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## **IPD/ Department of Industry NABERS Office Energy Analysis**

Latest Key Findings

Period Ending September 2013



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# IPD / Department of Industry NABERS Office Energy Analysis - Latest Key Findings

## Period Ending September 2013

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## IPD / Department of Industry NABERS Office Energy Analysis - Latest Key Findings Period Ending September 2013

### Offices with high NABERS Energy ratings continue to offer higher investment returns

The latest results of the IPD / Department of Industry NABERS Office Energy Analysis show that Australian offices with a high NABERS Energy rating, 4.5 to 6 stars, continues to deliver a higher investment return than offices with a low NABERS Energy rating, 0-4 stars, on an annualised basis. Returns for high NABERS Energy rated offices fell slightly, down -26 basis points from June's annualised return. Returns for low NABERS Energy rated offices continued to deteriorate, down -45 basis points from June's annualised return, causing the return-spread between high and low NABERS Energy rated offices to widen to +152 basis points.

The return-spread between high and low NABERS Energy rated offices varied across office market segmentations, but generally high NABERS Energy rated offices were found to outperform. The higher returns for high NABERS Energy rated offices were the result of a stronger capital growth component, with marginal difference observed in the income return component.

### Space market metrics indicate outperformance of high NABERS Energy rated offices

Over the year to September 2013, high NABERS Energy rated offices on average delivered a +10.8% higher rent than low NABERS Energy rated offices, net operating income was +18.1% higher, and capital expenditure was -49.5% lower. The market vacancy rate was lower for high NABERS Energy rated offices (+5.0%) compared to low NABERS Energy rated offices (+6.5%). Weighted average lease terms (WALE) were also found to be longer for high NABERS Energy rated offices, providing owners and investors with greater income security.

### Key Results

- \* High NABERS Energy rated offices delivered an annualised return of +9.8% to September 2013, +152 basis points higher than low NABERS Energy rated offices.
- \* Higher investment return for high NABERS Energy rated offices predominately driven by stronger growth in capital values.
- \* High NABERS Energy rated offices found to have higher rent and net operating income than low NABERS Energy rated offices, and lower capital expenditure.
- \* Weighted average lease terms significantly longer, and market vacancy rates lower for high NABERS Energy rated buildings.
- \* Across different market segmentations, consistent finding of higher returns for high NABERS Energy rated offices compared to low NABERS Energy rated offices and the broader office benchmark.



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### IPD Australia 'Green' Office Database

The IPD Property Database contains financial and valuation information on 581 commercial office assets with a combined asset value of \$62 billion. A significant proportion were found to have either a NABERS Office, Green Star Design, or Green Star As Built environmental rating: in total 408 office assets with a combined asset value of \$57 billion (Figure 1, Figure 2).

The most common environmental performance rating tool within the IPD Property Database is the NABERS Office Energy Rating tool. In Q3 2013 408 office assets with a total value of \$52 billion were identified as having a NABERS Energy rating, representing 67% based on asset count, and 84% based on capital values of office assets in the IPD database. A contributing factor to this large uptake of NABERS Office Energy ratings has been the Federal Government's Commercial Building Disclosure (CBD) Program, which requires sellers and lessors of 2,000 square metres or more of office space to obtain and display the building's NABERS Energy star rating in all advertising material.

A large proportion of office assets identified as having a Green Star rating were likewise found to have a NABERS Office Energy rating, approximately 72% based on asset count (Figure 1 - 'Dual-Rating' segment). Green Star rated offices without a NABERS Office Energy rating were found to be still underdevelopment or had been in operation less than 12 months, and therefore not eligible for a NABERS Energy rating.

