energy recovery™

CASE STUDY

The Challenge
Desalinated Water Powers China's Economic Growth

LOCATION
Yuhuan, Zheijang Province, China

PROJECT
Yuhuan Power Plant

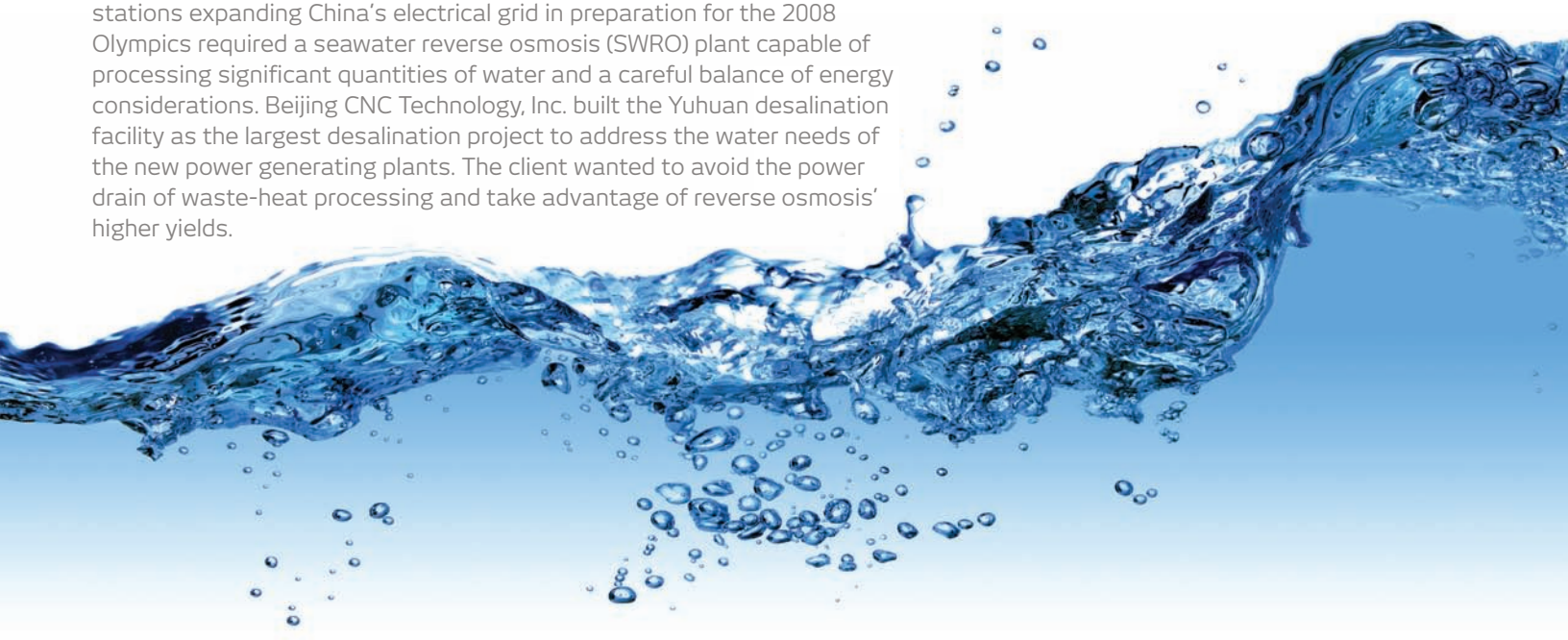
CAPACITY
36,000 m^3/day

ENERGY SAVINGS
US$ 2.7 million or 27 million kWh/year*

CO2 SAVINGS
16,000 metric tons/year**

As electricity production increases in China to keep pace with the nation's rapid economic growth, power providers are caught in a bind: energy generation requires processed water, but desalinating seawater to feed power plants requires significant energy. The 4,000 MW power stations expanding China's electrical grid in preparation for the 2008 Olympics required a seawater reverse osmosis (SWRO) plant capable of processing significant quantities of water and a careful balance of energy considerations. Beijing CNC Technology, Inc. built the Yuhuan desalination facility as the largest desalination project to address the water needs of the new power generating plants. The client wanted to avoid the power drain of waste-heat processing and take advantage of reverse osmosis' higher yields.

* Energy savings estimates based on China's power cost of $0.10/kWh
** Based on Energy Recovery's proprietary Power Model analysis



