

# Driving Industrial Sustainability Delivering Value in Fluid-Flow Processes

November 24, 2020

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**NASDAQ: ERII** 

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We develop and manufacture the PX<sup>®</sup> Pressure Exchanger<sup>®</sup>, a technology platform that reduces waste, improves operational efficiencies and drives significant cost-savings for our customers



Our PX revolutionized seawater reverse osmosis desalination (SWRO), reducing energy costs by up to 60%<sup>1</sup>, helping to make desalination affordable worldwide

We are working actively to expand our PX technology to other markets, including industrial wastewater

## **Financial Snapshot<sup>2</sup>**

## Product Rev Growth

Avg. Rev. Growth '15-'19	17%
2020 (estimated)	25%
2021 (estimated)	up to 10%
2022 (estimated)	up to 25%
2020 YTD Gross Margin	70%
Market Cap	~\$500M
Cash & Securities	\$106M
Debt	

<sup>1</sup>Energy Recovery estimate; <sup>2</sup>Growth and Gross Margin from Product Revenue only





<sup>1</sup>Energy Recovery estimates. Assumes all deployed devices are in operation



# Anatomy of a Pressure Exchanger

Transfers energy from high-pressure to low-pressure fluids through continuously rotating ducts with only one moving part (the rotor)



- We drive benefits by applying this technology to industrial fluid-flow systems:
  - Decreased energy use
  - Reduced operating costs
  - Lower emissions
- Pressure exchanger technology is versatile can handle a range of pressures and fluids
- The PX for SWRO was the initial product application; we are now incubating new solutions on this technology platform



## Pressure Exchanger Technology Operating Range



# HOW PRESSURE EXCHANGER TECHNOLOGY REDUCES ENERGY CONSUMPTION



### Pressure is exchanged continuously as the rotor spins at high speed



# Flagship PX device recycles energy, reducing operational costs and emissions in SWRO facilities



<sup>1</sup>Ocean or other geological mass



# OUR PX PLATFORM HAS COME TO DOMINATE LARGE SCALE SWRO DESALINATION



<sup>1</sup> Mega Projects produce 50,000 cubic meters or more of water per day; <sup>2</sup>2020 Reported Gross Margin



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Our growth roughly tracks overall SWRO desal capital spend

<sup>1</sup>DesalData Estimates; <sup>2</sup>2020-2022 – ERI Estimates



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# FINANCIAL TIMES No end to crisis in sight as drought grips India's Saudi Water Partnership Company has released its Chennai Seven-Year Statement for 2020-26 The Washington Post The New York Times Flash Drought in the South Africa's largest dam powers



South America ravaged by unprecedented drought and fires

Brings Record Heat Without Rain

dreams of prosperity in Ethiopia and fears of hunger in Egypt

# n p r

Alaska Villages Run Dry And Residents Worry About A 'Future Of No Water'



Australia prepares for 'Day Zero' - the day the water runs out





**60%** 

The world will only have 60% of the water it needs by 2030



# >2B People

1/4 of all people live in high water-stress territories Potable water demand expected to increase 30% by 2050

30%



# **26%**

Global population is expected to grow from 7.7B to 9.7B in 2050

All statistics – United Nations



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SWRO Eclipsed Thermal Desalination as Technology of Choice in the 2000s

- Existing thermal capacity should eventually be replaced by SWRO without impacting base demand for water
- SWRO is more efficient, less energy intensive and far more economical
  - \$1B SWRO retrofit of two Saudi thermal plants will generate OPEX savings of \$360M/year<sup>1</sup>



# 23M cubic meters of thermal capacity equivalent to approximately \$0.5 Billion in PX sales<sup>2</sup>

<sup>1</sup>DesalData; <sup>2</sup>ERI Estimate



# LEVERAGING PX TECHNOLOGY FOR GROWTH AND DIVERSIFICATION BEYOND DESALINATION



- Industrial Wastewater, Beverages, Chemicals, Mining – any industry with high pressure fluid flows
- Clean Tech: focus on reducing energy consumption in industrial processes

- Commercial in 24 months
- Cash neutral run rate in 36 months
- → Cap R&D Expense to limit size and scope of R&D projects: 15-20% of revenue in 2021
- Discipline: Maintain rigorous commercial hurdles for ROI, Gross Margin, and Timelines



# ZERO LIQUID DISCHARGE (ZLD) - ULTRA HIGH-PRESSURE RO FOR INDUSTRIAL WASTEWATER



- India and China have mandated ZLD requirements aimed at reducing industrial wastewater discharge and reusing water
- We can lower the high cost of ZLD processes by recovering up to 60% of wasted energy depending on system conditions with 93%+ efficiency
- We believe RO could supplant thermal as the prevalent technology, much as it has in SWRO due to superior efficiency
- o First commercial PO for Ultra PX received October 2020 for a project in India



Applying UHPRO to ZLD treatment reduces thermal requirements at the end of the process



# DISCIPLINED FOCUS DRIVING TOP AND BOTTOM-LINE GROWTH



<sup>1</sup>2020 – 2025 are estimated projections; <sup>2</sup>Excluding Schlumberger License and Development Revenue



# **ESG AT ENERGY RECOVERY**



To download the full report, please visit <u>bit.ly/ERI-ESG</u>







- First Environmental, Social, Governance (ESG) report issued Sept 2020
  - Aligned with SASB and GRI sustainability reporting frameworks; select United Nations Sustainable Development Goals
- Our products address climate change, sustainable industrialization, energy efficiency, water scarcity
- Reflects our ongoing commitment to becoming a more sustainable, resilient business





# Thank You

# **CONTACT US**



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