

## How agri-business can reduce energy costs

In this, the first of three articles written exclusively for Farmers Weekly, Eskom IDM Senior General Manager Andrew Etzinger explains how a South African agricultural business can get started on an energy efficiency programme that will have a real impact on the bottom line.

With South Africa's electricity supply constrained, Eskom's Integrated Demand Management (IDM) department is strategically committed to save energy. IDM works with consumers in all sectors of the economy to help business - big and small of any type - to reduce their dependence on the national electricity grid, pursuing all manner of avenues to achieve practical energy efficiency and to spread the word that 'you really can do as much - and, very often, even more - with less energy'.

Agriculture is one of the sectors that Eskom particularly targets. You may well wonder why when the production and processing of food is a relatively small consumer of electricity – small relative to say, manufacturing or mining.

There are two main reasons why Eskom is so active in your sector. First of all, we appreciate the critical importance of the farming and agricultural community to our country's food security. (If people don't eat, they can't work and innovate, and they can't make and produce the goods and services that keep the economy going.)

When we at Eskom think - and act - in the agricultural sector we think of everybody: the farmer, processor, marketer, distributor, retailer and the end user. We have spent a great deal of effort on understanding the agricultural value chain in all its remarkable variety and we employ a number of Energy Advisors who, between them, have literally hundreds of years of hands-on agricultural experience.

The second reason agriculture is a key target for Eskom is the sector's massive scope for efficiency improvements, cost savings and the use of alternative energy solutions. (We are also acutely aware of the farming business's vulnerability to electricity price increases and the impact that climate change can have on the business of making food.)

Nowadays every farmer and every processor of agricultural products knows that he or she needs to cut costs. In fact, cutting your electricity bill is very often the easiest, and least expensive, way to achieve just that. So how does an agricultural business go about achieving energy efficiency?

In a nutshell, there are three overarching ways to approach (and implement) meaningful energy efficiency. The three pillars are:

- Behaviour change;
- Operational practices; and
- Systems and technology.

Many people automatically assume that the third of these, “systems and technology”, is where they need to start if they’re going to be serious about cutting their electricity bills; that first they need to invest in new motors, pumps, maybe solar heating and, probably, expensive monitoring equipment. The truth (which we have learnt from many years of working on the ground with farmers and companies) is quite different. If you’re serious about energy efficiency, start with your people – yourself and your employees.

Changing behaviour is fundamental to any energy-efficiency programme. In fact, there is compelling international and local evidence to show that any electricity-saving interventions, if not monitored and maintained, typically have a six-month half-life of their benefits. In other words, they lose half of their economic benefits every six months if left largely untouched.\*\* And they can only be maintained if you and your agricultural organisation have a culture of energy efficiency.

Which is all good and well but how do you achieve such a culture? If you’re a farmer, saving electricity has to begin with you. The people who work on your farm need to be made very keenly aware that you, as the person in charge, are serious about energy efficiency – and they need to be constantly reminded how important it is to you.

If your energy-saving interventions are to have longevity and not lose half their benefits after six months (or 100 percent eventually), you need to keep up the communication on a constant basis; getting your people to switch off the lights, check your farm’s irrigation systems for leaks, make sure that your pumps aren’t working harder than they have to.

Some particular tips:

- **Save energy with people power.** Involve your workers in managing energy consumption and get them to come up with ideas and concepts that can be used to develop a programme that suits the culture of your farm or business.
- **Make a pledge.** Demonstrate leadership commitment to energy conservation and then incorporate saving goals for the business, starting with you, the farmer.

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\*\*Source: <http://www.lselectric.com/energy-efficiency-process-improvements> (Statement by Emerson’s James Beall, a principal process control consultant who helps manufacturers optimise their processes.)

- **Hold dedicated energy meetings.** Invite suggestions. Provide monthly updates and tips. Report energy savings in regular progress reports. (If you're a farmer, "progress reports" might sound like so much corporate speak but, out on the farm, a progress report can simply take the form of verbally telling your workers: "This month we have saved X amount on our energy bills compared to the previous month, and X amount compared to the same month last year.") Talk energy efficiency whenever you find an appropriate opportunity to include the subject in daily briefings.
- **Make someone responsible.** Appoint or identify a dedicated energy co-ordinator or manager and/or set up an energy-savings team that will be responsible for leading the change.
- **Offer incentives.** Or small gifts for individuals or teams who save the most or individuals who provide particularly good suggestions for savings.

In the next issue of Farmers Weekly I'll be looking at some of the practical operational enhancements that South African farmers and food processing businesses can consider when setting out to reduce their electricity bills - the second "pillar" I mentioned earlier. Then, the following month I'll examine, in some detail, what can be done about the pumps, motors, heating, lighting, air-conditioning and many other systems that are at the heart of all South African farming activities – and that are also at the heart of your business's operating costs.

Before we get there though, please start thinking about the kind of awareness that will make a real difference to the energy profile of your farm or business. Think about what key messages will appeal to your employees and how you will go about continuously 'beating the energy-efficiency drum'.

Also consider how you measure your electricity consumption; where it is possible to differentiate between what different parts of your operation consume, this information can be extremely useful for keeping staff motivated. But whatever information you have available, make sure that you know pretty clearly what your energy consumption – and costs – are for a particular period. To keep your people committed to saving electricity you're going to have to show them results – and you can only prove that your efforts are bearing fruit if you can demonstrate real savings relative to a particular benchmark.

And finally, please make sure that your farm is on the correct tariff and that all invoices are correct. (You will be surprised how many farmers are on incorrect tariffs for their particular farming requirements.) If you're at all confused about Nightsave Rural, Ruraflex and Landrate and what they mean, ask us to explain exactly what the implications of each tariff structure are for your farm or business.

For more information call 08600 37566, leave your contact details and ask that an Eskom Energy Advisor return your call.