

International Performance Measurement and Verification Protocol / Protocole international de mesure et de vérification / Protocolo Internacional de Medição e Verificação do Desempenho Energético / 国际节能
确定节能量和节水量的概念和方法 / Międzynarodowy Protokół Pomiarów Eksploatacyjnych i Weryfikacji / Protocolo In
medida y Verificación / Международный протокол измерения и верификации Эффективности / Internationale
leistungsmessung und -verifizierung / Uluslararası Performans Ölçüm Ve Doğrulama Protokolü / Međunarod
jerenje i verifikaciju učinka / Protocolo Internacional de Medição e Verificação De Performance / Международ
измерения и ерификации эффективности / Protocol Internacional de Mesura i Verificació del Rendiment Energèti



INTERNATIONAL
PERFORMANCE
MEASUREMENT
& VERIFICATION
PROTOCOL

MEASUREMENT AND VERIFICATION OF ENERGY AND WATER SAVINGS

*The Global M&V Solution
for Performance Contracting*



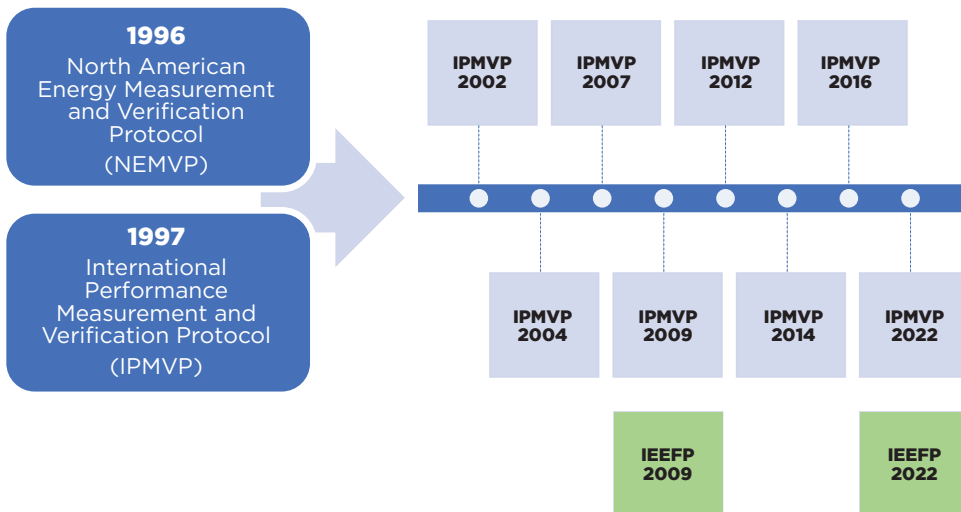
30 YEARS of M&V protocol development and progress!

In the mid-1990s, different parties involved in energy efficiency noted that the long-term success of energy and water management projects was hampered by the inability of project partners to agree on an accurate, successful measurement and verification plan. Existing protocols created a patchwork of inconsistent, sometimes unreliable efficiency installation and measurement practices that prevent new forms of lower-cost financing development.

This led to the creation of the North American Energy Measurement and Verification Protocol (NEMVP) in 1996, which was immediately followed by the first edition of the International Performance Measurement and Verification Protocol (IPMVP) in 1997.

The IPMVP results from a remarkable collaborative effort among industry, governments, state agencies, and experts in the energy, water, and efficiency industries in North and South America, Europe, and Asia. It has been primarily driven by industry and reflects a broad industry consensus.

It has been maintained and actualized over time by the Efficiency Valuation Organization (EVO) with the contribution of dozens of industry specialists, M&V practitioners, and instructors. The IPMVP is at the core of energy performance contracting and is used by hundreds of ESCOs worldwide.



The IPMVP – Key Facts

- Maintained and updated regularly by Efficiency Valuation Organization since 1997
- Globally recognized as the “mother of all M&V protocols” with different versions translated in about 25 languages
- Used by ESCOs all over the world since the 1990s
- The corner stone of utility energy efficiency programmatic efforts in all continents
- Required by various levels of government to validate energy savings and GHG emission reductions
- Normative reference in many other codes and standards including ISO 50015
- Training reference for EVO’s Performance Measurement and Verification Analyst (PMVA) and Performance Measurement and Verification Expert (PMVE) professional certification programs
- Reference framework for the International Energy Efficiency Financing Protocol (IEEFP) and its related training program
- Methodology behind nearly all energy consumption analysis software
- ...etc.

“The IPMVP is the result of a remarkable collaborative effort among industry, Federal and state agencies and experts in the energy, water and efficiency industries in North and South America, Europe and Asia. It has been driven largely by industry and reflects a broad industry consensus.” [IPMVP 1997]

