Appendix

TABLE A1

Simulation Parameters in This Study.

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| --- | --- | --- | --- |
| **Value** | **Parameter** | | **Equipment** |
| 10 | Maximum Output Power (kW) | | CHP Unit |
| 200 | Minimum Output Power (kW) | |
| 40% | Electrical Efficiency | |
| 45% | Thermal Efficiency | |
| 1.125 | Electrical/Thermal Ratio | |
| 100 | Maximum Output Power (kW) | | Gas Furnace |
| 90% | Thermal Efficiency | |
| 80% | Thermal Efficiency | | Boiler |
| 260 | Maximum Output Power (kW) | |
| 3 | Coefficient of Performance (COP) | | Air Conditioner |
| 60 | Maximum Output Power of Solar Panel (kW) | | Renewable Sources |
| 50 | Maximum Output Power of Wind Turbine (kW) | |
| 2 | Power Line Limit (MW) | | Electric Grid |
| 0.5 | Greenhouse Gas Emission Factor (kg/kW) | |
| 0.1 | Greedy | Exploration Rate (𝜀) Dynamic | Reinforcement Learning |
| [0,1] | Dynamic |
| 0.7 | Learning Rate (𝛼) | |
| 1 | Discount Factor (𝛾) | |
| 1000 | Adjustment Steps | |