



The ROI Of Conservation

Linking Efficiency Actions
to Enterprise-Level Outcomes

TRANE
TECHNOLOGIES™



→ Agenda



1. **A broader framework** for defining ROI
2. **Two case studies** with enterprise-level outcomes
3. **Better ways to communicate** with operations, finance, and executives
4. **Strategies to sustain** momentum as priorities change



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→ Energy Savings Alone Rarely Win Approval



Why This Matters...

Technical merit is not enough

Leaders fund outcomes, not features

Efficiency projects face greater scrutiny

The business case must cover:

- Financial return
- Operational performance
- Risk reduction
- Sustainability impact

→ Buildings Are One of the Biggest Decarbonization Levers



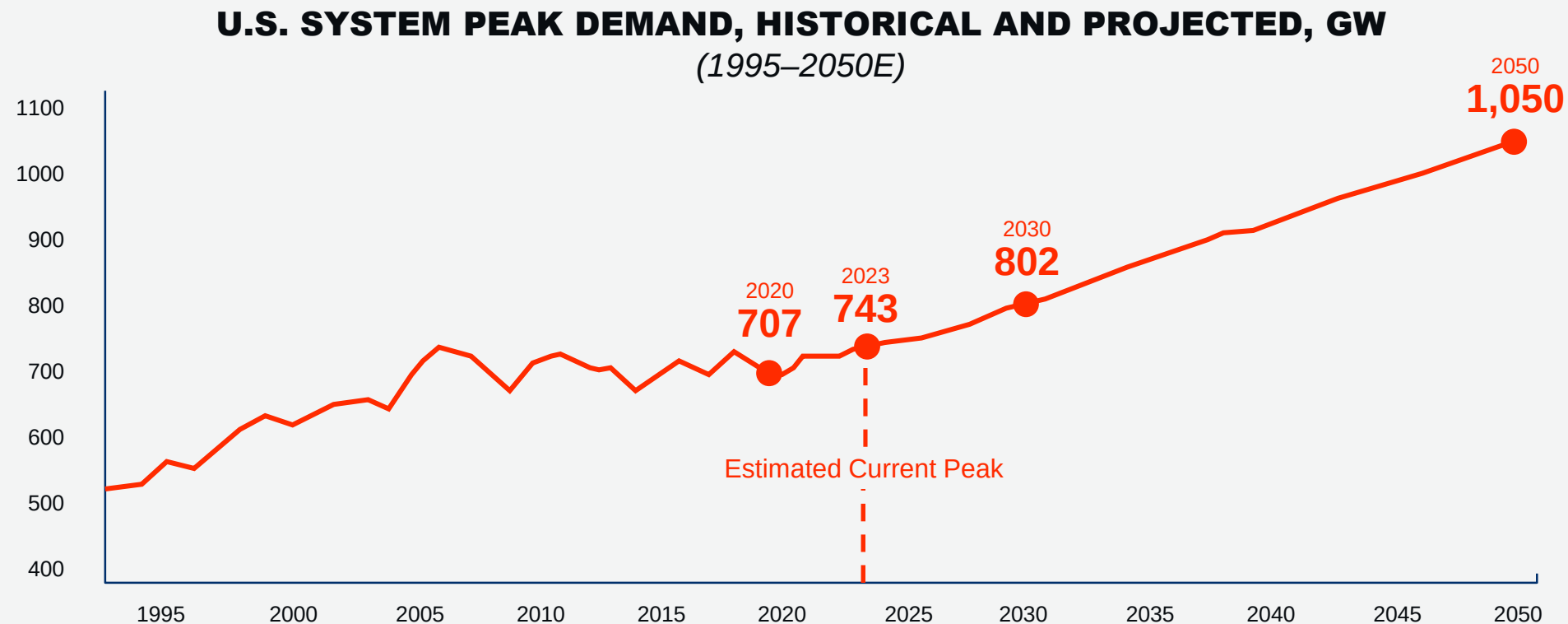
Buildings account for **40%** of energy use and **38%** of associated GHG emissions

HVAC / electrification of heat will play a key role in reducing fossil fuel dependency

Comfort space heating accounts for **6%** of GHG worldwide; early estimates show that electrifying our comfort space heating infrastructure would reduce GHG by **4%***

**Decarbonizing heat in buildings. Guidehouse Insights. Q3 2021; Project Drawdown.*

→ What does this Mean for Building Owners and Operators?



