

Pakington Strand Green Store



Pakington Strand Shopping Centre and Woolworths' Latest Green Store

As one of Australia's largest companies, how we manage our operations and develop new stores can have a significant impact on the environment.

Woolworths Limited has set a target to reduce carbon emissions by 40% by 2015, compared to business-as-usual growth.

Almost 50% of greenhouse gas emissions from our stores are associated with refrigeration.

Other major contributors to greenhouse gas emissions from our stores are air conditioning and lighting. We are continuously looking for innovative and commercially realistic solutions to reduce our environmental footprint.

The new Woolworths Pakington Strand is what we call a Green Store. It brings together many of the innovative technologies that we have been trialling individually and serves as a benchmark for environmental performance for all our future store developments.



Australians are one of the world's highest emitters of greenhouse gases with nearly half of these emissions estimated to come from business.



Woolworths
the fresh food people

Introducing Woolworths' newest Green Store

Woolworths Pakington Strand Green Store incorporates a number of initiatives that reduce it's environmental impact by reducing:

- energy use
(and associated greenhouse gas emissions)
- water use
- waste
- the use of harmful materials

Lighting

Most of the lighting at the Pakington Strand Woolworths is T5 fluorescent technology and all lighting in the store is incorporated in the automated lighting control system. These systems enable us to control and reduce energy use and therefore greenhouse gas emissions.

Natural light is available in the store and the automated lighting control system will adjust the use of fluorescent lighting depending on lighting levels in the store.

Woolworths typically use fluorescent tubes to illuminate external signage. The external Woolworths sign at Pakington Strand includes light emitting diodes (LEDs). These use approximately 70% less power than conventional signage lighting and also have a much longer life which significantly reduces the need for replacements.



T5 fluorescent lamps are the most efficient commercial fluorescent lamp.

In most environments they offer energy savings of nearly 30% in comparison to other fluorescent lamps.



Refrigeration

Cascade Carbon Dioxide Refrigeration

One of the most important initiatives in the Pakington Strand Green Store is our cascade carbon dioxide (CO₂) refrigeration system. We have replaced most of the synthetic refrigerants with CO₂ which has a Global Warming Potential that is 3,700 times lower than the conventional refrigerants typically used in food retailing.

Heat Reclaim

The refrigeration system in the supermarket incorporates a heat reclaim system. As the name suggests, this system collects the waste heat from the refrigeration and uses it within the store's air-conditioning system, resulting in a reduction in greenhouse gas emissions.

Wetted Pads

In addition, the refrigeration and air conditioning at Pakington Strand utilises wetted pad pre-coolers on the condensers to minimise inlet condenser temperature, placing a lower demand on these systems. The lower air temperature allows the refrigeration and air conditioning system temperature to be lowered, resulting in improved energy efficiency (in the order of 5%).

Fans and Freezer Doors

Other innovative features of the refrigeration cases at Pakington Strand are the high efficiency fans and low-heat glass door freezers which also play an important role in reducing the total energy consumption of the store, contributing to lowering the overall carbon footprint.



LED

The Pakington Strand Green Store is the latest Woolworths supermarket to incorporate LED (light emitting diode) lighting technology in the glass door freezers. This results in an approximate 70% reduction in lighting power load (lighting load refers to the amount of power the lighting system is using) in comparison to conventional lighting.

Night Blinds

Pakington Strand is also the latest Woolworths supermarket to integrate automatic nightblinds into the design of the upright refrigeration cases.



The nightblinds will be closed when the store is not trading, trapping more cool air in the refrigeration cases and thus reducing overall energy use. Automatic nightblinds have been proven to reduce case refrigeration energy use by approximately 10%. This will reduce carbon dioxide emissions from the store by up to 100 tonnes per year.

Global Warming Potential refers to the contribution of a gas to global warming.

The greenhouse gas emissions associated with this refrigeration system is approximately 25% lower than refrigeration systems typically used by food retailers.

Waste Reduction

Less Packaging

Crate lounges have been installed in the produce area to replace the conventional wooden field bins. This removes the need for packaging as the reusable crates used to transport the goods can be placed directly into the crate lounge in the produce department.

Woolworths reduce cardboard box usage by 500,000 boxes per week by using reusable crates throughout our stores.

Recycling

Woolworths' standard recycling services for cardboard and plastic are also available at our Pakington Strand Green Store. Last year we recycled over 166,000 tonnes of cardboard through our business.

Fuel Use

Our store uses natural gas for store heating, water heating and the chicken cookers. Using natural gas as an alternative to electricity provides a further reduction in the store's carbon footprint as gas is proven to be 40% less carbon intensive than electricity.



A significant characteristic of LED is their ability to generate light without a lot of heat.

This means the refrigeration system doesn't need to work as hard to maintain its temperature, saving energy and reducing greenhouse gas emissions.



Air Conditioning

Economy Cycle

Our store incorporates an economy cycle in the air handling plant and, where possible, uses fresh outside air in preference to mechanical cooling.

Material use

We have replaced conventional vinyl flooring with a polished structural concrete floor at our Pakington Strand Green Store. The concrete floor has 20% recycled content so the overall environmental impact of polished concrete is less than vinyl flooring and it gives the store a fresh new look.

You will also notice that there are no ceilings above the grocery area, which has also reduced the amount of materials used in construction.



The Pakington Strand Shopping Centre

The whole Pakington Strand building has been developed and constructed with a large number of initiatives to reduce the environmental impact of the whole shopping centre.

Energy efficiency initiatives include:

- Natural ventilation to all tenancies and mall when ambient conditions are suitable
- Natural lighting in supermarket and mall area with automatic light control to reduce energy use
- Roof insulation to reduce demands for space heating and cooling
- Solar powered lighting used for car park lighting

Water conservation includes:

- Rainwater capture tanks, with a capacity of 90,000L, for storing water for use in toilets, irrigation, air-conditioning and refrigeration
- All tap fittings are a minimum 4 star efficiency rating

The impacts of materials used in development have been reduced by:

- Using timber that is 100% recycled or sourced from sustainable forestry
- Laying concrete flooring which includes 20% recycled content
- Using low VOC (Volatile Organic Compounds) in all paints and adhesives.

Did you know that the average family could save approximately 500 plastic bags a year by remembering to use green bags?

So please remember yours when you go shopping.



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