

# Driving Industrial Sustainability

## Delivering Value in Fluid-Flow Processes

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Joshua Ballard, Chief Financial Officer, Energy Recovery

## FORWARD LOOKING STATEMENT

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This presentation contains forward-looking statements within the “Safe Harbor” provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements in this report include, but are not limited to, statements about our expectations, objectives, anticipations, plans, hopes, beliefs, intentions, or strategies regarding the future. Forward-looking statements that represent our current expectations about future events are based on assumptions and involve risks and uncertainties. If the risks or uncertainties occur or the assumptions prove incorrect, then our results may differ materially from those set forth or implied by the forward-looking statements. Our forward-looking statements are not guarantees of future performance or events. Words such as “expects,” “anticipates,” “believes,” “estimates,” variations of such words, and similar expressions are also intended to identify such forward-looking statements.

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# ENERGY RECOVERY SNAPSHOT



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

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

## WE HAVE A GROWING ESG STORY

**\$2.0B** saved for customers on energy expenses<sup>1</sup>

**25k** PXs installed worldwide

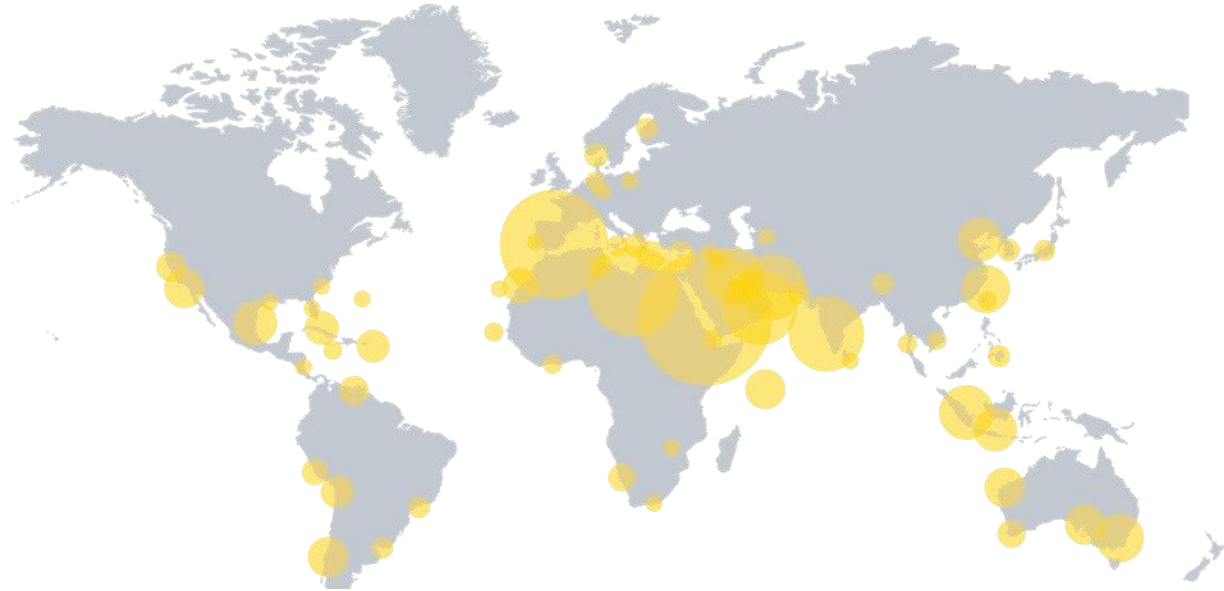
**90%** product revenue from energy-efficiency related products

