Energy Prediction

Project Status Update

Project Code: ENJX2344J
Lead: Chuck Rosenberry
Support: David Hren

Project Status

Stage	Description	Assigned	Status
1	Initial investigation of the meter readings	David	Underway
2	Baseline model using weather and building information	Chuck	Underway
3	Data conditioning and investigation	David/Chuck	Pending
4	Model refinement	-	Not Started

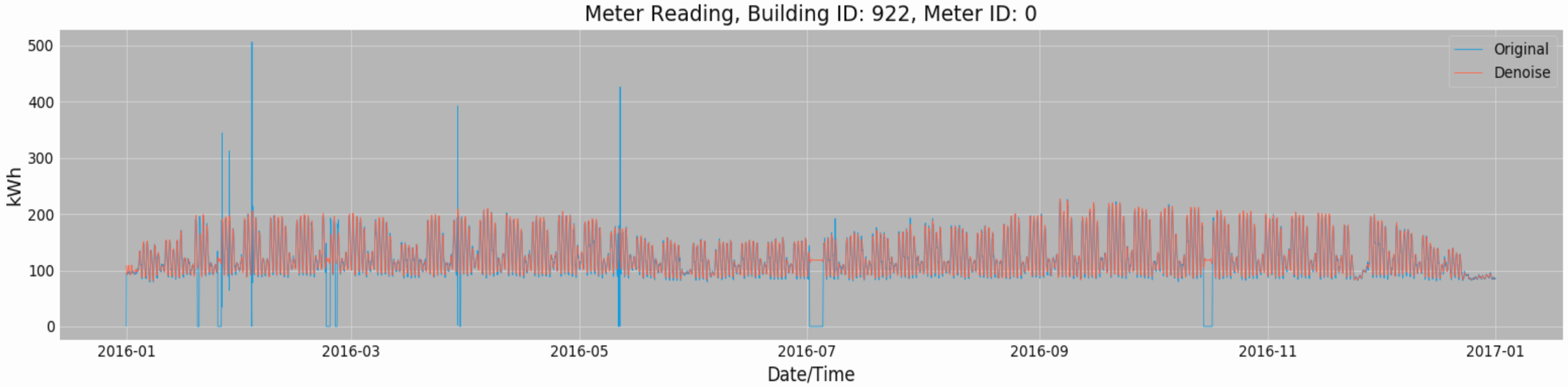
Meter Readings – Preliminary Findings

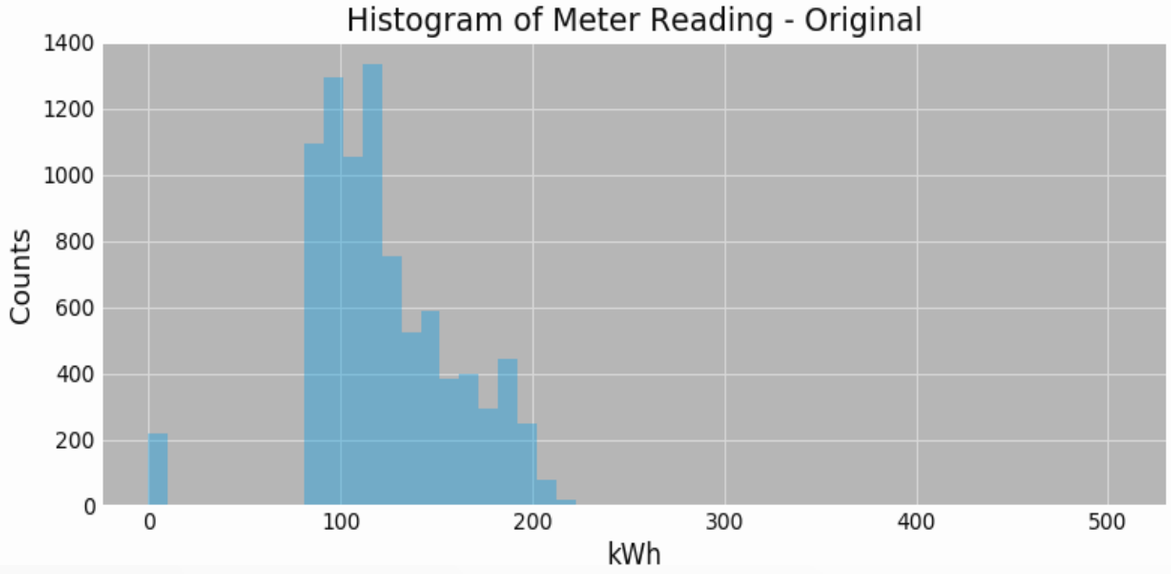
- Data appears to be contaminated with noise which may affect modeling quality.

