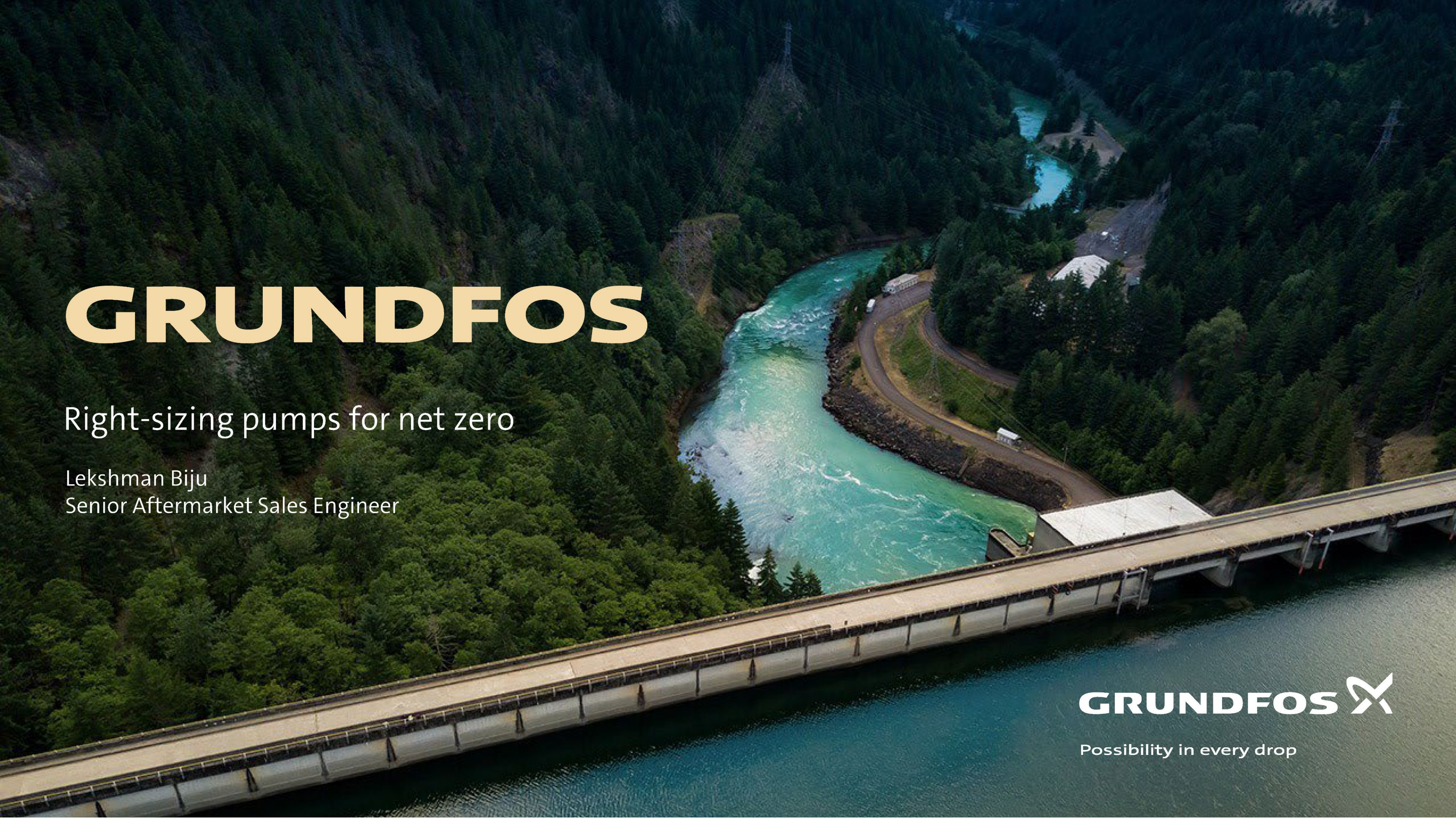


An aerial photograph of a large concrete dam spanning a river. The river flows from the top of the frame, through a dense forest, and then turns to the right, creating a sharp bend. The water in the bend is a vibrant turquoise color, indicating rapids or a change in the riverbed. The surrounding landscape is covered in lush green trees. In the bottom right corner, the Grundfos logo and tagline are visible.