**12.4M** metric tons emissions avoided due to PXs\* = >2.5 million vehicles removed from the road

**96%** PXs use components made from recycled materials

**100%** Of waste metal from our operations is recycled

**Global Installations of Energy Recovery Water Products**

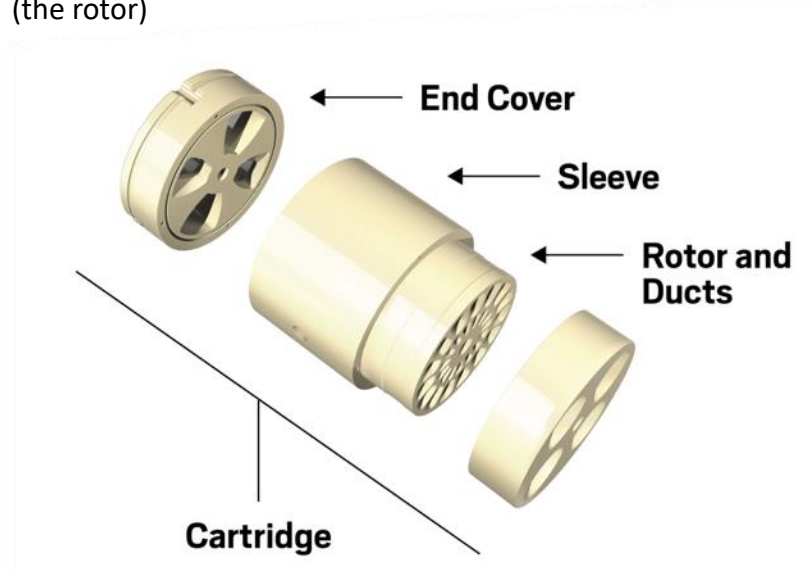


<sup>1</sup>Energy Recovery estimates. Assumes all deployed devices are in operation

# PRESSURE EXCHANGER TECHNOLOGY PLATFORM

## 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

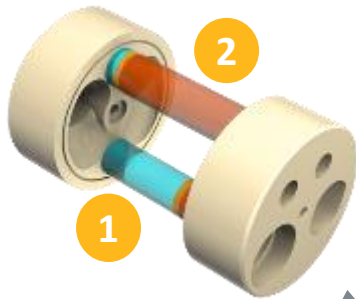
## Pressure Exchanger Technology Operating Range



# HOW PRESSURE EXCHANGER TECHNOLOGY REDUCES ENERGY CONSUMPTION

## Sealed Phase

Two fluids on opposite sides of PX; rotor duct is sealed, isolating high, low pressure fluid streams



1. Low pressure driven fluid that will be pressurized and sent into system
2. High pressure motive fluid that will pressurize low pressure fluid

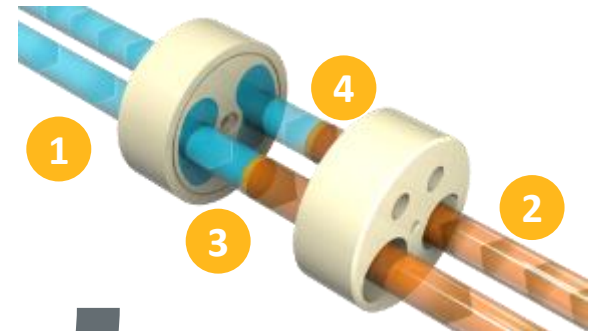
Rotor duct rotates to pressure exchange phase



Rotor duct rotates to sealed phase

## Pressure Exchange Phase

1. Low pressure driven fluid enters the rotor duct
2. High pressure motive fluid enters the rotor duct



3. Low pressure driven fluid contacts motive fluid, expelling it at low pressure
4. High pressure motive fluid contacts driven fluid, expelling it at high pressure

