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Australian Property / REIT Team

Paul Snushall (5671) >>
Sarah Cronin (5055) >>
John Spencer (5762) >>
Sally Cameron (5738) >>

+612 9226 - xxxx

✉firstname_lastname@ml.com

Research Analysts, Merrill Lynch (Australia)

Comment

Green Property: Does it Pay?

Report for the United Nations Sustainability Project

Reason for Report: *Assessing the Value in Being Green*

Property

Profit Comes Before Sustainability:

It is very clear that the property industry will not sacrifice profit for the environment if it is not forced to do so by the planning bodies or its end users. It is equally clear that Green or Sustainable property is moving up the agenda and that the Listed Property Trusts need to have a focus on the Environmental impact of their developments and investments.

- Development Approvals are almost impossible to achieve if the application does not include a focus on sustainability.
- Government and large corporates are requiring Green or Sustainable buildings when looking at their office space requirements

While there are definite leaders in this field, the entire sector is moving to meet what is fast becoming a commercial requirement to attract tenants or win approval. We would suggest that this will see the LPT sector more Green than its less well capitalised competitors which may provide a level of outperformance.

When we asked the LPTs about why they have implemented Green / Sustainable policy they suggested ...

- Improved Reputation (the Green Brand)
- Enhanced Income (attracting/retaining tenants)
- Lower Costs (focus on using reducing greenhouse emissions)
- Increased Investor Base (increased number of sustainable investor)

This all seems sensible if it comes with a decent IRR, which on the surface, it does.

What is a Green Building

We were unable to find a clear definition of what was a Green or Sustainable building. At first we found that difficult to understand, but as we got into the topic we found that Green or Sustainable is an entire range of values, many of which do not have an easy way of being measured. From a stock market perspective, the lack of a clear definition is an issue.

UN Success

Just by convincing us to undertake this research, the UN has raised the profile of the Green / Sustainable issue with us, and for those of you that have made it this far, us with you.

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Investors should consider this report as only a single factor in making their investment decision.

Refer to important disclosures on page 13. Analyst Certification on page 12.

Scope of the Research:

The Merrill Lynch Property Team covers the Listed Property Trusts in Australia. The sector owns more than \$100bn of assets in office, retail and industrial markets, along with some development operations that centre around the sectors' investments and the residential market.

This research note is based around analysis of these owners and the impact that the ground swell of Green or Sustainable property is having on their businesses. The aim of the research is to identify if it pays to be GREEN.

We wanted to identify what was meant by the terms "Green" and "Sustainable" and assess if;

- Being Green added value to the bottom line;
- If Green / Sustainable property is the goal or a means to a goal; and,
- If the investment markets should increase its focus on stocks that are making a difference in this area.

The scope of our study has been limited to the investment property within the Australian Listed property Trust environment and the business that the sector carries on. We have not attempted to take the study beyond these parameters.

Background

We were asked to participate in this United Nations Environmental research project on the basis that we had been looking at the environmental impact of property in Australia for some time. The perception came from our monthly "GREEN Book" that provides a wrap on the LPT-REIT sector ... so called because we print it on green paper so it is easy to find on your desk.

So, our first conclusion is that GREEN does get noticed ... but not always for the obvious reasons.

As we carried out our research, we found that the property owners spend more time on the Green and Sustainability aspect of their business than we had first thought. We also found that our initial narrow definition of GREEN (or sustainability) needed to be broadened.

Property is the largest asset class in the world by a significant margin. The development of property and the uses of the property have massive impacts on the environment.

Key Conclusions

Definitions of Green and Sustainable property are not concrete, which makes measuring the financial outcomes in typical stock market precision difficult.

The outcomes that are easy to measure, such as the use of utilities is interesting, but the costs of running a building pale into insignificance when compared to the cost of the workers and machinery within buildings.

This suggests that the question that we are not in a position to answer is probably the most important one. Does a Green or Sustainable building boost the productivity of the work force?

If the answer is yes it is likely that the Green / Sustainability aspects of the property have added significantly more than the energy cost savings that is currently the key measure. Measuring productivity on a constant basis, however, may not be possible.

What we can Measure ...

Within the Office sector there is a definite requirement for Green rated buildings. This is tenant driven, with most meaningful tenant enquiry (including Government) containing a Green star rating in the market brief. The Green ranking tends to be on utilities savings / waste management.

All the office trusts are aware of the importance of meeting these briefs and most are following the leader (being Investa) in a Green rating process. We expect that this will end up providing the LPT sector with a competitive advantage over the less well capitalised players.

Retail property, which sits at the other end of the commodity (office) to monopoly (regional Retail) spectrum, has not seen any pressure from tenants or consumers to be Green. Green values have been melded within design with the social amenity (meeting place, transport hub) and the experience such as lighting, finishes etc being Green / Sustainable. These things are typical in design and not as a result of a Green policy.

The key driver for Green / Sustainability in Retail and Residential appears to be in the planning stage. To gain a Development Approval or win a major Government tender to develop a property / region, the Green and Sustainability aspects of the application are vital. We were not able to ascertain the quantum, but without an adequate Green submission the approval process could be tougher, and in terms of tenders for the development of Government projects / land releases, the relative importance of the Green appeared higher, but it is not something that can be measured accurately.

(Continued)

Is Green just an outcome of good management?

Another interesting finding was that many of the day to day operations of a property portfolio and the Green or Sustainability theme are interlinked. Reducing the cost of running a building is what good management does. This is a good Green outcome if it comes from reducing utility usage. Focusing on Green highlights where management may have been lacking, allowing costs to be reduced / profits increased.

