

## **ABSTRACT**

# **REDEFINING URBAN SUSTAINABILITY THROUGH LOW ENERGY SETTLEMENTS**

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With urbanisation getting firmly established, urban centres all over the globe are fast expanding in terms of population, activities, physical size, built environment etc. In the process these urban centres are fast emerging as large consumers of energy. With traffic and transportation becoming essential and integral part of human living and working, energy component is becoming critical for efficient operation and functioning of these urban centres. Construction of large volume of built environment to meet the demand for shelter, healthcare, education, entertainment, industry etc. has added a new dimension to the energy consumption pattern of the urban areas, with more than half of the total energy produced is consumed by buildings alone during their entire life span for operation, heating, cooling etc. With buildings being designed and constructed without caring and understanding the energy implications, urban patterns of energy consumption are getting highly distorted.

In addition, cities are being planned and designed without caring for the energy implications of the various patterns of city planning. Existing planning tools involving Land use Planning, Regional Plans, Master Plans, Development Plans, Zonal Plans, Lay out Plans etc. are being used without understanding and studying the energy implications of the end product. In the process, cities are fast becoming highly energy inefficient, large consumers of energy and generators of waste. Looking at the existing pattern of growth and development of cities and the manner in which buildings are being designed and constructed, we are surely heading for an imminent disaster.

Urban sustainability is fast emerging as a critical issue in the face of emerging challenges posed by rapid urbanisation and large consumption of black energy. This calls for evolving appropriate strategies and look for home made options which will make our cities more liveable, sustainable and least consumers of energy. In search for appropriate solutions, paper would critically and objectively look at the role of city planning; designing and construction of buildings; traffic and transportation; landscaping; technology etc in making our cities cleaner, greener and highly energy efficient. Paper would also analyse the context of existing framework of city planning, development and management and suggest strategies to make them more operationally effective and efficient besides supporter and promoter of urban sustainability with focus on green energy as the underlying theme.