Supplementary Material

The Supplementary Material provides additional information on the input of PV power data and forecasting results used in this study. The material is included to improve clarity and transparency of the data preparation process and to avoid overloading the main manuscript.

Figures S1–S8 illustrate the input power for each Household and Figures S9–S13 illustrate the forecasting results. The blue curves show the historical power measurement used as input to the forecasting models for each household. The input profile highlights the variability, intermittency, and the diurnal patterns of residential PV generation across different households. The presented input power provides insight into the diversity of operating conditions under which the forecasting models were evaluated, including both relatively smooth and highly variable PV power behavior.

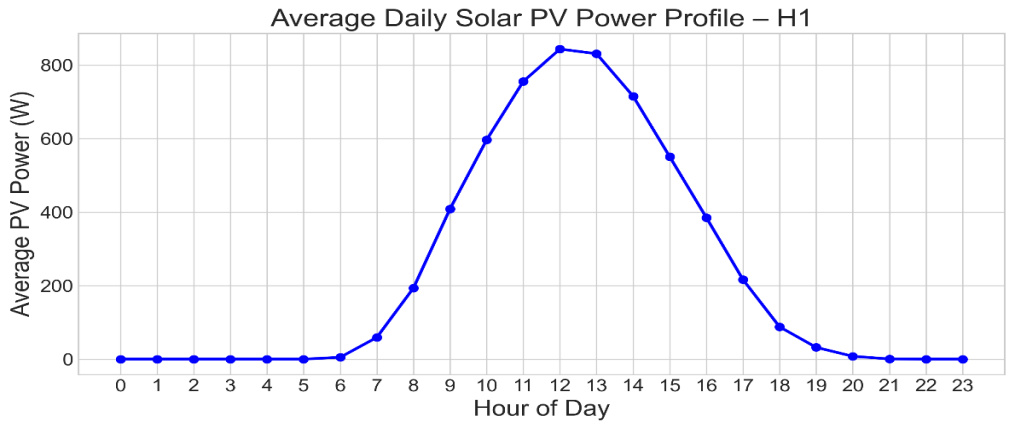


Figure S1. Average daily solar PV power generation profile for House 1

