

***Measurement & Verification (M&V):
the Meter of Energy Efficiency***

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Global EE M&V Gap

- *GAP: Inability of funders and end users to reliably verify energy savings estimates and achievements!*
- Caused by a lack of generally accepted, technically-sound M&V best practices being properly applied in the market by trained professionals
- Market needs skilled M&V experts with knowledge and experience in evaluating energy efficiency savings estimates and post implementation results

Efficiency Valuation Organization (EVO)

EVO is a 20-yr. non-profit organization whose:

VISION is to create a world that has confidence in energy efficiency as a reliable and sustainable energy resource;

MISSION: is to ensure that the savings and impact of energy efficiency and sustainability projects are accurately measured and verified.

EVO Products and Services

- EVO owns/manages *International Performance Measurement and Verification Protocol (IPMVP)*
- IPMVP is the long-standing, globally-recognized document of generally accepted principals applied in M&V plans to measure, verify and calculate the energy savings of EEPs
- EVO provides M&V trainings and certifications to individuals in over 20 countries through local private training entities

International Performance Measurement & Verification Protocol (“IPMVP”)

- Developed in 1996, owned and managed globally by Efficiency Valuation Organization (**EVO**): <http://www.evo-world.org/> a “*Non Profit*”.
- Created by international energy engineering–based committee to reduce uncertainty to Measure & Verify End-Use energy savings
- **IPMVP is a “framework” of “definitions” and “guidelines”** on methodologies for assessing and measuring energy savings

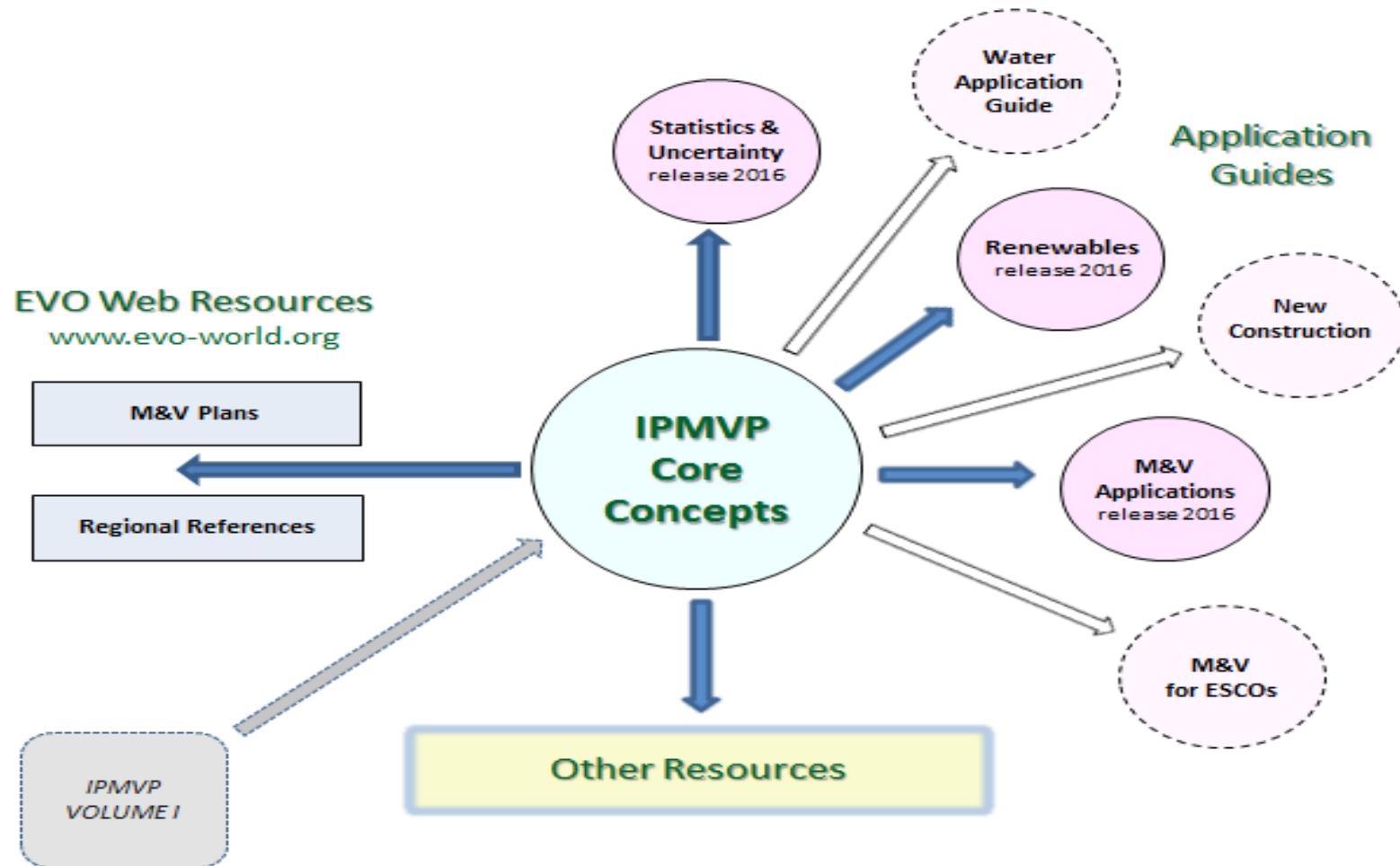
Four 'IPMVP' Options

- **OPTION A** - Retrofit isolation with measured performance and stipulated operation
- **OPTION B** - Retrofit isolation with measured performance and measured operation
- **OPTION C** - Whole building or utility bill comparison
- **OPTION D** – Whole building with a calibrated simulation tool (such as Trace, DOE-2, etc.)

IPMVP and EVO Benefits

- Provides internationally-accepted guidelines for EE savings M&V plans
- Standardizes terminology and approaches for EE engineers to develop ‘transparent’ M&V Plans that reduce risks for Hosts, Investors and LFIs.
- Creates local community of Certified Measurement & Verification Professionals (“**CMVPs**”) to develop M&V plans that comply with IPMVP

New IPMVP Core Concepts



**International Performance
Measurement and Verification Protocol**

Core Concepts
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