



# THE ROLE OF IPMVP IN ESCO M&V ACTIVITIES

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# What Is M&V?

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“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, 2010, Chapter 9

# What Is M&V?

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Measurement and Verification is a balancing act  
between cost and risk

risk = uncertainty

and

uncertainty = volatility

M&V seeks to optimize the costs to **identify and measure**  
technical and contractual volatility

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# ESCOs and M&V

## The Concept

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- ESCOs have to rely on M&V activities to demonstrate the achieved savings, in order to be paid for their services
- As no real references existed at the start of the ESCO concept, the development of M&V protocols had to be realized by each ESCO
- This created some lack of credibility in the market, as ESCOs were sometimes seen as biased in the development of such protocols

# M&V Protocols

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- Need for standardized M&V protocols met by different organizations that produced M&V documents for different audiences and purposes:
    - IPMVP
    - FEMP
    - ASHRAE 14-2002
  - IPMVP emerged rapidly as the most widely recognized standard in the ESCO industry worldwide
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# IPMVP Overview

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- IPMVP presents a **framework** and **defines terms** needed in determining energy savings after implementation of a project.
- IPMVP specifies the contents of the **M&V Plan** that must be prepared for each specific project.
- IPMVP **allows flexibility** in creating M&V Plans for individual projects, while adhering to the principles of **accuracy, completeness, conservativeness, consistency, relevance and transparency**

# IPMVP Benefits

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- 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
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# IPMVP Documents

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- 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 Options for Determining Energy Savings in **New Construction**
    - Part II Concepts and Practices for Determining Energy Savings in **Renewable Energy Technologies Applications**
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# EVO: 2010 IPMVP

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## *2010 Sixth edition of Volume 1*

- **Vol I - *Concepts and Options for Determining Energy and Water Savings***
  - Defines basic M&V terminology
  - Provides M&V design flexibility by defining 4 Options for determining savings
  - Presents general procedures to achieve reliable and cost-effective determination of savings
  - Applicable to energy or water efficiency projects in buildings and industrial plants

# Conclusion

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- M&V activities are a fundamental part of ESCO activities, needing recognized norms to gain credibility
- EVO's IPMVP can play an important role in the development of the ESCO concept, providing guidelines and credibility to M&V activities

# Efficiency Valuation Organization (EVO)

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Efficiency Valuation Organization (EVO)

[www.evo-world.org](http://www.evo-world.org)

- The home of the IPMVP
- A non-profit U.S. corporation
- Led by volunteers around the world
- Administrative office in Sofia, Bulgaria.

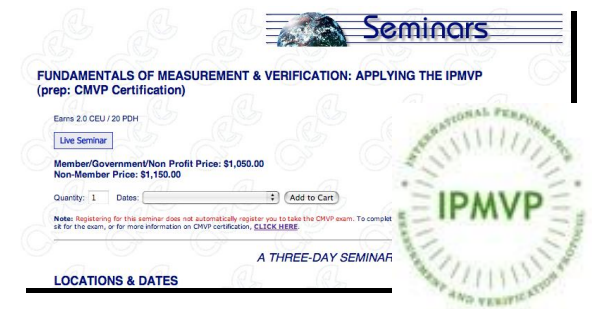
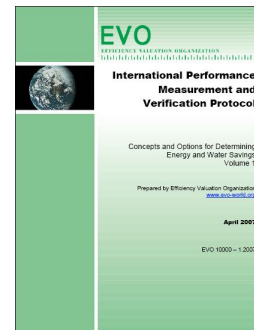
# Efficiency Valuation Organization (EVO)

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International non-profit organization offering products and services to aid:

- M&V of energy and water savings resulting from energy & water efficiency projects
  - Financial risk management of energy savings performance contracts
  - Quantifying emissions reductions from energy efficiency projects
  - Promoting sustainable and green construction through cost-effective and accurate accounting of energy and water savings
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- **Protocols**
  - M&V (IPMVP)
  - Financing (IEEFP)
- **Training, Certification**
  - Certification (CMVP) is joint with the Association of Energy Engineers



- **Building Community, Promoting Efficiency**
  - Subscriber services through [www.evo-world.org](http://www.evo-world.org): industry newsletter, library, discounts, pre-release access to public documents
  - World wide partnerships for communication, training and development

# Contact EVO

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