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## Major Aspects of Development of Sustainable Investment Environment in Real Estate Industry

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### Abstract

Ever increasing ecological treats and unlimited, accelerated economic growth shall be evaluated in interaction with each other. In real estate industry investment environment unable to ensure sustainability without conformity of other economic sectors with the criteria of sustainable development. In practice entrepreneurs devoting insufficient attention to the outcome of a construction process, underestimate its political, economical, technological, social and ecological aspects. This paper focus on analysis of economic consequences of integrating of environmental sustainability into corporate strategies.

Financial and environmental risk analysis identified the key factors influencing sustainability of real estate industry and proposes environmentally friendly solutions for robust economic growth within the industry. That creates the economic and technical grounds of competitiveness for construction companies. For the purpose of maintaining competitiveness and growth in different economic cycles, entrepreneurs expected to embrace economic, environmental and technological innovation as instruments for enhancement of sustainable development.

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### 1. Introduction

Development of sustainable investment environment has gradually becoming an important aspect of government's national strategic development plans around the world. Since the Brundtland report [1] in 1987, environmental sustainability has been widely accepted as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The global emergence of green building rating systems is gaining attention of wider community within real estate industry, being a substantive step towards promoting investment in sustainable real estate and provision of environmental public goods [2]. The progress of mainstreaming investment towards sustainable real estate is still underdeveloped due to lack of sufficient information on the financial performance of such investments [3].

There is a large volume of information on corporate social responsibility and corporate financial performance debating on issues related to environmental sustainability. Researchers referring to conflicts between corporate and social responsibility and shareholder value-maximization principles [4]. The main concern is about interrelation between enterprises' environmental performance, added value and economic growth [5, 6]. This paper extends the existing literature and provides the research on the major aspects and development of sustainable investment environment in the real estate industry within political, economic, technological, ecological and social dimensions. The main objective of this research to focus on economic, environmental and social aspects [7].

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To address the potential uncertainty and volatility problems as well as omitted variable bias, an instrument variable approach is employed in our empirical analysis to examine synthesis of major sustainability factors and interrelation between different stages of economic development, environmental awareness and corporate growth strategy [8]. Our empirical results provide evidence of positive association between real estate companies' environmental performance and market expectation of future profitability, intangible reputation effect, investor trust and investor risk.

## 2. Definitions of sustainability

Based on the extensive literature search, conception of the "sustainable development" is extensively clarified in scientific and economical vocabulary. Conceptually, attention is devoted not only to reducing the negative impact of production of various goods and the transport system on the environment, but also to optimization of consumption of goods and services and to increasing efficiency of the resources usage [9, 10]. Consequently, significant role is played by sustainable construction. The uncertainty and volatility embedded in the concept of sustainable development gives a reliable ground for wide discussions about sustainable operation and development of the real estate industry [11].

The international construction research organization Counsel International Batimen [12] defines the concept "sustainable construction" as follows:

"sustainable construction – a process of creating a building that is applicable for the provided purposes and that is environmentally friendly, in operation and management of which high efficiency of resource usage is ensured". This definition does not take into account construction undertaker and the owner of the building competence in a sustainable building production and in the features of life-cycle of a sustainable building. In construction, unlike other national economy sectors, unique products are produced. Those products completely correspond with the client's requirements that are included in the building's technical documentation. For that reason the above mentioned definition is largely referable to the concept of a sustainable building rather than sustainable construction.

The definition suggested by the European Union demonstrates sketchy and superficial approach to content of sustainable construction, stating that "... sustainable construction – dynamic process of new solutions of the developer, investor, manufacturer of building materials, constructions and equipment, service provider and other involved parties where environmental, social-economic and cultural development objectives are taken into account" [13]. EU definition notable demonstrates that politically responsibility for environment protection issues and achievement of social-economic development objectives suppose to lie on entrepreneurs. Comparison of operating objectives of an undertaker to environmental, social-economic and cultural development objectives indicate to a formal approach to issues of development of sustainable construction [14].

Analyzing the concepts of sustainable construction in development of the real estate industry and the entire national economy, achievement of the public social-economic development goals, and existing functional, economically technical and legal differences in those concepts, explanation of the concept of sustainable construction is proposed in the following wording [15]:

"sustainable construction – process of designing construction projects, placement, production and demolition of a building, which ensures conformity of the finished product with the criteria of sustainable development, technical documentation and other regulatory enactments with regard to safety, harmlessness of the production process and the finished product, high efficiency of using resources at one's disposal, a possibly minimal impact on the environment".