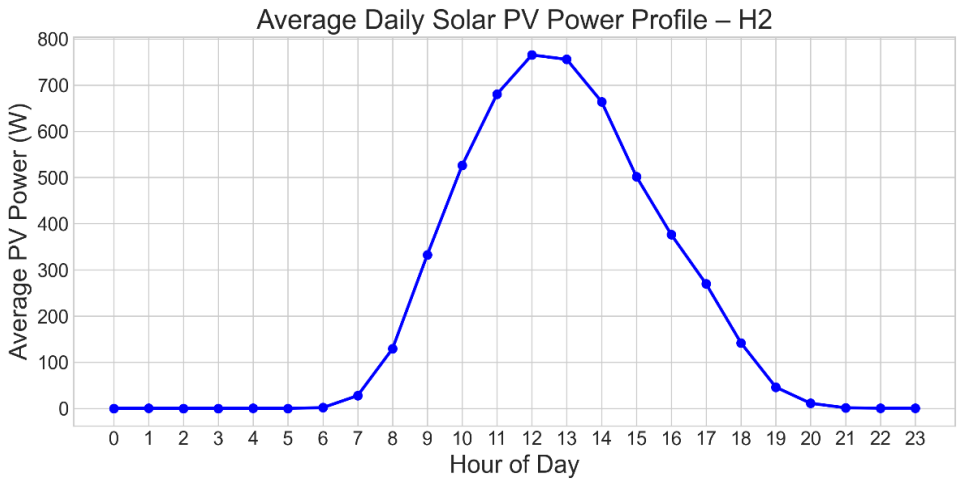


Figure S2. Average daily solar PV power generation profile for House 2

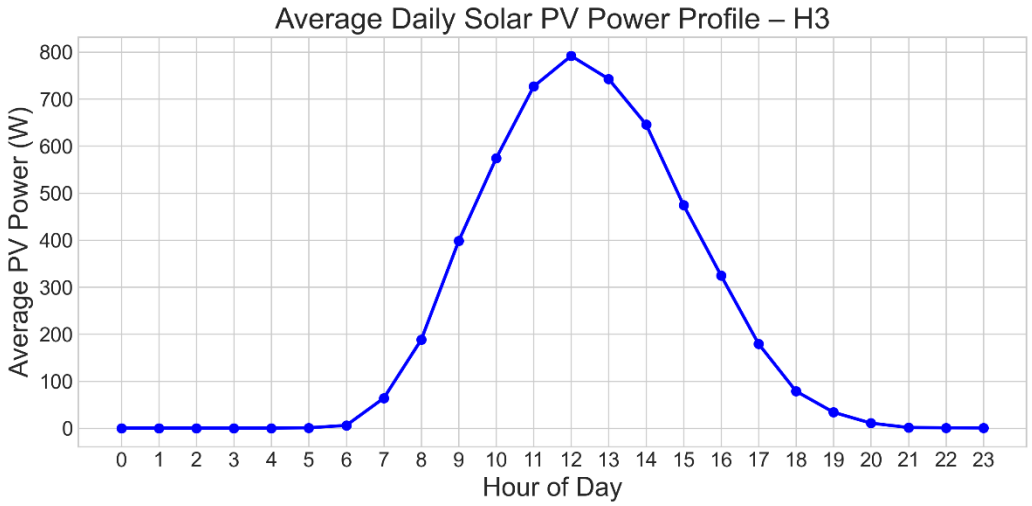


Figure S3. Average daily solar PV power generation profile for House 3

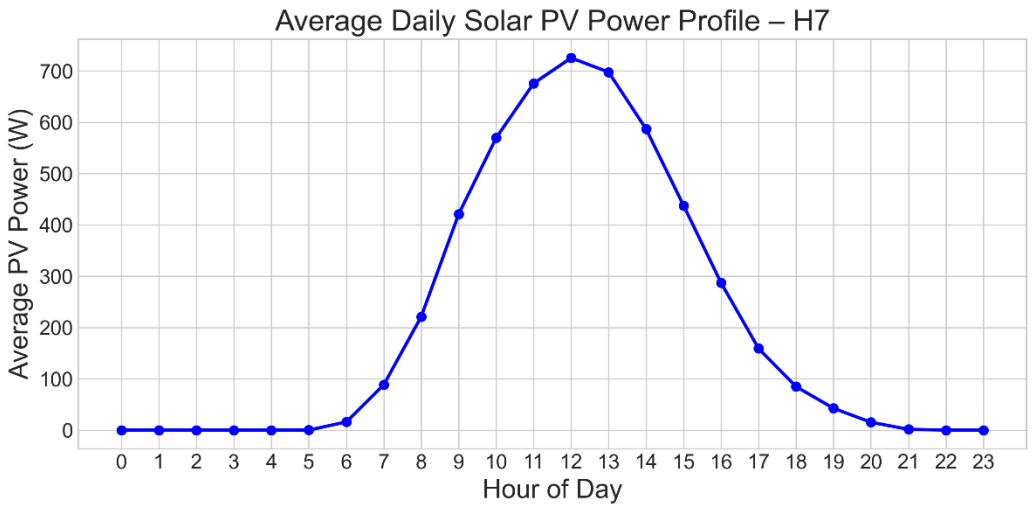


Figure S4. Average daily solar PV power generation profile for House 7