Should the Tenant be the Focus ...

While outside the scope of the research, it is clear that in a typical investment grade building (there are no owner occupied buildings in the LPT Sector), the tenants has just as much responsibility for the Green outcomes. For example, energy efficient computer screen and blinds to shade the sun will lower air-conditioning use.

■ Why be Green

It is clear that the property industry is happy to be Green or Sustainable if it adds to the bottom line.

When we asked GPT about why they implemented a Green / Sustainable policy they suggested ...

- Improved Reputation
- Enhanced Income
- Lower Costs
- Lower Risks
- Increased Investor Base

This all seems sensible if it comes with a decent IRR, which has been GPT's experience to date.

The Link to Value: Impact on Stocks that we Cover

Before we attempt to assess the value of a green or sustainable building, it is worth noting what the valuation community looks at when assessing investment value.

- The rental potential of the property: At the most simplistic level, a buildings worth is related to the net income potential. This means that a building with lower (relative) operating costs will be worth more.
- The ability of the property to keep its existing tenants and to compete for tenants within its market. Does it have any competitive advantages in terms of location or finish, or a good reputation in the marketplace?
- Capital required to be spent on the property in the short to medium term to maintain the property and attract tenants. The valuation process is not in a position to identify the longer term cap ex issues which most building will have such as the replacement of key building services;
- Existing rental contacts in place.

Given that these are simple real estate investing

fundamentals, owners of investment grade property are attempting to achieve these goals every day.

■ Common Theme

The most common theme to come out of talking with the building owners in the Australian market is that thinking about the environment provides a platform to think about the operating cost line in a very different way.

Sure, every owner is looking to decrease the cost of the utilities coming into the building. But it was clear that those that had an environmental goal in mind put more thought into the opportunity to reduce costs.

For example, prior to developing its sustainability manual, Investa Property Group monitored its electricity costs like most others in the market. Post its initiative to be a market leader in sustainability it started to measure the parts of its buildings that used the power. This allowed it to manage the power requirements and identify waste. This led to a significant reduction in its consumption and its costs.

In this instance, having a Green focus is not bad for business. In-fact, it appears that Green is good for business, but the quantum is almost impossible to measure.

The LPT sector, while diverse, is able to respond to trends quite fast. This means that while some LPT's have a head start on Green / Sustainable practices, others are likely to catch up quickly if it improves the bottom line.

While **Investa Property Group** has shown the market a clean pair of heels in its approach to sustainability, the other office trusts are following. The end game may be a more competitive offer from the entire LPT sector in the office space in terms of sustainability relative to the less well capitalised owners.

Lend Lease / The GPT Group believes that a key reason for winning the coveted Rouse Hill Development was the Sustainable aspects of the bid. Interestingly this included not storing water on site, but allowing it to flow into the local creek. We can be sure that Stockland and Mirvac are addressing this in their planning for the next bid / Government submission.

Being Green / Sustainable is not rocket science. But it does take a state of mind. Property owners / developers need to think beyond the cost and day one return. They can build a brand around being conscious of the environment which may attract work / projects from Government.

When productivity can be measured, it may provide a whole range of different outcomes. But linking productivity back to the property is not a simple process.

So the winner will be the LPT sector and the Environment. Within the sector it is hard to see a long term standout, but it appears that the likes of Investa, Lend Lease and GPT have taken a leadership role.

■ Impact on Earnings

At the earnings line, lower costs will mean higher earnings. We estimate Investa has driven circa \$600,000pa in cost savings through its green focus. While they may flow to the tenant in the first instance, they will improve the income and the value of the portfolio.

Revenue Line: Office ...

On the revenue line it is about securing Government tenants and major corporates that have a green goal for their property (and business), and tenant retention.

More subjective is the impact on tenant retention. If we assume that office space has commodity like characteristics, the key is to keep the building leased at the prevailing market rents. While it is not possible to measure, an environmentally friendly green brand is another marketing tool to renew leases / lease the property.

Revenue Line: Retail ...

Some would suggest that the Regional mall attacks the fabric of the community. On the other hand, many of the design aspects of a Regional Mall are Green and Sustainable and are common sense in enhancing the retail experience. Good lighting, meeting places, transport ... all add to the shopping experience.

The line is not clear cut as it is in office.

Revenue Line: Industrial ...

Industrial is closer to the retail example. Sustainable development would include the use of natural ventilation, light panels and location to major road links.

■ The Capital Expenditure Line Initial Development and future Cap Ex.

This is another aspect of the Green / Sustainable discussion that is hard to quantify. It has been suggested that using natural materials will create a longer lifecycle ... which we are not in a position to comment on.

In our view, future Capital Expenditure is one of the most mispriced components of the property industry. Buildings need regular capex and major upgrades from time to time. Does a Green / Sustainable policy, which may see more fresh air used in ventilating the building, sun shades rather than air-conditioning (impacting the usage and size/cost of the plant), natural light rather than electrical lighting, or less chemicals in the chillers improve value. We do not believe that there is enough information to justify a change in valuation at this point (valuation is an art, not a science)

■ Retail and the Social Fabric

Some would say that the regional retail development destroys the social fabric of the community. In some instances this may be correct, but developers of retail are often long term owners.

To be a successful long term investment a shopping centre

needs to bring those social / meeting place aspects into the design in a socially sustainable way. Developers tend to link transport into hubs and may even intergrate residential into the schemes. Interestingly, mixed use schemes in built up areas can be right at the top of the sustainable list, linking residential into existing social infrastructure, transport and employment. Urban sprawl does not hit many of these key goals.