Figure 1: IPD Office Database, Asset Count, Q3 2013

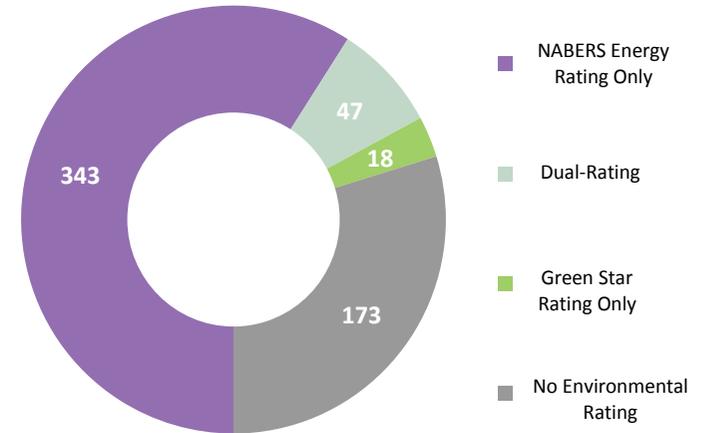
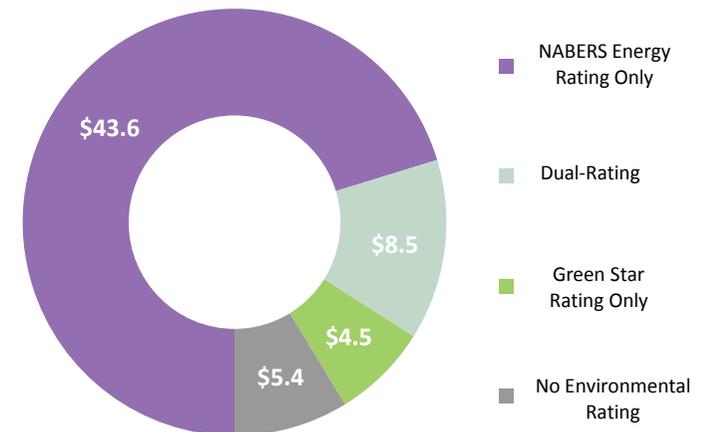


Figure 2: IPD Office Database, Capital Values, Q3 2013





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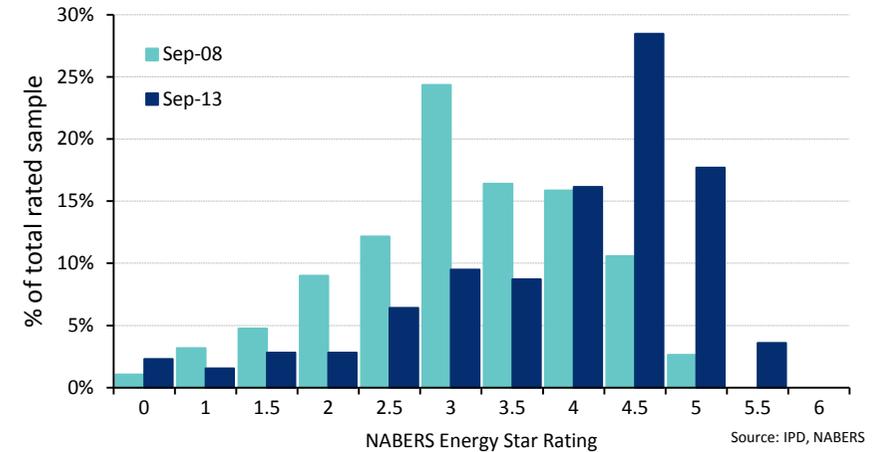
## NABERS Energy Rated Offices - Distribution of office assets by star rating

Over the last five years, the distribution of office assets within the IPD database has become increasingly negatively skewed with tighter clustering of office assets within the higher NABERS Energy star ratings of 4 and 5 stars (Figure 3). In Q3 2013, the most common NABERS Office Energy rating within the IPD database is 4.5 stars, with over 50% of offices with a NABERS Energy rating having achieved a star rating of 4.5 stars and higher. Less than 16% of offices with a NABERS Energy rating achieved a star rating lower than 3 stars.

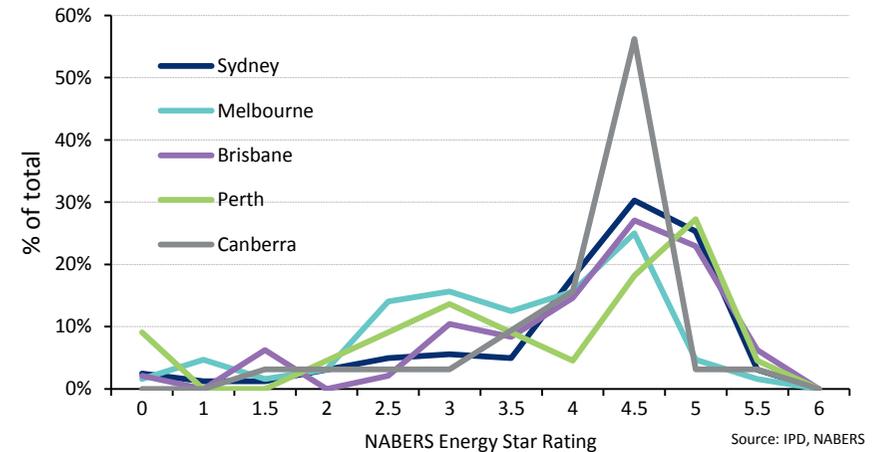
Across regions, the distributions of office assets across NABERS Energy star ratings is similar: negatively skewed, tightly clustered within the 4 and 5 star ratings, and limited exposure to lower star ratings, 0-2 stars (Figure 4).