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

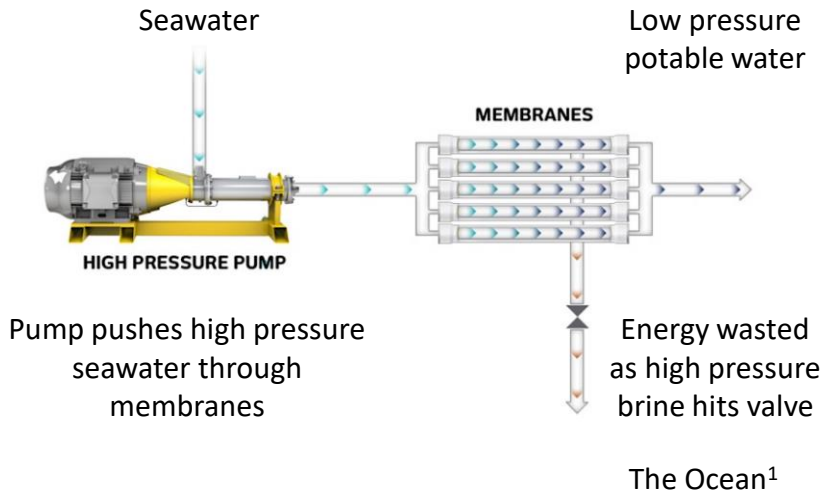


# PRESSURE EXCHANGER TECHNOLOGY IN ACTION: PX PRESSURE EXCHANGER FOR SWRO

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

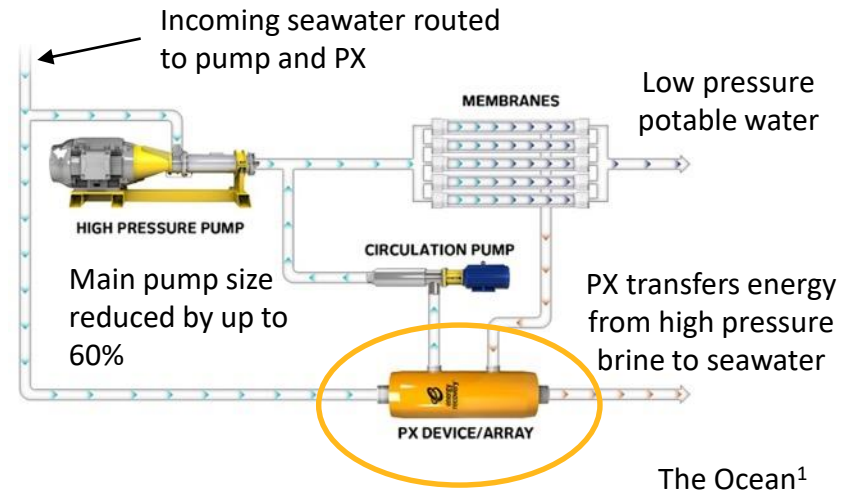
### Without Energy Recovery Devices (ERDs)

Approx. 60% of energy wasted during SWRO prior to implementation of ERDs



### With PX Pressure Exchanger

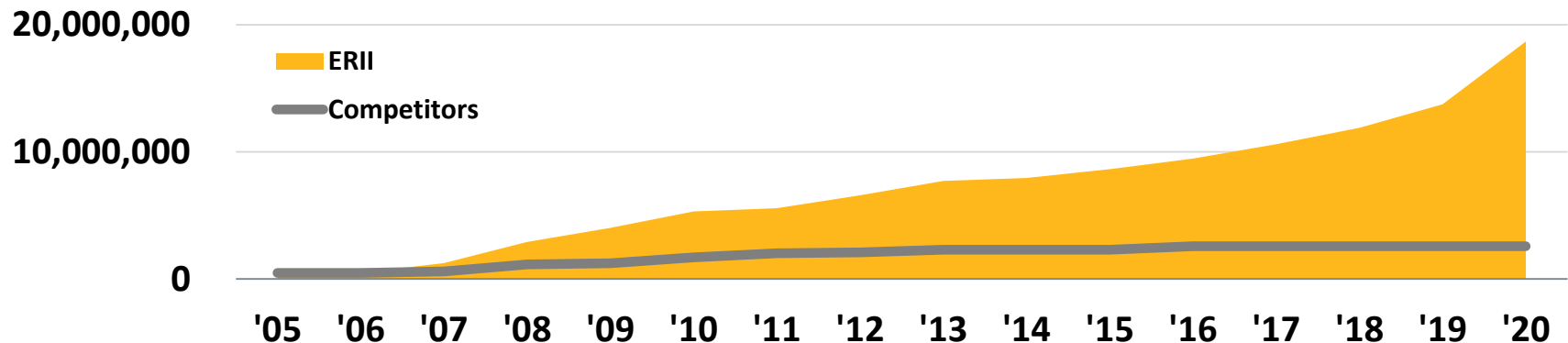
PX lowers energy consumption by up to 60%



