new computer installations.

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Mitton insite

WINTER 2009 N° 18



TOP CLUBS KICK OFF FOR ENERGY EFFICIENCY



In stadia across the UK, there's a growing focus on reducing carbon emissions and running costs – gone are the days when the only "green" consideration was the pitch!

With the price of energy spiralling upwards and many stadiums saddled with inefficient heating, lighting and building management systems, developing a strategy for effective energy use is a vital consideration.

At Mitton, we can help. We've invested heavily in portable, temporary metering solutions to assist our clients in creating an 'energy map' for their buildings and facilities.

As a result, for some of our top football clubs, we've opened the door to significant savings – not just indoors but also outdoors by regulation of under pitch heating systems.

Electricity metering is non invasive, using only 'clip on' measuring devices. Metering gas and water requires installation of additional equipment, which can either be done on a temporary basis, or permanently installed to continue monitoring after the energy map has been completed.



Our processes enable us to drill down through the consumption profile and pinpoint the highest users and usage areas, assessing the scope for consumption reduction, and providing a 'league table' for available savings and return on investment.

In some instances, a large percentage of energy consumption is wastage caused by inattention or disregard of the need to save energy by occupants of the buildings. Here, Mitton's remotely managed Monitoring and Targeting facilities can help.

By installing a permanent metering solution, linked back to our bureau, we work with you to define a standard energy profile for each metered point. When the actual profile falls outside of this standard, we can alert you to the wastage, provide proof and even supply cost data – a very powerful tool for facilities managers to control their estates.

For further information please email energy@mittonmechanical.com, and our team of regional environmental engineers will make contact with you to assess your requirements.

VISIT OUR NEW WEBSITE AT
www.mittonmechanical.com

THE CARBON REDUCTION COMMITMENT

In the UK today, the business and public sectors of the economy generate over one third of total CO2 emissions. Over recent years, the establishment of Climate Change Agreements and the EU ETS (Emission Trading System) has created real incentives for carbon emission reductions within the more energy intensive industries. In 2010, a new 'cap and trade' scheme comes into force which aims to incentivise significant carbon abatement in other, non-energy intensive sectors, delivering bottom-line financial benefits.

This new emissions trading scheme, known as the Carbon Reduction Commitment or CRC, has been developed to deliver carbon emissions reduction and cost savings in the services sector, the public sector and other less energy-intensive industries. The overarching objective is to reduce carbon emissions in large non-energy intensive organisations by 1.2 million tonnes of carbon per year by 2020.

Who is affected?

From April 2010, both private and public sector organisations who between January and December 2008 consumed more than 6,000 MWh of half-hourly metered electricity (at today's prices, generating an electricity bill of ca £500,000 a year) will be required to participate in the Carbon Reduction Commitment and purchase carbon allowances from the Government.

The Environment Agency will administer the CRC on behalf of the Department for Energy and Climate Change (DECC). Qualifying large energy users who are currently not included in the EU ETS or Climate Change Agreements (an anticipated 5,000 companies) will be required to report their carbon emissions annually to the government.

What does it mean?

The Carbon Reduction Commitment (CRC) – which is the UK's first mandatory carbon emissions trading scheme – will offer a significant financial incentive to large organisations to reduce their carbon output. Organisations failing to achieve reductions may be penalised to the tune of thousands or even millions of pounds, but those who perform best could receive large bonus payments as a reward.

The scheme is a vital element and driver in helping to achieve the UK's overall commitment of reducing 1990 CO2 emissions by at least 80% by 2050, using market forces. It will eventually be rolled out to other, smaller businesses.

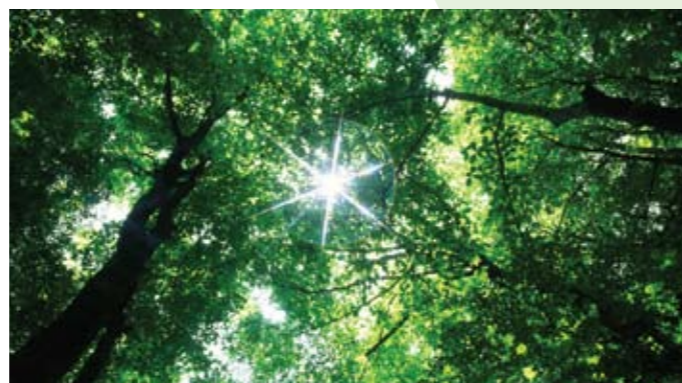
Where Mitton can help

The only way to save energy, reduce bills, and therefore reduce carbon emissions is to achieve a full understanding of your energy usage. One way of achieving this is the installation of permanent or temporary monitoring equipment, and carefully analysis of the resultant data.

Mitton's Environmental Division has a specialist service to handle this requirement. We can audit your facilities, install temporary metering and logging equipment, and use this data to drill down into your energy profile and give a better understanding of where your energy usage is focused, producing an 'energy snapshot' for your business.

We can also supply and install permanent systems, which we can remotely manage on your behalf, producing daily or weekly 'energy alerts' where usage falls outside the profiles we have jointly predetermined, or train your own staff to analyse and understand the results.

Reducing carbon emissions was once all about corporate social responsibility and environmental issues. By 2010, it will be much more about sound business sense.



COMPREHENSIVE VARIABILITY OFFERS NEW DEVELOPMENTS IN ENERGY SAVINGS



Recent developments in inverter drive technology have led to the potential for significant improvements in ease of implementation and achievable energy savings.

As part of an energy saving exercise for one of our established clients, Mitton modelled a food factory air handling unit which runs 24/7. Our conclusion was that using the new technology, we could alter the way the unit operated, reset the system and achieve savings.

The AHU in question delivers fresh, tempered air into an environment-critical department. The application offered an ideal opportunity to trial the new technology, as there were no variations on the airflow required.

The AHU was monitored initially with the existing non-inverter controlled system, in order to establish a control base load and nominal consumption. We then fitted the new inverter drive, with the inverter varying the output of the fan to suit the load presented, reducing consumption where possible.

The lower running frequency reduced power consumed by the fan motor, and a 20% drop in operating frequency gave a reduction of over 40% in energy consumed, dropping to an average of 3.89kW.

This 45.5% reduction on the original installation yielded savings of over 28,000kWh and a payback period of just six months.

INTRODUCING THE POTENTIAL BENEFITS OF RECOMMISSIONING: AVERAGE ENERGY SAVINGS 10-15%

No equipment continues to run at peak performance forever - techniques and principles change, and ideas evolve. New developments mean that existing equipment can be recommissioned to yield significant savings; over time, settings may have changed as people engineered their own way around issues without considering energy efficiency and other operational parameters.

At Mitton, experience has shown us that just a small expenditure on recommissioning can lead to large gains in efficiency, as well as ensuring that building systems are working in line with best practice.



Mitton's recommissioning services operate around the reassessment of older buildings, where installed programmable systems can be re-evaluated and systems rewritten remotely to optimise performance and energy efficiency.

Applicable across the entire scope of building services, recommissioning is currently achieving typical energy savings of between 10-15%.

For an initial recommissioning audit, please contact: energy@mittonmechanical.com