



Confederation of Indian Industry



Adoption of sustainable practices toward green construction during design, execution, and operation of 100 MLD SWRO Desalination Plant

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SCOPE OF WORK

Description:

Engineering, Procurement and Construction (EPC)- Design, Build and Operation (DBO) of a **100 MLD Sea Water Reverse Osmosis (SWRO) Desalination Plant** by LARSEN & TOUBRO – TECTON JV.

Location	Dahej, Gujarat
Contract Type	EPC (DBO)
Contract Start Date	31 st July'2019
O&M Start Date	16 th June'2022
Client	Gujarat Industrial Development Corporation (GIDC)
Consultant	Tamil Nadu Water Investment Company Ltd (TWIC)



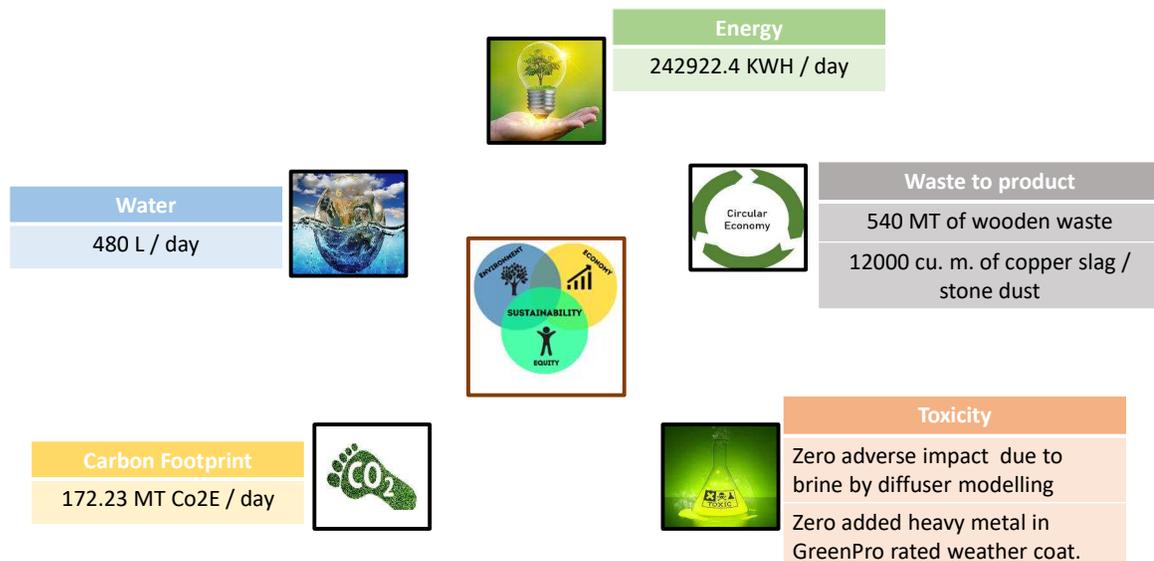
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Trigger Of Project

- GHGs are the major pollutant in the environment and the construction industry is considered 19% responsible for it. In developing countries like India, around 40% of the carbon footprint is generated by construction and buildings together due to various processes like lighting, cooling, and heating of building materials.
- Push towards inclusive growth and transition to a sustainable economy.
- L&T Limited has envisaged itself to be Carbon and Water Neutral by 2040.

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Tangible Benefits



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Intangible Benefits

- Promote Green Products.
- Attitude shift towards sustainable construction techniques.
- Decrease net carbon discharge.



- Promote circular economy.
- Provide market for green products.

- Natural lighting
- Health and Safety
- Optimum material utilization
- Awareness and trainings

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Project Photographs



Natural illumination and ventilation



Energy Recovery Devices

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Project Photographs



No Flush Urinals



LED light



AAC Blocks



Copper slag and stone dust



Battery Operated Vehicles



Weather Coat

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Project Photographs



Scrap Segregation and Repurpose



Sapling Plantation

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Replication Potential

- As requirement of Desalination Projects will keep on increasing to meet the water requirement of industry and people, replication potential is high during **construction and operation of desalination plant**.
- Other **large construction projects**, to reduce net carbon footprint.

Controls to replicate

- Periodic awareness trainings are provided to project teams to obtain sustainable practices and techniques during design, execution and operation.
- Sustainability reporting.
- Implementation of ESG SOP across all project sites.

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List Challenges faced and brief on countering

- Used to conventional construction practices – Regular awareness sessions, sustainability reporting, etc.
- High wind speed area - Glass panels installed to with stand 230 KMPH
- High cost of construction material.
- Lack of awareness of green products - Regular awareness sessions and trainings on Environmental Management.
- Lack of training of installation and maintenance – Demonstration and trainings.
- Unavailability of references of impact of brine discharge in Narmada estuary – CORMIX modelling study for diffuser design and location.

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Achieving national benchmarks/standards

- Rules / Regulations
 - Plastic and Solid Waste Management
- Renewable Power Target
 - The renewable power target of 175 GW by 2022 – GOI
- Net Carbon Neutrality
 - Net Zero GHG emission by 2070 as per COP26 – GOI
- SEBI vide Circular no. CIR/CFD/CMD/10/2015
 - Business Responsibility and Sustainability Report



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Prospect

- Feasibility of salt extraction from brine for upcoming salt manufacturing industry.
- Switch to renewable green energy.
- Vermicompost unit for food waste.
- Net Water Neutrality by 2035.
- Net Carbon Neutrality by 2040.



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Learnings from the project implementation

- Reduction in net carbon footprint of building and construction industry by applying project specific sustainable practices in place of conventional construction practices.

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