■ Supply and Demand for units

One feature that drives stock prices is the number of buyers to sellers. Being included in a Green Index such as the Dow Jones Sustainable Index opens up a new group of investors that are able to consider your stock. This may impact (at the edges) the multiple / cost of funds.

What is a GREEN Building

We were unable to find a clear definition of what was a Green or Sustainable building. At first we found that difficult to understand, but as we got into the topic we found that Green / Sustainable is an entire range of values, many of which do not have an easy way of being measured.

From a stock market perspective, the lack of a clear definition is a significant issue. The market likes to benchmark, but there is no one clear benchmark of green or sustainable property or development.

What we did learn very early on in our analysis was that good environmental outcomes are not the initial goal of property investors and developers. The environmental aspects of real estate are;

- Used in the suite of marketing material to sell the product, be it office space or a house.
- Build a brand that the community can relate to.
- The result of a focus on costs.
- A necessity to win development approval or tender.

Not one group interviewed would undertake a Green or Sustainable project if it detracted from the bottom line.

■ Our Attempt at a definition

In attempting to define a green building / development, it appears that the following points encompass most of the goals that are talked about under the heading of Green or Sustainable development;

Direct Costs - objectives that can be easily measures;

- Energy Efficiency, including the use of renewable sources
- Waste disposal
- Water usage / recycling

Direct Income - objectives that can be easily measured;

- Carbon Credits

Productivity Gains - harder to measure;

- The physical environment, including the impact of natural light, better lighting, cleaner air and building social / community services that attempt to drive productivity.

At development – Starting with the right foundation;

- Site disturbance
- Sustainable materials
- Refurbish rather than redevelop
- Design to meet lower energy targets, higher levels of recycling, natural light, shutters to limit the impact of the sun.

Social Aspects – Subjective in many cases;

- Meeting places / community
- Transport

Others have attempted definitions that may add to your understanding of what can be measured.

- NABERS (the National Australian Built Environment Rating System) is a performance-based rating system that measures an existing building's overall environmental performance during operation. It is in the process of being commercialised by the Federal Government and should be available in 2006.
- The Australian Building Greenhouse Rating Scheme is currently the leader in rating office property within the LPT Sector.
- The Greenhouse Gas Abatement Scheme (GGAS) aims to reduce greenhouse gas emissions associated with the production and use of electricity and to develop and encourage activities to offset the production of greenhouse gas emissions.

NABERS

NABERS will rate a building on the basis of its measured operational impacts - including energy, refrigerants (greenhouse and ozone depletion potential), water, stormwater runoff and pollution, sewage, landscape diversity, transport, indoor air quality, occupant satisfaction, waste and toxic materials.

NABERS is an environmental rating for existing commercial office buildings and homes. It complements and builds on other environmental rating schemes available for buildings:

The Australian Building Greenhouse Rating (ABGR: see next section for more detail) scheme forms the core of NABERS commercial. The NABERS greenhouse benchmark is directly based on the ABGR rating of the premises. Benchmarks of other environmental indicators such as water, waste and indoor environment quality use a similar methodology to the original greenhouse methodology developed by DEUS for ABGR.

NABERS will measure environmental performance against the set of key impact categories.

Energy use and greenhouse emissions - Energy-related greenhouse emissions are a key factor in increasing the levels of carbon dioxide in the atmosphere, leading to human induced climate change. How buildings are operated can affect their energy demand significantly.

Refrigerant use (Global Warming Potential and Ozone Depletion Potential) - Refrigerant use in commercial buildings is a significant contributor to greenhouse emissions and ozone depletion. Choice of refrigerant is a key determining factor.

Water use - Building users can be major water consumers, but users can also adopt practices to harvest water sustainably and effect considerable reductions in overall water demand.

Stormwater runoff - The built environment has altered the natural stormwater and infiltration flows in many areas, with adverse impacts on marine life, and on freshwater environments. Buildings and their sites can be designed to minimise this disruption to natural stormwater flows.

Stormwater pollution - Poorly maintained sites and uncontrolled stormwater runoff is one of the principal routes for pollutants such as oil, chemicals and excess organic matter to enter our waterways.

Sewage outfall volume - The volume of sewage sent out from buildings into the sewer system affects both the size of water treatment facilities, and the load on the existing sewage infrastructure, leading to the greater likelihood of overflows into the environment.

Transport - Transport is a major source of Australia's greenhouse emissions. The location of buildings and the transport choices of those who use them make a considerable difference to transport-related emissions associated with buildings.

Landscape diversity - Appropriate land use practices and landscaping can ensure that a building can help make a contribution to overall biodiversity, by using land efficiently and by creating potential habitat.

Toxic materials - The use of toxic materials in buildings and on their sites can be avoided in many cases. If toxic materials are used, their potential for environmental damage and adverse impacts on human health is considerably reduced if the correct handling, storage and disposal practices are in place.

Waste - Waste contributes to resource depletion and a range of pollutants and emissions. The reduction of waste minimises the area needed for landfill, and reduces the environmental impact of overall materials throughput.

Indoor air quality - It is important for the long-term health of building occupants that a building provides a satisfactory level of indoor air quality. Good indoor air quality is essential for occupant satisfaction, health, and productivity.

Occupant satisfaction - as well as minimising impacts to the wider environment, buildings must also provide a comfortable working or living environment for those who use them.

