

THE IMPORTANCE OF GREEN FEATURES IN DETERMINING PROPERTY VALUES

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ABSTRACT.

As the growing adoption of green buildings on a global scale has resulted in a surge in awareness of green building features and activities, the literature and research are also expanding to learn more about the economics of green development, in the line that, the valuers should perceive the green aspect as a component that influences the property values. Literature found that, the impact of green features on the market value of a property should be acknowledged by the property valuers. Investors may not be encouraged to include green elements into property development unless and until valuers begin to reflect and account for green characteristics in property valuations. Also it would require different may be more advanced valuation techniques to fully determine the impact of green value on valuation elements and subsequently the overall value of a property. This paper explored the concept of green value and its relation with the property values which is a part of the literature review carried out by the researcher who currently conducts a research on the “Importance of “Valuer’s Perception on Green Features -in Determining Property Values” as a Partial Fulfillment for the of the M.Sc. in Real Estate Management and Valuation Degree in the University of Sri Jayewardenepura.

Keywords; Green Features, Property Values, Valuers, Green Value

1. INTRODUCTION

Today, the word "green" is becoming trendy in the real estate market, moving from the margin to the center. Hence Green Building concept has been developed to encourage the development of environmentally friendly building solutions. It has been often and widely believed that green buildings provide an uncertain advantage to investors, developers and landlords. However, on the contrary, a relationship is being emerged between the market value of a property and its green features and related performance.

The valuation profession has a responsibility to notice and identify current trends, changes, and important adaptations within property markets, as establishing market-value is the valuation professional's fundamental task. A property valuation almost always involves an inspection of the property to be valued. The purpose of a property inspection is to identify and report any features that may influence the market's perception of the property's value. Many value forming features will be apparent during a property inspection, provided that a valuer knows what to look for (Armatys et al., 2009).

However, valuers are currently not equipped adequately to deal with this changing market. Valuers lack appropriate assessment techniques compounded by their limited evidence, expertise, and knowledge on sustainability of properties. The impact of green features on the market value of properties would require different may be more advanced valuation techniques

to fully determine the impact of green value on valuation elements and the impact of green value on valuation elements and subsequently the overall value of a property.

Globally there is no consensus concerning how valuers can effectively value green features and whether they have any influence on the market value at all (Warren-Myers G. , 2012). In addition, there are currently no standardized premium adjustment values for green features and green features do not form a part of value calculations due to a lack of specialized knowledge and practical experience.

Through reviewing literature, this paper explored the concept of green value and its relation with the property values. This will provide some guidance to valuers to consider the green features value in property valuation.

- **Green Value**

The “green value” is defined by (Bienert et al. 2010) as: “the net additional value obtainable by a green building in the market compared to conventional or non-green properties.” This value premium is due to the benefits of sustainable building design, which impact the majority of key input valuation variables (Lorenz and Lützkendorf, 2011; Lützkendorf and Lorenz, 2007).

Assessing green value is essential for sustainable /green buildings; but property valuers have not yet taken it into account such green features in estimating the value of properties. The reason is that to estimating the environmental performance value of properties they follow the traditional methods in valuing properties.

In general, research on green value is still in its early stages, and it is too early to make generally acceptable conclusions from these early attempts. The earliest research that looked for a potential reflection of green building elements issued for the United States and Australia In general, research on green value is still in its infancy. It is too soon to discuss universally valid cons (Walter Hüttler, Klemens Leutgöb, Sven Bienert, Christian Schützenhofer, Gerrit Leopoldsberger, 2011). Royal Institution Chartered Surveyor (RICS) introduced the ‘green value’ concept demonstrating whether sustainable development creates money or not (RICS, 2005).

- **Key Green Features**

Assessing how green features affect and impact value can only be achieved when the green features are identified and isolated, enabling green value to be interpreted and established (Ellison, Sayce, and Smith, 2007). The selection of the four categories of green features , which were chosen because they carried the most weight in the calculation of a Green Star rating by the GBCSA, is supported by (Heerwagen ,2000),(Boyd ,2005), (Ellison, Sayce, and Smith ,2007), and (Muldavain ,2010). These are:

- i. Energy Efficiency.
- ii. Indoor Environmental Quality (IEQ).
- iii. Water and Waste Management.
- iv. Materials.

(Runde and Thoyre, 2010) concur with the choice of the first three but include site efficiency instead of materials as their fourth category. (Boyd, 2005) and (Ellison, Sayce, and Smith ,2007)) suggest that the list should not be exhaustive and should instead be able to change and adapt over time with the evolving green trends.