GRUNDFOS

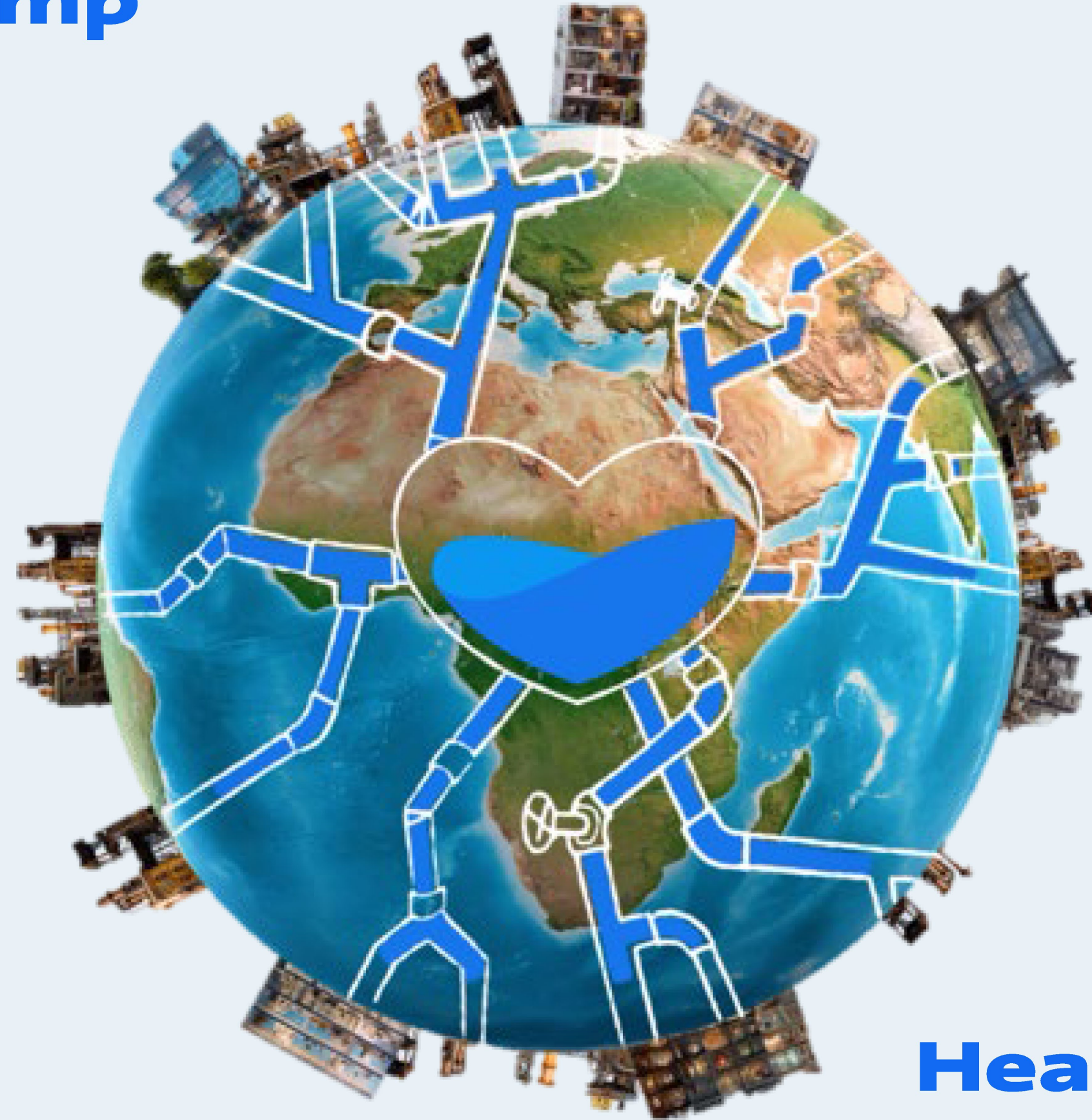
Right-sizing pumps for net zero

Lekshman Biju
Senior Aftermarket Sales Engineer

GRUNDFOS 

Possibility in every drop

What is a Pump



Heart of a Building



OPTIMISING SYSTEMS Across AMERICAS

