

### THE PROBLEM

The problem of cooking with electricity can be:-



**NO ACCESS OR INSUFFICIENT ACCESS** - rural households don't have it or the supply is very weak!



**BURNT OUT WIRING** - drawing high power for cooking through small wires overloads and burns the wiring



**BLACK OUTS** - load shedding either planned or unplanned means the household cannot cook when it wants.

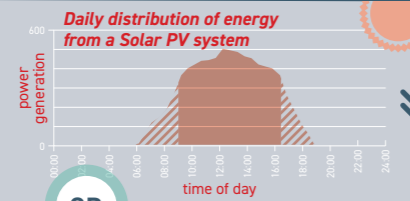


**LOW VOLTAGE** - we have measured as low as 40V on a national grid that was meant to be 220V, meaning that cooking equipment doesn't work

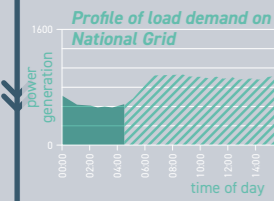
### THE SOLUTION

Solve these problems by trickle charging a battery, cook when you want, charge whenever power is available

**TRICKLE CHARGE** the battery from Solar PV during the day when the sun shines



OR



**TRICKLE CHARGE** from national grid during the night when there is spare capacity

OR

**TRICKLE CHARGE** from other sources during the day & night



**Hydro grids**  
surplus energy particularly at night



**Wind Power**  
energy available when the wind blows



**Any micro or mini grid**

For utilities and IPPs, this can mean more revenue and a more effectively used power system.

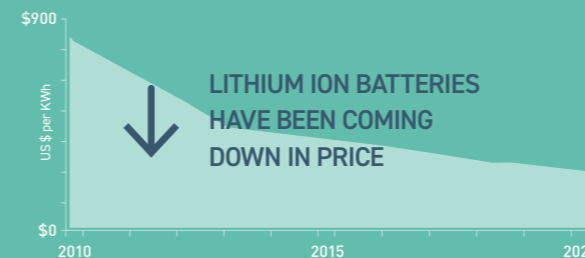
### USE THE BATTERY ENABLED COOKER WHENEVER YOU WANT!



### IS IT COST EFFECTIVE TO COOK WITH A BATTERY?

Yes, and its only going to get cheaper.

Falling prices are driven by learnings from electric vehicles and renewable energy



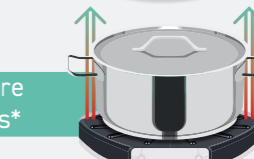
### EFFICIENCY

Use less energy by...

1 Using a lid



2 Making sure the pan fits\*

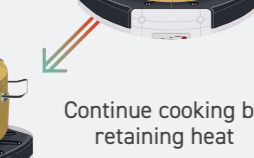


3 Insulating the pan

Creating a pressurised chamber with the pan



releasing the hotplate for other dishes



Continue cooking by retaining heat

The Bean Boiling challenge.

Boiling 1 cup of beans

With no efficiency measures 2kWh (2 units of electricity) to get tasty beans

With efficiency measures 0.1kWh (0.1 units of electricity) to get tasty beans

Even if you don't get a battery, consider a modern electric pressure cooker. They give the best efficiency and are readily on the market.



Our research has shown that electric pressure cookers are desirable to African & Asian cooks because they're faster, more convenient and cheaper than hotplates

\* Induction plates are more efficient because they heat the pan directly. But if a hotplate is used in a sealed insulated environment, induction offers no advantage