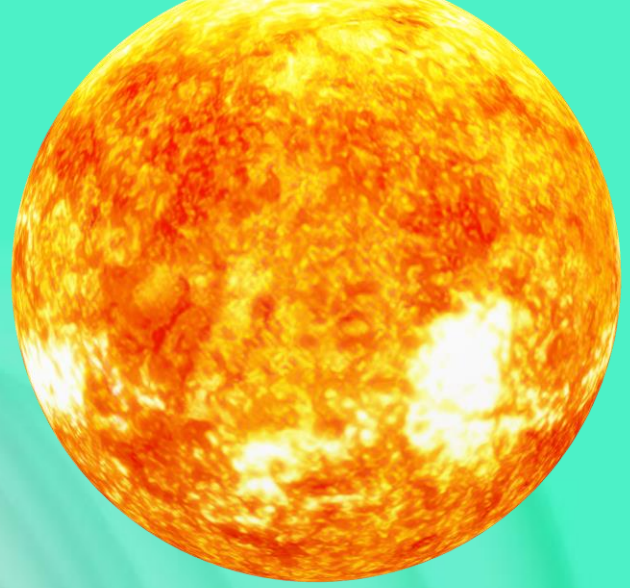
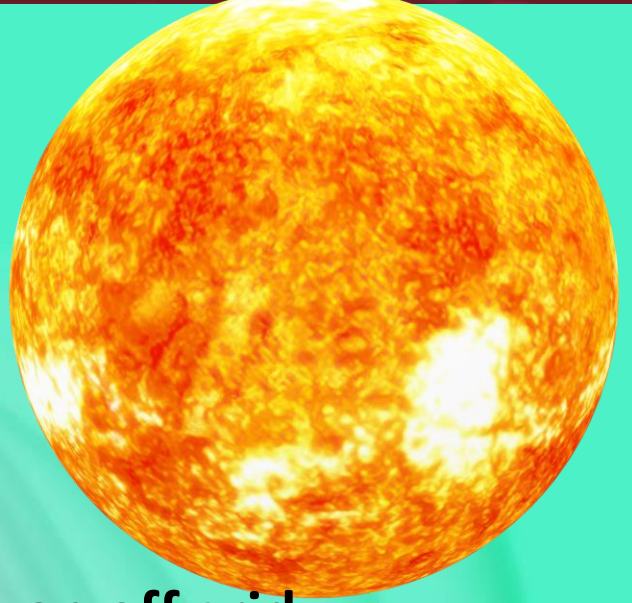