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

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

## Cumulative Won Mega Project<sup>1</sup> Desal Capacity (m<sup>3</sup>/day)



## Technology Strength = High Margin

**70%** ERII Gross Margin<sup>2</sup>

**25%** Russell 2000 Industrials

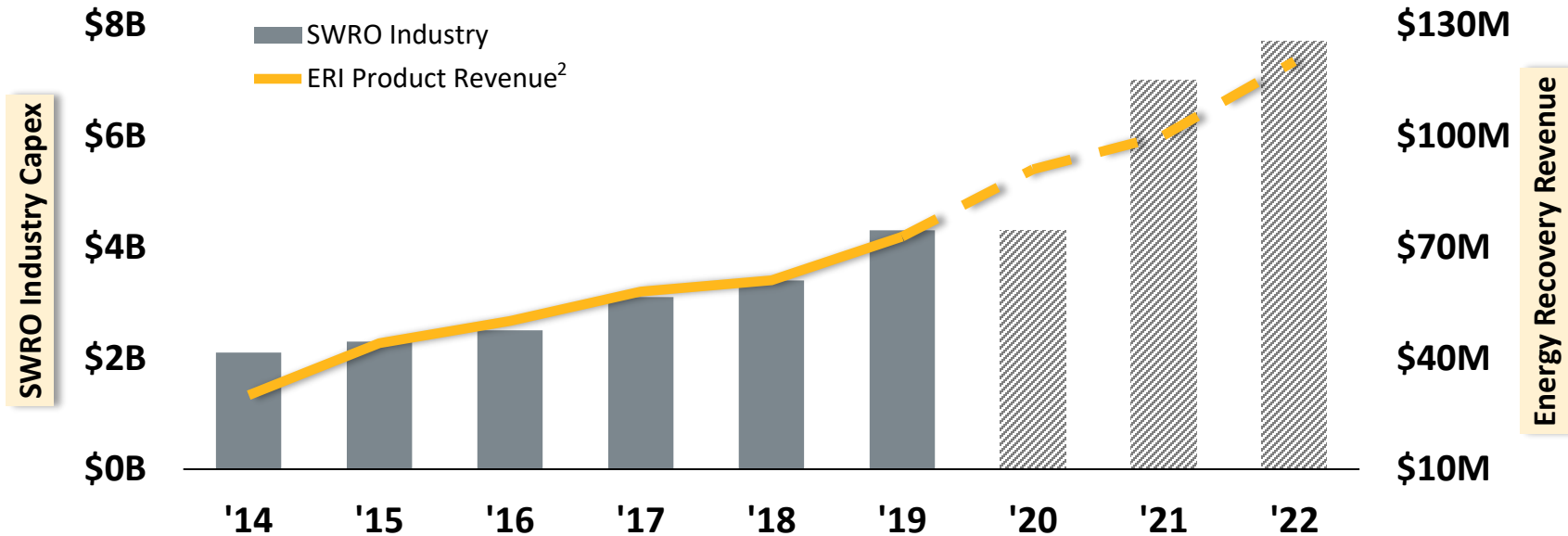
**Our ceramics PX Pressure Exchanger designed for a 25-year life, needs no maintenance and has up to 98% efficiency – unrivalled quality that translates into high profitability**

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



# NEW WATER DEMAND AND TECHNOLOGY SHIFT DRIVING SECULAR SHIFT IN SWRO

## Annual SWRO Capital Expenditures<sup>1</sup>



Our growth roughly tracks overall SWRO desal capital spend

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

## FINANCIAL TIMES

No end to crisis in sight as drought grips India's Chennai



Saudi Water Partnership Company has released its Seven-Year Statement for 2020-26

## The Washington Post

Africa's largest dam powers dreams of prosperity in Ethiopia – and fears of hunger in Egypt



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

## The New York Times

*Flash Drought in the South Brings Record Heat Without Rain*



South America ravaged by unprecedented drought and fires



Alaska Villages Run Dry and Residents Worry About a 'Future of No Water'

