

A sustainable roadmap for affordable housing in India. A benchmarking approach to achieve the SDGs

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Abstract

Addressing the housing shortage in developing nations such as India has recently become a burning socio-economic problem. Meeting these housing needs contributes significantly to the economic and social growth of such economies. However, promoting such extensive housing development programs drastically strains many natural resources, including energy, water, and land, and leads to higher pollution and carbon emissions. In this context, sustainability benchmarking gains relevance. Benchmarking refers to defining targets or reference points for performance measurement in the context of a firm, product, or process. Therefore, this study introduces a benchmarking scheme for different sustainability indicators in the affordable housing segment in India. The study brings out crucial results regarding the country-level emission targets set for India to meet Goal 13 of the SDGs which is related to climate action.

Keywords: Affordable Housing, Sustainability Benchmarking, Sustainable Development Goals (SDGs)

1 Introduction

Sustainability can be viewed as achieving an equilibrium between humanity and the ecosystem surrounding it and sustaining it for a long time. The term sustainable development was first used by the Brundtland Commission established by the UN to associate the concept of sustainability with human actions [1]. The commission's report (the Brundtland report) highlighted the necessity to direct attention to protecting the environment with due consideration to the economic development and social growth of the countries [2]. Later in 2015, the UN conference on sustainable development decided to formulate Sustainable Development Goals (SDGs) with an agenda to integrate the objectives of the three pillars of sustainability and to set targets for both developing and developed countries to realize sustainable development. India, too, has pledged support for these UN SDGs and also to continue to reduce emissions as per the Paris Agreement. To

support the population and sustain a booming economy, India must make significant expenditures in water supply, sewerage, solid waste management, transportation, drainage systems, and affordable housing [3]. This would demand a significant number of natural resources and lead to vast amounts of waste generation and pollution.

Goal 11 of the SDG highlights the construction industry's importance in spearheading a predominant role in sustainable development. This goal also emphasizes providing safe, resilient, and affordable housing and facilitating financial and technical assistance for utilizing local materials to make sustainable buildings. This poses additional challenges to the construction industry, particularly the building sector, especially in developing countries such as India, where 70% of the buildings are yet to be constructed (about a million square meters of commercial and residential space) [3]. It is forecasted that from 19 million housing units in 2012, the demand for