



# **SOLAR PV BASED INDUCTION COOK STOVE**

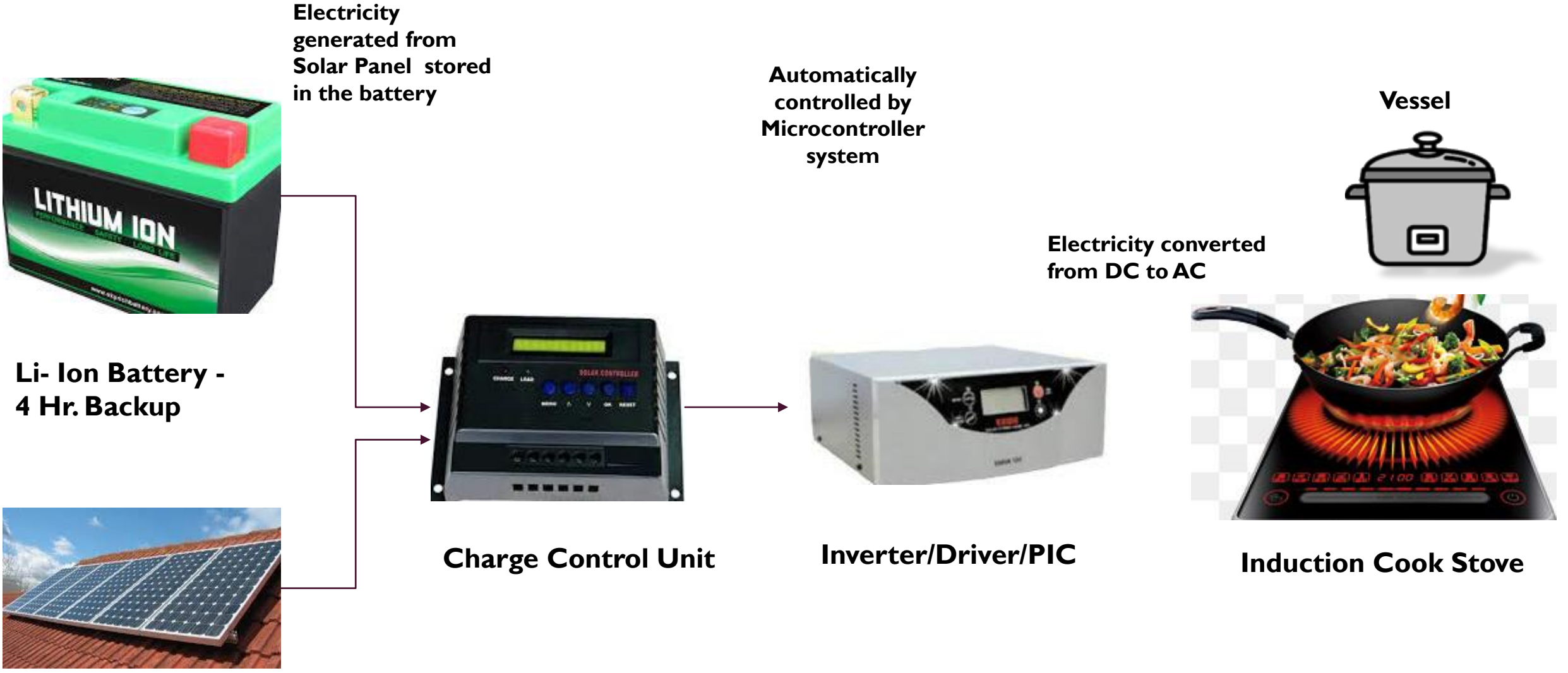
**BY DIGIWARE TEAM**



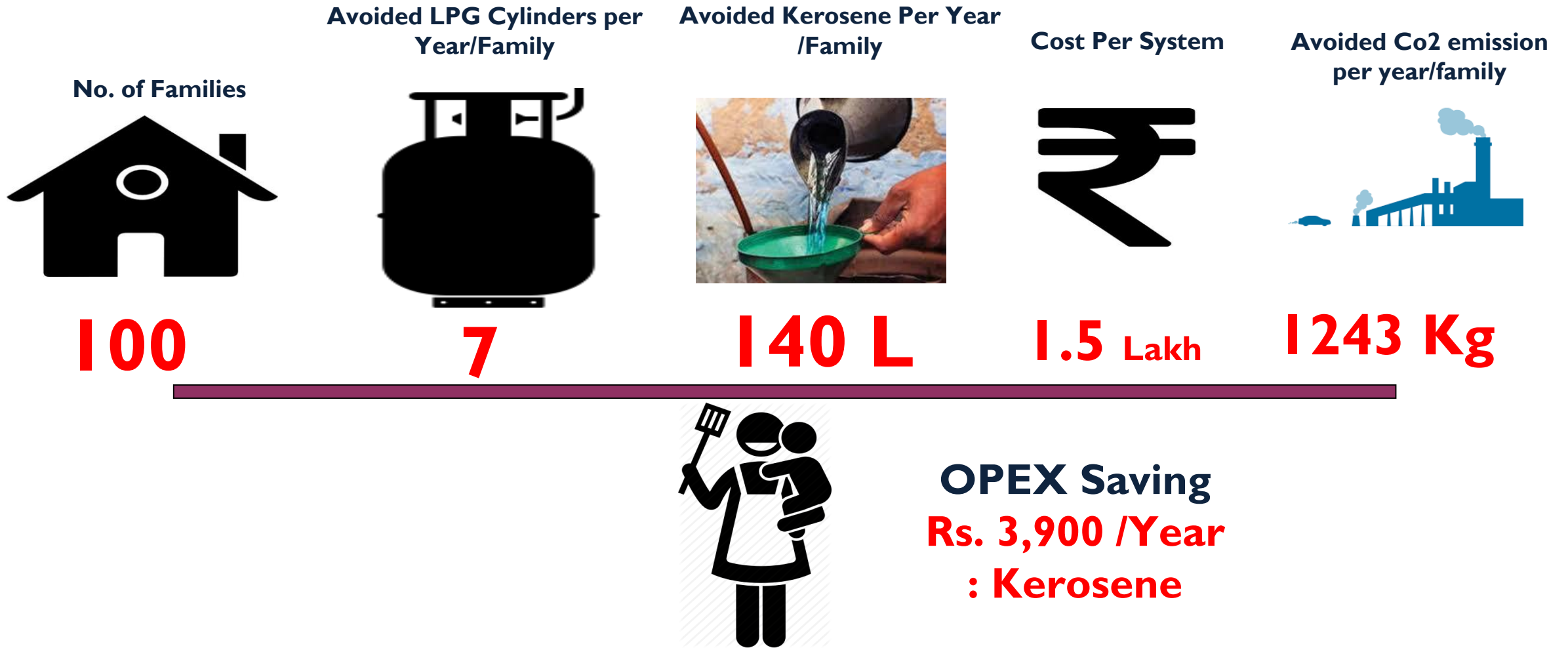
# BACKGROUND

- Induction Stove is two-times efficient than Gas Stove in terms of Heat Transfer (*Eff. Of LPG burner = 40%, Electric Heater = 74% and Induction Heater = 84%*).
- With typical energy price, the operating (energy) cost in Induction Cooking is about 50% less to that of LPG Cooking.
- Clean, Comfortable and hassle-free cooking
- Induction cook-tops heat faster and distribute heat more evenly
- Easily Scaled up of induction cook stoves powered by solar energy on Pan –India basis.

# WORKING PRINCIPLE OF SOLAR PV COOKING SYSTEM



# KEY FIGURES : (100 FAMILY)



## MAINTENANCE OF SOLAR PV PANELS FOR OPTIMUM PERFORMANCE :



### Cleaning the panels to remove settled dust and other debris.

- In places with frequent rainfalls, manual cleaning is seldom required. Annual cleaning would suffice in these places.
- Visual inspection of the solar panels can be done every week



### •Remove any sort of animal infestation and vegetation.



### Check them for any sorts of cracks and other mechanical defects

## MAINTENANCE OF INVERTERS FOR OPTIMUM PERFORMANCE :



**Any sort of dust or dirt accumulation on the inverters need to be removed.**

- Inverters can be checked weekly once or more.