The decreasing number of institutional grade office stock with a low NABERS Energy rating poses a downside risk to institutional investors holding low NABERS Energy rated offices in a portfolio as the market potentially moves from applying a 'green' premium to energy efficient buildings to 'brown' discounting of less energy efficient/inefficient buildings.

**Figure 3: Distribution of office assets by star rating**  
IPD Office Database, asset count, Q3 2013



**Figure 4: Distribution of office assets by star rating, selected regions**  
IPD Office Database, asset count, Q3 2013





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### Sample Composition - A comparison between low and high NABERS Office Energy Ratings

Figure 5 compares the composition of the low and high NABERS Energy rated samples by region, building grade, and building age.

#### **Location:**

Similar distribution across the high and low rated samples, predominately comprised of office assets located in Sydney or Melbourne. The high NABERS Energy rated office sample has a lower exposure to the Melbourne office market (15% vs. 31%) and slightly higher exposure to the Brisbane (11% vs. 8%), and Canberra markets (5% vs. 2%).

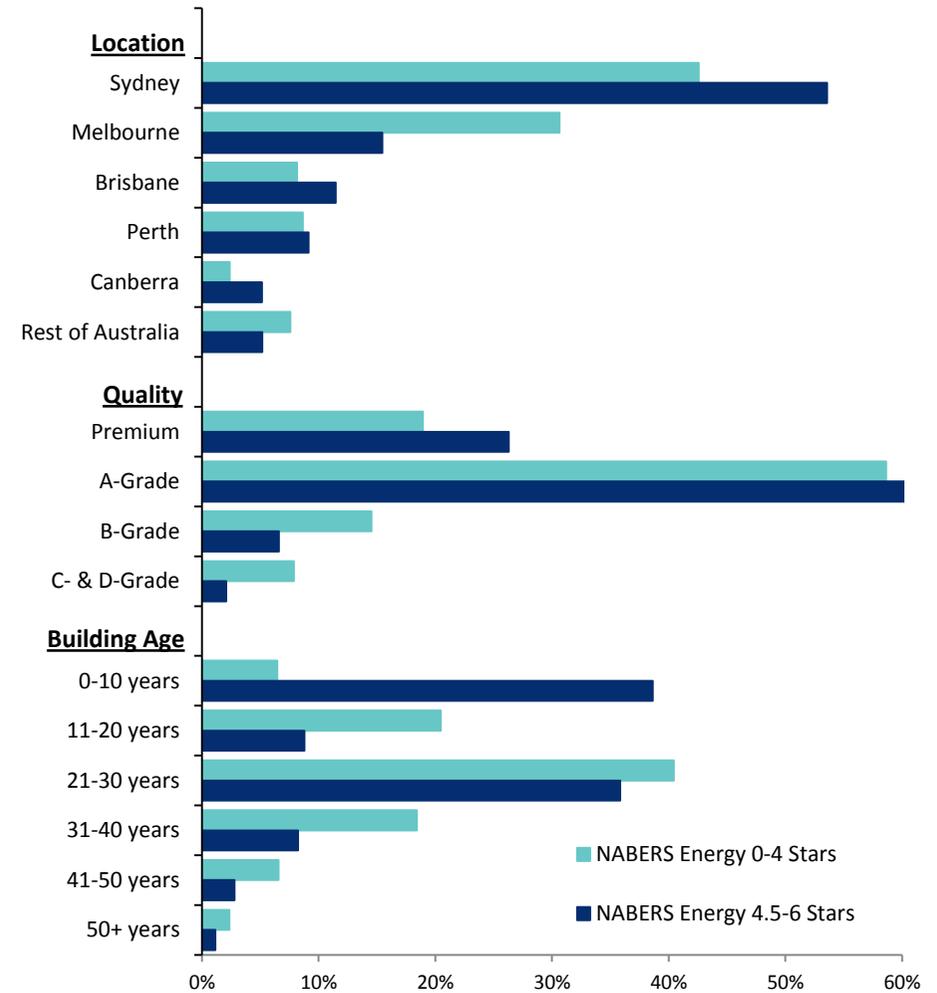
#### **Quality:**

Both high and low NABERS Energy rated office samples predominately comprised of Prime (Premium and A-Grade) space. The high rated office sample has a higher exposure to the Premium office market (26% vs. 19%), and a lower exposure to the Secondary market and lower quality stock (9% vs. 22%).

