

DTU42002, OR in Energy

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Symbol	Definition
T	Time Units
J	Controllable generation technologies

Table 1. Summary of Sets

Symbol	Definition	Set
y	Capacity of different generation technologies	J, {wind}
x	Power output	J, T

Table 2. Summary of Decision Variables

Symbol	Definition	Set
w	Wind Power Output	T
d	Demand	T
c^{vary}	Production cost per unit output of different generation technologies	J, T
s^{max}	Max controllable increment power output	J

Table 3. Summary of Constants

$$\min \sum_j c_i^{fix} y_j + \sum_j \sum_t c_{j,t}^{vary} x_{j,t} \quad (1)$$

$$\text{s.t. } x_{j,t} \leq y_j * 1 \quad \text{for } j \in J, t \in T \quad (2)$$

$$\sum_j x_{j,t} \geq d_t - w_t \quad \text{for } j \in J, t \in T \quad (3)$$

$$-s_j^{max} \leq x_{j,t+1} - x_{j,t} \leq s_j^{max} \quad \text{for } j \in J \quad (4)$$