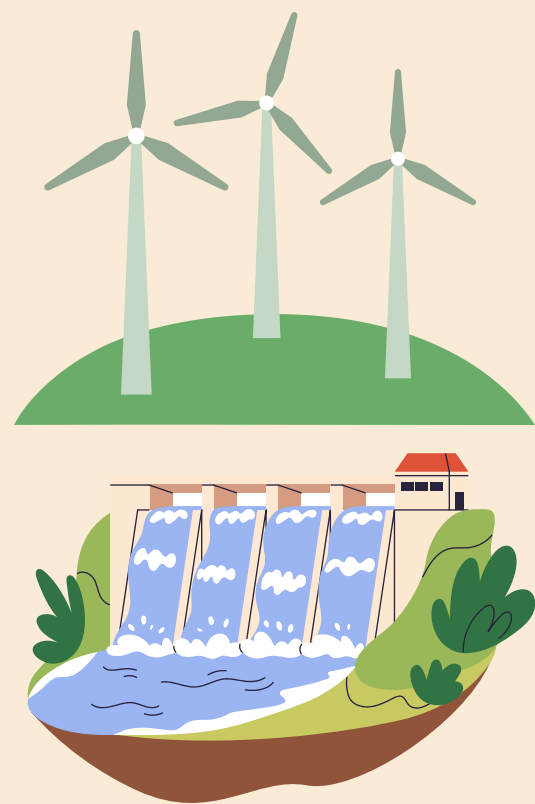


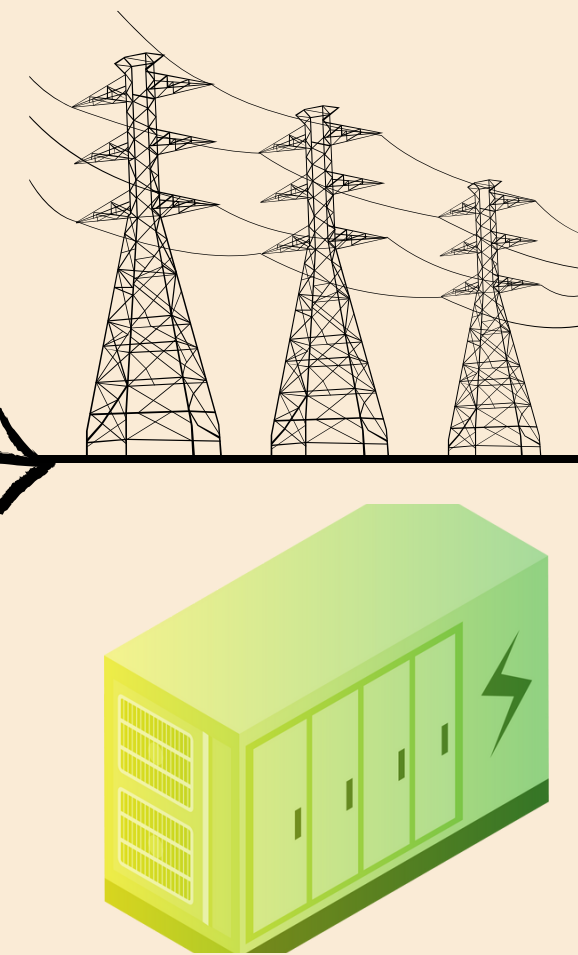
MICRO MANAGED POWER DEMAND

A system that creates a more complicated power grid, to keep up with power demand and utilise modern technologies to reduce and eventually eliminate power demand periods.

