



Performance Risk Management for Energy
Efficiency Projects through Training



PERMANENT project- MEASUREMENT AND VERIFICATION OF SAVINGS

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Efficiency Projects through Training

PERMANENT

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Intelligent Energy  Europe

The Problem

The key barrier to Energy Efficiency (EE) is *distrust* in projected savings and payback.

As a result, EE projects:

- Must generate inappropriate rates of return;
- Get low priority in the competition for internal capital;
- Need owners to pledge other assets to external financiers who do not recognize the collateral value in demonstrated energy savings; and
- Are perceived too risky by external financiers and hence they attach unreasonable loan terms.

The Solution

Basically perceived risks stall EE sales.

Solution - make investors and financiers recognize:

- The risk-adjusted return of EE projects;
- That savings can be confidently ‘measured and verified’ (M&V); and
- The inherent collateral in a measured savings stream.

PERMANENT - goals

Main goals:

- Standardization of M&V procedures; translation of IPMVP and IEEFP on 6 languages
- Education; numerous workshops for energy users, professionals and financiers
- Promotion of M&V; more financing for EE projects

IPMVP and IEEFP

INTERNATIONAL PERFORMANCE MEASUREMENT AND VERIFICATION PROTOCOL



EVO
EFFICIENCY VALUATION ORGANIZATION

**Međunarodni Protokol
za mjerenje i verifikaciju
učinka**

Koncepti i opcije za određivanje
energetskih ušteda i ušteda vode
Svezak 1

Pripremio: Efficiency Valuation Organization
www.evo-world.org

Rujan 2010

EVO 10000 - 1:2010 (Hr)

INTERNATIONAL ENERGY EFFICIENCY FINANCING PROTOCOL



EVO
EFFICIENCY VALUATION ORGANIZATION

**Međunarodni
Protokol za financiranje
Projekata energetske
učinkovitosti**

Standardizirani Koncept

Pripremili: Efficiency Valuation Organization
www.evo-world.org

Travanj 2009

EVO 40000 - 1: 2009(Hr)

What is M&V?

“Measurement & Verification (M&V) is the process of using measurements to reliably determine actual saving created within an individual facility by an energy management program.”

Ref: IPMVP Vol I, 2007, Section 9

IPMVP concepts

IPMVP has four concepts (options):

- **Option A** – Retrofit isolation: Key parameter measurement
- **Option B** - Retrofit isolation: All parameter measurement
- **Option C** – Whole facility
- **Option D** – Calibrated simulation

The Basic IPMVP Savings Equation #1:

Savings reported for any period

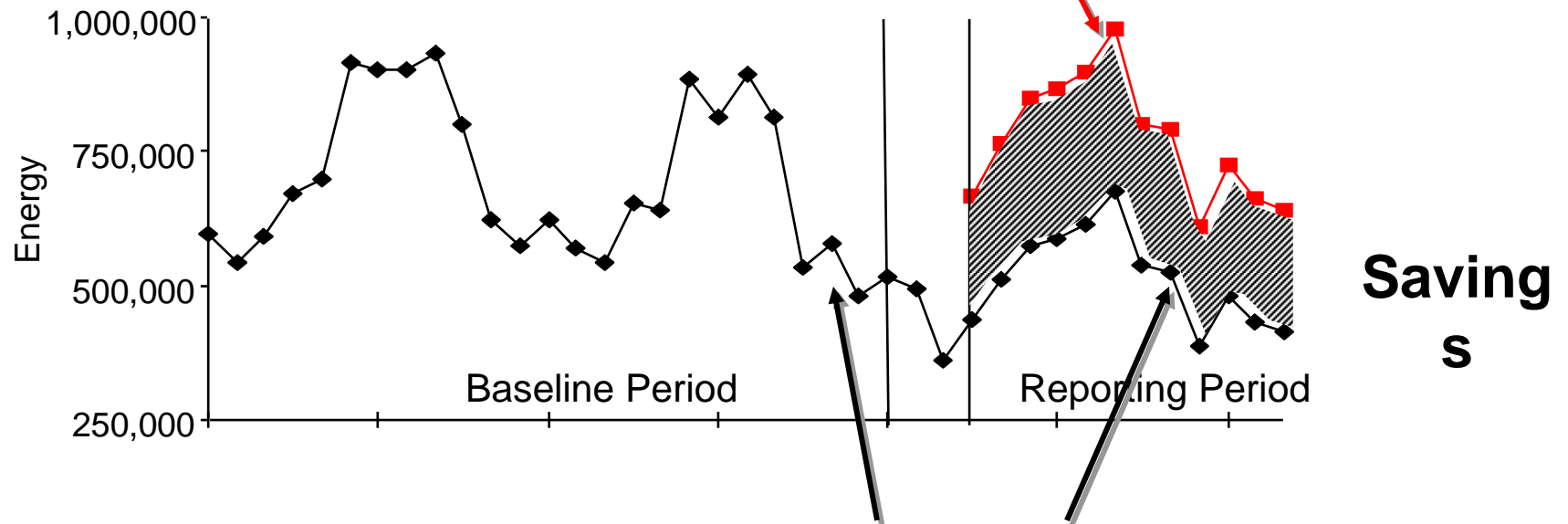
= Baseline Period energy

- Reporting Period energy

+/- Adjustments

Ref: IPMVP Volume I, 2007, Chapter 4.1

Baseline + Adjustments



Metered Energy

PERMANENT further activities

- Distribution of translated protocols to target groups
- Organization of last 2-day workshop for energy users and energy efficiency professionals
- Organization of training for financiers (commercial banks)
- Promotion of M&V (newsletters, presentations, adds etc.)
- Project ends in December 2011
- Organization of CMVP certification

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