

Reducing Energy and Operating Costs in YMCA Natatoriums

Rebound Agile Cooling
Thermal Energy Storage for Natatorium Facilities

PRESENTED BY

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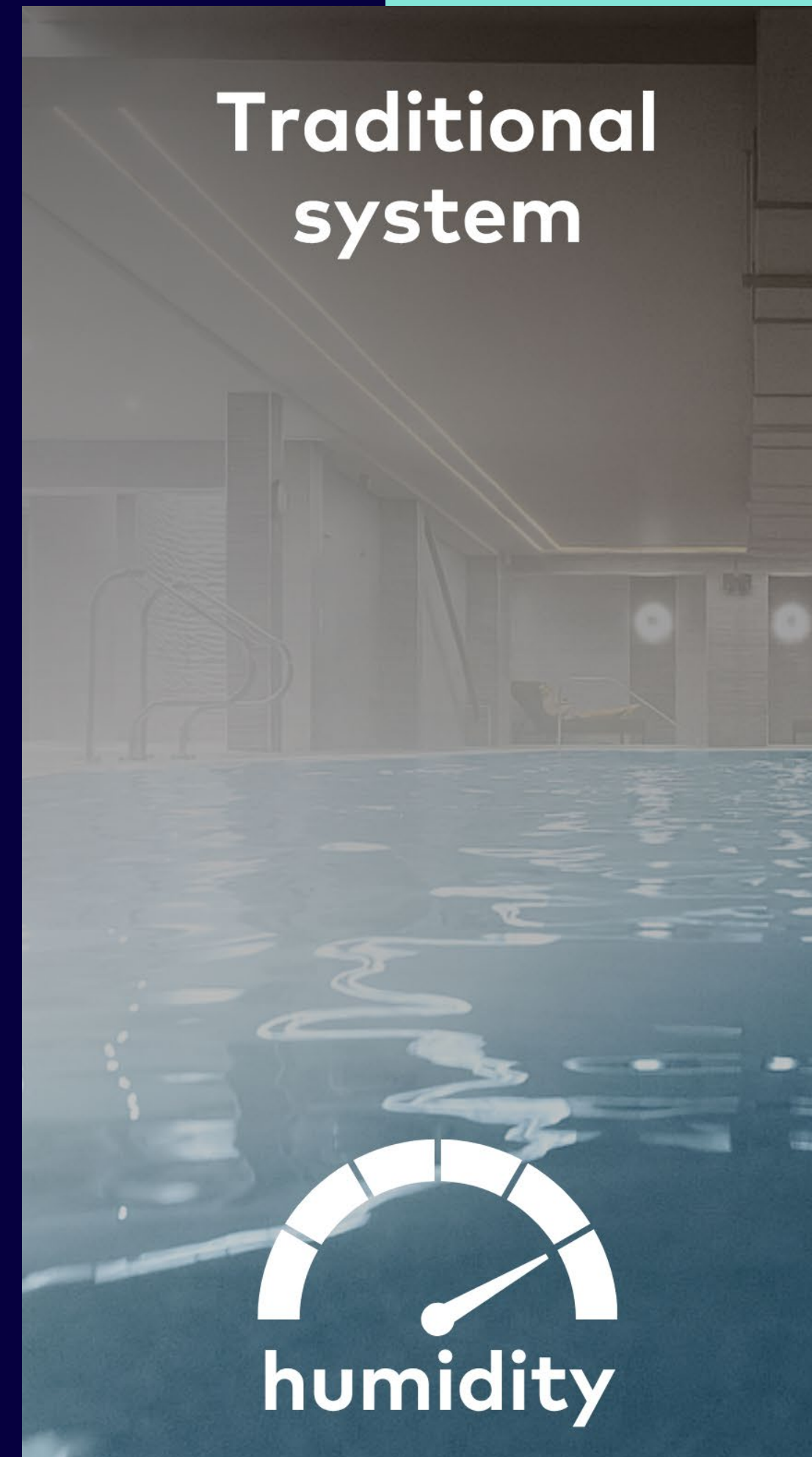
THE NATATORIUM CHALLENGE

Pools are one of the most expensive spaces in any YMCA facility to operate.