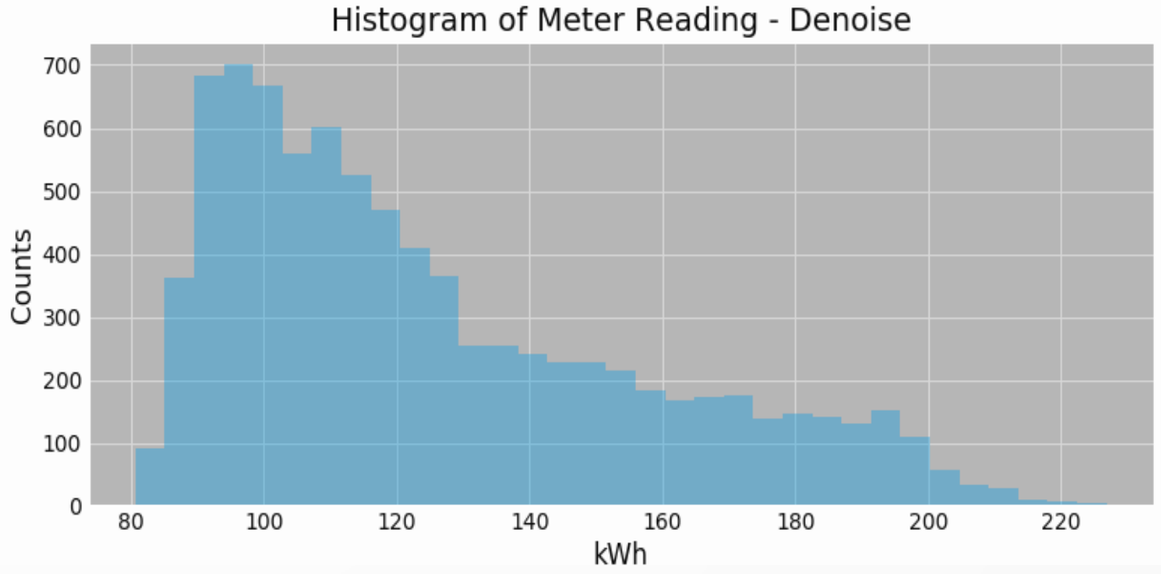
- Efforts have been made to clean the data (examples in following slides)

