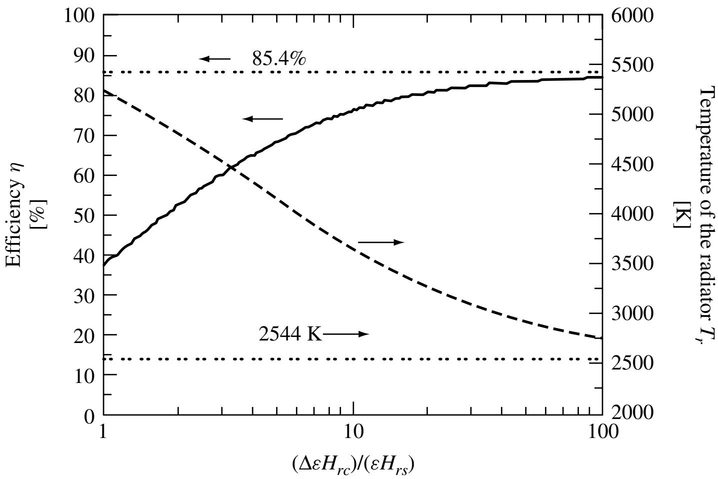

Figure 4.8 TPV ideal converter efficiency versus $H_{rc}\Delta\varepsilon/H_{rs}\varepsilon$. The energy ε and the cell voltage V are optimised

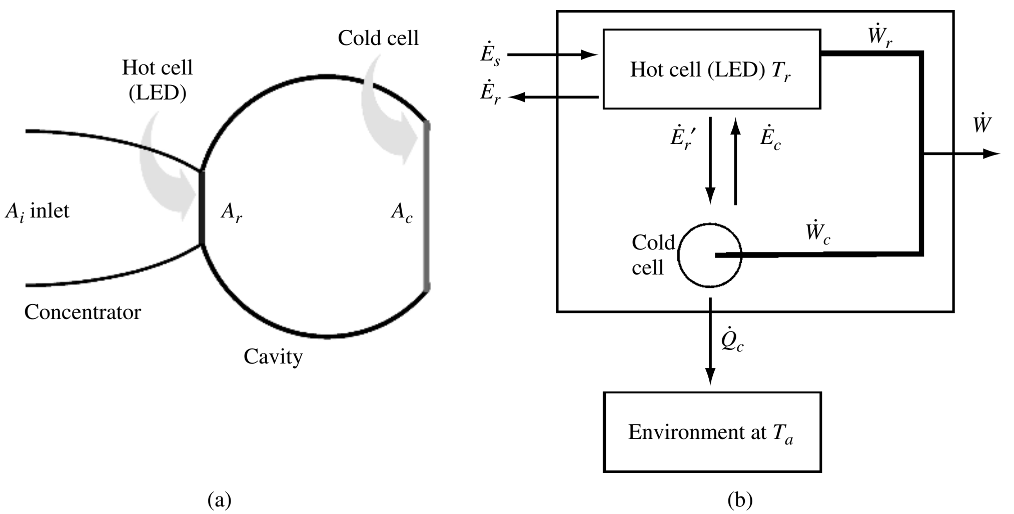

Figure 4.9 Diagram of the TPH converter with cavity. In (b), the energy fluxes are given by $\dot{E}_s \equiv E(T_s, 0, 0, \infty, H_{rs})$, $\dot{E}_r \equiv E(T_r, qV_r, 0, \infty, H_{rs})$, $\dot{Q}_r = \dot{E}_s - \dot{E}_r$, $\dot{E}_r' \equiv E(T_r, qV_r, 0, \infty, H_{rc})$, $\dot{E}_c' \equiv E(T_a, qV_c, \varepsilon_g, \infty, H_{rc})$

emitted by a heated light emitting diode (LED) into electricity. A diagram of this device is found in Figure 4.9. As in the TPV device, the LED can be heated with a fuel, but in our context it is heated as well with radiation absorbed from the sun. To emit luminescent radiation, the LED absorbs electric power, $\dot{W}_r$, in addition to the power delivered from the photons that illuminate the absorber. This power is to be subtracted from the electric power converted by the solar cell $\dot{W}_c$.