Ingersoll Rand
Inspiring Progress™

New Jersey Energy Master Plan
Sustainable and Resilient Infrastructure

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Ingersoll Rand
Inspiring Progress™

Ingersoll Rand advances the quality of life by **creating comfortable, sustainable and efficient environments.**

Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands—including Club Car®, Ingersoll Rand®, Thermo King® and Trane®—work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a $13 billion global business committed to a world of sustainable progress and enduring results.

Our Global Footprint

Manufacturing, Distribution & Office Locations

America

384 Climate

75 Industrial

24 Corporate

Europe, Middle East, India, and Africa

137 Climate

31 Industrial

21 Corporate

Asia Pacific

134 Climate

59 Industrial

2 Corporate

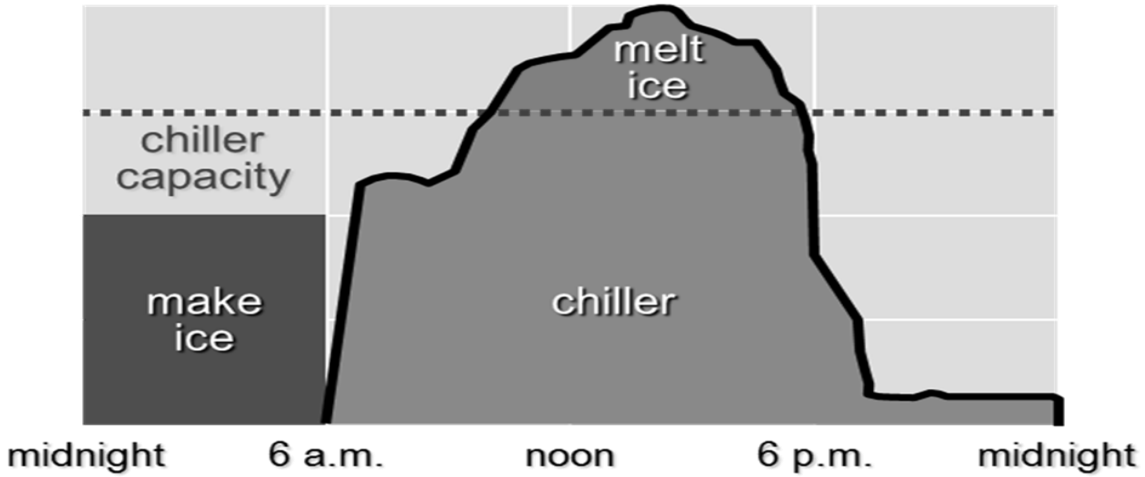
LOCATIONS

World-Class Talent in Every Market
More than **40,000 employees** globally

Global Footprint and Ingersoll Rand Locations
We have a total of **867 facilities** around the world, including **51 manufacturing facilities** worldwide.

Thermal Energy Storage

Efficient, cost-effective way to store cooling



- 15-25 kW load shift for 6 to 10 hours
- CALMAC tank is 99% recyclable and designed for 35-40 years
- Works with Trane chilled water system (chiller)
- Integrates with solar energy – compensates for duck curve
- Manufactured in Englewood, NJ since 1947 and acquired by Trane/Ingersoll Rand in 2017

Over 1 Gigawatt of thermal energy storage already installed in 60 countries.

