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Work Based Project

Relevance of the Sustainable Labels for Commercial Properties

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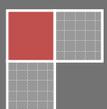


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ABSTRACT

1. Purpose

The present work based project has been produced in order to provide an overview of the sustainable labels to occupiers and property providers (developers and investors) who are not familiar with these certifications.

The potential advantages of choosing to occupy or to purchase a certified property will also be analysed together with the potential risks related to the choice to occupy or purchase a non-certified property.

2. Approach

Data have been collected from professional experience, from interviews and from qualitative and quantitative literature research issued from:

- internet research;
- brochures and reports published by the research department of the main real estate professionals;
- specialized publications;
- books ; and
- academic & professional networking that have also provided useful information about brochures, books and diverse other publications.

The aforementioned data have been completed by two case studies, the EOLE and the SOLARIS office buildings. The first property has not been certified by a sustainable label but the owner is a public company that has produced a detailed environmental survey that has been analysed by numerous specialized publications, the EOLE is now considered as one of the most efficient Belgian office building on an environmental point of view. The SOLARIS is the first building that has been certified by the Belgian sustainable label VALIDEO.

The analysis started with the selection of 4 labels that have been detailed:

- BREEAM (UK, 1990)
- HQE (France, 1996)
- LEED (US, 1998)
- VALIDEO (Belgium, 2008)

Then the analysis of the occupiers and property providers interests has been completed together with the identification of the potential risks related to non-certified buildings.

3. Findings

An overview of the processes and the specificities of the four sustainable labels considered has been provided.

The analyse of the advantages for occupiers has produced the following main results:

- choosing a certified property will ease the employees appointments, increase the retention ability and reduce the absenteeism rate; and
- the financial advantage related to the reduction of the energy consumption in case of certified properties remains marginal and does not constitute a key decision factor.

The main advantages identified for property providers are the following:

- there is a premium in the rental and the capital value for certified properties;
- the sustainable performances of properties will soon be integrated in the valuation processes;
- building costs are not necessarily higher for certified properties; and
- the certification increase the liquidity of the property;

Finally, the main risks related to the choice of constructing, occupying or purchasing a non-certified property are that:

- legislation and thus the taxation will soon be more restrictive for properties that have poor environmental performances;
- be named and shamed could have a significant impact on an organization image and heavy financial consequences; and
- the sustainable certification is an evidence of voluntary product stewardship (Sells, 1994).

4. Limitations & implications

No technical comparison of the labels has been made but in the light of the fact that the UK Building Research Establishment and the French Centre Scientifique et Technique du Bâtiment are currently working on the conception of on common label it could be interesting in a further research to define what the ideal content of one single international label could be.

The building costs for sustainable properties have only been considered in the light of the standard construction cost and of the two case studies. So, even if the construction costs for sustainable properties could remain in the region of those for “traditional” ones it could be interesting to analyse if there is a link between the increase of the construction costs and the quality of the certification assessment results.

5. Value

While some surveys about the technical comparison of different sustainable labels have already been done, the surveys made about the potential advantages of sustainable certifications have mostly been focused on one single sustainable label. Some have also considered one energy performance certificate together with the sustainable label but the specificity of the present report appears to be the fact that different labels have been considered in order to have a broader view of what the advantages of the sustainable certification could be.

CHAPTER 1: INTRODUCTION

The words “Sustainable” or “Green” are today omnipresent on the commercial real estate markets and most of the commercial real estate properties, following their brochure, are supposed to fit with the sustainable philosophy. However, while in the UK, France and the US the markets appear to be aware of the sustainable concerns and the real estate players quite well informed on the subject, this is not the case in Belgium.

This need to render buildings “greener” combined with an incomplete knowledge of sustainable concerns pushes sometimes property marketers to imprudent statements such as a Belgian developer who, recently, in an offer for an new developed office building in Brussels, has integrated a “green” chapter that started with the announcement that the building is “green” thanks to its green terraces and the green boulevard in front of it.

But how is it possible for an occupier or an investor to evaluate if a building can be considered as sustainable or not? The sustainable certification is an answer to this question but it appeared from many discussions with Belgian occupiers, investors and developers that most of them had a very poor knowledge of these labels, of their processes and of their potential advantages. This is due to the fact that sustainable certifications are brand new on the Belgian market:

- the first Belgian building certified by the Belgian label VALIDEO has been awarded in May 2009 (VALIDEO, 2009);
- the first Belgian building certified by the UK BREEAM label has been awarded in September 2009 (Mikolajczak, 2009);
- there are currently no HQE commercial building certified in Belgium but two new developments should be soon awarded (CBRE Investors, 2009); and
- it seems that there are currently no LEED certified property in Belgium

In other words the first building that has been certified in Belgium by a sustainable label has been awarded five months before the completion date of the present report. The first aim of this document is thus to make an overview of the main sustainable labels. This overview will be mainly dedicated to occupiers, developers and investors who are not familiar with the sustainable labels but the purpose of the research will not be to proceed to a technical comparison of the different certifications. However the main differences between the labels considered will be highlighted.

The second aim of the present report is to identify the potential advantages that occupiers, developers and investors could obtain by choosing to occupy, build or purchase a certified property. On the other hand the potential risks to occupy, build or purchase a non-certified property will also be considered.

The research will start with an overview of the literature directly and indirectly related to sustainable labels and to the needs and requirements of occupiers and property providers (developers and investors). The investigative method will then be detailed before proceeding to the analysis of the data in order to answer the main questions that are:

- How do sustainable labels work?
- What are the advantages of sustainable certifications?
- What are the risks of choosing a non-certified property?

Finally recommendations will be made to occupiers and property providers but also to the organisations that are managing the sustainable labels.

CHAPTER 2: LITERATURE REVIEW

By taking a look at the huge amount of publications made about sustainable developments in the real estate sector it appears obvious that this subject is now included in almost every discussion about real estate and especially commercial real estate.

Publications from the UK, the US, France and Belgium have been considered in the present report and, despite the fact that the UK started to consider this topic earlier and that the US market is a bit peculiar due to its dimension, the two other countries are now also producing an impressive amount of qualitative publications about environmental issues related to the real estate sector.

The concept of sustainable development is too often reduced to strict environmental concerns or, worse, to energy consumption only. It is therefore paramount to understand what is encompassed by this terminology.

One of the most known and recognized definition has been made by the United Nations:

“development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations, 1992)

Another useful tool to understand the operating range of a sustainable development is the “Triple bottom line” concept defined by Savitz and Weber in 2006 (Accenture, 2009 & King Sturge, 2009). It underscores the fact that a sustainable development has to address three different topics: Environment, Economy and Social equity.

By consolidating both definition and triple bottom line concept we could thus say that a sustainable development is:

A development which meets the economical and social needs of the present without damaging the environment in a way that would compromise the ability of future generations to meet their own economical and social needs.

The concept of “Corporate social responsibility” introduced by Waddock and Graves in 1997 that addresses the inputs, the internal processes and the publicity is today broadly used and mentioned (Eischholtz et al, 2009). An investment in or the occupancy of a property that has been certified sustainable is obviously in line with the CSR (Prudential, 2005; Linklaters, 2008).

1. The needs

Before addressing the very subject of sustainability it is necessary to understand what is a valuable product for both parties, the occupiers and the providers of commercial properties.

1.1. Occupiers

Andrew Morgan and Sarah Anthony have identified 3 main elements in order to improve the performance of the work environment (Morgan & Anthony, 2008):

1. The ability to adapt to changes in the workplace
2. Enhancing communication
3. Enhancing the brand or image in order to attract both customers and staff

The first and the second points are intimately related and are assessed by every sustainable certification label considered in the present report (BREEAM, HQE, LEED, VALIDEO). About the third point it is obvious that a sustainable certification is an added value to the brand or image of a company.

Another important aspect underscored by Morgan & Anthony is the retention and the recruitment. The people interviewed have all considered the workplace and the building as a major argument to hire and retain people and Morgan & Anthony are not the only ones to have raised this point (Lockwood, 2006). Despite the dramatic economic situation, the recruitment and the retention of talent is still an issue, 81% of the UK organisations are currently experiencing recruitment issues and 69% are experiencing retention issues (CIPD 2009).

1.2. Property providers

As mentioned by Birell & Gao, “[...] *the start of the property development process is the potential opportunity of profit for someone. [...]*” (Birell & Gao, 1997) but in a development process this “someone” could be numerous with regard to the fact that the standard process requires at least a developer to conceive and physically launch the project, an investor to purchase it and an occupier to occupy the property. The actor who trigger the project is more often the developer but could also be one of the other parties.

If we focus on the property providers, understand developers and investors, the process related to the property development process, the sale/purchase or the management of it is mostly long, heavy and often complex. On top of that even if property providers are most often experienced professionals their choices are often the results of instinct than good information and research (Fisher & Collins, 1999).

Several descriptions of the property development steps have been published and Birell & Gao (1997) have produced one of the more complete ones, it includes 14 steps:

1. Opportunity/site Identification
2. Market Analysis
3. Site Investigation
4. Feasibility Study
5. Professional Appointments
6. Financing
7. Planning Application
8. Site Assembly/Purchase
9. Design
10. Tendering/Contracting
11. Construction
12. Promotion
13. Letting
14. Sale

If we go beyond the basic target aforementioned, we can consider that the needs of the property providers will be to ease every of these 14 steps to ensure the respect of the planning, of the budget and, by consequence, to maximise the profit.

2. Shifting from the “traditional way” to the “sustainable way”

It is today broadly recognized that the real estate sector has to evolve in a more sustainable way. But from this politically correct concept to the implementation of it there is sometimes a long way. Upstream has defined what they consider as the five main “*Key drivers for change*” which were the legislation, the regulatory framework, the best practice, the campaign pressure and the market demand (Upstream 2004).

If we pronounce the word “market” we imply its two intrinsic components that are the demand and the offer. The market demand appears thus to be considered as the strongest key driver. To illustrate the evolution of this market demand we can cite example of Alliance & Leicester who proceed to an environmental audit of any new office development on a BREEAM basis and obtained a ‘very good’ rating as a minimum result (Upstream 2004) and the fact that CB Richard Ellis has recently announced that they have enrolled 225 buildings to be certified LEED EB (US sustainable label for existing buildings) goes in the same way (Brenner, 2009).

However the “sustainable way” is not always the easiest way, most of the authors or organisations that have written about or analysed the sustainable certifications have underlined that one of the major weak point of it is the complexity of the processes (RICS 2008B & Dixon et al 2008). On top of that the fact that several different labels are already existing does not simplify the process but the UK “Building Research Establishment” (BRE) and the French “Centre Technique du Bâtiment” (CTB) are currently working together in order to create a common label that will be composed of the best practice of both BREEAM and HQE labels (Business Immo, 2009B).

3. The building costs

The idea that sustainable developments are supposed to be more expensive than traditional ones has also been addressed by Upstream who concluded that it is possible to complete a sustainable development at a competitive price compared to a traditional development. Three elements were cited to illustrate this declaration (Upstream, 2004):

- The Stanhope research (2001) that considers the small-power provision and the densities foreseen in office buildings. This report evaluates that the construction costs could be reduced by 5% with a more accurate knowledge of the occupiers needs.
- The fact that Arup Associates has designed a sustainable office building named “Campus” in Blythe Valley Park that has been built for a similar price that a traditional office building.
- 40% of the new commercial property constructions should be eligible for enhanced capital allowances for energy efficiency but only 50% of it are claiming for these allowances (figures sourced from Arup Associates and the British Council for Offices in 2002).