As define by the (World Green Building Council, 2017) , “A green building is a building that, in its design, construction or operation, reduces or eliminates negative impacts and can create positive impacts on our climate and natural environment. Green buildings preserve precious

natural resources and improve our quality of life. There are several features which can make a building 'green'. These include:

- Efficient use of energy, water and other resources
- Use of renewable energy, such as solar energy
- Pollution and waste reduction measures, and the enabling of re-use and recycling
- Good indoor environmental air quality
- Use of materials that are non-toxic, ethical and sustainable
- Consideration of the environment in design, construction and operation
- Consideration of the quality of life of occupants in design, construction and operation
- A design that enables adaptation to a changing environment" (World Green Building Council, 2017).

- **Green Building and Market Value**

Green building is a component of the real estate industry, (Green Building Index, 2017) described as a *"focuses on increasing the efficiency of resource use – energy, water, and materials – while reducing building impact on human health and the environment during the building's lifecycle, through better siting, design, construction, operation, maintenance, and removal. Green Buildings should be designed and operated to reduce the overall impact of the built environment on its surroundings"*.

Some organizations, for example, the Green Building Council of Australia (GBCA) and the New York State Energy Research and Development Authority (NYSERDA) has created a number of case studies to back up its claims the impact of green features on property prices. The first international studies show that is environmentally performing buildings are better valued on the real estate market.

Several nations have conducted studies on the impact of green construction on property value. (Yudelson, 2006) , explained that the benefits of implementing the green building concept on a building are: lower operational costs; lower maintenance costs; increased user productivity; management risks and stakeholder relationships; environment management; increased property value; and produces a product that is more competitive in the market where the green building has a lower operation cost. Research on green building features done by (Stephenson, R. M., 2012), it is estimated that green element can affect the residential property price about 8.3% increments on the sale price.

(Kubba, 2012), revealed that the green building method may enhance value (as seen by greater sales and leases, increased occupancy, and fewer ownership changes). According to (Fachrudin, 2015), It is mentioned that the green construction strategy offers benefits such as increased occupancy, sale and lease value, lower capitalization, and increased productivity.

(Popescu, 2012), has also been shown that green buildings may save operational costs, improve reputation and image, reduce negative environmental consequences, and reduce the usage of natural resources. Further, green value also represents the net added value of a building that is rated as green in the property market compared to the non-green rated building (Warren-Myers G., 2012). Thus, it's become a vital part of the market value.

- **Valuer's Role in Capturing Green**

A valuer is a professional in assessing and advising on the value of real estate. The professionals involved in real estate development assesse not only the value but also the feasibility of the development. They are the persons directly involved in the property market and promote the real estate development.

As the design and development of buildings with “green” features become more prevalent, valuers will increasingly be called on to consider green elements in their valuations. Such valuations must be based on market information of the added value due to these elements. From unreliable evidence and some case study research, it is becoming likely that green features make an influence on market values. This depends, on the property type, location, and local market conditions. Although, the relatively new and significant green features of many properties have garnered sufficient attention in the development community to call for careful consideration by appraisers and others (Jackson, 2017).

Green building design and construction should be considered by valuers when determining the value of a property. It is the valuer's responsibility to assess if a green building is more valuable in its market than a conventional structure. Sustainability and green building also necessitate the valuer's recognition of the impact of a new market force (sustainability) and comprehension of a new set of property attributes (green features) (Lorenz, 2011; Lorenz-Thomas, Lu`tzkendorf and David, 2011). They also argue that valuers must understand how to manage sustainability implications within the context of a conceivable price market value definition. They must also understand to what extent green characteristics should (or should not) be appreciated. As of now, not every market feels that green characteristics improve market worth, and it should be noted that only factors that affect pricing are reported. Valuers are not impediments to green growth, but it is critical that they integrate sustainability knowledge, skills, and abilities into their present practice (Warren-Myers, Georgia, 2013).

Valuers still fails to consider green or environmental performance in the valuation exercise (Bullier et al., 2011). (Warren-Myers G. , 2012) argues that valuers acknowledge sustainability/green effect in their practice; they may be forbidden further investment in sustainability due to misleading assessments of sustainability in valuations.

As the construction industry, including investors, public and private property developers, becomes aware of green buildings' productivity benefits, the demand for them will rise. This will drive the green buildings to success. Subsequently, the demand for conventional buildings will fall where the impact of the asset value of green buildings will be experienced firsthand by those buildings. As a matter of fact, the valuation industry must embrace the developing nascent green movement and develop and start adopting valuation standards for better evaluation of green value.

