Sustainable and Responsible Property Investing

Gary Pivo and Paul McNamara

INTRODUCTION

A new view is emerging, based on a growing awareness among real estate professionals, that social and environmental issues can have significant material consequences for their portfolios. Worsening environmental hazards, tougher government regulations, expanding legal liabilities, increasingly expensive resource and material inputs, shifting consumer behaviour and greater pressure from affected stakeholders are converging to make it financially risky to ignore social, environmental and governance concerns. Likewise, it has become more and more beneficial to address such issues up front when funding new projects.

This chapter discusses sustainable and responsible property investing (RPI) as a positive way of responding to this emerging view. RPI allows for maximizing the positive effects, and minimizing the negative, of property ownership, management and development upon society and the natural environment in a way that is consistent with investor goals and fiduciary responsibilities. It requires both an understanding of how cities and buildings relate to these larger issues and knowing how to address them in a financially prudent manner.

WHAT ARE THE ISSUES?

Our understanding of how cities and buildings impact upon society and the natural environment has progressed a good deal over the past few decades. This understanding provides us with a solid foundation on which to build principles
for RPI. The United Nations has focused on cities and buildings at least since the 1972 Toronto Declaration of the United Nations Conference on the Human Environment and the 1976 Vancouver Declaration on Human Settlements (Habitat I). These groundbreaking declarations framed both the constructive and destructive roles that urban areas can play in human health, poverty, housing, governance and our natural environment:

Planning must be applied to human settlements and urbanization with a view to avoiding adverse effects on the environment and obtaining maximum social, economic and environmental benefits for all. (Declaration of the United Nations Conference on the Human Environment, Stockholm, 1972)

The improvement of the quality of life of human beings is the first and most important objective of every human settlement policy. These policies must facilitate the rapid and continuous improvement in the quality of life of all people, beginning with the satisfaction of the basic needs of food, shelter, clean water, employment, health, education, training, (and) social security. (Vancouver Declaration on Human Settlements, 1976)

THE IMPORTANT ROLE OF NEW AND EXISTING PROPERTIES

The global environment and real estate markets are inextricably linked. For example, according to the United Nations’ Intergovernmental Panel on Climate Change (IPCC), residential and commercial buildings account for 21 and 11 per cent, respectively, of global carbon dioxide (CO₂) emissions, with transportation adding a further 22 per cent (IPCC, 2001). Therefore, the decisions and choices made by those involved in the real property market (developers, owners, managers and tenants) are central to the potential mitigation or exacerbation of many critical urban issues.²

At any given time, there will be an existing stock of real properties with associated infrastructure and open spaces; depending upon demand pressures at any given time, there will probably be new development, redevelopment and property refurbishment works occurring, with the former typically adding 2 to 4 per cent to existing stock per annum in developed countries; a greater percentage in emerging economies. Commentators commonly focus on showing how the environmental and social impact of new additions to the built stock can be minimized. This work is clearly of great importance. However, any set of principles for RPI must also consider what can be done to reduce continuing impacts from the much larger stock of buildings that are already in place. In aggregate, small improvements to the social and environmental performance of existing properties could more than match the impact of significantly improving the
quality of incremental new stock. Both new and existing properties need to be addressed.

**DOING WELL WHILE DOING GOOD**

RPI can add value and improve returns in several different ways (WWF, undated). First, legislation is more frequently holding companies responsible or accountable and subject to fines if they ignore various social or environmental issues. Second, development that addresses local concerns is often more quickly permitted or given subsidies by local government officials. Third, there are opportunities to improve operational efficiencies and increase competitiveness when costly resource consumption is reduced. Fourth, strong reputational benefits can be achieved. And fifth, responsible producers can increase market differentiation for their products, giving them an edge, especially with the growing number of consumers who are interested in socially and environmentally responsible products. The most fully documented case of RPI benefiting investment returns is energy conservation. Energy conservation generates a variety of societal benefits, including lower greenhouse gas (GHG) emissions, less air pollution and better public health. Meanwhile, it lowers operating costs, improves net operating incomes and raises valuations, resulting in higher returns from both operations and appreciation. According to research by the US Environmental Protection Agency (EPA), drawing on experience from real estate investment companies that participate in its Energy Star programme, a recommended sequence of upgrades designed to save energy costs an average of US$2.30 per square foot, reduces energy use by 40 per cent, produces an annual savings of US$0.90 per square foot, and is paid back in 2.5 years (see Table 10.1). If this sequence of costs and returns is analysed for a ten-year period, with the energy savings being capitalized into building valuation and returned at the end of ten years, the internal rate of return for the investment comes to 41 per cent. In separate research, cost estimators are finding that energy-efficient buildings are being built at the same cost per square foot as conventional buildings by developers making careful choices early in the design process. Any conservation premiums that do exist, however, typically fall below both the accuracy normally expected of early cost estimates and the contingencies carried on most project budgets at the conceptual stage (see Langdon and Steven Winter Associates, 2004; Matthiessen and Morris, 2004).

