**Measure energy consumption**

**Import python packages:**

Let's use the electrical meter data to create clusters of typical load profiles for analysis. First we can load our conventional packages

**Python code:**

import pandas as pd

import matplotlib.pyplot as plt

import matplotlib

**Electricity Prediction for Measurement and Verification:**

Prediction is a common machine learning (ML) technique used on building energy consumption data. This process is valuable for anomaly detection, load profile-based building control and measurement and verification procedures.The graphic below comes from the IPMVP to show how prediction can be used for M&V to calculate how much energy would have been consumed if an energy savings intervention had not been implemented.

**Load electricity data and weather data:**

First we can load the data from the BDG in the same as our previous weather analysis influence notebook from the Construction Phase videos.

**Python code:**

elec\_all\_data = pd.read\_csv("../input/buildingdatagenomeproject2/electricity\_cleaned.csv", index\_col='timestamp', parse\_dates=True)

**Train and Test Datasets:**

The model is given a set of data that will be used to train the model to predict a specific objectice. In this case, we will use a few simple time series features as well as outdoor air temperature to predict how much energy a building uses.For this demonstration, we will use three months of data from April, May, and June to prediction July.

**Python code:**

training\_months = [4,5,6]

test\_months = [7]