Australian Building Greenhouse Ratings [ABGR]

ABGR suggests the following steps to the (rating) stars for building owners and managers:

Lighting upgrade - Readily available technologies will significantly reduce energy consumption from lighting.

Building tune-up - A tune-up ensures that equipment such as your air-conditioning system is operating at optimal efficiency. Small adjustments can make a big difference!

Fan system optimisation - Many buildings have oversized fan systems that could be wasting energy. Installing variable speed drives is just one way to reduce energy use.

Car park ventilation - Installing fan controls with carbon monoxide monitoring will ensure you're not ventilating when you don't need to.

Switch to a different energy source - Your rating depends on how much energy you use and how much greenhouse gas emission is attributed to the fuel source. Gas and Green Power (where available) are both greenhouse-friendly fuel sources to consider.

■ The Star Performer

Star Performer is a diagnostic tool that provides effective energy efficiency advice to help target energy savings, with a focus on practical and low cost measures.

■ Practical Examples

From an operating perspective, the ABGR Star rating provides a building owner a measurement tool to monitor the performance of the building.

One of the leaders in the rating of portfolios is Investa Property Group. They have taken the ABGR rating of their portfolio from 2.2 stars to 3.5 stars. This is a level that would allow the portfolio to attract Government tenants. To achieve this on some of its properties, IPG has needed to buy Green Power. While more expensive than traditional power, it adds to the ABGR rating. Green power can come from;

- Green Friendly - Hydro
- Green Power = Turbine / wind / wave / methane

From Investa's perspective, an extra 50 cents /m² on the outgoings is worth the points to get to say 3.5*. It is a business decision, with the higher cost off set by the rating.

NGACS

The objectives of the Greenhouse Gas Abatement Scheme (GGAS) are to: reduce greenhouse gas emissions associated with the production and use of electricity; and to develop and encourage activities to offset the production of greenhouse gas emissions.

The Electricity Supply Amendment (Greenhouse Gas Emission Reduction) Act 2002 sets a NSW greenhouse gas benchmark expressed in tonnes of carbon dioxide equivalent (CO₂-e) per capita. The initial level was set at the commencement of GGAS in 2003 at 8.65 tonnes. The benchmark progressively drops to 7.27 tonnes in 2007 which represents a reduction of five per cent below the Kyoto Protocol baseline year of 1989- 90.

Benchmark participants can reduce the average emissions intensity of the electricity they supply or use by purchasing abatement certificates and surrendering these to the Independent Pricing and Regulatory Tribunal (IPART) in its capacity as Compliance Regulator. Benchmark participants can also claim credit for the surrender of Renewable Energy Certificates (RECs) under the Commonwealth's Mandatory Renewable Energy Target.

Abatement certificate providers carry out activities that abate greenhouse gases. They can achieve this through reducing the greenhouse gas intensity of electricity generation; generating low emission intensity electricity; demand side abatement activities which involve reducing, or increasing the efficiency of the consumption of electricity; or through carbon sequestration activities - managing forests so as to capture and retain carbon from the atmosphere.

Administration of GGAS is carried out by IPART

In its role as Scheme Administrator, IPART accredits abatement certificate providers and allows them to create tradable abatement certificates (NGACs).

The registry evidences the creation, transfer and ultimate surrender of the abatement certificates. Once surrendered, the certificates cannot be reused. The registry does not provide a trading function, as this is performed independently by the market.

The LPT sector could benefit from selling "carbon credits" into the scheme, generating revenue, not just saving from the focus on sustainability.

Case Study 1: Office (Investa Property Group)

Investa holds itself accountable for its performance against a range of environmental indicators, including energy and water consumption and waste to landfill. Some of the key targets are outlined below:

- Reduce water consumption by 25% within 3 years of buildings entering programme
- Divert 50% of waste from landfill to recycling within 3 years of buildings entering programme
- Reduce energy consumption by 15% within 3 years of buildings entering programme
- Reduce CO2 emissions in aggregate by 30,000 tonnes over the 3 years to 30 June 2006

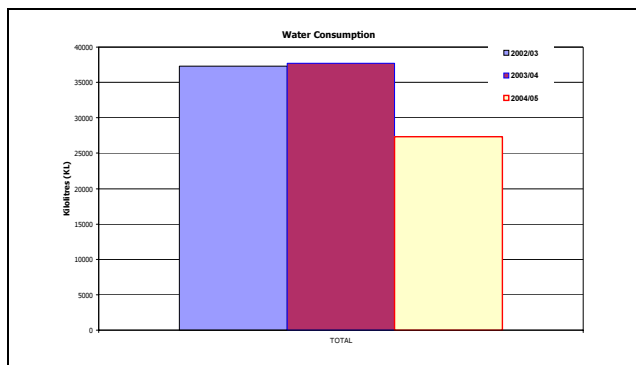
Through implementation of a range of initiatives across the portfolio, all of these targets are on track. 60 Martin Place, Sydney, provides a case study of the type of initiatives that can lead to these sorts of results. Some background on the building:

- Basement, plaza, retail, 28 upper floors
- 27,999 m2 Net Lettable Area
- 34 years old

The results were impressive

- 2,800 MWh/yr electricity (base building), down 26% from 3,800 in 2002/03
- 27ML/yr water, down 27% from 37 in 2002/03
- 3,000 GJ/yr gas, down 44% from 5,400 in 2002/03
- 4 star ABGR, up from 3 star in 2004
- 3,150 tonnes emissions/year, down from 4,400 in 2002/03 – equiv. to 280 cars off the road

