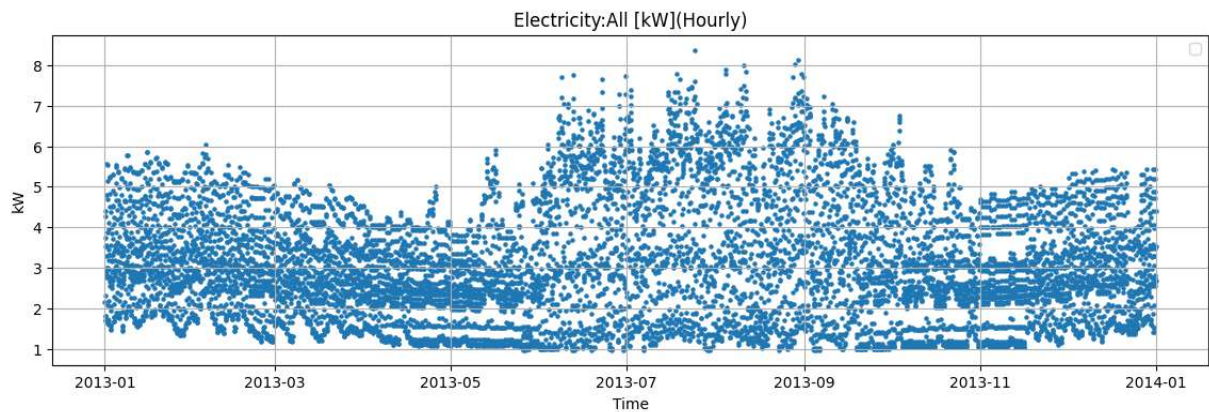# Assignment 2
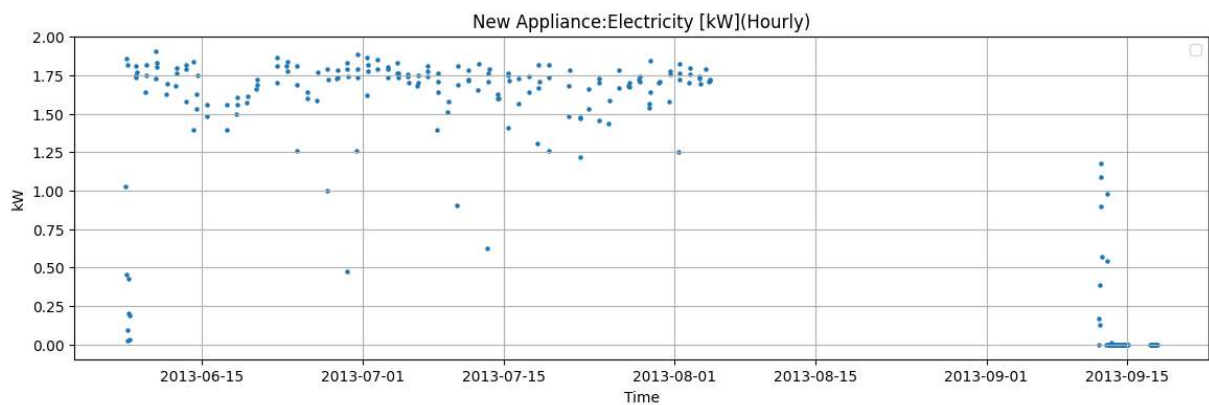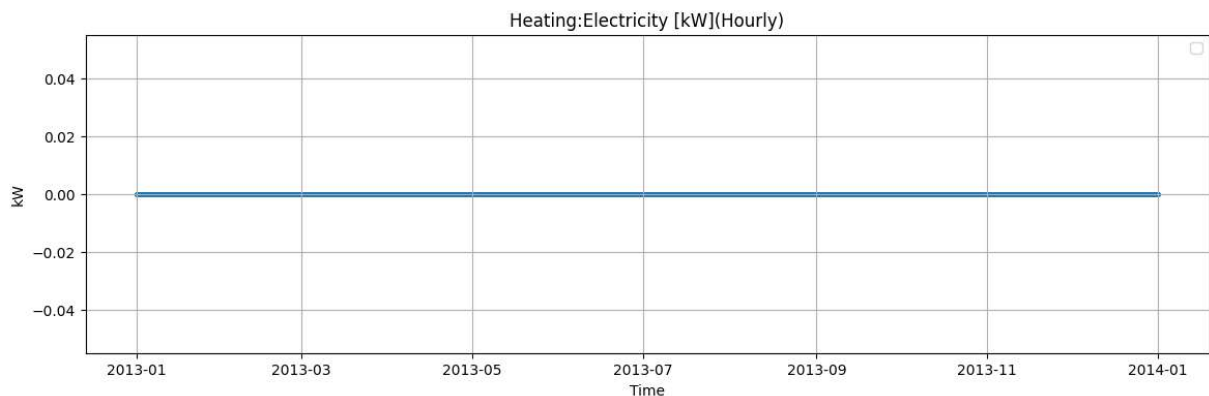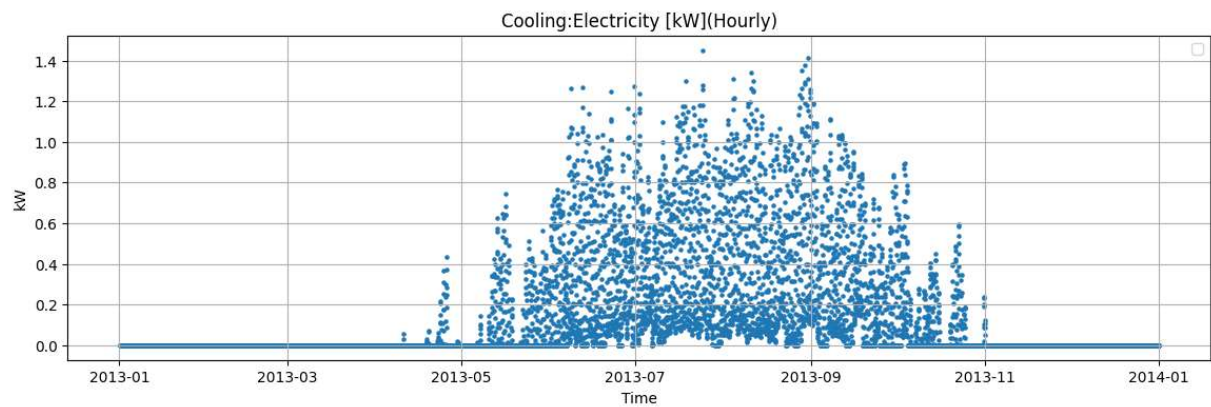
Scatter all the data.
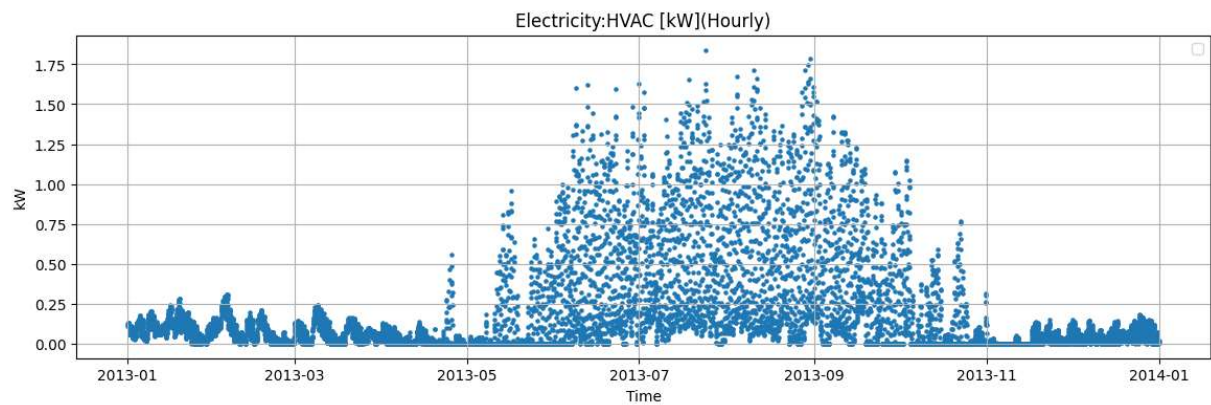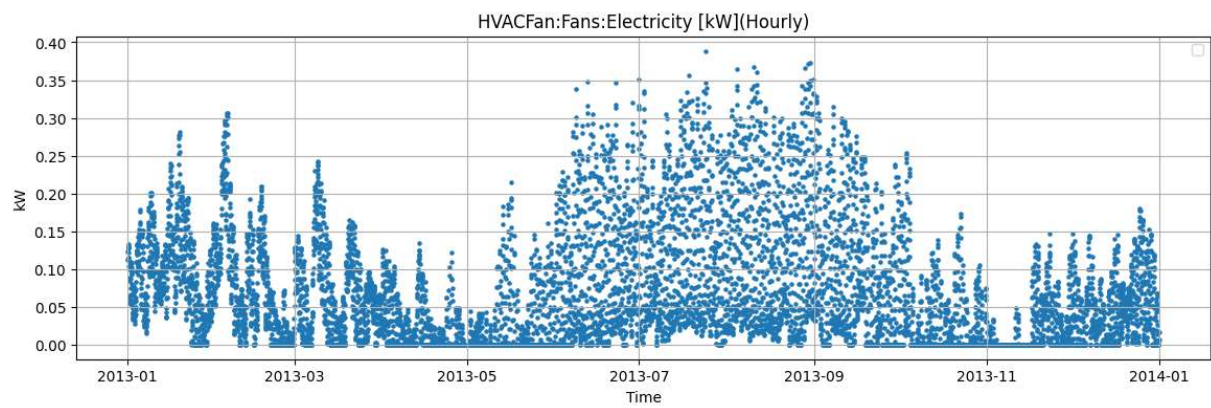


The resident uses more electricity in summer.



