$$\text{maximize} \sum_{t=1}^{T} P_t^{Grid} \times price_t^{Grid} \tag{1}$$

s. t.

$$\dot{Q}_t^{Dmnd} = -modlvl_t \times \dot{Q}_t^{Heater} + \dot{Q}_t^{Strg} \tag{2}$$

$$Q_t^{Strg} = Q_{t-1}^{Strg} - \dot{Q}_t^{Strg} \times \Delta t \tag{3}$$

$$SoC_t^{min} \leq \frac{Q_{t^S trg}}{Q^{StrgCap}} \leq SoC_t^{max} \tag{4}$$

$$P_t^G rid = P_t^{Heater} \times modlvl_t \tag{5}$$