**Inverters come with display interfaces.**

Go through the inverter manual and check whether the indicator lights are in accordance with that as given in the manual.



**Ensure that the wires that come to and go from the inverters are not loose.**

## Case I: Induction cooker does not operate

- Induction cookers controls are locked.
  - Set the induction cooker controls to unlock the induction cook-top.
- House fuse has blown or circuit breaker has tripped.
  - Check/reset breaker or replace fuse.
- If the problem is a circuit overload
  - Corrected by a qualified electrician (May be service wiring or power outage)

## STEP-WISE TROUBLESHOOTING OF SOLAR PV INDUCTION COOK STOVE :

### Case 2: Induction cooker turns off while cooking

- Automatic shut-off feature will turn the induction cooktop OFF after any cooking zone has been in continuous use for more than the limited time period.
  - Refer to the Instructions manual supplied with the induction cooktop for more detailed information.
  - Be sure the induction cooker vent holes are not blocked.
  - Clean spills or remove object from induction cookers surface.
  - Re-power the induction cooker.



## STEP-WISE TROUBLESHOOTING OF SOLAR PV INDUCTION COOK STOVE :

### Case 3: Element does not heat the food

- Please check or reset breaker or replace fuse.
- If the problem is a circuit overload, or improper connection of the plug and cable supplied with the induction cooker, have this situation corrected by a qualified electrician
- Incorrect cooking control setting on induction cooker. Make sure the correct control is ON in your induction cooker for the cooking. Too low heat setting on induction cooker. Turn control to a slightly higher setting until induction element comes on. In your induction cooktop incorrect control is ON.
- Be sure to use correct control for the cooking zone needed. No cookware was placed on the cooking zone of the induction cooker or cookware material type or pan is not suitable for induction cooking. Cookware bottom not large enough for induction cooking zone. The cookware placed on induction cooker surface is warped with any non-magnetic material or in poor condition. The cookware or pan is not centered on the surface of induction cooker cooking zone. Cookware resting on induction cooker surface or does not rest completely on the induction cooker surface.

### Case 4: Element too Hot or not hot enough

- Incorrect control setting on induction stove. Raise or lower setting on induction cooker until proper amount of heat is obtained.
- Lightweight or warped pans being used on induction cooker. Using flat, evenly balanced, medium or heavyweight cookware on an induction cooker are recommended.
- In an induction cooker pans having a flat bottom heat better than warped pans. Cookware material affects heating on induction stove. Heavy and medium weight pans heat evenly. Because lightweight pans heat unevenly and foods may burn easily.
- Voltage is incorrect. Be sure that induction stove is properly connected to the specified power source.

## **Case 5: Food is not heating properly**

- Improper cookware placed on induction cooker. Select flat-bottomed cookware of a proper size to fit the cooking zone of induction cooker.
- Incorrect control setting on induction cooker. Raise or lower setting of induction cooker until proper amount of heat is obtained.

## Case 6: Poor cooking results

- Many factors affect cooking results on an induction cooker. Adjust the recipe's recommended heat or power levels or cooking times.
- The cookware used on an induction stove is too lightweight or warped. Use heavier quality induction compatible cookware so foods being prepared may cook more evenly.

## STEP-WISE TROUBLESHOOTING OF SOLAR PV INDUCTION COOK STOVE :

### Case 7: Display LED continuously flashes

- Induction Cook-top pan detection sensors do not see the correct cookware placed on the induction cooker surface.
- Test the cookware with a magnet to be sure cookware is made with Induction compatible material.
- Cookware has been removed from the cooking zone of induction cooker without turning the induction cooker OFF.
- Place cookware back on to the cooking zone of your induction cooker or if finished cooking by turn off the induction cooktop.
- Cookware is not centered over the cooking zone of induction cooker properly