Indoor pools create unique operational challenges:

- ▶ Continuous humidity and evaporation
- ▶ Large ventilation and HVAC requirements
- ▶ High energy consumption
- ▶ Corrosive environments that shorten equipment life

In natatoriums, humidity isn't occasional. It's the constant force driving energy use, system strain, and cost.



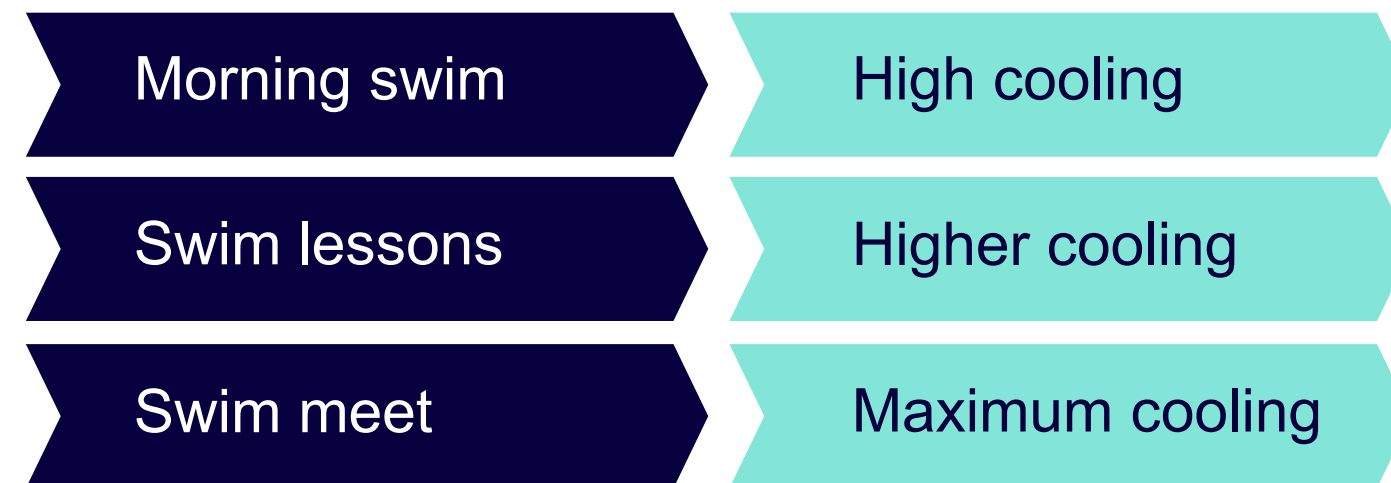


THE CHALLENGE WITH TRADITIONAL HVAC'S

TRADITIONAL HVAC

Pools are one of the most expensive spaces in any YMCA facility to operate.

Peak demand example:



System must be sized for the **largest possible load**.

INTRODUCING AgileEnergyTM

Powered by icepoint

Agile Cooling

Discharge rates up to 150TR deliver cooling to peak loads at a significantly lower capex than traditional cooling.

Plug and play

Simple install with self-contained remote monitoring, digital twin, and universal API and building controls integration.

Moisture Control

Inherently cooler coil temperatures provide superior moisture removal from high-latent loads at a lower cost.

Energy Savings

Build-in energy storage leads to reduced connected load, lower TOU energy rates, and mitigated demand charges.



THE TECHNOLOGY BEHIND THE PRODUCTS:

By storing cooling when energy is abundant and delivering it when cooling is most needed, **icepoint** transforms cooling from a fixed expense into a flexible energy and performance asset.