Power Generation



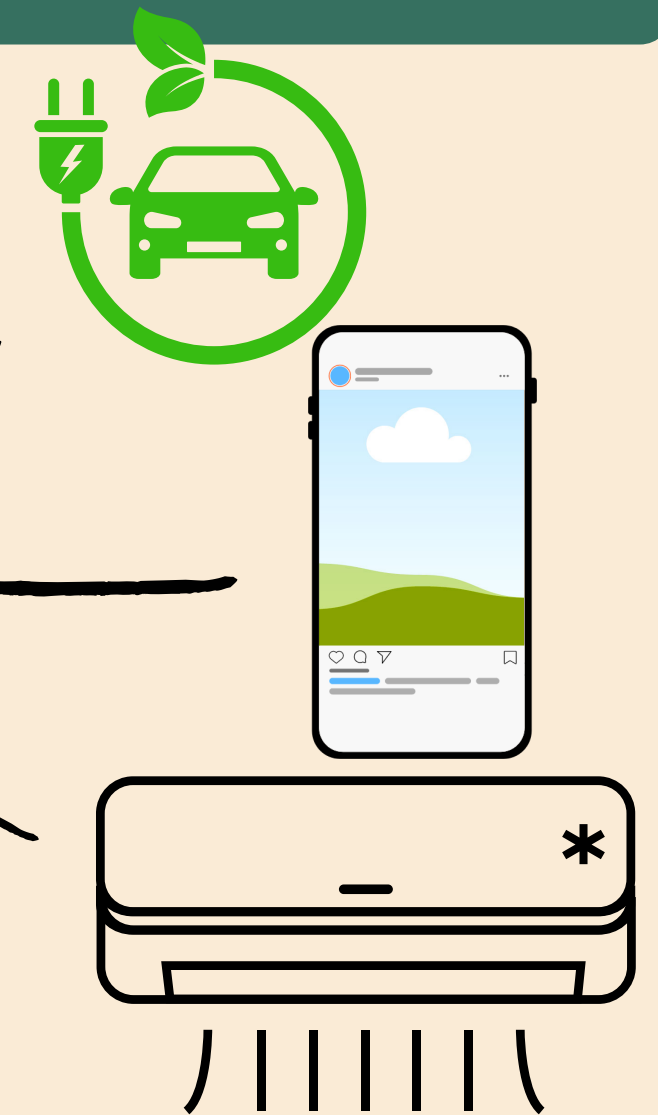
National Grid



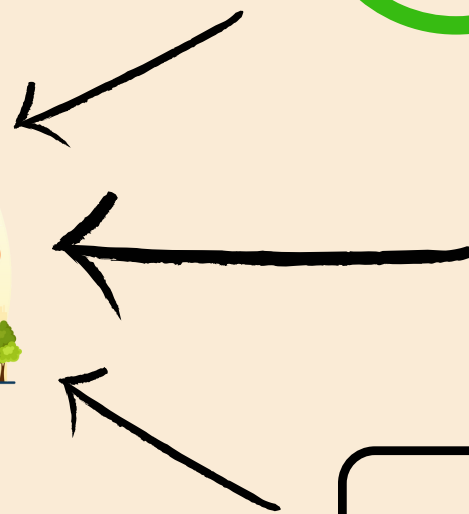
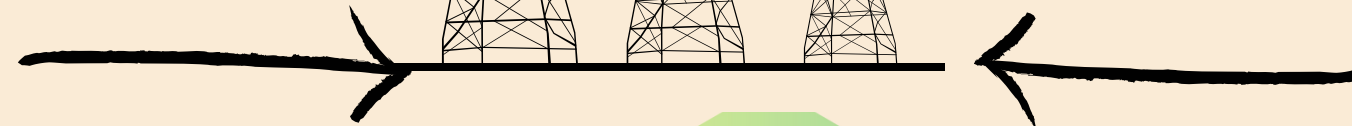
Individual Households/
Businesses



Household Appliances



Excess Power



Grid Stabilisation System

As renewables take over the energy sector and coal systems are phased out, the ability of the grid to evenly sponge out demand variability will decrease. Currently, as demand heightens, kinetic energy is sucked from the turbines in coal-fired power plants. Wind turbines don't have enough mass to allow for this, as they are built as light as possible. Solar panels require the sun and cannot be used in the dark when the demand is heightened. Snowy Hydro does help to fulfil the demand, but it isn't an instantaneous solution; when the demand heightens, it takes minutes to become operational. My idea is that the grid can rely on appliance batteries, household batteries and industrial batteries to smartly fulfil the demand. If appliances are smartly connected to the grid, small amounts of energy from every household will make a large difference in fulfilling demand. A meterbox computer talks to a grid control centre and the appliances, telling them when to charge and when to release power into the grid. This system could also talk to air conditioners, hot water systems, fridges, and other household appliances that regularly use electricity without any restriction. With the use of computing and AI, signals can be quickly sent to individual households to reduce unnecessary power consumption from these appliances while power is in demand, or to utilise power or store it in the batteries that are plugged into the grid when demand is low. When a car is plugged in or large machinery is scheduled to start operation, the computers can first send a message to the grid in advance, allowing demand to be filled by households and the snowy scheme. My idea smooths out the demand on our grid, making our households more efficient with the energy they require.