#### **Building age:**

A higher proportion of the high NABERS Energy rated office sample is comprised of buildings that have been constructed in the last 10 years, 39% versus 6% for low NABERS Energy rated offices.

Figure 5: Sample Composition, based on capital values



Source: IPD, NABERS



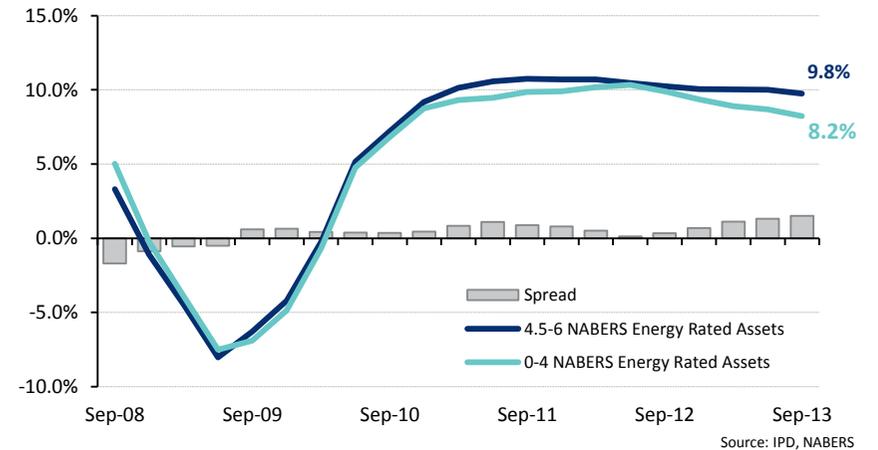
### Investment Performance - High vs. Low NABERS Energy Rated Office Assets

Investment performance is measured using IPD's standard definitions and conventions for calculating investment returns (please see appendix).

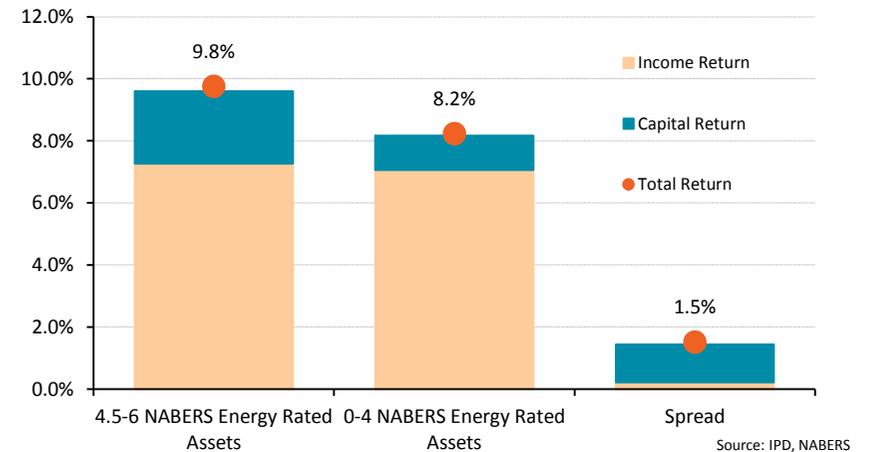
Figure 6 shows the annualised returns of high and low NABERS Energy rated offices over the September 2008 to September 2013 period, and the respective return-spread. High NABERS Energy rated offices have consistently outperformed low NABERS Energy offices on an annualised basis since September 2009, with an average return-spread of +72 basis points, ranging from +14 basis points (Jun-12) to +152 basis points (Sep-13). The return-spread between high and low NABERS Energy rated offices has continued to widen as annualised returns for high NABERS Energy rated offices have remained relatively stable around +10% whilst annualised returns for low NABERS Energy rated offices fell from a peak of +10.3% (Jun-12) to +8.2% (Sep-13).

In September 2013, high NABERS Energy rated offices reported an annualised return of +9.8% comprised of a +7.3% income return and +2.3% capital growth (Figure 7). Low NABERS Energy rated offices underperformed, posting an annualised return of +8.2% from +7.1% income return and more moderate +1.1% capital growth.