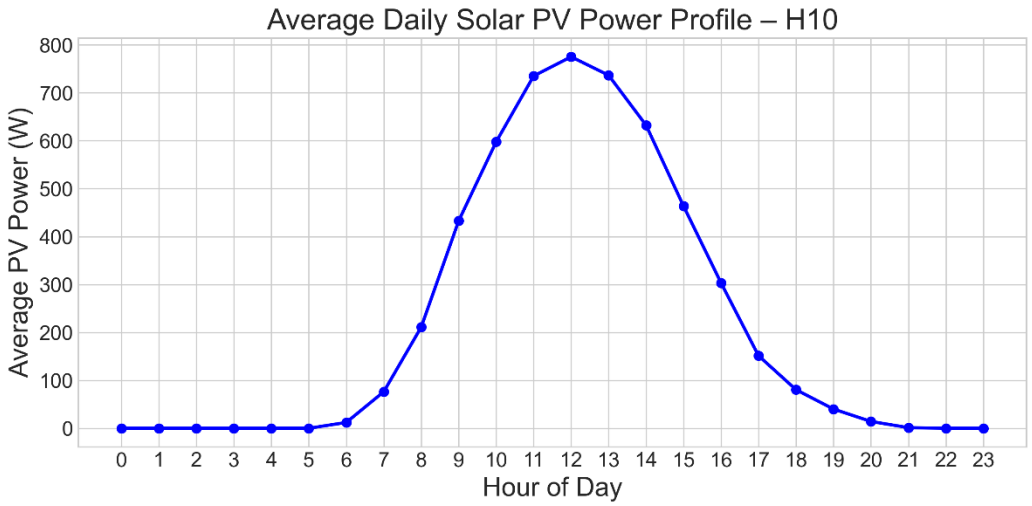


Figure S5. Average daily solar PV power generation profile for House 10

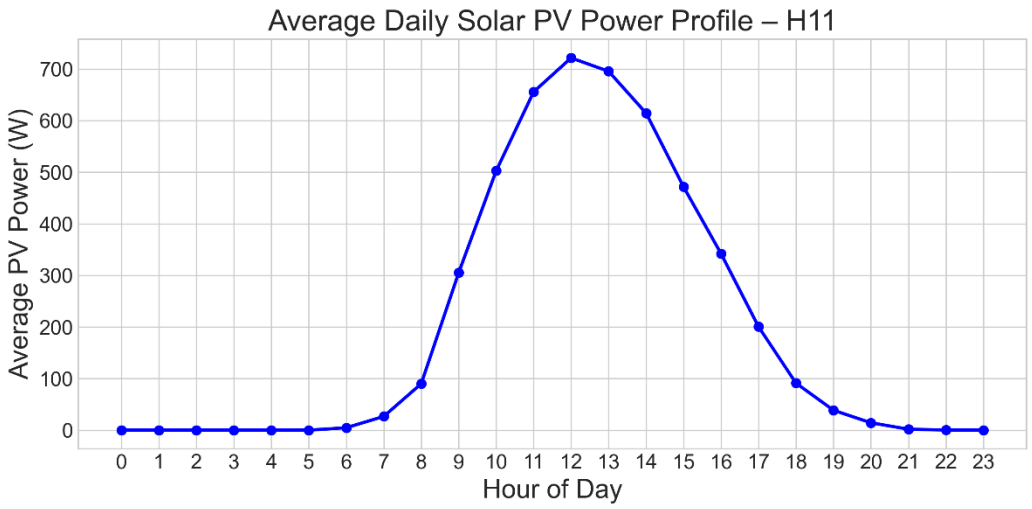


Figure S6. Average daily solar PV power generation profile for House 11

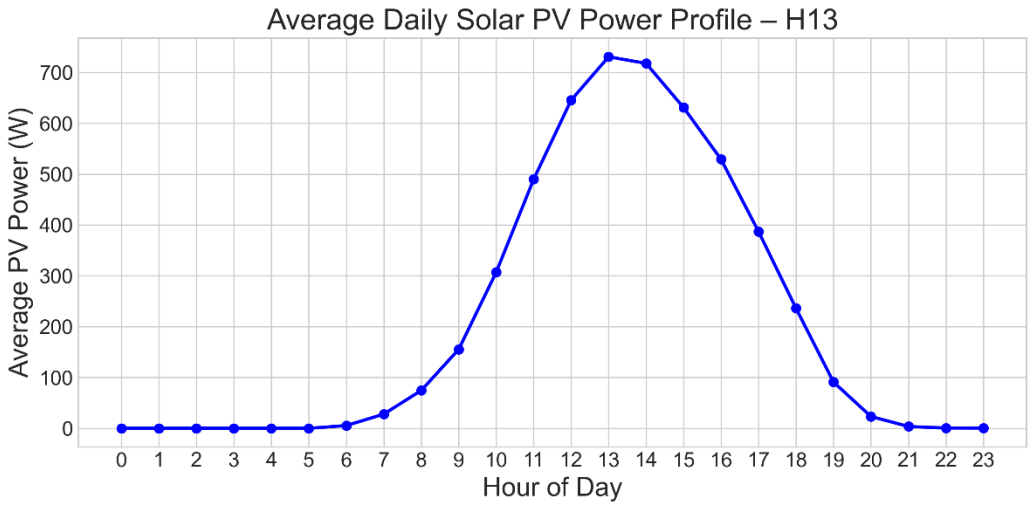


