

# **NET-ZERO BUILDING VENTURE CAPITAL MARKET: CURRENT OPPORTUNITIES AND EMERGING TRENDS FOR ENTREPRENEURIAL COMPANIES**

Farrukh ARIF

*OHL School of Construction, Florida International University, USA, farif001@fiu.edu*

M.Emre BAYRAKTAR

*OHL School of construction, Florida International University, USA, bayrakm@fiu.edu*

Irtishad U. AHMAD

*OHL School of construction, Florida International University, USA, ahmadi@fiu.edu*

## **Abstract**

As the world's largest source of energy consumption and carbon emissions, the global market for green building solutions has attracted billion of dollars as venture capital investments. With green buildings becoming mainstream, the next big thing for the industry is in the realm of net-zero buildings that produce as much energy as they consume. This will require investments in both energy efficiency measures and renewable energy generation creating a flow of venture capital to net-zero building technologies from individual and institutional investors. Significant funding opportunities will be available for early stage technology companies with unique innovation in different sectors of the net-zero building market anywhere from green materials to systems that operate the building and to the information management side of the building. An assessment of the relevant venture capital market is necessary for emerging entrepreneurs to be able to utilize such opportunities efficiently. This paper provides a preliminary assessment of the current net-zero building venture capital market and future prospects. Key assessments will be related to overall market and Latin American market trends and prospects of capital venture investments in green construction and net-zero building. Furthermore, probable success and failure factors for such investments have been discussed. Such knowledge will provide competitive advantage to entrepreneurial companies to react quickly and wisely in changing market dynamics and help at a later stage of this study with further extensive trend assessment and the development of a self-assessment tool for emerging entrepreneurial companies in evaluating their readiness for venture capital.

**Keywords:** Net-Zero buildings, green buildings, venture capital, entrepreneurs

## **1 Introduction**

The worldwide market for green buildings is being driven by increasing awareness of environmental challenges that buildings represent. As the world's largest source of both energy consumption and carbon emissions, the global market for green building solutions has attracted over \$4 billion in venture capital over the last 12 years. The future for green buildings is promising, but all of this activity has shifted the market dynamics, as some

opportunities dry up and new ones fill the void [1]. With green buildings becoming mainstream, the next big thing for the industry is in the realm of *net-zero buildings* that produce as much energy as they consume, requiring investments in both energy efficiency measures and in renewable energy generation. The next wave of venture capital will center on startups that make net-zero operations possible.

This paper provides a preliminary assessment of the current green construction and net-zero building venture capital market and future prospects. Key assessments will be related to overall market and Latin American market trends and prospects of capital venture investments in green construction and net-zero building. Furthermore, probable success and failure factors for such investments have been discussed. Such knowledge will provide competitive advantage to entrepreneurial companies to react quickly and wisely in changing market dynamics and help at a later stage of this study with further extensive trend assessment and the development of a self-assessment tool for emerging entrepreneurial companies in evaluating their readiness for venture capital.

## **2 Trends and Prospects of Net-Zero building venture capital market**

### **2.1 The Overall Market**

Funding opportunities in green construction and Net-Zero building sectors have significant potential in the current economic climate. Recently, Pike Research released a report indicating that net-zero construction will become a \$1.3 trillion global business by 2035 [2]. The flow of venture capital to net-zero building sector will create opportunities for early stage technology companies that have a unique innovation for the green building market which could be anywhere from the materials that go into the building, to the systems that operate the building, to the information management side of the building. Trends since 2010 suggest four emerging net-zero technology areas that are likely to draw more attention in the months ahead: integrated design, on-site power generation, energy efficiency upgrades, and low-carbon cement and concrete [3].

### **2.2 The Latin American Markets**

Net-Zero building construction is directly related to the performance of green technology and green energy market. Venture capital investment interests in these domains can also pave the way for substantial progress in Net-Zero building venture capital market. An earlier assessment in this regard, performed by the authors presented a thorough assessment of the venture capital opportunities in green building technologies, the findings of which should also have significance in understanding the current environment and future prospects of Net-Zero building venture capital market in South Florida and Latin America. The major conclusions derived through expert opinion showed that among the

Latin American countries, Brazil is considered to have greater venture capital potential in green technologies mainly because of the expertise level in bio-fuels. Although, other countries such as Argentina and Chile also have some potential in green-energy; but there is overall lesser interest to invest in green materials which are one of the most important component to achieve the Net-Zero goal in building construction. This is because of the fact that Latin-American countries consider green construction or as a matter of the fact Net-zero buildings a lesser level priority due to economic infeasibility, lack of infrastructure and lack of financing available for housing [4]. Overcoming these

issues will definitely require some effort but including the long-term benefit of Net-Zero buildings can help to achieve breakeven point of investments earlier than expected.

### **3 Probable success and failure factors**

As mentioned earlier, the main purpose of the assessment presented in this paper is to help at a later stage in the development of a self-assessment tool for emerging entrepreneurial companies in evaluating their readiness for venture capital. Hence, it is also necessary to identify success and failure factors that can be integrated in conjunction of the assessment of trends and opportunities to develop the self assessment tool. Therefore, the authors have populated a general probable list of success and failure factors through literature review and expert opinion.

The success factors have been divided into three main categories, namely; attributes, skills and experience. The attributes include; ability to focus, analytical approach, attitude and drive of success, constantly learning (learning curve), creativity, determination, discipline, flexibility, leadership and risk-taking desire. The skill set for success include; ability to delegate, close deals, communication Skills, human relation skills, presentation skills, sales ability and strategic thinking. The experience category includes; experience raising money, good network of contacts, industry/domain/market experience, knowledge of industry, marketing experience, resource organization, and start-up experience.

The failure factors have been divided into four main categories, namely; management problems, market problems, product problems, and HR problems. Management problems include; ineffective senior management and ineffective functional management. Market problems include; failure in developing expected end user market, poor channel selection / channel resistance, competition and poor products/market fit. Product problems include; manufacturing failure, poor product/service performance and inadequate quality control. The HR problem includes only failure in recruitment and human resource development.

It is necessary to mention here that the factors provided are probable factors and the list will be improved and validated over the course of the study. However, the aforementioned factors provide substantial basis for the development process of self-assessment tool.

### **4 Conclusions and Future Work**

The assessment presented in the paper shows that overall, there is a great potential in Net-Zero building and green building construction market in future. Therefore, the venture capital investors as well as emerging entrepreneurs should be ready to acclaim this opportunity. From South Florida and Latin American market perspective, the current trends/practices may not look too encouraging. However, optimistically, Net-Zero and green construction market can be stated as "*Un-explored territory*" which again provides a good opportunity for both investors and entrepreneurs.

This paper presented a preliminary assessment of the extensive study that is currently underway for the development of self-assessment tool. The future work includes further analysis of the aspects presented in the study to make it more extensive and useful. Once, that goal is achieved, the second stage would be to develop a self-assessment tool taking into account the critical success factors that will enable promising emerging entrepreneurial companies from South Florida and Latin America to assess their preparedness for attracting venture capital funding in the net-zero building sector.

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