Building Surveyed

1500+

Monitoring

11+

YEARS



Energy Check & Audits

Discover your
energy-saving
potential

Life cycle cost
overview

Potential
energy savings
identified

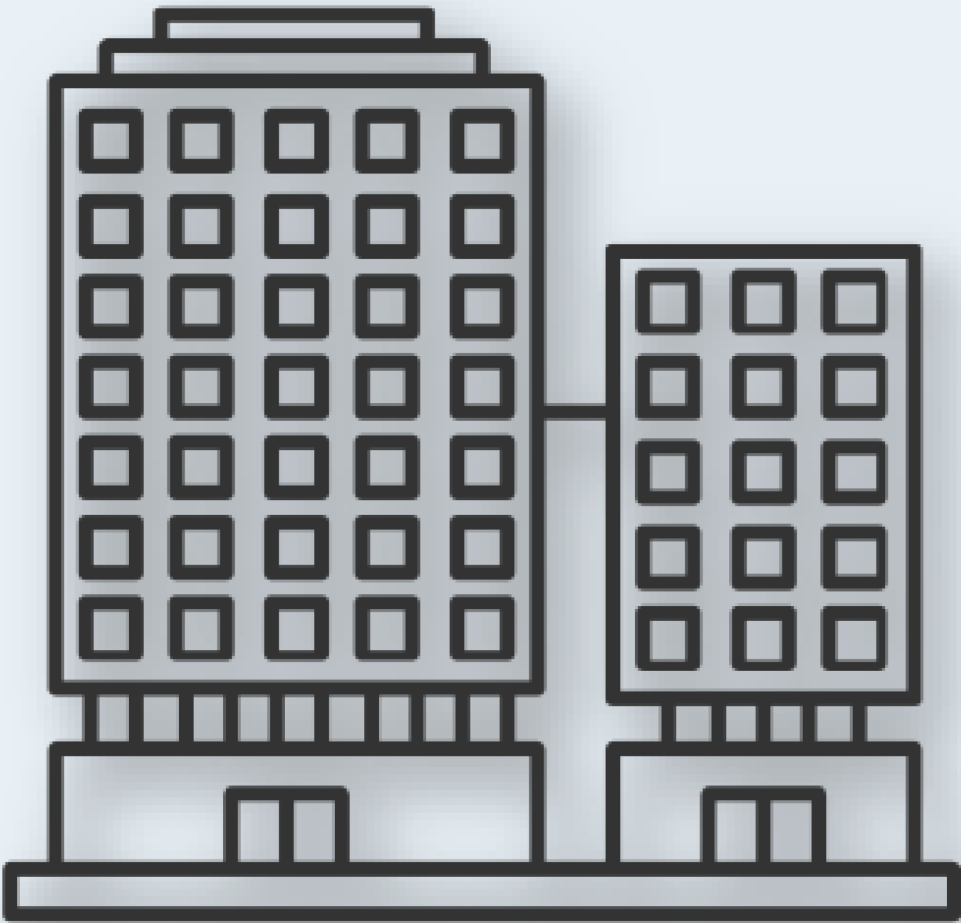
Informed
