

Out with the old and in

Swap out old drives and motors

Swapping old drives and motors for newer, more efficient models has the potential for great savings on energy costs, as well as improving reliability. A new scheme from ABB makes it easy to swap to the latest technology and start cutting those electricity bills down to size

The recent financial crisis knocked everyone's confidence in the economy for six, with consumers sitting tight on their money and watching to see which way the wind blew. Sales of big ticket items like cars took a particularly big hit. To encourage growth, the government introduced a car scrappage scheme, where customers could trade in a car that was over 10 years old and get a £2,000 discount off a new one.

As well as increasing the sales of new cars and providing a much needed boost to the economy, the scheme also had the added benefit of taking older, highly polluting vehicles off the road and replacing them with more modern examples that help people save money on their running costs. A similar opportunity now faces industrial buyers. This time, it's private industry taking the lead, coming up with scrappage or swap schemes that help commercial users make the most of the new, more energy efficient technologies that have developed over the last few years. One of

these technologies is variable speed drives. Many companies have benefited from using variable speed drives to cut their energy bills for a number of years. Yet even the most well maintained drives will gradually suffer a decline in their reliability once they get much beyond 15 years of age.

The new swappage schemes seek to serve a market for replacement drives that continues to grow. In 2010, around 40 per cent of all new drive purchases will be replacing existing drives.

Energy efficiency versus purchase cost

Furthermore, according to a recent study by the Carbon Trust, businesses are more concerned over rising energy prices and higher taxes than the latest energy legislation: of the 700 businesses surveyed, 49 percent said energy price hikes were a cause for concern. Yet many continue to think that

looking for a cheaper provider is the way to cut energy costs, when the answer could be much closer to home. On a typical industrial site with a £150,000 annual electricity bill, £100,000 will be spent on running motors. Even small differences in efficiency can make big differences to a motor's life cycle costs – an 11 kW motor costing about £700 can consume over £67,000 worth of electricity over a ten-year operating life.

Energy efficiency is much more significant to the bottom line than the purchase price, so it is worthwhile for a company to appraise its existing drives and motors regularly and be prepared to invest in new equipment to ensure it has the most efficient set up possible.

Like scrappage but better

One of the vendors addressing these growing concerns over rising energy costs is ABB. Its new swappage scheme makes it easy for companies to start making dramatic savings on their electricity bills by swapping older motors and variable speed drives for newer, more energy efficient models. As well as the savings in running costs that these newer products offer, the swappage scheme also



with the new and start saving

offers at least 17.5 percent discount on the purchase cost, as well as help obtaining government aid under various national energy saving initiatives. The swappage scheme operates in four phases.

1. The application: The first step is a thorough knowledge of the parameters of your drives or motors. But all is not lost if this information is not available. ABB supports a national chain of channel partners with the expertise to assess any drive and motor application for its energy saving potential. This could involve a free on-site energy appraisal, looking at suitable applications that could produce the most significant savings. Measurements will be taken of the application's energy use as it stands, often over a week to get a full picture of the process and how its energy use varies with shift patterns and production demands.

This data will be analysed to show what energy savings the user can expect to achieve, together with the equivalent amount of CO₂ saved. The findings will be methodically presented – often tables or graphs will be created to help see where savings are likely to arise. The results will help a user target their investment so that it produces the highest possible savings and gives the best return.

The report should also clearly show the expected payback time on fitting new equipment. This evidence is essential to make use of the interest free loans offered by the Carbon Trust. ABB channel partners can also advise on other sources of finance such as the CRC Energy Efficiency Scheme and Enhanced Capital Allowances.

2. The appraisal: If the application can benefit from a new variable speed drive and motor, ABB channel partners can advise on any engineering that needs to be done to accommodate the new equipment. Consideration is given to such issues as fuses, cabling, dimensioning and any mechanical modifications needed to components such as bedplates and couplings. Removal of existing equipment and installation of the new can also be arranged.

To keep downtime to a minimum, ABB's partners can install over weekends and bank holidays, supplying the drives or motors as well as associated equipment such as control components and cabling.

3. The savings: Drives or motors from any manufacturer can be replaced with a new ABB equivalent and the scheme offers at least 17.5

percent discount off the list price. It covers drives from 0.12 kW to 400 kW and motors from 0.75 kW to 710 kW and is available to organisations of all sizes. A new drive can save as much as £1,000 per year in energy, with ABB's current drives offering over ten per cent higher efficiency than its most popular drive from the 1980s.

4. The recycling: Last but not least is the disposal of the drive or motor once it has been removed and installation of the new equipment has been completed. ABB or its channel partners will dispose of the old equipment in accordance with current environmental legislation and if possible, recycle any re-usable components or materials in a safe way. ABB also issues a certificate that can be used for environmental audits for organisations complying with ISO 14001.

Act now to get the most benefit

As well as the energy saving benefits of using the newest, most efficient drives and motors, there are also several other benefits of using the latest technology. The reduced size of modern drives in particular saves plant room space, their lower component count improves reliability and more up to date technology means additional features, including more advanced control and communications capabilities.

New drives, with their greater reliability, will ensure that process uptime is maximised. This can be particularly important in critical applications such as water pumping or where product will spoil if not processed at the right time, such as in the food and beverage industry.

Clearly the time to act is now if companies want to take advantage of government backed energy saving schemes. The Carbon Trust has a pot of £100 million to invest in energy saving equipment such as variable speed drives and motors, with interest-free loans that are available from £3,000 to £500,000.

With the new atmosphere of austerity being introduced by the government to deal with the budget deficit, this money may not be around for ever.

For more information on the swappage scheme, visit: www.industrialtechnology.co.uk and click on the ABB 'Drives & Motors Marketplace' button. Or call: 07000 DRIVES (that's 07000 374837); or email: energy@gb.abb.com.

