
The IPMVP, standard contracts, and financing tools: case studies

Vladimira HENELOVA
ENVIROS, s.r.o., Czech Republic
(SKM Enviros)

Presentation Agenda

- EVO – A quick word
- IPMVP and IEEFP – What are they ?
- IPMVP - an Overview
- M&V – What is it and what are its benefits ?
- IPMVP - how did it evolve
- IPMVP documents
- IEEFP
- PERMANENT project
- CONCLUSION

A Quick word about EVO

Efficiency Valuation Organization (EVO)

A non-profit corporation

www.evo-world.org

- Develops, promotes and maintains the use of standardized protocols IEEFP & IPMVP, methods and tools to quantify energy efficiency savings.
- Led by volunteers around the world.
- Administrative office in Sofia, Bulgaria.

IPMVP & IEEFP

- International Performance Measurement & Verification Protocol (IPMVP) - Available in three volumes which are available for free download (www.evo-world.org)
- International Energy Efficiency Financing Protocol (IEEFP)

IPMVP - Overview

- Presents a **framework** and **defines terms** used in determining ‘savings’ after implementation of a project - giving confidence in the Energy Efficiency savings generated.
- Measurement, verification and demonstration of achieved savings has long been an area of conflict - IPMVP presents a standard for this activity - comprising internationally agreed procedures and techniques in measurement and verification (M&V)
- Most recently promoted also in Europe

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 implementing Energy Saving Measures.”

Ref: IPMVP Vol I, 2007, Section 9

IPMVP - Benefits

- Defines standard approaches to “measuring” “savings,” to reassure facility owners.
- Legitimizes ESCO projects through international recognition of the “**cash register**” for savings.
- Provides guidance on the trade-off between measurement “accuracy” and measurement cost.
- Helps parties to create transparent, repeatable performance contract terms (and emission trades regarding savings settlement).
- Updates the definition of the state of the M&V art through constant evolution on the EVO website.

Evolution of IPMVP

- In the early 1990s there was a variety of M&V protocols, around the U.S.A.
- In 1996 the U.S. Department of Energy provided impetus and secretariat funding to harmonize protocols. Over 150 volunteers (owners, financiers, contractors, consultants, academics, utilities) from 15 countries wrote IPMVP for the sake of the ESCO industry.
- In 2001 DOE transferred responsibility for IPMVP to the corporation which is now called EVO, a self-funded non-profit, supported by subscribers.

IPMVP - Documents

- IPMVP Vol. I - **Concepts and Options for Determining Energy and Water Savings.**
- IPMVP Vol. II - **Concepts and Practices for Improved Indoor Environmental Quality**
- IPMVP Vol. III - **Applications**
 - Part I Concepts and Practices for Determining Energy Savings in **New Construction**
 - Part II Concepts and Practices for Determining Energy Savings in **Renewable** Energy Technologies Applications

What is IEEFP

- IEEFP is an international standardised program for training financial institutions how to evaluate the risks and benefits of financing Energy Efficiency Projects
- Focuses on the “Savings Value” of EEPs for loan repayment and credit capacity analysis
- Provides guidelines and procedures that include:
 - Credit, Project Analysis and Loan Application Criteria
 - Investment and Technology Criteria
 - Agreements (Loan, Security, ESCO, Construction, etc.)
 - Savings Measurement and Verification (IPMVP)
 - Case Studies, Financial Analysis Tools, etc.)

PERMANENT - IEE Project

The Acronym stands for:

Performance **R**isk **M**ANagement for **E**Nergy efficiency projects through **T**raining

To enhance the rate of investment in EE projects in Bulgaria, Croatia, Czech Republic, Poland and Romania, by addressing the fear of EE permanence.

EVO, IPMVP and ENVIROS

- ENVIROS (part of SKM Enviros, world-wide consultancy) has been delegated by EVO,
- PERMANENT: Project financed from the Intelligent Energy Europe Programme - aimed at training in 5 countries to transfer M&V know-how and standardised concepts to EU countries (Bulgaria, Romania, Croatia, Poland, Czech Republic)
- ENVIROS co-ordinates the PERMANENT project, assisted by MAICON Associates (EVO experts)
- ENVIROS has been involved in EPC projects management, energy management systems introduction, strategic studies, auditing schemes, also in many international projects promoting ESCO schemes,

PERMANENT Aims

- Educate energy users, project developers, ESCOs and investors in those five countries
- Train and create instructors from partner organisations in IPMVP and IEEFP.
- Customise, adapt and translate EVO's materials (IPMVP and IEEFP) to make them country specific.
- To identify high level personnel in banks responsible for approving financing for EE projects, and ESCOs and project developers
- The trained instructors from the partner organizations to run further training and awareness sessions
- After PERMANENT, to continue working with energy users, project developers, ESCOs and investors as business opportunity and creating successful Energy Efficiency projects on an ongoing basis.

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Conclusions

- M&V Plan should become part of every energy saving plan
- M&V Plan is part of every ESCO contract - in energy performance contracts savings must be reported to a client and form the basis of a payment by the client to an ESCO
- M&V has been part of every energy management system, incl. energy savings reporting
- Reliability, verification and transparency of achieved energy savings makes energy saving projects more attractive and more similar to other investment projects
- Reliability and transparency of savings brought by M&V gives confidence to the financiers in the Energy Efficiency savings generated