Figure S7. Average daily solar PV power generation profile for House 13

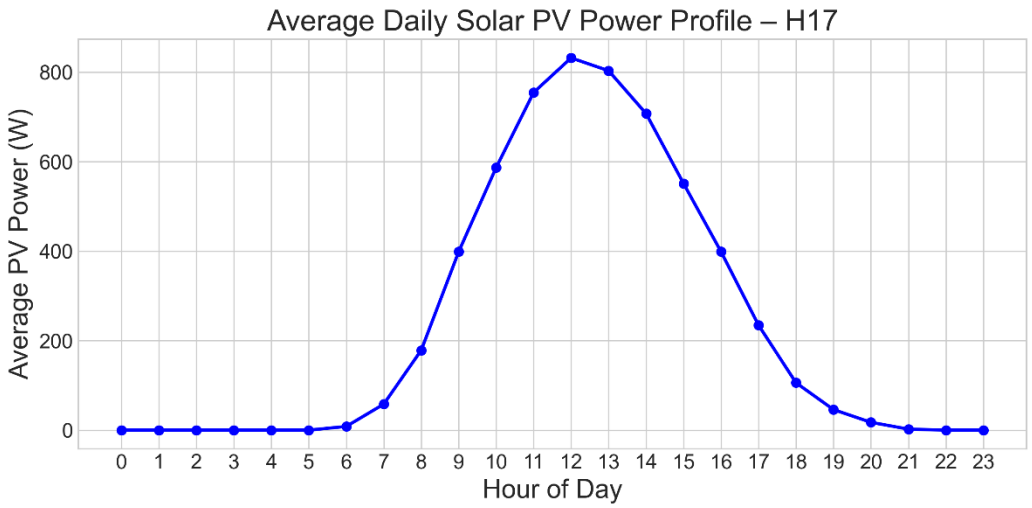


Figure S8. Average daily solar PV power generation profile for House 17

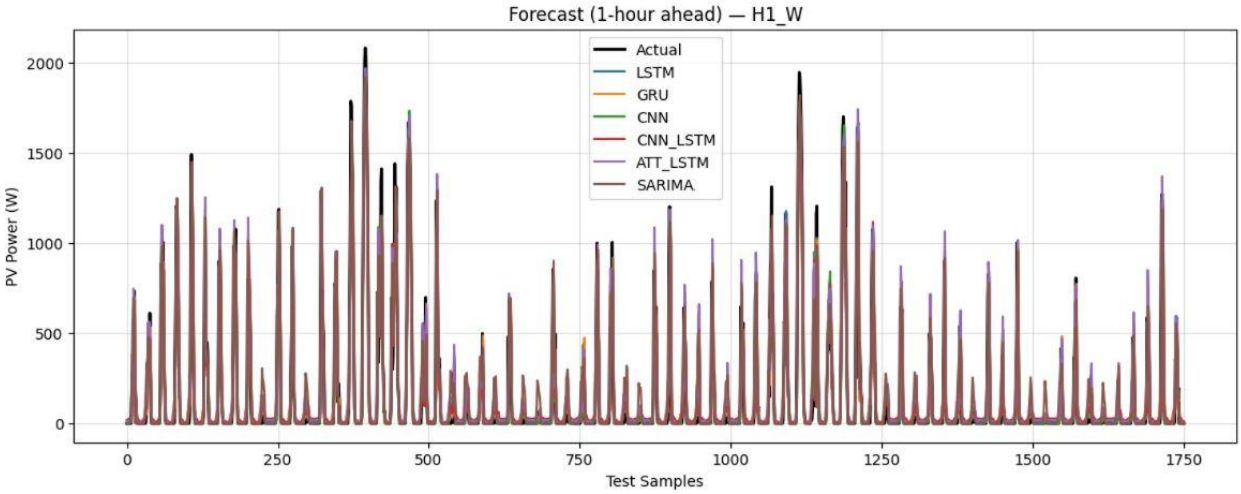


Figure S9. One-hour-ahead PV power forecasting of House 1

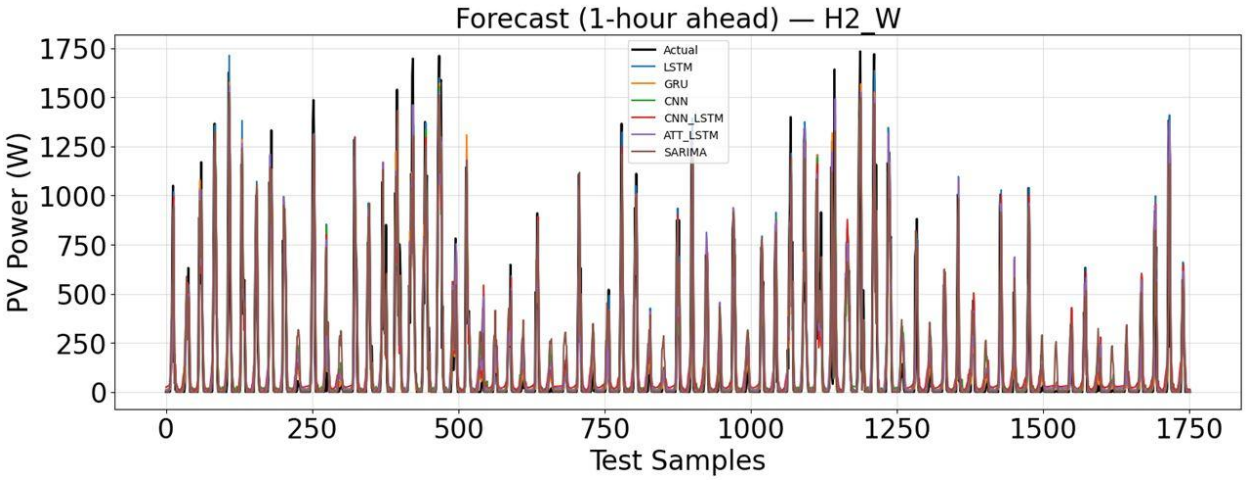


