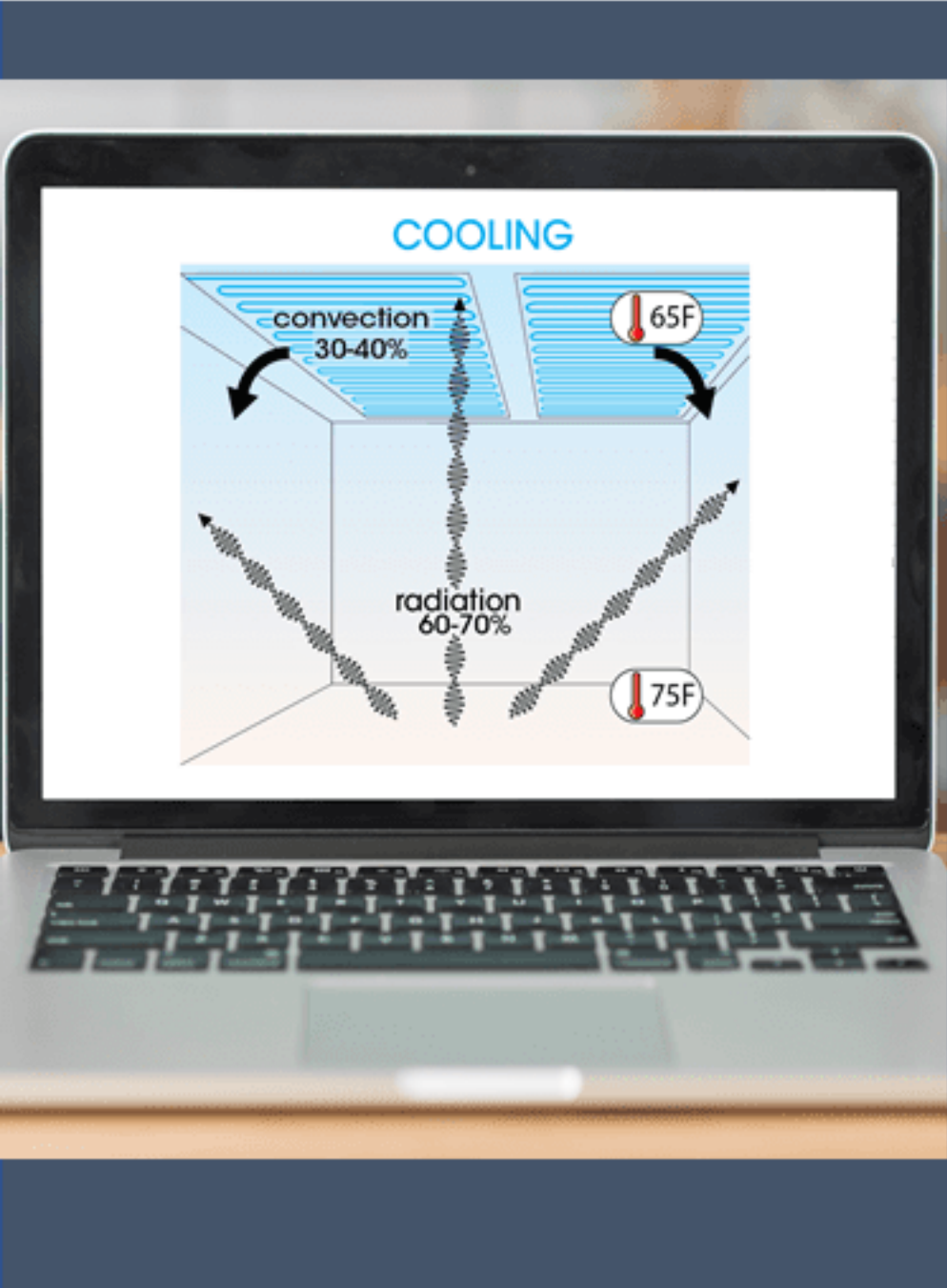


INSIGHTS FOR A COMPLETE GAME PLAN

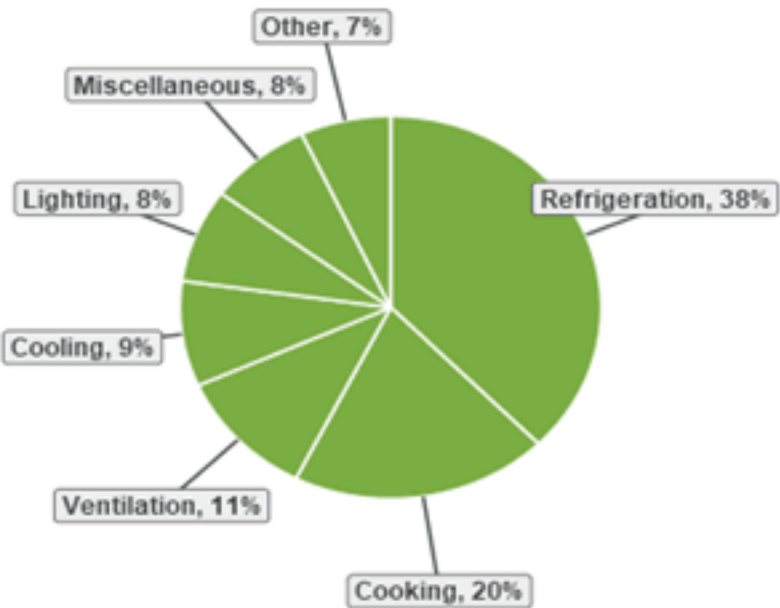


INSIGHT #2 // Radiant Cooling

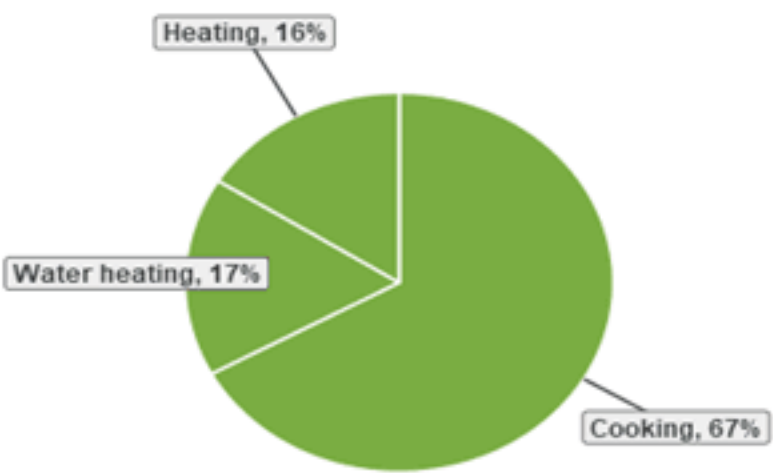
Proponents of radiant cooling believe air is meant for breathing not cooling. A collaborative team from Princeton University, British Columbia, and The University of Pennsylvania have been working on a ground breaking radiant cooling technology. Chilled water is circulated through a radiant cooling panel. Radiated heat from occupants first passes through a membrane and then removed by chilled water. This process creates a thermally comfortable space from the net heat loss by the occupants to the radiant cooling panel. This is a departure from air-based thermal comfort where air is circulated through the conditioned space to remove heat. Radiant cooling is a developing technology that is currently used in conjunction with air-based conditioning for peak management. Research is underway to shift from air-based systems to fully radiant cooling systems. In fully radiant system, the cold face of the radiant panel is fully insulated from air in the occupied space while allowing thermal infrared radiation to permeate. The insulated panel significantly lowers the chance of condensation as the panel can be maintained efficiently at temperatures lower than the dew point as the panel is not exposed to the ambient air. Radiant cooling is another solution in the pursuit of overall efficiency. The reduction in energy consumption from traditional air-based convection system is very attractive.

SOURCES: ASHRAE

Electricity end uses



Natural gas end uses



INSIGHT #1 // END-USE EQUIPMENT LOAD IN QUICK SERVICE RESTAURANTS (QSRs)

Quick-service restaurants (QSRs) are some of the most energy-intensive buildings in the US. They use an average of 81 kilowatt-hours (kWh) of electricity and 174,000 Btu of natural gas per square foot each year. In a typical QSR, refrigeration, lighting, and cooling make up about 55% of total energy use as shown below, making those systems the best targets for energy savings. Refrigeration and cooking make up more than half of the electricity consumption in QSRs, and cooking dominates gas consumption.

SOURCE: SMUD.BIZENERGYADVISOR.COM

GAME WEEK // DALLAS COWBOYS.



CURRENT RECORD

8-4



COWBOYS

VS.

W

Sunday 12/12
@ 12:00 PM

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