

Revenue Protection Management in Smart Grid: Energy Theft Detection

The Situation

Commercial losses from energy theft are crippling utilities around the world, totaling estimated \$89B annually and driving up energy prices for customers.

The Need

To minimize theft, the Revenue Protection Manager needs a prioritized list of most likely theft cases that need investigating.

The tool must be flexible enough to adjust to evolving theft methods.

The Solution

Using smart meters data along with external sources such as weather, regional risk and property data we developed an ensemble of predictive Machine Learning models, which calculate meter level Risk Scores, along with automatically generated reasons for elevated risk.

Reinforced learning framework allows the models to automatically adjust based on new theft investigations' results.

The Benefit

- ✓ 97% hit rate in identifying theft cases
- ✓ \$18M in recovered revenue potential identified
- ✓ Decreasing the number of necessary theft investigations in the field by up to 60% dramatically improves operational costs associated with unnecessary investigations