The continuous need to optimise the work environment implies to increase the density of people in the work environment and this fact goes in the opposite way of the Stanhope research estimation of 5% reduction for the construction costs. A high majority of the commercial properties have technical limitations (HVAC, electrical power, electrical outlets provision, ...) which could compromise the fit-out works for some type of users like telecom companies who usually work in high density open space. However the Arup Associates case study appears to be quite more factual such as the last point concerning the enhanced capital allowances.

Another conclusion of the Upstream report was that, despite the fact that the commercial property sector has improved its engagement in the environmental and sustainable issues, *“...there are mismatches between the delivery of sustainable development and the enjoyment of its benefits.”* (Upstream, 2004). The Upstream point of view was that, at the time of writing, constructing and owning an environmentally efficient building as an investment increase the company’s reputation and benefits, while occupying it does not imply a particular financial advantage.

The French investors do not follow Upstream concerning the idea that green developments, understand certified developments, could cost the same price that traditional ones. Following investors such as Carrefour Property and AEW Europe the extra cost for constructing a certified property equals to more or less 10%. The cost of the certification process itself seems to be a quite limited but the investment required to obtain a “Good” or “Very Good” rating (whatever the label) is still significant compared to non-certified projects (Business Immo, 2009A, pp30-32).

The environmental and real estate consultant Charles Lockwood has a different opinion on the subject and cite numerous scientific studies that have demonstrated that the construction costs for a certified sustainable building can be similar or even lower that for a standard one. One of the example cited was the PNC Firstside Center who has constructed some 200 green bank branches for which the construction process was quicker and the budget lower or equivalent that for standard buildings (Lockwood, 2006).

Following Lockwood, there are ten rules to follow to construct a sustainable building at a competitive price compared to standard properties (Lockwood, 2006):

1. *“Focus on the Big Picture: by focusing on the building’s planning and design rather than adding green techniques.*
2. *Choose a Sustainable Site: ideally re-use a brownfield or a land where a building has been demolished or will be.*
3. *Do the Math: always compare the cost of an option with regard to the potential benefit.*
4. *Make the Site Plan Work for You: let the nature help for the concept by carefully analyse the orientation,*
5. *Landscape for Savings: use vegetation to limit the weaknesses of the building (ingress of sunlight, heat loss, ...) and improve its strengths (additional insulation by green roof, ...)*
6. *Design for Greater Green: design the building to be spatially efficient, facilitate the entrance of natural light, ...*
7. *Take advantage of technology: conserve and even generate energy*
8. *Save and Manage Water*
9. *Use Alternative Materials: low VOC (volatile organic compound)*
10. *Construct Green: take care of the building process and recycling construction waste”*

Beyond the effective building costs another important point is the perception that occupiers could have of these costs and in EMEA 70% of commercial property occupiers consider that a sustainable property cost between 1 and 10% more to build (and thus to rent) than a “traditional” one (Jones Lang LaSalle, 2008). In this EMEA occupiers are joining the aforementioned French investors Carrefour Property and AEW Europe.

4. The value

The value is obviously the key question. Sustainable properties will be constructed only if there are tenants to occupy it and investors to order/ purchase it. There will obviously be differences between the reasons that will decide an occupier to pay a premium for a sustainable property and those that will encourage an investor to purchase/order it.

4.1. Property providers

The basis concern of investors is the income. In the real estate sector the way to maximize incomes is to reduce the vacancy, increase the liquidity and reduce the maintenance costs.

The principle of “sustainable development” comply with the aforementioned requirements but from theory to practice there could be a gap. Therefore several surveys have been made in order to evaluate the relevance of the argument following which “green” buildings should be more profitable than traditional ones.

Fuertz and McAllister have analysed a large panel of LEED and Energy Star certified properties in the US. The first question was to identify whether or not there is a premium for the rents of certified buildings and the second question was to analyse the impact of the certification on the sale value of the property.

The title of the Energy Star certification let no doubt about its focus: the energy consumption. While the LEED certification addresses also the energy consumption but together with a broader range of topics: Choice of the site, Water Efficiency, Materials & Resources, Indoor environment quality, Location & Linkages, Awareness & Education, Innovation and Regional Priority (LEED Website, 2009).

The results showed a superiority of certified properties compared to non-certified properties on basis of a lower vacancy rate, a higher rental value, 11,8% above the rental value of non-certified properties, and a higher sale value between 10% for Energy Star certified and 31% for LEED certified (Fuertz et al, 2008).

Eichholtz, Kok and Quigley have also analysed the impact that the two US “green” certifications, Energy Star and LEED, could have on the value of US office buildings. They confirmed the Fuertz and McAllister results about the trends but were a bit less optimistic in terms of rental and sale value. The Eichholtz et al conclusion showed also that there is a premium for the buildings that have been certified by Energy Star but it showed no premium for the building certified by LEED which is a bit strange when we know that the energy consumption and use is also assessed by the LEED certification. Concerning the estimation of the premiums these were supposed to be a bit less significant that those estimated by Fuertz and McAllister with up to 6% increase for the effective rents and up to 16% increase for the sale price (Eichholtz et al, 2009).

Sarah Sayce and Anna Sundberg have treated the results of the aforementioned type of survey with prudence. They underlined that, to identify a link between value and sustainability, we can refer to three categories of sources: transactions, opinions studies and theoretical cases. Their conclusions about these were (Sayce & Sundberg, 2009):

- Evidence of transactions: the transactions are influenced by a sum of factors like location, culture of the transaction actors, ... therefore this source is complicate to use and, mentioning Eichholtz et al (2009) together with other US surveys, Sayce and Sundbert (2009) underlined that these studies that have been done on basis of US transactions only. The conclusions of these studies have thus to be replicated in their context and any "export" of these conclusions outside their geographical origin could be hazardous.
- Perceptions and opinions studies: Mentioning the Jones Lang LaSalle report "Global Trends in Sustainable Real Estate: An Occupier's Perspective" (Jones Lang LaSalle, 2008), Sayce & Sundberg (2009) goes in the same direction by saying that a majority of occupiers are ready to pay more for certified properties even if this trend is less sensible for the choice of new properties because these are already subject to new building regulations that renders it environmentally efficient (energy use, raw material quality, ...). On the investor side the conclusions are that the decision to invest in sustainable properties is mainly subject to the evidence of a financial advantage.
- Theoretical cases for value change: Sayce & Sundberg (2009) cite numerous papers that explains and demonstrate the fact that sustainable properties should have a higher value because of a lower risk and a potential longer life cycle. However the concretisation of this theory does not appears yet in the transactional evidences.

For the investors active on the French market it appears that none of the 25 biggest investors envisage to purchase a non-certified new development. Concerning the existing buildings the question is still open but the tendency goes clearly to purchase only buildings that already have a certification for existing buildings (HQE Exploitation, BREEAM, ...) or that could be renovated in order to obtain this certification (Business Immo, 2009A, pp30-32).

And some investors are going even farther by choosing for multiple certification such as the American investment fund Beacon Capital Partners that will become owner of the 87.000 square meters Parisian tower "Tour First" at the end of the construction in 2011. This tower will be certified HQE and the intention of BCP is to also obtain the exploitation certification HQE and LEED (Business Immo, 2009A, p7). And within the 70 larger certified buildings considered by Business Immo in its green survey (Business Immo 2009, pp 26-29) 11 have been certified by more than one label (HQE, BREEAM, LEED, ...).

The valuation standards, as described by the RICS in the Red Book, start to take into account the dimension of sustainable developments while valuing a property but this consideration remains relatively shy:

"In England and Wales, the valuer is not required to read the documents within a Home Information Pack or the Energy Performance Certificate, or comment on the energy or environmental ratings, unless specifically instructed to do so by the lender. However this reservation does not affect the duty of the valuer to comply with general requirement of paragraphs 4 [guidance for the valuer's inspection],5 [guidance for the valuation process] and 6 [guidance for the redaction of the report] of this specification" (RICS Valuation Standards 2007, p215)

However recent RICS discussion (RICS, 2008A) let no doubt about the intention of the RICS for this topic. The title of it could hardly be more explicit '*Valuing Sustainability – The commitment of the RICS*'.

In the light of these elements it appears obvious that the capital value of certified buildings will continue to grow while non-certified buildings will have more and more difficulties to find purchasers.

4.2. Occupiers

Compared to the numerous surveys made about the investors concerns, there were relatively few surveys that have addressed the occupier concerns. It is obviously difficult to write about the capital value of a property without considering its attractiveness to occupiers therefore, in investors oriented surveys, some words have been written about the occupiers concern or possible reactions. It was the case for Sayce & Sundberg who have mentioned, amongst others, the 2007 and 2008 report from Miller, Spivey and Florance "Does Green Pay Off?" that has identified a link between value and sustainability but explains that it will probably be more because of tenants paying less for non-certified buildings that paying more for recognized "green" ones (Sayce & Sundberg 2009).

However Jones Lang LaSalle produced one of the rare survey that truly focussed on the occupiers perceptions and expectations by proceeding to 400 interviews of CEO's spread all around the world (Jones Lang LaSalle, 2008). There were three main conclusions:

1. *"Sustainability is not for tomorrow's agenda. It is a critical CRE (Corporate Real Estate) issue right here, right now.*
2. *Corporate occupiers accept that sustainable real estate costs more to deliver and are prepared to pay a premium*
3. *A good sustainable real estate solution these days is hard to find."*

The first declaration underscore the fact that, from occupiers perspective, sustainability is (and not will become) a decision criteria in their corporate real estate decisions.

The second is the answer to the key question: money. Yes occupiers consider that it could cost more to build a sustainable property and are ready to pay more for it. Up to 10% (Jones Lang LaSalle, 2008).

And finally the third point mention the rarity of sustainable solutions which implies that the premiums could be more important if different occupiers enter in competition for the same property.

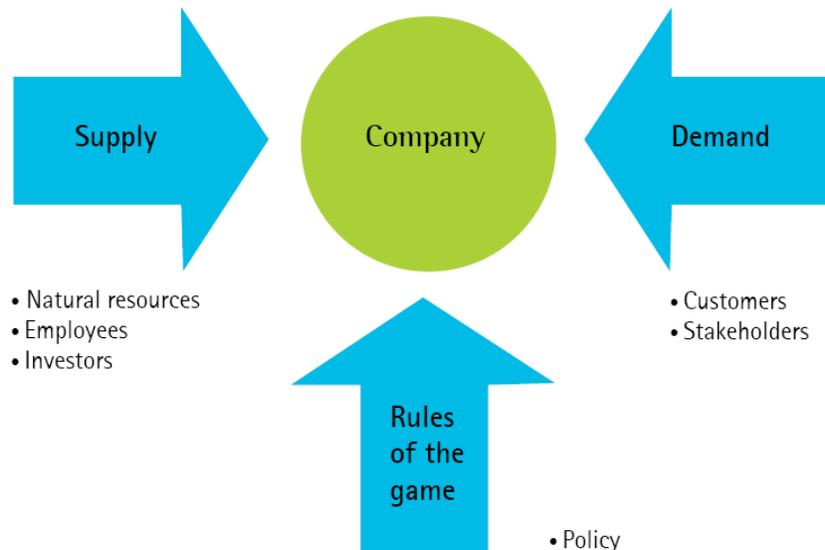
5. Evolution of the perceptions

The Upstream report underlines some major trends issued from a six years survey (1998 to 2003):

- Finance was still the key driver
- Increasing pressure on the real estate sector to produce sustainable developments
- The sector starts to answer positively to these pressures
- The major points of attention have been so far (2003):
 - Energy and water use
 - Waste
 - Brown lands
 - Biodiversity
- More recently the sector starts to extend its consideration to a broader view of the environmental concerns.

A recent report from Accenture goes in the same direction by underlining the fact that in Belgium and Luxembourg the investors and landlords concern about the sustainable developments is growing. One of the reasons underlined by Accenture is that, considering the current crisis, the perception that investors and landlords have is that this strategic orientation will allow their portfolios to be better positioned when the upturn will occur (Accenture, 2009).

