



The moisture overlay gives the farmer a visual representation of moisture levels across the farm. This allows the farmer to see areas of the field that are not being watered as effectively, so adjustments can be made mid-season rather than waiting until after harvesting.

SOAK

YOURSELF IN NEW FARMING TECHNOLOGY

A young Tasmanian computer whiz has set his sights on a sustainable future for farmers. After winning first place at the 2008 Australian Innovation Cup, David Burela and his team triumphed at the International Innovation Cup in Paris.

David's program is called SOAK (Smart Operational Agriculture Kit). David explains his program as "an integrated software and hardware platform designed to help farmers achieve sustainable use of their land." SOAK uses environmental sensors which relay information directly back to the farmer. It can also

control farm equipment such as sprinkler systems.

In essence SOAK gives farmers better control of their water use. The technology works by using sensors that measure water flow, dam depth, rainfall, wind, moisture and temperature. The SOAK program then combines this information with weather forecasts to determine when crop watering is optimal.



From left: Edward Hooper, Dimaz Pramudya, Long Zheng, and David Burela

Farmers are supplied with crucial information via SMS or Microsoft Live alerts.

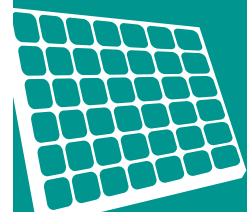
As soon as a problem is detected, such as critical moisture levels or burst water mains, an alert will be sent directly to the farmer.

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SOAK (continued)

SOAK also allows the farmer to configure the system to best suit the needs of their crops or the land on which they are grown. A vineyard for example could configure their SOAK system to water the grapes weekly during the initial growth stages. Once the grapes have grown, the touch of a button can adjust the amount of water used on the vines to drive up the sugar content.

SOAK is being developed to help farmers better utilise their water use by measuring environmental aspects of the land as well as forecasting future conditions. Once this information has been gathered, the SOAK system can be configured to ensure

the crops receive their exact water requirements with minimal waste. Saving water is of paramount interest due to the continuing droughts. 2007 saw the worst crop production in 20 years with a 59% reduction in crop yield from 2006.

SOAK is a project that aims to offer accurate and very useful information with an easy to use interface. As climate and harshening conditions make farming increasingly harder, a new system such as SOAK can help ease the burden on farmers as well as our dwindling water supplies.

Aurora congratulates David and his hardworking team on their inspiring project and triumphant international success.



The Windows Vista sidebar gadgets provide quick information at a glance about key points around the farm. There are currently 2 types of gadgets.

The blue ones (above) display information about water sources. As dam levels as well as water use is being recorded, farmers can receive an approximate value as to how much longer the water supply will last. This allows the farmer to be pro-active about their situation and they can now try to acquire water from another source.

The PDA application (right) allows farmers to access information about the sectors while they are out in the field. It also gives them instant overrides to the irrigation system in the event the farmer finds a fault in the watering lines.



THE SOLAR SOLUTION

Think of all of the electrically driven applications that you have around the farm. Now think of the energy saved if these devices were run by harnessing the power of the sun.

Solar energy on farms is by no means a new concept, however it is important to take into account just how many tasks around your farm could benefit from solar applications that don't rely on the close proximity of the grid to function.

On large properties, solar installations can easily provide enough power for devices which would be difficult and costly to connect to the grid. These devices include everything from electric fences through to remote weather stations.

Small solar panels can also work wonders, alleviating the need to physically undertake tasks. For example, take the inconvenience and time it

takes to open and close gates around your property. A small solar panel can be used to operate the gate opening system, saving you the time to open it and the hassle of trying to install a system that is connected to your main source of electricity.

Remote cameras can also be solar powered so that you can receive video links that monitor different parts of your property from the comfort of your home. Solar powered cameras can save on fuel and the time it takes to drive or walk out to the more remote parts of your property.

Solar installations can also make pumping water more efficient. For starters, you don't need a battery or a connection to the grid. Many solar water pumps circulate water based on the amount of solar energy that hits the pump. The more sun, the more water that is pumped. This is a great way to conserve energy and water.



In periods where a lack of sunlight is prolonged, a more complex system will need to be installed.

It is a well known fact that a substantial amount of energy is used in heating water in the home. Heating water in incubators and hatcheries is no different. Solar energy systems can take care of this task and they can even maintain and control the water temperature with expert precision.

Portable power tools can also be charged using different solar setups, allowing you to recharge your tools away from the main power source of your property, saving you time travelling back and forth.

As you can see, small solar setups around your property can save time and energy. So the next time you are faced with a task around your farm, think solar and call Aurora. We can help you find the experts.

Contact us

Business enquiries
1300 13 2045

Residential enquiries
1300 13 2003
(7am – 7pm Monday to Friday)

Call these numbers for all natural gas and electricity enquiries. This includes advice and information on:

- natural gas
- electricity
- energy costs
- heating and cooling
- hot water
- lighting
- payment options.

