



GREENPOWER GROWS ON TREES

Suncoast Gold Macadamias in Gympie, Queensland, is fired up over a \$3 million waste-to-energy plant that generates GreenPowerTM from burning waste nut shells.

Not only does Suncoast Gold Macadamias generate its own power it also supplies 8,100 megawatt hours of renewable GreenPower energy into Queensland's electricity grid.

That's enough to power more than 1260 households a year or a town around the size of Daylesford in Victoria, Ceduna in Western Australia or Charleville in Queensland*.

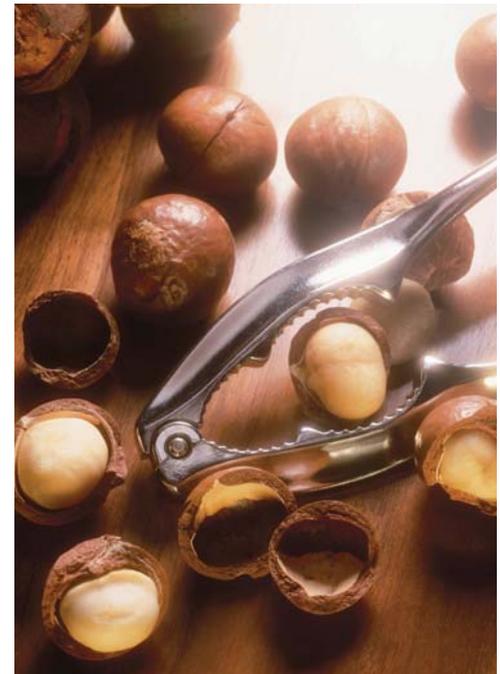
This innovative waste-to-energy project cuts Australia's greenhouse gas emissions by around 7,500 tonnes per annum - equivalent to taking about 1800 cars off our roads.#

A smart solution for a growing problem

Suncoast Gold Macadamias is one of the world's largest processors of macadamias and a major player in the global macadamia market, with exports to more than 20 countries including Japan, Europe and the United States.

It processes 6000 tonnes of nuts a year which yields about 4000 tonnes of shell waste.

As its business has grown so has the problem of what to do with all those nut shells.



Suncoast Gold Macadamias.

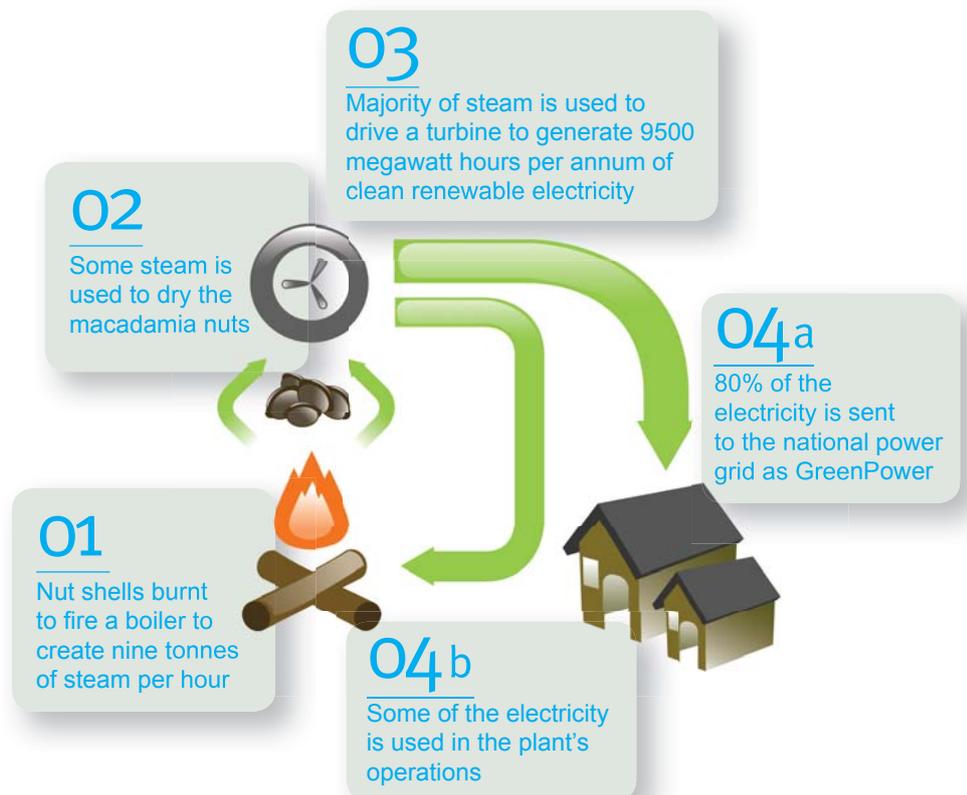
The solution and how it works

The nut shells are burnt to power a 6 megawatt steam boiler which produces nine tonnes of high-pressure steam per hour.