Accenture identifies the pressure made on the sustainable imperative as follows:



Source: Accenture

Concerning the demand Accenture observes a slide from “recommendations” to “mandates” and it has been confirmed by the aforementioned Jones Lang LaSalle survey which indicates that in EMEA and Australasia 87% of the interviewees considered the issues linked to sustainability as an opportunity rather than a threat and 60% of the EMEA respondents considered sustainability as a critical issue now (Jones Lang LaSalle, 2008).

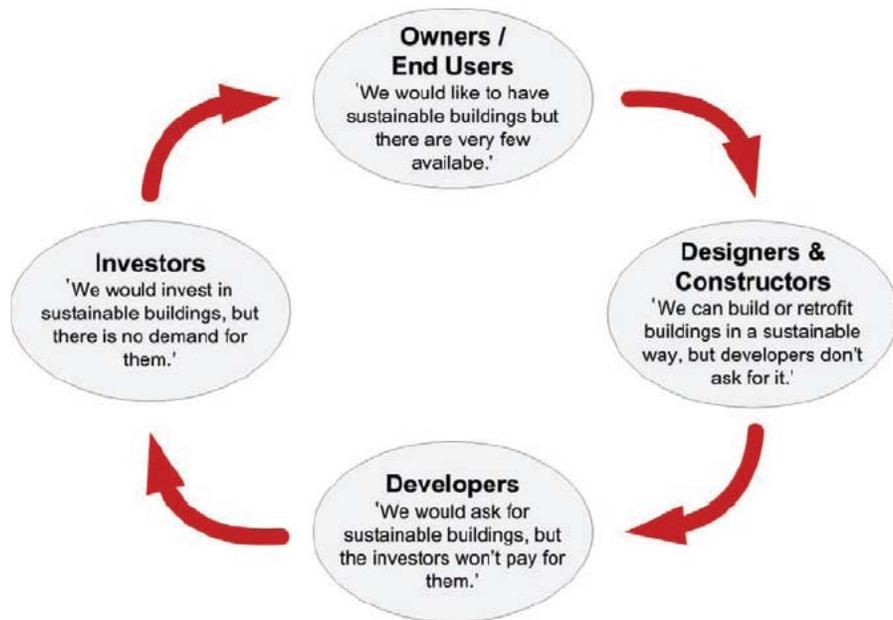
By the rules of the game, Accenture, wanted to address the legal aspect. Years by years, legislation is provided with more accurate tools to regulate the use of products (European Community Regulation on chemicals and their safer use or Registration, Evaluation, Authorization) or to trace it (REACHdirective). These regulations have a direct impact on the way to build and the way to occupy properties. Real estate professionals have today to comply with much more regulations that a few decades ago and their responsibility is not limited to the physical construction but is also extended to a duty of care in the choice of their materials and the source of it.

Finally the supply chain is more and more concerned by the scarcity of the resources and the new needs the employees/workers have, in other words we have to do more with less (Accenture 2009).

Another example of the evolution of the perceptions is the apparition of the “Green Leases”. This concept can be applied to every type of building and is composed by a number of clauses to be added to a traditional lease agreement in order to improve the environmental performance of the building. Reduction of energy & water consumption and reduction of the waste production are the main subjects addressed by these clauses (Savills, 2008).

6. Blame and shame

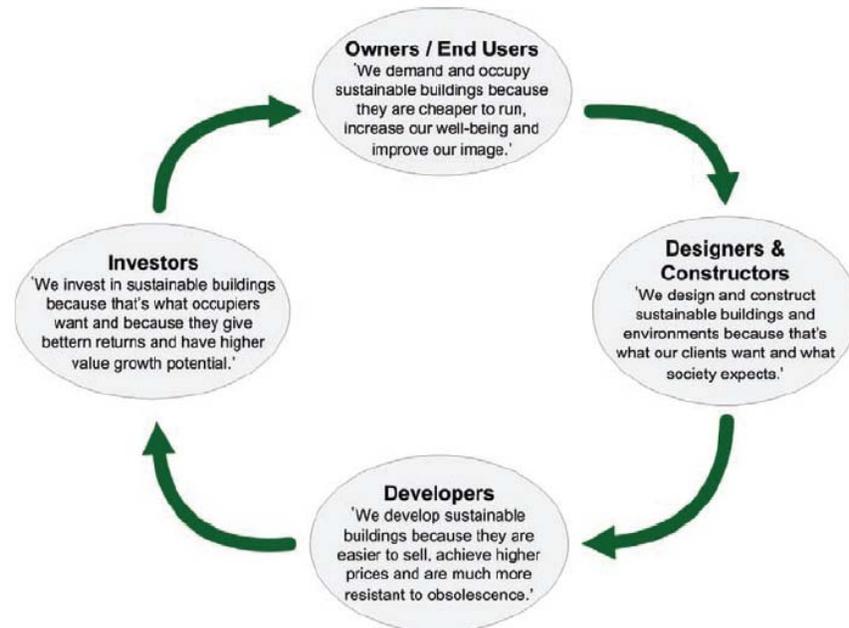
The strongest enemy of sustainable developments is probably the reluctance that real estate professionals have to change their process. This attitude replicates itself behind the classic answer: *"I would like to do it because I believe in it, but due to others I can't"*. This principle has been illustrated in the *"Vicious Circle of Blame"* developed by David Cadman (RICS, 2008 A & B) as follows:



Adopted from Cadman, 2000

Blame on somebody else for something that I haven't done appears to be a comfortable way to ensure the "status quo" but, as previously mentioned, the occupiers perspective is quite different that what is mentioned in the Vicious Circle of Blame, occupiers are searching for sustainable properties and consider the offer as significantly below their expectations (Jones Lang LaSalle, 2008).

It has also been underlined by the RICS together with other elements to show that the interactions between the different actors of the Vicious Circle of Blame can be used to convert it into a Virtuous Circle. The message from the different actors will then be quite different:



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The process proposed by the RICS to achieve this result is to bring concrete example of success stories together with finance and valuation evidences to the different actors in order to demonstrate the relevance of the approach. In this process valuers and advisors have a key role because their valuation and advise have to reflect the benefits that could be generated by this type of properties (RICS, 2008 A & B).

The construction sector in Europe uses 50% of the total resources exploited, 45% of the total energy consumption and is responsible for 40% of the total waste produced (Bruxelles Environnement, 2007). As from 2010 the Carbon Reduction Commitment (CRC) will start to run its effects, the target of the commitment is to reduce by 80% the carbon emissions by 2050. The penalties for non compliance will be monetary but also 'named and shamed' (Bonnamy, 2009). This last point is a quite interesting aspect of the potential damage that not complying with sustainable standards could cause. The risk of being 'named and shamed' is inherent to every sustainable aspect and not only in the CRC framework.

The eventual consequences of being "named and shamed" could be dramatic and, in the light of the strategies that some corporate are already installing in order to manage their carbon emissions such as "*purchasing and contracts to be made only with companies with high environmental standards*" (RICS, 2008C, p9) this is not a future trend but it occurs right here right now.

7. Risk management

The today's regulations linked to sustainable real estate developments are becoming more and more constraining. The carbon credits are a good example of it and, rather than a threat, this could become an opportunity if we follow principles such as those underlined by Christina Hirst (Hirst, 2009):

- Proceed to an assessment of the present carbon footprint
- Focusing on how direct carbon emissions could be reduced
- Consider how indirect carbon emissions could be reduced
- Envisage a long term offset strategy to reduce carbon emissions more drastically

These principles have been designed more for property providers than for property occupiers. However this approach could also be relevant to occupiers in that case the choice of their premises and the management of it will probably not be the central element but it could anyway play a significant role.

But who knows what the tomorrow's sustainable regulations will be and, more important, who really knows the potential risk that the constructions materials and the way they are used could represent. Beyond the CO2 emissions aspect, a good knowledge of the nature and the origin of the construction materials is paramount to reduce the potential risks.

Asbestos was yesterday synonym of success story and is today a banished word. Bill Sells, former vice president at Johns-Manville, which was one of the larger asbestos and fiber glass company of the world, has written the history of one of the biggest issue that the real estate sector has had to face (Sells, 1994).

The essence of his writing is that today the companies and especially their managers are not held responsible for what they actually know but for what they were supposed to know. This is described as the "product stewardship". Comply with the law, the regulations, the unions & shareholder wishes is not sufficient, there is an obligation to go beyond all of this and to constantly evaluate, assess, analyse and criticize the things we do and the way we do it to minimize the risks (Sells, 1994):

"[...] Another thing I often saw people do was hide behind procedures and standards when common sense would have served them better as a guide. [...] I think I do know that voluntary product stewardship adds up to competitive advantage over the short term and a greatly improved chance of survival and profit into the future."

Produce sustainable certified buildings is an evidence of voluntary product stewardship such as choosing to occupy a certified building.

1. Literature research

Considering the fact that the main question of the present report is to evaluate the relevance of the sustainable labels for the development and the occupancy of commercial properties, the literature research started with the identification of the main existing labels, and has been followed by the research of the literature directly linked to these labels.

In a second step a particular attention has been brought to gather relevant information about the overall needs and expectations of both parties, occupier and property providers.

After this phase of qualitative literature research, a quantitative research has been launched. But the scarcity of data, due to the fact that only a small proportion of the existing commercial properties are certified in the US and the UK/Continental Europe, renders the statistics hazardous and complicates the research work. However some valuable quantitative surveys have been found and, in the light of these results, trends have been identified.

For each step the literature has been gathered from the following sources:

- Internet research.
- Brochures and reports published by the research department of the main real estate consultants:
 - DTZ
 - Jones Lang LaSalle
 - CB Richard Ellis
 - Cushman & Wakefield
 - King Sturge
 - Knight Frank
 - Savills
- Specialized publications:
 - RICS Research
 - Business Immo (France)
 - Expertise (Belgium)
- Books identified thanks to:
 - Northumbria library and course programme
 - DTZ library
- Reference list of the literature previously identified
- Academic & professional networking have also provided useful information about brochures, books and diverse other publications.

2. Method of analysis

There are multiple actors in the commercial real estate sector and, depending on the country considered, these actors are more or less numerous but there is always an obvious difference of interest between two main categories: occupiers and real estate providers.

The first category is mainly composed by tenants and by few occupiers-owners while the second one is composed by historical landlords, investors, developers, asset managers, The actors of the second category are different and so are their interests but the core of their activity is the same: to perceive a financial profit from providing properties to occupiers.

The concept of the Total value (Accenture, 2009) will be applied to the analysis of the occupiers and property providers interest. This concept considers the direct value (income, operating profit, tax advantages, ...) and the indirect value (mid & long term risk reduction, potential future gains).

The method of analysis will integrate a comparison of the certification processes, several interviews and case studies. Since the purpose of the present report isn't a comparison of the labels themselves, no technical analysis or technical comparison will be made.

Due to the poor quantity of certified properties in Belgium, soundings and questionnaires in this country have been disregarded since potential results would thus have been opinions rather than factual evidences. On the other hand several surveys based on soundings, interviews and questionnaires in the US, the UK, France and worldwide have been considered.

The data that will be analysed have been issued from literature research and from professional experience as well.

2.1. Label analysis

The labels processes will be analysed and compared on different angles:

- How is the information gathered?
- What elements are assessed?
- How the results are presented?

It is important to underline that the purpose of the present report is to analyse the relevance of the sustainable labels for occupiers and real estate providers but not to identify which label is the best one. The present report will thus not include a technical comparison of the different labels.

2.2. Relevance of the sustainable label for both parties: real estate providers & occupiers

To understand the interest that real estate providers and occupiers could have in certified properties, attention will firstly be brought to identify their basic needs.

