SHIFT THERMAL

Smart Cooling. Brilliant Savings.

Advanced thermal energy storage

- Reduce cooling costs by up to 80%
- Decarbonize cooling processes
- Provide cooling resiliency for critical applications

Thermal loads are well served by thermal storage

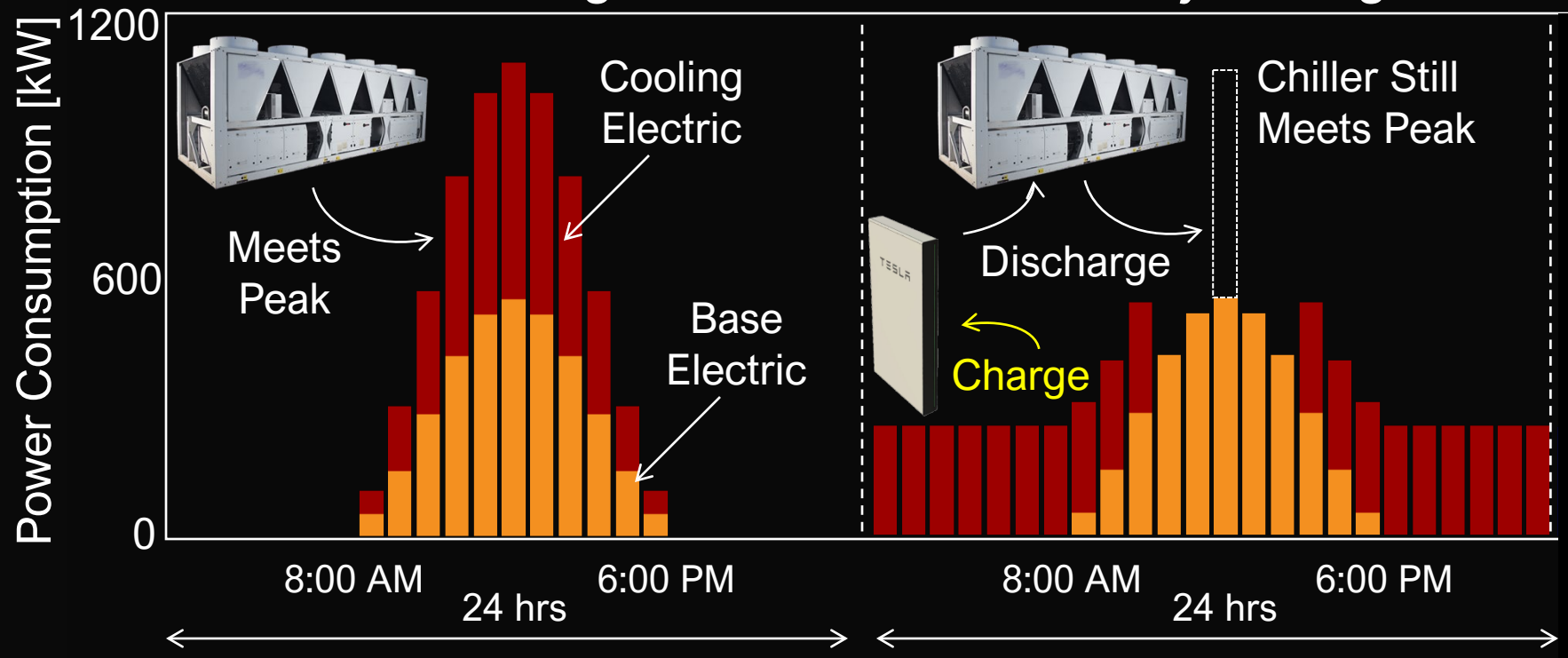
No Storage

Battery Storage

Thermal Storage

Thermal loads are well served by thermal storage

No Storage | Battery Storage | Thermal Storage



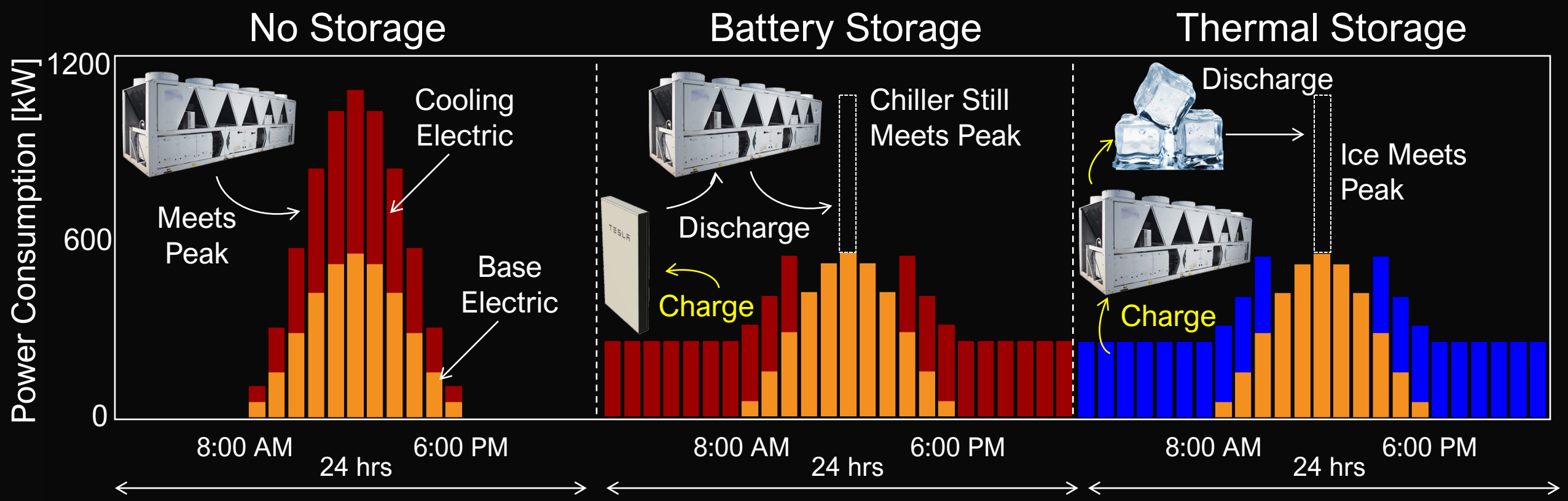
No savings

Chiller	1000 tons	$500,000
Storage	-	$0
Total	**-**	**$500,000**

~$80,000/yr savings

1000 tons	$500,000
3900 kWh	$1,600,000
-	**$2,100,000**

Thermal loads are well served by thermal storage



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~$80,000/yr savings

400 tons	$200,000
6200 ton-hrs	$250,000
-	**$450,000**

