Dairy farmers can save electricity without investing a cent

"Dairy farmers can achieve welcome savings through switching off lights and equipment when not required, optimising hot water use and ensuring equipment is maintained and serviced as per specifications," says Eskom's Senior General Manager Andrew Etzinger.

Working and interacting with farmers across South Africa on a continuous basis, Eskom Energy Advisors have seen dairy farms reduce energy costs through the implementation of simple behavioural tactics and operational changes.

As a starting point, dairy farmers are advised to check which electricity tariff they are billed at as there could be an opportunity to reduce energy costs by moving to a more cost-effective structure. Moreover, shifting energy-intensive operations outside periods of peak demand for electricity could mean paying lower tariffs.

Whilst fitting energy efficient equipment and using renewable energy sources represent the most effective way to reduce electricity consumption and operating costs over the long term, low or no-cost tactics can be implemented to reduce energy costs immediately. These include simple interventions to reduce hot water costs, such as:

- Minimising the volume of water used.
- Washing at the lowest temperature possible without compromising hygiene.
- Using a thermometer to monitor hot water inputs and outputs.
- Switching off water heaters during peak periods so that all heating takes place during off-peak periods. (This requires tanks with enough capacity to meet daily wash requirements.)
- Insulating water tanks and pipes to reduce heat loss.
- Keeping storage tanks out of breeze ways and drafts.
- Using detergents that work effectively at lower temperatures.
- Using a chemical sanitizer in the final wash cycle to reduce hot water demand.
- Using the best quality water available as high levels of minerals or organic matter reduce heating performance.

Staff should be instructed properly on operating and maintaining equipment according to the specifications of the manufacturers - poor maintenance and the inefficient operation of systems are frequently identified as factors in dairy farms' high energy use and costs.

An effective, preventative maintenance programme should include:

- Regularly inspecting system components to ensure they are intact and working efficiently.
- Regularly servicing electric motors, vacuum pumps and milk pumps.
- Repairing or replacing burst or cracked rubber fittings, diaphragms and tubes timeously.
- Checking pump seals.

- Where applicable, regularly checking the V-belt tension between vacuum pump and motor.
- Removing dust, soot and debris from equipment, especially the vacuum control valve and pneumatic pulsators.
- Ensuring fan and motor intakes and exhausts are clear of clutter for maximum circulation and efficiency.
- Checking vacuum lines for leaks.
- Checking and maintaining lighting systems - light fittings and lamps should be kept clean and failing lights should be replaced in a timely manner.

"Saving electricity should be a team effort; everyone in the dairy should be encouraged to think about energy efficiency and propose ways and ideas on how to reduce energy use," says Etzinger. Ways that staff can assist with reducing energy consumption include:

- Switching off unnecessary lights.
- Turning off equipment at the power button when not in use.
- Avoiding unnecessary opening of doors and windows when ventilation and heating systems are at work.
- Using hot water conservatively.

Etzinger concludes with this advice for sustained, effective energy management on dairy farms:

- Make someone responsible – appoint or identify a dedicated energy manager and set up an energy savings team responsible to lead the change.
- Add energy conservation to all staff meetings by checking whether any unnecessary equipment is on.
- Give incentives to employees or teams of employees who save the most or to employees who provide additional suggestions for savings.
- Motivate employees by keeping them informed and involved.
- Track savings impacts so the benefits are known - provide feedback on progress.

Call 08600 37566, leave your details and ask for an Eskom Energy Advisor to call you back – they excel in

- Assessing the current and future energy needs of a dairy farm –
  - Analysing the energy consumption of a farm or specific processes on a farm;
  - Identifying areas of energy wastage on a farm;
- Identifying the most cost effective and energy efficient technology solutions for a farm;
- Advising on how and where to access the latest energy efficient technologies; and
- Assisting with the measurement and verification of energy use savings as a result of energy efficiency interventions.