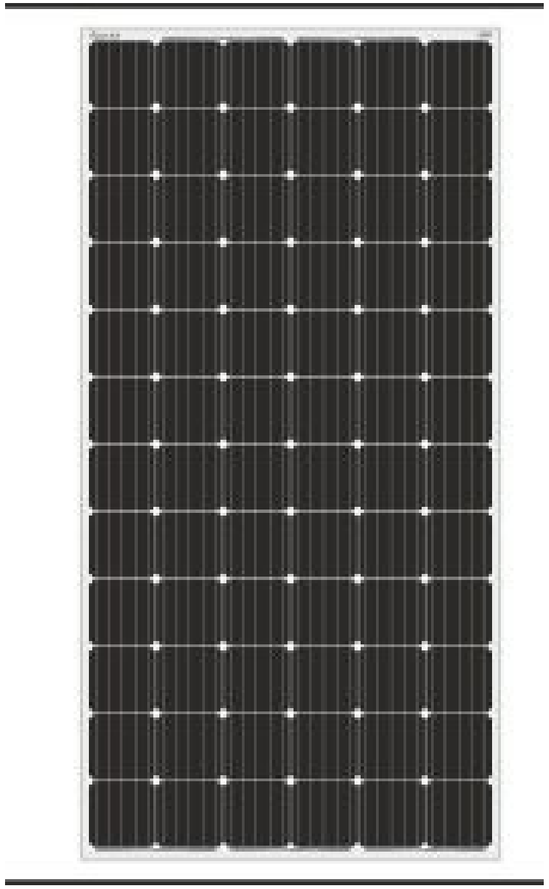
energy

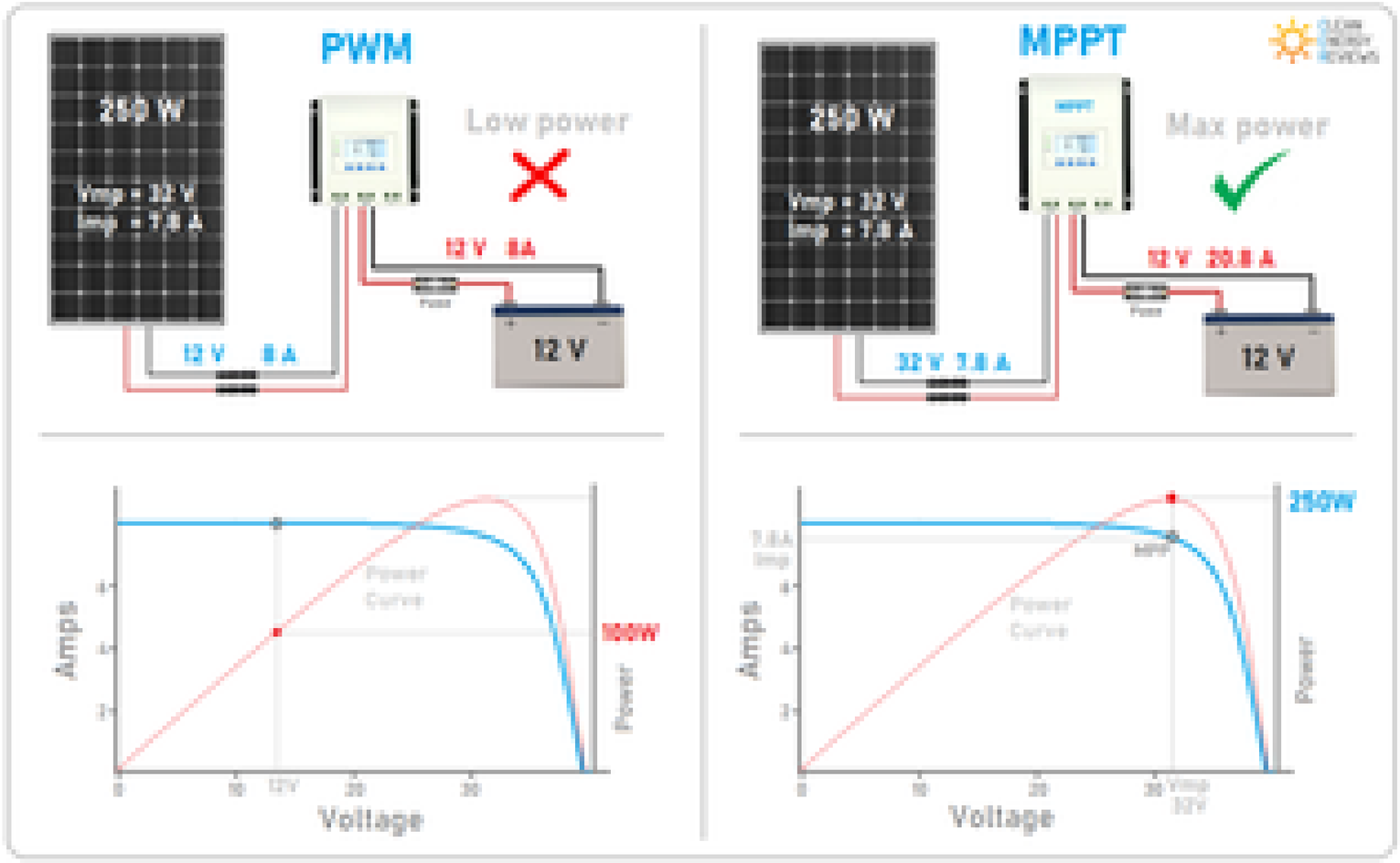
Our solution to save energy for the astronaut for two months use solar energy to raise the temperature during the night and lower it during the day .we can use 72-cell solar panels.