Noise Character – Building: 922, Meter: 0

Building Use: Education
Meter Type: Electricity

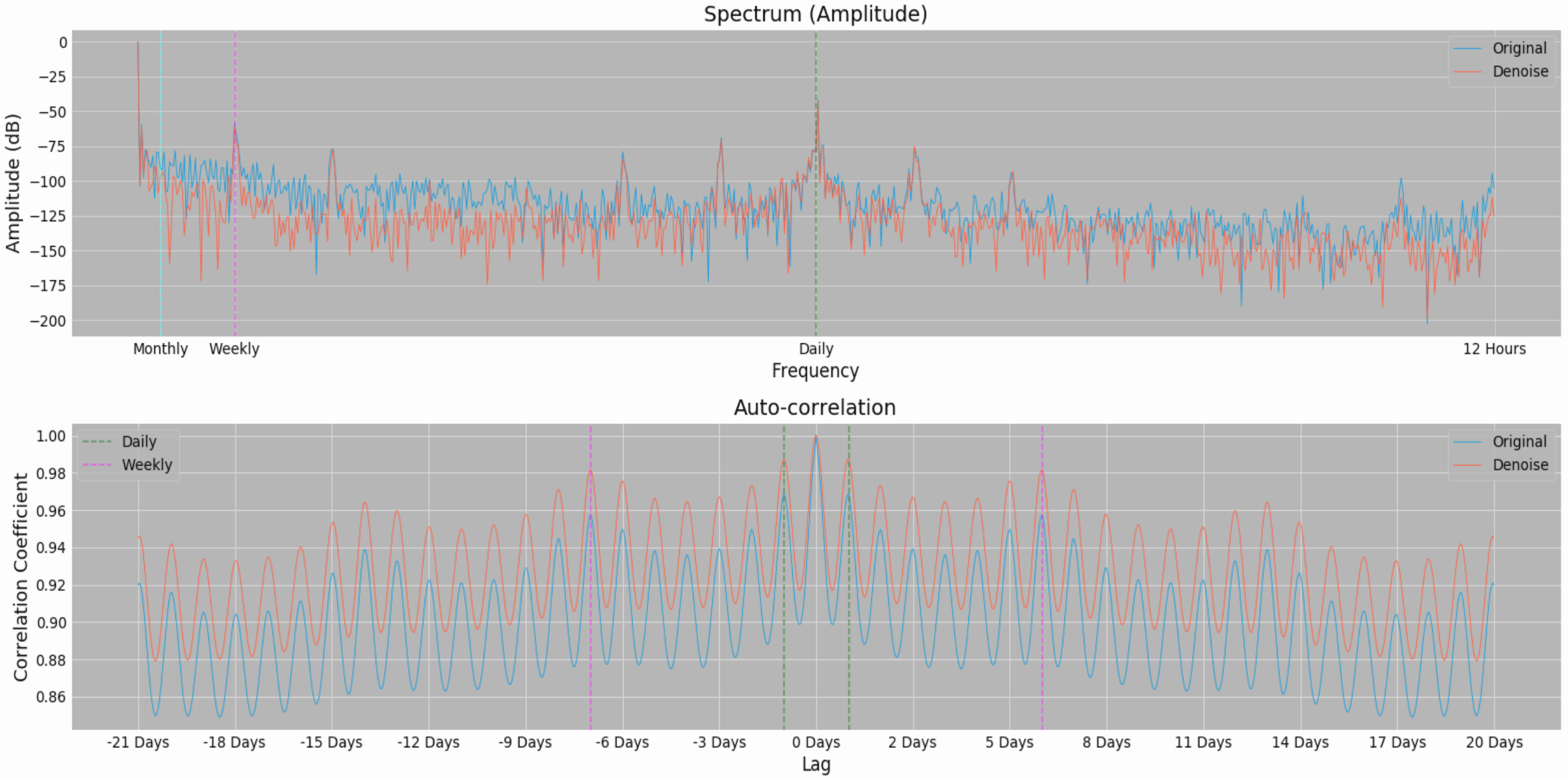






