



## Energy cost reduction confirmation Measurement & Verification (M&V)

### The Challenge

In most of the energy savings cases from retrofits, a lot depends on specific operating conditions, age of the equipment and type of facility. This presents a big challenge to clients who are considering energy cost reduction measures but are not totally confident about the savings numbers presented to them. Claims made by the vendors or service providers are often based on conditions which are significantly different than actual conditions. Actual savings have been observed up to 50% less than those claimed by the vendors in many situations.

### The Opportunity

A well-designed measurement and verification (M&V) plan can confirm the actual savings and bring confidence in the energy management program. A good M&V plan will account for all kind of variables that can affect the savings, like weather, occupancy, change in operating conditions etc. It is recommended that a third party should be engaged in performing M&V to ensure that the results are purely based upon actual observations and follow guidelines recommended by the International Performance Measurement and Verification Protocol (IPMVP).

### How Star Energy can help you

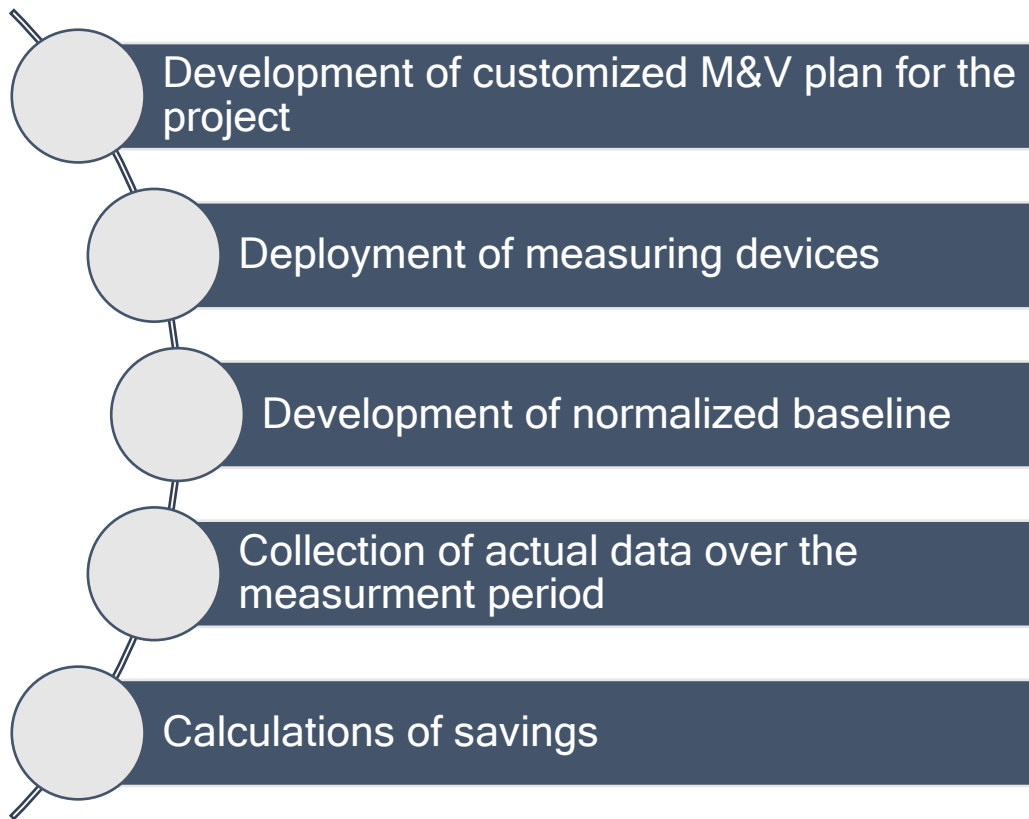
Star Energy can develop a customised M&V plan to perfectly balance the project size, accuracy required and impact of verified savings. We have subject matter experts who understand the technical aspect of the retrofits to ensure that you receive accurate saving numbers. We cover everything right from developing the plan to installing data loggers and collecting data for analysis on a regular interval basis. Our M&V plans conform to IPMVP and are approved by utilities for incentive determination.

### Issues

- Relying on the savings projections of the vendors which may have been reflecting different operating conditions
- Vendors performing M&V may not follow IPMVP and the results may not be accurate
- The general impression is that M&V is very expensive. However, it can be customised for every budget and requirements
- M&V is time consuming and very often considered as an after the fact item. In fact, M&V can be deployed quickly and can be customised to suit almost every timeline

# Major Activities Performed

# Benefits

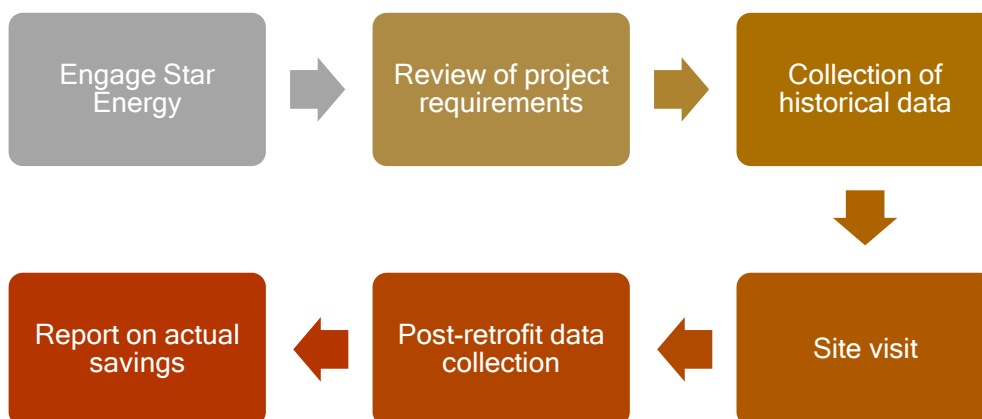


- Accurate savings duly normalized and adjusted for all variables that can affect energy savings
- Real payback and better financial metrics can be developed for large scale rollout of the project with accurate saving amount
- Better estimates of incentives that can be allocated to a project as utilities would accept the results of a proper M&V plan.

- Ensures that the project has been completed as per scope of work as the savings would not be same if the procedures are not followed during implementation

- Findings can be used to prioritize the measures that provide better savings for a large-scale rollout

# Process



Star Energy is an energy management company specializing in delivering comprehensive energy cost reduction programs throughout North America. Our experience in working with major clients has helped us to develop customizable programs that not only maximize returns on retrofit capital but also improve asset values and the life of mechanical and electrical systems. We have worked with major utilities across the US and Canada to optimize the eligibility of our programs for incentives to reduce implementation costs and improve paybacks. Part of our program customization relates to our client's annual energy reduction targets and their available retrofit capital.

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