Though we only have data for the new appliance in June, July (and a few in Aug and Sep), there are only a few data points with values less than 2, which won't change our previous conclusion.
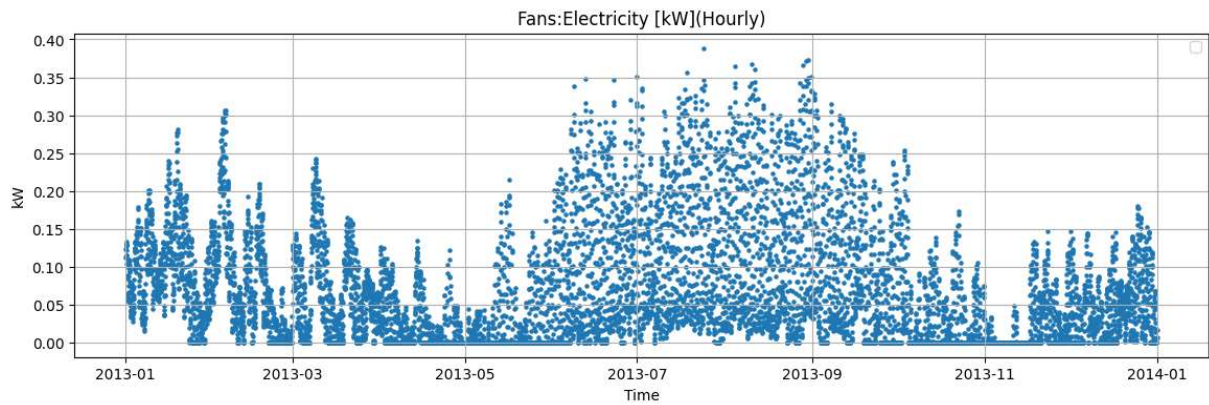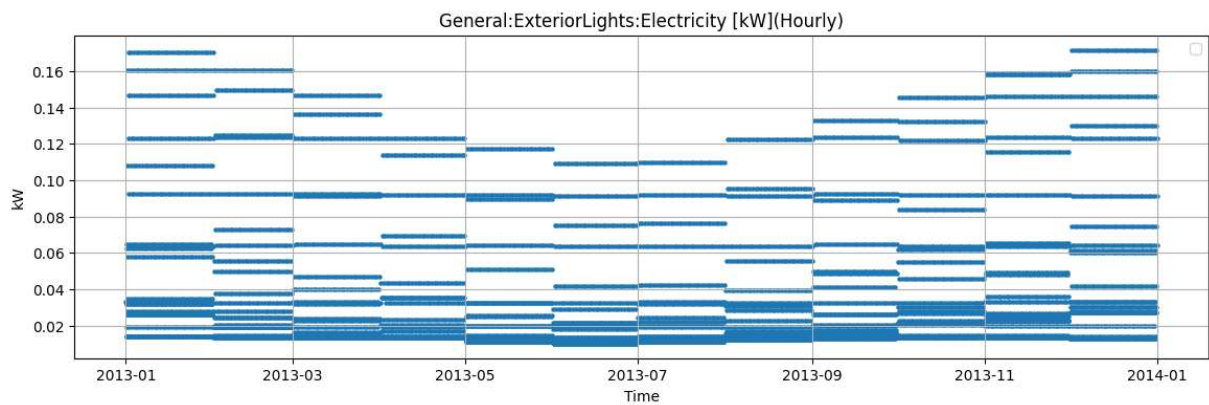
The resident never uses electricity for heating.
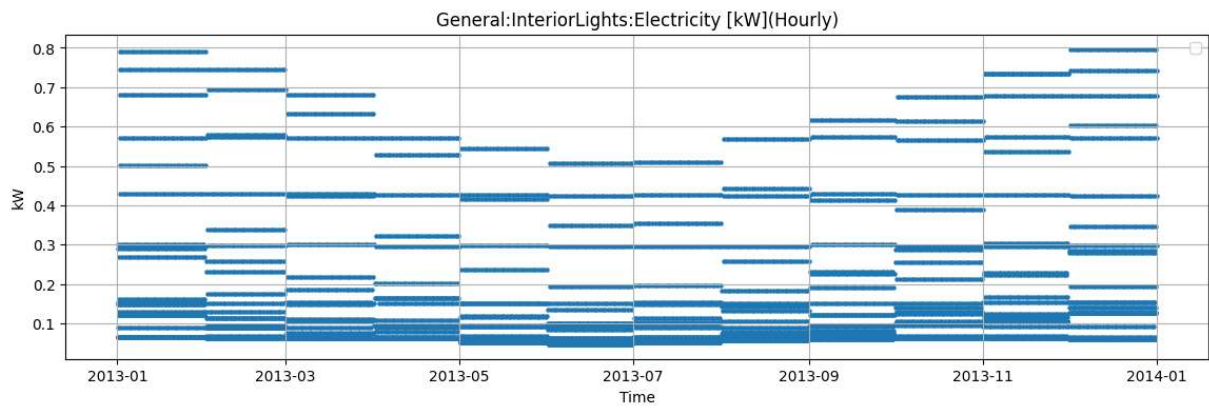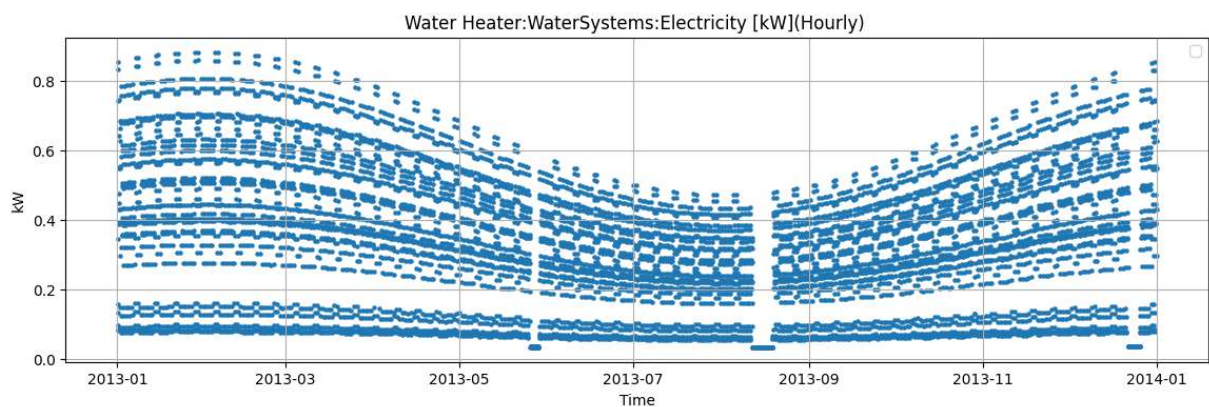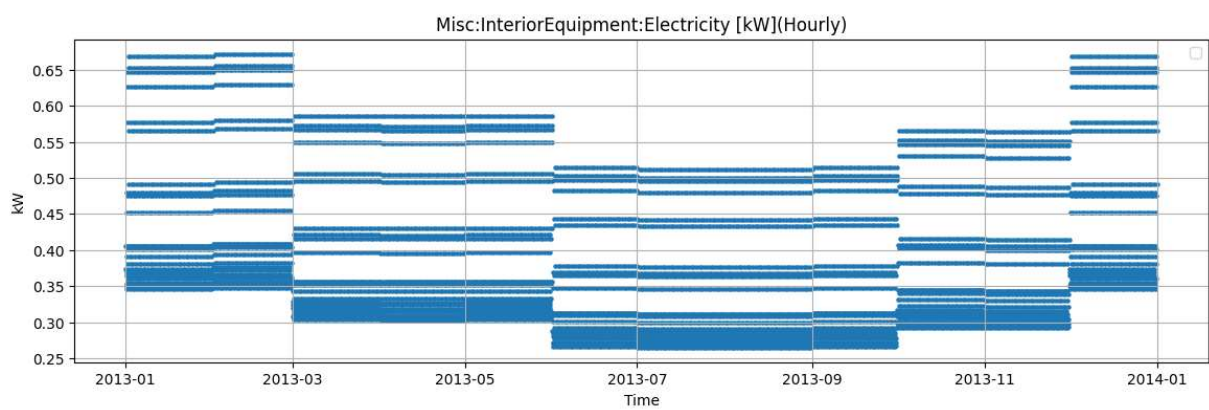

Cooling:Electricity [kW](Hourly)

The resident only uses electricity for cooling in summer.