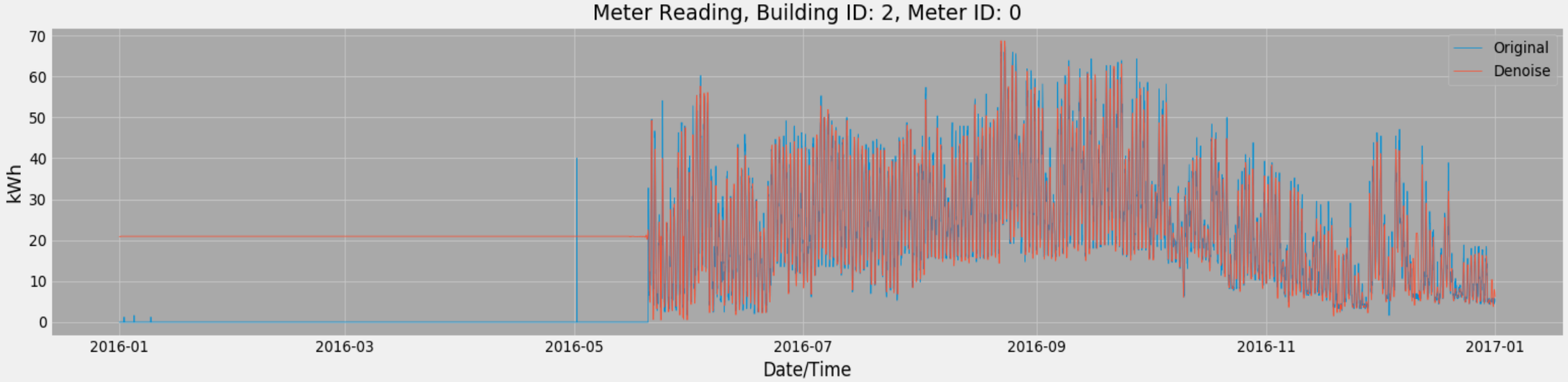
Periodicity – Building: 922, Meter: 0

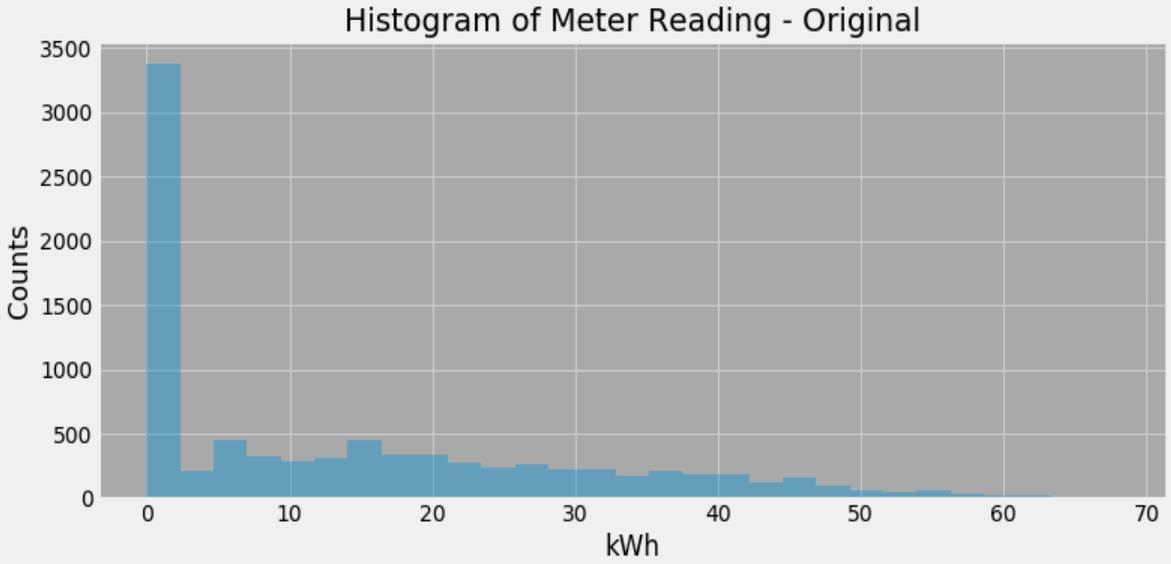
Building Use: Education
Meter Type: Electricity

