





# So how do power grids work?

## ⚡ High-voltage 3-phase AC

Easier to convert than DC

Old-school: Transformers + fuses

Modern: Capacitors + Thyristors + Optic coupling

## ⚡ Dealing with changing load is difficult

Frequency synchronization

Phase balancing

Kinetic energy management

## ⚡ Grid-scale tooling is really weird

Signals bounce off the ends of wires!

Microcontrollers cant get anywhere near >10kv!

The whole grid is a giant antenna!