decisions



Proactive Retrofit: Right Sizing

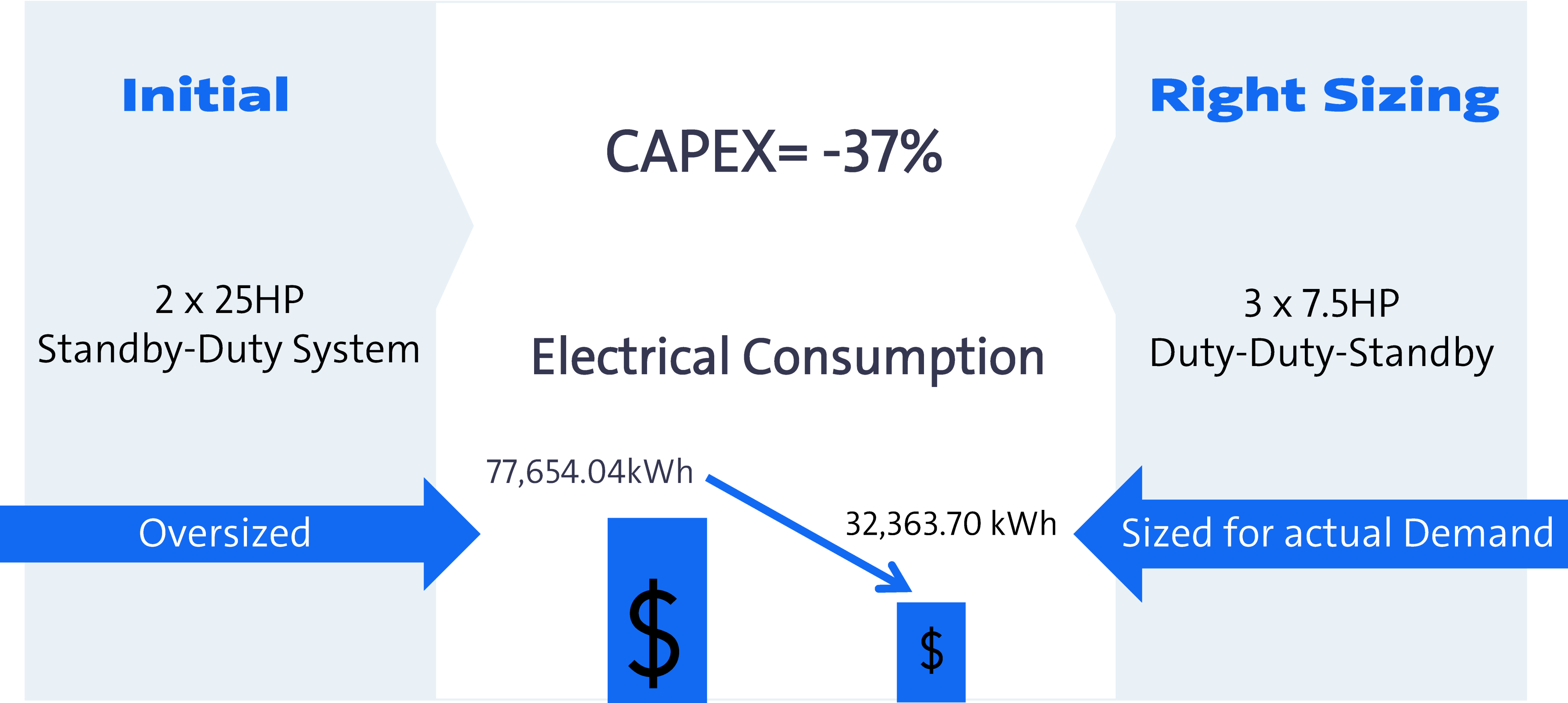


MIN FLOW (USGPM)	MAX FLOW (USGPM)	TIME (%)
106	128	0.53%
79	105	8.60%
52	79	23.23%
23	52	25.59%
0	26	42.04%



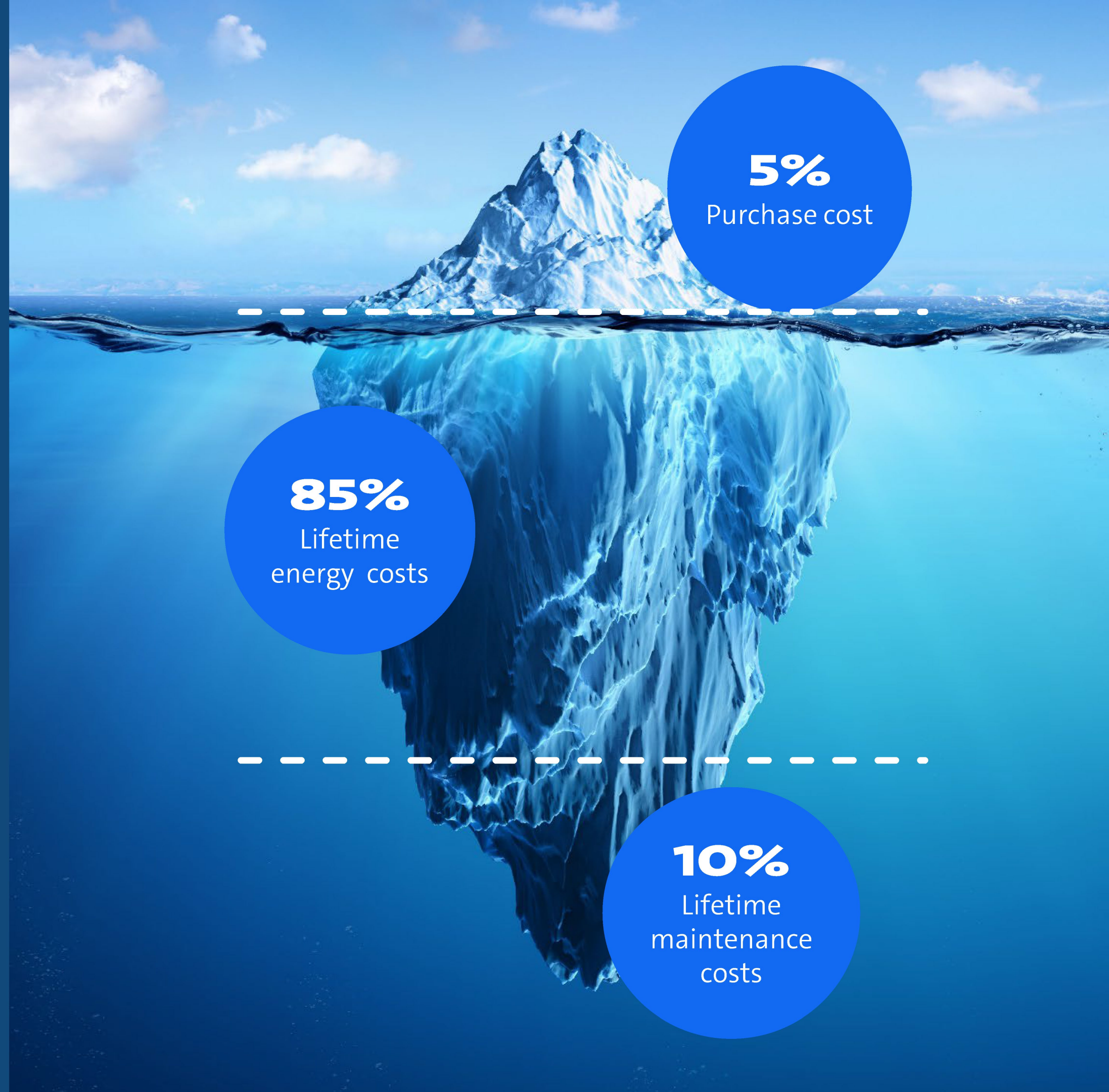
