

## **Barriers for Energy Efficiency**

**Title:**

Lack of minimum instrumentation, metering and monitoring

**Category:**

Energy audit in the field

**Summary:**

Energy audit in the field involves obtaining the process parameters in addition to the measurement of energy related parameters by using portable instruments. Process parameters are equally important to evaluate the efficiency and identify the energy conservation measures. For this minimum instrumentation, metering and the monitoring is required.

**Back ground:**

During the plant study major task is data generation and data gathering. It is some times referred to as the tip of the iceberg, not to diminish its importance but to emphasize that turning the raw field data and observations in to meaningful coherent programs and recommendations. For this instrumentation, metering and monitoring is very essential.

But not all the parameters can be measured by the portable instruments brought by the external auditor (Not all auditors will have comprehensive range of portable sophisticated, measuring and data logging instruments). There are very vital parameters where plant should have some amount of online instruments and recording (manual or automatic) and monitoring facilities.

For example: production output during the trial period of mass end energy balance or over a period of time, fuel consumption, specific energy consumption values, metering at least on the major sections, on line pressure gauges, past energy consumption profile at various output, steam flows or fuel consumption, etc.

The lack of instrumentation, which is required on line, where the portable instruments can not be used, will hinder the analysis.

**Lesson learnt:**

In addition to portable instrumentation employed by the external auditor, some amount of metering and monitoring is required on plant side to have effective field study to analyze the energy consumption minutely. Also, metering & monitoring by the plant makes a historical trend assessment possible which may account for factors like seasonal variations etc.