Concisely, as the market representative, valuers play a prominent and significant role in green building development, valuation specialists and their professional organizations must cope with a new reality of shifting value perceptions and systems among market players as a result of diverse groups of property market performers' rising interest in sustainability concerns. (Lorenz-Thomas, Lu`tzkendorf and David, 2011). In mature economies, value is quite important. It might be connected to a critical financial choice. Failures in valuation will expose a wide variety of stakeholders to danger.

As suggested by literature, if valuers are currently incapable of reflecting green issues within their estimates of market value comprehensively and adequately, it can be argued that property assets are mispriced at such moment. Since the final valuation of a property still firmly rest on the valuation professional qualitative judgment. As a solution for this matter, if the valuer cannot quantify the green value impact in case of lack of market data or non-transparent market, then it should be mentioned in the descriptive part of the valuation report to reveal the impact of the green value to property value (Boyd T. , CAN WE ASSESS THE WORTH OF ENVIRONMENTAL, 2005).

- **Integrating Green Value in to Valuation Practice**

The valuation process always consist of the three most widely accepted global valuation approaches: sales comparison approach, cost approach and income approach (direct capitalization or DCF). The variants of these three fundamental valuation techniques are used by valuers globally.(Boyd, Terry, 2005), argued that the traditional method is already enough for value since its criteria are least complex, which is more accessible to gathering data for valuation. But (Babawale, 2011) states that quantifying the effects of green features are still not reflected in the traditional valuation methods. The author feels that change is imminent in the valuation profession. This change will embrace new valuation techniques, methods, and indicators of greening (valuation variables), which can be used to assess the value of such property better. (Mansfield, 2009),believes that in order for valuers to accurately estimate the potential influence of green features on market value, a widely agreed set of green features and its impacts must be recognized. (Pitts, Jackson, 2008; RICS 2012) also confirm that valuers need to use their expertise to recognize the green features that present the advantage and the impact on market value.

(Lützkendorf, D. Lorenz and T., 2005), suggest that it needs more advanced methods for green valuation, such as the hedonic method, which contrasts with (Boyd, Terry, 2005). (Lorenz., 2006) , argue that there are some methods identified that are attempting to identify the impact of green features on market value. However, none are perfectly reliable and able to accurately measure the impact of green features on market value.

- **Barriers of Capturing Green Value**

(Warren-Myers G. , 2012), argue that there is a global phenomenon where the condition that property valuers have yet to fully incorporate green building features in their valuation. In the process of implementing of green value concept in to valuation, there are several challenges encountered (Lorenz-Thomas, 2012). The challenges are identified as difficult to measure the value in numerical forms; absence of training programs on valuing the green features of a property, absence of a specific method in the current valuation methods to value green features of a property. Also, the factors and their attributes associated with green features are difficult to be attained.

There is a lack of standardized, conceptual approaches to valuing green buildings. The majority of the valuation profession is unfamiliar with the idea, and they also lack expertise evaluating green buildings. Furthermore, data on green building comparable, whether rental or sale is scarce on the market. Lack of skills, knowledge, and data are major contributory reasons why not all characteristics of green qualities transfer into market value or have been considered as a factor influencing the value (Wan Norhasmah Wan Ismail,Rohayu Abdul Majid, 2014). (Laura Bently,Scott Glick,and Kelly Strong, 2015), found that even though valuers are able to recognize green features, they are continually challenged by the inability to measure and quantify their economic impacts.

Some of the information needed to capture the green value that respondents specifically identified (Laura Bently,Scott Glick,and Kelly Strong, 2015) it include: Billing Statements, Performance Ratings, Comparable Sales Data, Property Transaction Data, Specifications, and Searchable Databases developed by professional organizations. These are all forms of verifiable documentation that validate the data considered in previous studies' appraisal process. Lack of programmes /opportunities to train or provide knowledge on green building valuation can be identified as a one of major barrier of capturing green value in to valuation practice (Laura Bently,Scott Glick,and Kelly Strong, 2015).

(Dermisi, 2009) speaks of short-term data evidence in the U.S. where the degree of green features intervention positively affects a property's market value but urges the establishment of long-

term trends. This highlights the “chicken and egg” scenario, where valuers cannot value buildings with green features without adequate comparable data (Warren-Myers and Reed, 2012), and therefore remain ignorant of the benefits of green features. Without new perspectives, valuers will be unable to advise a new pool of investors wishing to invest in commercial green buildings (Nicolay, 2007).

Unless and until valuers began to reflect and account for green features in property values, investors may not be motivated to incorporate sustainability/green features into property development. Appropriate pricing of externalities will impact both people’s behaviour and the advancement of the environment (Pearse, 2005). Ellison and (Sayce , 2007) support this argument by stating that without developing and understanding green features to assess the effect on values and performance, the property sector will continue to struggle to engage with the increase in green building development successfully.

