



Sustainability is one of the core values at Welspun World.

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What is your view on following sustainable practices in construction?

Welspun Enterprises Limited (WEL) is one of India's fastest growing infrastructure developer, with a diversified portfolio of projects in infrastructure and energy sectors. We specialise in development and operations of roads & highways and water & wastewater projects across various Public-Private Partnership (PPP) models in rural and urban parts of the country. In line with our diversification strategy, we have also invested in oil & gas exploration assets through a joint venture company, Adani Welspun Exploration Limited (AWEL) and have ventured into the sustainable areas of renewable energy and green hydrogen through our subsidiary, Welspun New Energy Limited.

Sustainable practices in construction are of paramount importance in today's world, reflecting increased awareness of environmental and social responsibilities. Embracing sustainable construction begins with adoption of environmentally conscious design principles involving the integration of eco-friendly materials, reuse of recycled resources and energy-efficient technologies.

One of the key aspects in sustainable construction is the utilisation of recycled or locally sourced materials to reduce carbon footprints associated with transportation and extraction. Moreover, the use of energy-efficient systems, renewable energy sources such as solar, bio gas power or green hydrogen to reduce reliance on grid power and smart building technologies, minimises the ecological impact of construction projects.

Sustainable construction also emphasises upon resource efficiency, waste reduction, and

responsible water management, fostering a circular approach to the construction process. By prioritising these practices, the construction industry would not only mitigate its environmental impact but would also contribute to the creation of healthier, more resilient communities that endure for generations to come.

What are the major challenges in adopting sustainable methods in construction?

There are several challenges in adoption of sustainable construction methods, hindering the industry's transition to more environmentally and socially responsible practices.

- **Lack of awareness and education:** Many stakeholders in the construction industry, including developers, contractors and even consumers, lack awareness of sustainable construction practices. In the absence of proper education and knowledge sharing, it's challenging to drive its widespread adoption.
- **Resistance to change:** Conventional construction methods are deep-rooted in the construction industry, and resistance to change can be a significant barrier. Construction professionals may be hesitant to adopt new technologies or methods when they perceive them as unproven or disruptive to established workflows.
- **Limited availability of sustainable materials:** The availability of eco-friendly construction materials may be limited, particularly in certain geographies. This scarcity many a times hinder the feasibility of sustainable construction works, as alternative materials might be difficult to source or economically non-viable.

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Dewas industrial area
water supply project,
Madhya Pradesh.

- **Cost factor:** One of the primary obstacles is the perception that sustainable construction is more expensive than traditional methods. The initial costs of eco-friendly materials and technologies can be little higher, deterring some stakeholders from investing in sustainable practices despite the potential long-term savings.
- **Fragmented supply chain:** The construction industry involves a complex network of suppliers and subcontractors. Coordinating sustainable practices across this fragmented supply chain is invariably challenging, as different entities may have varying levels of commitment towards sustainability.
- **Regulatory reforms:** Inconsistent or inadequate regulations regarding sustainable construction practices can impede its effective implementation across industry. Clear and enforceable policies are essential to incentivise and mandate sustainable practices, ensuring a level playing field for all the stakeholders.
- **Risk aversion:** Construction projects inherently involve multiple and unforeseen risks, and stakeholders may be reluctant to experiment with new and less familiar sustainable technologies or materials. Risk aversion tend to slow down the adoption of innovative and environment-friendly solutions.
- **Complexity of registration process:** Achieving and maintaining certifications for sustainable construction, such as LEED (Leadership in Energy and Environmental Design) is little complex process and needs relevant training across workforce involved in the construction works. The administrative burden may discourage some of the stakeholders from pursuing sustainable practices. Addressing these challenges requires

collaborative efforts from the industry players, policymakers, and the broader community to create a conducive environment that encourages and supports the transition to sustainable construction practices.

How is the company adopting sustainable construction practices in its projects?

Sustainability is one of the core values at Welspun World and we have embraced it in every business we are in, be it home textiles or pipe manufacturing at our Anjar plant, or the infrastructure business as Welspun Enterprises. At Anjar, Welspun draws raw waste water from adjoining towns of Gandhidham and Anjar to treat it to tertiary level for use in our manufacturing process there. Not only that, we further recycle and reuse this water to make it practically Zero Discharge plant and save as high as 30 million litre per day of fresh water for the use of drinking purpose to the population there.