**Figure 6: High vs. Low NABERS Energy Rated Office Returns,** annualised total returns on quarterly periods



**Figure 7: High vs. Low NABERS Energy Rated Office Returns,** annualised total returns to September 2013





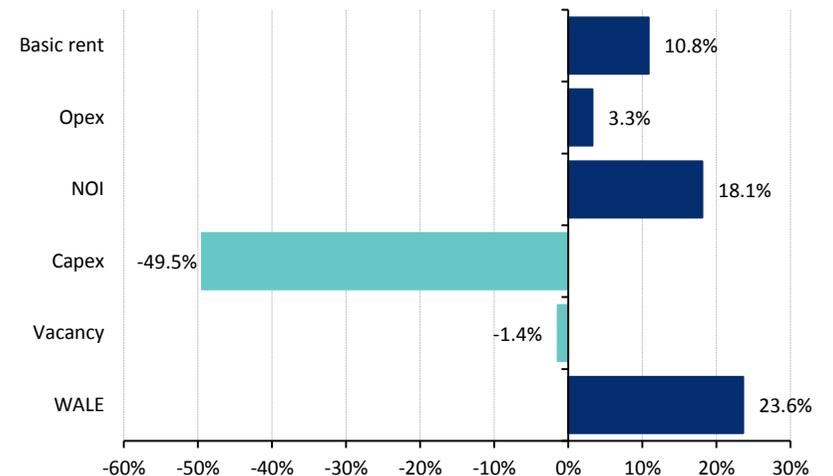
### Selected Space Market Metrics - High vs. Low NABERS Energy Rated Office Assets

As at September 2013 offices with a high NABERS Energy rating were found to have on average higher rent (+10.8%), operating expenditure (+3.3%) and higher net operating income (+18.1%) than offices with a low NABERS Energy rating.

Capital expenditure for high NABERS Energy rated offices was found to be -49.5% less than low rated offices. This is in line with our expectations, and is a reflection of the higher proportion of high NABERS Energy rated offices being newer buildings, which would intuitively require less capital expenditure.

The market vacancy rate was -1.4% lower for high NABERS Energy rated offices than low rated offices, and the weighted average lease expiry (WALE) was found to be +23.6% longer for high rated offices. The longer WALE for high NABERS Energy ratings is intuitive as high NABERS Energy rated offices are more likely to attract government departments and agencies, and larger corporates who have a tendency to lease large spaces, and hence will try to lock in longer lease terms.

**Figure 8: High vs. Low NABERS Energy rated offices**  
 Percentage difference, Q3 2013



Source: IPD, NABERS

**Space Market Metrics Defined:**

"Basic Rent" - annual rent receivable, dollars per square metre

"Opex" - annual operating expenditure, dollars per square metre

"NOI" - annual net operating income, calculated as gross revenue minus total operating expenditure (opex), dollars per square metre

"Capex" - capital expenditure, money spent on the improvement of existing buildings and also includes incentives such as fit outs, dollars per square metre.

"Vacancy" - market vacancy rates, is the total percentage of net lettable area that is not currently occupied for that office market, %

"WALE" - weighted average lease expiry, years. WALE for each asset is provided to IPD by data providers and is weighted by income, the WALE for the market is calculated by weighting the asset-level WALE by rent receivable.



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### Weighted Average Lease Expiry (WALE) and Vacancy Rates

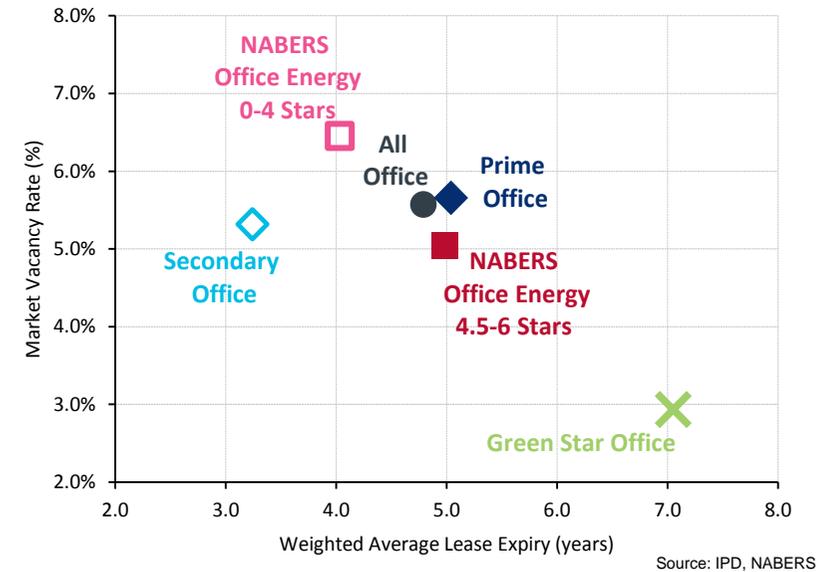
Figure 9 compares the weighted average lease expiry (WALE) and vacancy rates of office markets segmented by office grade (Prime/Secondary) and environmental rating tool (Green Star/NABERS Energy).

