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Low cost high efficiency conversion of sunlight to electricity

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Our advancing human civilization is predicated on the availability of ever increasing amounts of clean sustainable energy. We receive, in one hour, a sufficient energy from the sun to satisfy our requirements for a year. Recent developments in nanoscience and nanotechnology enable much more efficient conversion of sunlight to electricity so that the sun can fulfill its manifest destiny as our primary global energy source. Graphene based wide band gap semiconductor nanowire solar cells operating at temperatures of 400 °C and above allow the construction of hybrid conversion solar systems (HYCSOS) that for the first time, simultaneously generate PV as well as turbine power in a single facility while storing energy cheaply on a large scale for after dark electricity production. The widespread implementation of HYCSOS will mitigate and reverse the adverse effects on the atmosphere due to the burning of fossil fuels which unchecked will render our planet uninhabitable in the not too distant future.

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