Dial before you dig
1100

Electricity (Aurora)
emergencies and faults

(24 hours a day, 7 days a week)
13 2004

Natural gas (Powerco)
emergencies and faults

(24 hours a day, 7 days a week)
180 2111

Electricity product
sales and services
1300 13 2006

Alterations to our
network
1300 13 7008

- easements
- private powerlines
- pole queries
- new supply.

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ENERGY EFFICIENT IRRIGATION



Generally, the majority of energy used on a farm goes into its irrigation systems. Some farm irrigation systems account for over 75% of the overall energy consumption.

Here are some points to help you get the most from your irrigation system:

- Are you sure you are on the right tariff? You can check by reading Aurora's *Business Guide to Electricity*, or look at the Aurora website.
- Schedule your irrigation systems to use the cheaper night time rate
- Check that your current equipment is running smoothly and efficiently
- Consider installing new, more energy efficient equipment, for example, high efficiency motors with improved bearings
- Ensure motors have the correct rating for the load purposes.

Maintaining equipment efficiency

- Maintain your system to minimise leakage,

especially if you have numerous connections

- Check that your pump and irrigation systems are running at the recommended flow rates and pressure, with the correct suction setup
- Make sure that all of your irrigation fittings and pipes are clean on the inside. Internal build-up can increase friction and pumping costs.

Management tools

- Reduce run-off by making sure that you are not applying water at a rate that is higher than the soil can accept
- Check that your irrigation system is distributing the water evenly
- Introduce irrigation scheduling by using soil monitoring equipment (see below)
- Ensure that there is minimal overlap between sprinklers. It may be possible to reduce the amount of sprinklers used by spreading them out.

Soil-water monitoring

By monitoring the water content of the soil, you can improve the efficiency of your system. Only watering when you need to reduces the waste that occurs by routine watering. Using a soil-water monitoring device can help you to develop an irrigation schedule based on the water needs of the crop. By using a schedule like this, you can improve irrigation efficiency and maximise crop production.

Variable speed drives

Variable speed drives can reduce energy use by up to 50%. They work by adjusting the speed at which the pumps rotate. By doing this, the pressure and flow requirements of your pump can be matched with the pressure and flow requirements of the delivery system. They are generally only necessary if you run more than one system off one pump.

As you can see, by applying some simple tips it is easy and achievable to reduce the energy consumption of your irrigation system.

ESTIMATED METER READINGS



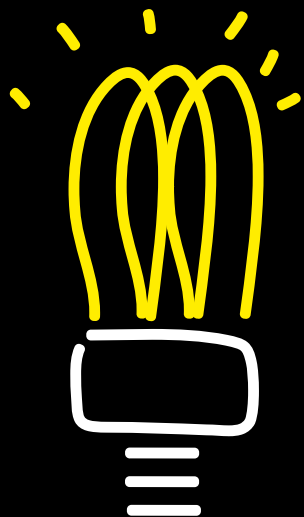
Overgrown vegetation

Aurora is dedicated to obtaining metering readings to ensure that you are charged the right amount on your energy account. If Aurora cannot access your meter then an estimation is made based on the same time last year, or if those readings are not available, on the last quarter.

To avoid unnecessary discrepancies, it is important to ensure that your meter is accessible at all times. Aurora only make estimations when we cannot access your meters or it is deemed unsafe for our staff to physically get to meters. In a recent survey, nearly 1,500 meter installations around the state were deemed unsafe to access. A number of these meters have been read in the past, however due to

ongoing changes regarding duty of care, employers including Aurora and property owners have an increased responsibility to ensure that both work places and work sites (such as your property) do not present a safety risk.

Above all else, safety is our number one priority. While it is important for our meter readers to be able to access the meters safely to read them each quarter, it is equally important for you to be able to access the meters safely in the event of an emergency. This is important in events where the Tasmania Police, Tasmania Fire Service or an ambulance service needs to shut off the power. It is very important that the meter can be accessed safely and quickly.



Visit our site and see the light!

When you visit www.auroraenergy.com.au you will learn that energy efficient light globes are five times more efficient than conventional incandescent globes.

To learn more about saving energy and saving money visit www.auroraenergy.com.au and follow the links.

SAVE ENERGY, SAVE MONEY.





Two simple rings of tree or old pole (placed near a post to provide a steadier) and a length of poly pipe over the barbed wire & electric fence tape.

Aurora will not risk person or property to read a meter. This includes not driving over paddocks with the risk of vehicles becoming bogged, or any damage to your property that may occur in the process

of accessing your meter, such as vehicles damaging crops. Our meter readers also provide the important function of visual inspection on our assets when they are on site to ensure the meter

time switches and other assets are functioning correctly and are safe.