Creates Value through:

- Lower Capex
- Peak demand reduction
- Lower energy costs
- Backup cooling capability
- Grid participation

Technology Differentiation

- 10x higher discharge power density for agile cooling
- 20x faster ice harvesting
- Customizable storage duration
- Compact system footprint

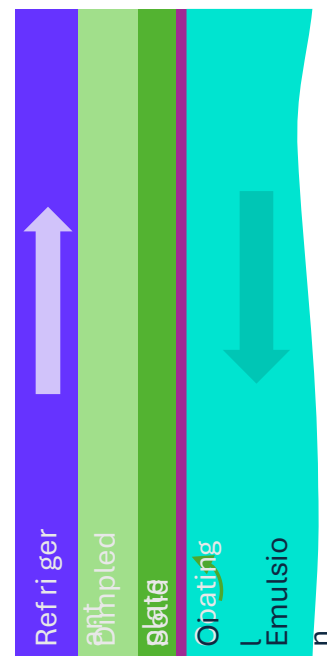
Protected by differentiated technology.

HOW IT WORKS (10X HIGHER PERFORMANCE)

AgileEnergy breakthrough is based on fast harvesting of thin ice.

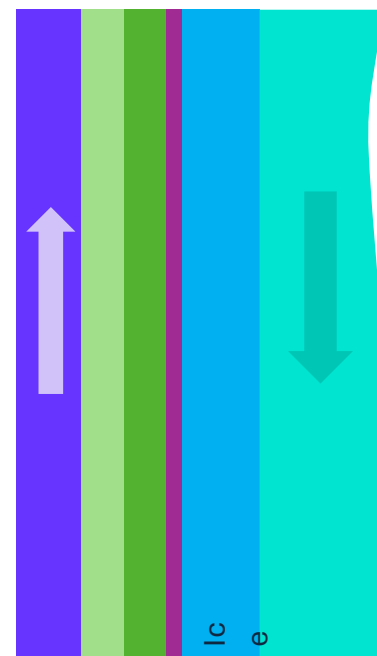
Coating (<1min)

A solid coating pulls chemically matched oil from an emulsion



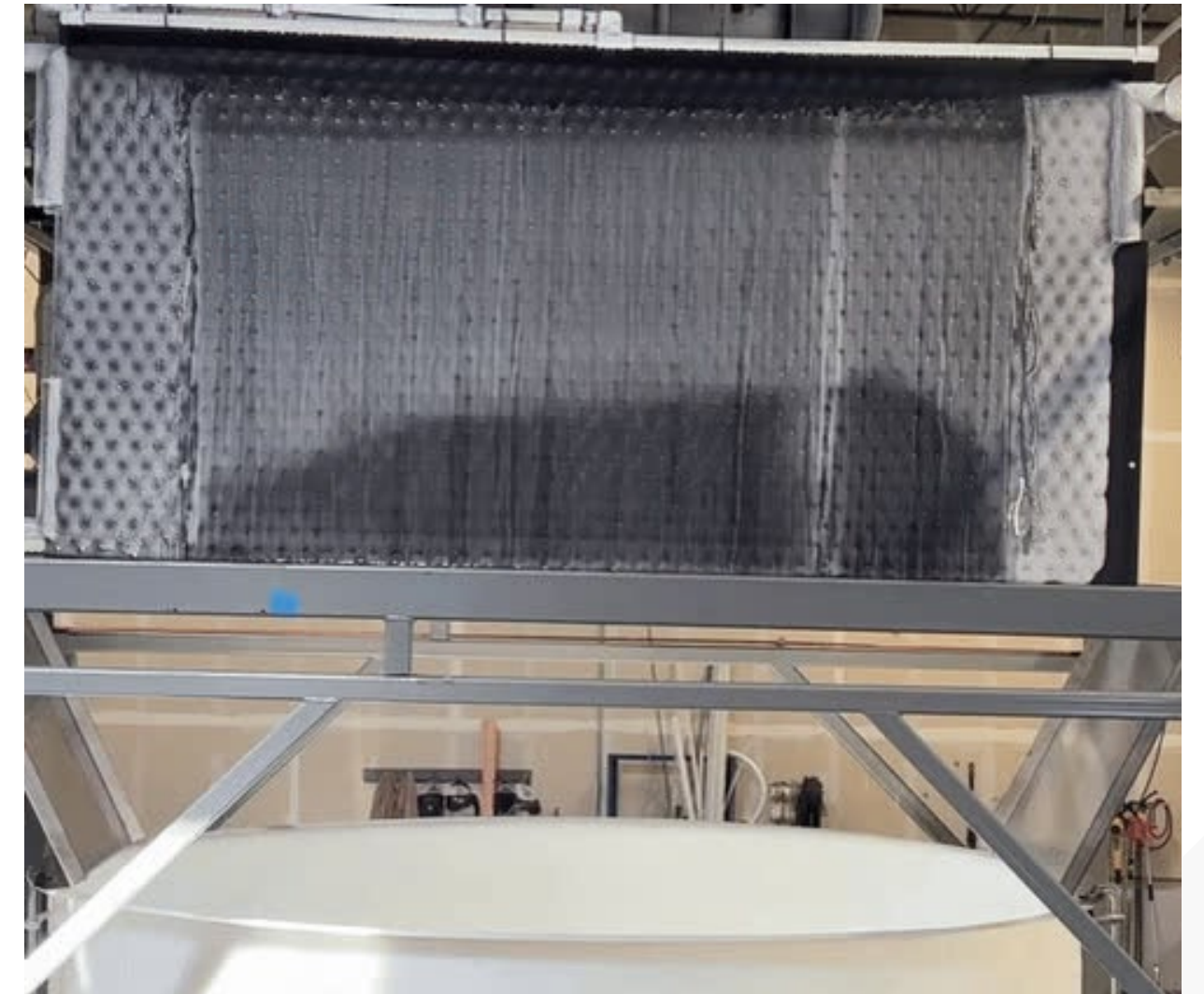
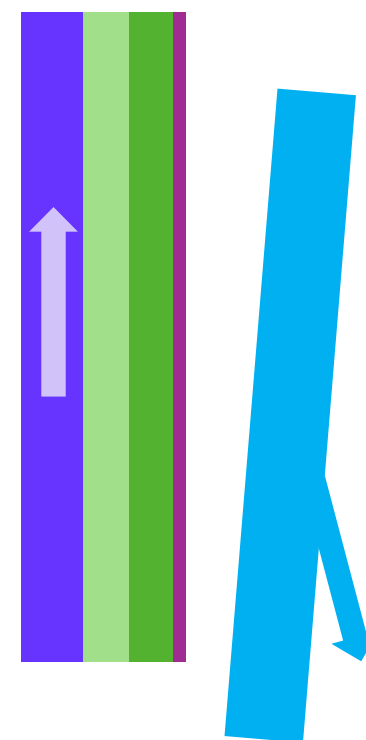
Growth (6min)