As at the end of September 2013, the weighted average lease expiry for the all office market was 4.8 years, with an estimated vacancy rate of 5.6%.

The Green Star rated market recorded the longest weighted average lease expiry of 7.1 years, and the lowest market vacancy rate of 2.9%. This was likely driven by the high take up of new office space by government and blue chip occupiers who typically favour long lease terms.

The high NABERS Energy office market recorded a longer weighted average lease expiry (5.0 years) and lower vacancy rate (5.0%) than the low NABERS Office Energy rated market (4.0 years and 6.5% vacancy). This suggests that high NABERS Energy rated office assets have the potential to offer greater income security than low NABERS Energy rated offices.

Figure 9: Australian Office Markets: WALE and Vacancy Q3 2013





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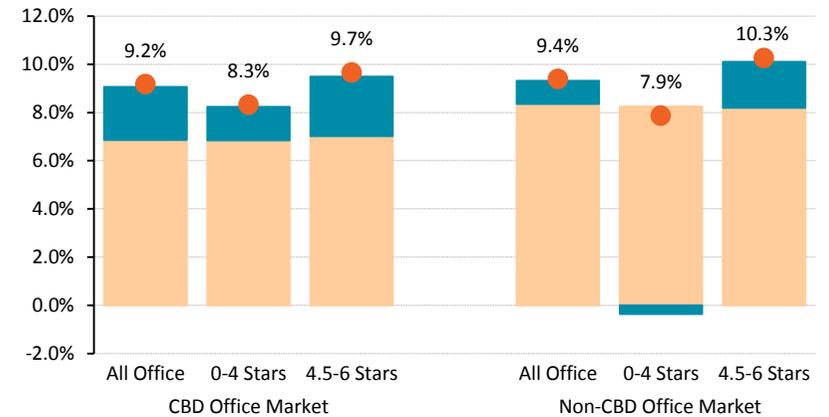
### Investment Performance: sector and quality segmentations

In the CBD and Non-CBD markets, offices with high NABERS Energy ratings posted the strongest annualised returns for September 2013 (Figure 10). In both markets the return premium in high NABERS Energy rated offices was underpinned by the capital growth component, with only marginal differences observed in the income return component.

High NABERS Energy rated offices also posted the strongest annualised returns for September 2013 in the Prime Office market, with a total annualised return of +10.0% comprised of +7.2% income return and +2.7% capital growth (Figure 11). Low NABERS Energy rated offices underperformed both high NABERS Energy rated offices and the broader prime office market, due to a more modest capital growth of +2.7%.

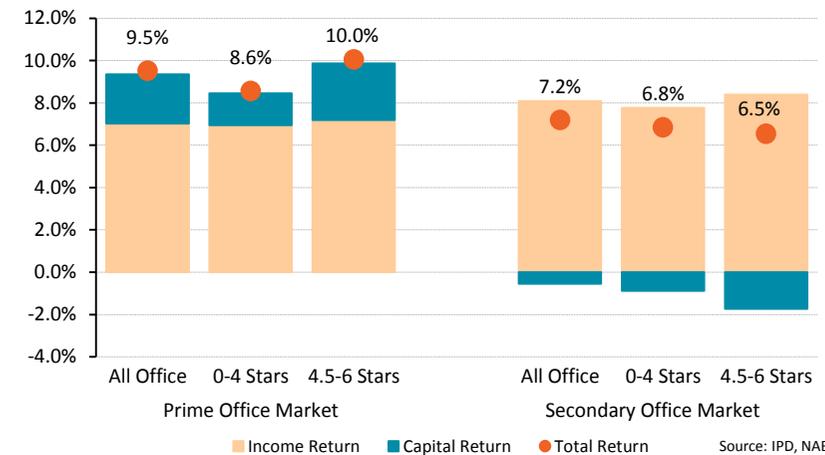
In contrast to other office markets, high NABERS Energy rated offices underperformed the broader office benchmark and low NABERS Energy rated offices in the secondary market, delivering an annualised return of +6.5% for September 2013 (Figure 11). The lower return was a result of a sharper decline in capital values (-1.7%).

