2025 YEAR IN REVIEW

Global Cooling EFFICIENCY ACCELERATOR

In an increasingly hot world, the Global Cooling Prize showed us that super-efficient AC technologies — ones that are designed for real-world conditions, that provide comfort while dramatically reducing energy use and life-cycle costs, and that do not strain the power grids on the hottest days — are technically possible and that with right market forces, they can become commercially viable. The Global Cooling Efficiency Accelerator (GCEA) is driving that vision towards reality by informing future test standards, supporting AC manufacturers, building an evidence base of real-world savings, and exploring market instruments — to catalyze the introduction and adoption of next-generation, super-efficient ACs.

Transforming a global industry that sits at the center of a rapidly warming world is essential. 2025 showed us that momentum is firmly on our side with key market actors aligning around the future we've been building toward.

ADVANCING TESTING STANDARDS

Our draft proposal presented in July to the International Organization for Standardization (ISO) informal working group on load-based test standard recommended an updated AC testing method and performance metric. The proposal was based on data and insights from extensive lab and field testing over two years.

We engaged deeply with the stakeholders involved in developing the ISO 21280 draft standard, which now, for the first time, incorporates a sensible heat ratio requirement, ensuring ACs are designed and evaluated for both temperature and humidity performance.

We built consensus with three leading international research groups to collaborate on validating the replicability and practicality of load-based testing methods and developing approaches for factoring in humidity (latent) loads.

STRENGTHENING INDUSTRY ENGAGEMENT

We engaged multiple AC manufacturers in our initial target market, India, to support the design and testing of super-efficient prototypes, fostering a shift in how products are conceived, validated, and commercialized for real-world use.

We gained valuable insights on integrating smart control logic into existing AC products to manage both temperature and humidity and are now embarking on deeper research to unlock performance improvements, laying the groundwork for wider adoption.

We identified critical ecosystem needs including manufacturer access to advanced testing infrastructure, digital modeling tools, and controls expertise, which are now a key focus for GCEA's next phase to further empower the manufacturing ecosystem and advance innovation.

DEMONSTRATING REAL-WORLD PERFORMANCE

Released in April, our report [Bringing Super-Efficient ACs to Market](#) revealed game-changing insights from a nine-month field test in Palava City, India, highlighting the difference in performance between super-efficient, market-available typical, and high-efficiency ACs.

Super-efficient ACs:

- USE **60%** LESS ENERGY
- CUT PEAK DEMAND BY OVER **50%**
- ACHIEVE **CONSISTENT COMFORT** *even during the most humid days*

than a typical AC

> **"Overcooling to manage humidity drives excessive energy use — even in the most efficient units. Managing humidity and temperature together is key."**
>
> – **Bill McQuade,** *President of ASHRAE, featuring findings from our real-world testing in his inaugural address.*

Field testing showed today's ACs waste up to 25% of energy overcooling for humidity control, a gap missed by current standards

AMPLIFYING OUR MESSAGE GLOBALLY

Our work was spotlighted in top-tier media around the world:

- mint — **Hot profits from an AC gold rush. But where's the climate-smart tech?**
- ET Energyworld — **India's heat crisis demands a next-gen cooling solution**
- FAST COMPANY — **The coolest, electric-bill-friendly air conditioners you can't have…yet**
- TIME — **Should I Feel Guilty About Using My AC?**

As a result of our work and collaboration with UNEP's United for Efficiency (U4E), the Super-efficient AC Performance Specifications, derived from our Field testing, are included as voluntary global benchmarks in the upcoming Model Regulation Guidelines for Air Conditioners and Heat Pumps. Given the broad influence of these Guidelines, once testing standards are updated to reflect dehumidification performance, U4E will be key in scaling global impact.

LOOKING AHEAD: 2026 AND BEYOND

We aim to strengthen three pillars:

Capability building of the manufacturing ecosystem with technical know-how and sharing evidence on real-world performance impact

Scaled pilots across diverse climates and customer types to create additional proof points and build buyer confidence

Market activation through finance, demand aggregation, and consumer awareness that builds on the early exploration efforts to support the uptake of super-efficient ACs

Our 2025 progress is thanks to the support of our many partners across the globe. We're looking forward to a promising and impactful 2026.