The daily electricity demand is shown in Fig.1. The power outputs of wind and solar generators are shown in Fig.2 and Fig.3, respectively. The parameters of microgrid are shown in Table I.



**Fig. 1.** Load demand



**Fig. 2. Power output of wind generators**



**Fig. 3. Power output of PV generators**

TABLE I Microgrid Parameters

|  |  |
| --- | --- |
| Parameter | Value |
| Installed capacity of gas-fired generators | 13460 kW |
| Total installed PV capacity | 2240 kW |
| Installed wind farm capacity | 2240 kW |
| Charge/discharge efficiency of battery storage/ | 95% |
| Installed battery capacity/ | 500 kW / 1000 kWh |