Nomenclature

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| *Indices and sets* | |
|  | Set of time intervals |

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| *Parameters* | |
|  | Length of time intervals (h) |
|  | Forecasted market prices (€/kWh) |
|  | Forecasted PV plant generation (kW) |
|  | Maximum power injection/absorption at the point of common coupling (kW) |
|  | BESS maximum active charging power (batteries’ limits) (kW) |
|  | BESS maximum active discharging power (batteries’ limits) (kW) |
|  | BESS initial energy content (kWh) |
|  | BESS maximum energy content (kWh) |
|  | BESS minimum energy content (kWh) |
|  | Forecasted inflexible load assets demand (kW) |

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| *Variables* | |
|  | Active power absorption at PCC (kW) |
|  | Active power injection at PCC (kW) |
|  | BESS charging active power set point at AC side (kW) |
|  | BESS discharging active power set point at AC side (kW) |
|  | Auxiliary binary variable for non-simultaneity of inverse flows at BESS |
|  | Auxiliary binary variable for non-simultaneity of inverse flows at PCC |
|  | BESS energy content (kWh) |

General formulation

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|  | (1) |
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|  | (2) |
|  | (3) |
|  | (4) |
|  | (5) |
|  | (6) |
|  | (7) |
|  | (8) |
|  | (9) |
|  | (10) |