Solar plant efficiency

Colin lovestad

Project Scope

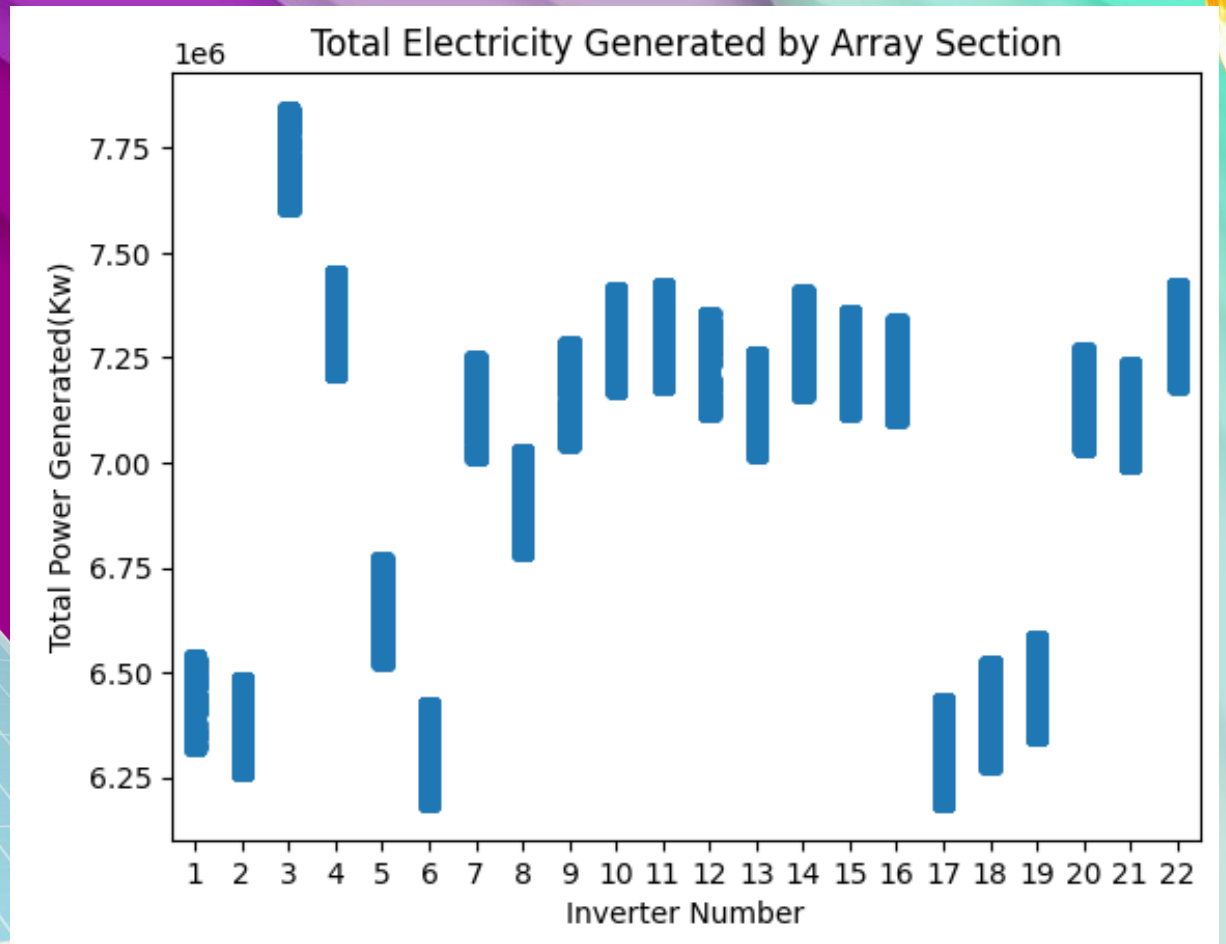


Steak-holders**

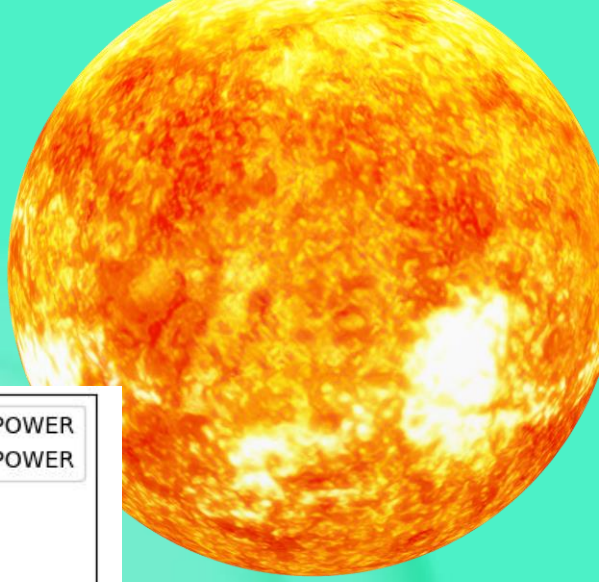
small city council considering allocation of funds to start an off grid subdivision , with the question of "how much power can be generated to support the subdivision and its network of buildings and how reliable on a month to month basis will the generation be to gauge the need(if any) for alternative power sources(grid power).