# EXISTING FRESH WATER SUPPLIES WILL LIKELY NOT MEET FUTURE DEMAND



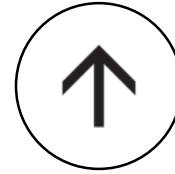
**60%**

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



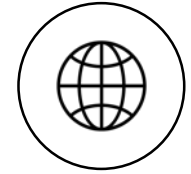
**>2B People**

1/4 of all people live in high water-stress territories



**30%**

Potable water demand expected to increase 30% by 2050



**26%**

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

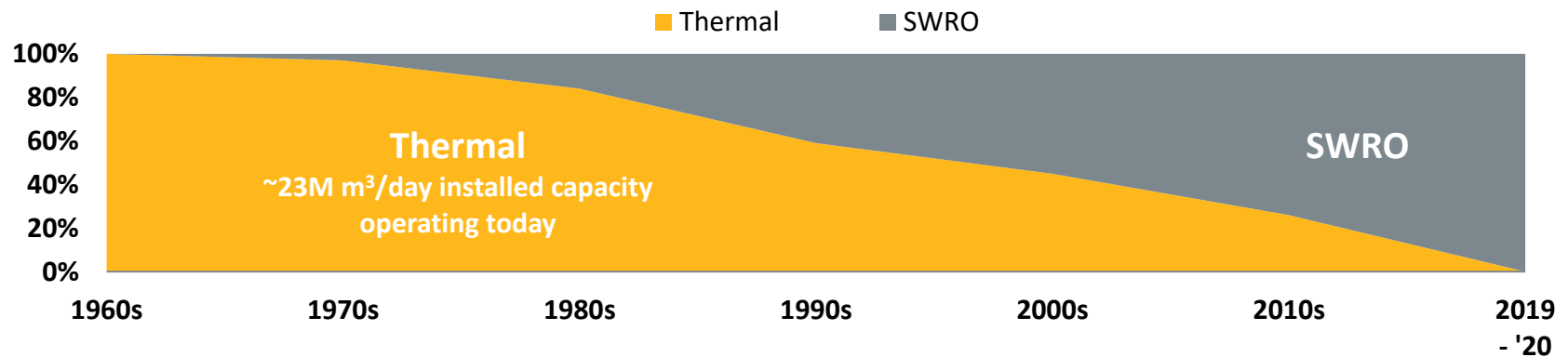
*All statistics – United Nations*

# THERMAL DESALINATION TECHNOLOGY SHIFT TO RO UNDERPINNING MARKET GROWTH

## 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>

## Thermal vs. SWRO<sup>1</sup> (% of Annual Plant Installations)



**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

*Ultra High-Pressure RO*

*Zero Mixing*

*VorTeq / O&G*

*Other Future Industries*

## Enabling Technologies

- Incremental R&D: widen technical aperture of highly efficient PX technology platform
- Shorter R&D cycle, lower risk
- Unlock variety of new industries
  - Each industry may be smaller, but in aggregate could transform ERI
  - Industrial Wastewater, Beverages, Chemicals, Mining – any industry with high pressure fluid flows
- Clean Tech: focus on reducing energy consumption in industrial processes

## Transformative Technologies

- Potential to transform an industry, as we did in Desalination, and/or transform Energy Recovery
- Longer R&D cycle, higher risk
- Must meet financial and time-based hurdles
  - 20%+ ROI
  - 50%+ Gross Margin
  - Commercial in 24 months
  - Cash neutral run rate in 36 months

