

# UW's ENERGY TRANSFORMATION

The main driver of this project is the UW Power Plant. The plant provides most of the heating and cooling for buildings on the Seattle campus. Heating largely comes from steam, created by burning natural gas to heat water, which is then sent through miles of utility tunnels below campus to individual buildings. The plant also uses electrical chillers to cool water, which is pumped to buildings to provide cooling.

**1 ENERGY EFFICIENCY**  
 Implement projects that reduce energy consumption while maintaining or improving performance.

**2 CONVERT TO HOT WATER**  
 A first step to shift off fossil fuels is to move to a lower temperature system. This enables us to electrify with heat pumps.

**3 CENTRAL COOLING**  
 Cooling is energy intensive: a more efficient system will free up electrical capacity for decarbonizing.

**4 ELECTRIFY HEATING**  
 Electrify the system by installing heat pumps to recover waste heat from multiple sources.

**5 FINAL PUSH**  
 Find an alternate way to produce steam needed to sterilize research and medical equipment.

## CURRENT CHALLENGES

### GREENHOUSE GAS EMISSIONS

The UW needs to reduce our emissions to meet city and state requirements. About 93% of our emissions on campus come from the power plant.

### ELECTRICAL CAPACITY

Our mild climate and low energy costs have meant it was cheaper to waste energy than make changes to conserve, but now we need to change that approach.

### ENERGY CONSUMPTION

All of the electricity for the main Seattle campus comes through one location, and that location can carry a limited amount of electricity.

### AGING UTILITIES INFRASTRUCTURE

Much of our utilities infrastructure is old and past its expected life. This puts us at risk of disruptions that could harm the daily activity of our university.

## WHERE WE'RE GOING

### ZERO GREENHOUSE GAS EMISSIONS

Eliminating emissions addresses the climate crisis and shows a path others can follow. We will also no longer be required to purchase expensive emission allowances.

### HIGH ENERGY EFFICIENCY

Reducing our energy demands will mean we are less reliant on energy infrastructure and less exposed to the risk of rising utility costs.

### SUFFICIENT ELECTRICAL CAPACITY

This is one goal our current plan does not yet achieve, given campus growth requirements.

### RESILIENT INFRASTRUCTURE

An updated campus energy infrastructure will be efficient, reliable and flexible. This will set us up well to take advantage of future advancements in energy technology.



For more information, visit:  
<https://sustainability.uw.edu/energy-transformation>