HVACFan:Fans:Electricity [kW](Hourly)


Electricity:HVAC [kW](Hourly)
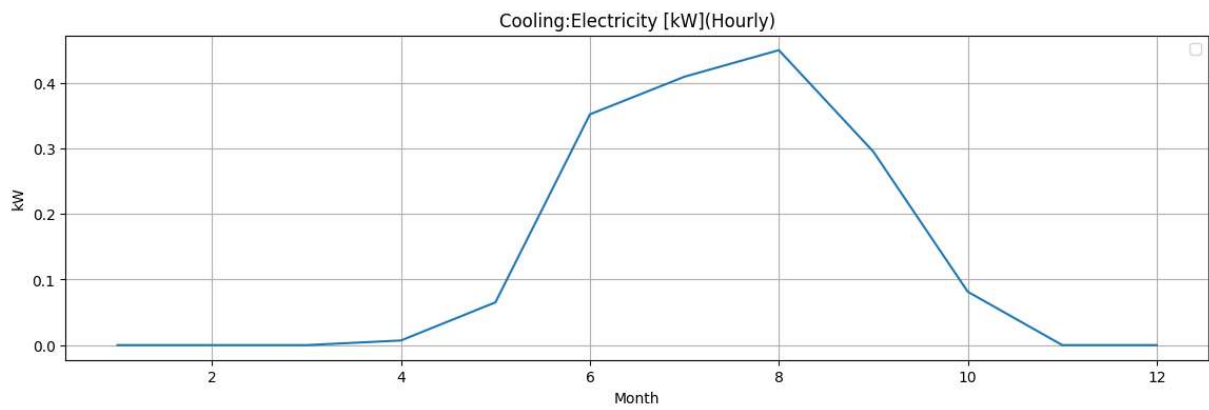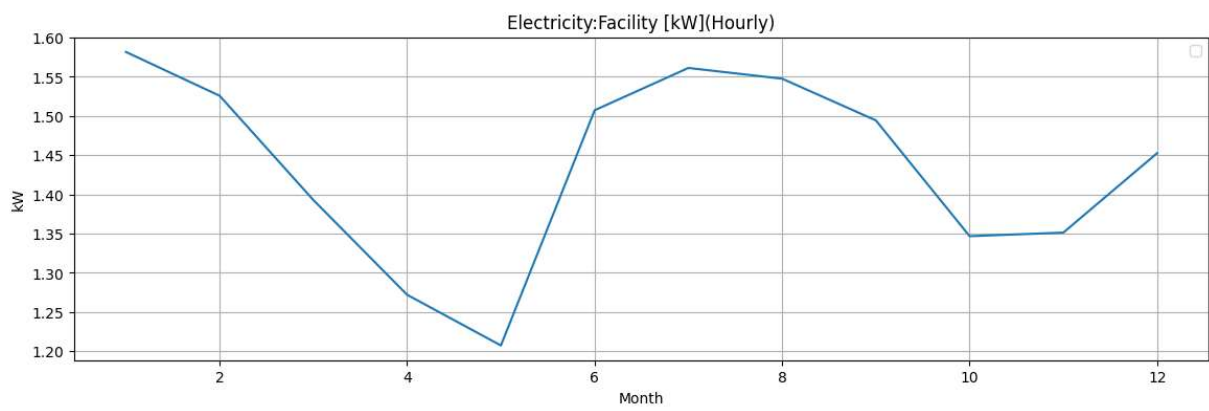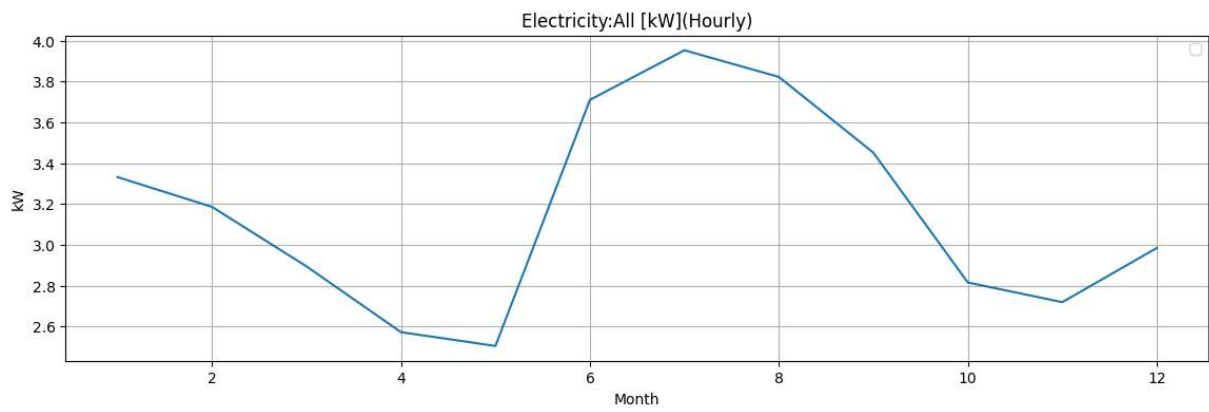
Fans:Electricity [kW](Hourly)

The resident uses electricity for Fans and HVAC in summer and winter.



General:InteriorLights:Electricity [kW](Hourly)



General:ExteriorLights:Electricity [kW](Hourly)

Appl:InteriorEquipment:Electricity [kW](Hourly)



Misc:InteriorEquipment:Electricity [kW](Hourly)



Water Heater:WaterSystems:Electricity [kW](Hourly)
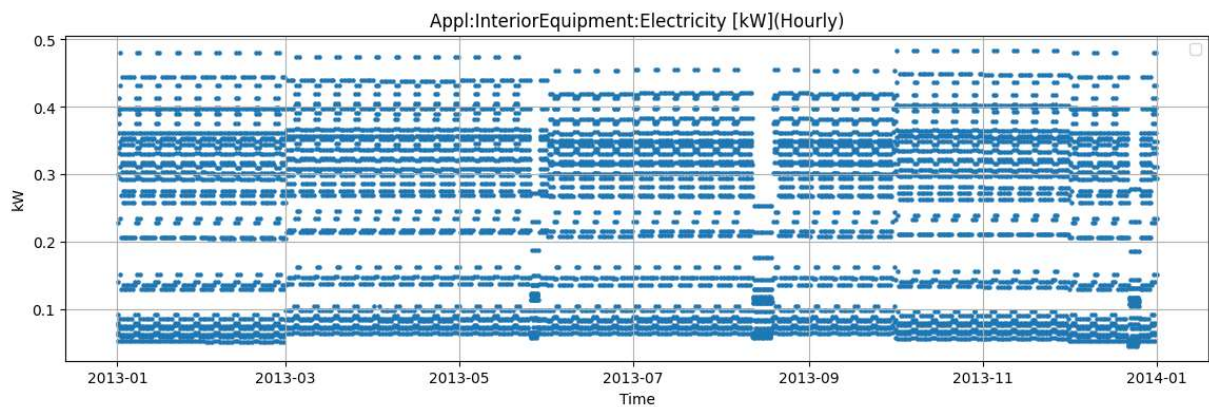
The resident uses electricity for Lights, Interior Equipment, and Water Heater every day, and uses them less in summer but more in winter. The electricity usage also follows certain patterns during the day.

Group data by month.

Electricity:All [kW](Hourly)



Electricity:Facility [kW](Hourly)



Cooling:Electricity [kW](Hourly)

HVACFan:Fans:Electricity [kW](Hourly)



Electricity:HVAC [kW](Hourly)