Investments in energy conservation can also moderate a variety of property investment risks, which when accounted for in a discounted cash-flow model, increase property values. These risks include financial risks (such as exposure to energy price shocks), policy risks (such as exposure to new energy conservation requirements), and physical risks (such as exposure to more frequent or severe flooding, landslides and hurricanes produced by climate change).
Table 10.1 Investments in energy efficiency have high returns

<table>
<thead>
<tr>
<th></th>
<th>Investment per square foot (US$)</th>
<th>Rate of energy savings</th>
<th>Annual savings per square foot (US$)</th>
<th>Savings per 100,000 square feet of office building (US$)</th>
<th>Asset value increase at a 10% capitalization rate (US$)</th>
<th>Simple payback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Janitorial services</td>
<td>0.01</td>
<td>5%</td>
<td>0.14</td>
<td>13,500</td>
<td>135,000</td>
<td>Immediate</td>
</tr>
<tr>
<td>Operations and maintenance</td>
<td>0.05</td>
<td>9%</td>
<td>0.20</td>
<td>19,800</td>
<td>198,000</td>
<td>4 months</td>
</tr>
<tr>
<td>Lighting</td>
<td>1.04</td>
<td>16%</td>
<td>0.36</td>
<td>36,000</td>
<td>360,000</td>
<td>3 years</td>
</tr>
<tr>
<td>Heating, ventilation and cooling</td>
<td>1.21</td>
<td>9%</td>
<td>0.21</td>
<td>20,700</td>
<td>207,000</td>
<td>6 years</td>
</tr>
<tr>
<td>All combined</td>
<td>2.30</td>
<td>40%</td>
<td>0.90</td>
<td>90,000</td>
<td>900,000</td>
<td>2.5 years</td>
</tr>
</tbody>
</table>

Note: Calculations are based on national averages and US$0.09 per kilowatt hour (kWh) blended rate for office properties.
Source: US Environmental Protection Agency, Energy Star Program

There is scientific evidence that other types of RPI can be financially prudent as well. Opportunities include water conservation; hazard mitigation (asbestos, toxic chemicals, landslide exposure, etc.); tree planting and green-belt protection; construction and demolition waste recycling; flexible building systems; urban revitalization; transit-oriented housing; ‘walkable’ mixed-use infill development; and citizen engagement in project planning. Investments in all of these activities have been found to produce favourable returns, improved valuations or short payback periods, offering the potential for increased performance and reduced risk.

In one example, the Sustainable Property Appraisal Project, carried out by a team of researchers at Kingston University, London, UK, and by real property industry practitioners in the UK, analysed the extent to which the current value of existing property assets is potentially affected by the existence or absence of ‘sustainable’ features. Although the work remains preliminary in nature, their case studies suggest that such features, in a British context at least, could already be adding or subtracting up to 5 per cent to the current worth of the asset.

EMERGING INDUSTRY LEADERSHIP

Leaders have emerged among both investors and investment management companies, demonstrating that it is feasible to implement RPI practices.

In California, the state’s two large public retirement funds – the California Public Employees’ Retirement System (CalPERS) and California State Teachers’ Retirement System (CalSTRS) – hold over 200 million square feet of property. In a move they explicitly recognize as both socially and financially responsible, both funds have set goals to reduce the energy use in their real
estate holdings by 20 per cent over the next five years. They have also increased their investment in urban inner-city real estate to over US$2 billion, including US$300 million for affordable housing. CalSTRS has engaged its investment stream on energy conservation by adopting a set of conservation measures for the managers of their separate (i.e. not co-mingled) accounts to follow. CalPERS has adopted specific policies for urban investments that include a focus on low-income housing, redevelopment and ‘smart growth’ alternatives to suburban sprawl.

