

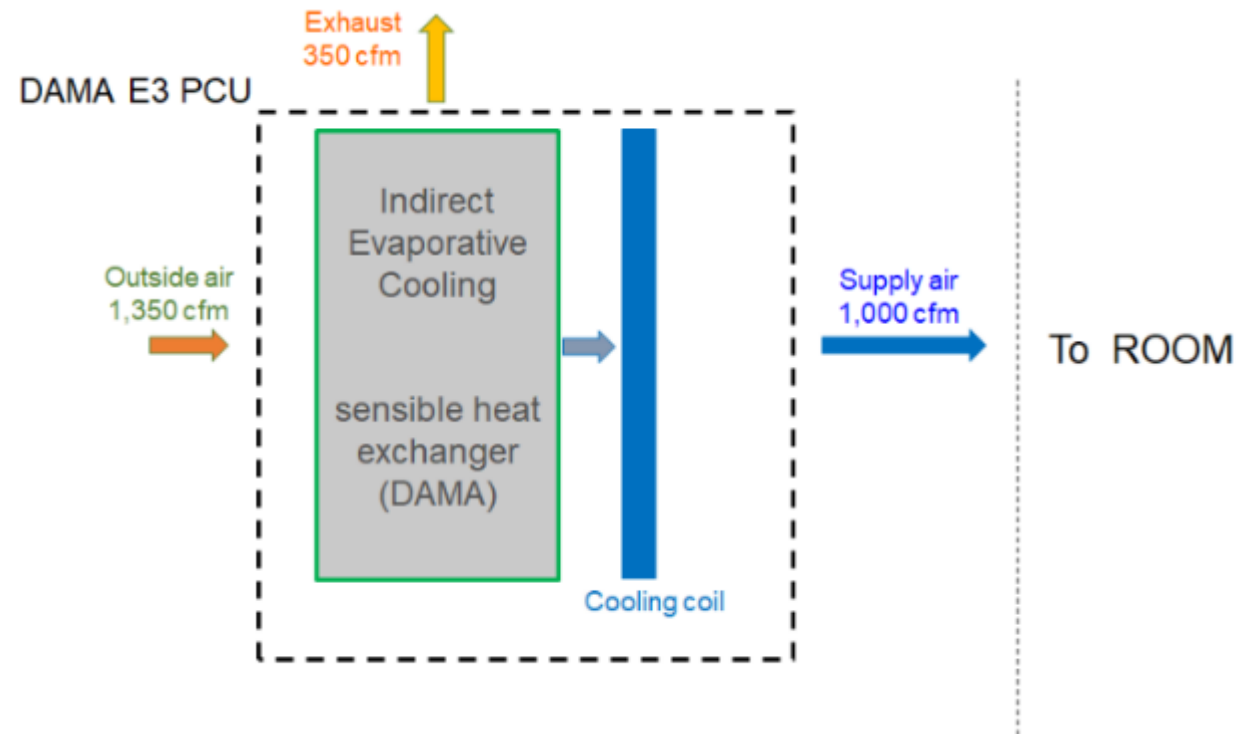
Energy Efficient Cooling: The DAMA Way

The Potential of Indirect Evaporative Cooling-based Solutions

HMX - A business unit of A.T.E. Group

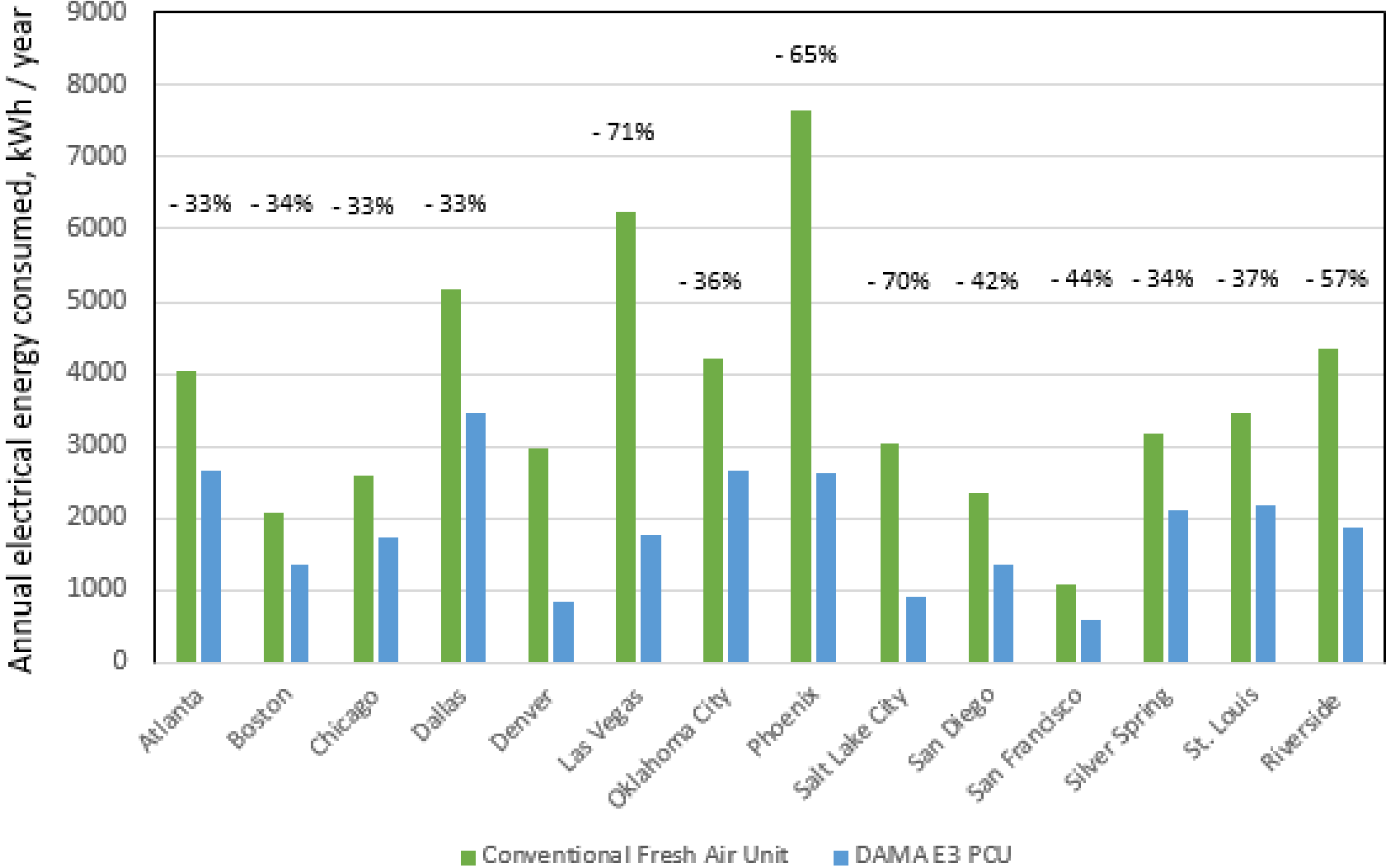
DAMA E3 PCU – Efficient Pre-cooling of Fresh Air

This slide shows how DAMA incorporated into a Dedicated Outdoor Air System (DOAS) saves energy while enabling a higher proportion of fresh air.



* With an average of 46% of the annual energy consumed, for 13 cities across climate zones. Results derived from computer simulations.

Savings with Pre-cooling of Fresh Air (10 hour operation)