Fans:Electricity [kW](Hourly)
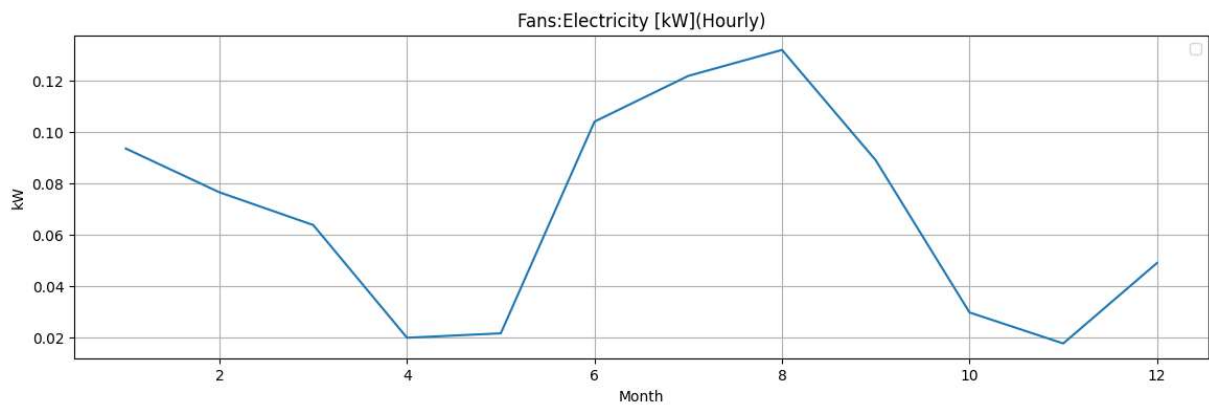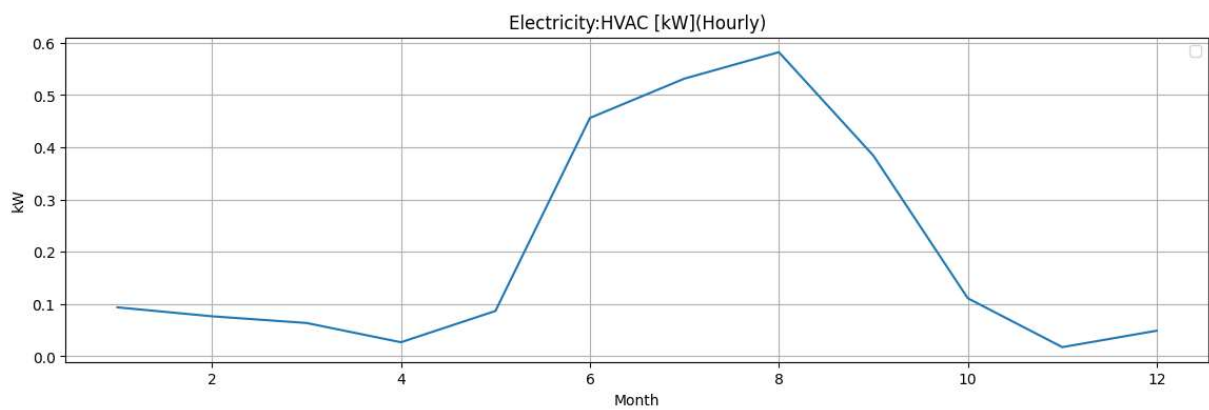
The resident uses more electricity in summer and winter, mainly because of the Facility, Cooling, Fans, and HVAC.
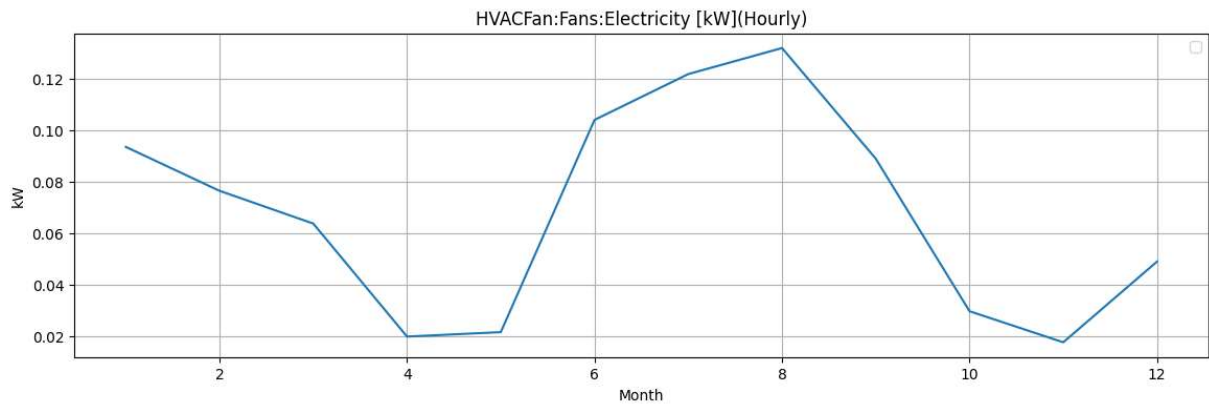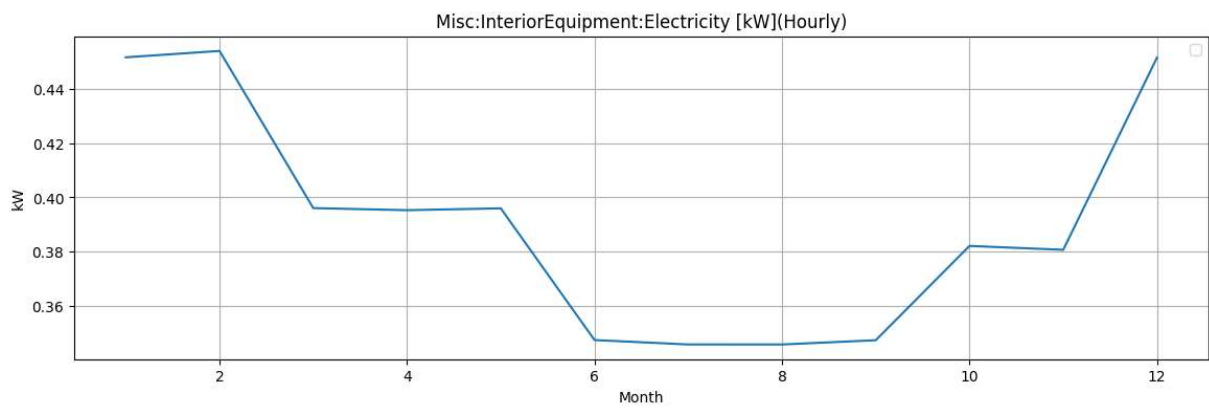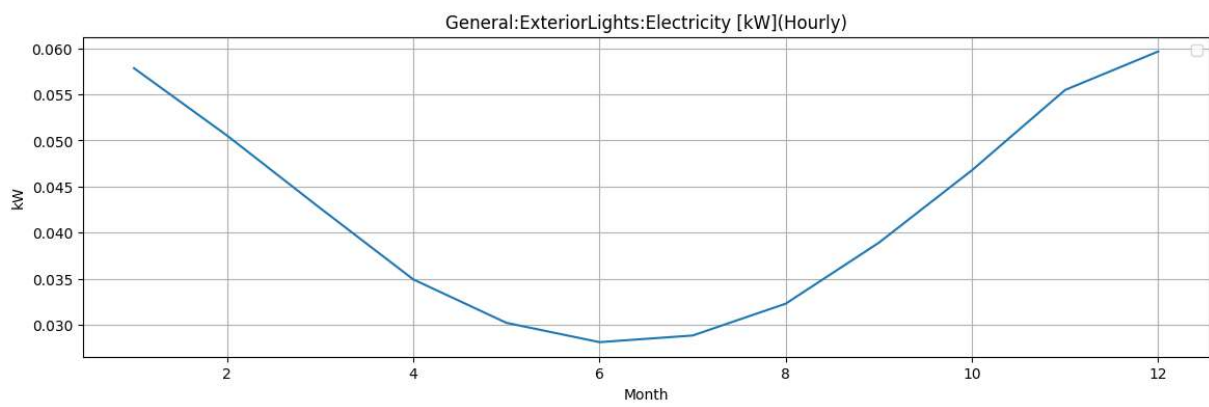
### General:InteriorLights:Electricity [kW](Hourly)
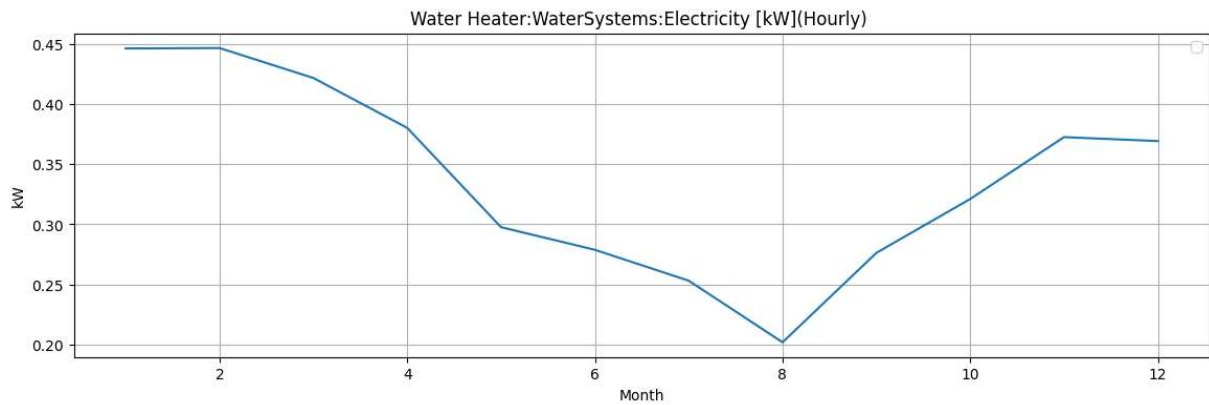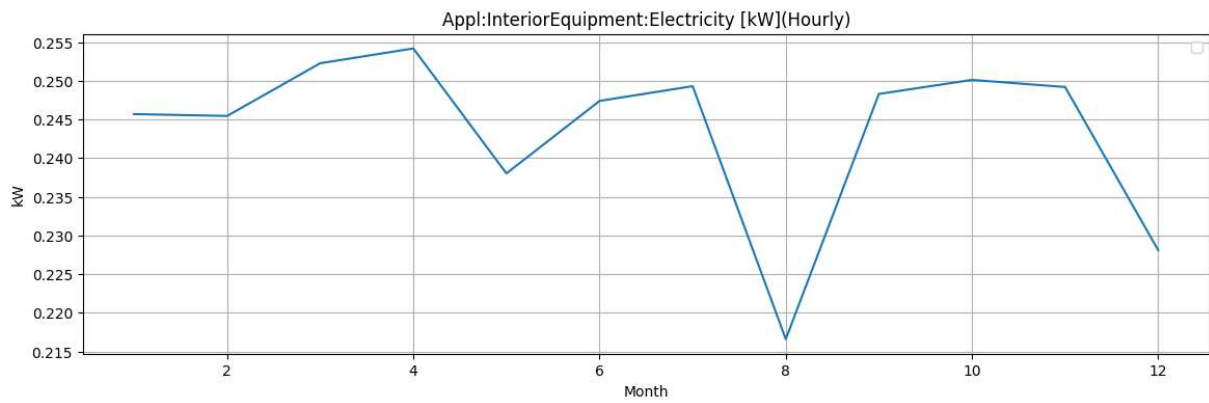