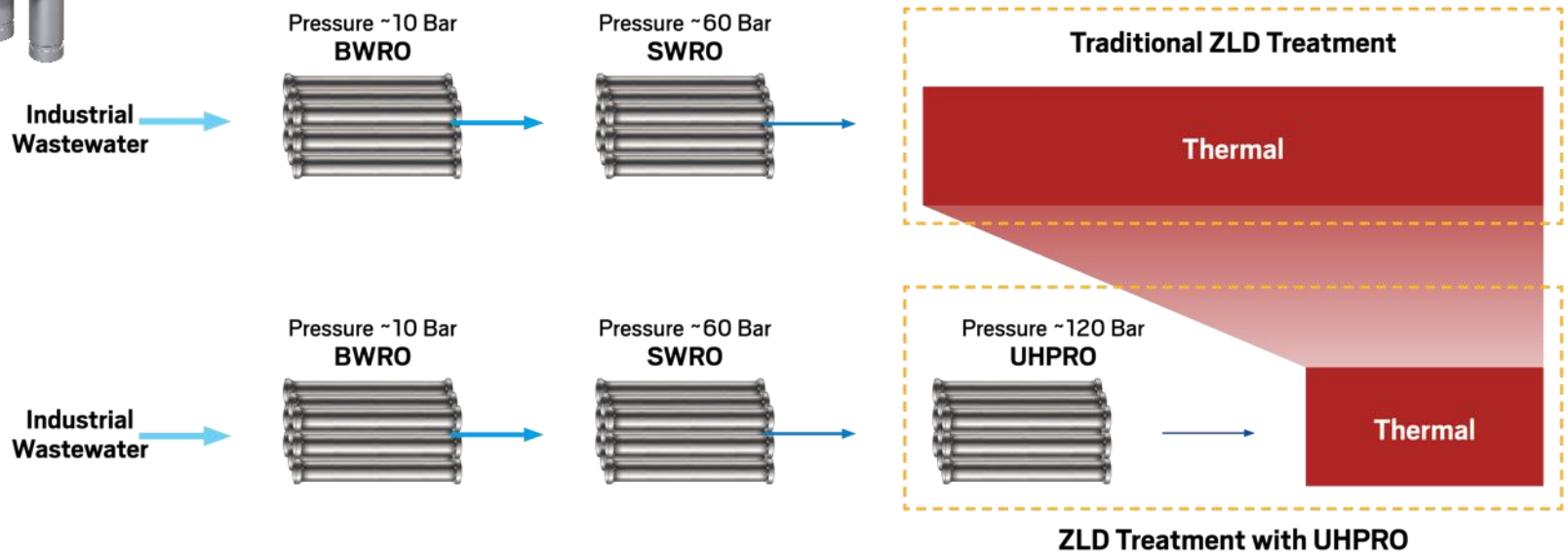
→ **Cap R&D Expense to limit size and scope of R&D projects: 15-20% of revenue in 2021**

→ **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
- 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*

## WE ARE APPLYING OUR PX EXPERTISE TO OIL & GAS

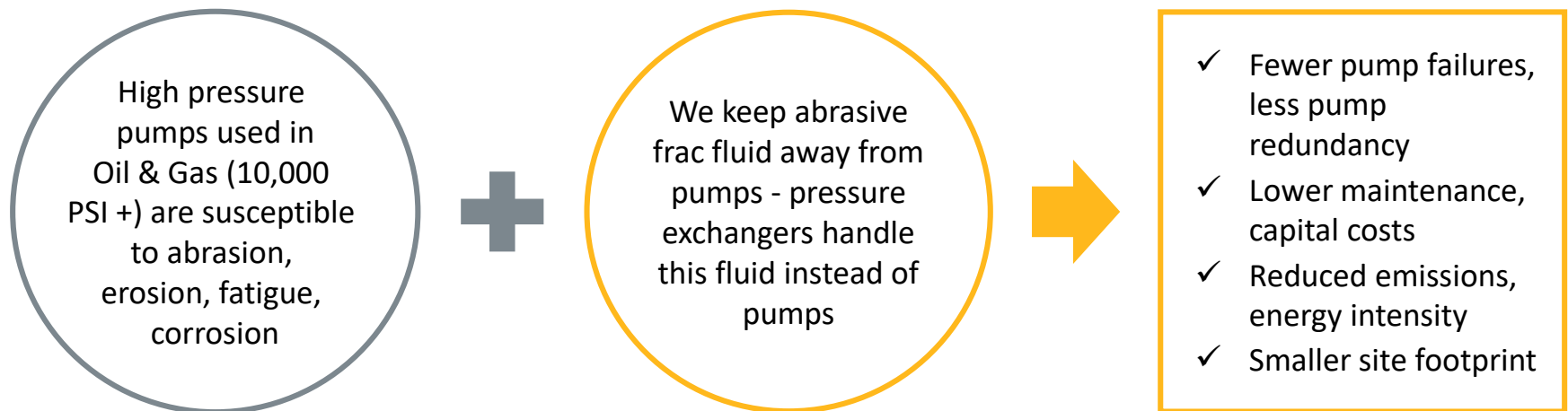
### Water and Oil & Gas have similarities