Chart 1: Water Consumption



Source: Investa Property Group

Chart 2: Electricity Consumption

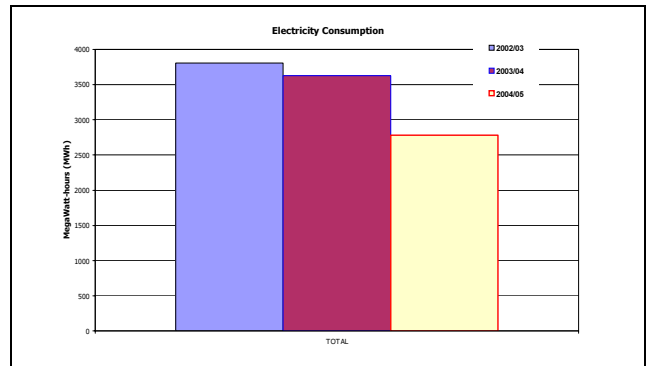


Chart 3: Gas Consumption

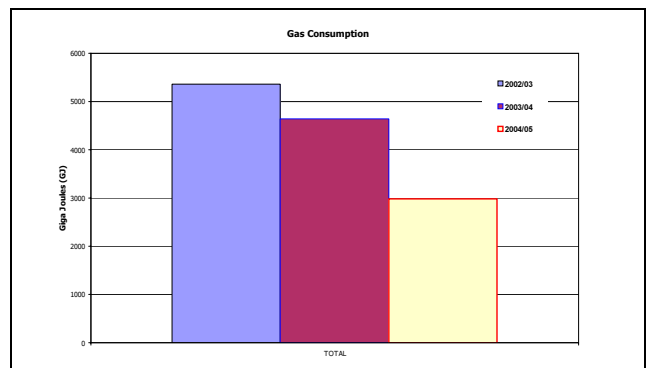
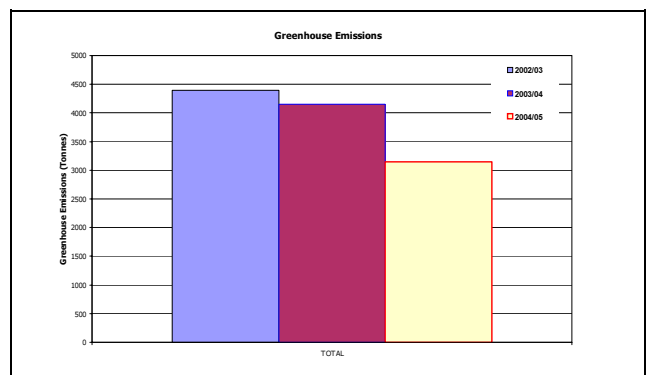


Chart 4: Greenhouse Emissions



Source: Investa Property Group

The Process

Investa introduced detailed sub-metering for electricity, gas and water, as well as comprehensive management reports and analysis.

Lighting upgrades;

- Carpark retrofit with more efficient fittings
- Carpark fixed dimming to cut power supply once
- Lift lobby retrofit with efficient fittings and controls
- lighting retrofit in tenancies

Variable Speed Drives fitted to;

- Condenser Water & Chilled Water Pumps

- Carpark ventilation fans

Heating, Ventilation and Air conditioning plant upgraded;

- New low-load chiller
- More sophisticated modern controls
- Gas Boiler Retube

Water savings initiatives including;

- Flow restrictors on tapware
- Urinal sensors and waterless urinals (in NSW they flush every 3 minutes while in Victoria the market norm was a manual flush)

Fine Tuning of Building Monitoring System and building to gain additional efficiencies

Becoming Green or Sustainable

Investa Property believes that being Green helps the Brand. They started the process in 1999.

1999: Decided to collect data

2000: capital spent to allow data collection. Owners need to know what their buildings are consuming and where before they can start saving

- Lifts / Carpark / Lights / Ventilation

2001: Building Services Audit:

- Understands what works
- Several components of the properties were not actually commissioned properly.

2002+: Marketing their Green / Sustainable Focus and enjoying lower energy costs (circa \$600,000pa)

The Rest of the Game: The Office Tenant !!!

Our discussions with the office owners highlighted that the tenants drove a fair proportion of the rating by their activities within the building.

If the tenant has low heat emission computer screens and blinds on the windows, the air contentions load (which is the building owners cost) will be lower.

In an attempt to focus the tenant, Investa has come up with the “**Investa Greenhouse Guarantee – an energy savings initiative for tenants**”.

This allows tenants to save on their energy bills through better energy management. The Guarantee (provided by a 3rd party) cuts energy use, greenhouse gas emissions and costs by challenging management practices and incorporating new systems into the design of new or existing fitout.

Potentially, the Guarantee can deliver savings of up to 20-30% off the tenants energy bill, covering the cost within a year or two and generating rates of return in the order of

20% per annum.

- For existing tenants, this might mean a ‘tune-up’ through the introduction of energy efficient devices.
- For new tenants, the Guarantee is introduced as an integral part of design and fit-out.

If the tenants energy consumption exceeds the guaranteed target, the cost of any energy consumed in the excess of those targets will be refunded and Green Power will be purchased to deliver the reduction in greenhouse emissions. If the tenancy performance is better than the Guarantee, the tenant keeps the savings.

An energy efficiency benchmark, the Australian Building Greenhouse Rating (ABGR) scheme is used to assist in quantifying the savings opportunity – moving from current practice to best practice and beyond.

For example, moving the tenancy ABGR Rating from 0 to 5 stars could reduce energy cost from \$21/m² to around \$8/m² per annum – a significant saving.