Some of the steam is passed through a heat exchanger to dry the macadamia nuts and to reduce the kernels water content.

The majority of the steam however is passed through a 1.5 megawatt steam turbine to generate approximately 9,500 megawatt hours per annum of clean, renewable GreenPower electricity.

Suncoast Gold Macadamias consumes up to 1,400 megawatt hours per annum for all their electricity needs, with the remaining 80% being exported as GreenPower and traded in the national electricity market.





Macadamia nuts in process.

✓ Good as gold working partnership

Macadamia nuts are a unique food source native to Australia. The Suncoast Gold Macadamias operation is also unique in that it is Australia's first biomass renewable co-generation facility using macadamia nut shells as a power source.

Suncoast Gold Macadamias is partnered by Ergon Energy's Powerdirect business in this innovative cogeneration project.

According to Jim Twentyman, Chief Executive of Suncoast Gold Macadamias, the generation of GreenPower provides a good environmental and economic outcome for the company.

"We provide the site and the waste shells and Powerdirect provides the plant and the technology.

"Powerdirect is responsible for making sure the technical side of the operation works, whereas Suncoast Gold Macadamias provides operation support and looks after things on a day-to-day basis.

"It's an unmanned boiler so we keep a check on it to make sure it's running smoothly. Any significant maintenance problems or in the event of a breakdown is handled by Powerdirect.

"Beyond generating our own green electricity we receive royalties for the power we produce and provide to the grid. The more power the greater the royalties," he said.

✓ Creative, effective and sustainable

Mr Twentyman said that beyond the cost savings the project has a range of other benefits that are more subtle.

"This project is a world first. While the sugar industry has been co-generating for some time this is the first time the macadamia industry has generated power in this way.

"It's a marketing plus for Suncoast Gold Macadamias. We are very supportive of this project; we want to be as environmentally friendly as we can. It's exciting. We're proud to be pioneering a process and that creates awareness of GreenPower.

"Energy efficiency and environmentally sustainable processes are key strategies for our company. Our partnership with Powerdirect achieves both of these goals by substantially increasing our competitiveness and converting Suncoast Gold Macadamias into an energy-efficient green site," he said.

✓ GreenPower is driving renewable energy

Suncoast Gold Macadamias Gympie plant is an accredited energy supplier for the GreenPower program.

GreenPower approved generators comply with stringent environmental standards and the GreenPower accredited component of electricity products must be 100% 'new' renewable energy ('new' renewable energy is sourced from generators which have been built after 1 January 1997).

✓ At a Glance

Energy fuel:

Steam generated electric power from a boiler fuelled by macadamia nut shells

Partner:

Ergon Energy's Powerdirect business

Location:

Suncoast Gold Macadamias, Gympie, Southeast Queensland

Energy Output:

8,100 megawatt hours per annum of electricity of GreenPower to the grid, equivalent to powering 1260 homes

Greenhouse Gas Abatement:

7,500 tonnes per annum - equivalent to taking about 1800 cars off the road.

GreenPower accreditation provides assurance that the renewable energy a customer purchases is reducing greenhouse gas pollution and helping to develop a robust renewable energy industry in Australia.

✓ Support a greener future for all

Waste-to-energy plants are just one of the ways waste can be used to generate accredited GreenPower. Australia is leading the way in terms of the technology needed to convert waste to clean, green energy.

But if we are to reduce greenhouse pollution from electricity then more Australian households and businesses need to purchase accredited GreenPower to help fund the long-term development of clean, renewable energy in this country. The result will be a better, brighter future for all Australians.

*Calculations: Based on an average household's use of 6.47 megawatt hours per year, 8,100 megawatts hours will supply 1250 households a year - with an average household size 2.6 people.

4.33 ton of greenhouse gas per car