Those needs will then be compared to the conclusion of the label analysis to understand how sustainable labels could meet these expectations.

2.3. Interviews

Several interviews have been conducted in order to complete the data collected from literature. The interviewees were:

- M. Philippe de Mey, sustainability expert of the engineering company SECO who has developed, together with the Belgian Building Federation, the first Belgian label, VALIDEO.
- M. Pierre Rombaux, Director of the real estate development department of the company IGRETEC who has developed the EOLE office building on the landside of the Brussels South Airport. This building is reputed to be one of the most environmentally efficient office building in Belgium. This building will be further described in the case studies.

- Dhr. Peter Van Poecke, Director of the real estate department of the company ATLAS Invest. This private investor has two main action fields, real estate development and energy (mainly fuel) transportation. Atlas invest is the first tenant to have signed a lease contract in the SOLARIS building. The SOLARIS building is the first office building that has been certified by the Belgian VALIDEO label. The SOLARIS will be further described in the case studies section.
- Dhr. Erwin Custers, Chief Operating Officer Belgium of the law firm Linklaters LLP. Linklaters is one of the largest law firm present in Brussels with 18.000sqm of office space. The current office has an impressive architectural image but poor environmental and flexibility performance. A renovation of the current site or a move will be envisaged within the next five years.
- M. Henry Morauw, Associate Director at DTZ Belgium, in charge of the Property Management department. The Belgian Property Management department manages more or less 600.000 square meters of commercial properties. M. Morauw has a detailed knowledge of the energy costs, the common charges calculation and the occupiers requirements.
- M. Louis de Halleux, Managing Director of Fidentia that is specialised in structuring real estate investment portfolios for institutional investors. Fidentia has purchased the SOLARIS building which is the first building that has been certified in Belgium by a sustainable label.

2.4. Case studies comparison

Real estate projects are complex especially when environmental performance are discussed. As previously mentioned the purpose of this report is not to proceed to a technical comparison of the different labels, however practical examples are paramount to understand the essence of a environmentally efficient construction project. On top of that the economical aspect remains one of the more important decision factor. For these reasons a case studies approach has been integrated in the overall investigative method.

The poor quantity of certified buildings in Belgium has reduced potential choices to a very few properties. However two office buildings have been selected, the EOLE and the SOLARIS. The first one has been built at a similar price that a traditional office building while the second is reputed to have had higher construction costs.

The EOLE has been constructed by a public organisation while the SOLARIS is a pure private development product. Both are reputed to be environmentally efficient but the SOLARIS is the only one to have been certified (VALIDEO and HQE), on the other hand the IGRETEC that has developed the EOLE building has produced a detailed technical analysis of the environmental performance of the property, this report can be assimilated to an environmental certification assessment and has been analysed in numerous specialized publications, as a result the EOLE is today considered as one of the most environmentally efficient office building in Belgium.

1. Labels

At the early stage of the research, the names BREEAM (UK, 1990), HQE (France, 1996) and LEED (US, 1998) were directly mentioned and appeared to be the more accomplished and recognized labels. Shortly after other labels have been identified such as:

- BEAM (Hong Kong, 1996)
- MINERGIE (Switzerland, 1999)
- ITACA (Italy, 2003)
- GREEN STAR (Australia, 2003)
- CASBEE (Japan, 2004)

Two countries, Germany and Belgium, have also launched, very recently (2008), their own certification label for sustainable buildings:

- DGNB for Germany
- VALIDEO for Belgium

Due to the size of their respective market the performance of these two labels were quite different. With 28 buildings certified within the first year of existence the DGNB label was obviously more successful than VALIDEO which has certified, at the time of writing, only one office building.

The complexity of the Belgian state and the small size of this market are two elements that make of Belgium an interesting case study. Therefore the decision has been taken to consider more in detail the main labels that are BREEAM, HQE and LEED together with the Belgian situation and its new label VALIDEO.

In every country considered there are two main types of certifications:

- the sustainable certification that take into account a large number of parameters including the energy consumption; and
- the energy performance certification that consider the energy consumption and management only.

1.1. UK:

Sustainable certification:

BREEAM, developed by the Building Research Establishment (BRE), stands for Building Research Establishment's Environmental Assessment Method. It is obviously the most known sustainable certification in Europe and probably in the rest of the world, exception made of North America. One reason of its success lays in the fact that it was the first sustainable certification that has been launched, but the quality of its content and the continuous improvement of the tool are clearly the main reason of its popularity.

At the time of writing there are more or less 110,000 buildings BREEAM certified from which 10,000 are located outside the UK (BREEAM, 2009).

The BREEAM certification process is usually launched together with a construction or a heavy renovation project but the certification can also be obtained for existing buildings.

The criteria considered are the following (BREEAM, 2009):

- **Energy:** operational energy and carbon dioxide (CO₂)
- **Management:** management policy, commissioning, site management and procurement
- **Health and Wellbeing:** indoor and external issues (noise, light, air quality etc)
- **Transport:** transport-related CO₂ and location related factors
- **Water:** consumption and efficiency inside and out
- **Materials:** embodied impacts of building materials, including lifecycle impacts like embodied carbon dioxide
- **Waste:** construction resource efficiency and operational waste management and minimization
- **Land Use:** type of site and building footprint
- **Pollution:** external air and water pollution
- **Ecology:** ecological value, conservation and enhancement of the site

The information is gathered and assessed by an external certification organisation and the performance is translated into a five level rating:

- 1 star: Pass
- 2 stars: Good
- 3 stars: Very Good
- 4 stars: Excellent
- 5 stars: Outstanding

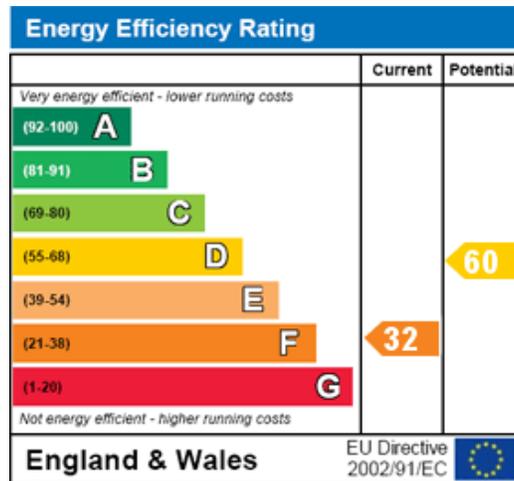
Each of the categories are separately rated and an overall score is provided by the end of the assessment. The results of the assessment are given at the end of the construction or renovation project than the evolution, the management and the use of the property are monitored on regular basis by external audits in order to confirm or adapt the results in function of the way how the building is occupied and managed.

Energy performance certification:

Every member state of the European Union had to translate in its national legislation, in 2009 at the latest, the EU directive of 2002 about the energy performance of buildings (2002/91/EC). The result in the UK is the Energy Performance Certificates (EPC) that are mandatory to all landlords in England and Wales since October 2008.

As from this date all landlords have to provide the EPC results to a new tenant or to a potential purchaser, on top of that every landlord of public building larger than 1000sqm is required to display the EPC result in the concerned property.

The assessment has to be made by an independent expert. The EPC result is presented in a seven category table that goes from A to G with A as the best result and G the worse. The table shows two columns, the first one indicates the current performance of the building and the second the potential consumption that could be achieved if some improvements are made.



(image from Swift Energy website)

1.2. France:

Sustainable certification:

The French sustainable label HQE stands for “Haute Qualité Environnementale” and has been developed by the “Centre Technique du Bâtiment”. Second in seniority behind BREEAM, the basic principles are close to this last. At the time of writing there are more or less 300 HQE certified buildings (Launey & Moreau, 2009).

4 main categories with 14 sub-criteria are considered (HQE, 2009):

- Ecological construction targets:
 - 1) Impact of the building with its direct environment
 - 2) Choice of the construction products, systems and processes
 - 3) Environmental impact of the works
- Ecological management targets:
 - 4) Energy management
 - 5) Water management
 - 6) Waste management
 - 7) Maintenance (ensure that the environmental quality of the building will last)
- Comfort targets:
 - 8) Hygroscopic comfort
 - 9) Acoustic comfort
 - 10) Visual comfort
 - 11) Olfactive comfort
- Health targets:
 - 12) Health quality of the spaces
 - 13) Health quality of the air
 - 14) Health quality of the water

The information is gathered and assessed by an external certification organisation and the performance is translated into a three level rating:

- Base
- Relevant
- Very relevant

To obtain the HQE certification the minimum results required on the 14 sub-criteria are:

- A maximum of 7 “Base” results
- A minimum of 4 “Relevant” results
- A minimum of 3 “Very relevant” results

The assessment usually starts at the beginning of a construction or renovation project but there is also a possibility to certify an existing building. By the end of the works the results are published than audits are performed on a regular basis in order to confirm or adapt the HQE results in function of the way how the building is used and managed.

Energy performance certification:

A French law of May 2007, in line with the aforementioned EU directive about the energy performance of the buildings, introduced the label “Haute Performance Energetique” (HPE).

A few weeks after the publication of the May 2007 law, the French association EFFINERGIE has created the label “Bâtiment Basse Consommation” (BBC) that goes a bit farther than the HPE label and became the most popular label (EFFINERGIE, 2007).

The results of the BBC certification shows the annual consumption in terms of kWh by square meters and in terms of CO₂ emissions together with the needs of renewable energy in order to cover every type of activity that requires energy consumption.

1.3. United States:

Sustainable certification:

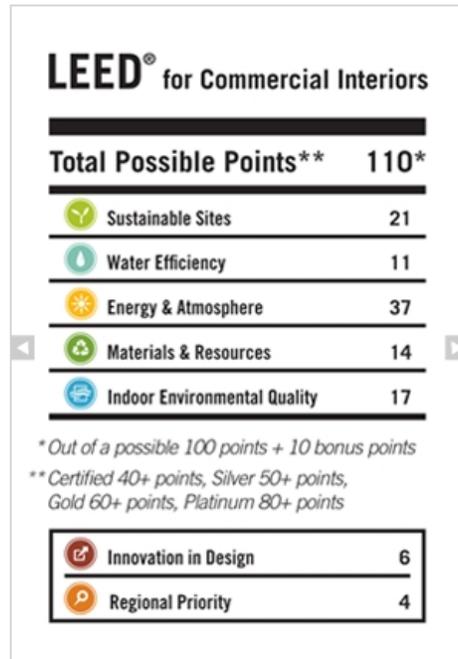
The US sustainable certification LEED stands for “Land Environment Economics and Development” and has been developed by the US Green Building Council. Like for BREEAM and HQE the LEED certification process usually starts at the beginning of a construction or heavy renovation project but there is also a specific label “LEED EB” that focus on the certification for existing buildings.

At the time of writing more or less 1,700 buildings have been Certified by the LEED label (Eischholtz, 2009).

The criteria assessed are the following (LEED, 2009B):

- Sustainable sites (choice of the site)
- Water efficiency
- Energy & Atmosphere (energy management & sourcing)
- Materials & Resources
- Indoor environmental quality
- Innovation in Design
- Regional priority (US Green Building Councils has regional councils that defines a number of priorities in function of the region’s specificities)

The results are integrated into a 100 points weighted matrix where the weight of each criteria has been defined in function of the environmental impact of the concerned criteria. 10 bonus points can be received for the two last categories (Innovation in Design and Regional Priority).



(copyright US Green Building Council)

The rating is categorized as follows:

- Certified: 40–49 points
- Silver: 50–59 points
- Gold: 60–79 points
- Platinum: 80 points and above

The information has to be provided by the applicant, not by a third party, and is assessed by the Green Building Certification Institute. No audits are performed after the certification to adapt the results in function on how the building is used and managed.

