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Title: **Using Solar Energy to Keep Cars Parked in Sunlight Cool**

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The passenger cabins of vehicles parked in direct sunlight for extended periods become unbearably hot. This is due mainly to the 'Green House Effect' that occurs in an enclosed cabin. Short wavelength solar radiation (~0.5μm) in the visible spectrum that enters the vehicle through its glass windscreens and windows is absorbed by the vehicles' interior and re-radiated as long wavelength radiation. This longer wavelength (0.75μm – 1mm), lower energy, infrared radiation is incapable of penetrating the same glass through which it entered. The 'heat' is essentially trapped and the cabin temperature rises. This project utilizes solar energy, which may be considered the problem (in this case) to provide a solution. Data describing the rate at which vehicle cabins heat up and the extremes of temperature change were collected for three situations: a vehicle without tint, a tinted vehicle and a vehicle fitted with a sunshield. Using this information as a base, heat balance equations and a solar cooling system were developed. The cooling system comprises an electronically/temperature controlled extractor fan powered by the car's battery which is in turn recharged by a photovoltaic panel. This system efficiently cools the vehicle's cabin from temperatures that approach 52°C to a comfortable 30°C utilizing the vehicle's existing ventilation system. Hence, what initially fuelled discomfort was used to power cooling.