ENERGY

# Balance the Grid

PUZZLE Duration: 25 min • Grades 6–8 • Facilitator-led

## Overview

Students control a mini PA grid across a 24-hour cycle, dispatching solar, gas, and nuclear as demand shifts. A live dashboard shows blackouts, cost, and emissions.

## Learning Objectives

- Explain supply and demand on the electric grid
- Compare tradeoffs between energy sources
- Interpret real-time data to make decisions

## Materials Needed

- Browser device
- Shift-log worksheet

## Facilitator Flow

1. Intro (3 min): 'You are the grid operator today.'
2. Practice run (5 min): a simple sunny day.
3. Full shift (12 min): 24-hour cycle with a heatwave event.
4. Compare (3 min): who kept the lights on cheapest?
5. Debrief (2 min): tradeoffs between reliability, cost, and emissions.