Figure 10: NABERS Energy Office Market Returns by Sector



Source: IPD, NABERS

Figure 11: NABERS Energy Office Market Returns by Quality annualised returns to September 2013



Source: IPD, NABERS



**Age-Cohort Analysis - Controlling for the influence of age:**

To control for the potential bias that building age may have on our results, we look at the investment performance of NABERS Energy rated office assets that have undergone a major refurbishment in the last 5 years (2008 to 2013 inclusive). Buildings that have been constructed prior to 2008 and have not been identified as having a major refurbishment are removed from the analysis. Buildings constructed in the last 5 years (2008 - 2013) are also removed. Figures 12 and 13 summarises our findings.

**Full Refurbishment 0-5yrs:**

For September 2013 All NABERS Energy rated offices achieved an annualised return of +9.6%, marginally higher than the all office annualised return of +9.5%. High NABERS Energy rated offices posted the strongest returns, delivering a total annualised return of +10.0% from +7.5% income return and +2.4% capital growth. Low rated offices were still found to underperform high rated offices and the all office benchmark with an annualised return of +9.2% (Figure 12).

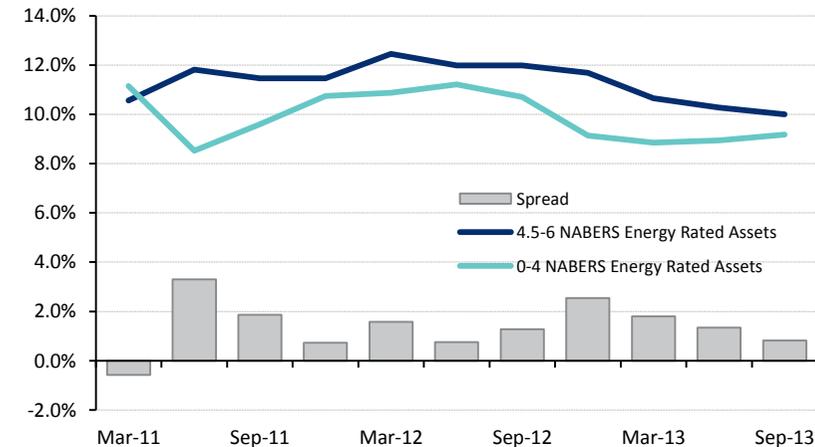
As a result of controlling for age, the return-spread between high and low rated offices is reduced, decreasing from +152 basis points to +82 basis points, but continues to remain positive. Figure 13 shows that since June 2011 the return-spread between high and low rated offices has remained positive, ranging from +72 basis points to +329 basis points over that period.

**Figure 12: NABERS Energy rated assets by age-cohort**  
 annualised returns to September 2013



Source: IPD, NABERS

**Figure 13: High vs. Low NABERS Energy Rated Office Returns**  
 annualised total returns on quarterly periods



Source: IPD, NABERS



## Appendix: Methodology

The analysis is based upon financial and descriptive records from the IPD Australia database. Data supplied from the National Australian Built Environment Rating System (NABERS), Office for Environment and Heritage, is used to identify office buildings with an accredited NABERS Energy rating.

### Performance Measures

All performance measures reported in the 'IPD/Department of Industry NABERS Energy Chart Pack' are based on 'standing investment' properties i.e. completed and lettable properties, and excludes properties that are purchased, sold, or in the course of development, during the measurement period. A property is also excluded if:

- it is a fixed rent property where market rental value is more than five times the current rent;
- it has been subject to unique events such as fire damage or flooding;
- it is outside Australia; or
- it is an indirect holding.

All performance measures are value-weighted within a single measurement period (i.e. one month) based on open market valuations of each of the 'standing investment' properties.

### Returns Calculations

Consistent with all IPD annual, biannual, and quarterly indices worldwide, a time-weighted methodology is used

Total, capital, and income returns are calculated on a monthly basis and chain-linked (compounded) to derive annual rates. An equal weight is given to each month's return.

With respect to a single month total return is defined as:

$$TR_t = \frac{CV_t - CV_{t-1} - Cexp_t + Crec_t + NI_t}{CV_{t-1} + Cexp_t}$$

With respect to a single month capital return is defined as:

$$CR_t = \frac{CV_t - CV_{t-1} - Cexp_t + Crec_t}{CV_{t-1} + Cexp_t}$$

With respect to a single month income return is defined as:

$$IR_t = \frac{NI_t}{CV_{t-1} + Cexp_t}$$

Where:

$TR_t$  is the total return in month t;  
 $CR_t$  is the capital return in month t;  
 $IR_t$  is the income return in month t;  
 $CV_t$  is the capital value at the end of month t;  
 $Cexp_t$  is the total capital expenditure during month t;  
 $Crec_t$  is the total capital receipts during month t;  
 $NI_t$  is the day-dated rent receivable during the month, net of asset management costs, ground rent and other irrecoverable expenditure.