Advanced thermal energy storage

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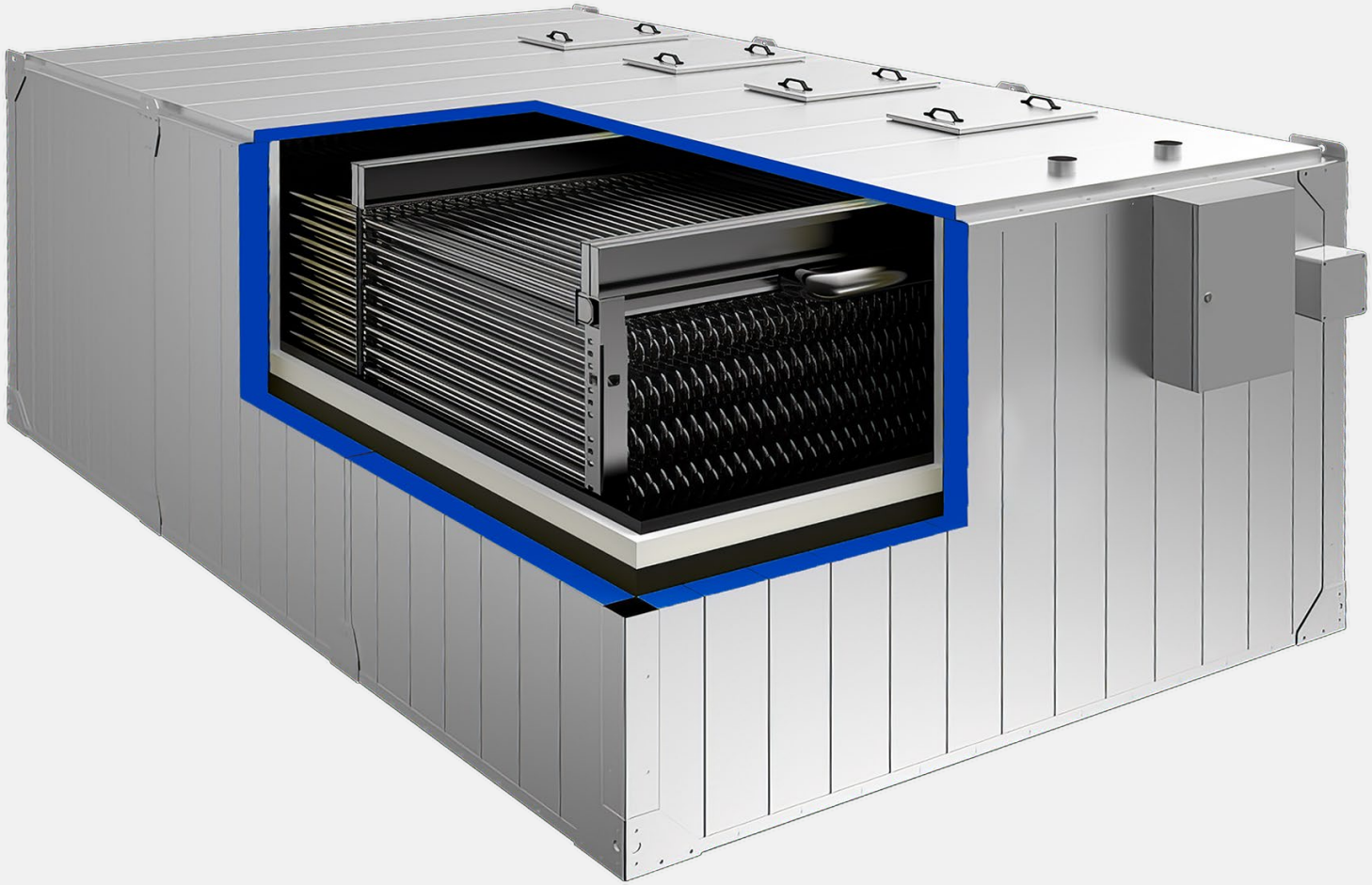
- Provide cooling resiliency for critical applications
- Decarbonize cooling processes

- **LOOKING FOR DEMONSTRATION PROJECTS THIS SUMMER**

Today’s Ice Thermal Storage



Miles worth of tubes

Core limitation

Water freezing to cold surface!

Shift Thermal Energy Storage

- Eliminates ice buildup on the heat exchange surface
- Can generate up to 80% savings on cooling costs
- And the chiller + storage can be the lowest upfront cost option
- Depending on the region, decarbonizes cooling by ~30%

Commercial Prototype Systems

System size: 80 ton-hour; 20 ton (discharge); 10 ton (charge)

Applying thermal storage

Chillers (Current)

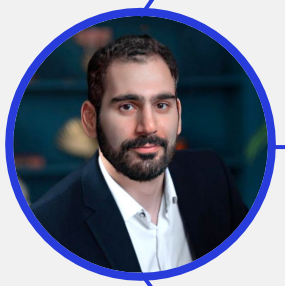
Heat Pumps (Future)

Easy integration with chilled water cooling systems

Developing a dual-use storage system
Ice in the summer, hot water in the winter

Company

Core Team



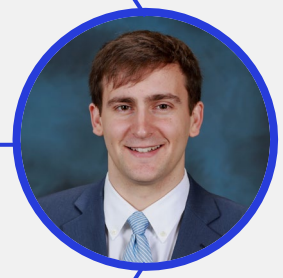
Levon Atoyan
CEO

John Cadotte

Sonya Sokhey

Jesse Buckley

Ronald Kwok



Mitchell Ishmael
CTO

Coleman Adams

John Bruck

Tom Pagliuco

Board of Directors

2 Patents Pending | IP | Trade Secrets

Traction

Demonstration

NREL NATIONAL RENEWABLE ENERGY LABORATORY

In-kind Support

Danfoss

MULTISTACK

Awards

NSF

OAK RIDGE National Laboratory

Launch Tennessee

NEW YORK STATE OF OPPORTUNITY. NYSERDA

Investors

CEVG CLEAN ENERGY VENTURE GROUP

QUEEN CITY ANGELS

THREE ROOTS CAPITAL

E8

AVESTA FUND

Why should you considering doing a demonstration project with us?

Thank you

Mitchell Ishmael, CTO

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