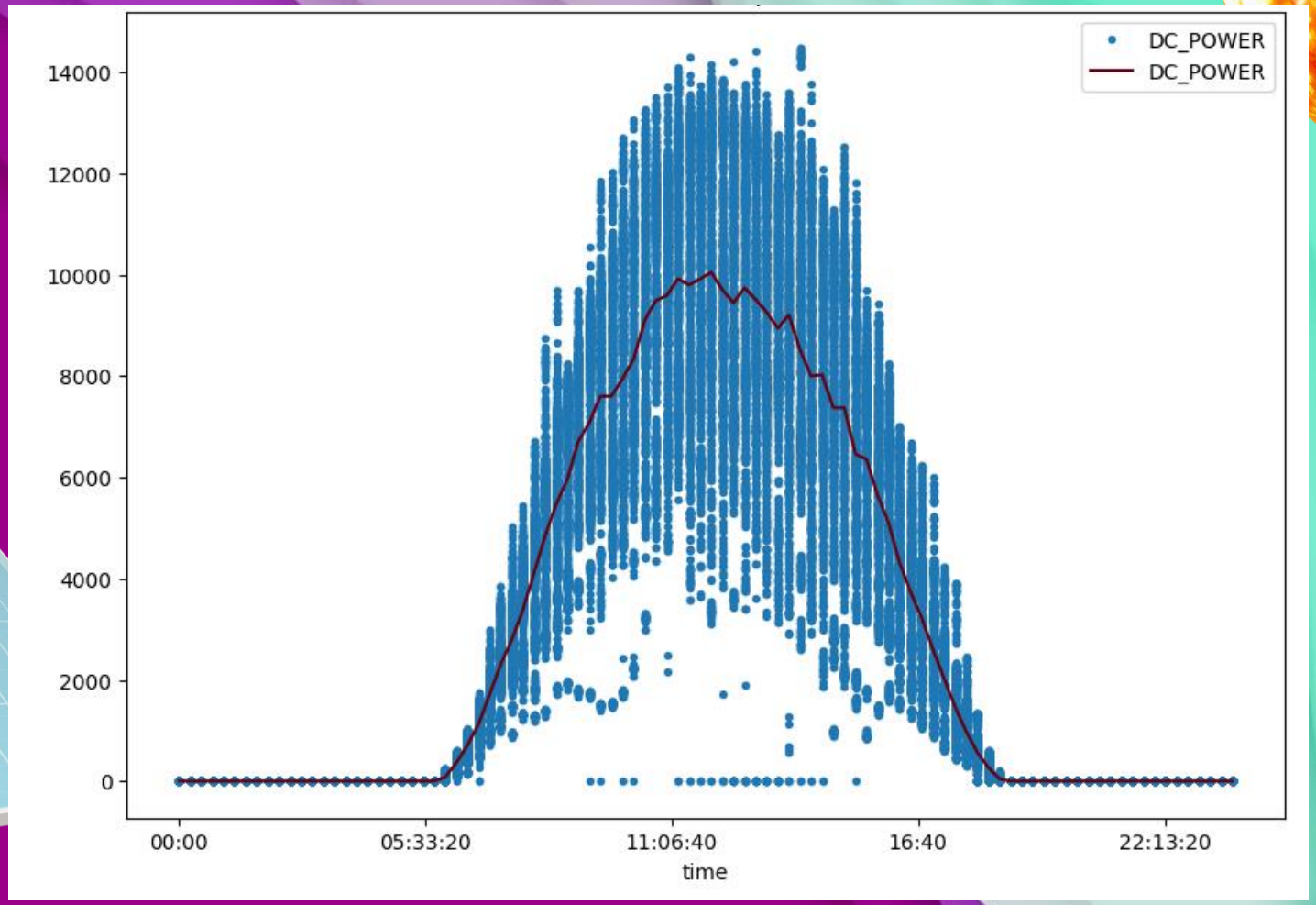
DF info- Power production predictions to gauge duty cycle of plant components to maintain peak efficiency.

Monthly production

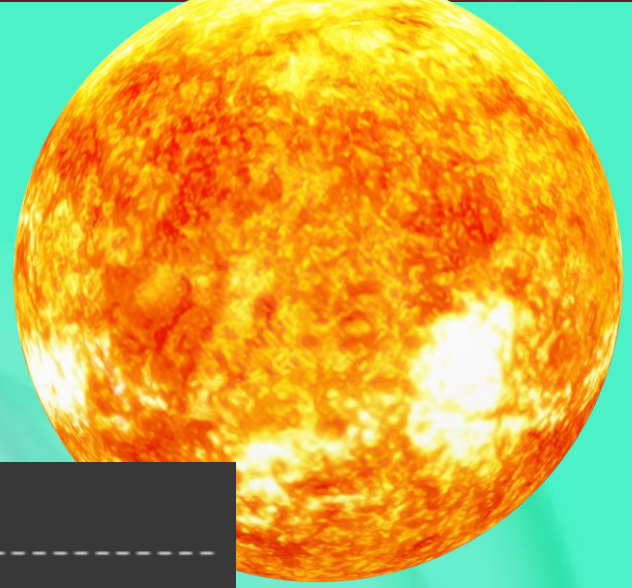


Daily Production





Evaluation



```
Regression Metrics: Test Data
-----------------------------------------------------------
- MAE = 21,545.492
- MSE = 2,173,544,460.114
- RMSE = 46,621.288
- R^2 = 0.987
```

monthly generation levels exceed project scope/needs even with outliers(low generating units), due to maintenance or other technical difficulties

model cannot predict possible natural disasters(weather)that could impact plant generation or downtime.