In terms of our roads and water infrastructure construction projects, we encourage use of fly ash cement to the permissible extent. It not only improves durability of concrete by making it corrosion resistant, it also reduces requirement of water in concrete mixture. Use of pond ash is actively used in filling and embankment works in road projects.

One of the largest waste water treatment plant projects we are executing in Mumbai is designed using space saving technology with the lowest per MLD footprint. It comes up with bio-gas power generation to reduce nearly 30% of grid power to make the plant operation sustainable to a great extent. Moreover, 50% of the waste water treated out of this plant, i.e. 209 million litre per day, is going to be tertiary treated to make it good for allied purposes such as washing, flushing, gardening and construction etc. This will reduce a substantial load on fresh water utility in highly populated city of Mumbai.

What are the technologies adopted by the company towards sustainable construction practices?

Numerous innovative technologies in construction process are ever evolving to help sustainability such as Building Information Modelling (BIM), Green Building materials, Energy efficient HVAC systems, Renewable energy integration, Water efficient technologies, Waste



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Vertical landscaping and solar panels on Delhi Meerut Expressway.

management technologies, Advanced prefab and modular construction, and Green roofs and walls will bring in sustainability in construction.

Some the technologies currently deployed by Welspun Enterprises at various projects are:

- **Building Information Modelling:** BIM is a digital representation of the physical and functional characteristics of a building, which helps in efficient resource utilisation, reduces waste, and enhances overall project sustainability. We use it in one of our waste water treatment plant projects we are implementing to facilitate collaboration among various project stakeholders, optimising design and construction processes.
- **Renewable energy integration:** We have installed solar powered pumps at our ongoing water supply projects. We shall be using bio-gas generated out of waste water sludge digestion for power generation to alleviate grid power to great extent.
- **Smart building technologies:** IoT (Internet of Things) devices and motion sensor lighting solutions in smart building systems to optimise energy usage, lighting, and temperature control. These also support predictive maintenance, improving the efficiency and lifespan of building systems.
- **Water-efficient technologies:** Implementing water-efficient technologies, such as low-discharge fixtures in taps and flushing, rainwater harvesting systems, and greywater recycling and reuse are used to conserve water resources and promotes sustainable water management in construction.
- **Green roofs and walls:** Vegetation plantation along the walls and rooftops of various structures are used in various projects to provide heat insulation, reduce storm water runoff, and contribute to improved air quality, promoting both energy efficiency and

environmental sustainability.

- **Advanced prefabrication & modular construction:** Prefabricated, precast and modular construction techniques are used in few of our water supply project sites to reduce construction waste, improve efficiency, and minimise the overall environmental impact of a project. Off-site construction also helped us in better quality control and faster project delivery.

What is the way forward for making construction more sustainable? What are your future plans in this direction?

The way forward for making construction more sustainable would involve a holistic approach that encompasses various aspects of the industry, from design and procurement of materials to construction methods and operational practices. Here are key strategies being actively pursued by Welspun Enterprises for advancing sustainability in construction of our various projects:

- Foster integrated design processes that consider sustainability from the project's inception to optimise resource utilisation, energy efficiency, and environmental performance.
- Prioritise the use of sustainable and environmentally friendly materials, including recycled and locally sourced alternatives without compromising structural integrity.
- Implement energy-efficient technologies, such as smart building systems, renewable energy sources, and high-performance insulation with an aim to reduce energy consumption during the operational phase of projects.
- Embrace circular economy such use of fly ash cement in concrete, promoting recycle and reuse of waste water.
- Embrace innovative technologies and construction methods that enhance sustainability, to improve efficiency and reduce environmental impact.
- Involve local communities in the construction process and operation phase to contribute positively to the social and economic fabric of the community, promoting inclusivity and well-being.

By combining these strategies, the construction industry as a whole can move towards a more sustainable future, balancing economic growth with environmental and social responsibility. Continuous innovation, education, and collaboration are essential for achieving meaningful and lasting change. ■