



CASE STUDY

The Challenge

Industrial Water Needs Restrained by Expensive Power



LOCATION

Istanbul, Turkey

PROJECT

Çolakoglu Metalurji A.S.

CAPACITY

9,600 m³/day

ENERGY SAVINGS

\$US 800,000 or 6.2 million kWh/year*

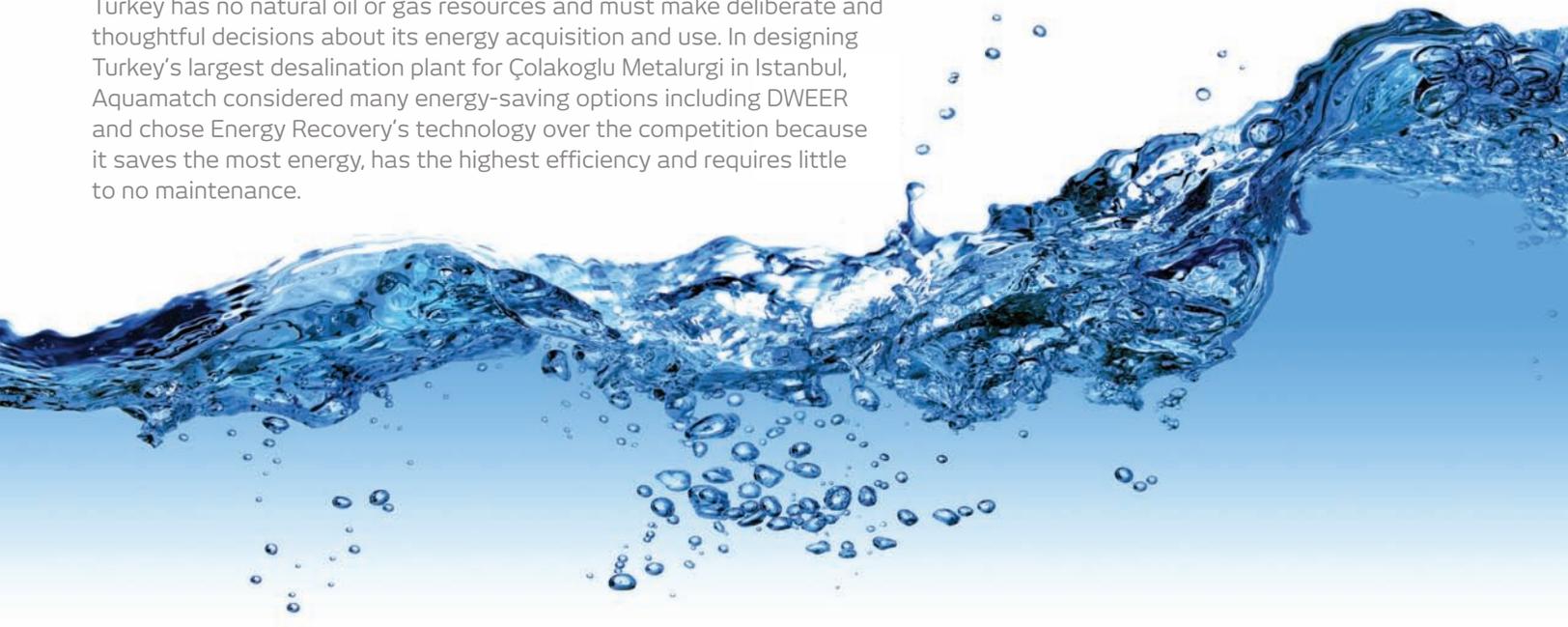
CO₂ SAVINGS

3,627 tons/year**

The quality and availability of freshwater supplies in Turkey are unpredictable. This is because rainfall variations, geographical irregularities, urbanization, industrialization, and agricultural modernization all complicate water use for human, industrial, and agricultural purposes. Turkey has no natural oil or gas resources and must make deliberate and thoughtful decisions about its energy acquisition and use. In designing Turkey's largest desalination plant for Çolakoglu Metalurji in Istanbul, Aquamatch considered many energy-saving options including DWEER and chose Energy Recovery's technology over the competition because it saves the most energy, has the highest efficiency and requires little to no maintenance.

* Energy savings estimates based on Turkey's power cost of \$0.13/kWh

** Based on Energy Recovery's proprietary Power Model analysis



The Innovation Solution

PX Pressure Exchanger® 180

The isobaric energy-recovering PX technology captures and recycles energy. This innovation reduces the energy required for desalination, lowers capital costs by complementing a smaller pump, decreases the carbon footprint of desalination processing, and offers maintenance-free operation for the life of the plant. Energy Recovery's PX® device made the most financial and environmental sense for the plant since it offered Aquamatch the highest return on investment for the life of the plant.



The Result

Energy Savings Mean Viable Independent Water Source

The considerable energy saved using PX® technology means Aquamatch is able to supply the Çolakoglu Metalurji Company with more affordable process water, leaving freshwater resources available to residents. Increasingly, industrial customers seek out Energy Recovery for these benefits: companies require an independent water source that does not disrupt municipal supplies and that minimizes cost and energy use. In the case of Istanbul's SWRO plant, Aquamatch is making economic growth possible by reducing the plant's energy needs by more than 6 million kWh of energy per year. This has lowered the annual cost by nearly \$US 800,000 each year for the seven years the PX® solution has been operating in Turkey.

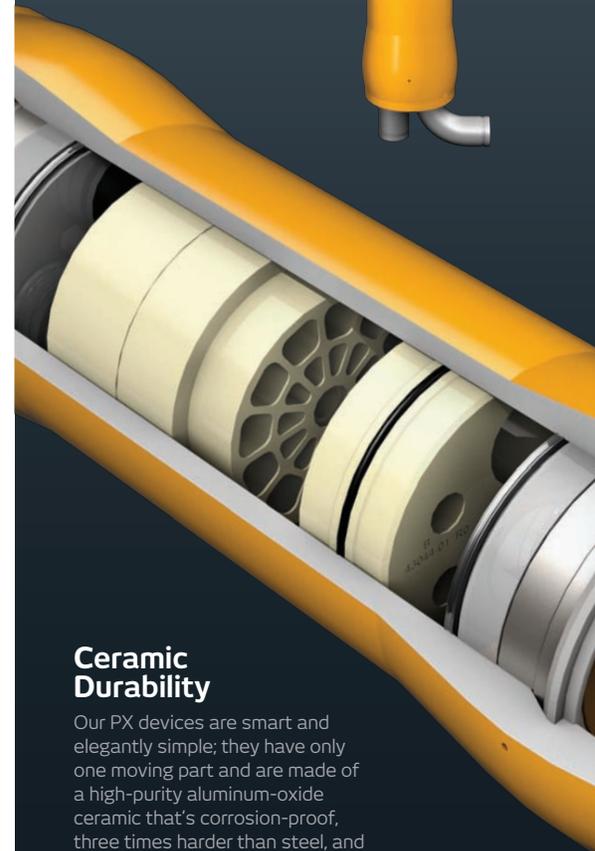
EPC contractors all gave the same answer when Aquamatch and Çolakoglu Metalurji asked for information on building an environmentally friendly and efficient desalination plant: Energy Recovery.

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

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MK-W040012-R00

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