The definition referring to the construction process from the further operation of the building after the construction process is finished and the buildings are transferred to its owner and user. In the definition it is taken into account that the construction industry is included in the regulated area of business activity, sustainability requirements or criteria of the construction process are set in the respective regulatory enactments [16].

## 3. Decline in construction output within the European Union

The significant fall of the construction output in European Union shall be analyzed with reference to such macroeconomic indicators as government budget deficit, debt as percentage of GDP and economic growth. According to Euro stat within period from 2005 to 2012 the construction output in European Union (27 countries) is down to 25%. The positive movements in relation to stabilizing of euro crisis such as approval of European Stability Mechanism by German Supreme Court, parliamentary election of parties supporting euro in Netherlands, announced establishment of European Central Bank as a supervising institution, jointly expected to give a material impact on managing the European debt crisis. Namely, these events as Euro zone safety measures mechanism expected to create more confidence about continuity of the Euro zone [17].

Majority of countries in European Union survived significant construction downturn (up to 59% since 2005 in Spain). Despite severe market conditions Poland, Sweden and Germany demonstrated impressive growth (47%, 22% and 10% respectively) as a reflection of their relatively strong economies. At average Euro zone countries reported 20% decrease in construction output.

Table 1. Construction output and macroeconomic indicators/Macroeconomic Outlook

	Construction output, % change	Rank	Government deficit as a% of GDP	2011 debt as % of GDP	Unit labor costs (2005=100)	Household debt as a % of GDP	GDP growth % 1Yr (Q2 2011 to Q2 2012)	Unemployment % rate July 2012	Combined rank – other criteria
Poland	47	1	-5	56	113.3	71.1	2.5	10.0	3
Sweden	22	2	0	38	107.0	219.3	2.2	7.5	2
Germany	10	3	-1	81	104.0	111.0	1.0	5.5	1
United Kingdom	-12	4	-8	86	117.0	89.7	-0.5	8.0	7
France	-14	5	-5	86	112.5	137.5	0.3	10.3	4
Netherlands	-17	6	-5	65	109.0	224.1	-0.5	5.3	5
Euro zone (17 countries)	-20	7	-4	87	109.1	146.7	-0.5	11.3	8
Italy	-24	8	-4	120	112	125.4	-2.5	10.7	9
European Union (27 countries)	-25	9	-5	83	111.4	138.4	-0.3	10.4	5
Spain	-59	10	-9	69	108.0	212.9	-1.3	25.1	10

The real estate industry faces confrontation in improving the global environment that could lead the industry to finding enablers of sustainable growth. Measures that the industry can take include developing a range of technologies to address issues such as health, safety, energy, efficiency, reducing waste, green building, clean indoor and outdoor air, renovation processes and materials and other sustainable solutions. The green potential for the industry is high, but there are considerable differences country by country in Europe. Some countries have already taken significant steps toward a sustainable environment. In other countries, where less has been accomplished, much can still be done by simply applying existing techniques and methods engineered in developed countries, such as sustainable retrofits and demolitions. The use of existing techniques and methods in less developed countries may be an innovative solution for the industry to operate in a more sustainable way and may also provide an economic stimulus to the sector.

Within economic dimension of sustainable investment environment there are such significant aspects of enhancement of sustainable competitiveness as:

- Economic growth
- Social cohesion
- Employment
- Competitive power in international competition
- Using resources in an efficient and sustainable way
- Minimizing negative environmental impacts

In this paper we would like to stress that there are the significant infrastructure opportunities available across the globe within the real estate industry. These projects not only comprise traditional infrastructure projects – such as roads, rails, airports and ports – but also non-traditional ones, including water and electricity. Emerging markets, in particular, will have to make considerable investments to improve their existing infrastructure with respect to water, electricity and transport, among other areas. Investing in infrastructure with its great potential to create significant amount of jobs may be a better solution than all sorts of quantitative easing. But these opportunities come with issues related to determining the right risk-return balance, obtaining funding from financial institutions and, in certain parts of Europe, a regulatory framework that needs improving.