Energy performance certification:

The main energy performance label in the United States is Energy Star that has been developed in 1992 by two federal agencies the US Environmental Protection Agency and the US Department of Energy.

The Energy Star certification considers the energy consumption in function of the surface, the type of activity and the opening hours or the property. The results are translated into a 100% scale and the certification is given if the applicant achieves a result equal or superior to 75% (Energy Star, 2009).

1.4. Belgium:

Sustainable certification:

At the time of writing VALIDEO is the only one certification for sustainable buildings that has been officially recognised by the Belgian state. This label has been developed by the engineering company SECO together with the CSTC (Belgian scientific & technical construction center). But despite the fact that VALIDEO has been promoted by the Brussels and Wallonia regions, the IBGE (Brussels Institute for Environmental Management) has announced its intention to conceive another sustainable label and rumors mentions that Flanders could also produce its own label.

As for the other sustainable labels the process is supposed to start with a construction or heavy renovation project. VALIDEO has not yet integrated a specific certification process for existing buildings. Once the building has been certified audits are performed on a regular basis in order to confirm or adapt the results in function of the use and the management of the building (SECO, 2009).

The label considers 4 main categories of criteria, each of them composed of 4 sub-criteria:

1. Site & Construction

- 1) Impact on the site
- 2) Works
- 3) Materials used
- 4) Adaptability (possibility of the property to be used for different purpose)

2. Management

- 1) Energy
- 2) Water
- 3) Maintenance
- 4) Exploitation waste

3. Confort & Health

- 1) Hygrometric
- 2) Visual
- 3) Acoustic
- 4) Health

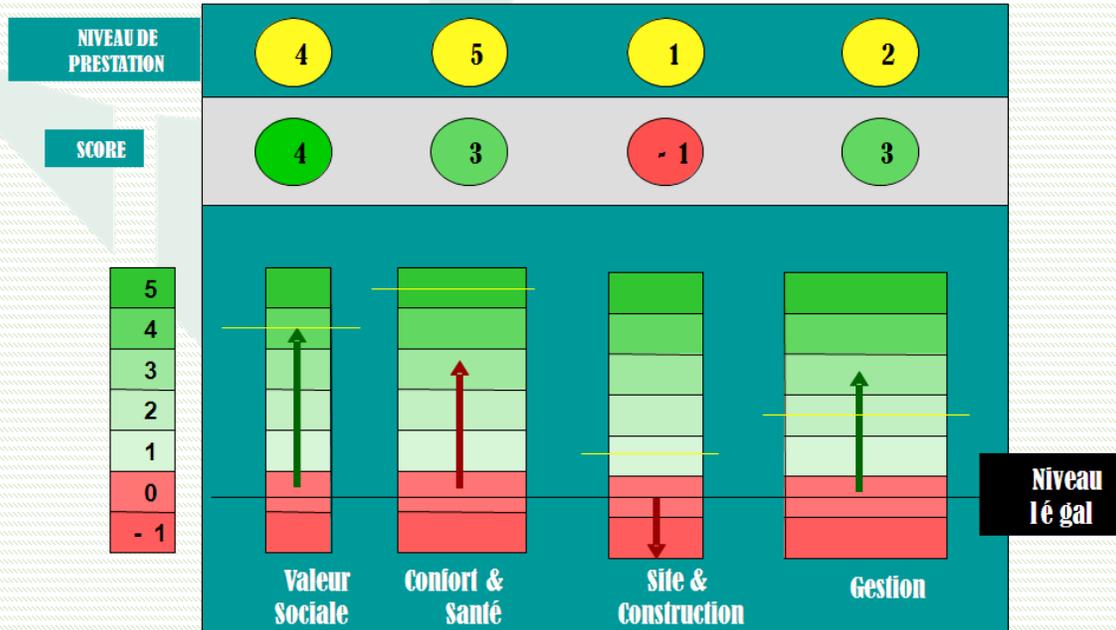
4. Social value

- 1) A place to live
- 2) Accessibility (parking availability, entrance hall, access for disabled people, signage, ...)
- 3) Mobility (public transport, bicycles, ...)
- 4) Security

The results are introduced in a weighted matrix where every sub-criteria has a specific weight in function of its impact on the environment. Each category of criteria received an independent quotation on a 7 level performance scale which starts with -1 and goes up to 5:



EVALUATION et PONDERATION



Copyright Valideo

On the illustration above the black line at the level 0 is the minimum legal performance, the arrows symbolize the results of an hypothetic building. The final report of the certification proposes also guidelines in order to maintain and/or improve the environmental performance of the property.

Once the certification process completed the applicant can decide to publish the results on the VALIDEO website.

Energy performance certification:

With 3 regions (Flanders, Wallonia & Brussels) the Belgian situation is a bit peculiar on the administration and legal point of view. The EU directive about the energy performance of buildings has to be translated into the regional regulations and every region works differently.

In Flanders the EPC (Energieprestatiecertificaat) are already mandatory and works on a similar basis that in the UK. The annual energy consumption is translated into kWh by square meter and the result is showed on a scale that start at 76kWh/sqm and ended at 458kWh/sqm.

The Brussels region has already published the sanctions in case of not compliance to the minimum requirements but there are still many approximation in the assessment process.

Finally Wallonia is still working on both certification process and potential sanctions but nothing is clearly defined yet.

1.5. Comparison

1.1.1 Sustainable certifications

Concerning the criteria considered the 4 labels are pretty close to each other, all of them assess:

- The energy & water consumption
- The waste management
- The impact of the building on its environment
- The site maintenance & management

However there are some differences and the main of them are:

- LEED:
 - is the only one that does not assess the quality of the materials, their origin and their potential risk;
 - is the only one that does not consider the Health & Wellbeing criteria (even if there is a category that assesses the indoor environment quality);
 - is the only one to not proceed to audits on a regular basis in order to confirm or adapt the certification results; and
 - is the only one that includes a regional dimension in the rating.
- HQE is the only one that does not assess the innovation criteria.
- VALIDEO is the only one that assesses the security criteria.

On top of the differences it is also interesting to note that none of the labels considered does assess the economical performance of properties.

As previously mentioned, the UK *Building Research Establishment* and the French *Centre Technique du Bâtiment* are currently working on a common label that will gather the BREEAM and HQE certification processes. The aim is obviously to conceive a single European label.

2.1.1 Energy performance certifications

There are very few differences between the different energy performance certifications considered. The two main reasons for this similarity are firstly that the EPC in the UK and in continental Europe are issued from the same EU directive (2002/91/EC) and secondly that the basic principle is obviously simple and consists in calculating the energy consumption on an annual basis.

2. Interviews

2.1. M. Philippe de Mey

Since the VALIDEO label was brand new there were relatively few publications about it, therefore the first interview that has been planned was with M. Philippe de Mey, sustainability expert of the engineering company SECO who has participated to the development of the label. The purpose of the interview was to understand the certification process and the reasons of the creation of this label.

Most of the information collected during this interview have already been detailed in the description of the label. However M. de Mey has also underlined that the decision to conceive a Belgian sustainable label finds its origin in the fact that most of the other labels have been designed on basis of local regulation and administrative processes, therefore using them in Belgium was uneasy because the standards value and the standard documents were quite different. So even if the criteria assessed seems similar to other labels such as BREEAM, the way how they are assessed is slightly different in order to ease the data collection and treatment.

2.2. M. Pierre Rombaux

When the case studies, the EOLE and the SOLARIS, have been selected it appeared rapidly necessary to meet at least one stakeholder of each project. M. Pierre Rombaux was the ideal person to meet for the questions about the EOLE building thanks to his function of Director of the real estate development department of the company IGRETEC and thanks to the fact that he managed the conception and construction processes.

Most of the information collected during this interview will be detailed in the EOLE case study hereunder but M. Rombeaux had made two interesting remarks that were not directly linked to the building.

The first one was that, without having a deep knowledge of the existing sustainable labels at that time, he underlined that it would be ideal in a certification process to have a part of the rating that will be related to the building itself and thus relatively static and a second part of the certification that will assess the way how the building is used and managed. It underpins the necessity of the audits on regular basis that are already integrated in the BREEAM, HQE and VALIDEO processes.

The second remark was about the fact that some techniques installed (the horizontal windmills) were not yet working and his advice to other developer was to say that being precursor can bring huge advantages on competitors, of course the risk must be measured but he does not regret to have tried this new techniques and he is convinced that one day it will be operational.

2.3. Dhr. Peter Van Poecke

Dhr. Peter Van Poecke is Director of the real estate department of the company ATLAS Invest which is the first tenant to have signed a lease contract in the SOLARIS building which will be analysed in the case study. The main reason of this interview was to understand if the fact that the property was certified has been a key decision factor in the selection of this building, and the answer was clearly yes.

Dhr. Van Poecke explained that, due to the fact that one of the main activity of the company is the fuel transport, choosing a sustainable property to install the Belgian head quarter of the company was a mean to make a statement about the environmental concern of the management and to improve the image of the company.

Another interesting point was that Dhr. Van Poecke explained that, if he has the opportunity to chose between a sustainable certification and an energy performance certification, his organisation would be ready to pay a premium for the energy performance certification but not necessarily for a sustainable certification.

2.4. Dhr. Erwin Custers

The next interview was with Dhr. Erwin Custers, Chief Operating Officer Belgium of the law firm Linklaters LLP. The reason of the interview was that Linklaters, with 18.000sqm of office space, is one of the largest law firm present in Brussels and is currently located in a impressive building on an architectural point of view but which has poor environmental efficiency.

A first point discussed during the interview was the fact that sustainable certifications are not yet really known amongst Belgian occupiers. Dhr. Custers has also showed and detailed the Linklaters Corporate Social Responsibility report where there is an entire chapter entitled "Reducing our impact on the environment" which is in line with the sustainable certification philosophy.

At the question "Would you be ready to pay a premium for a certified property?" the answer was also yes even if Dhr. Custers admit that this is his personal point of view and that it should be discussed internally, however he does not see why the decision of the management would be different.

Finally about the risk management the answer was also immediate and Dhr. Custers considers that the damage that could be caused to the image of a company like Linklaters in case of "be named and shamed" could be quite more expensive that a potential premium to be paid for a certified property.

2.5. M. Henry Morauw

M. Henry Morauw, Associate Director at DTZ Belgium, in charge of the Property Management department. The reason of this interview was to understand the perception of sustainable certification and the occupiers requirements from a property management (and thus a property provider) perspective.

The first remark made by M. Morauw was that punctual audits are necessary to ensure a trustful certification because the management of a property has a huge impact on its environmental efficiency. Another point underlined by M. Morauw was the fact that the large majority of the HVAC systems, that have a significant role to play in the environmental efficiency of a building, are closed systems issued by one company which means that it is almost impossible to change the maintenance and management team of the system in place even in case of poor performance.

Finally M. Morauw said that one of the positive consequence that a more strict legislation and/or a broad use of sustainable labels could have is to force the different parties involved in the property management (architects, engineers, suppliers, ...) to be more conscientious and rigorous about the transmission of documents such as the "As Built" files which seems to be often quite hard to obtain and following the principle that "you don't manage what you don't track" it is pretty complicated to ensure an environmentally efficient property management without a detailed access to the information.

2.6. M. Louis de Halleux

M. Louis de Halleux is Managing Director of Fidentia, the current landlord of the SOLARIS that is the first building in Belgium to be certified by a sustainable label (VALIDIDEO). The purpose of the interview was to collect information about the SOLARIS (information that have been used in the case studies section) and about the investment strategy of Fidentia.

The Fidentia's investment strategy is in line with the tendency underlined in the literature review, Fidentia will essentially purchase sustainable buildings. Since the certification was an imperative condition for the purchase of the SOLARIS, Fidentia was the instigator of the certification process for this building. Another example of this policy is the fact that Fidentia has purchased the first office building HQE certified in Luxembourg.