Aurora can only make three estimates due to inaccessible meters. After that, we must take an actual reading. The costs of any follow-up visits required to obtain an actual reading will be charged to your account. It is important for electricians who are installing meter boxes to carefully consider the location of the meters to reduce future problems arising. The Service and Installation Rules, which are the industry standards, state that, "All weather pedestrian access shall be provided to every metering position. All metering positions should not be more than 20 meters from all weather vehicle access."

If your account is estimated, and you believe the consumption does not reflect the amount of energy



A great example of a simple but sturdy stile.

consumed in that period, we will revisit to take an actual reading, provided access arrangements can be made. There will be a charge applied to this visit.

If you have a question about your accounts or your meters, call **1300 13 2003**. Likewise, if you would like to advise us of any special arrangements or requirements you may have concerning access to your premises or property, do not hesitate to contact us on **1300 13 2003**.

DON'T LET YOUR TREES CROSS THE LINE

Powerlines and trees don't mix. It's a simple message but one that Aurora will be driving home over the next couple of months. When trees grow too close to powerlines, branches and bark can fall onto them causing the lines to clash together. The resulting sparks have been known to start bushfires, with disastrous results. Aurora urges land owners to get involved in the safe growing campaign to help minimise this risk.

Aurora's Group Manager Local Asset Management Mike Peters says, "Aurora spends around \$5 million to \$6 million each year to manage vegetation growth around our assets, but we need assistance from the community if we are going to minimise bushfire risk. Our field crews are keeping an eye on the situation, reporting any areas where the vegetation needs to be

cleared around our assets. But we urge landowners to take responsibility for vegetation growth on their properties and around their privately owned assets. A major fire incident that affected our powerlines and other installations would not only cause serious power interruptions to our customers, but also hamper

(continued page 6)



DON'T LET YOUR TREES CROSS THE LINE

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the fire services' ability to run pumps to fight the blaze."

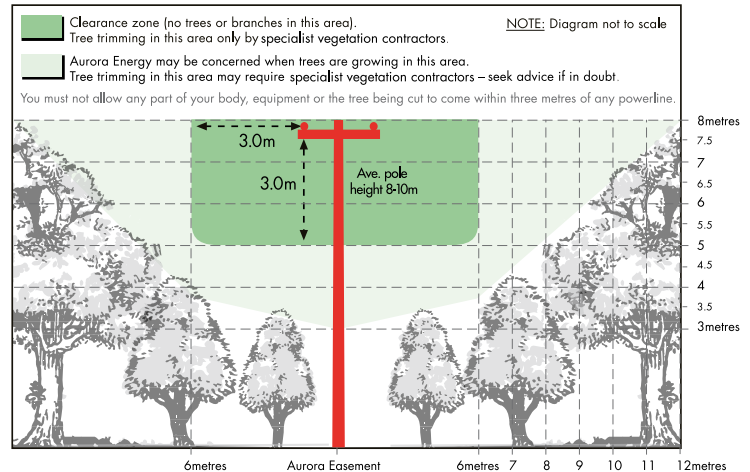
It is important to survey your property to ensure that no trees or shrubbery are going to come into contact with powerlines. Aurora's general rule of thumb is that trees should be clear of power lines by at least three meters. This distance is especially important at the mid point of the line between the poles, as this is where the wires have maximum swing in the wind.

Tree trimming is the obvious answer. In most cases, this should only be carried out by a specialist vegetation contractor. By law, and for obvious safety reasons, tree trimming cannot be performed by the landowner in the following circumstances:

- The distance between the tree and the power line is less than three metres
- Any part of your body or equipment would come within three metres of a power line
- The tree is taller than the powerlines, regardless of the distance between the tree and the wires.

Farmers are also encouraged to observe the state of the power poles on their property. Aurora strongly recommends that any fire risks should be reported immediately. There are some danger signs to look out for:

- Vegetation around the base of the pole
- Obvious line defects, such as broken strands or loose/damaged insulators
- Trees growing too closely to powerlines.



Clearance zone for powerlines

Every tree that is planted now could become a fire hazard in the future. Aurora urges property owners to plant trees well clear of powerlines, so that when a tree reaches mature height, it is at least 3 metres away from uninsulated powerlines.

Aurora has produced a brochure called 'Safe

Growing'. It specifies what vegetation is suitable to plant near powerlines and also talks about the do's and don'ts of tree trimming.

If you would like a copy of the 'Safe Growing' brochure, please contact Aurora on **13 2004** or visit www.auroraenergy.com.au

SAFETY AND ENVIRONMENT AT AGFEST

The Aurora site at this years Agfest was buzzing with visitors, eager to learn more about getting the most out of their power.



Many of the Agfest goers were keen to test their knowledge on energy efficiency using our energy quiz. There was also a solar display that drew people who wanted to learn first hand about renewable energy sources.

