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HIGH PERFORMANCE BUILDINGS (HPBs): FREQUENTLY ASKED QUESTIONS

Frequently Asked Questions

1. What are High Performance Buildings (HPBs)?

HPBs exceed typical building efficiency and sustainability criteria by optimising energy use, water conservation, indoor air quality (IAQ), and occupant comfort. They often incorporate advanced technologies, sustainable materials, and smart systems, aiming to reduce environmental impact while enhancing durability and resilience.

2. Why are HPBs needed?

Buildings account for about 40% of global energy use. HPBs can reduce energy consumption by up to 25%, while also conserving water and using sustainable materials. This approach not only supports climate goals and reduces fossil fuel dependence but also drives green job creation and economic growth.

3. How do HPBs contribute to decarbonisation?

HPBs support decarbonisation by incorporating advanced efficient technologies and design strategies that significantly reduce resource demand. They utilise high-performance insulation, efficient HVAC systems, and renewable energy sources to lower GHG emissions, while smart controls optimise overall performance to further decrease carbon footprint.

4. How do HPBs contribute to solving the climate change problem?

HPBs improve resource management by reducing energy, water, and material usage by about 40–50%, thereby cutting greenhouse gas (GHG) emissions. Their focus on sustainability and reduced emissions supports broader climate goals.

5. Are HPBs new to India?

No, HPBs are not new to India. They have been steadily gaining ground in India over the past decade. Some examples of HPBs in India:

- Akshaya Urja Bhavan, Panchkula, Haryana
- Atal Akshaya Urja Bhavan, New Delhi
- CEPT Living Laboratory, Ahmedabad, Gujarat
- Godrej Plan Annexture, Mumbai, Maharashtra
- Infosys Campus, Bangalore, Karnataka
- Infosys Campus, Hyderabad, Telangana
- Infosys Campus, Mysore, Karnataka
- Paryavaran Bhavan, New Delhi
- Rajkumari Ratnawadi School, Salkha, Rajasthan
- TCS Banyan Park, Mumbai, Maharashtra
- Unatti, New Delhi

6. How do HPBs benefit real estate developers?

HPBs boost property value and appeal by offering overall building performance efficiency and lower operating costs, leading to higher rental rates and occupancy. They may also ensure compliance with evolving regulations and enhance the developer's marketability and branding. Additionally, HPBs offer long-term resilience, health benefits for occupants, and a strong return on investment, making them a future-proof choice for developers.

7. What are the benefits of HPBs to their occupants?

HPBs provide occupants with improved comfort through better daylighting, thermal control, and IAQ, which enhances occupants' health and productivity. Additionally, HPBs also lower environmental impact and offer greater resilience to extreme weather, aligning with occupants' commitment to sustainability and conservation.

8. How are HPBs different from Green Buildings?

HPBs set more ambitious and customised performance goals than typical green buildings and may potentially aim for near-zero or net-zero energy consumption. They incorporate advanced technologies and emphasise ongoing optimisation through real-time monitoring and adaptive management.

9. Are HPBs the same as smart buildings?

HPBs and smart buildings are related but not identical concepts. HPBs focus on optimising overall building performance, often incorporating smart technologies to achieve these goals. Smart buildings, on the other hand, emphasise the use of advanced technologies and automation to improve comfort, convenience, and operational efficiencies.

10. Are HPBs more expensive to build?

With care and attention, HPBs can be built at little or no additional cost. Even if they sometimes incur higher initial costs due to advanced materials, technologies, and design features, these upfront expenses are more than compensated by long-term savings on energy and water bills, reduced maintenance costs, and potential tax incentives- thus leading to an attractive return on investment over the building's lifespan.

11. What government or financial incentives can I get as a builder or as an occupant of an HPB in India?

- **Subsidies:** Government subsidies for renewable energy systems like solar panels.
- **Tax Benefits:** Deductions on energy-efficient investments under the Income Tax Act.
- **Green Certifications:** Incentives like fast-tracked approvals and lower loan rates for IGBC or GRIHA-certified buildings.
- **Lower Interest Rates:** Concessions on loans for green or HPB projects from some banks.
- **State-Level Incentives:** Property tax rebates and increased FAR for meeting green standards.

12. Can I put the carbon savings due to my HPB on the carbon market?

Yes, you can put the carbon savings from your HPB on the carbon market. You'll need to verify the savings, register the credits with a recognised platform, and ensure compliance with relevant standards before selling or trading them. In specific intervention cases, methodologies will need to be developed and validated.

13. What kinds of technologies are needed to build HPBs?

Building HPBs involves using technologies such as sustainable envelope materials, high-performance windows, advanced insulation, efficient HVAC and electrical systems, smart controls, water-efficient systems, and building management systems. Together, these technologies improve sustainability and overall building efficiency.

14. Are HPBs heavy on digitisation?

Yes, HPBs embrace digitisation to enhance efficiency and sustainability. Through advanced digital technologies like smart controls, real-time monitoring, and building management systems, HPBs optimise building performance, creating a more responsive and efficient environment for businesses and building occupants.

15. Does the O&M of HPBs require a different type of facilities and operations staff?

Maintaining HPBs requires specialised facilities and operations staff. Staff need to be trained in energy management, building automation, and sustainable practices to effectively operate and maintain these systems.

16. What are some of the misconceptions about HPBs?

Misconceptions around HPBs include the notion that they are prohibitively expensive or overly complex to manage. In reality, they offer long-term savings and benefits beyond energy efficiency and can often be retrofitted into existing structures.

17. If they are so good, why isn't everyone building HPBs?

HPBs aren't more widespread because there are misconceptions about their higher upfront costs, require specialised knowledge for construction and maintenance, and involve perceived risks with adopting new technologies. Additionally, in some regions, there's limited market demand or awareness. The lack of strong regulations and incentives adds to this.

18. I am interested in occupying an HPB. What should be my next step?

- **Visit and Evaluate:** Schedule visits to potential HPBs to assess their features, performance, and how well they align with your priorities.
- **Understand the Costs:** Review the financial aspects, including rent or purchase costs, potential utility savings, and any incentives or benefits associated with building and occupying an HPB.
- **Consider Long-Term Benefits:** Weigh the long-term benefits of occupying an HPB, such as lower utility bills, improved IAQ, and alignment with sustainability goals.

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Infosys, a global leader in next-generation digital services and consulting and an early mover in setting and achieving ESG goals and transitioning to low-carbon operations, is India's largest builder of HPBs, with 30 million sq. ft. in current use.

Find out more about ASSURE at **factor4assure.iihs.co.in**

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