- High pressure fluid-flow environments
- Potential to transfer pressure energy from a high-pressure fluid to a low-pressure fluid
- Opportunities to eliminate waste in system – increase efficiencies and decrease costs

### Leveraging Water experience to develop Oil & Gas solutions

- Advanced fluid & structural mechanics, bearing performance, and material expertise of R&D
- Precision manufacturing coupled with enhanced experimental capabilities
- In-house simulation tools to model performance and results

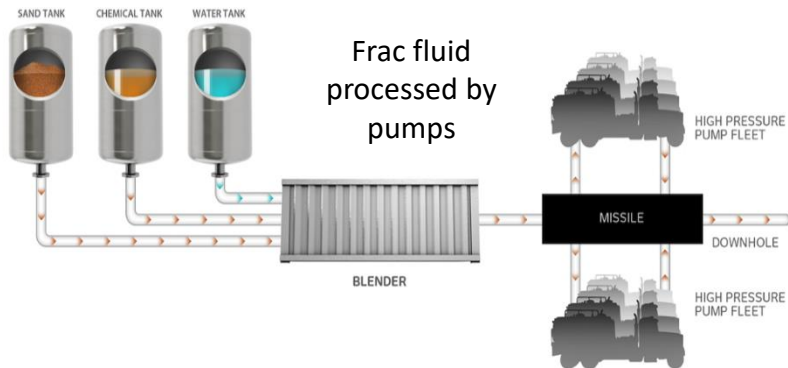
### Our Solutions Can Protect Pumps





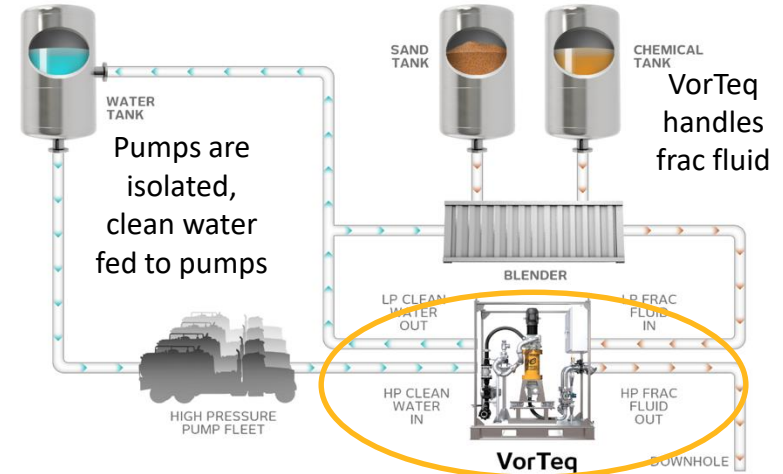
# VORTEQ PROTECTS HIGH PRESSURE PUMPS, REDUCES COSTS

## Status Quo



- Pumps handle frac fluid (water, chemicals and sand)
- Pumps quickly destroyed

## With VorTeq



- Capital savings (\$1M - \$2M<sup>1</sup>) – less pump redundancy = less waste
- Maintenance savings (\$3M - \$4M<sup>1</sup>)

<sup>1</sup>Energy Recovery Estimates – savings measured in pumps/year pumps/fleet

