Objective:

$$\min \left(\sum_i C_i G_i + \sum_j (C_j G_j + C_{G_j} E_j) \right)$$

subject to:

$$\begin{aligned}
\text{power balance:} \quad & \sum_i (G_i - L_i) + \sum_j (G_j - L_j) = 0 \\
\text{net export allocation:} \quad & \sum_j (G_j - L_j) \leq \sum_j E_j + \max(0,\ \sum_j (G_j^{(GHG)} - L_j)) \\
\text{generator limits:} \quad & G_{\text{MIN}i} \leq G_i \leq G_{\text{MAX}i}, \quad \forall i \\
& G_{\text{MIN}j} \leq G_j \leq G_{\text{MAX}j}, \quad \forall j \\
\text{allocation limits:} \quad & 0 \leq E_j \leq \min(G_j,\ E_{\text{MAX}j},\ G_{\text{MAX}j} - G_j^{(GHG)}), \quad \forall j
\end{aligned}$$

Differences from the formulation in the BPM 11.3.3.2.1:

- Remove the transmission constraints, since the assumption is no transmission limits for these examples.

- The added term in the net export allocation constraint, $\max(0,\ \sum_j (G_j^{(GHG)} - L_j))$, which represents the imports into the GHG area in the counterfactual run. This term is 0 when using the CAISO and Vistra counterfactuals and may be positive when using the No GHG Cost counterfactual.

- The inclusion of the term $G_{\text{MAX}j} - G_j^{(GHG)}$ in the allocation limit constraint to match the attribution limits in the BPM with those in the EDAM technical description (9.2).