Ice forms on top of micron scale hybrid coating



Harvest (<1min)

Emulsion flow is curtailed, ice sub-cools and falls off. No losses.



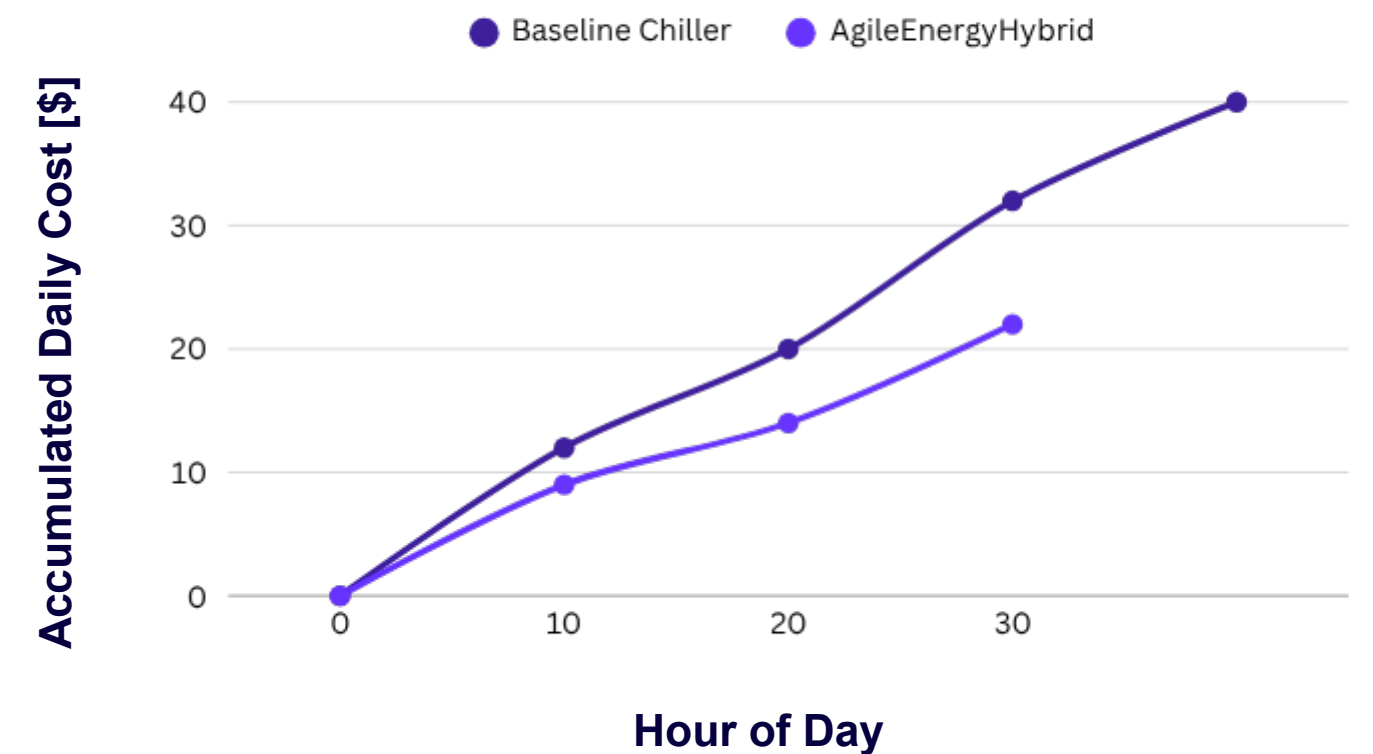
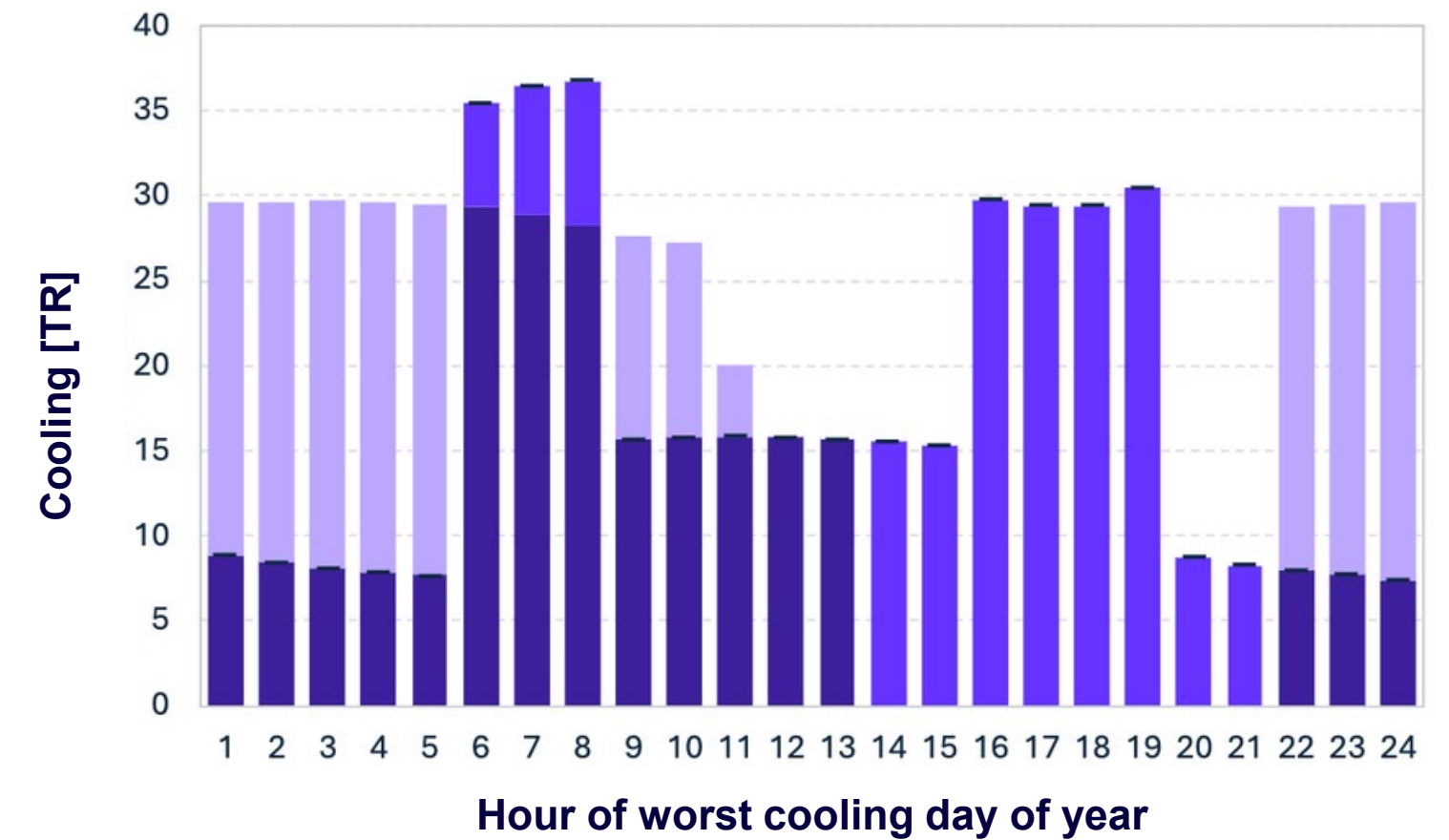
Real-time harvest. Emulsion stops, refrigerant continues to flow, ice pulls away and falls off.