## WE MUST PASS CLEAR HURDLES TO COMMERCIALIZE THE VORTEQ

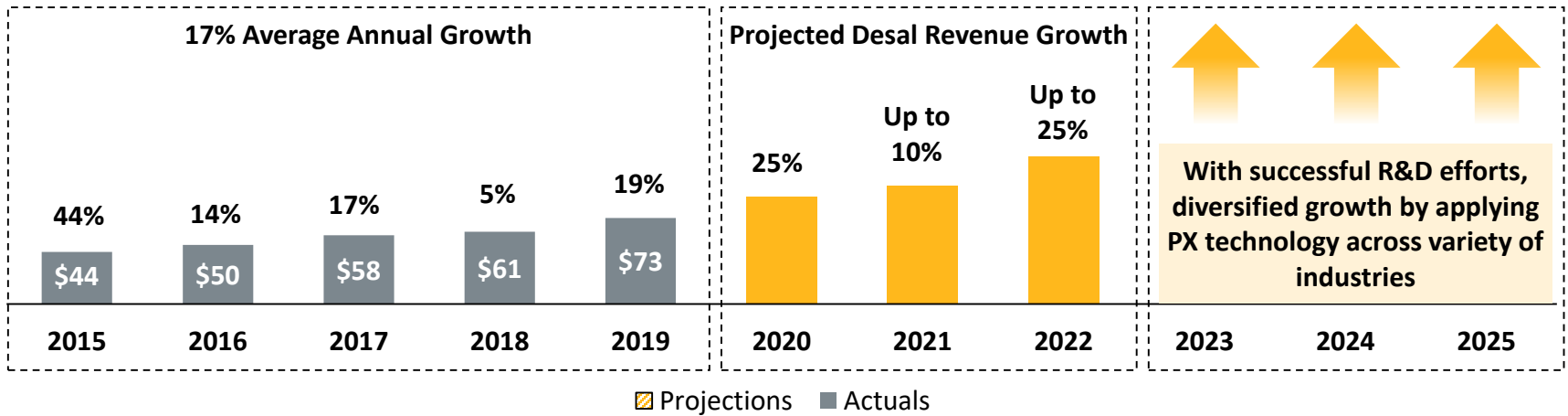
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- Three critical hurdles
  - Successfully frac 2-3 live wells
  - Proof of customer value proposition
  - Optimize cartridge life before repairs or replacement
    - ✓ Highest operational cost to ERI
- Must pass commercialize by June 2021, or cease R&D efforts
- Spend is already coming down and will decrease substantially in 2021 as we commercialize or cease investing

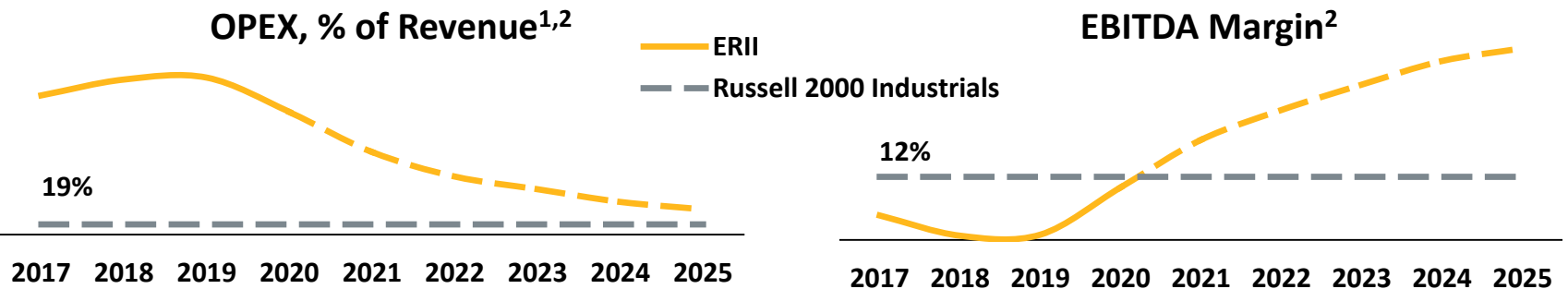


# DISCIPLINED FOCUS DRIVING TOP AND BOTTOM-LINE GROWTH

## Drive Diversified PX Top Line Growth<sup>1</sup>



## Maintain Gross Margin and Manage OPEX to Drive EBITDA



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



To download the full report, please visit

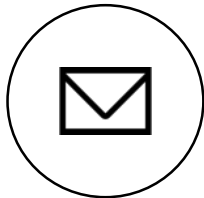
[bit.ly/ERI-ESG](https://bit.ly/ERI-ESG)



- 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





**James Siccardi, VP, Investor Relations**

+1.832.474.7628 | Mobile

[jsiccardi@energyrecovery.com](mailto:jsiccardi@energyrecovery.com)

[ESG@energyrecovery.com](mailto:ESG@energyrecovery.com)

*(for ESG inquiries)*



**Energy Recovery, Inc.**

1717 Doolittle Drive

San Leandro, CA 94577, USA

**energyrecovery.com**