2.CONCLUSION

There is a growing awareness of the benefits of sustainable/green building and market valuations need to reflect this circumstance since they would produce misleading price estimates otherwise valuers need to find effective measures to monitor and account for the increasing change in market participant’s preferences for certain green building features.

The final valuation of a property still firmly rests on the valuation professional qualitative judgment. Therefore, as a solution for this matter, if the valuer cannot quantify the green value impact in case of lack of market data or non-transparent market, then it should be mentioned in the descriptive part of the valuation report to reveal the impact of the green value to property value. It is important to provide empirical research as well as a continual professional development program in the field of green value. Also, more advance methods should be developed to capture the green impact in to valuation practice. From there, valuers will be well-equipped with green building information and knowledge, allowing them to deliver a clear and dependable valuation service.

REFERENCES

REFERENCES

- Addae-Dapaah, K. L. (2009). Sustainability of sustainable real property development.
- Creswell,J.(2014).ResearchDesign:Qualitative,Quantitative,andMixedMethodsApproaches.Fourthedition. *SagePublications*,.
- Danso, H. (2018). Identification of Key Indicators for Sustainable Construction Materials. *Department of Construction and Wood Technology, University of Education Winneba, P.O. Box 1277, Kumasi, Ghana*.
- Fachrudin, K. A. (2015). The study of Investment Portfolio Management and Sustainability of Property and Real Estate Companies in Indonesia Stock Exchange. *Social and Behavioral Sciences*,.
- Green Building Index. (2017). Retrieved from www.greenbuildingindex.org.
- Handbook, Emergency Food Security Assessment. (2007). *Integrating Migration and Displacement into Emergency Food Security Assessments*,. Technical Guidance Sheet No. 1.
- Jackson, T. O. (2017). Green Buildings: Valuation Issues and Perspectives. *Environment and the Appraiser*.
- Kubba, S. (2012). Handbook of Green Building Design and Construction. *Amerika Serikat*:.
Laura Bently,Scott Glick,and Kelly Strong. (2015). Appraising Sustainable Building features; A Colorado Case. *The Journal of Sustainable Real Estate* , Vol. 7, No. 1, pp. 112-133.
- Lorenz, T. L. (2011). Capturing Sustainability-Related Information for Property Valuation. approaches and recommendations for future action.
- Lorenz-Thomas, Lu'tzkendorf and David. (2011). Sustainability and property,Systematisation of existing approaches and recommendations for future action.

- Magnus, B. (2013). Economics Studies of Green Commercial Buildings in Sweden.
- Pearse, D. (2005). Do we understand sustainable development?
- Popescu, D. d. (2012). Impact of Energy Efficiency Measures on The Economic Value of Buildings.
- R. Sabu, A. H. (2015). The enhancement criteria of green building implementation for property development in Perak, Malaysia – Valuer’s Perspective.
- RICS. (2005). *Green Value – Green Buildings, Growing Assets*. Royal Institution of Chartered Surveyors.
- RICS. (2005). Royal Institution of Chartered Surveyors (RICS) ‘Green Value – Green Buildings, Growing Assets, .
- Stephenson, R. M. (2012). QUANTIFYING THE EFFECT OF GREEN BUILDING CERTIFICATION ON Dr. *Baabak Ashuri School of Building Construction Georgia Institute of Technology* Dr . *Javier Irizarry School of Building Construction Georgia Institute of Technology* Rick Porter School of Buildin. .
- Walter Hüttler, Klemens Leutgöb, Sven Bienert, Christian Schützenhofer, Gerrit Leopoldsberger. (2011). Integrating energy efficiency and other sustainability aspects into property valuation – methodologies, barriers, impacts.
- Wan Ismail, W. N., & Abdul Majid, R. (2014). he Impact of Green Features on Property Valuation Procedure. .
- Wan Norhasmah Wan Ismail, Rohayu Abdul Majid. (2014). The Impact of Green Features on property valuation procedure. *Proceeding of the International Real Estate Research Symposium*.
- Warren-Myers, G. (2011). *The Value of Sustainability in Real Estate: A Review from A Valuation Perspective*.
- Warren-Myers, Georgia. (2013). Is the valuer the barrier to identifying the value of sustainability? *Journal of Property Investment and Finance*.
- Yudelson, J. (2006). Marketing Green Buildings: Guide for Engineering, Construction, and Architecture. *Taylor & Francis Ltd*.