WHY POOLS ARE PERFECT FOR THIS TECHNOLOGY

Pools have high variability load, which makes them ideal for thermal energy storage.

Ultimate Thermal Agility

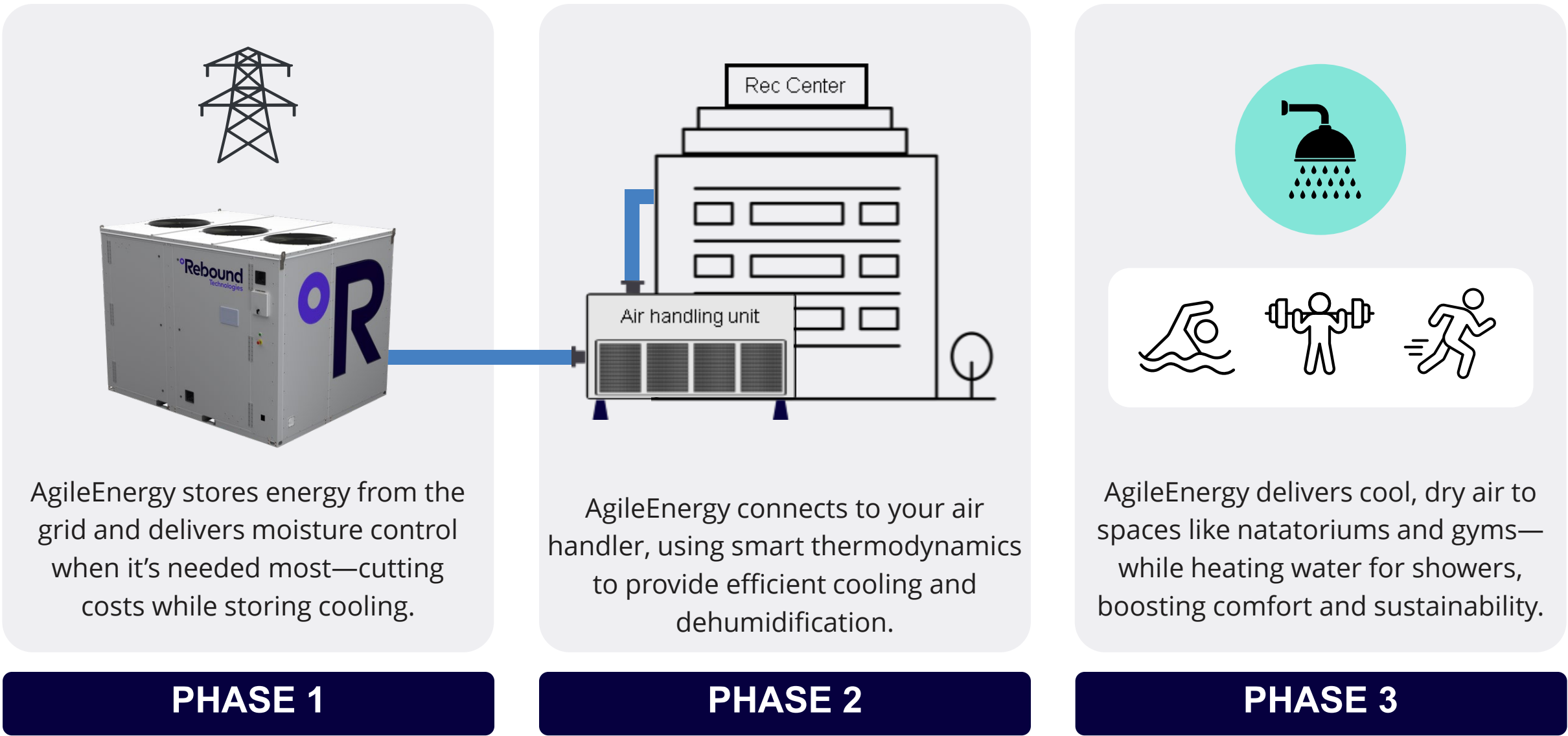
- 5X peak cooling possible up to 100TR
- Charging happens off-peak
- Pairs perfectly with both fresh air first or recirculation air handling units
- As spectator load goes up AgileEnergy handles changes keeping the space comfortable
- Savings of 32%