300 Units Condo
Design: 350usgpm

RIGHT SIZING



Total cost of ownership (TCO)

A pump's initial purchase cost is just the tip of the iceberg



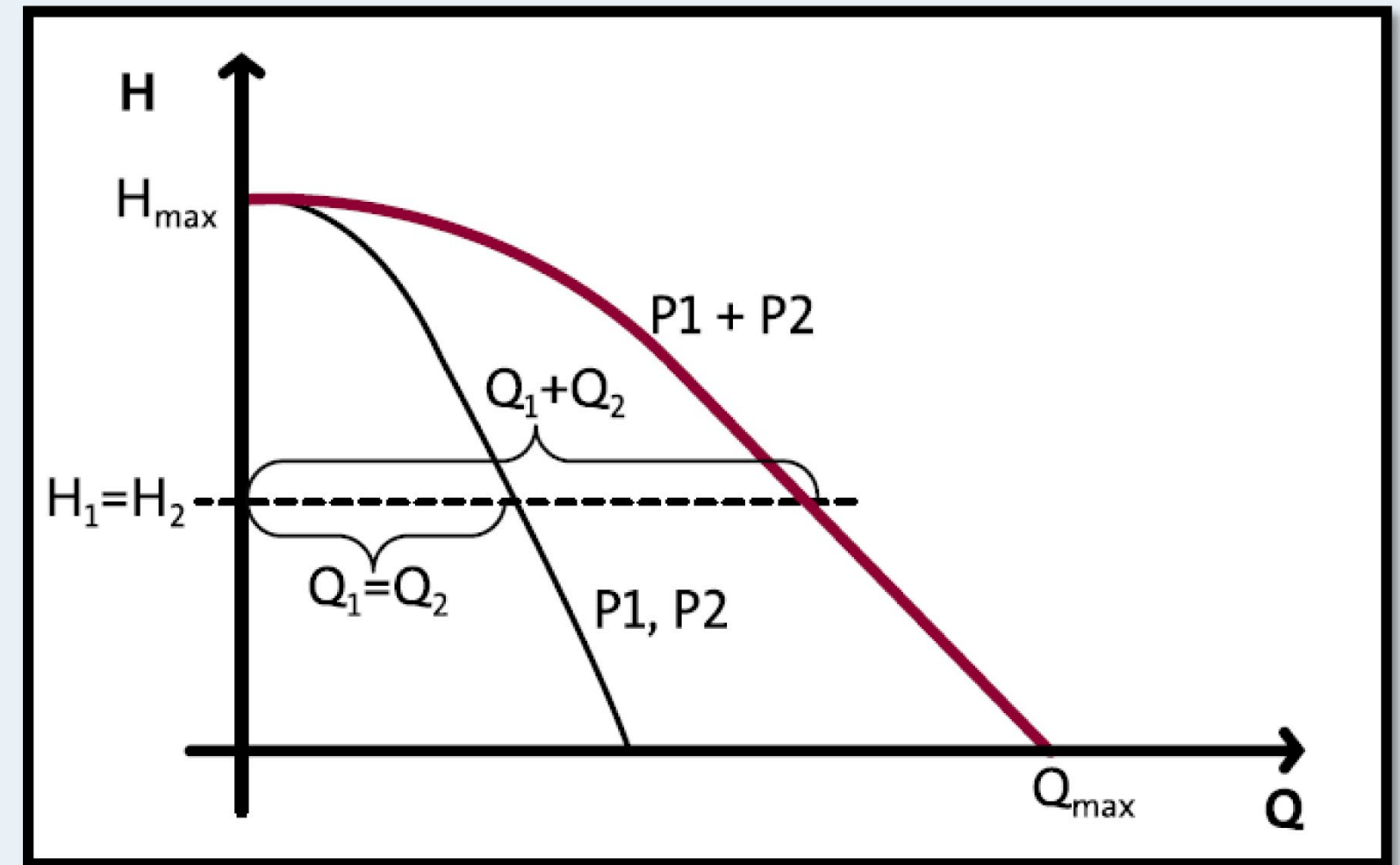
A close-up photograph of a person's hand holding a stream of water. The hand is cupped, and water is falling from the fingers. The background is a soft-focus green with bright, golden sunlight filtering through, creating a bokeh effect. The overall mood is fresh and natural.