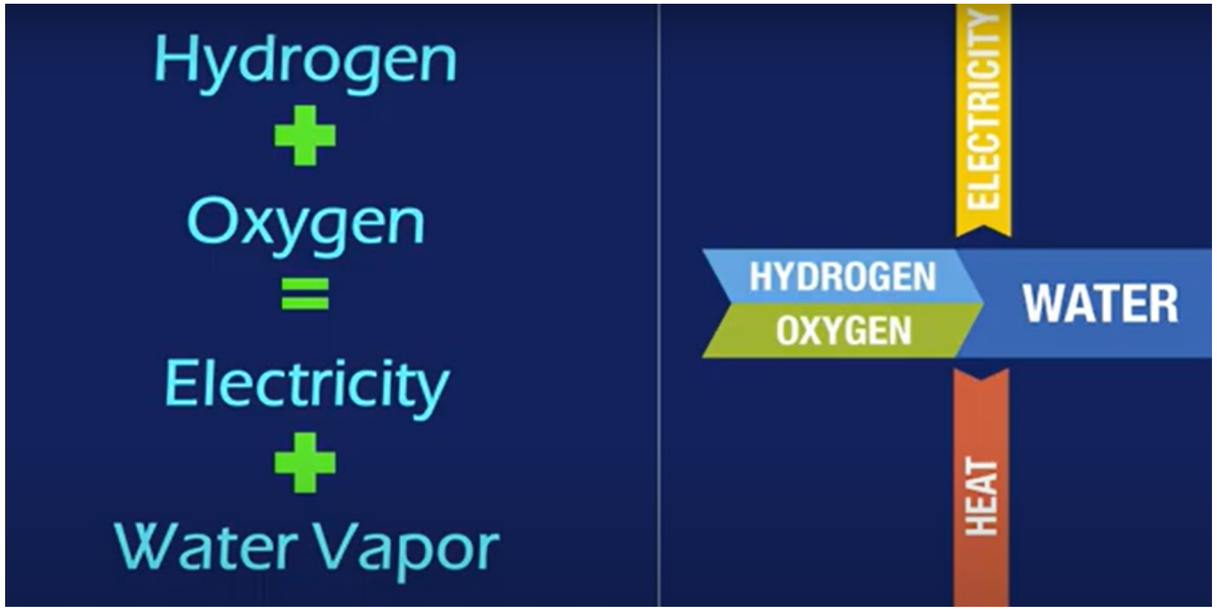
We will also use mppt as a voltage amplifier to improve power efficiency.