Along with tips and hints on energy efficiency, safety

was high on the agenda. Following our 'Don't Die-Look Up, Look Out' campaign, farmers were invited to collect free safety signs to display on their properties.

If you would like a free "Look up and live" sign for your property, simply fill out the form on the back page and we will get one to you right away. If you would like to try your hand at our energy efficiency quiz, log on to www.auroraenergy.com.au/save_energy.

From everyone at Aurora, thank you for another great year at Agfest.



Q&A

More of your Q&A's from our Customer Service Centre files.

How do I know the running cost of my pump?

- if the rating on the pump is in KW:
KW x rate = cost per hour
- if the rating on the pump is in horse power:
horse power x .75 = KW
then
KW x rate = cost per hour

This is a maximum hourly running cost.

My account is in a company name and I have been asked to provide a Business Authorisation number. I am unable to locate mine, how do I go about getting another?

The Business Authorisation number is provided to customers with company accounts as a way of identifying that the person over the phone has the authority to deal on that particular account. If you would like a copy of this number, either telephone **1300 13 2045** or send a fax to **6237 3444**.

I have an irrigation pump. Can you please tell me what the times for the low and high rate are?



Tariff 73 night rate is applicable for an 11 hour period from 8pm to 7am EST and Tariff 74 day rate is applicable at all other times.

When I went to Agfest there were Look Up Look Out farm gate signs that were given to farmers. How do I get one of these signs to put up on my property?

Call Aurora's Business Line on **1300 13 2045**, or fax the form on the back page.

Our workshop on the farm is always blowing a fuse. What can we do to stop this happening?

If you are continually blowing the same fuse or trip the same circuit breaker you should have your electrical contractor check the installation.

When I called the Aurora Faults line during a power outage they asked for the Pole Identification number. Why do they need this?

Aurora identifies all poles with a six digit number. By supplying this to the fault crews they are able to respond to the outage quicker.

Call Aurora on **1300 13 2045** or visit www.auroraenergy.com.au for more information.

Want more information?

Get an *Electric Farm Fact Sheet*

- Kids' safety
- Fatal illness – the dangers of faulty wiring
- Dairy
- Irrigation
- Private powerlines
- Private power pole maintenance
- Safe access to your meter
- Woodsmoke

For free copies please contact Aurora's Customer Service Centre on **1300 13 2045** or visit our website at www.auroraenergy.com.au



Gas or Electricity?

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Business **1300 13 2045**
Residential **1300 13 2003**

www.auroraenergy.com.au



NATIONAL WINNERS GET DOWN TO BUSINESS

TASMANIA EXCELLED AT THIS YEAR'S NATIONAL FAMILY BUSINESS AUSTRALIA AWARDS, TAKING OUT TWO CATEGORIES OF THE COMPETITION. THIS WAS A GREAT WIN FOR TASMANIAN FAMILY OWNED BUSINESS.

According to the Tasmanian Chairman of Family Business Australia, Diane Thompson, "Over 80 per cent of businesses in Tasmania are family owned, so these awards really highlight the need to recognise and reward family businesses for their contribution to the state".

Bruny Island Charters received the First Generation category

prize while Petuna Seafoods were awarded with first place in the Second Generation category of the competition.

To see such a great result for Tasmanian family owned businesses could not have come at a better time, with Aurora Energy coming on board as the Gold State sponsor for the FBA Tasmanian chapter.

As Aurora Energy General Manager Paul Bloomfield stated, "Family businesses are the backbone of our economy, which is why we are so proud to pay tribute to these successful entrepreneurs through sponsorship of these awards and FBA initiatives in Tasmania".

With over \$3.4 trillion dollars worth of wealth being

pumped into the Australian economy by family business, we can look forward to many more national and state level accomplishments through family businesses. Congratulations to all those who participated in the awards and a special congratulations to both Bruny Island Charters and Petuna Seafoods for their great success on a national level.

**FOR FREE COPIES OF OUR
BUSINESS BOOKLETS
FAX AURORA ON 6237 3444**

This is our 13th edition of *Electric Farm* – a publication specifically designed to help agricultural businesses manage their energy requirements. We would welcome your feedback so we can continue to improve future editions. Phone 1300 13 2045 or email business@auroraenergy.com.au

To:

Edition:

Please fill in your details below (please print clearly):

Contact name:

Date sent:

Business name:

Postal address:

Email:

Phone:

Business type:

Dairy

Beef

Wool

Crop

Vineyard

Other:

I would like free copies of:

The Business Guide to Electricity

What's the best rate for my business?

*Organising a new power supply?
Upgrading your power supply?*

LULO Farm gate sign

Fact sheet: *Energy efficient irrigation*

Fact sheet: *The energy efficient dairy*

Combined account application form

Fallen Powerlines



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The information in *Electric Farm* is for guidance only.

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