Other Examples with Office

The push for Sustainable building is working, with most owners / developers looking to improve their rating. The new Premium developments are all targeting 5* (the highest ABGR rating).

Other issues that we identified when talking to the office owners included;

- While much of the office stock in Sydney could get to 3-3.5*’s, only the large owners are interested in achieving this goal. This may end up creating a two tier market and provide a pricing differential.
- 85% of the cost of the tenant in an office building is people. This being the case, air quality and the work environment (both internally and externally) are vital parts of the Green / Sustainable offer.
- Retail below office and office on transport were two key social aspects of the green / sustainability debate.
- The tenant is vital in the rating, so getting the tenants buy in is a key component of a Green building. This may include smaller zones for lighting, low heat screens and blinds.
- Fire sprinkler systems are purged and pressurised regularly (circa 40,000 litres of water in a typical building). A Green / Sustainable outcome would include the reuse of the water, but due to storage issues, much of this heads down the drain.
- From a management perspective, the owner needs to know when something is not working to allow it to be fixed. Common errors range from the after hours lighting not switching off automatically to faulty air-conditioning to tenants that plug into the buildings power supply (not their own metres).
- Building owners can buy expensive Green Power to

achieve an ABGR rating. This is a business decision, with the higher cost needing to be off set at some point. For 50 cents /m² of additional outgoings, a building could move into contention for a Government tenant that requires 3.5 stars.

- Power factor correction, allowing the building to store power (or cold / warm air for example) at lower prices and buy less power at peak times
- Water Evaporants added to the Chillers / cooling towers to conserve water. In suburban locations, may be able hold water on site that can be recycled.
- Recycling Waste, with two bins (Paper and Green) that allows the disposal to be cost effective (selling the waste to recyclers)

Case Study 2: Retail (The GPT Group)

The GPT Group (together with the Lend Lease managed Australian Prime Property Fund) are expanding the Macarthur Regional Mall from a 62,800m² centre to 94,000m².

The development team set a range of goals in undertaking the development that come directly from a focus on sustainability in the planning phase. Table 1 highlights the key goals / target and comments from GPT on those targets. The project is under construction.

Table 1: GPT's Sustainability Goals

Aspect	MACARTHUR Stretch Target	Comments on Targets
Development	New Benchmark (2 external awards)	A specialised life cycle assessment tool was developed to support investment decision making.
Eco-Footprint	-50%	Achieved a 15% reduction only due to lack of availability of recycled materials
Energy & GGE	-35%	-17% currently predicted to be verified in 2006.
Economics	-\$10m	\$17 less per m ² (on extension) budgeted for ESD savings.
Daylight	Best Practice Daylight factor (3% or>)	Mall roof designed to maximise daylight minimise heat (estimated to contribute 5% of total savings)
IEQ	Mixed-mode to malls	Not achieved due to physical & fire safety constraints.
Transport	25% tenant parking	Programs not yet developed.
Water	-50%	Achieved on paper with the addition of 250kL rainwater re-use system into cooling towers.
Waste	-40%	To be verified in 2006.
Existing Centre	Best Effort	\$60,000 in water savings pa already achieved.

Source: The GPT Group

Environmental and Community Charters set out key commitments at the concept stages.

Environmental

- Ecological improvement existing centre
- Ecological improvement to extension

Social/Community

- Community facilities in old cinema box
- Outreach to tenants to improve environmental performance & awareness
- Community participation in building & development

In terms of Economic outcomes **GPT** expects to save \$17.50/m² through all sustainability programs including;

- **Energy;** Net capital cost saving of \$71,000 on mechanical systems with infinite return (e.g energy savings of ~\$60,000 per annum shown).
- **Water;** Capital cost of \$550,000 for conservation and re-use systems delivering a 10 Yr IRR of 20.6%. The centre has a Rain Water Collection Tank and dual reticulation system: Saving over 14,000,000L of rainwater collected from centre roof, in an average year. (+140 domestic houses).

The 3 key area's that The GPT Group want to focus on in the future are;

- Centre Team to be more involved / leading Community / Social initiatives. A full time Community Liaison responsibility.
- Community Facility could be opening with the extension. (ex-Greater Union tenancy)
- Communication / Promotion of sustainability initiatives to all stakeholders could be greatly improved.

Other Examples With-in Retail

The need to be Green / Sustainable is Government driven at the development approval stage. Without a Green strategy, DA's are hard to come by. Unlike other forms of real estate, the developer of a major retail scheme is likely to own the scheme in the long term. This means that the developer is likely to have a longer term outlook than those building office or industrial building for sale.

Other issues that were not discussed in the GPT case study include;

- Solar Collection on the roof of the Malls. The Malls have expansive roof lines that are not used. There is an opportunity to generate electricity to (part) power the Mall via solar collection. It appears that collection efficiency is getting to a point where it may become practical (meaning profitably).

- Water collection from roofs and the run off on the car parks. This water could go back into the toilets, landscape or the cooling towers. Alternatively, the surface could be permeable. Interestingly, at GPT's Rouse Hill development, the Green / Sustainable angle was to allow the storm water to run off the car park to the local stream ... so it works both ways.
- One Trust has built the lower level of a parking structure as a stormwater overflow collection point to avoid the flooding of the storm water system (not a good place to park in a storm).
- Retail is likely to be a key social driver of many large scale residential developments. The integration of the retail into the local community and the integration of the transport at the retail hub are key issues in winning the right to develop out some of these key sites.
- All the operating points within the office commentary also relate to retail, so we will not repeat those points.