Figure S10. One-hour-ahead PV power forecasting of House 2

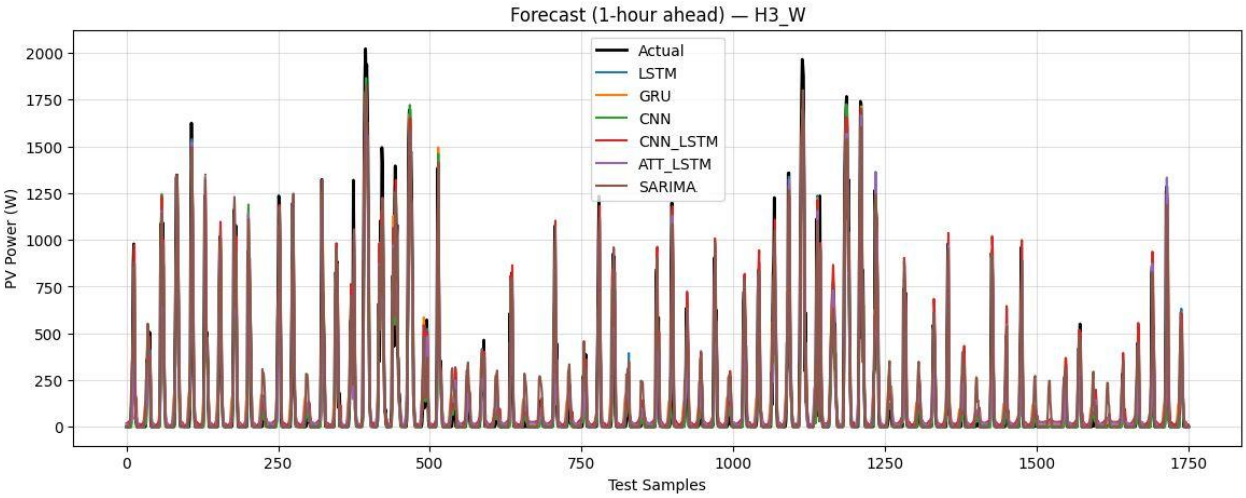


Figure S11. One-hour-ahead PV power forecasting of House 3

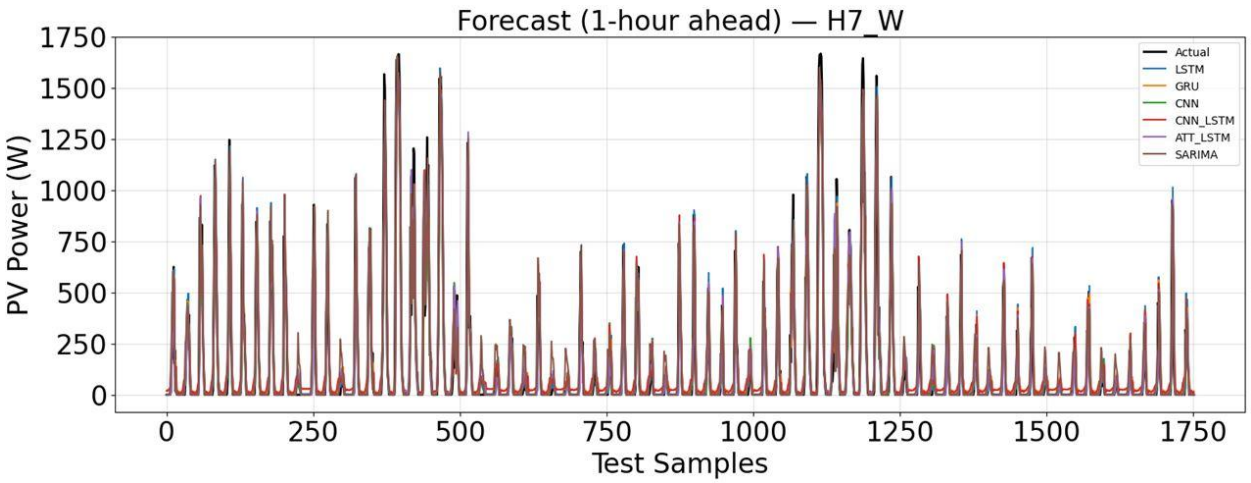


Figure S12. One-hour-ahead PV power forecasting of House 7

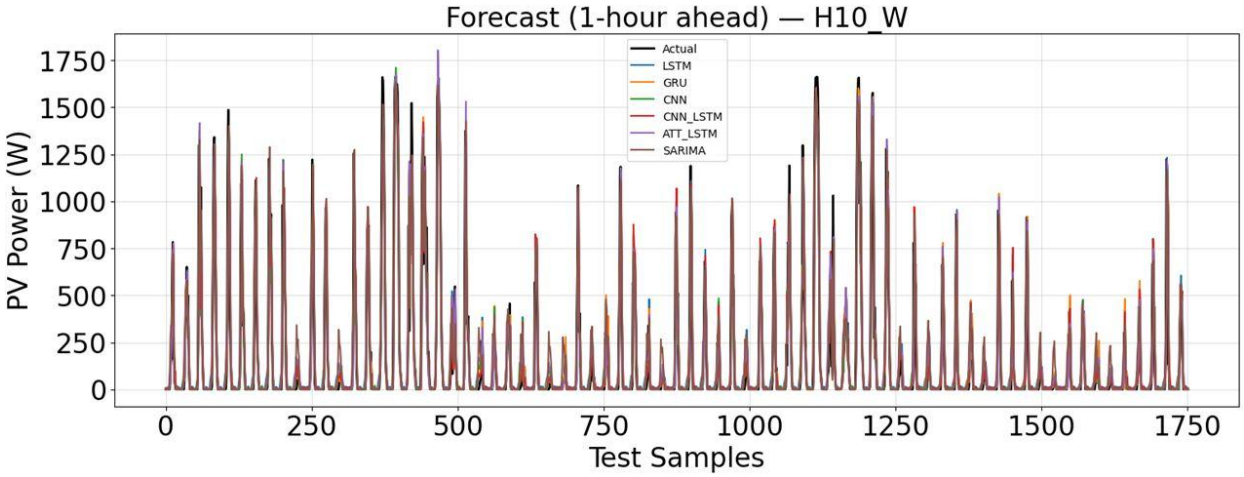


Figure S13. One-hour-ahead PV power forecasting of House 10