Indirect Evaporative Cooling to pre-cool fresh air

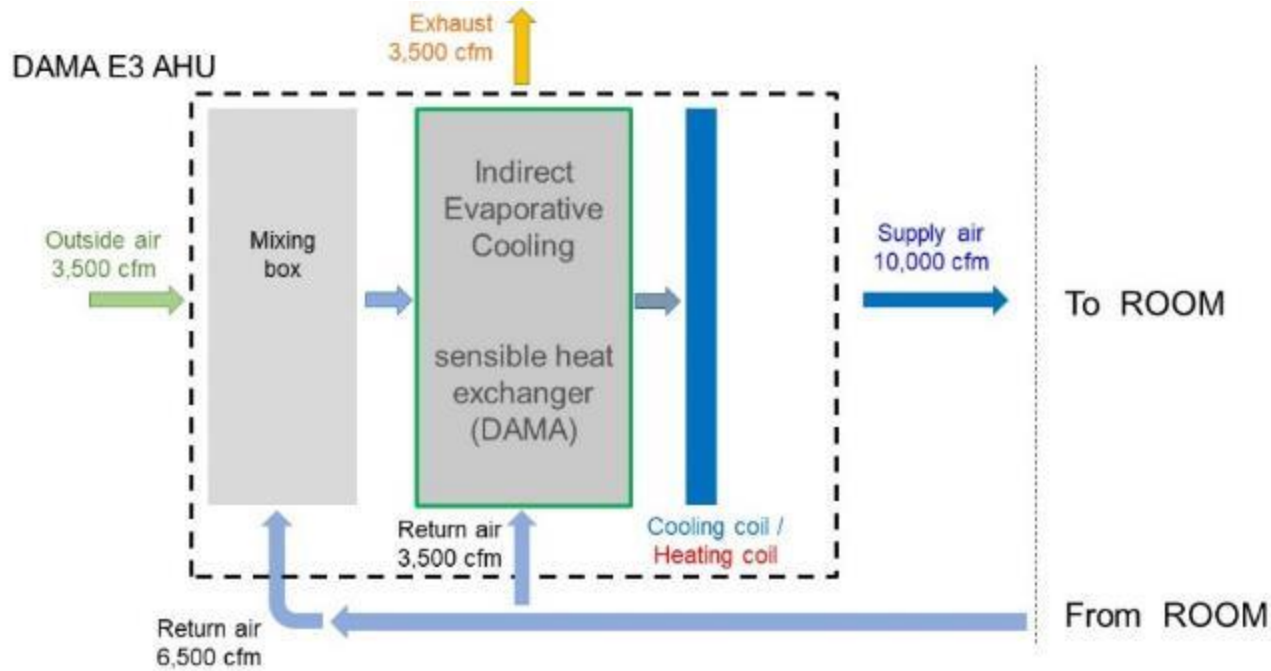
Capacity: 1000 cfm

Operation: **08.00-18.00 hrs**, 365 days / year

Winter cut-off temperature: 68 °F

Net savings = gross savings – parasitic power consumed

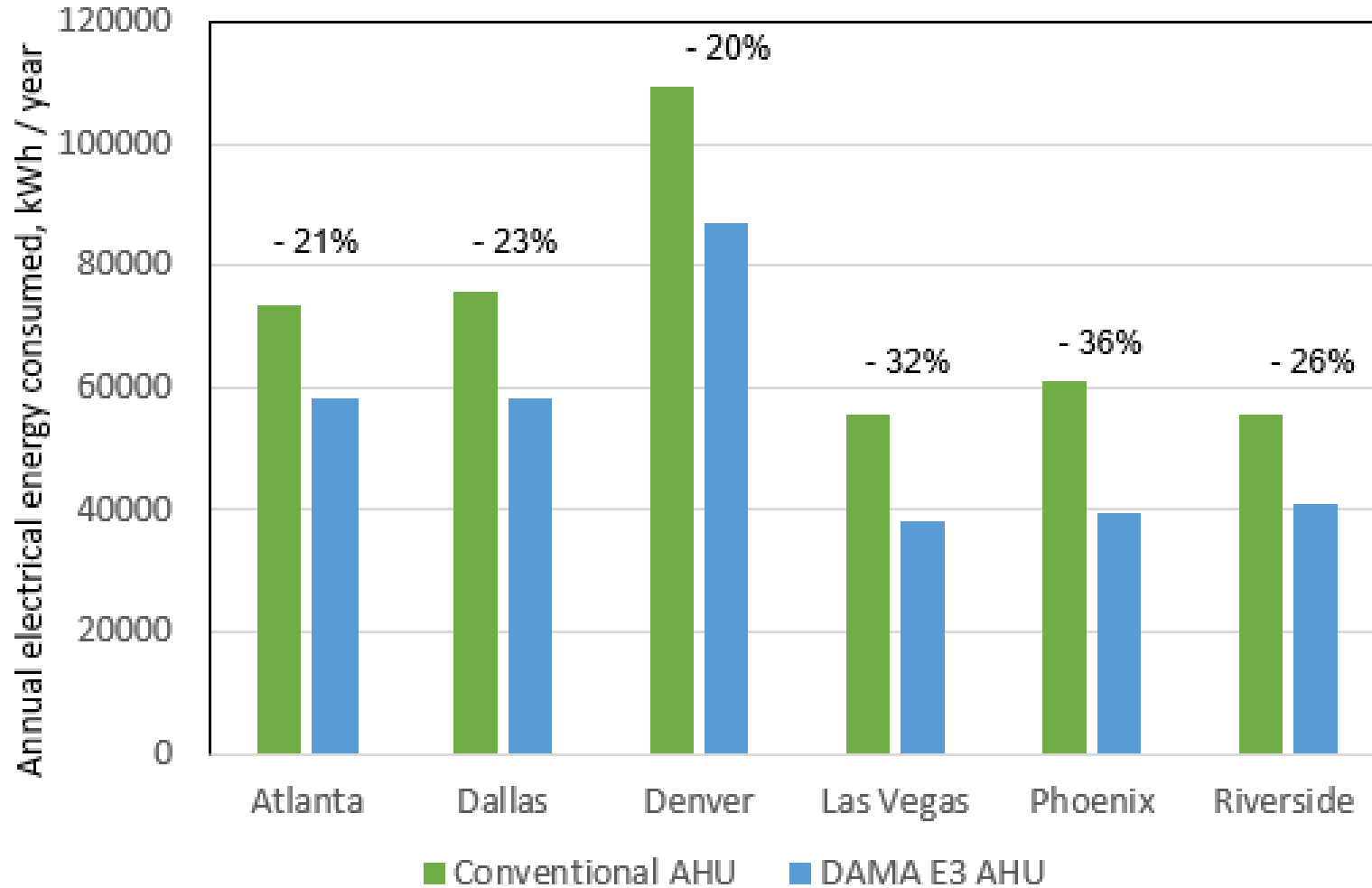
DAMA E3 AHU – Recover Energy & Increase Fresh Air



- DAMA-enabled AHUs can deliver up to 3x fresh air
- Saves 20.2 – 34.3% annually in energy costs in the US*
- Solutions can be customized for airflow, pressurization, etc. while maintaining DAMA performance

* Results of computer simulations of the performance of a DAMA E3 AHU system for 5 cities in the USA. Projected energy savings of up to 20.2% in Atlanta and 36% in Phoenix.

Energy Savings of DAMA E3 AHU vs. Conventional AHU



Indirect Evaporative Cooling-based Hybrid AHU

Capacity: 10,000 cfm including 3,500 cfm of outside air

Operation: **08.00-18:00 hrs**, 365 days / year

Winter cut-off temperature: 68 °F

Net savings = gross savings – parasitic power consumed