Case Study 3: Residential Sustainability

The United Nations defines sustainability as: **to design so as to enable development that strives to meet the needs of the present without comprising the ability of future generations to meet their own needs, in terms of environmental, social and economic responsibility.**

In residential development from an environmental perspective this translates practically into ensuring new dwellings, estates and multi storey dwellings are built to ensure water conservation and energy efficiency, use appropriate building materials and have landscaping that encourages use of native plants and grasses and promotes stormwater recycling.

From a social perspective there are many intangible issues to consider including access to infrastructure including schools and transport, impact on crime in the area, whether the environment created will be a good place to live, how integrated the community will be eg. communities where there is not close access to transport or shops will create a dependence on private cars for transport and will create a less vibrant local community and more greenhouse emissions.

There are also a significant variety of issues that vary between creating residential estates and medium density development. For Greenfield residential estates there are issues associated with ensuring that the biodiversity of the landscape is maintained which is in vast contrast to brownfield projects where improving the biodiversity of the landscape is the aim.

For integrated inner urban development issues relating to noise and community engagement and crime and the impact of the development on the surrounding residential area in terms of increased traffic become more important than biodiversity.

What is required under legislation?

Legislation has tended to lean towards environmental requirements. In NSW sustainability is required through the requirement for all new residential dwellings including single dwellings, villas, townhouses and low-rise, mid-rise and high-rise developments in NSW to have a BASIX certificate submitted with a development application. The requirement is to be extended to all residential alterations and additions in NSW in 2006. The aim of the BASIX legislation is to ensure that new dwellings use less potable water and produce fewer greenhouse emissions. BASIX is a building sustainability index that measures the energy and water footprint of the proposed home for the purpose of comparing it to the average of all existing homes of that type.

The Energy Target is 25%, except where the project involves multi-dwelling developments which are 6 storeys or more. If more than 6 storeys, the Energy Target is 20%. The Water Target is determined by the climate of the dwelling's location, not the type of dwelling. The Target ranges from 40% to 0% across NSW.

■ Best practice

Best practice in subdivision design will use land efficiently and make residential estates accessible and people friendly adapting drainage to optimise the recharge of natural water bodies. Building guidelines will promote environmentally sensitive designs that maximise use of sunlight and reduce energy consumption and conserve water usage through use of stormwater run-off and recycled water.

■ Single Dwellings

For single dwellings there are a range of options for builders to ensure homes meet energy and water targets. BASIX encourages designs best suited to keeping homes cool in summer and warm in winter, the inclusion of shading devices, insulation and glazing, a focus on natural landscaping that required less water, the use of rainwater tanks for gardens, toilet and laundry efficient hot water systems.

■ Multi Dwellings

What is the impact for multi-dwellings in terms of design plans?

- Maximising use of sunlight;
- On-site water collection, treatment and use;
- Water and energy efficient appliances;
- Gas or solar hot water systems;
- Efficient lighting controls;
- Recycling of wastewater for toilet flushing, laundry and landscaping;
- Improved insulation;
- Efficient cooling towers;
- Use of natural light and ventilation;
- Native, low water-use landscaping;

- Pool covers and pool pump times; and
 - Ceiling fans for cooling.
- **Are development approvals possible if not sustainable?**

No. All new dwellings in NSW must have a BASIX certificate submitted with a development application.

■ **Monitoring of Sustainability**

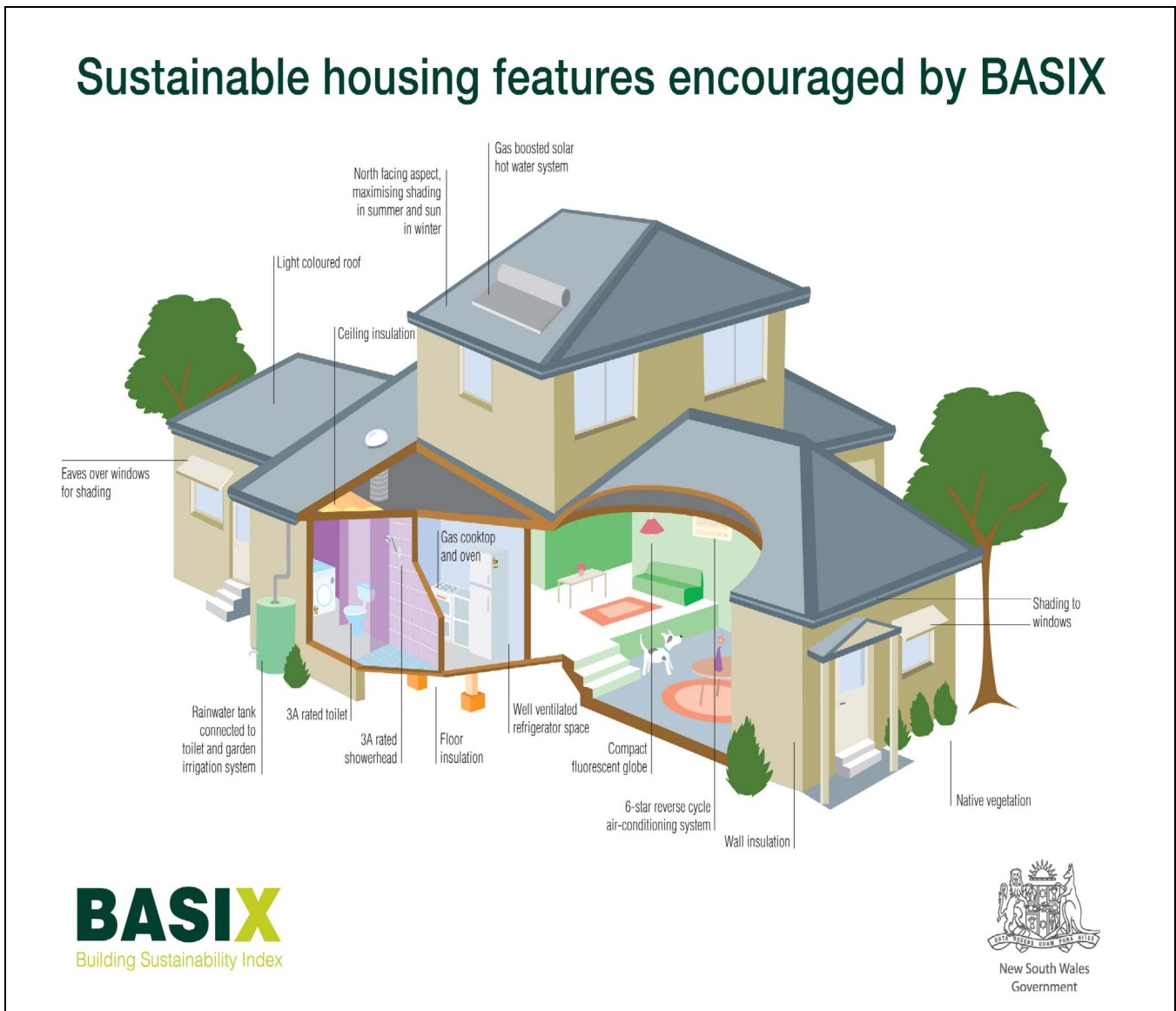
Monitoring of sustainability is conducted via self regulation rather than under an enforcement model. It is up to developers and owner/ builders to submit BASIX certificates with development applications.

