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The Essence of Promoting Green Roofs for Building Cooling Energy Reduction in New Zealand

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ABSTRACT

With the growing rate of Greenhouse Gas (GHG) emissions globally, the need for promotion of a sustainable resolution to diminish the consequent impacts of this phenomenon is evident. Moreover, global warming concerns have been the centre of emphasis lately as this matter is becoming of outmost significance to the wellbeing of future generations. Indeed, New Zealand as a leading society towards endorsement of sustainable built environments, forms an appropriate platform to encourage diverse green design approaches headed for a sustainable future. Consequently, this research focuses on the essence of promoting green roofs in New Zealand.

Keywords: Green Roofs; Environmental Sustainability; Sustainable Future Cities; New Zealand

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THE ESSENCE OF PROMOTING GREEN ROOFS FOR BUILDING COOLING ENERGY REDUCTION IN NEW ZEALAND

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Abstract

With the growing rate of Greenhouse Gas (GHG) emissions globally, the need for promotion of a sustainable resolution to diminish the consequent impacts of this phenomenon is evident. Moreover, global warming concerns have been the centre of emphasis lately as this matter is becoming of outmost significance to the well-being of future generations. Indeed, New Zealand as a leading society towards endorsement of sustainable built environments, forms an appropriate platform to encourage diverse green design approaches headed for a sustainable future. Consequently, this research focuses on the essence of promoting green roofs in New Zealand.

Keywords: *Green Roofs, Environmental Sustainability, Sustainable Future Cities, New Zealand*

Global warming [1], as a significant driver of environmental degradations [2], if not tackled, will result in catastrophic outcomes. Contemporarily, the negative impacts of this phenomenon has resulted in various negative consequences including elevated levels of building cooling energy consumptions [3, 4].

Alternatively, the concept of green roofs offers promising insights towards reduction of building energy loads [5]. This concept, once broadly implemented, is expected to significantly assist with reduction of urban air pollutions [6]. Besides, it is anticipated to reduce GHG emissions. This article emphasizes on the essence of implementing green roofs in New Zealand. Concerning climatic conditions [7], green roofs are seen to be more efficient in terms of reducing building cooling loads in the Northern island of New Zealand.

As a sustainable feature towards endorsement of built environment resilience, promotion of green roofs in New Zealand not only results in minimization of building cooling loads but also helps building a unified green city image. Concerning the urban context,

green roofs are also expected to minimize the Urban Heat Island (UHI) [4] impact.

This article accentuates the importance of research in the context of implementing green roofs in New Zealand and its potential benefits to minimize building energy performance. The Auckland Council, New Zealand Green Building Council and many other relevant organizations have planned and implemented the application of green roofs in New Zealand.

Ultimately, it is stressed that; successful design and employment of green roofs in New Zealand will eventually assist in minimizing the negative impacts of growing global warming concerns.

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