**What is the
Optimum
Combination**

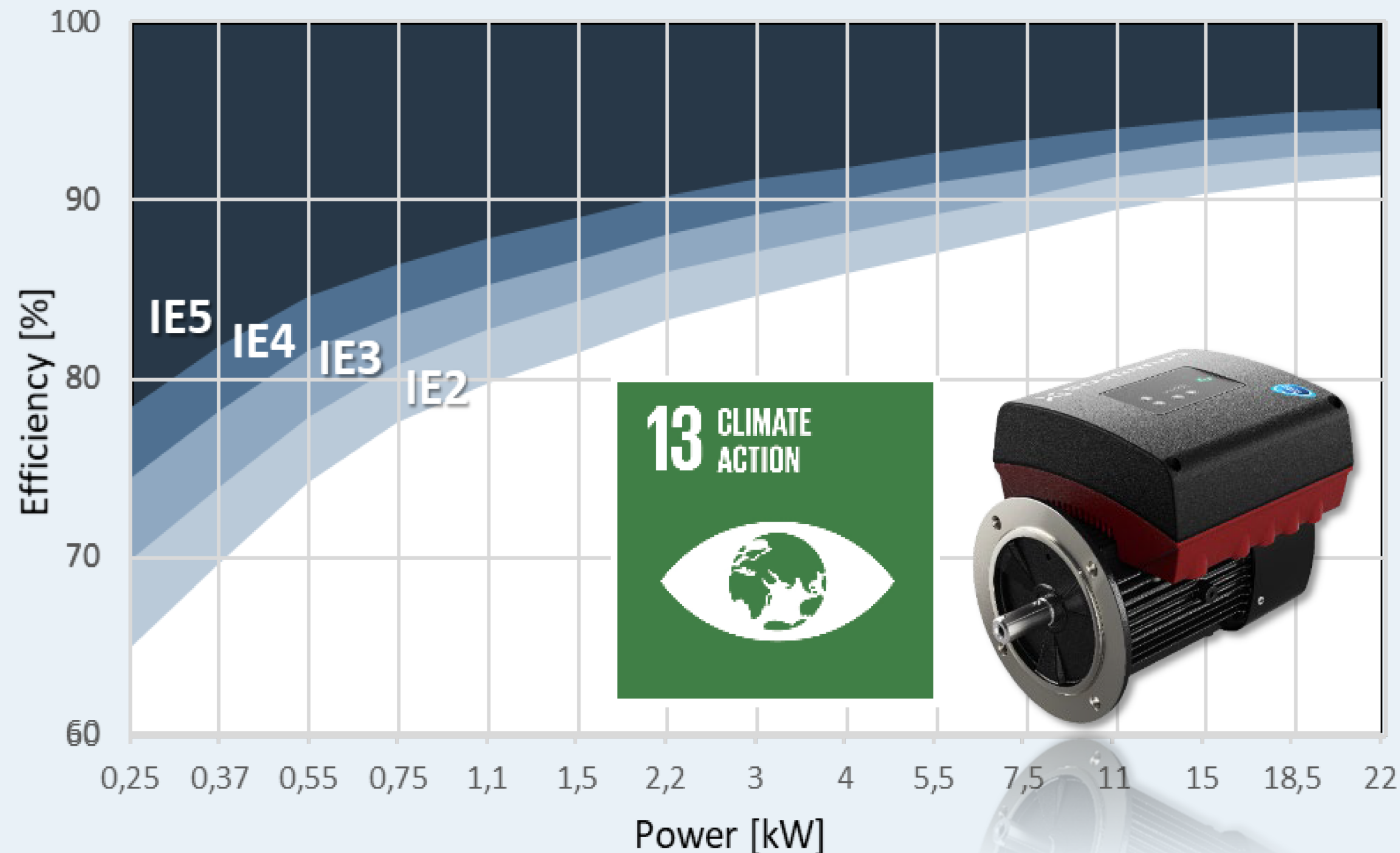
Multi Pumps Systems



- The right combination: Flow Split & Quantity
- Operate closer to BEST EFFICIENCY POINT
- Lesser Maintenance



Permanent Magnet Motors



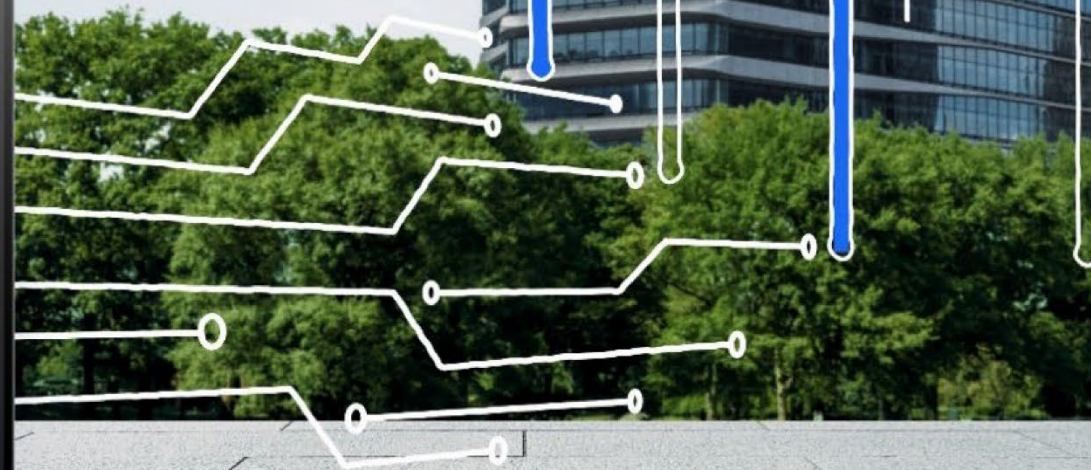
- IE5: 30% lower Losses compared to NEMA PREMIUM