A NEW APPROACH: STORE COOLING INSTEAD OF OVERSIZING EQUIPMENT

Rebound's AgileEnergy uses thermal energy storage to manage cooling and humidity by storing cooling in advance instead of producing it only when it is needed.

HOW IT WORKS:





LOWER ENERGY COSTS

AgileEnergy reduces operating costs by:

- Shifting energy use to off-peak electricity
- Reducing peak demand charges
- Capturing waste heat for pool heating

Example project results:

- ~35% reduction in electricity costs
- Reduced natural gas use
- Demand response revenue potential

UTILITY INCENTIVES

Many YMCA's could qualify for:

- Energy efficiency rebates
- Demand response payments
- Thermal energy storage incentives
- Electrification [funding] programs

**These programs significantly improve
project economics.**



NONPROFITS CAN RECEIVE FEDERAL ENERGY TAX CREDITS AS CASH

Inflation Reduction Act incentives:

Direct Pay Tax Credits

- Nonprofits receive cash equivalent of tax credits

Energy Storage Tax Credit

- Thermal storage may qualify

Third-Party Ownership Structures

- Energy service agreements
- Shared savings models

State Tax Credits

- Additional incentives may be available depending on location



SUSTAINABILITY IMPACT

Benefits for YMCA sustainability goals:

- 01.** Reduced electricity consumption
- 02.** Reduced natural gas use
- 03.** Load shifting to cleaner energy hours
- 04.** Lower carbon footprint





SMART MONITORING AND RELIABILITY

Every system includes Rebound's Cloud software giving reliable operations with minimal staff burden.

Capabilities:

- Remote monitoring
- Predictive maintenance
- AI-based controls
- Over-the-air updates
- Historical performance tracking

WHY YMCA FACILITIES ARE EXPLORING THIS NOW:

Drivers:

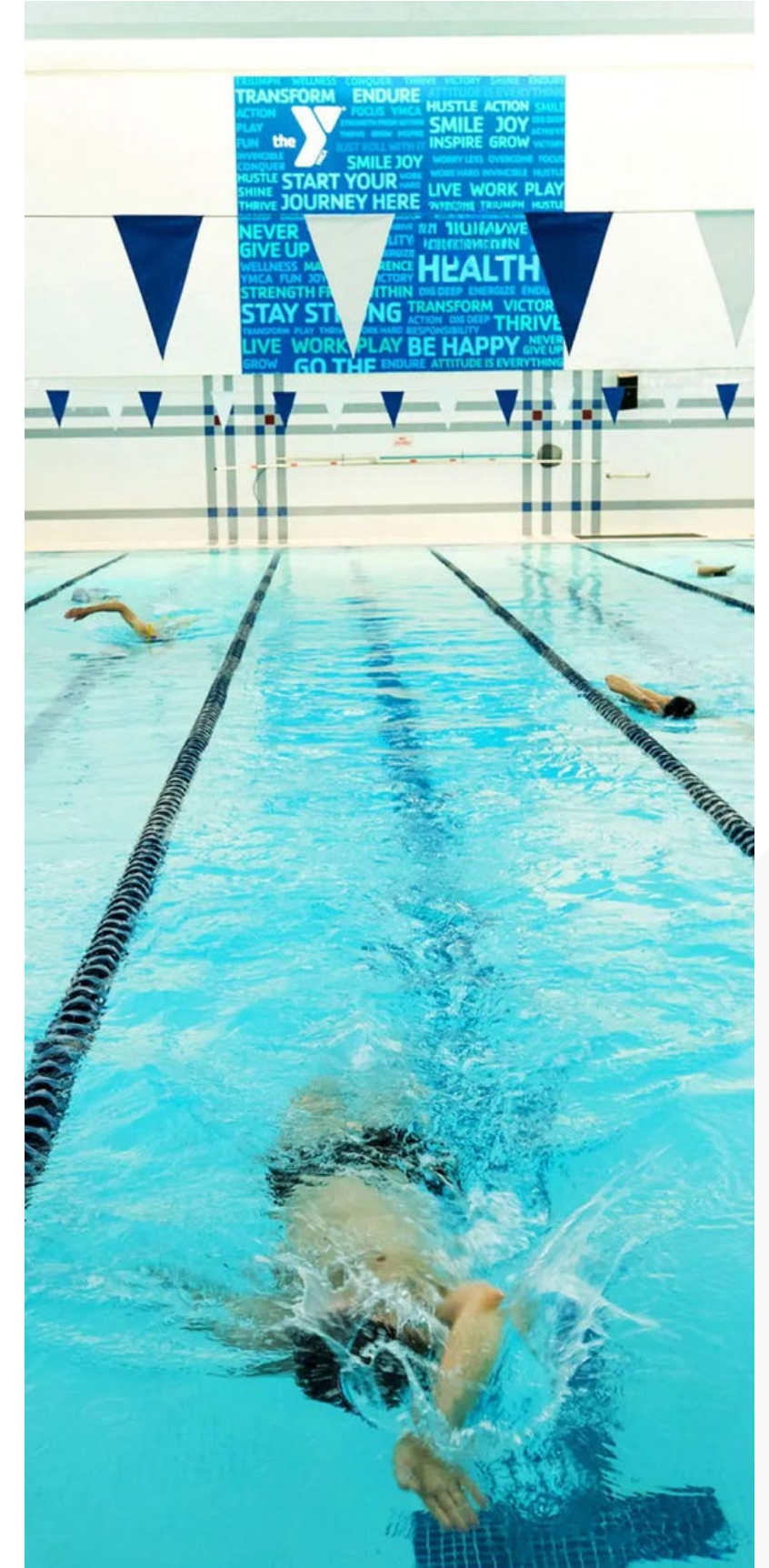
- Rising utility costs
- Aging natatorium infrastructure
- Sustainability commitments
- Funding and incentive opportunities



IMPLEMENTATION PATH

Typical process:

- 01.** Facility review
- 02.** Energy modeling
- 03.** Incentive analysis
- 04.** Project design
- 05.** Installation



A SMARTER APPROACH TO YMCA NATATORIUM ENERGY

- Lower operating costs and reduced utility expenses
- Healthier indoor environments with better humidity control
- More comfortable spaces for members, athletes, and spectators
- Reliable cooling and dehumidification when it matters most



THANK YOU

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