

World Bank Praises Saudi Arabia's Leadership in Low-Energy Desalination Technologies and Water Management

World Bank lauds Saudi Arabia's low-energy desalination innovations, spotlighting Shuaiba-5's record efficiency in sustainable water management.

RIYADH, SAUDI ARABIA, April 8, 2025 /EINPresswire.com/ -- In its latest publication, "Gulf Economic Update: Navigating the Water Challenge in the GCC – Paths to Sustainable Solutions," the World Bank has praised Saudi Arabia's remarkable progress in the water sector, especially in desalination. The report recognizes the Kingdom as a trailblazer in enhancing efficiency and driving down energy consumption.



Saudi Water Authority Logo

The Shuaiba-5 desalination plant, highlighted as the most sophisticated facility in the nation, has achieved a daily production capacity of 664,490 cubic meters. This state-of-the-art plant has raised the bar by operating at just 2.34 kilowatt-hours per cubic meter (kWh/m³), in stark contrast to the conventional plants' consumption of approximately 4 to 5 kWh/m³.

This extraordinary performance is the result of several innovative technical advancements, including:

Advanced reverse osmosis membranes: Engineered to operate at lower pressures and energy levels.

Energy recovery technologies: Designed to harness and repurpose the energy generated during the process.

Optimized pre-treatment systems: Which effectively mitigate fouling and prolong membrane life.

Additionally, incorporating renewable energy—primarily solar power—has significantly reduced

the dependency on traditional energy sources.

Beyond curbing operational expenses, these technological strides mark a decisive step toward environmental sustainability. In line with this direction, the Saudi Water Authority has launched an ambitious initiative to reduce energy usage in the water sector by 30% by 2030 relative to 2019 figures. This initiative leverages cutting-edge technology alongside progressive sustainable policies.

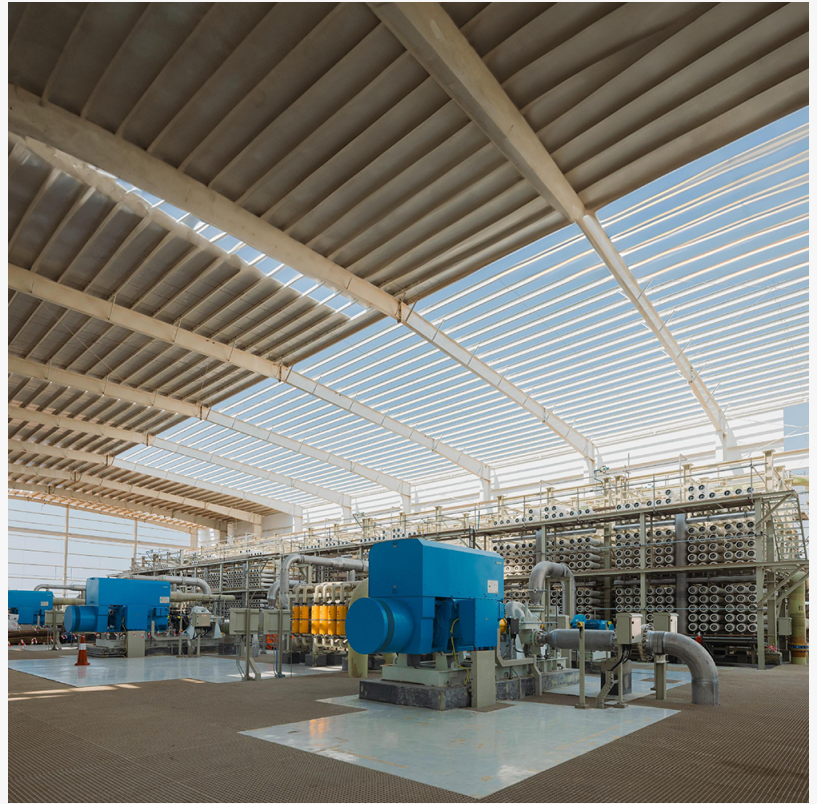
The success of the Shuaiba-5 plant not only sets a new global benchmark for addressing water scarcity but also reaffirms Saudi Arabia's leadership in pioneering innovative solutions to global water challenges.

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A glimpse of the cutting-edge reverse osmosis system at Shuaiba-5, showcasing advanced membranes and energy-efficient pumps.



An interior view of the plant's integrated desalination modules, highlighting energy recovery devices and innovative water treatment solutions.

This press release can be viewed online at: <https://www.einpresswire.com/article/800987307>

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