

RESILIENCE AND THE UW ENERGY TRANSFORMATION

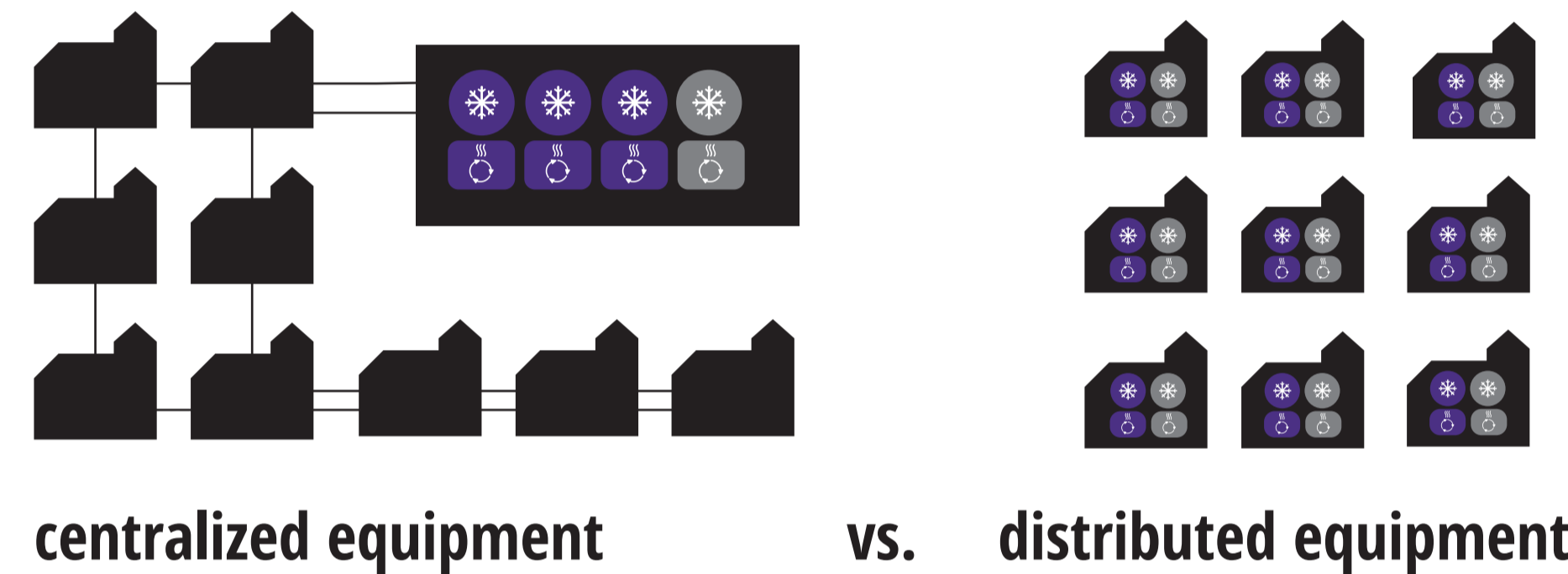
Resilient heating, cooling and electricity is a fundamental requirement of a research powerhouse like the University of Washington. Reliable energy means more than just staying warm in the winter, cool in the summer and keeping the lights on; it means protecting vulnerable research data and precious documents; it means creating a healthy environment for patients, students, faculty and staff. The transition to a decarbonized energy system must maintain or improve the level of resilience.