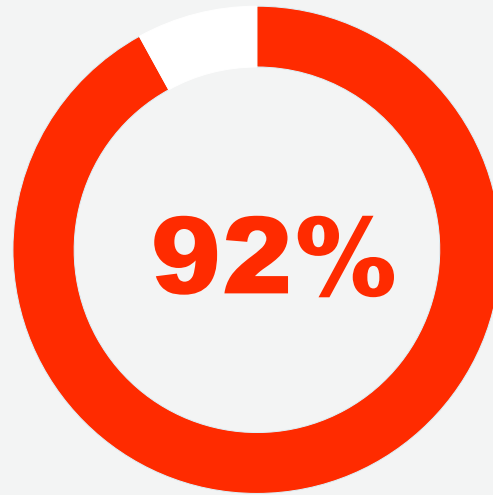
Note: National coincident peak demand is based on sum of peaks across FERC regions.

Source: Historical energy demand sourced from AEO. Coincident peak demand (point-in-time peak, not total energy consumption) estimated by The Brattle Group (2023) based on forecasted total energy consumption sourced from OP-NEMS mid-case scenario. This mid-case scenario includes increasing consumption from industrial electrification and electrification of HVAC; however, the EVs contribute the most demand to coincident peak according to estimated hourly consumption patterns that will vary by region.

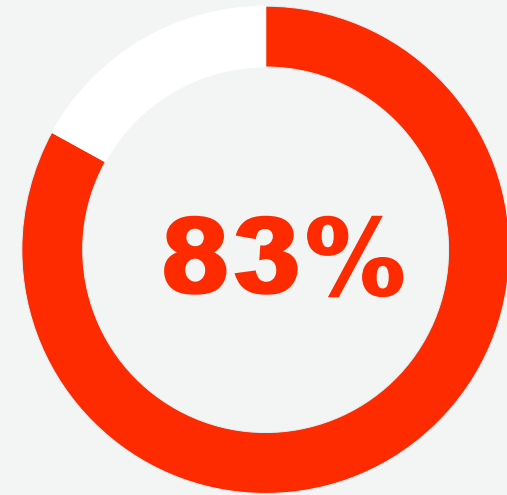
→ Ambition is There. Let's Move to Action.



Forbes Global 2000 list have pledged net-zero targets for 2050



S&P 500 companies have sustainability commitments



Global companies have also made this commitment

**Forbes 2025 Net Zero Leaders List of Top Eco-Friendly Companies*

→ Conservation also Strengthens Resilience



Investors increasingly evaluate:

- Backup Power
- Smart Monitoring
- Integrated Building Management
- Continuity Planning

Resilient assets can deliver:

Fewer Disruptions
Stronger Buyer And Tenant Appeal
Better Insurance Economics
Lower Surprise Risk

***Conservation is not only about reducing resource use.
It is also about protecting asset performance under stress.***

*Decarbonizing heat in buildings. Guidehouse Insights. Q3 2021; Project Drawdown.

→ **Good Projects Often Stall for Non-Technical Reasons**

Projects are often framed too narrowly

Common barriers:

- Siloed teams
- Incomplete value story
- Competing capital priorities
- Weak visibility into operational benefits
- Technical language that does not resonate

Good engineering does not guarantee adoption

*Decarbonizing heat in buildings. Guide house Insights. Q3 2021; Project Drawdown.



→ Conservation Can Drive More Than Utility Savings



The Best Projects Deliver Value Across Multiple Dimensions:

-  Lower Operating Cost
-  Longer Asset Life
-  Progress Toward Sustainability Goals
-  Stronger Reliability
-  Better Occupant Experience

// Move Beyond “Energy Savings Project” //

→ Automation Helps Teams Do More With Less

Labor constraints are changing how building performance is managed

Automation can extend team capacity through:

- Diagnostics
- Scheduling
- Monitoring
- Faster issue response

Efficiency gains are stronger when operations can sustain them



415,000 HVAC technician jobs in the US market and **37,000 open positions** each year, with a **growth rate of 6%** of open positions yearly.

This is nearly double the growth of other industries, and some estimate that **one in four open positions** will likely not be filled.

→ **CASE STUDY: Regency Parc**

From Action to Impact



THE BUILDING

20-story luxury residential tower in Coral Gables, FL; the city's second tallest.

