3 Results

The results were determined by running the 4 models on 12 randomly chosen houses from a list of houses that have the lowest number of one-hour gaps. After each model was run on these houses the average of the metrics MAE, MSE, MAPE and R^2 was calculated and shown the corresponding table.

Consumption

The results in **Fout! Verwijzingsbron niet gevonden.** show that the LSTM overall outperforms the other models at predicting consumption. The same table concludes that SVR performs the worst overall.

Table 3 Consumption Model Results

Model	MAE [kWh]	MSE [(kWh)^2]	MAPE [%]	R2 [-]
LSTM	0.44	0.43	69.54	-3.19
MLP	0.57	0.65	99.78	-1.77
MVLR	0.41	0.34	93.29	-4.09
SVR	0.65	0.90	398.45	-5.08

In **Fout! Verwijzingsbron niet gevonden.** the four models for consumption are shown in combination with the ground truth. The LSTM again is closest to predicting the timing and height of the peaks, as well as the mean of the data.

The MLP seems to perform the worst out of these models when it was the second worst according to **Fout! Verwijzingsbron niet gevonden.**.

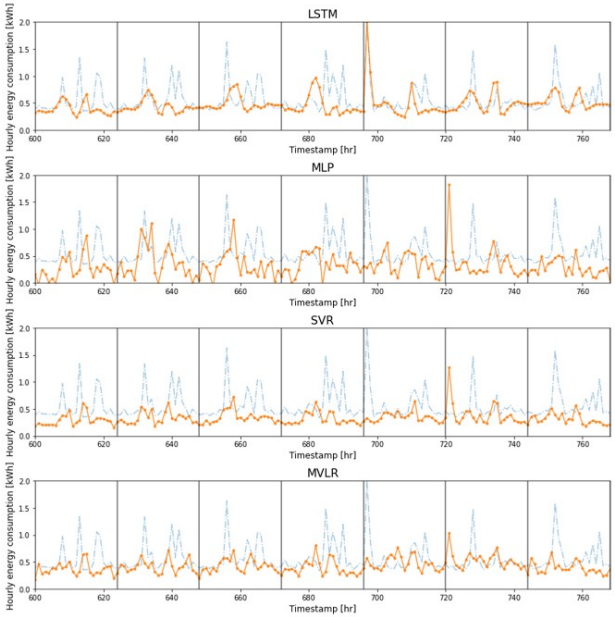

Figure 1 Consumption Model Graphs

Production

The results in **Fout! Verwijzingsbron niet gevonden.** show that the SVR is performing the best overall at predicting the production. The MLP performs the worst overall.

Table 4 Production Model Results

Model	MAE [kWh]	MSE [kWh^2]	MAPE [%]	R2 [-]
LSTM	0.17	0.07	1105848556.51	0.15
NN	0.50	0.37	21149948633.33	-1.78
MVLR	0.19	0.08	59336116708.33	0.53
SVR	0.14	0.05	42122716831.25	0.50

In **Fout! Verwijzingsbron niet gevonden.** the four models for production are shown in combination with the ground truth. The SVR shows the lowest percentage of negative production predictions which results in the SVR having better predictions at night than the other models. The LSTM seems to perform better at predicting the shape of the production during the day, however the LSTM predicts negative production during the night.

The MLP seems to perform the worst out of these models which corresponds to the results of **Fout! Verwijzingsbron niet gevonden.**.

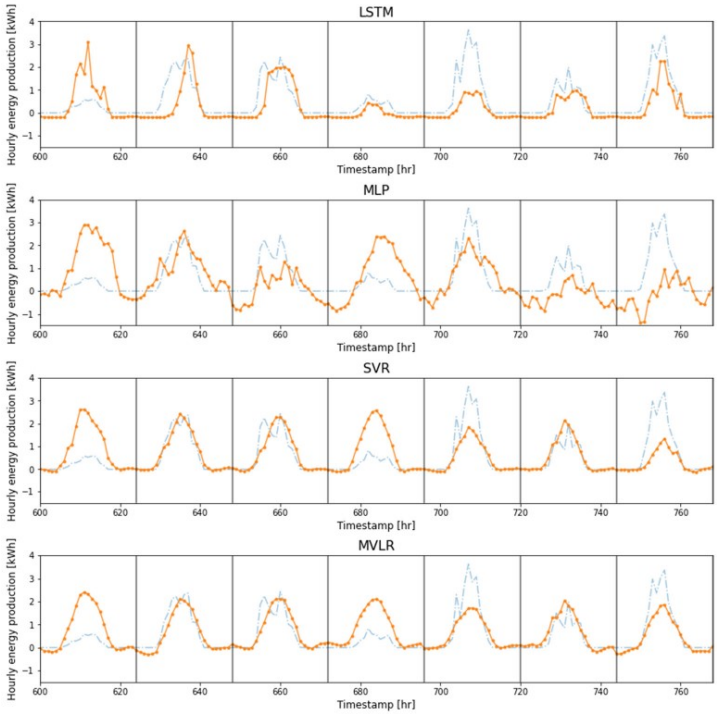

Figure 2 Production Model Graphs