

# CASE STUDIES



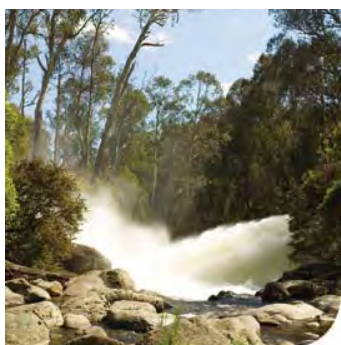
## ISIS BAGASSE GENERATION FACILITY

- › AGL's ISIS Central Sugar Mill facility is a renewable cogeneration project that produces energy from a sugar cane by-product (bagasse). The electricity is either used in the sugar mill or exported to the grid. The plant produces ~98,500 MWh of electricity p.a. This project saves more than 97,700 tonnes of CO<sub>2</sub> p.a.



## CENTRELINK, ENERGY EFFICIENCY

- › AGL has undertaken a seven-year program of energy efficiency with Centrelink across the organisation's portfolio of more than 430 tenanted properties. The program continues to date and has achieved savings of over 10.3 million kWh per annum worth over \$1.65 million. This represents over 10,000 tonnes of CO<sub>2</sub>e and approximately 13 per cent p.a. of Centrelink's annual energy consumption for its property portfolio.



## AGL HYDRO

- › AGL has ~610 MW of hydro generating capacity in Victoria. AGL's Bogong Power Development is the largest mainland hydro development in 20 years and will add an additional 140 MW of generating capacity. It will produce 94,000 MWh of peaking generating capacity and avoid 93,000 tonnes of CO<sub>2</sub> p.a.



## MILLAR ROAD, ROCKINGHAM LANDFILL GAS GENERATION

- › AGL's landfill gas project at Rockingham generates ~15,700 MWh of electricity p.a. Utilising landfill gas to generate electricity saves more than 85,200 tonnes of CO<sub>2</sub> p.a. from being emitted.



#### **CAMILLERI STOCKFEED, BIOGAS GENERATION FACILITY**

- › The processing of animal products creates anaerobic wastewater lagoon by-product, which produces methane. The biogas is captured by AGL's Biogas Utilisation Plant in Camilleri, New South Wales. The plant produces renewable energy to power its own machinery and flares excess methane. This project saves more than 6,600 tonnes of CO<sub>2</sub> p.a.



#### **FOUR SEASONS HOTEL, ENERGY EFFICIENCY**

- › AGL undertook a detailed energy efficiency audit in the hotel and identified a number of Heating, Ventilation and Air Conditioning (HVAC) and lighting measures to reduce energy consumption including the replacement of cooling towers and a chiller. The project achieved savings of 1,150,885 kWh/year of electricity and 1,222 tonnes of CO<sub>2</sub> p.a., with annual cost savings of \$144,550, and a simple payback period of 6.15 years.



#### **AGL HALLETT WIND FARM**

- › AGL's Hallett Wind Farm projects, located approximately 220 kilometres north of Adelaide in South Australia, will be able to produce enough clean renewable energy to power over 60,000 homes when it is completed, with 134 wind turbines in South Australia and a total capacity of 257 MW. Hallett is an ideal location for wind generation.



#### **COOPERS BREWERY, COGENERATION PROJECT**

- › AGL built, owns and operates a cogeneration facility at Coopers Brewery in South Australia. The facility produces 4.4 MW of electricity and generates up to 21 tonnes of steam per hour. Excess electricity is exported to the grid and steam is used by the brewery. The project reduces GHG emissions by up to 7,000 tonnes p.a.





### **SUNCOAST GOLD MACADAMIAS BIOMASS COGENERATION FACILITY**

- › AGL's Biomass Cogeneration Facility in Queensland is the world's first and only macadamia shell powered cogeneration project and reduces 5,000 tonnes of shell waste by converting it into a biofuel to generate renewable energy. The shell husks from the macadamia nuts are burnt in a 6 MW steam boiler, with steam used to dry the nuts and also to power a 1.4 MW steam turbine and generate renewable energy for the site and export to the grid.
- › The plant produces ~5,500 MWh of renewable electricity p.a., reduces landfill waste, creates renewable energy and reduces GHG emissions by more than 5,100 tonnes of CO<sub>2</sub> p.a.



### **McROBIES GULLY LANDFILL GASPOWER GENERATION FACILITY**

- › Methane-rich landfill gas is used to power a gas-fired generator and produces ~7,800 MWh of electricity p.a. Utilising the landfill gas to generate electricity means AGL is also displacing electricity sourced from fossil fuels and reducing methane emissions. This project saves more than 32,200 tonnes of CO<sub>2</sub> p.a.



### **WILPENA POUND HYBRID SOLAR/DIESEL POWER STATION**

- › The solar generator located at Wilpena Pound in the Central Flinders Ranges in South Australia was commissioned in December 1998. The station has 1,250 solar cells, each with a capacity of 80 W. the panels cover more than 2,000 square meters and have a 400 kWh battery bank with a 100 kW electrical capacity. The inverter is a 125 kVA bi-directional inverter. The solar generator produces 145 MWh of renewable energy p.a. and avoids ~140 tonnes of CO<sub>2</sub> p.a.