### Calculating monthly data

The time-weighted return methodology requires monthly cashflows and month-end valuations for every month.

#### Cashflow items

For the Australian service, cashflow data is collected on a quarterly basis. To obtain monthly cashflows, the quarterly data is apportioned equally over the 3 months to which it relates.

#### Valuation items

In Australia, monthly valuations are not available. Further valuation dates for contributing properties are not synchronised; which means that there is no one point in any year in which all properties in the database have an up-to-date valuation and are able to be compared on a strictly like-for-like basis. To construct monthly figures, capital values are linearly interpolated between actual valuation points. This means that properties will not contribute to the calculations of returns, until there are two actual valuation points to move between. This will result in some historical restatement of returns in more recent quarters.



## Appendix: Definition of key terms

### Environmental Rating Tools

#### Green Star

The Green Star environmental rating system for buildings was developed by the Green Building Council of Australia ("GBCA"). Green Star is Australia's first comprehensive rating system for evaluating the environmental design and performance of Australian buildings based on a number of criteria, including energy and water efficiency, indoor environment quality and resource conservation. Green Star rating tools use 6 stars to measure performance. Projects that obtain a rating of 1, 2, or 3 stars are not eligible for formal certification. Projects that obtain a score of 4 stars or above are eligible to apply for formal certification, whereby 4 stars signifies "Best Practice", 5 stars signifies "Australian Excellence", and 6 stars signifies "World Leadership".

#### NABERS

The National Australian Built Environment Rating System (NABERS) is a performance-based rating system for buildings. A NABERS rating for a building is based on a methodical assessment of the actual environmental impact of operating it.

#### NABERS Energy for office ratings

The more stars in a NABERS Energy rating, the lower the greenhouse gas emissions for the rated premises. The number of stars for offices is calculated by benchmarking the energy consumption and comparing it against buildings of the same category, using 12 months of actual data. To ensure fair comparison, the consumption figures are adjusted for factors such as building area, hours of use, climate, equipment density and the greenhouse intensity of the energy source.

### Performance Measures

#### Capital Expenditure

The sum of money spent on purchases of new properties, expenditure on development or improvement of existing properties, and other capital expenditure.

#### Capital Growth / Capital Return

The annual compounded increase in monthly values, net of capital expenditure, expressed as a percentage of the capital employed each month.

#### Capital Value

Appraised market value supplied by the fund's external or internal appraisers in accordance with the Australian Property Institute's guidelines. Internal reviews that have not been conducted in accordance with the standard are not reported to IPD.

#### Income Return

The annual compounded rate of net income receivable per month expressed as a percentage of the capital employed over the month.

#### Index Returns

Standing investment returns calculated on completed properties held between two valuations at any point during the year, excluding any properties purchased or sold and developments under construction. Properties first enter standing investment results when they pass the second valuation after purchase or the actual completion of development.

### Standing Investments

Properties that have at least two valuations after completion of development, or purchase in case of investment properties; and have been held throughout each individual quarter. Excludes any properties purchased or sold, and developments under construction, during an individual quarter.

### Total Return

The annual compounded rate of monthly capital appreciation, net of capital expenditure, plus monthly net income received, expressed as a percentage of monthly capital employed. Note that annual capital return plus annual income return may not sum perfectly to annual total return due to the cross product that occurs when capital and income returns are combined within compounded total returns.

### Segmentations

#### All Rated

All standing investment offices that have an accredited NABERS Energy base building or whole building rating.

#### CBD Office

Any offices located in the Central Business Districts (CBD) of Sydney, Melbourne, Brisbane, Adelaide, Perth, Canberra, Hobart, and Darwin, as defined by the Property Council of Australia.

#### Non-Rated

All standing investment offices that do not have an accredited NABERS Energy base building or whole building rating, or Green Star (as design or as built) rating.



## Appendix: Definition of key terms

### Segmentations

#### Prime Office

Premium and Grade A office buildings (as defined by the Property Council of Australia).

#### Secondary Office

Grade B, Grade C and Grade D office buildings (as defined by the Property Council of Australia).

#### Star rating

The most recent NABERS Energy star rating achieved by an office building without Green Power. Star ratings are updated on a quarterly basis; and most recent rating as at quarter end is used.



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