### General:ExteriorLights:Electricity [kW](Hourly)



### Misc:InteriorEquipment:Electricity [kW](Hourly)

Water Heater:WaterSystems:Electricity [kW](Hourly)
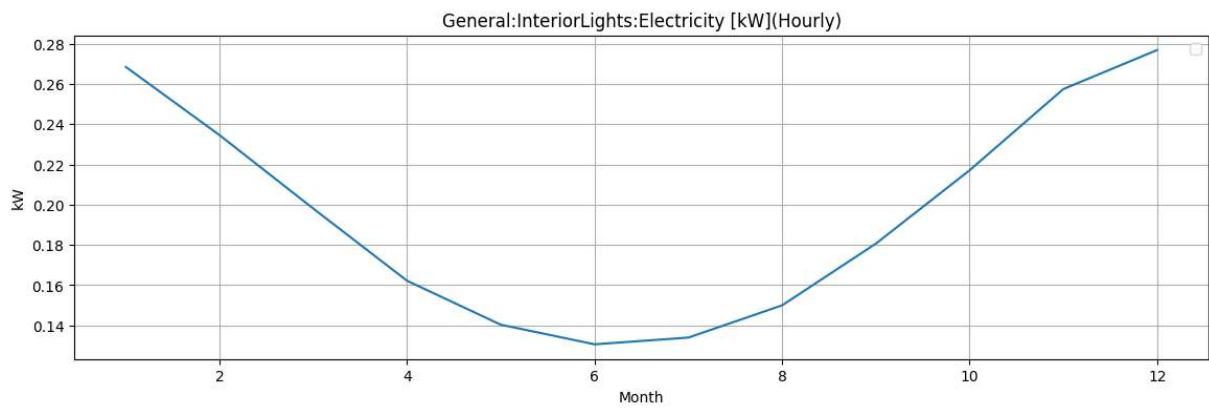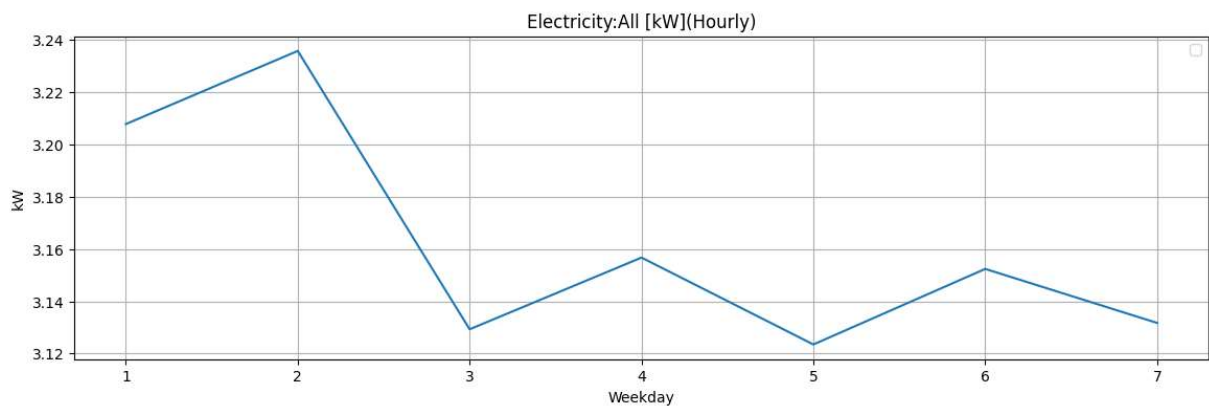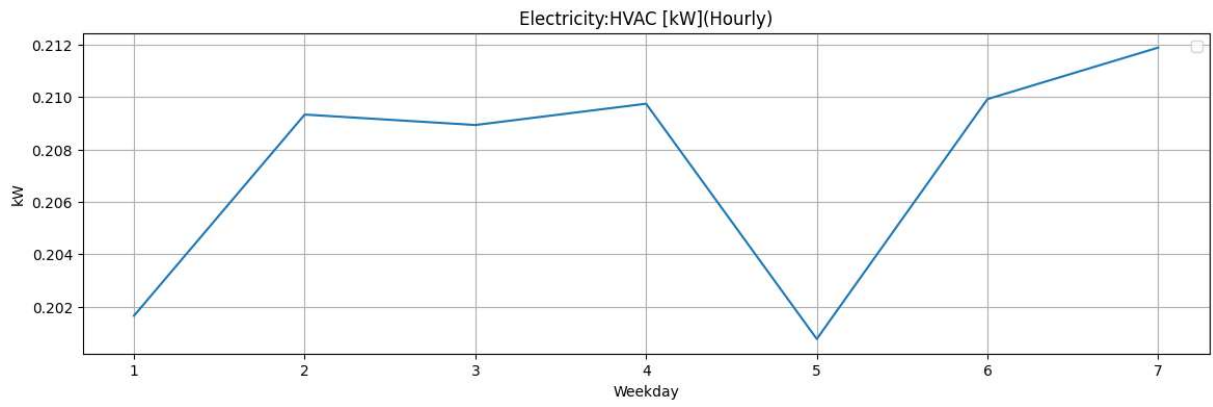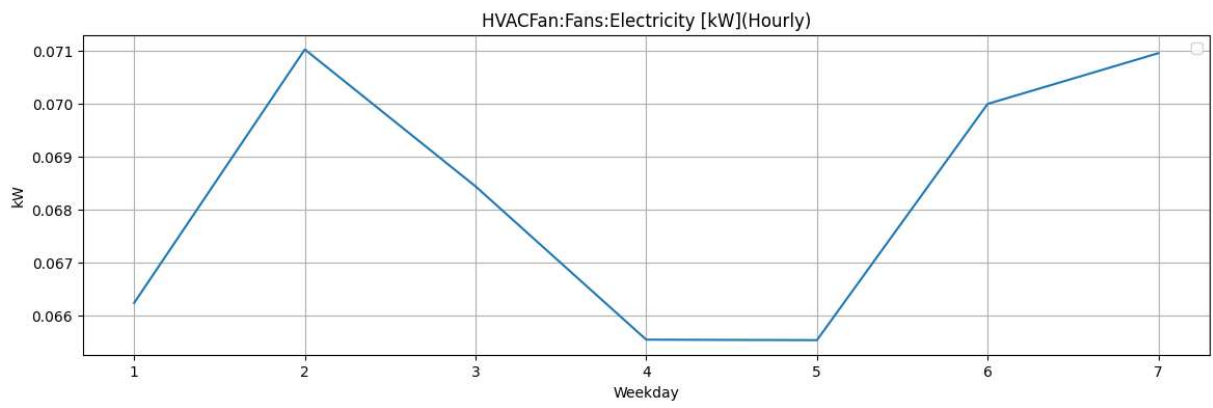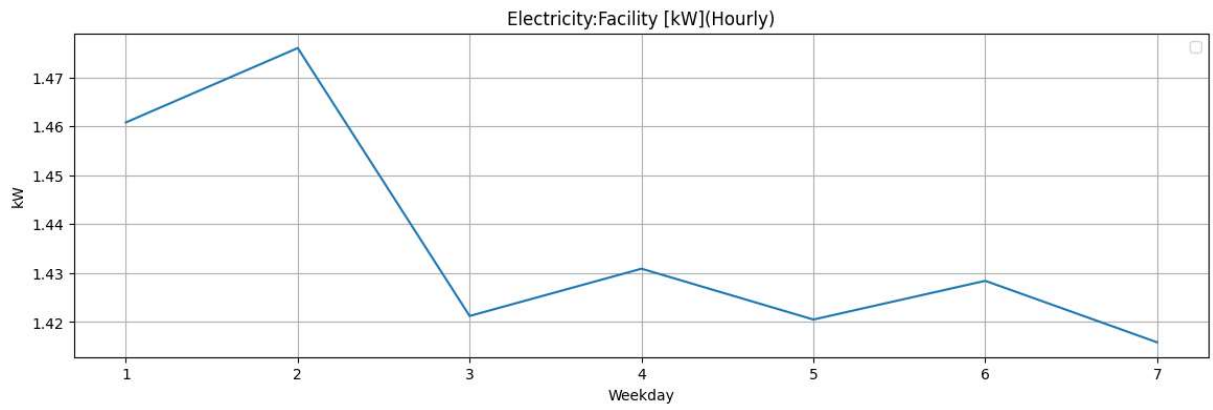
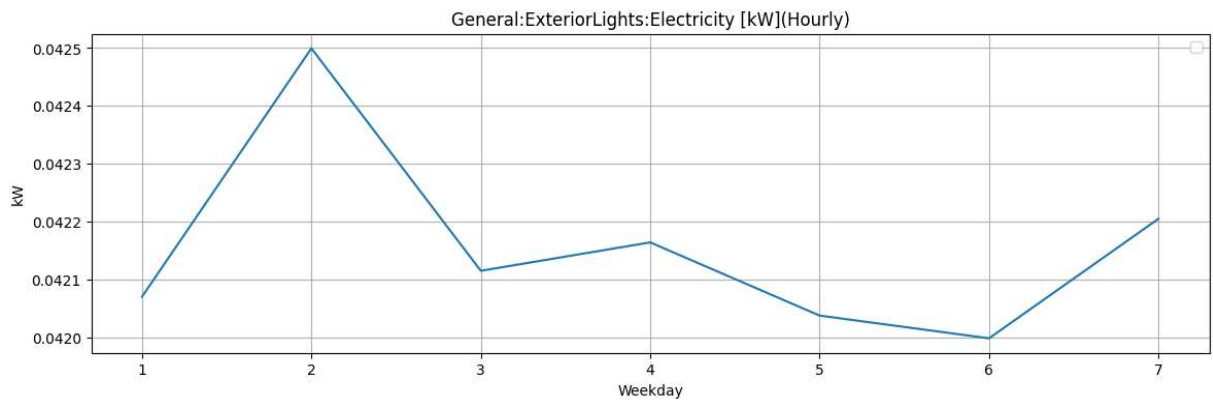The resident only uses Lights, Interior Equipment, and Water Heater on cold days.
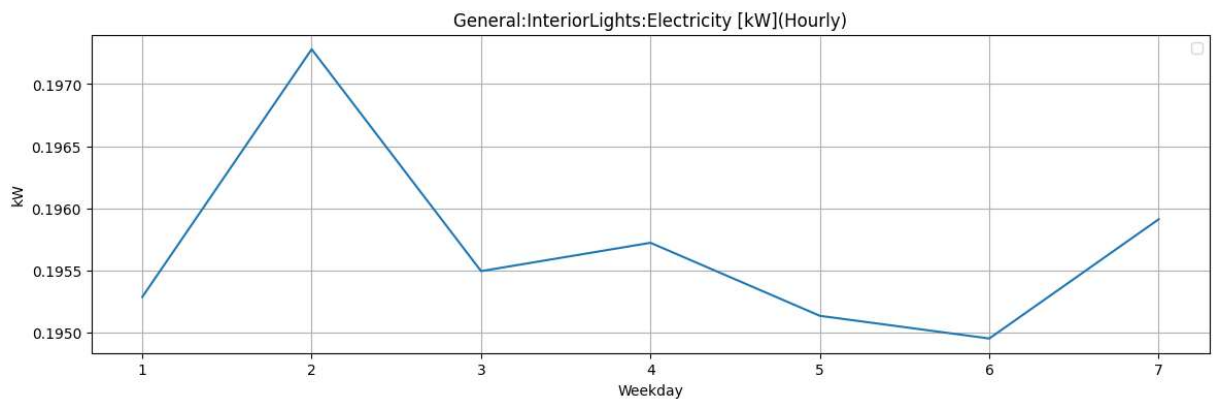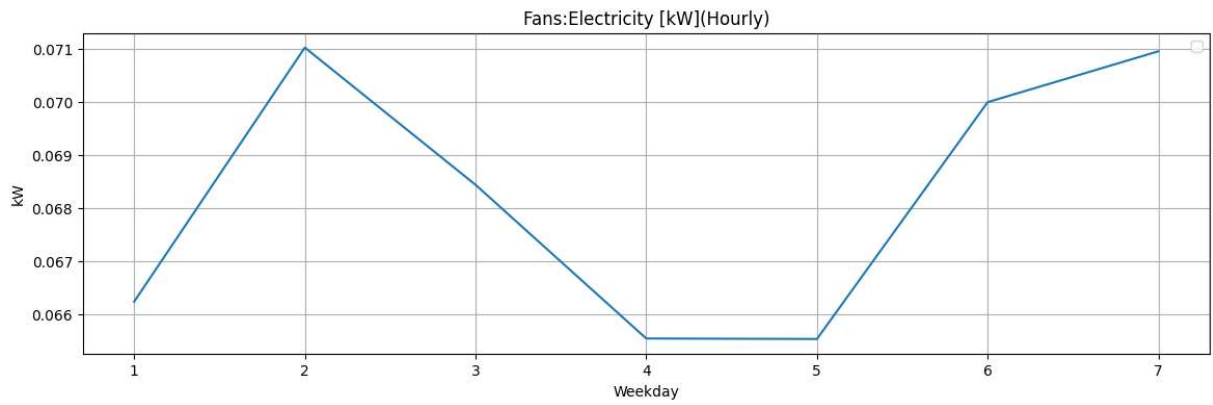