Finally M. de Halleux has underlined that his perception of the main advantages that the certification could have for an investor are:

- to significantly improve the ability to attract tenants;
- to Reduce the risk of obsolescence;
- to ease the relationship with the administration and, as a matter of consequence, to increase the chances to obtain the building permit; and
- easy publicity, thanks to the scarcity of certified properties in Belgium and to the environmental performance & certification of the SOLARIS the specialised publications and websites have ensured a large press coverage.

3. Case studies

3.1. EOLE



The EOLE office building has been constructed by the IGRETEC, a public Belgian company in charge of the management and the realisation of technical and economical surveys. One of the IGRETEC tasks is to ensure the real estate development of the “Aeropole of Charleroi” (the landside of the Brussels South airport). The buildings of the Aeropole have been constructed by the IGRETEC itself following high environmental standards.

In November 2003 the decision has been taken to improve the Aeropole portfolio on a qualitative and quantitative point of view. The first project resulting from this improvement program has been the construction of a building called EOLE.

The EOLE has not been yet certified by a sustainable label. The reason invoked is that there were no existing Belgian labels when the construction started and that foreigner labels were not well known in Belgium at that time. However the IGRETEC has produced a detailed environmental report where the performance of the building is assessed following a process pretty similar to the sustainable labels. The results of this assessment have been analysed in specialized publications and the EOLE is today considered as one of the most environmentally efficient office building in Belgium.

The IGRETEC main targets were:

- To develop the “building of the future” on an environmental point of view.
- Provide existing office space to tenants instead of working on a classical “development on demand” scheme.
- Move a part of the IGRETEC staff because of the internal growth (40% of the building is occupied by the IGRETEC Real Estate Development department).

The permit has been received in August 2005, the works started in February 2006 and have been completed in September 2007. At the time of writing the building has not been certified yet by a sustainable label.

The “leit motiv” of the project was to build an environmentally efficient building for a price equal or lower than the price of a “traditional” building. The solutions selected were:

- Use as much as possible the thermal inertia of the building. Therefore a high quantity of concrete has been used in the construction process.
- Installation of a Free Cooling system that accumulates the cool air during the night and redistribute it in the building along the day in the summer.
- Installation of horizontal wind mills on the roof of the building.
- Installation of sails on the frontage that reduce the ingress and the heat generated by natural light in the summer.

Since the end of the construction and the start of the occupancy multiple technical issues have rendered the wind mills inefficient. Exception made of this point, the performance of the building has been in line with the expectations.

The building has a total surface of 5.075sqm divided on five floors of 1.015sqm each. Two floors (2.030sqm) are used by the real estate development department of the IGRETEC. The remaining space is rented to third parties. Before the delivery of the building 90% of the surface was already rented and a few weeks after delivery the building was fully occupied and still is at the time of writing. This is much better than the average local performance that could be estimated on basis of the vacancy rate (8,5%), the stock (390.000sqm) and the take up (5.000sqm) figures sourced from DTZ (DTZ, 2008B p26). The take up for the entire year represents thus 15% of the vacancy. This is interesting to compare with the fact that the EOLE has been fully let in less than one year.

On the financial point of view the building cost were of 6.350.000€ excl. VAT, land price and construction fees (managed internally by the IGRETEC staff). To be able to make a relevant comparison with other development projects the fees have been estimated at 650.000€ and the price of the land has been estimated at 450.000€.

The total investment cost should thus be in the region of 8.900.000€ VAT included and the construction cost should thus be in the region of 1.350€ excl. VAT/sqm which is precisely in line with the benchmark used by DTZ valuers in order to estimate the construction cost for “traditional” office buildings (between 1.300 and 1.400€ excl. VAT/sqm).

The surface occupied by third parties are rented at 140€/sqm/year which is the prime rent in the area, the average rent in the area for class A buildings was and still is around the 120€/sqm/year (source DTZ agency database). Today the yield for such kind of office building are estimated by valuers between 6,2% for prime buildings fully occupied by qualitative tenants and 8% for unoccupied standard office building. We can thus state the following hypothesis:

- If the EOLE would be for sale today the yield would probably be in the region of the 6,2% which would mean a sale value estimated in the region of 11.500.000€. In this case the difference between the construction costs and the market value would be around 2.600.000€.
- To ensure a profit of 10% (890.000€) the yield should be of 7% which seems to be significantly above the yield that would be applied to this hypothetical sale.
- We have to consider a yield equal to or above 8% (highly improbable) to see the estimated market value being below the investment cost.

In conclusion we can say that the EOLE investment costs are similar to investment costs related to “traditional” buildings but the return seems to be quite above the “traditional” product.

The EOLE's occupiers are proud to use an environmentally efficient building and the entire building has been almost immediately rented.

3.2. SOLARIS



The Solaris is a product from the joint venture between two Belgian developers HERPAIN (founded in the 1940's) and URBIS (founded in 2004). The purpose of the joint venture was to produce low energy consumption office building and the first one to be produced was the SOLARIS. The construction phase started in January 2007 and was completed in April 2009.

The main techniques that have been selected to reach the objective of reducing the energy consumption were the following:

- Geothermic: 50 pits have been drilled under the basement of the building until a depth of 100m.
- Installation of a heat pump combined with the Geothermic system.
- 800sqm of photovoltaic panels have been installed. The majority on the roof of the building and a part of it on the frontage.

The Solaris has been certified in May 2009 by the sustainable label VALIDEO.

The building has a total surface of 13.700sqm divided on 8 floors and 196 parking stalls. The first lease contract has been signed in July 2009 with the company Atlas Invest that has rented the 1.121sqm of the top floor, a second lease contract has been signed mid September 2009 with the Dutch law firm Nauta Dutilh that has rented 3 additional floors.

In March 2008 the project has been sold by HERPAIN-URBIS to the Belgian investment company Fidentia Green Building, part of the group Fidentia Real Estate specialised in structuring real estate investment portfolios for institutional investors. The amount of the transaction has not been communicated.

The asked rent are currently in the region of 200€ which means the prime rent for the area where the average rent is around 170€/sqm/year (calculated on basis of the DTZ Agency database). On the other hand the passing rent should be in the region of 185€/sqm/year following the interview with M. de Halleux.

Compared with the EOLE building very few financial information have been provided since none of the parties involved in the SOLARIS project were public organisation. The following financial figures are thus, for a big part of it, results of estimations.

Following the interview with Fidentia Green Building the sale price has been estimated on basis of a potential effective rent of 2.940.000€ and a yield of 7,5% (which seems to be reasonable taking into account the fact that the building was located in a prime location but was empty at the time of the sale). Following these assumptions the sale price would have been in the region of 42.000.000€.

To estimate the construction cost we have to make the calculation backwards, starting with the estimated sale price and by discounting first the profit made by the developer, this point is the most hazardous one. Then the estimated price of the land (2.250.000€ or 500€/sqm) has to be discounted and finally the VAT has to be deduced (21% in Belgium). Following these assumptions the construction costs can thus be estimated as follows:

- With a 10% profit for the developer, the construction costs would have been around 2.150€/sqm.
- With a 20% profit for the developer, the construction costs would have been around 1.900€/sqm
- With a 30% profit for the developer, the construction costs would have been around 1.650€/sqm

It is reasonable to consider that the developer profit-margin was in the region of 20%. If the SOLARIS would be for sale today the yield would probably be better than what has been estimated for the sale to Fidentia Green Building and should be in the region of 6,5% thanks to the fact that half of the building is now rented.

Finally we can make the same exercise that what has been done for the EOLE in order to compare the ability of the SOLARIS to attract tenants. In the south part of the Brussels decentralized district (DTZ, 2009):

- The average vacancy rate was 137.000sqm on the last 12 months
- The take up on the last 12 months was 36.240sqm

Thanks to the aforementioned figures we can see that the average take-up performance compared to the average vacancy rate is in the region of 26% by year. The SOLARIS has thus over performed compared to other building in the area since 50% of the building has been rented on one year.

3.3. Comparison

Before the delivery date of the EOLE the building was almost fully let while the SOLARIS is still struggling to find tenants and 90% of the total surface was unoccupied six months after delivery. However it is important to keep in mind that the financial crisis started between the delivery of these two buildings. The economical climate was thus much better when the EOLE building has been commercialized.

On the financial point of view the construction costs for the SOLARIS, following the aforementioned estimations, were most probably situated between 30 and 40% above those of the EOLE that are similar to a "traditional" office building construction costs. The estimated yield that could reach the EOLE is more competitive than the estimated yield for the SOLARIS. However it is paramount to underline that, while most financial data were available for the EOLE thanks to the fact that the building is issued from the public sector, most of the financial data for the SOLARIS are resulting from estimations. The headline of the financial comparison are gathered in the following table:

	EOLE	SOLARIS
Total surface in sqm	5.075	13.700
Passing rent by sqm by year	140 €	185 €
Annual passing rent if fully let	710.000 €	2.940.000 €
Construction cost		
Estimated construction cost excl. VAT	7.000.000 €	26.000.000 €
Estimated construction cost by sqm excl. VAT (with 20% estimated profit for the developer in case of the SOLARIS)	1.350 €	1.900 €
Investment cost		
Estimated investment cost VAT included (with 20% estimated profit for the developer in case of the SOLARIS)	8.900.000 €	33.700.000 €
Investment cost by sqm (VAT included)	1.750 €	2.450 €
Return		
Estimated average yields for "traditional" office buildings in the respective areas	8,00%	7,00%
Estimated yield for an hypothetical sale of both properties in september 2009	6,20%	6,50%
Market value of both properties following the estimated yield	11.500.000 €	45.000.000 €
Market value by sqm	2.250 €	3.300 €

Both approaches were quite different. The EOLE has done the math at every stage and the target was to produce an environmentally efficient building at a competitive construction cost. On the other hand the SOLARIS has selected the most visible and expensive techniques, the construction costs were not the main concern.

Both products have a quite similar energy performance with +/- 100kwh by square meter by year (even if the announced consumption of the SOLARIS has still to be confirmed because the building is unoccupied at the time of writing) but the SOLARIS is obviously more effective on the cooling point of view with an internal temperature of 20°C guaranteed the entire year while the internal temperature of the EOLE will vary between 19 and 25°C in the summer and is guaranteed at 20°C the rest of the year.

In conclusion we can say that both buildings in their respective areas:

- have been proposed and rented at the prime rent;
- have attracted tenants easier than the “traditional” buildings; and
- are supposed to achieve better yields than what is expected from “traditional” buildings.

However it is also important to note that the performances of the EOLE have been slightly better than the SOLARIS on the prime rent and yields point of view and significantly better in terms of ability to attract tenant.

4. Needs and requirements

The aforementioned vicious circle of blame has proved that the different real estate players have often a false idea, mainly based on assumptions, of the other parties expectations.

Thus, before starting to evaluate the relevance of sustainable labels for commercial properties from the perspectives of real estate providers and occupiers, it is paramount to understand the needs and requirements that both parties have.

4.1. Occupiers

The main concerns of office occupiers can be gathered under three main categories:

- Obsolescence
- Health
- Economy

Of course the priority of the different categories can vary from one occupier to another.

3.1.1 Obsolescence

A few decades ago it was not uncommon to see companies making business plans on 10 to 15 years. Today, rare are the companies that build their business plan on more than three years. On the other hand the average length of lease contracts in the UK, the US, France & Belgium vary from 9 to 15 years. With this gap between the length of the lease contracts and the volatility of the economy it is essential to select carefully the building where the professional activity will be settled.

