



HIGHFIELDS *POWER* HOMES

October, 2006

FACT SHEET

POWER HOMES

- *P*rotect
- *O*ur
- *W*orld
- *E*nvironment
- *R*ecourses

Lauder Pty. Ltd. is serious about developing sustainable and smart housing outcomes for Highfields. Our approach has been to take a proven, high quality house design and provide an ESD (Environmentally Sustainable Design) overlay which not only makes the home more responsive to the environment and assists to reduce water utilization and green house gas emissions, but is also safe for you and your family.

Our intention is to produce an affordable 5 Star Energy Rated home. (We have achieved 5 Star Plus 40% efficiency)

The *POWER* Homes has received accreditation from Crows nest Shire Council as an approved environmentally sustainable development.

Importantly the *POWER* Home will be the first house in Crows nest Shire to be connected to Councils "Dual Mains" recycled waste water (to Class A standard) for the provision of recycled water for use in toilet flush and garden irrigation which roughly makes up 40% of household consumption.

TOP 10 SUSTAINABLE FEATURES

This Fact Sheet highlights some of the most important things that have been built into the **POWER** homes to improve the sustainability and to meet your needs as they inevitably change throughout your life, as well as make it more livable, safe, secure, cost-efficient and environmentally friendly.

The key issues are:

1. REDUCE WATER USE
2. EFFICIENT WATER HEATING
3. NATURAL HEATING AND COOLING (A/C TO SOME AREAS) ADDITIONAL INSULATION
4. INDOOR AIR QUALITY – SAFE AND SUSTAINABLE MATERIALS AND FINISHES
5. RECYCLED AND SUSTAINABLE MATERIALS
6. LONG TERM MAINTENANCE
7. WATER WISE LANDSCAPING
8. ENERGY EFFICIENT LIGHTING AND ELECTRICAL APPLIANCES.

9. OUTDOOR LIVING

10. ADDRESS TO STREET

1. REDUCE WATER USE

The **POWER** Home will substantially reduce the reliance on mains supply of water for both the house and garden. With the provision of 2 in ground tanks (one for rainwater capture and one for treated water) the house will be almost 90% independent from the water grid. Important features include:

- In ground 23,000l. (5000Gal.) Manacon concrete tank. This tank is locally manufactured and will include a Davey Pump and Rainbank pump and filters to a dual supply to laundry, dish washer and kitchen (water to pass through additional under sink filter for drinking purposes) also external tap to be supplied from the rain water tank.
- Connection to Crows Nest Council “dual mains” recycled water network for the provision of treated Class A waste water for use in toilet flush and garden irrigation. A separate 2500litre tank will be connected to Council’s mains supply thus ensuring a days capacity.
- 4 Star Hunsu water saving plumbing fixtures throughout with Enviro Save Water system. AAA rated shower roses will use up to 9 liters of water per minute – less then half of a conventional shower rose, which can use up to 25 liters of water per minute.

- AAA Dual Flush toilets. The bathroom accounts for around a quarter of household water usage. The Dual Flush toilet uses 60% less water than a single flush system.
- Water Pressure Limiting Device.
- Dux “Readyhot” water recirculation system to reduce in pipe hot water wastage.

2. EFFICIENT WATER HEATING

The Qld. Government Dept. of Energy reports that up to 40% of domestic energy utilization in Qld. is for water heating! The **POWER** homes will feature a greenhouse gas efficient solar hot water system (with electric boost) which will be located in close proximity to the hot water outlets and will save approximately 80% on water heating bills.

This unit can save up to \$240 a year on the average family’s energy bill. Each solar hot water system installed reduces carbon dioxide emissions by an average 2.5 tonnes a year.

- Rheem Premier LoLine Solar Hot Water System with 270 liter storage tank (ground mounted) and No. 2 Low Line solar collectors with electric boost.

3. NATURAL HEATING AND COOLING (A/C TO SOME AREAS) ADDITIONAL INSULATION

The **POWER** home will be cool and comfortable in summer and warm and cozy in winter. Generally the approach has been a

Winter

- Gas space heater to Family Room.

4. INDOOR AIR QUALITY

It is important to ensure good indoor air quality by avoiding materials that contain volatile organic components that can cause irritation and allergies. The Highfields *POWER* home will feature the following:

- Low odour paint 99.7% VOC (Volatile Organic Compound)
- E1 Rating laminates. Low formaldehyde emissions.
- 100% Wool Carpet. Australian Made. Green Label Plus Programme compliant.