spring for mppt

https://fr.wikipedia.org/wiki/Maximum_power_point_tracker



for the rest the devices need energy we can use hydrogen energy as an energy source
our solution is the fuel cell
spring
https://en.wikipedia.org/wiki/Fuel_cell



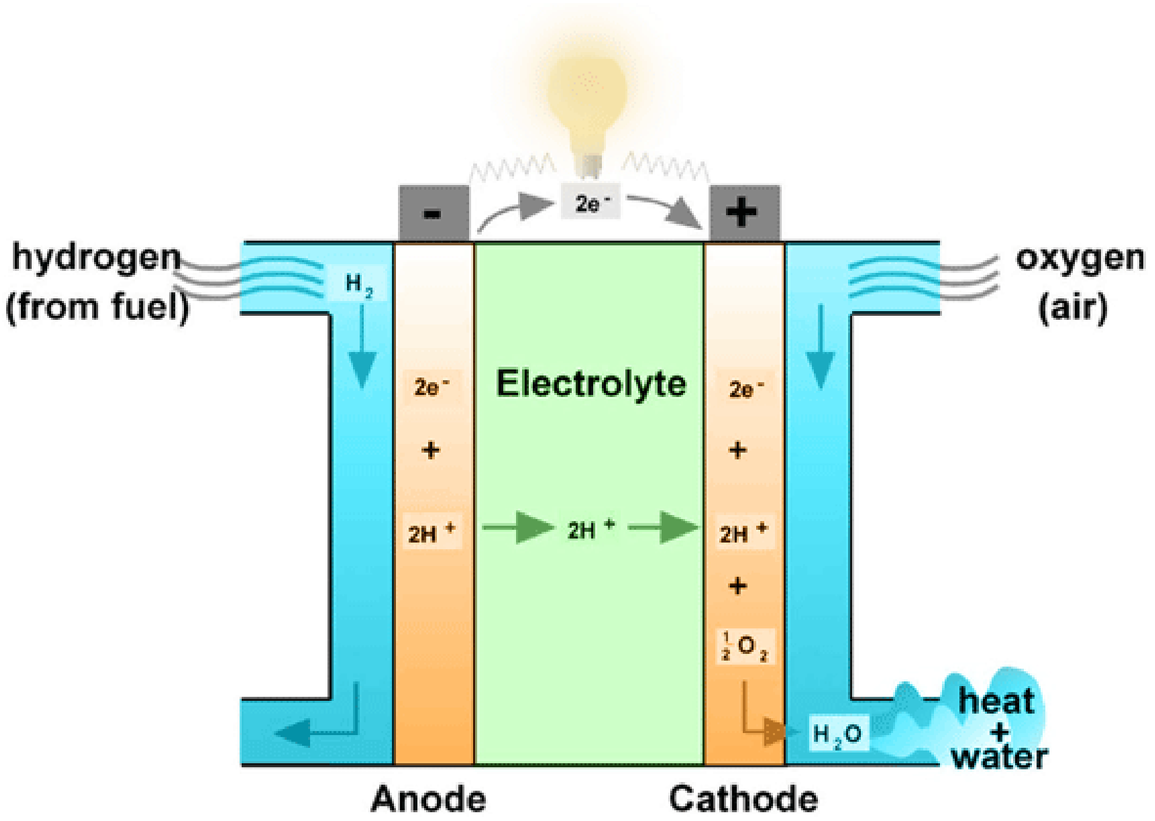
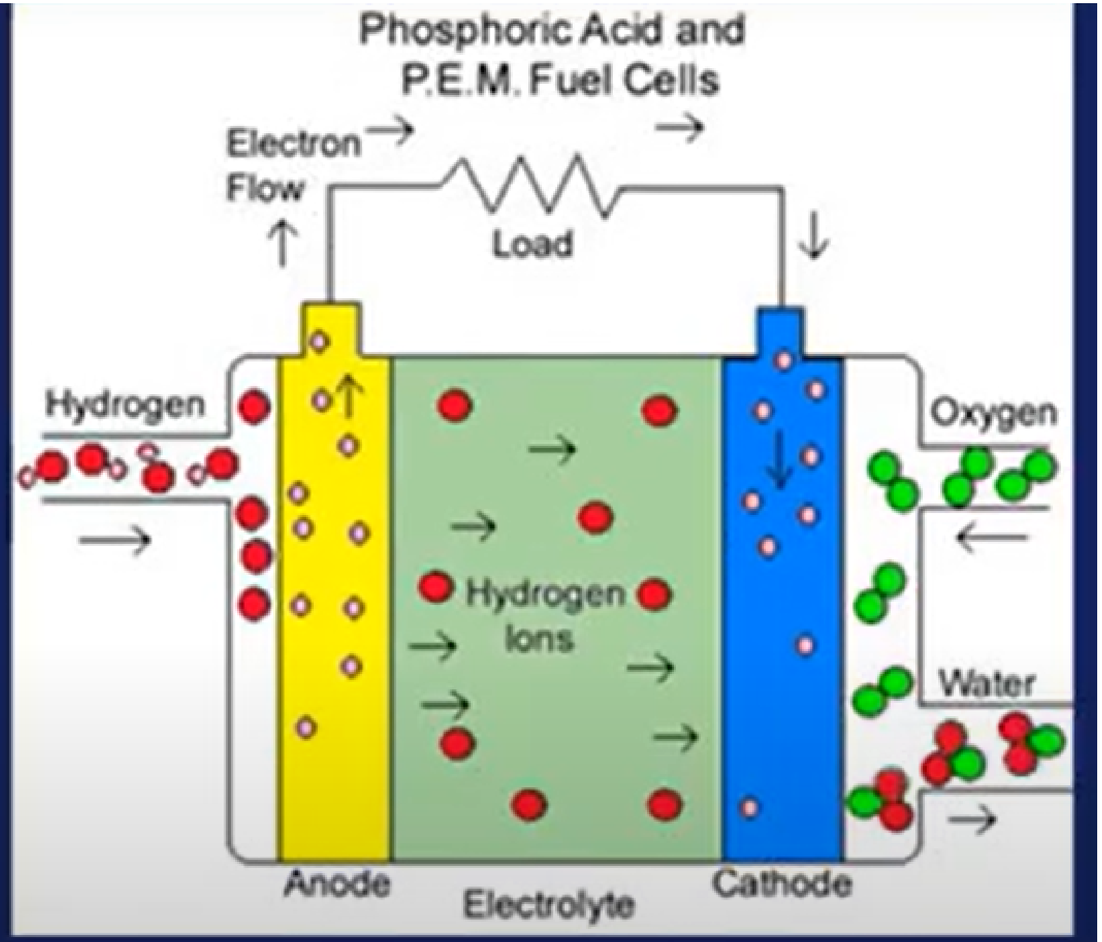


Fig. 2. Schematic of a PEM fuel cell operation. Source: World Fuel Cell Council.

there are many kinds of fuel cells we just need PAFC
phosphoric acid fuel cell
spring
https://en.wikipedia.org/wiki/Phosphoric_acid_fuel_cell

Phosphoric Acid fuel cells (PAFC) use **phosphoric acid** as the electrolyte. **Efficiency** ranges from **40 to 80 percent**, and operating temperature is between 150 to 200 degrees C. Existing phosphoric acid cells have outputs up to **200 kW.**



PAFCs tolerate a carbon monoxide concentration of about 1.5 percent, which broadens the choice of fuels they can use. If gasoline is used, the sulfur must be removed.

Platinum electrode-catalysts are needed, and internal parts must be able to withstand the corrosive acid.