■ **Cost of Being Sustainable**

For a multi storey site the cost of complying with BASIX has been estimated to be from A\$6,800 to A\$9,100 per unit but savings of up to A\$600 per year on electricity and water bills can be expected. For a house the cost of BASIX compliance is estimated between A\$3,000 to A\$8,000 per home with estimates that the house if A\$5,000 cheaper to run over a 10 year period.

There is potential for encouraging developers to “go green” despite the additional costs. In Queensland the Urban Development Institute has suggested to the federal government to extend the first-owner’s grant to A\$20,000 and make it a “green grant”. The grant could be used to pay for water recycling, energy efficiency measures and go a long way to meeting government objectives on sustainability.

Chart 5: Sustainable Housing Features - BASIX



Source: BASIX

■ Examples of Sustainable Developments

Residential Estates

Waverley Park (Mirvac), a brand new suburb in Melbourne is planned around a new lake which forms part of the Water Sensitive Urban Design (WSUD) for treatment of stormwater runoff. The lake is also the source of water supply irrigation of the 3 hectares of parkland throughout the estate and will eliminate the use of main water for irrigation and water restrictions for landscape. In addition, the home designs used on the estate have been orientated on their block to maximize sunlight all year round, filling them with light and warmth to reduce energy consumption through heating and the need for air conditioning.

Integrated Development

Newington, Sydney a joint Mirvac/ Lend Lease medium density development on the site of the old Olympic village in Sydney is solar power and has a dual water supply throughout the suburb that recycles grey water for toilets and landscape irrigation. Newington only uses 1/3 of drinking water per capita compared with the rest of Sydney.

■ Impact on Sales and Pricing

A key aspect of sustainability is whether it is what people want and whether they are prepared to pay for it. The current view is that while people are keen to embrace the practice of sustainability, they are not yet ready to wear the additional costs of building sustainable estates and houses. This is an area where the government may be able to assist in bringing the costs of complying with “sustainability” down.

■ Dealing with the Government

The government is committed to lower energy and water usage targets and sustainability of development. As such there are large implications for those developers that are prepared to deliver residential requirements that meet the environmental and social requirements that the government sets out. This is particularly evident in Sydney where the government has highlighted that 70% of new housing stock in the Sydney region will be delivered within the existing growth corridors. Therefore those companies that have a skill base in brownfield regeneration who can satisfy government requirements on delivering sustainable and integrated community developments should have a competitive advantage in winning new work from the government.

■ Implications for Stocks

The key conclusion from our analysis is that there is an increasing trend towards requirement for sustainable developments from a social and environmental point of view. This is particularly evident in inner urban developments to prevent overdevelopment and creating social ghettos.

Another key conclusion is that consumers as the end of buyer of sustainable houses and apartments like the ethos of being “green” but are not necessarily willing to pay for the additional costs of making houses and apartments sustainable.

Therefore the question for the listed property trust sector is does being green and sustainable “add value”. The answer appears to be that it adds value from a brand and corporate image point of view but that it does not translate into higher end margins and prices for residential developments. Where being green and offering “sustainable development capabilities” does add value is in the project pipeline where government requirements demand a sustainable and green outcome.

We see this as favouring companies such as Mirvac and Lend Lease over Stockland and Investa as these companies have the capability and track record to deliver sustainable integrated residential developments that can satisfy complex government environmental and social needs.

Analyst Certification

I, Paul Snushall, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

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Buy	24	28.57%	Buy	10	41.67%
Neutral	60	71.43%	Neutral	26	43.33%
Sell	0	0.00%	Sell	0	0.00%

Investment Rating Distribution: Global Group (as of 30 September 2005)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
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