

UPSC

Answer Questions in NOT MORE THAN the Word Limit specified for each in the Parenthesis.
Content of the Question is more important than length.
(Specimen Answer Booklet - For Practice Purpose Only)

उम्मीदवारों को
इस हार्गिर् में
कोई लिखना
नाहिये।
Candidates
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कृपया इस स्थान
में प्रश्न संख्या के
अतिरिक्त कुछ
न लिखें।

Govt
Policies

Q. Explain the various that are required to make the building industry sustainable.

↳ The Building and construction Industry accounts for around 6.5% of India's GDP

↳ India & Building and Construction Industry
↳ India lacks a well defined set of standards for appropriate material use in Buildings.

↳ Issues

1) ↳ Building and Housing Projects are growing due to rapid urbanisation.

2) ↳ This will increase the demand for embodied carbon intensive construction materials like cement, steel, Brick etc.

3) ↳ Floor area increase from 15 bn^m² (2015) to 30 Billion m² (2038)

4) ↳ Decarbonisation initiatives are focused mainly on tackling operational carbon. Embodied carbon is all of CO₂ released during Building's construction as opposed to operational carbon.

5) The Energy Conservation Building code and Eco-Niwas Samhita measure energy performance based on operational Building and ignored the embedded carbon.

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↳ challenges to Overcome

↳ lack of well defined set of standard for material use in Building

↳ India spends 0.55% of GDP on R&D, which is very low compared to that of Major Economies like China (2.4%)

↳ Lack of commitment from customers and suppliers of Building materials to embrace low carbon approaches.

↳ lack of reliable high quality data from life cycle assessment (LCA's) and Environmental Product declarations (EPDs) make setting benchmarks.

↳ Technologies like carbon capture and hydrogen based production of iron for steel have been explored.

↳ Need for an Sustainable building & Industry

↳ The Decarbonisation of the Industry would require a significant expansion in renewable energy capacity.

↳ Examine and Evaluate the Best Practices & technologies for decreasing embodied carbon emissions in building and construction sector.

↳ The 4Rs - Reduce, Replace, Recycle & Reuse Benefits communities, owners, Economy & Environment.

↳ Building design Professionals decrease Environmental consequences.