There are also publicly traded real estate investment companies and trusts around the world that have made significant commitments to corporate social responsibility (CSR) and sustainable development. Several have been listed in the Dow Jones Sustainability World Index and similar indices. Examples include British Land Plc (UK), Investa Property Group (Australia), Land Securities Plc (UK), Commonwealth Property Office Fund (Australia), Swire Pacific Ltd (China), Wereldhave (The Netherlands), Mitsubishi Estate Co, Ltd (Japan) and Klepierre (France). In addition, a 2004 survey of the UK’s 13 largest home builders, produced for the World Wide Fund for Nature (WWF) One Million Sustainable Homes Campaign, found Countryside Properties and the Berkeley Group to be leaders in incorporating sustainability within mainstream business practices.
Closer study of the policies and practices of leading funds and companies generates a list of best practice guidelines for investors to consider. Of course, even the best may have room to improve; but the innovations they have achieved so far may well be feasible for others to consider.

**BEST PRACTICE EXAMPLES**

**Green buildings**

Green buildings are designed to conserve natural resources and improve human health. Several voluntary certification programmes, such as Leadership in Energy and Environmental Design (LEED) and Building Research Establishment Environmental Assessment Method (BREEAM), have established green building standards. Green buildings can deliver a variety of public benefits related to global warming, air pollution, resource conservation and indoor air quality. Systematic research is tending to show that green buildings can be built at the same cost as conventional properties. Survey research is also finding that occupiers may be willing to pay marginally higher rents to obtain the benefits of green buildings. Although studies are still inconclusive, evidence is mounting that green buildings increase worker productivity and lower running costs. If this is confirmed, green buildings could become more valuable relative to conventional properties over the coming years.

**What investors are doing**

ICADE/EMPG (France) developed a 10,000 square metre property in Aubervilliers that was certified under France’s High Environmental Quality Office programme. To date, it has achieved a 20 per cent lower-than-average running cost and required no additional budget for its green features. **IL & FS Investment Managers** (India) financed Chennai-One, a 1.2 million square foot office space for information technology businesses. The aim is to achieve a 30 per cent energy saving. Environmental features added 3 per cent to the project cost, but rents have been higher than for conventional properties.

Morley Fund Management (UK) completed the City of Edinburgh Council Headquarters, incorporating a variety of sustainability measures. It achieved a BREEAM rating of 'very good' and has attained particularly efficient energy performance, allowing its tenant to reduce its carbon footprint.

**Energy conservation**

Saving energy can lower operating expenses and guard against future price spikes while simultaneously reducing CO₂ emissions. Systematic studies from around the world show that energy-related capital expenditures that improve lighting, boilers, air conditioning and office equipment are nearly always cost-effective for private investors. It is also cost-effective to check the performance
of existing building energy systems, making sure that they are performing at expected levels.

**What investors are doing**

*Investa Property Group* (Australia) audits the energy use in its office buildings, diagnoses inefficiencies and identifies cost-effective ways of saving energy. In one building alone, it is saving US$27,000 and 363 tonnes of CO₂ per year, all with minimal or no-cost conservation strategies.

*AXA Real Estate Investment Managers* (France) is refurbishing the energy systems in its buildings. In one of its properties, updated heating and cooling units and a change from fuel oil to natural gas is saving more than 20,000 Euros and 107 tonnes of CO₂ per year.

*PRUPIM* (UK) cut the energy used by its mall at Cribbs Causeway by 14 per cent in just one year by switching off unessential lighting in the car park at night. Some electrical work was needed to make this possible; but with the energy savings, the capital expenditure will generate a rate of return of nearly 40 per cent per annum over its first ten years.

**Green power purchasing**

Green power is electricity generated from renewable sources and is offered by utilities worldwide. It is produced with fewer environmental impacts, particularly related to air pollution and global warming. There is generally a modest price premium for green power; however, it can be avoided through bulk purchasing or offset with cost-effective energy efficiency measures. Research also shows that customers are willing to pay a premium for green power to obtain the environmental benefits. Therefore, tenants, especially those with corporate environmental programmes, may be comfortable absorbing any remaining premiums.

