

$$\begin{aligned}
Min \sum_{t \in T} & \left( \sum_{g \in G} (C_{tg}^{gen} \times P_{tg}^{gen} + C_{tg}^{up} \times R_{tg}^{up} + C_{tg}^{dn} \times R_{tg}^{dn} + SUC_{tg}^{gen}) \right. \\
& + \sum_{n \in N} (DRC_{tn} + DRS_{tn}) + \pi_s \left( \sum_{g \in G} C_g^{gen} \times (C_{tgs}^{aup} - C_{tgs}^{adn}) \right. \\
& \left. \left. + \left( \sum_{n \in N} C_{snt}^{ws} \times WSpill_{snt} + C^{ls} \times LShed_{snt} \right) \right) \forall s \in S \right|
\end{aligned}$$