Appl:InteriorEquipment:Electricity [kW](Hourly)
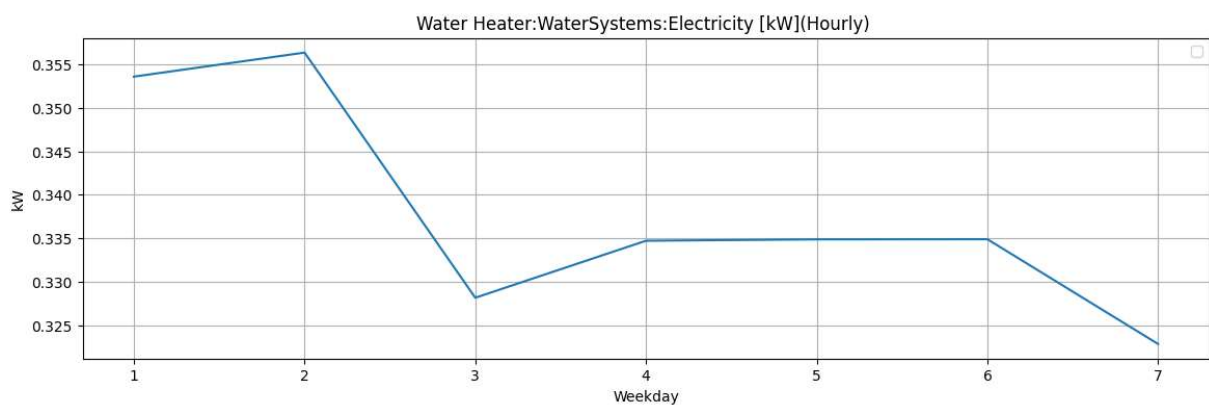
The resident might not be at home in Aug.

Group data by weekday.



Electricity:All [kW](Hourly)

Electricity:Facility [kW](Hourly)



HVACFan:Fans:Electricity [kW](Hourly)



Electricity:HVAC [kW](Hourly)

Fans:Electricity [kW](Hourly)

General:InteriorLights:Electricity [kW](Hourly)

General:ExteriorLights:Electricity [kW](Hourly)

Appl:InteriorEquipment:Electricity [kW](Hourly)