Use of public-private partnerships (PPP) and private finance initiatives (PFI), provided that a pan-European legislative framework is developed is another considerable financial aspect of the economic dimension of sustainable investment. Pension funds shall not be ignored since they have a long-term investment horizon and aim for inflation-adjusted returns – investment criteria that could be met by PPPs. However, important limitation of use of pension funds is the critical

transactional size: pension funds have billions to invest while infrastructure projects are generally measured in millions. In view of the need to create more effective and efficient PPP/PFI framework there is a need for well-balanced risk transfers between the parties involved in each project. All risk cannot be transferred to the banks or investors.

The European Investment Bank (EIB), the EU's long-term lending institution, has received an additional €10 billion of capital from EU member state [18]. This capital will allow the bank to increase its annual lending capacity to approximately €60 billion in the immediate future, approaching its 2009 level, when it was the primary source of the EU stimulus for investment in infrastructure projects. Although the bank is not-for-profit, it is also a not-for-loss entity. As confidence is lacking, there is now virtually no new investment in infrastructure from any of the market players, and Project approval times have increased significantly. Consequently, dependency ratios (the ratio of the non-working and dependent population to the working population) are deteriorating in most European economies. The EIB provides regular investment loans, program loans, bank-to-bank loans and loans to equity and debt funds that invest in eligible projects, which include infrastructure and green ventures. These projects must, among other things, contribute to the following EU economic policy objectives:

- Support small- and medium-sized enterprises
- Improve the environment and promote innovation
- Development of trans-European networks comprising large transportation, energy and telecommunication networks
- Use sustainable, competitive and secure energy sources

#### 4. Interrelation between environmental and economic aspects of investment environment

According to Carbon Trust real estate usually forms a relatively modest component of most investment portfolios. However, given that together residential and commercial property, through their construction and subsequent use, form the conduit through which up to 40 percent of carbon emissions are made, it is an important asset class for those wishing to invest environmentally responsibly [19]. If real estate is part of the carbon emissions problem, it is also part of the solution, identified by many as having the greatest potential at the lowest cost of any other economic sector for cutting carbon emissions. The growing awareness among real estate industry that, through hosting the majority of human social and economic activity, the environment is a key part of problem solution, has led to sustainability issues becoming important for all those involved in development, use, ownership and governance of real estate. Furthermore, as these factors have been perceived as influencing operation of the property market and the economics of property investment, they have also facilitated a growing business imperative to understand and act on sustainability issues more proactively [20].

The environmental issues both in general and across the real estate industry specifically is neither universal nor harmonized around the globe. Attitudes and policy responses to the environmental impacts of property vary in line with socio-political beliefs on how and whether government policies should influence market forces, with differing perceptions around the need to conserve or secure natural resources and energy, and with the differing stages of economic development yet reached around the world [21].

Empirical analysis indicates that broad sustainability factors alone would succeed expected returns in commercial property, but would give adverse impact carbon emissions issues. The UK government, for example, already has targets to reduce CO<sub>2</sub> emissions from its own office estate by 12.5 percent based on 1999/2000 levels by 2011/2012 and by 30 percent by 2020.2 The UK government is also committed to procuring buildings only from the top quartile of energy performance. Landlords and developers that fail to equip buildings to fulfill this low-energy, low carbon demand will be at increasing risk of competition from better-equipped stock and may be forced to reduce rents substantially or see their buildings become obsolete. There is no need for a carefully managed, thoughtful refurbishment that focuses on energy efficiency and conservation to cost incrementally more than standard refurbishment. This is as long as a carbon monitor is involved to ensure the planned measures carry through to completion. Occupiers should not expect to pay a premium for a building that is run well. Owners, managers and property company advisers should not be afraid of imposing a set of simple but consistent carbon-management principles in order to conserve value [22].