**What investors are doing**

*PRUPIM* (UK) has worked with an energy procurement service provider to contract for green power for 240 of its properties, avoiding 21,000 tonnes of CO₂ emissions per annum. The US$112 million contract provides the properties with green power at a significant discount to the current market rate. Because the power is generated from combined-heat-and-power plants, it is also exempt from the UK Climate Change Levy, making the price even more competitive.

**Parks, plazas, atriums and natural areas**

Open spaces of all kinds, from urban to rural, provide important recreational amenities along with wildlife habitat, storm water management, energy conservation and other public benefits. Fortunately, they also increase property values, especially for residential properties, by anywhere from 10 to 30 per cent or more.
In fact, the added value produced by parks and open spaces is generally more than enough to offset the expense of providing them.

What investors are doing

Hermes/MEPC (UK) is developing a series of unique public squares and spaces culminating at a major new riverfront beach park as part of its 14 acre (5.7 hectare), 2.7 million square foot Wellington Place development. The creation of a high-quality public realm will add to the success of the project by creating a strong identity for the district. The pedestrian spine will be activated by a linear water feature running along its length and the riverfront will be planted and managed to support otters and other wild creatures.

PRUPIM (UK) supports the award-winning Prudential Grass Roots programme, which helps communities to improve their local environment. The projects bring lasting environmental benefits to neighbourhoods, while also removing blighted wastelands near Prudential-owned shopping centres.

Transportation-demand management and transit-oriented development

Transportation demand management (TDM) includes efforts such as car-pool services aimed at reducing or redistributing peak period travel. Transit-oriented development (TOD) includes property ownership and developments within walking distance of transit stops and stations. Together, these strategies can reduce energy consumption, air pollution, urban sprawl, traffic deaths and dependence upon foreign oil. They can also increase transit system ridership, improve housing choices and boost access to jobs and housing for the young, old, poor and handicapped. Economically, TODs are more valuable and outperform as investments. In Dallas, Texas, for example, office properties near transit appreciated more than 50 per cent faster than elsewhere. Future demand in these locations is expected to be strong as both older and younger householders seek housing near public transportation.

What investors are doing

KOAR Development Group and Shamrock Capital Advisors (US) are currently developing Solair Wilshire, a 22-storey mixed-use transit-oriented high rise in the Wilshire Entertainment Corridor of Los Angeles. Solair is projected to be consistent with KOAR’s mission to develop projects that generally meet three economic thresholds: 20 per cent margin on project development costs; 20 per cent return on equity; and 20 per cent internal rate of return (IRR), assuming land assemblage, entitlement, construction and market risks.

Hermes/MEPC (UK) established the Birchwood Park Express Bus and Shuttle Bus to help the 4200 workers at its 123 acre (50 hectare) Birchwood business park become less reliant on car-based commuting. A service charge is added to the price for car parking to help pay for a free peak-time express bus
between Birchwood Park and Warrington Town Centre where commuters can connect to train services.

Hughes Development (US) created Mockingbird Station, a transit-oriented project adjacent to a major Dallas Area Rapid Transit rail line station. It contains over 500,000 square feet of retail, restaurant, residential, office and other uses on 10 acres (4 hectares). The project has been very successful, with rents commanding a 40 per cent above-market premium.

**Urban regeneration**

Investments to revitalize and regenerate urban places can advance urban vitality, economic development, infrastructure efficiency and physical accessibility. It can also reduce urban sprawl, conserve natural resources and lessen auto use and related carbon emissions. Economic evidence suggests that such investments can also be financially competitive. A UK study found that property investment performance in regeneration areas matched or exceeded national and local city benchmarks, had a lower level of risk per unit of return, and added diversification to property portfolios.

**What investors are doing**

Morley Fund Management (UK) has created the UK’s first urban regeneration fund, called the Morley Igloo Fund. It invests in mixed-use urban regeneration projects in major towns and cities in the UK. The fund was designed to take advantage of underpriced opportunities created by the regeneration market being erroneously perceived as high risk and low return. It is expected to outperform its benchmarks.

The California Public Employees’ Retirement System (CalPERS) (US) created the California Urban Real Estate (CURE) programme as part of its overall property portfolio. It invests in low- to moderate-income housing, urban infill, community redevelopment and similar projects where the risk is no greater than in other property investments made by the system. Since CURE’s inception, CalPERS’s average annual return has been 16.5 per cent after fees, to 31 December 2006. This compares to the benchmark industry returns of 8.1 per cent.

