

ELECTRIC FOOD TRUCK 2023

Status: Available

Group Members:

Sponsor(s): Maybe: TacoFino

Supervisor(s): Patrick Palmer, PhD, P.Eng, C.Eng, Professor, Mechatronic Systems Engineering

Project Description

A clean energy food truck project. Tacofino are considering buying a new truck and I have suggested they go all electric. Induction Cooking, Air Fryer Oven, Microwave Oven etc. Solar panels, Batteries etc.

Food trucks can plug in at most places anyway, but often they draw too much current, tripping the circuit breaker. So total current measurement and a control bus is needed and the batteries could provide 'peak' shaving to avoid nuisance trips, while providing full operation. The Batteries could also provide solar pv energy storage and act as an uninterruptible power supply. Potentially an extra trailer of batteries could be used, or indeed the ultra low emission, low noise diesels (as used on film sets) could be linked up if the temporary location is remote and/or bad weather.

Solar panels can form a canopy over the truck but need to fold out easily and be made directional.

An EV design may also be feasible depending on the battery requirements overall.