Flexibility is the best weapon against obsolescence. The notion of flexibility vary from one type of activity to another and it is mainly linked to the special and technical performance of the building. Good examples of this could be the architectural grids and the technical performance of office buildings:

- With a very partitioned work environment, it is essential for a law firm to pay attention to the architectural grid (windows width). Most of the buildings are build following 120cm, 135cm, 180cm or 180/90cm grids. If we take the example of the 120cm grid it implies that an individual closed office (frequent in law firm's space planning) will be or 240cm or 360cm large. Since 240cm is too narrow to place a desk a minimum of filing and ensure a correct circulation in the office, 360cm is quite too large (except for an office with a meeting table) and will thus imply to take more space than what would be necessary in a building that have an architectural grid of 135cm or 180/90cm where an individual office with a width of 270cm is acceptable.
- On the other hand a call centre, that mainly works in open space, will not pay too much attention to the architectural grid but, due to the density of people by square meter, will pay much more attention to the HVAC systems (Heating, Ventilation and Air-Conditioning). A higher density of population requires a higher quantity of fresh air and higher air-conditioning power.

Most of the office occupiers have needs that lay between those of the very partitioned law firm's work environment and the full open space of a call centre. This mix between closed office and open space has to be carefully studied to integrate a potential growth or allow for staff reduction on the length of the lease contract.

Beyond the flexibility of the workplace, and thus the pure physical performance of the property, two other elements are also to be considered while analysing the risk of obsolescence: the communication and the branding. While the internal communication is encompassed by the configuration and the fit-out of a building, the external communication is intimately linked to the branding and the image of the company. The role of the building in the branding and the image of the organisation could be paramount, a good example of that is the Belgian law firms which are not allowed to make publicity about their company or services, therefore their office become one of their most powerful communication tool and a big part of the budget that other companies would use in their marketing actions is concentrated by law firm in the choice of their building and the fit-out of it.

4.1.1 Health & Wellbeing

Health & Wellbeing are major concerns for occupiers because of the potential consequences that issues in these matters could generate:

- Productivity issues because of low motivation and an increasing absenteeism rate.
- Human resources issues because of an increasing rotation rate amongst the staff.
- Financial & legal issues because of eventual claims from staff members.

5.1.1 Economy

Real estate represents a major cost for companies. In the services sector it is often cited to be equal to 20% of the total costs, this proportion makes of it the second cost behind the wages.

However selecting the most cost effective solution is not always choosing the lowest rent. A good example of this is to translate the employees transport costs taken in charge by the company into cost by square meter to be added to the total of the real estate costs (DTZ, 2008A). Therefore a company can spare some money by choosing a building with a less expensive rent but could lose this advantage and even pay more by increasing its transport costs.

The operating costs, the common charges and the taxes have also a significant role to play in the calculation of the real estate costs and those two elements can hardly be negotiated because are inherent to the building.

4.2. Real estate providers

The main interest of commercial real estate providers is to maximize profit by increasing the income and reducing costs. Since every project is different it would be hazardous to try to define one main process able to reach both targets. However the main points of attention can easily be highlighted.

6.1.1 Increasing the income

The income perceived from real estate is of two types: the rent and the capital value. There is an intimate link between both since the rental value is the main element on which the capital value calculation will be based.

Therefore, no matter if the real estate provider is an investor or a developer, the attractiveness of the property for (potential) tenants will be the key element that will influence the income. On the other hand the liquidity is also an important aspect, it is quite risky to hold a property (no matter how relevant its vacancy rate is) if we are not able to sale it quickly in case of need and thus perceive the income on the capital value.

The main criteria to increase the income are thus:

- The property should be more attractive for tenants compared to alternative properties.
- The property should be more attractive for potential purchasers compare to alternative products.

7.1.1 Reducing costs

The nature of the costs can be punctual or recurrent. The punctual costs are the construction, the sale/acquisition and the renovation costs while the recurrent costs are the maintenance, taxes, management and insurance costs.

Reducing the costs can thus be achieved by focusing on the construction costs but also on the easiness to market the property, on the techniques installed and, for the taxation, on the appreciation that the administration has of the property.

5. Meeting the needs and requirements

On basis of the main needs and requirements mentioned here above, the relevance of the sustainable labels will now be envisaged.

5.1. Occupiers

8.1.1 Obsolescence

Most of the labels do assess the building's ability to be adapted and re-configured without major works in order to fit with the needs of different activity types. However it is important to underline that this criteria has been mainly developed for real estate providers in order to attract new tenants and not to allow existing tenants to re-organize their space. The elements considered are, for example, the possibility to increase the number of separate entrance or to divide the floors in small independent sections in order to be occupied by different tenants.

In other words the flexibility elements assessed by the labels could benefit to the tenants if they need to grow in the building but the advantage of the certification will be less relevant when there is a need to re-organize the space.

The use of the building as communication tool could also be affected by obsolescence and from this point of view the sustainable certification could play a significant role by reinforcing the communication and reducing the risk to see the image of the company badly impacted by an environmental issue.

9.1.1 Health & Wellbeing

Health & wellbeing are directly mentioned and assessed in the certification process of the labels considered, exception made of LEED. On the occupier's perspective this is obviously one of the main advantage of the sustainable certification.

Within the assessment process, criteria's such as the quantity of natural light in the building, the air quality and the noise perception are considered.

On top of that, the assessment of the materials used is also performed in most of the certification processes, exception made of LEED. In this category the potential toxicity of the materials is assessed together with their origin, the shipping means and the way how they have been integrated into the construction.

A good score in the Health & Wellbeing and the Materials categories should thus imply a lower absenteeism rate, a high retention ability, it should also ease the appointments and increase the reputation of the company.

10.1.1 Economy

The economical dimension, as such, is absent of the certification processes considered. However there are some indirect consequences of the certification.

The first one that is often cited is the reduction of the energy costs. The sustainable labels do assess the energy use and consumption but what is the potential economical advantage of it?

To answer this question it is useful to estimate the potential advantage and compare it to the costs directly related to the occupancy of a commercial property. The exercise has been made in the following table and on basis of the average costs for an office building in the Brussels CBD:

Average costs related to the occupancy of an office building in the Brussels CBD*	€/sqm/year
Rent	180 €
Common charges	45 €
Taxes	43 €
Real estate tax	22 €
Regional tax	7 €
Local tax	14 €
Total average occupancy cost	268 €
Average energy costs	24 €
Included in the common charges	18 €
Private energy costs	6 €
Estimated advantage in case of a building which is 50% more efficient on the energy point of view	12 €
Proportion of the advantage within the total occupancy costs	4%

* The specifications of the office buildings considered are:

- Located in the Brussels CBD (EU, North or central districts)
- Less than 15 years old (or renovated less than 15 years ago)
- HVAC installation and raised floor or technical ceiling
- Total surface above the 3,000 square meters

When considering this example it is important to keep in mind three limitations:

- the rent by square meter for an office building in Brussels is quite less expensive than in London or Paris (that are respectively 2 and 5 times more expensive);
- the Belgian electricity costs are situated 6% above the European average (Livios, 2009); and
- A reduction of 50% of the energy costs appears to be a quite challenging target (the SOLARIS brochure pretends that the energy costs are 30% below the average, with 30% instead of 50% the proportion of the advantage within the total occupancy costs would be of 3% instead of 4%)

In the light of these elements the potential economical advantage related to the reduction of the energy consumption seems to be too low to constitute a decision factor. However this situation could change in case of explosion of the energy costs.

5.2. Real estate providers

4.2.1 Increasing the income

The main factors that influence the income have been defined as the attractiveness for tenants and for potential purchasers.

By taking a look at the aforementioned surveys it appears obvious that sustainable buildings do attract tenants who are supposed to be ready to pay a premium for this type of property. On top of that it has also been underpinned that the choice for a sustainable property fit with the philosophy of the Corporate Social Responsibility (CSR) and when we consider that the companies who publish a CSR reporting are mainly blue-chip companies we can conclude that sustainable properties will not only attract tenants but will attract qualitative tenants that are not supposed to suddenly disappear.

On the other hand the crisis we currently suffer will probably influence the supposed inclinations of tenants to pay a premium for sustainable properties. However sustainable properties will most probably be able to maintain the current market rent while “traditional” properties will undergo a rebate.

Concerning the liquidity and thus the attractiveness that sustainable properties could have for potential purchasers, the fact that potential tenants consider this type of property as more attractive than others implies a lower vacancy rate, which means a lower risk, which implies a lower yield and thus a higher capital value.

There were very few sale transactions recently but the average yields estimated in Brussels and Charleroi for office buildings are respectively of 7,5% and 8%. By taking a look at the two case studies, and despite their significant differences, it appears that the SOLARIS should be in line with the market yield (despite the fact that the half of it is not yet let) and that the EOLE produce an impressive results with a yield 1,5% lower that the market yield.

4.2.2 Reducing costs

About the construction costs the debate is still open, many developers like to use the argument that building a sustainable property will necessarily cost more than a “traditional” one but we have seen with the two case studies that this is not always the case.

Concerning the punctual (sale/acquisition) and the recurrent taxes the current legislation, the carbon reduction commitments (CRC) and the direction that regulators all over the world are currently taking allow to suppose that the tomorrow’s regulations will be quite more restrictive for properties that do not comply with the sustainable standards. This will probably be translated into higher taxes or, worse, fines and/or penal pursuits.

The sale costs are mainly related to the time needed to find a purchaser. With an attractive yield and future obliging tax regulations, sustainable properties should be able to find a purchaser faster than “traditional” buildings.

For maintenance and management costs the situation can be quite different from one building to another. Once again we can come back on the case studies where it appears that the maintenance and management costs for the EOLE are quite low thanks to the use of simple techniques while those costs for the SOLARIS are supposed to be similar to those of “traditional” buildings due to the geothermic system, the photovoltaic panels, the cold ceilings, However these costs will have to be paid by the landlord only if there are no tenants, otherwise it will be re-invoiced in the common charges calculation.

Finally the insurance costs are currently not adapted in function of the environmental performance of the concerned building but this could be a natural evolution since most of the sustainable labels do assess the toxicity of the construction materials and the health & wellbeing.

5.3. General considerations

4.3.1 The label

In the light of the elements here above it appears that obtain a sustainable certification for a commercial property is not necessarily difficult in case of new construction or heavy renovation but obtaining a good rating is another story. Therefore while considering a certified property it is paramount for a purchaser or a tenant to pay attention to the rating in general but also to the rating of the different categories.

The main differences identified between the LEED certification and the other labels considered are the way how data is collected and the fact that the Health & Wellbeing and the Materials are absent from the assessment criteria. The fact that the data are uploaded by the applicant and are not collected and controlled by an third party could weaken the credibility of the assessment results even if the evaluation of the performance is made by a LEED organ.

The difference in the criteria assessed and the absence of the Health & Wellbeing and the Materials category generates another question: Isn't it dangerous to apply the results of a survey or report made on basis of a specific certification to other certification labels? The tendency is currently to consider the certified properties as a whole without paying too much attention to the label chosen or the rating obtained.

This could be a brake to the temptation of applying the results produced by a survey about a specific labels to others. A good example of this is the aforementioned survey from Eischholtz et al (2009) that underlines that the tenants interviewed were ready to pay a premium for the ENERGY STAR certification but not for the LEED certification, would the results of this sounding have been the same if the two categories Health & Wellbeing and Materials were part of the LEED label?

Compared to an energy based certification the added value of a "full" certification, understand a sustainable label, is clearly to integrate and assess every environmental aspect of the property, including energy consumption and use. Therefore the "full" certification must be understood as such and attention must be brought to the main rating but also to the different categories.

The French CSTB (Centre Scientifique et Technique du Bâtiment) and the UK BRE (Building Research Establishment) have understood that the power of a sustainable label lays in the recognition that this label could have on an international level. The application for multiple certifications is an increasing tendency, before palliating the defaults of one single label it allows to be recognised abroad.