Water Heater:WaterSystems:Electricity [kW](Hourly)
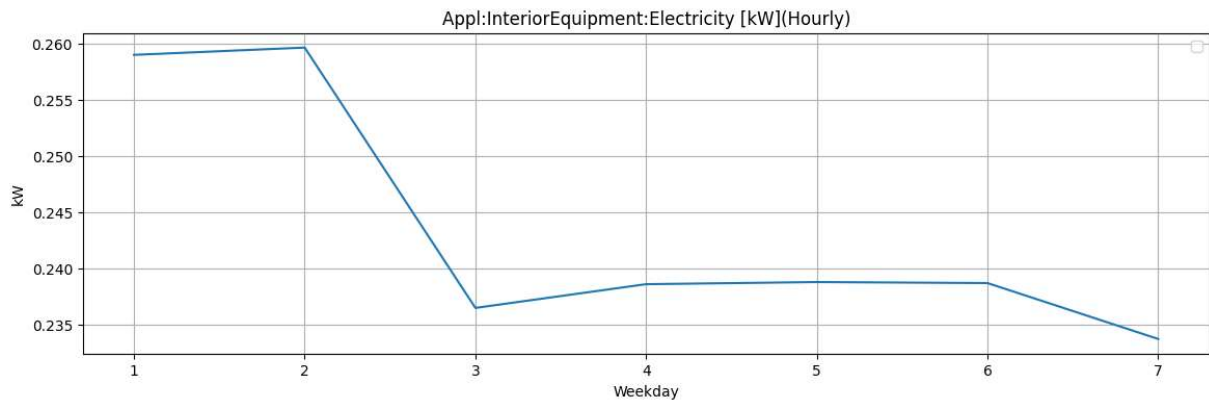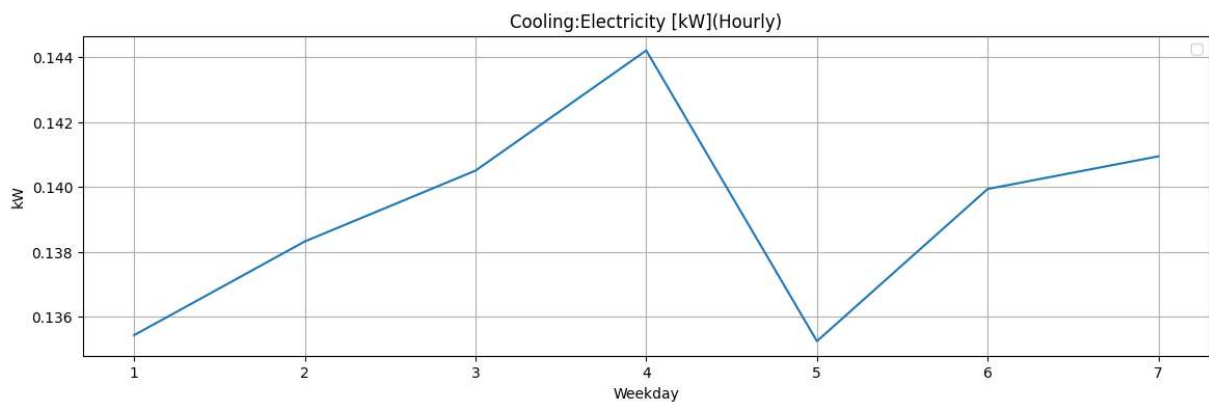
The resident uses much more electricity on Tuesdays, which is abnormal. The resident also uses some appliances more on Mondays and weekends.
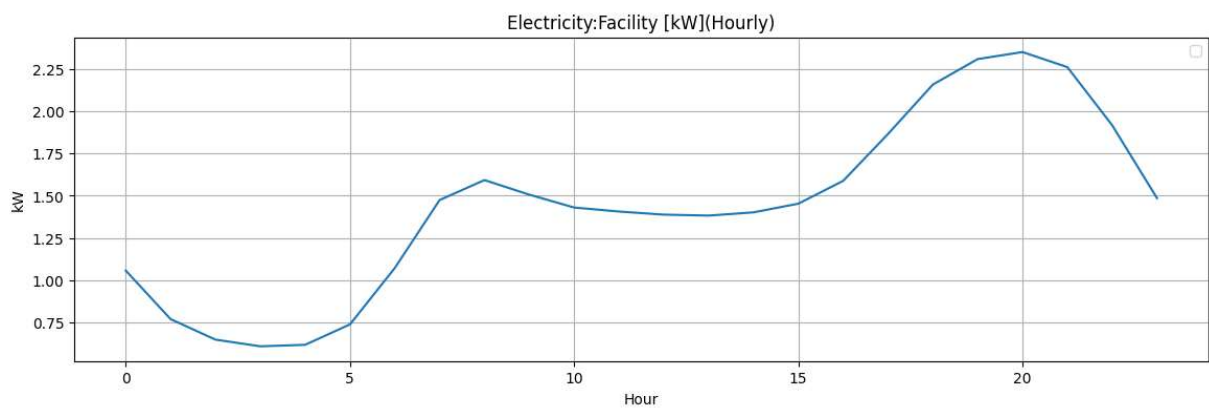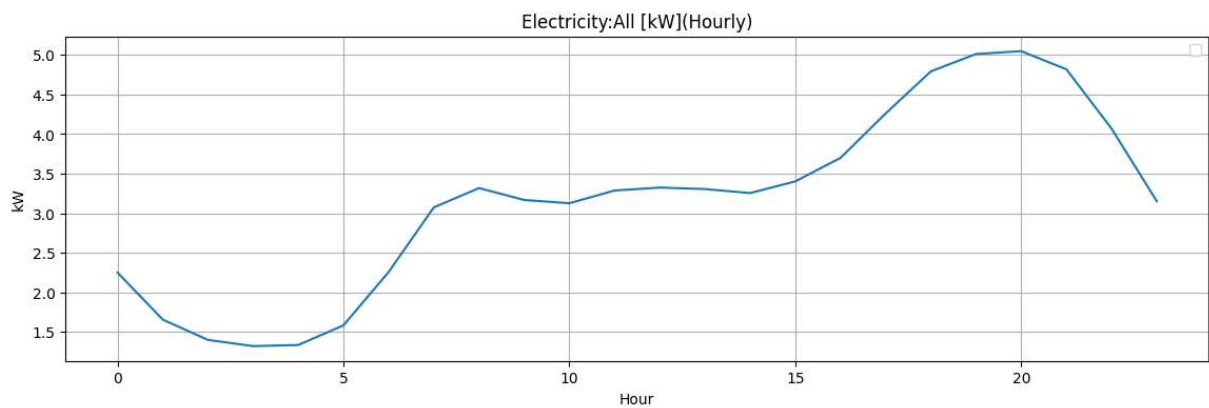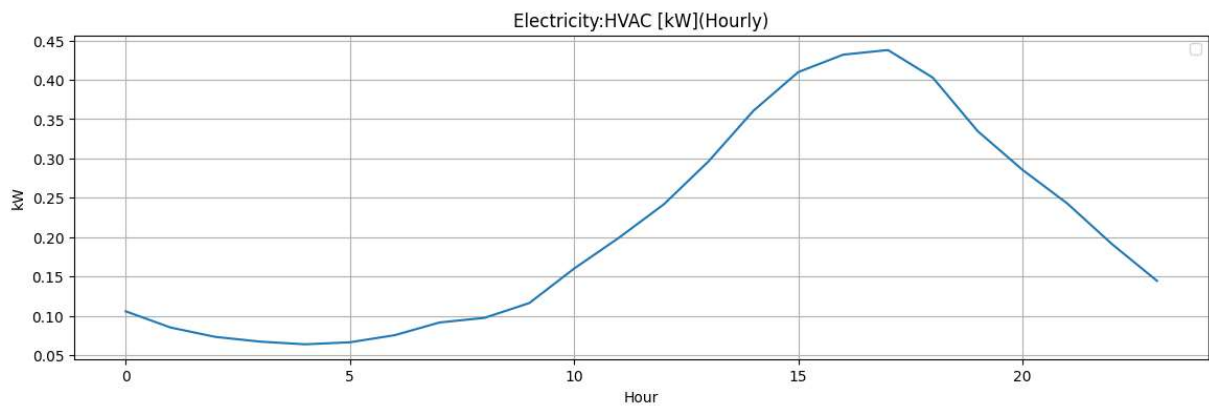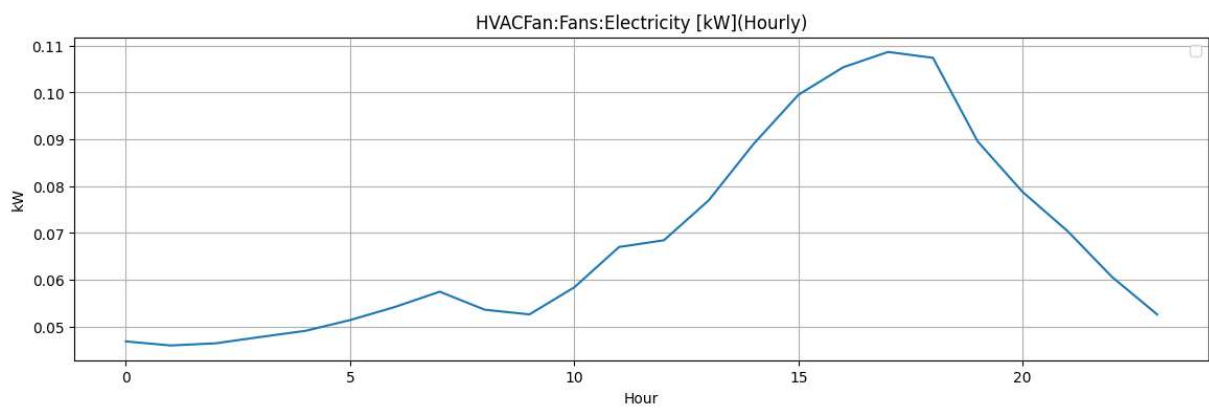


Cooling:Electricity [kW](Hourly)

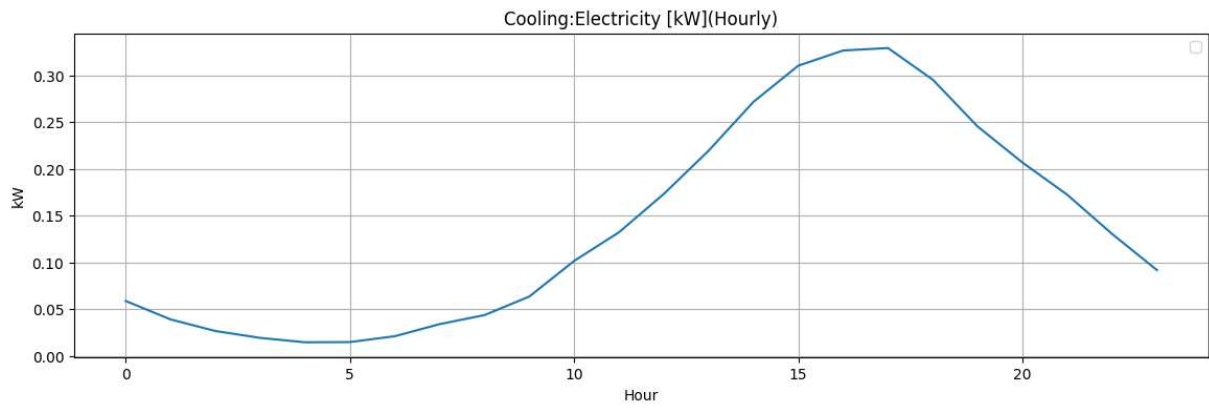The resident uses cooling more on Thursdays and never on Fridays. The resident also never uses some other appliances on Fridays. The resident might not be at home on Fridays.
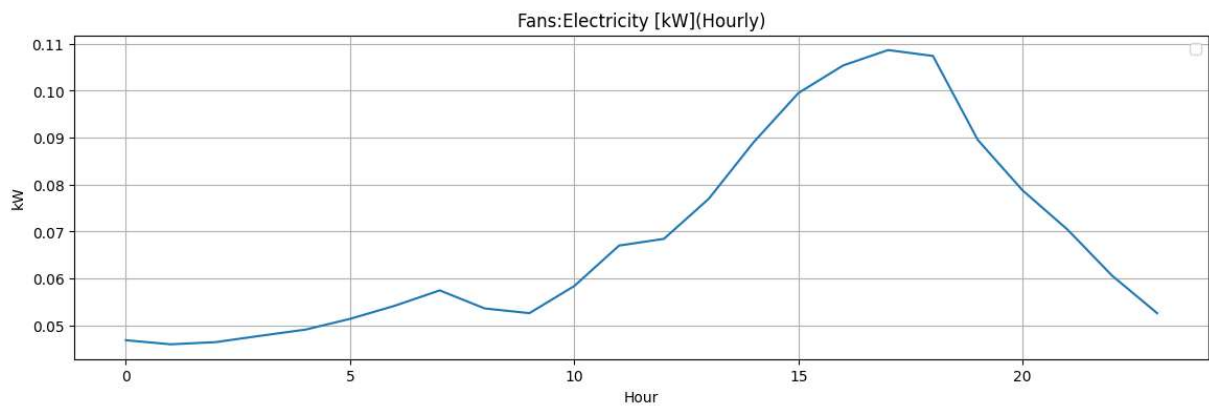
New Appliance:Electricity [kW](Hourly)
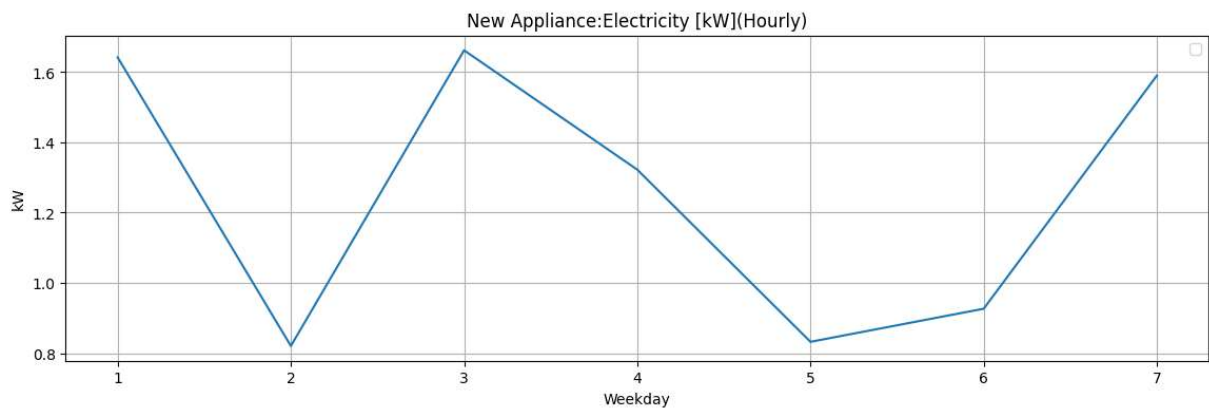
The resident uses the new appliance more on Mondays, Wednesdays, and Sundays, which is abnormal.