- REDUCES ENERGY Consumption by 10%

Factory Set Controls

- **Power Optimized Pump Sequencing**

- **Proportional Pressure control**

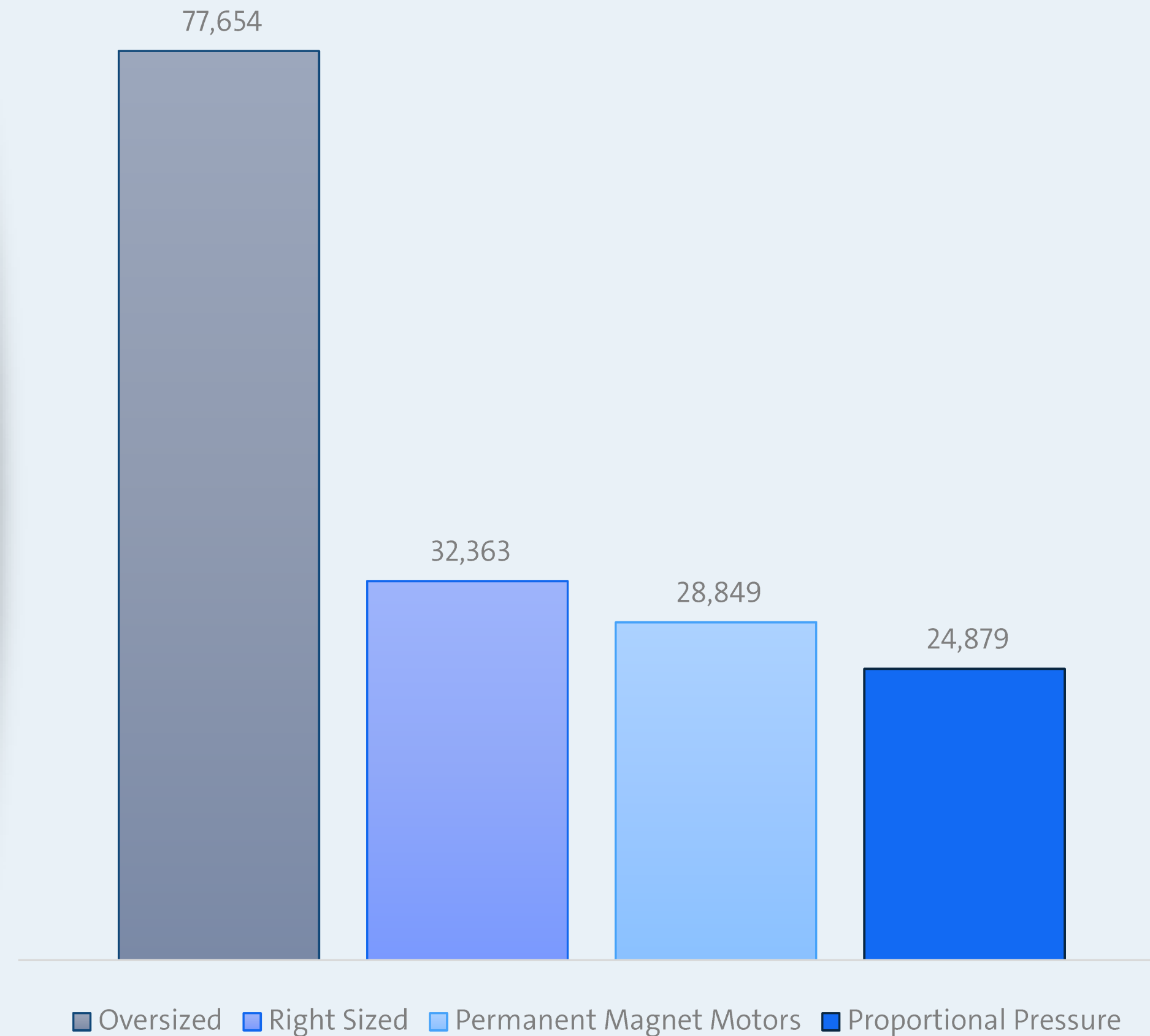


The Winning Combination

**67%
Savings**

The single biggest threat to energy efficiency is oversize

Yearly Electrical Consumption, kWh



Hotel

Cutting energy costs and emissions at the Marriott

Outdated cooling systems in hotels can lead to excessive energy consumption, high operational costs and increased maintenance challenges.

The challenge

The Marriott faced rising energy costs and maintenance difficulties due to an aging and oversized cooling system that caused significant energy inefficiencies.

The solution

After an in-depth energy audit, Grundfos replaced outdated, oversized components with decentralised pump control and implemented intelligent monitoring for precise temperature and pressure management.

A photograph of a large, multi-story JW Marriott hotel building with a classical architectural style, featuring many windows and a central entrance with a statue. The building is surrounded by greenery and flags.

**Saving up to
USD 62,000**

**annually with
a payback period
of less than 1 year.**

Technical insights

- Utilisation of 3x NBE Pumps for enhanced energy efficiency
- 1x Control MPC for optimised system management
- 1x DP Sensor for real-time monitoring and precise control

The outcome

- Energy savings of **180,619 kWh per year**
- **Saved CO2 emissions** equal to **more than 6,300 gallons of gasoline**
- **Annual cost savings** of USD 62,000 with a payback time of 0,9 years

Thank you

Lekshman Biju

Senior Aftermarket Sales Engineer

lbiju@grundfos.com



Lekshman Biju

Mechanical Engineering manager promoting
Sustainability and Energy Efficient Pumps



GRUNDFOS 

Possibility in every drop



Possibility in every drop