

# FACT SHEET - ELECTRICITY

## Production:

Electricity in Alice Springs is produced by generators run on natural gas drawn from the Mereenie gas fields, over 200kms west of town. This natural gas is piped to the Ron Goodin Power Station and the Brewer Estate Power Station. Between these two facilities, our generation capacity is around 70 Megawatts, or 70 000 000 watts.

## Usage:

One of the benefits of natural gas is the ability of turbines to quickly increase and decrease output, according to demand. The power demand is monitored closely by *Power and Water* and the amount generated is adjusted accordingly.

Now, 70 Megawatts may seem like a massive amount of power, but peak loads (especially on hot days) have recently been regularly climbing over 50 Megawatts. This is over 70% of capacity and it is steadily increasing each year. As there isn't a huge amount of industrial power usage in Alice Springs, a majority of the power is generated for residential and commercial usage. Peak power usage is directly affected by the increasing use of refrigerative air conditioners, especially between 8am – 6pm. If we continue to grow as a town and increase our energy demands, more turbines will be required to meet that demand and ultimately those costs will be handed on to us, the consumers.



## Greenhouse Emissions:

Natural gas is one of the “cleaner” forms of fossil fuels used for energy production in Australia, but it still has significant greenhouse gas emissions. The greenhouse emissions of natural gas is stated as 0.55kg of Carbon dioxide(cO<sup>2</sup>) per kilowatt hour (kWh). The average house in Alice Springs uses around 8000kWh per year (or around \$1120/yr), this has a profile of 4400kg /yr (or 4.4tonnes). As we reduce our demand, we reduce the amount of generation required and, by default, our greenhouse gas emissions.

*(Note- The figure of 0.55kg cO<sup>2</sup>/kWh is the instant reading at point of generation. It doesn't include the “embedded” energy of the associated processes of gas extraction, transport and operation of the power stations.)*

## What is your household greenhouse profile?

Annual Electricity Usage	2000kWh	4000kWh	6000kWh	8000kWh	1000kWh	12000kWh
Annual cO <sup>2</sup> Greenhouse Emissions	1100kg	2200kg	3300kg	4400kg	5500kg	6600kg



### **Reducing Greenhouse Emissions:**

The good news is - there is much that we can do as individuals and much of it is simple and cheap. Quite often changes you can make, with a bit of forethought and planning will benefit your house and workplace in both summer and winter.

#### *Top Tips:*

- Install insulation into your ceiling. This will help keep your house cooler in summer and warmer in winter, meaning you will require less heating/cooling to be comfortable.
- Paint your roof a light colour to reduce the heat penetrating into your house in summer.
- Make sure your external walls and windows are shaded in summer.
- Reduce the hours you have the Air conditioner running.
- Also, running your evaporative cooler on Low rather than High, or increasing the temperature of the cooling cycle on a split system will save energy (10% for each 1°C)
- Lower your hot water system thermostat to 60°C to reduce it's energy demand
- Turn off the booster on your solar hot water system in warmer months and only use when necessary in winter.
- Install a low-flow showerhead to reduce demand for hot water
- Replace "normal" incandescent bulbs with energy saving Compact Fluoros (CFL's)
- Check the seals of the fridge & freezer. If the seals can hold a \$5 note firmly, they are OK. If not, replace with new seals.
- Turn off at the point any appliances that use Standby Power. The main culprits are: TV, DVD player, Computer screen, Stereo, Microwave.

### **Home Energy Audits:**

DKA COOLmob offers a Home Energy Audit service to Alice Springs residents who want to know how they can reduce their energy usage, and greenhouse impact. The Audit involves a trained auditor coming to your house, having a look at your bills and doing a walk-through of your house. Based on those observations, the householder and Auditor develop a list of actions and priorities to tackle the energy use.

Many audits have taken place around Alice Springs and have helped many householders to fine tune their power demands. It is good for the environment AND your wallet! To book an audit please contact the Program Manager on the details provided on the top of this sheet.