

$$(T_2 - T_{\text{Ref}}) = \frac{S_1}{S_2} (T_1 - T_{\text{Ref}})$$

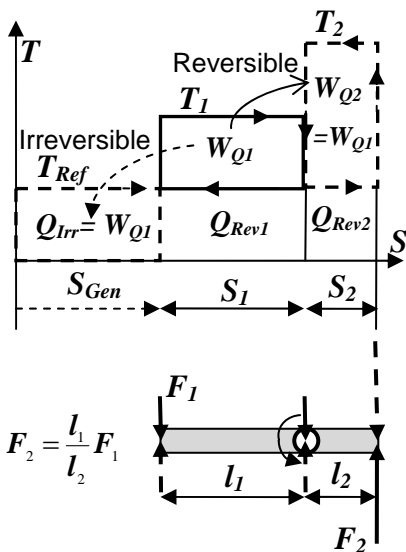


FIGURE 11. Reversible *thermal-advantage* (increase of temperature at top-right) and the corresponding *mechanical-advantage* (increase of force at bottom-right) while non-equilibrium ('forcing' available energy or work potential) and entropy is conserved. At top-left, irreversible heat and entropy generation on expense of reducing available energy (lost work potential). It would not be possible to generate non-equilibrium (available energy) without required forcing (from nowhere, without transferring of commensurate work potential from elsewhere), the latter limited by related reversible *forcing-advantage* on expense of displacement.