It has been underlined in the case studies that the EOLE has not been certified yet, following the IGRETEC's management (interview of M. de Mey) the main reason is that there were no existing Belgian sustainable labels at the time of the construction and that the organisation had the intention to launch a broad communication plan about the environmental performance of the building . The results of this communication plan was a public report that includes a very detailed analysis of the performances of every environmental aspects of the building. In other words this report could be considered as a certification assessment.

All property providers do not have the means and the professional experience of a company like the IGRETEC, therefore the sustainable label is the ideal tool to convince potential tenants or purchasers of a building's environmental efficiency.

4.3.2 Risk management

The asbestos story has much to teach us about risk management in the real estate sector. At the beginning of the 19th century asbestos started to be used thanks to its light weight and its exceptional insulation performance. At that time asbestos was considered as totally safe but between the two world wars the toxicity of the product and the potential health risk started to be mentioned.

The regulation has been slightly changed in the 1950's and the official position was that asbestos was not too dangerous and can still be used for every type of activity. During the next thirty years it has been massively used in the shipbuilding, the textile and the real estate industries.

At the early 1980's the toxicity has been officially recognized thanks to several trials that have had a large media coverage. The consequence was that asbestos has been prohibited in case of new construction, but the existing buildings were allowed to keep it.

Finally, by the end of the 1990's, order has been given to remove asbestos from the existing building exception made of rare situations where asbestos was hermetically wrapped. It is the start of the certificates "Asbestos-free" and "Asbestos-safe".

What will be the tomorrow's asbestos? The formaldehyde, this gas generated by agglomerated wood like MDF? The electromagnetic waves coming from our wifi networks, from the low consumption light bulbs or the cell phones antennas? These elements are most probably not as dangerous as asbestos but their effect on health are not yet precisely known. Choosing for a sustainable certification that do assess the health & wellbeing and the nature, the origin and the way how materials are used in a construction process is obviously an additional mean to prevent such kind of disaster.

The consequences of discovering the high toxicity of a material broadly used in a building that we own or that we occupy could be dramatic for the health of the people who have built this property or who work in it but it can also have disastrous financial, operational and notoriety consequences.

Firstly for the owner of the property who will have to finance the removal and replacement of the concerned material but also the eventual temporary move of its tenants, on top of that the landlord's and the building's reputations will obviously be damaged.

Secondly for the tenants who will have to face the consequences on:

- Their staff:
 - bad reputation due to a lack of attention to the health & wellbeing of the staff
 - absenteeism
 - the lost of key profiles
 - ...
- Their business with the nuisance inherent to consecutive moves.

A landlord who will choose to proceed to a sustainable certification in order to achieve a good overall rating and, more specifically, a good rating for the Health & Safety and Materials categories will have additional chances to avoid a disaster like the asbestos. And, if this kind of situation happens anyway, the fact that the building has been certified will constitute an evidence of the landlord's concern for the health and wellbeing of the people who have built the property and those who work in it. The potential advantages of the sustainable certification for the tenant will almost be the same with an additional security against health damages and, if these damages occurs anyway, the certification will be an evidence of the care that the tenant brings to its staff.

In other words, for a landlord or a tenant as well, choosing a certified building is an evidence of "product stewardship" as mentioned by Bill Sells (Sells, 1994).

1. Conclusion

Surveys about the US certification labels Energy Star and LEED have showed that the certified properties have a higher rental and capital value. It has been estimated between 6% (Eichholtz et al, 2009) and 11,8% (Fuertz et al, 2008) above the rent of non-certified properties and the capital value has been estimated between 16% (Eichholtz et al, 2009) and 31% (Fuertz et al, 2008) above the sale price of non-certified properties. We have seen that the results of a survey focussed on a specific label cannot be applied word by word to another label but it anyway revealed that certified properties appear to be more attractive to occupiers and purchasers than non-certified ones. The results of the analysis of the case studies is in line with this tendency such as the interviews of the investor Fidentia and the occupiers Atlas Invest and Linklaters.

Currently there are no clear process concerning the valuation of sustainability but this will most probably change in a near future. An evidence of this tendency is the workgroup organised by the RICS in order to discuss this topic. It allows to suppose that the rental and the capital value of certified properties will continue to grow while non-certified properties will have more difficulties to find tenants and purchasers.

The way how the European and national legislation is evolving indicates that the regulations will become more constraining for holding and occupying a property in the coming years, the sustainable certification is a way to anticipate this situation and reduce the potential risk.

A poor environmental efficiency could lead to be named and shamed and the consequence of this on the image of a property provider or an occupier could be disastrous and have severe financial consequences.

What could be the tomorrow's asbestos? Today we are not held responsible for what we know but for what we were supposed to know, this is known as the "product stewardship" (Sells, 1994). For property providers and for tenants as well the choice of a certified property is an evidence of voluntary product stewardship and thus of their concern about their staff and the environmental issues. Sustainable certification could be an additional protection against potential health threats, not indefectible but additional.

It is important to keep in mind that audits performed on a regular basis to confirm or adapt the results in function of how the building is used or managed are quite important. A good example of that is the BERLAYMONT, one of the main building of the European Union in Brussels, that has been fully renovated (the works ended in 2004) and is reputed to be highly efficient on an environmental point of view. The building has a total gross surface of 240.000sqm but only 2,700 people are working in it. Since the average gross surface by person for an office space in Brussels is in the region of 20 square meters it means that this building could host more or less 4 times the current staff. In other words even if a building is certified sustainable, the use and the management of it could annihilate this environmental advantage.

The main advantages for occupiers of the sustainable certification lays in the human resources field. It appears to ease the ability to attract key profiles, to increase the retention, to reduce the absenteeism rate and it constitute an evidence of the employer's concern in the health and the wellbeing of the staff. As a matter of consequence it is in line with the principles of most of the Corporate Social Responsibility principles and it also improve the company's image.

Considering the current energy costs, the potential financial advantage that could be achieved by choosing a certified property instead of a "traditional" one remains marginal despite the fact that this argument is broadly used by property providers. However this situation could change in case of rise of the energy costs.

Concerning the construction costs, examples like the Arup Associates sustainable office building CAMPUS (Upstream, 2004) or of the EOLE case study have showed that developing a sustainable property can be made at similar price that a "traditional" building. However this is often linked to the acceptance by the tenant of a lower comfort level on the temperature point of view in the summer. To ensure a similar comfort compared to "traditional" commercial properties, the average building costs for certified properties are estimated at 10% above those of "traditional" properties.

About the perspective that property providers currently have about sustainable certifications it has been showed that in Belgium and Luxembourg they consider that the certification will allow their portfolios to be better positioned when the upturn will occur (Accenture, 2009), in France the 25 biggest real estate investors have declared that their current purchasing policy in case of new development is to purchase certified properties only (Business Immo, 2009A, pp30-32). These perceptions have a significant impact on the liquidity aspect of properties since it underlines that the demand for non-certified building is currently falling while the opposite effect is observed for certified properties.

It appears that occupiers are now demanding for certified properties and they consider that the offer is situated quite below the demand and this point could also help to change the "Vicious Circle of Blame" into a "Virtuous Circle" following the RICS example. A certified property is more attractive to tenants, tenants who are ready to pay a premium for it. The risk for property providers to not apply for certification would thus be to lose tenants and severely impact their image. This risks reduction in case of sustainable property has been confirmed by the potential yields estimated for the two case studies that appears to be lower that what is currently achieved by "traditional" properties in the same areas.

Finally, and on top of the different advantages and risks underlined, it is important to keep in mind that the reduction of the CO2 emissions must be a main target and sustainable certifications are a way to achieve this result. Since investors and developers are at the origin of property developments and since it has been demonstrated that sustainable buildings can be constructed at a similar cost that traditional properties but achieved better financial and operational performances it would be hardly justifiable to not apply for sustainable certification.

2. Recommendations

In the light of the results and data analysis several recommendations can be made.

- Firstly, and this point is dedicated to both property providers & occupiers, about the attention to be brought to the rating of the different categories encompassed by the sustainable label and not only the overall rating.
- Secondly recommendations can be made to property providers only:
 - It could be quite interesting to pay attention to and gather information about the enhanced capital allowances for energy efficiency of your properties. 20% of the new commercial property constructions in the UK are eligible for it and are not claiming for these allowances (figures sourced from Arup Associates and the British Council for Offices in 2002). Even if the aforementioned figures are related to the UK market, other markets are most probably facing a similar tendency.
 - While developing a property, do pay attention to the aforementioned Lockwood rules that could be pretty useful to build a sustainable development at a reasonable price (Lockwood, 2006).
 - As long as the international label has not been created it is recommended to envisage to apply for multiple certifications because foreigner tenants or purchasers will more easily trust a label they are familiar with.
- And finally recommendations can be made to the organisation that are managing and developing the labels:
 - Consolidate the processes and create one single international label. In the conception of this international label, and because of the climate and cultural disparities between the real estate needs of countries like Spain and Norway, it could be useful to integrate the “Regional Priority” category of the LEED label.
 - Sustainable labels do have an “Energy” category and it will be useful to join the processes of the EPC and of the sustainable certification like it seems to be already the case for BREEAM.
 - It has been underlined that the processes are complex and relatively esoteric for non-engineer people, developing a communication plan dedicated to occupiers and investors will most probably improve the notoriety of the labels and increase the number of applicants.
 - It would be interesting for VALIDEO, LEEDS and every other existing label to integrate the workgroup made by UK *Building Research Establishment* (BRE) and the French *Centre Scientifique et Technique du Bâtiment* (CSTB) in order to participate to the constitution of one single European label or, ideally, one single label that would be recognized and used worldwide.
 - Integrate an economical dimension in the assessment because this is currently absent from the different certification processes.

To conclude this report it can be said that there are numerous additional research that can be done on the sustainable certification subject, however two of them seems to be particularly interesting:

- What should be the content of one single international label.
- Do the construction costs increase together with the performance achieved by the building in the sustainable assessment?

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2. Interviewees list

- de Mey Philippe:
 - Function: Principal Engineer – Sustainable construction
 - Company: SECO (engineering company specialised in technical control and management of construction projects)
 - Remark: Mr. Philippe de Mey has participated, together with another SECO engineer and the “Belgian Building Federation” (Fédération construction), to the conception of the Valideo certification.
 - Date of interview: 4th of February 2009

- Rombaux Pierre:
 - Function: Director Real Estate Development
 - Company: IGRETEC (public company for the management and realisation of technical and economical surveys)
 - Remark: Mr. Pierre Rombeau was at the origin of the decision of the construction of the passive office building EOLE on the Charleroi airport site where his department is currently located.
 - Date of interview: 27th of July 2009

- Van Poecke Peter
 - Function: Director Real Estate
 - Company: Atlas Invest (private investor)
 - Remark: Atlas Invest is the first tenant to have signed a lease contract in the Solaris office building which is the first building certified by the Belgian label Valideo.
 - Date of interview: 29th of July 2009

- Custers Erwin
 - Function: Chief Operating Officer
 - Company: Linklaters LLP
 - Remark: Linklaters is one of the major law firm present in Brussels. A renovation of the current site or a move could be envisaged in the coming years.
 - Date of interview: 7th of August 2009

- M. Henry Morauw
 - Function: Associate Director in charge of the Property Management Department
 - Company: DTZ Belgium
 - Remark: The DTZ Belgian Property Management department manages more or less 600.000 square meters of commercial properties.
 - Date of interview: 11th of September 2009

- M. Louis de Halleux
 - Function: Managing Director
 - Company: Fidentia
 - Remark: Fidentia is specialised in structuring real estate investment portfolios for institutional investors.
 - Date of interview: 22nd of September 2009

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