According to Carbon Trust, the UK's stock of 1.8 million non-domestic buildings consumes 300TWh of energy a year and is responsible for 108 million tones of CO<sub>2</sub>, which accounts for 18 percent of total UK CO<sub>2</sub> emissions. To meet the UK government's target of 80 percent reduction on 1990 levels by 2050 – and the interim target of 34 percent reduction by 2020 – requires the equivalent of improving all UK commercial stock by an average of four Display Energy Certificate 5 ratings, which would be a reduction from 106 MtCO<sub>2</sub> a year to 21 MtCO<sub>2</sub> or less. According to Carbon Trust, more than half the buildings that will be in use in 2050 are already built. More than 90 percent of the £46 billion worth of property covered by the Investment Property Databank Office Index is more than ten years old. With a normal annual replacement ratio of between one to two percent, the challenge clearly lies in making existing stock, which is less likely to comply with

the current and potentially tighter, future legislation, more energy-efficient. Innovative solutions are of crucial importance to achieve these objectives [23].

## 5. Regulatory influence and real estate industry trends

During the recent decade investors have been demanding better operational performance of the managers of their real estate assets and governance over their capital. Enhanced regulatory requirements across the US and Europe are now providing a catalyst for this change to occur. Both the European Securities and Markets Authority's Alternative Investment Fund Manager's Directive (AIFMD) and the US's Dodd-Frank Act will affect asset managers aiming to tap institutional investors for fund-raising. Meanwhile the impact of regulatory requirements on actually contributing to improved operational effectiveness and efficiency, some organizations have embraced the new requirements in pursuit of a broader operational agenda. Moreover with the implementation of new regulations, institutional investors are initiating their campaign to bring further transparency to the industry. In addition, fee pressures are causing real estate managers to look for ways to drive down their underlying cost base. The mentioned factors inevitably would force managers to act in the direction of change. Those who act in the present are building the model for the industry. Provided it is done effectively, the result will be a more efficient business that will help these real estate managers to better manage their costs and improve prospective accountability [24].

Given the increase in demand by regulators, tenants/occupants and investors for sustainable properties, proper property valuation and financial analysis must consider the impact of sustainability. As with most real estate financial analyses, the biggest challenge is not the modeling but the integration of sustainability considerations into the determination of model input assumptions. To assess the influence of sustainability on property returns and value of real estate the financial analysts and appraisers have to evaluate qualitative nature of their work and improve effectiveness and efficiency by executing the sustainable property financial analysis. Such main steps as selecting of financial model, evaluating property sustainability, assessing the costs/benefits of sustainability, evaluating the financial implications of costs/benefits, determining the financial model inputs, conducting a risk analysis and presentation are crucial for proper sustainable property financial analysis [25].

European AIFMD compliance will mean mapping and boosting formalized practices, such as reporting of key risk areas, including investment, operational and credit risk. Additionally, liquidity management will have to be tracked and reported to regulators more rigorously. The same is true under the Dodd-Frank regulation through Form PF. Understanding what is required to meet compliance criteria may in fact be the least challenging aspect of the planning exercise for businesses. Implementing this level of oversight will make fund-raising easier by attracting a wider range of investors to alternative funds, just as the Undertakings for Collective Investment in Transferable Securities (UCITS) regulation did for public funds targeting retail investors across Europe. Part of the difficulty is that real estate fund oversight is still very new to the SEC, meaning it could still take time to establish the specifics concerning which fund managers should be reviewed and what the focus of these reviews will be. Indeed, the first round of reviews will probably serve primarily as an information-gathering effort for the SEC, shedding light on how funds approach and document investment valuation.

Beyond AIFMD and Dodd-Frank, there are parts of other new financial regulations that will have an indirect effect on the real estate fund sector, and some will have global reach. Basel III, for example, could greatly influence how much capital banks pour into the sector because of the significantly steeper capital requirements it imposes on banks.

In the EU, Solvency II could mitigate a portion of the potential capital reductions brought on by Basel III. Geared toward the insurance market, Solvency II will enforce stricter risk criteria for the assets insurance companies invest in. This will affect how real estate funds report to insurance companies because insurers will require more detailed information from their asset managers. Improving transparency could also encourage European insurers to lend more to the real estate markets.

As capital moves between jurisdictions and cross-border investment leads to taxation of the offshore investor, the way it does in the US and could more often in parts of Europe, careful tax planning gains greater significance [26].

One of the key places to watch will be Germany, which in April signed a new double-taxation treaty with Luxembourg affecting how Luxembourg-based private equity funds are taxed on German investments. Luxembourg's treaty networks with the rest of Europe make it a preferred choice for resident jurisdiction of European funds. However, the revised treaty would allow Germany to tax investors on capital gains earned when exiting a real estate company in cases where more than 50% of its assets are German-based. Because German national law has not yet been amended to reflect these changes, this has not had a significant impact on tax leakage so far. Yet there are questions in the market around what current tax structures will be fit for the future [27].