THE CHALLENGE

Strict zoning. Aggressive water conservation goals. Penthouse acoustics were critical as the developer's founder was moving in. And no regulatory mandate: the solution had to win on value alone.

THE SOLUTION

Life cycle cost analysis chose all-electric VRF over water-source heat pumps with controls.

THE IMPACT

- Water-consuming condenser systems eliminated
- Units distributed across roof, 6th, and 3rd floors
- Consumption-based tenant billing across all 254 units
- 10-year parts and compressor warranty

→ The Path Forward

Original vs. Chosen Design Path



Original Design Path

- Condenser-Water System
- Water-Source Heat Pumps
- Cooling Towers

Standard Approach, but with tradeoffs:

- High make-up water demand
- Water treatment and chemical management
- Pumps and strainers
- Higher long-term maintenance burden

Core issue: *The default system did not best match the owner's water conservation goals*

Chosen Path

- **The Better Path: VRF + BAS**
- Maintained high comfort expectations
- Dramatically reduced water demand
- Avoided at least \$100K/year in make-up water cost
- Reduced maintenance complexity and downtime risk
- Met strict municipal acoustic requirements
- Improved future-readiness and long-term asset appeal

→ Why This Project Won Approval



Value Came from Alignment, Not Just Technology Selection

- Early owner conversation
- Willingness to challenge the default design
- Measurable, Long-Term Financial Impact outweighed First Cost Concerns
- Strong collaboration across the project team

Measured in the Categories the Owner Would Actually Feel:

- Comfort Quality
- Water-cost Exposure
- Operating Complexity
- Maintenance Burden
- Acoustic Compliance
- Long-term Asset Quality

→ Case Study: Thermal Energy Storage ROI in a K-12 District



THE DISTRICT

K-12 school district modernizing HVAC across three schools. Capital constraints shaping the pace of every upgrade.

THE CHALLENGE

A traditional chiller path with lower first cost sitting on the table as the easier choice.

THE SOLUTION

Thermal energy storage sized as both an operating-cost and capital-efficiency strategy. **15 ice tanks across 3 schools**, roughly **\$4M in capital investment**, structured to leverage Section 48E investment tax credits.

THE IMPACT

- Approximately \$773K in upfront savings via Section 48E
- Load shifted off-peak, reducing peak demand charges
- Reduced exposure to utility rate volatility
- Lower long-term operating costs
- Upfront savings created capacity to fund the district's next projects

→ One Project Can Fund the Next.



The Power of One Tank

(The Numbers That Matter)



\$51,574

BLENDED TAX
CREDIT SAVINGS
PER TANK



1.2 kW

EFFICIENCY
ASSUMPTION
PER TON



30 kW

POWER
PER TANK



\$1,719

SAVINGS
PER kW

The investment tax credits generated today can fund tomorrow's opportunities.



High
School

\$341,276

+

Middle
School

\$258,524

+

Early Learning
Center

\$173,809

=

\$773K

IN FEDERAL TAX CREDITS
= 15 TANKS



Incentives can change the ROI equation and help

ACCELERATE PAYBACK | EXPAND PROJECT SCOPE. | IMPROVE CAPITAL APPROVAL ODDS

→ Stronger Buy-In Starts With Better Translation

Turn Technical Features into Business Outcomes



Stakeholder	Primary Value Signals
Operations	Reliability, Staffing Efficiency, Ease Of Execution
Finance	Payback, Cost Avoidance, Budget Timing, Labor Productivity
Executives	Enterprise Risk, Asset Quality, Resilience, Exit Value

→ Building Buy-In

Technical Framing vs. Business Framing



Technical Framing

- Selected VRF With BAS
- Deployed Thermal Energy Storage
- Improved Controls Visibility
- Automated Diagnostics And Scheduling Support

Business Framing

- Reduced Water-cost Exposure
- Reduced Tariff And Peak-demand Exposure
- Lowered Maintenance Complexity
- Improved Technician Productivity
- Reduced Downtime Risk
- Strengthened Resilience And Insurability
- Improved Long-term Asset Competitiveness

→ Key Takeaways

**Conservation
Wins When
the Value
Story Is Bigger**



**Build the case beyond
energy savings**

**Use real outcomes to
strengthen credibility**

**Translate technical value
into business language**

**Make conservation a
repeatable enterprise
advantage**

→ **Thank You**



Questions?
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Contact Trane

