parc
Palo Alto Research Center

Next-Generation High-Efficiency Cooling:
Cutting air conditioning energy use in half

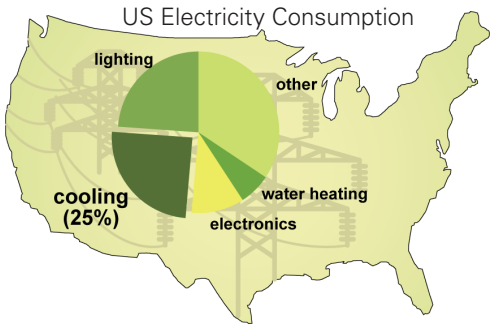
PARC has developed a proprietary thermoacoustic refrigeration technology that can achieve double the efficiency of the best current residential and commercial air conditioning and refrigeration systems.

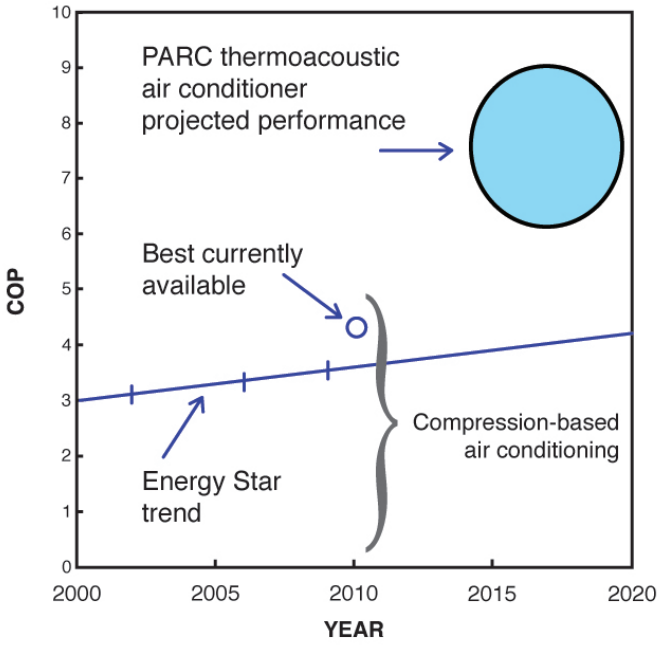
Cooling applications represent 25% of all electricity use in the United States, consuming over 7 quadrillion BTUs of energy and generating nearly 600 million metric tons of CO_2 emissions annually.

The predominant technology for air conditioning, the vapor-compression cycle, despite its maturity and ubiquity, can reach efficiencies of only 12% of the theoretical maximum. Achieving significant energy savings and CO_2 emission reductions requires a fundamentally different approach to cooling.

PARC has developed a technique to enable thermoacoustic cooling technology for air conditioning applications. Wide adoption of PARC's technology could lead to dramatic energy savings and greatly reduced CO_2 emissions. PARC's approach could:

- Double the efficiency of air conditioning
- Save 4 quadrillion BTUs (13% of total U.S. electricity use) per year
- Reduce CO_2 emissions by 311 million metric tons annually





While thermoacoustic refrigeration is a well-established technology for cryogenic cooling, it has not been effectively applied at room temperature due to limitations of current techniques. Overcoming this deficiency with a novel acoustic power-recovery technique, PARC's design can potentially achieve double the efficiency of today's vapor compression systems.

PARC is currently building prototype systems, and will have a full-scale demonstration unit within a year.

We are seeking strong commercialization partners who have deep market penetration in the air-conditioning or refrigeration industry or who are interested in displacing current cooling approaches.

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A global center for commercial innovation, PARC (Palo Alto Research Center, Inc.) works closely with enterprises, entrepreneurs, government program partners and other clients to discover, develop, and deliver new business opportunities. Previously known as "Xerox PARC," PARC was incorporated in 2002 as a wholly owned subsidiary of Xerox Corporation (NYSE: XRX). For more information www.parc.com.