

Table 1: Optimization parameters

Parameter	Description
a_j^{lin}	Gradient of linearized characteristic curve of the electrolyzer between linearization steps j and $j + 1$
b_j^{lin}	Y-axis intersect of the linearized characteristic curve of the electrolyzer between linearization steps j and $j + 1$
f_t^{Onshore}	Onshore capacity factor at time step t
f_t^{Offshore}	Offshore capacity factor at time step t
f_t^{Solar}	Solar capacity factor at time step t
$P^{\text{Ely,Nom}}$	Nominal electrolyzer power
ϵ_j^{Ely}	Specific energy demand of electrolyzer at $\frac{j}{J-1} \cdot 100\%$ of nominal power
$\epsilon^{\text{Ely,Nom}}$	Specific energy demand of electrolyzer at nominal power
$\dot{m}_t^{\text{Demand}}$	Predefined hydrogen demand at time step t
Δt	Length of time step in hours