Group data by hour.



Electricity:All [kW](Hourly)



Electricity:Facility [kW](Hourly)

Cooling:Electricity [kW](Hourly)



HVACFan:Fans:Electricity [kW](Hourly)
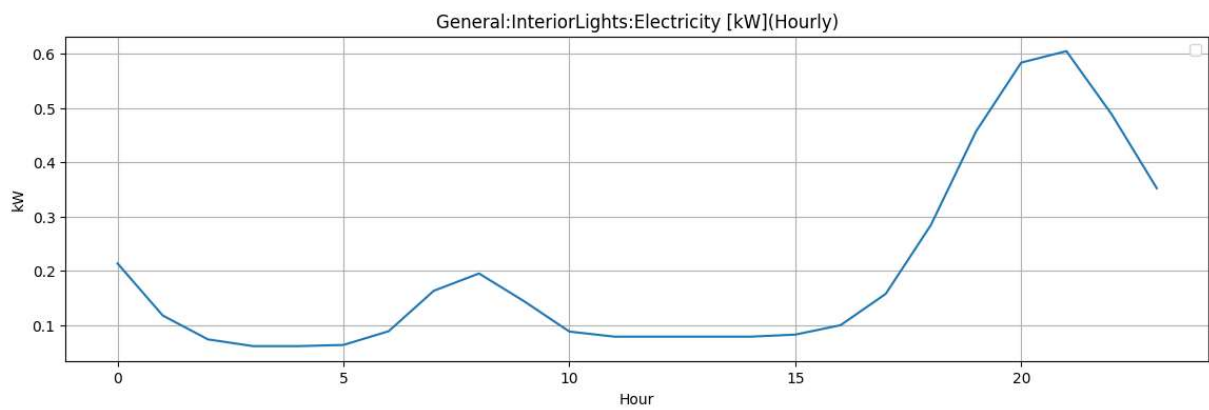


Electricity:HVAC [kW](Hourly)

Fans:Electricity [kW](Hourly)

The resident uses electricity more in the evenings and less at late night.



General:InteriorLights:Electricity [kW](Hourly)



General:ExteriorLights:Electricity [kW](Hourly)

Misc:InteriorEquipment:Electricity [kW](Hourly)



Water Heater:WaterSystems:Electricity [kW](Hourly)
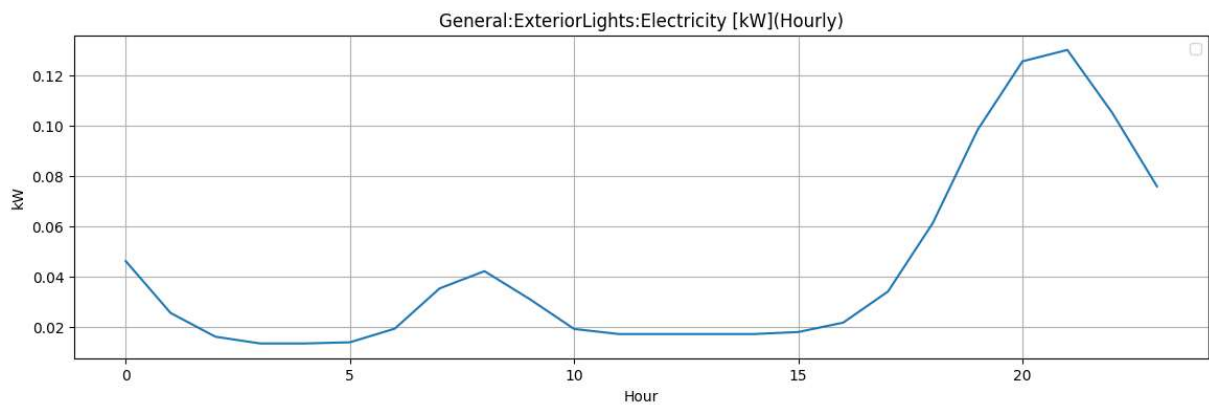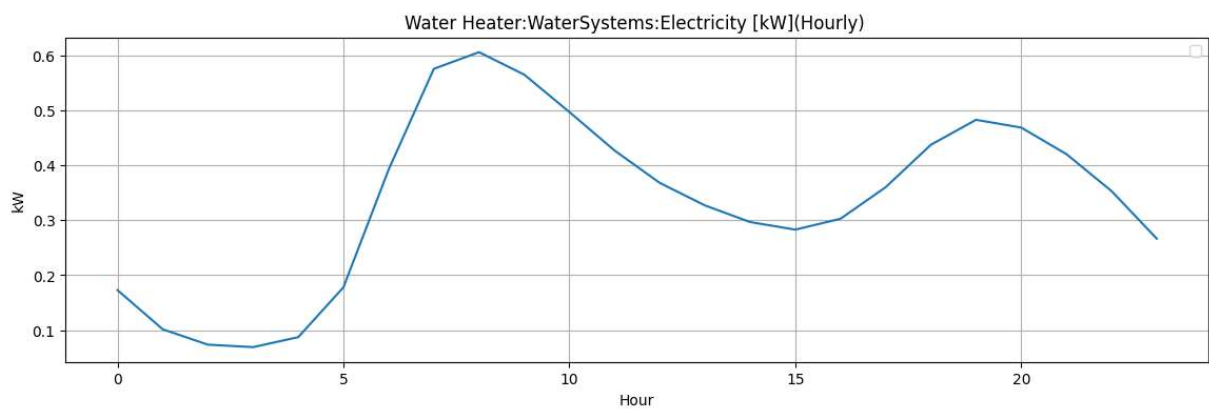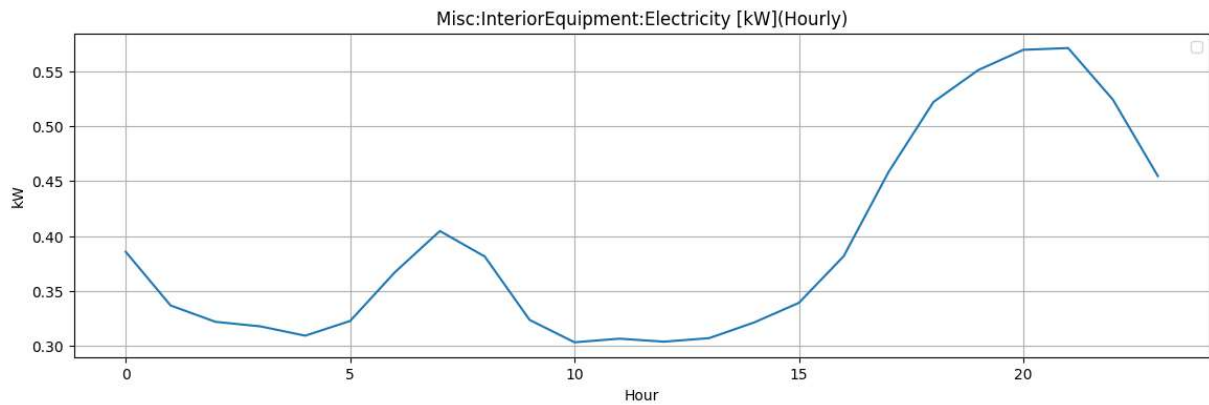
The resident uses electricity for Lights, Interior Equipment, and Water Heater more in the early mornings and in the evenings, which makes sense.



New Appliance:Electricity [kW](Hourly)
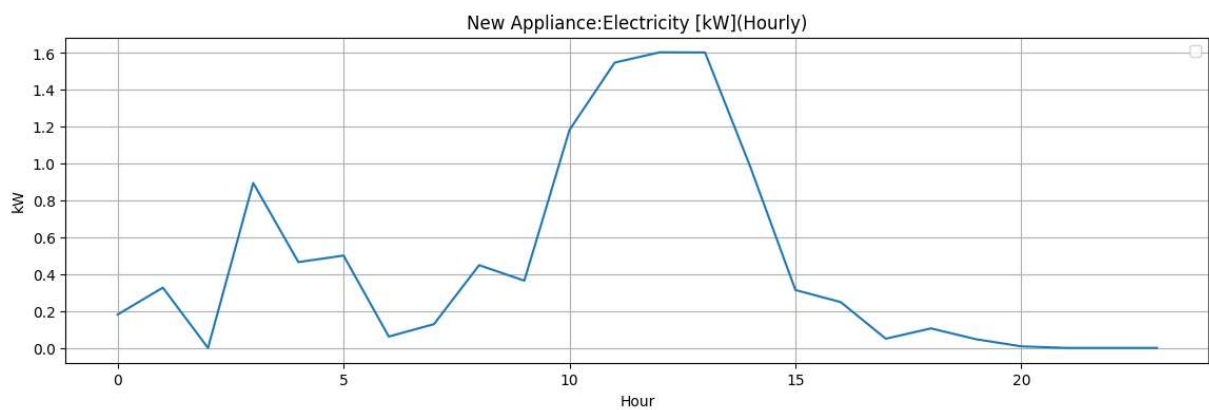
The resident uses electricity for the New Appliance more at noon and sometimes at late night, which is abnormal.