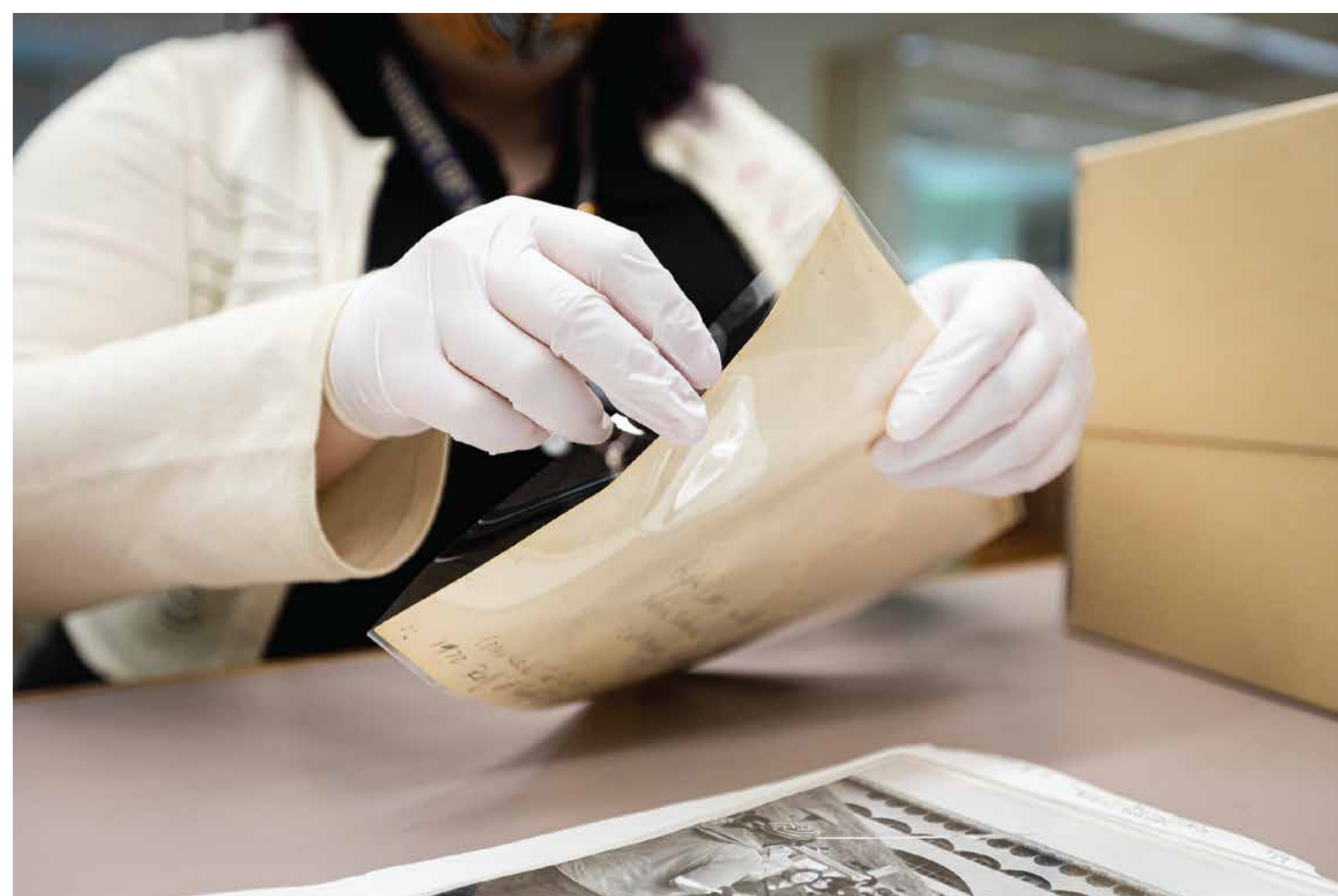
RESEARCH SPECIMENS: The Seattle campus houses ice cores from Antarctica and other vulnerable specimens that must be kept continually frozen to preserve their research value.

Centralize to Optimize

Our transformation strategy includes retiring aging chillers located in buildings and replacing them with highly efficient chillers in our central plants. It also calls for centralized rather than distributed heat pumps. Centralized equipment allows skilled operators to keep a close eye on the equipment to ensure that it operates at peak performance and removes the need to spend time traveling to monitor and maintain 100s of smaller chillers and heat pumps. It also means that when one piece of equipment needs to be taken offline for repairs or maintenance the others can pick up the slack.