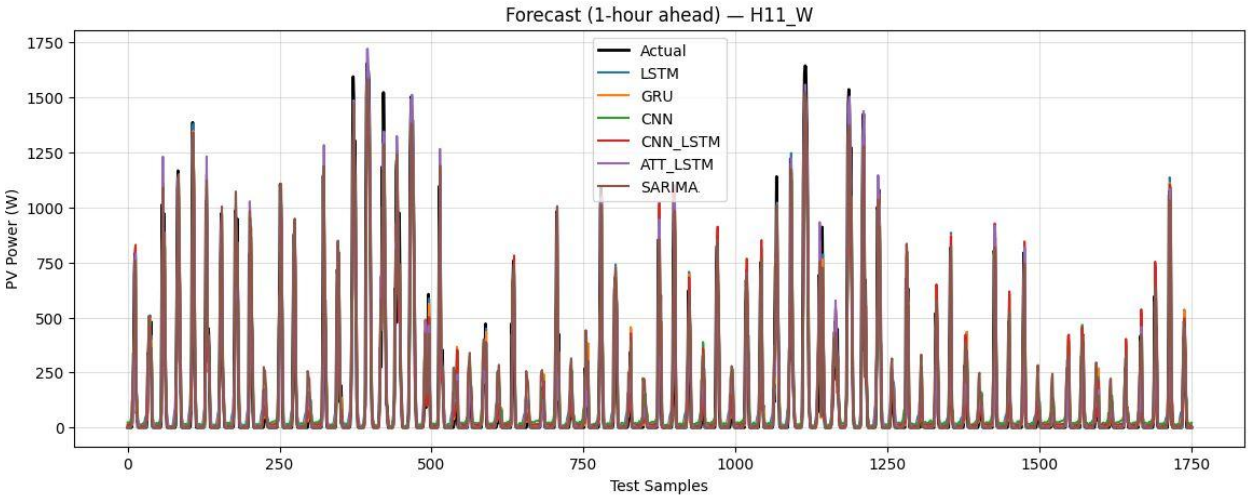


Figure S14. One-hour-ahead PV power forecasting of House 11

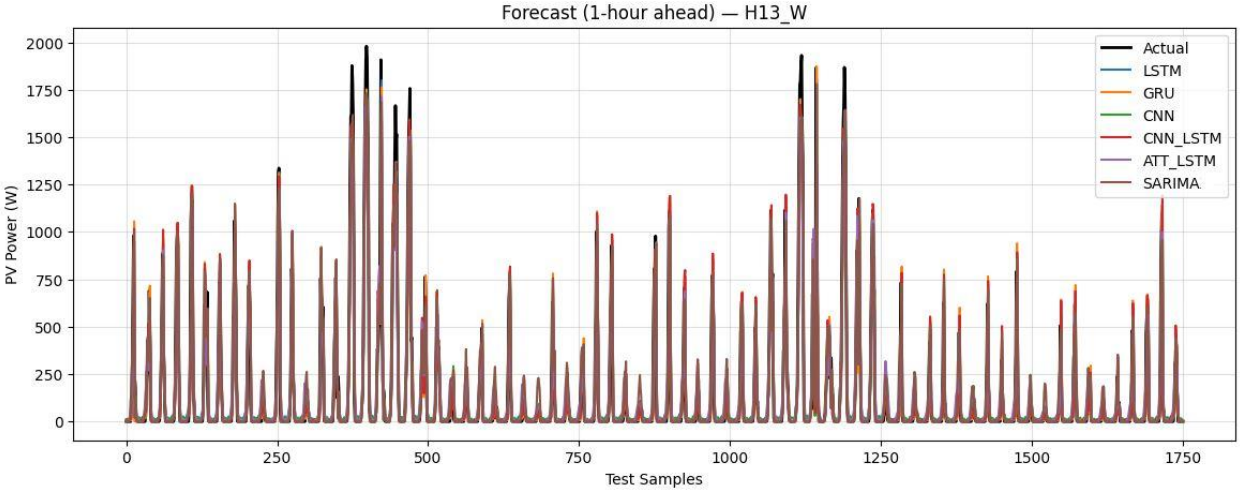


Figure S15. One-hour-ahead PV power forecasting of House 13

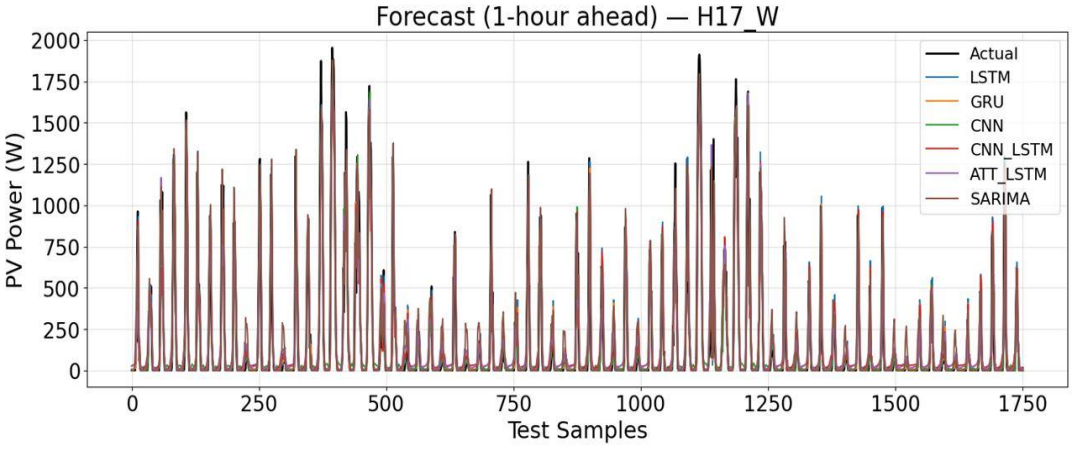


Figure S16. One-hour-ahead PV power forecasting of House 17