The Innovation Solution

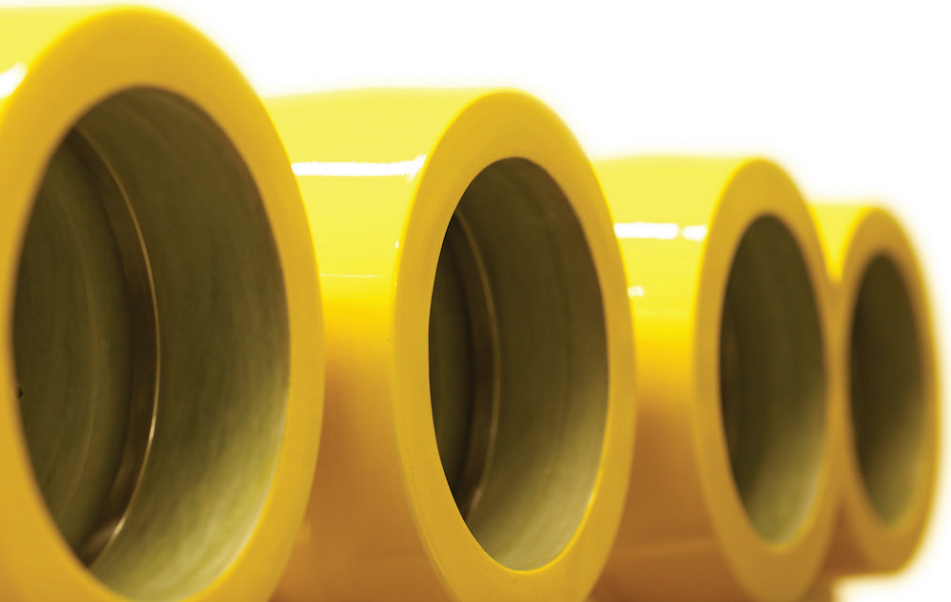
PX Pressure Exchanger® 220

In their search for a SWRO solution that saves energy and money, the build team of East China Electric Power Design Institute Ministry (ECEPDI) and Beijing CNC specified Energy Recovery PX-220s for Yuhuan based on the proven high efficiency and two-year trouble-free track record of the PX-220 installation at the Dalian Petrochemical Plant. The PX Pressure Exchanger® solution created for Yuhuan features six trains processing 6,000 m3/day, each with six PX-220s, for a total of 36,000 m3/day.

The Result

Significant Energy and Cost Savings Drive Rapid Adoption

Energy Recovery's Yuhuan PX configuration, which has operated since 2006 without issue, achieves real energy transfer efficiencies up to 97% and has cut the energy required for Yuhuan's facility by 68%. Using the PX device has created an economically viable way for China's residents and industries to benefit from the new electrical power because the PX technology recovers enough energy at Yuhuan to reduce power costs by US$ 2.7 million per year. . This reduction has cut the carbon footprint of the plant by almost 260 tons of carbon dioxide each year. Because of the success at Yuhuan and of the China Petrochemicals Dalian Plant, China leads the world in adoption of efficient PX solutions, with more than 90% of SWRO installations in China using Energy Recovery's technology.

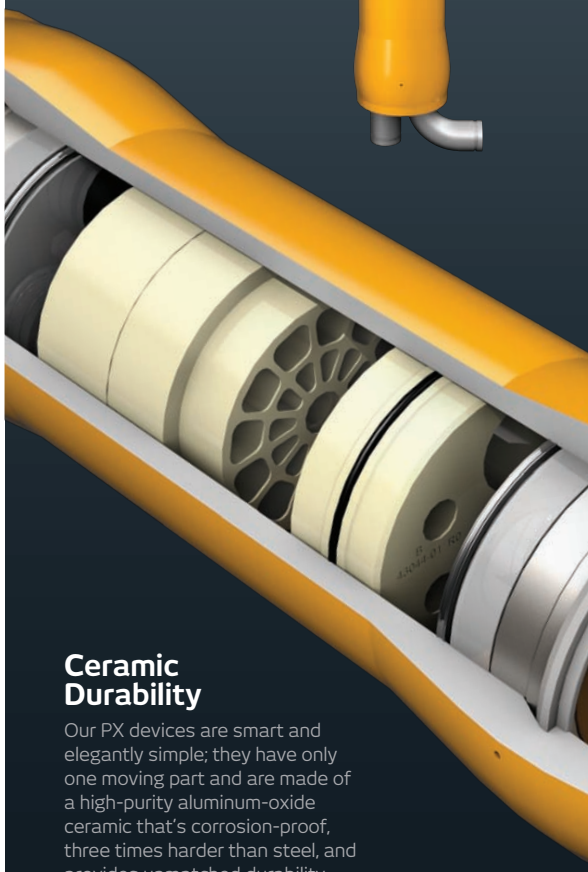


WHERE DESIGN MEETS ECONOMICS

After a quarter of a century, we're still raising the bar with innovative desalination solutions. Our flagship PX® isobaric technology is the most efficient and reliable solution on the market in energy recovery for desalination.

PX S Series®

- Designed for any size reverse osmosis desalination plant
- Delivers 96.8% efficiency
- Scalable solution



Ceramic Durability

Our PX devices are smart and elegantly simple; they have only one moving part and are made of a high-purity aluminum-oxide ceramic that's corrosion-proof, three times harder than steel, and provides unmatched durability.

About Energy Recovery Energy Recovery Inc. (NASDAQ: ERII) technology harvests the power of pressure from high-pressure fluid flows and pressure cycles. Through collaboration with industry, Energy Recovery helps make industrial processes within water, oil & gas, and chemical industries more profitable and environmentally sustainable. Headquartered in the San Francisco Bay Area, Energy Recovery has offices in Madrid, Shanghai, and Dubai. For more information, visit energyrecovery.com

FLUID INNOVATORS™

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