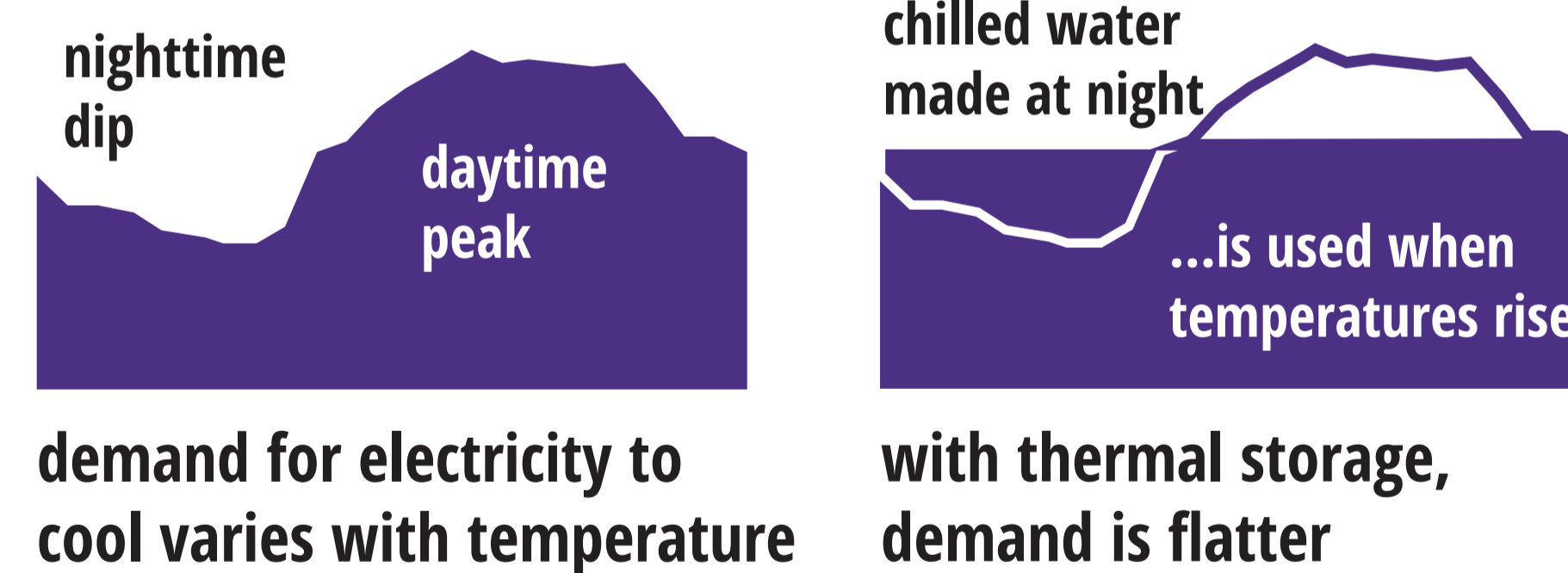
RESEARCH EQUIPMENT: Highly sensitive electronic equipment relies on a reliable power supply with minimal voltage fluctuations.



PRESERVATION: The UW houses museum specimens and documents that must be kept in a humidity and temperature-controlled environment to minimize deterioration.

Supporting the Grid

Decarbonizing energy systems worldwide means that our electrical grid must take on new loads and rely on new forms of generation. The UW energy transition strategy works to both minimize demand—through efficiency and harvesting waste energy from sources like the sewer and the lake—and to modulate demand through the use of thermal storage that enables some of the electrical load to be shifted away from times of peak demand on the grid.



Anticipating Future Needs

Our energy transformation strategy is looking toward the future. The more efficient cooling infrastructure will help us respond to rising demand as summers get warmer. The hot water distribution system sets us up to adopt new heating technologies as they become stable and viable.



PATIENT CARE: Medical care relies on reliable electricity to operate delicate equipment; a well-functioning air-handling system for comfort and safety; and steam for sterilization.