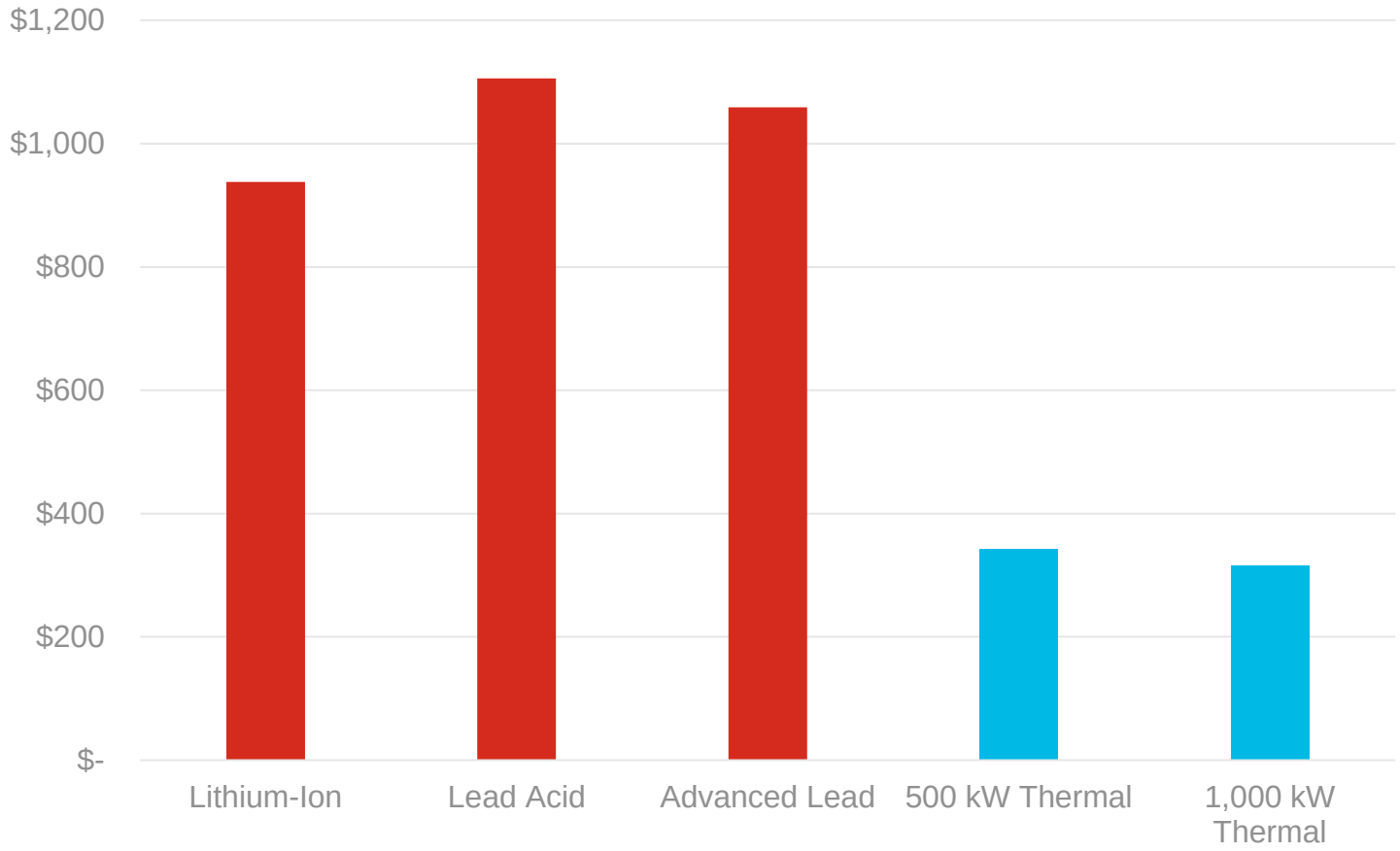
TES Helps New Jersey Create Sustainable and Resilient Infrastructure

New Jersey Master Plan	Thermal Energy Storage Alignment
Increased grid resiliency	• TES is flexible and enables a smaller transmission and distribution grid by integrating intermittent renewable resources. • TES contributes to a greater diversity of energy sources.
Incorporating new and developing technologies	• TES helps integrate renewables and reduces / shifts peak • TES provides time shifted, emissions-free nighttime wind energy for daytime use during hot summer months • TES can be used as an automated demand response asset • TES is safe (i.e. non-flammable, no hazardous materials)
Overcoming barriers to enhanced infrastructure	• Incentives facilitate deployment of energy storage resources like TES
Affordable distribution of energy to all customers	• TES helps reduce customer costs (~40% lower at night[1]) • TES tanks are highly durable/efficient with a 30 year useful life, resulting in little maintenance costs and high efficiencies • TES lasts 2 to 4 times longer than batteries at a fraction of the cost

[1]Analysis of PSE&G Day-Ahead LMPs

TES is 1/3 the cost of battery systems for C&I

Levelized Technology Cost for BTM Applications[1,2]



- Cost advantages
  - ✓ No inverter expense
  - ✓ Lower component costs, including balance of system, O&M
  - ✓ No need for capacity maintenance (augmentation)
- Lower capital costs mean lower financing costs

1. Costs represent average of range presented in LCOS 3.0 for battery technologies.
2. Conservative case that includes full cost of chiller.

Source: Enovation Partners

Thermal Energy Storage Programs that Work

Florida Power and Light Thermal Storage Program

- Rebate of $600 per kW
- Available on a rolling basis – you can apply for it anytime
- Pays after you've run the plant successfully for one month

ConEdison Demand Management Program

- Rebates change annually – $2,520 per kW for thermal storage
- Auction dates and installation deadline posted well in advance
- Pays after one summer month's successful operation

New York Class A Office
20 MW / 150 MWh in NYC

Effective program attributes

- ✓ Bill transparency and ease of use
- ✓ Pilot programs that provide locational value for BTM DERs
- ✓ Published marginal/ avoided cost rates and utility incentives for non-wires alternatives
- ✓ Storage Incentives through state energy efficiency programs

New Jersey Installations

- Perth Amboy School District: Two school installations, with additional sites under consideration. Helps the district save on electricity costs.
- West Long Branch School District: Designed for energy cost savings.
- Rutgers Athletic Center: 2016 installation to mitigate air-conditioning demands at their basketball arena.
- CALMAC manufacturing facility: delivers $12,000 in annual energy savings.

Current electric rates are driving some installations due to ~40% lower nighttime spot market electricity prices[1]

[1]Analysis of PSE&G Day-Ahead LMPs

THANK YOU!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