Shamrock Capital Advisors and DECOMA Developers (US) are developing Pas Town Square – six mixed-use buildings on three blocks in south Pasadena’s historic downtown core in the Los Angeles metro area. The certified green project is expected to produce an internal rate of return of over 25 per cent over four years.

Cherokee Funds (US) specializes in the sustainable redevelopment of brownfield sites, or properties affected by environmental contamination. Since 1993, they have acquired more than 520 properties.
Water conservation

Water in commercial properties is used for restrooms, cooling, heating and landscaping. Property owners can conserve water by reducing losses (e.g. fixing leaks), reducing uses (e.g. installing low-flush toilets) and reusing otherwise discarded water (e.g. catching run-off for irrigation). Water conservation benefits water quality, fish and wildlife, forests, groundwater reserves and other environmental systems. Studies indicate that cost-effective measures with acceptable simple payback periods can produce an average water savings of 28 per cent in offices and 22 per cent in hotels.

What investors are doing

CNP (France) is undertaking a programme to analyse and control water consumption for all of its apartment and office buildings throughout France. It focuses on invoices in order to identify opportunities for improvement.

PRUPIM (UK) reduced water consumption by 17 per cent in one year at its mall shopping centre at Cribbs Causeway. It was achieved through more prudent use of the external water feature and the installation of presence-sensing urinals and passive infrared sensors in the urinals. Meanwhile, at the PRUPIM headquarters, water-displacing ‘hippos’ were placed in all their toilet tanks, resulting in a 25 per cent savings.

Investa (Australia) cut water use by 27 per cent at one of its 34-year-old mixed-use properties. The savings came from adding flow restrictors to tap ware and installing urinal sensors and waterless urinals.

Hermes (UK) upgraded the urinals in Tower 42, the tallest building in the City of London, to a waterless system. This has significantly reduced the amount of water used from 8500 units in September 2005 to just 2600 units in 2006. Installation cost US$7000; but the programme is saving US$18,500 per year.

Conclusion

In effect, there are two types of financially sound RPI strategies: no-cost and value-added approaches. With the no-cost approach, managers find ways of improving the social or environmental performance of their properties at zero added expense. Turning out the lights in unoccupied areas, for example, is a no-cost strategy that fights global warming. Value-added strategies, on the other hand, require some initial financial outlays, but pay for themselves by either increasing net incomes (via higher rents or lower costs) or reducing risk premiums (via lower environmental risks, less depreciation, less marketability risk, etc.). For example, higher-quality design, which beautifies our cities, may cost more for finer materials and architectural services; but the added costs are offset by higher rents. RPI will continue to evolve, potentially also factoring in strategies not discussed here, such as flexible interiors, barrier-free design, stakeholder engage-
ment and advanced sustainability reporting. Lenders, owners, fund managers, asset and property managers, and developers can all incorporate RPI strategies within their existing activities today.

NOTES

1 This chapter was largely derived from articles that previously appeared in Cal State Fullerton’s International Real Estate Review, as well as from the United Nations Environment Programme’s (UNEP’s) Property Working Group.

2 There are different types of participants and different types of properties in the market. The opportunities that exist for addressing social and environmental issues may vary depending upon whether the investors are governmental or private entities, whether the investments are in direct ownership, joint ventures or co-mingled funds, and what types of properties are considered. These complexities will not be elaborated upon here; but readers should be aware of their existence.

3 To halt global warming, a growing number of local planning authorities are implementing the (UK) Office of the Deputy Prime Minister’s revised planning policy statement (PPS22), requiring a percentage of energy to be used in new residential, commercial or industrial developments, to come from on site renewable energy. At least 15 local authorities have written policies into their draft development plans, which demand that large new commercial buildings generate 10 per cent of their energy on site from renewable sources. A case in point is the London Borough of Merton, which in July granted planning permission for a 10,500 square metre development by DIY retailer B&Q in New Malden. B&Q will generate 10 per cent of its energy needs on site from renewable sources. A wind turbine and photovoltaic cells on the roof will generate electricity, and solar panels will produce hot water. The building will also feature a ground-source heat pump, which draws air from underground to help cool offices in summer and heat the checkout area during winter. (www.upstreamstrategies.co.uk/index.asp?id=146, accessed August 2008)

REFERENCES