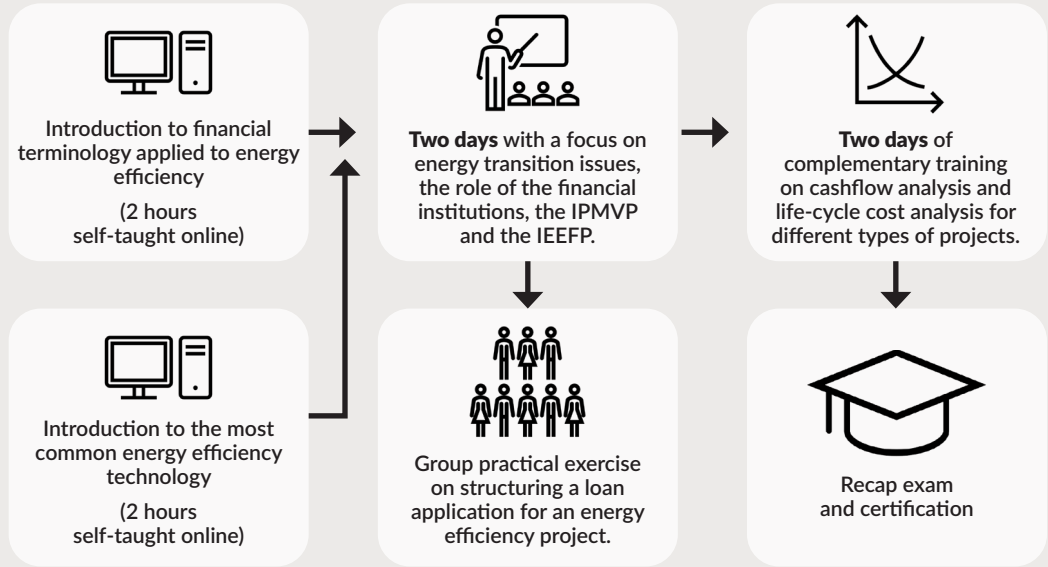
“The IPMVP helps the parties involved in a performance contract to create appropriate contract terms concerning verification of the savings generated by a project. It supports the projects carried out by Energy Service Companies (ESCO) through international recognition of the way energy savings are verified.” [Énergir]

“Measurement and verification practices allow project performance risks to be understood, managed, and allocated among the parties. The European Commission DG JRC recommends that performance-based projects are subject to M&V protocols, and in particular the International Performance Measurement and Verification Protocol (IPMVP) would be a good first step and instrument to be used.” [EU DJ JRC]

IEEFP Training and Certification Updated and Expanded Program!

The International Energy Efficiency Financing Protocol (IEEFP) provides concepts and guidelines to facilitate an understanding by loan, risk, and credit officers of the key elements needed to evaluate and deliver attractive EE Project loans to facility owners, ESCOs, and other potential developers and implementers of EE Projects.

Learning how to apply the concepts and guidelines in the IEEFP can be acquired by attending EVO's IEEFP Training Program, which provides hands-on training on using specific tools, project-based templates, and materials provided as part of the program.



ENERGY EFFICIENCY PERFORMANCE MEASUREMENT AND VERIFICATION ANALYST TRAINING AND CERTIFICATION PROGRAM



TRAINING PROGRAM OVERVIEW

CURRICULUM

- *M&V Fundamentals and IPMVP®*

PREREQUISITE

- *Introduction to Statistics for M&V.* (Included. Short self-taught online course)

CERTIFICATION

- All participants will receive a certificate of attendance.
- Participants interested in receiving the **Performance Measurement and Verification Analyst (PMVA)** certification must take the certification exam.

The PMVA – Key Facts

- EVO has offered this training program since 2009 (15,000 + individuals trained in more than 60 countries)
- Duration: 2.5 days + exam.
- Learning approach: theoretical
- Reflects the latest version of *EVO's International Performance Measurement and Verification Protocol (IPMVP)*
- Over 40 instructors from all continents are involved in continuous program improvements through EVO's Training Committee
- Course content discussed and validated by the IPMVP-TC Discussion Group

ENERGY EFFICIENCY PERFORMANCE MEASUREMENT AND VERIFICATION EXPERT TRAINING AND CERTIFICATION PROGRAM



TRAINING PROGRAM OVERVIEW

CURRICULUM

- *M&V Planning in Practice*

PREREQUISITE

- *M&V Fundamentals and IPMVP*

CERTIFICATION

- All participants will receive a certificate of attendance.
- Participants interested in receiving the **Performance Measurement and Verification Expert (PMVE)** certification must take the certification exam.

The PMVE – Key Facts

- EVO has deployed this training program since 2019
- Duration: 2 days + exam
- Learning approach: practical
- Reflects the latest version of the *International Performance Measurement and Verification Protocol (IPMVP)*
- EVO's senior instructor team supports this program through continuous review



M&V FOCUS

MEASUREMENT AND VERIFICATION ONLINE MAGAZINE

M&V professionals are a relatively dispersed community. As an organization, EVO is responsible for creating a meeting place for this M&V community. M&V practitioners around the world are eager to learn more about others' experiences in M&V but are also willing to share their own experiences.

First published in 2018, M&V Focus is a much-needed meeting place where experts and practitioners from around the world share their expertise and experiences.



M&V WEEK

OCTOBER 20-26, 2024

EVO and its partners successfully completed the third edition of M&V Week in October 2023. The first three editions of M&V Week in 2021, 2022 and 2023 concluded with over 40 different events and activities worldwide.

The events and activities highlight the importance of project-level M&V as prescribed by the International Performance Measurement and Verification Protocol (IPMVP). It is an awareness gathering place for policymakers, investors, building owners, utilities, and energy efficiency program designers.



M&V PORTAL

ADVANCED M&V TESTING PORTAL

EVO's advanced M&V Testing Portal provides feedback on the relative accuracy of software tools developed to predict energy use. It benchmarks software tools by providing industry-accepted metrics for M&V 2.0 performance such as CV(RMSE) and NMSE.

Developers of energy use prediction software can test their software (anonymously if they wish) by using this Lawrence Berkely Laboratory developed online tool. The output gives a general sense of accuracy for a given tool and also lets you compare one tool/method to another.



M&V BLOG

M&V NEWS AND DISCUSSION TOPICS

This moderated forum is for individuals and organizations interested in the measurement and verification (M&V) of energy and water savings. The purpose is to provide a public space to discuss the role of M&V from different perspectives but definitely with a strong bias toward policy and financial topics.

The EVO Blog is where to debate and challenge existing concepts and discuss new ideas. We want this blog to be engaging and informative. The EVO Blog complements our popular online magazine, M&V Focus.

IPMVP training and certification are exclusive to EVO-authorized training partners.
Be part of our global effort to elevate the M&V profession to new heights!

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