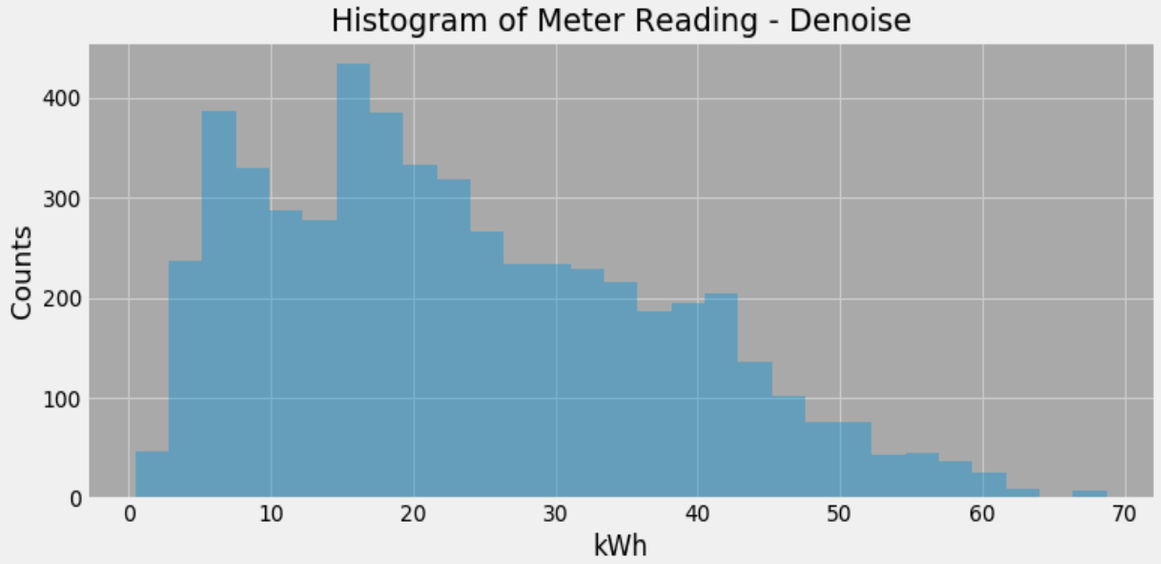


Noise Character – Building: 2, Meter: 0

Building Use: Education
Meter Type: Electricity

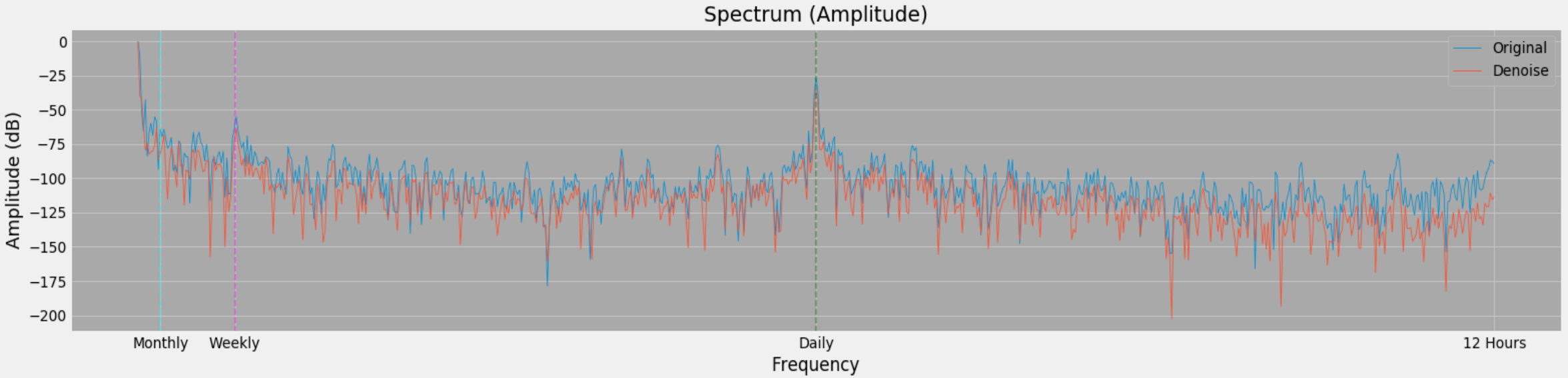


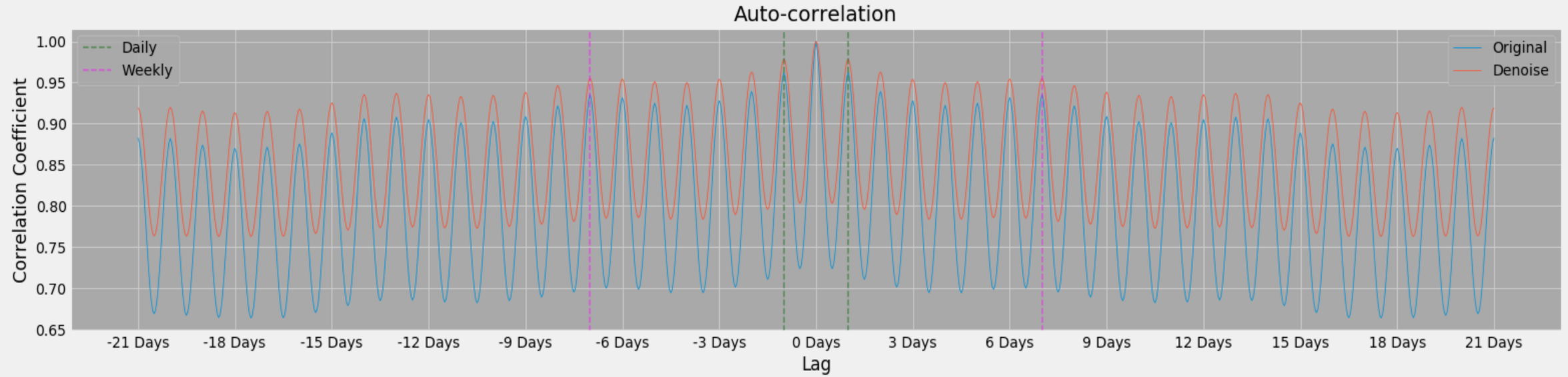




Periodicity – Building: 2, Meter: 0

Building Use: Education
Meter Type: Electricity





Comments - Denoise

- Initial QC of the denoise looks favorable.
- However, more investigation into impact of this step on predictions is needed (see appendix).

Comments - Periodicity

- Strong indications of periodicity within the meter readings.
- Test predictions based solely on the periodicity gives reasonable results.

Appendix

Baseline Modelling

Overview

- An initial baseline model (using the weather and building data) has been generated.
- The results are very favorable (beating the periodicity based model).
- However, when the denoise flow was added to the baseline, the predictive capability fell (close to the periodicity base model). So more investigation is necessary.

Baseline Predictions (Upcoming Year)