5. RECYCLED AND SUSTAINABLE MATERIALS

The *POWER* home will feature recycled and sustainable materials where suitable. Areas where this has been allowed for include:

- Bamboo Flooring throughout entry, family / living room, kitchen and corridor area. This is a renewable resource with 5 year growth cycle and is extremely durable and non toxic and is fire and white ant resistant.
- Recycled 200 x 200mm hardwood timber posts to front entry and Outdoor Living areas.
- Recycled timber battens to window screens to western elevation.

passive one by where the house design and orientation are suited for the climate but we recognize that with Global Warming and increased summer temperatures that there is a requirement for efficient space air-conditioning to some areas. **The well designed sustainable house will enable the residents to depend LESS on air-conditioning during summer months.**

Features which benefit in both summer and winter include:

- House orientation to suit the summer and winter path of the sun. Living areas on the prevailing wind side (south east and north east) utility areas (garage and laundry/bathroom) on west side. Outdoor living area on north east corner which is good for summer and winter.
- Increase roof, ceiling and wall insulation. Roof to have 55mm thick glass wool insulation blanket with integral reflective foil insulation with R2.0 rating. CSR Bradford Anticon 55 or similar. Ceiling to have 140mm thick glass wool insulation batts with R2.5 rating minimum. CSR Bradford 75mm Comfort Seal Ceiling batts. External Walls to have 75mm thick glass wool insulation batts with R1.5 rating minimum. CSR Bradford 75mm Comfort Seal Wall batts.
- G.James new “SOLECT” energy efficient laminated glass reducing both heat gain and heat loss creating an increase level of comfort in the home all year round.
- Western windows shaded from summer sun with recycled timber battens mounted to external screens.

Summer

- Ceiling Fans throughout the house.
- Energy efficient split system Air Conditioner located in Family Living Area. (Kitchen/Family Room/Hall)

6. LONG TERM MAINTENANCE

For the Highfields *POWER* home we have carefully selected materials which can reduce the repair and ongoing maintenance costs throughout the life of the home. Considerations include:

- The maintenance requirements and life expectancy of all building materials, fittings and appliances has been considered.
- The design of the home allows for easy access to items that require regular maintenance or inspection. (HWS and associated plumbing with pumps etc. all located in one secure area)
- The use of low maintenance materials in hard to access areas has been considered. i.e. the HWS is a system by where the storage tank is located on ground and not on the roof where it is difficult and dangerous to maintain and inspect.
- Materials can be easily cleaned.

7. WATER WISE LANDSCAPING

The Highfields *POWER* home is also environmentally friendly outside the house. Care has been taken by our Landscape Architects to select water resistant plants and yet at the same time create a beautiful landscape setting with mix of water tolerant exotic and native species. Specific features include:

- Water wise planting.
- Reticulation of rain water tank through to low energy drip irrigation system. (connected to tank water system only)
- Minimising lawn and high maintenance (water use) areas.
- Sustainable hard stand pavers and finishes.

8. ENERGY EFFICIENT LIGHTING AND ELECTRICAL APPLIANCES.

It is important to incorporate a range of low energy lighting and electrical appliances which reduce the amount of power utilized. The **POWER** home will feature:

- Use of fluorescent lights where possible. Fluorescent bulbs give five times the light, last up to eight times longer than ordinary bulbs and are around 80% more energy efficient.
- External lighting on motion detector and light sensing controls

9. OUTDOOR LIVING

The Queensland climate is unique and while the Highfields area experiences lower temperatures in winter than say Brisbane it is important to incorporate semi indoor/outdoor areas into the home design. This is a usable, permanently covered outdoor space located on the north east edge of the home with direct access to the kitchen/living area and the outdoor grassed play area for children.

10. ADDRESS TO STREET

The way in which the house and landscaping address the street clearly defines the separation between public, semi public and private spaces. The **POWER** home has:

- Area of lot not fenced in thus creating a very open play area linking to the wide footpath on the corner of Rogers Drive and Manooka Cres.

- A well defined and separate driveway and pedestrian entry which is clearly visible from the street and are at grade enabling ease of access for people with strollers or PWD (people with disabilities)
- Good external lighting for security and surveillance purposes.
- Timber batten privacy fence defining the private areas. Metal sheeted fence to side and rear of property.

Reference is made to the following documents for this Fact Sheet.

- Energy Wise Queensland. Qld. Government Environmental Protection Agency Department of Energy.
www.epa.qld.gov.au/sustainability
- Sustainable Living -Savings for You and the Environment Homeowner's guide to water and energy savings around the home. Qld. Government Department of Local Government, Planning, Sport and Recreation.
www.lpg.qld.gov.au/sustainable
- Smart Housing – Fact Sheet. Queensland Government Department of Housing.
www.smarthousing.qld.gov.au