There have also been questions as to whether there could be a coordinated approach across Europe to follow Germany's example. Without wide-scale amendments to national laws, though, changes to tax treaties would not have a significant

impact either on how funds are formed or on what their long-term exit strategies are. Also, given the financial environment in Europe, implementing a fully taxed corporate share deal may allow for additional revenue generation, but it could also put any country that implements such a scheme at a competitive disadvantage in attracting foreign investors.

## 6. Major aspects of sustainable investment environment

Based on the results of our research the following major aspects were identified: economic, political, technological, social and ecological. Sustainable construction develops providing integrated approach and revealing of existing differences. Taking into account that the concept “construction” in wider meaning includes the construction industry, the public authorities supervising of the construction industry, construction merchants and non-governmental organization of builders, within framework of the study the focus is on construction. The systemic approach is used to tackle sustainable development problems on a local, national, international and global level [28].

Sustainable development criteria of construction process take shape in the view of the requirements that establish conformity of manufacturing process of construction products with technical, social, ecological and economic requirements shown [29]. These requirements are largely related to sustainable development policy of the construction industry implemented by the country and determination of a construction company to participate in processes that are aimed to continuous improvement of working conditions in construction, increase of efficiency of using resources at one’s disposal, and retaining of ability of natural resources to renew technologies and to increase efficiency of using resources in economic activity processes that are performed in the respective building, as well as in operation, reconstruction, renovation and demolition of the respective building [30]. That enables to increase production of goods and services with the national economy subject and the resources at disposal of the entire society [31]. A significant criterion of a sustainable building is conformity of the working environment and microclimate with the physiological requirements of individuals. It is aimed to reduce sickness rate of the ones employed in construction, and to increase labor productivity and quality [32]. The criterion “minimal influence on the environment” includes the requirements fixed by regulatory enactments regarding reduction of environmentally harmful gas emissions and other waste in operation and management of a building, including construction waste that result from demolition of the respective building [33]. The criteria of sustainable development of construction and construction business and usage of sustainable building are constantly changing, along with changes in results of scientific researches, development of engineering and technologies, condition of the environment, and in the view of constantly changing requirements of clients [34, 35, 36]. With the help of feedback, these aspects and the changes that have taken place in them are included in the sustainable development policy of national economy and construction industry in order to timely make the necessary changes in regulatory enactments and to make corrections in the national monetary and fiscal policy corresponding with the situation.

## 7. Conclusions

Despite the extensive literature references to the theme of sustainable investment environment society and states having insufficient focus on financial consequence of incorporating of environmental sustainability into corporate and national strategy. This paper fills the gap by examining the interaction between various economic, political, environmental and technological factors.

The performed study on sustainable development trends of construction industry leads to the following conclusions:

1. The definition of sustainable construction product, emphasis is made on the possibilities created in the construction process to use resources more effectively and safely with a minimum possible destructive impact on the environment. The requirements included in the definition are combined with other criteria of sustainable development that are changing along with changes in mechanical physical and ecological properties of construction materials, construction technologies, environment condition and renovation ability of natural resources.
2. Analysis of macroeconomic factors demonstrated that material decline in real estate output within European Union might be temporary by enhancement of sustainable competitiveness, euro zone stabilization and reinforcement of regulatory framework.
3. Integrated approach to economic and ecological aspects of sustainable investment environment expected to create a solid ground for improved sustainability and harmonization of investment environment in real estate industry.
4. In studies on sustainable development of construction, more attention is devoted to conformity of the produced construction product with certain criteria of sustainable development, yet there are not enough studies on usage of the resources at disposal of construction merchants as the most significant aspect for conformity of the production process of construction products with the main conditions of sustainable development in macro level.

5. Results of the study clearly indicate a need for more substantive work on sustainable development issues on macro level, which would enable governments of to develop and implement more appropriate measures for conformity of social-economic, political and ecological processes with the basic viewpoints and criteria of sustainable development, by promoting increase in efficiency of using resources at disposal of the society and by extenuate the destructive impact of economic activity on the environment.

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