



# **Ontario's EM&V Protocols and Requirements**

***An Author's Perspective***

Facilitated by:  
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***Solutions for the SMART Utility***



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# ***TABLE OF CONTENTS***

**CANADIAN CONTEXT**

**INTRODUCTION**

**WHY THEORY BASED EVALUATION**

**STRUCTURE OF THE EM&V PROTOCOLS AND REQUIREMENTS**

**DOCUMENTING THE PROGRAM OFFER**

**CAUSE TO THE OBSERVED EFFECT**

**SCOPING THE EVALUATION EFFORT**

**STANDARDS VS. FLEXIBILITY**



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# **CANADIAN CONTEXT**

**Green Energy Act of 2009 shapes Ontario's energy policy**

**\$1.4 billion conservation and demand portfolio**

**2011 Advocate of the Year for  
ENERGY STAR Market Transformation Award**

**Provincial, regional, and local scope (tiers 1, 2, & 3)**

**Crossing all market sectors**

**How should energy savings, demand reductions, and emission improvements be evaluated consistently across the many independent jurisdictions?**



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# ***WHY THEORY BASED EVALUATION***

**Mix of resource acquisition and market transformational programs**

**Programs of increasing complexity; capacity building, regulation**

**Tendency to apply deemed savings estimates**

**Verify savings achieved by differing implementations of the same program offer at 80 independent utilities and their selected providers**

**Attribute savings toward Provincial savings targets**

*"The chief characteristic which distinguishes a scientific method of inquiry from other methods of acquiring knowledge is that scientists seek to let reality speak for itself, and contradict their theories about it when those theories are incorrect."*

(Gauch, 2003)



# ***STRUCTURE OF THE EM&V PROTOCOLS AND REQUIREMENTS***

**SECTION I: introduction to the *EM&V Protocols and Requirements***

**SECTION II: requirements and prerequisites to  
procuring an evaluation contractor**

**SECTION III: procurement of an evaluation contractor**

**SECTION IV: managing evaluations to get final results**

**SECTION V: publishing evaluation results**



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## ***SECTION II: requirements and prerequisites***

**STEP 1: Document Market Strategy and Program Offer**

**STEP 2: Illustrate Program Cause and Effect**

**STEP 3: Properly Scope Program Evaluation**

**STEP 4: Develop an Analytical Approach to Address  
a Relevant Set of Research Questions**

**STEP 5: Specify Evaluation Deliverables**



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# ***DOCUMENTING THE PROGRAM OFFER***

## **NORMAL INQUIRY INTO THE PROGRAM OFFER**

- associated budgets, measure selection, impact forecasts, marketing strategies, delivery channels, messaging, etc.

## **CLASSIFICATION OF MARKET IMPEDIMENTS**

- **Market Hurdles:** Temporary obstacles that discourage the adoption of energy efficient behaviors. An example of a market hurdle from the commercial sector are thresholds for payback periods or returns-on-investment.
- **Market Barriers:** Persistent obstacles that prevent energy efficiency behaviors. An example from the industrial sector the unique requirements and strict technical specifications for replacement equipment.



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# CAUSE TO THE OBSERVED EFFECT

## RESOURCE CATEGORIES

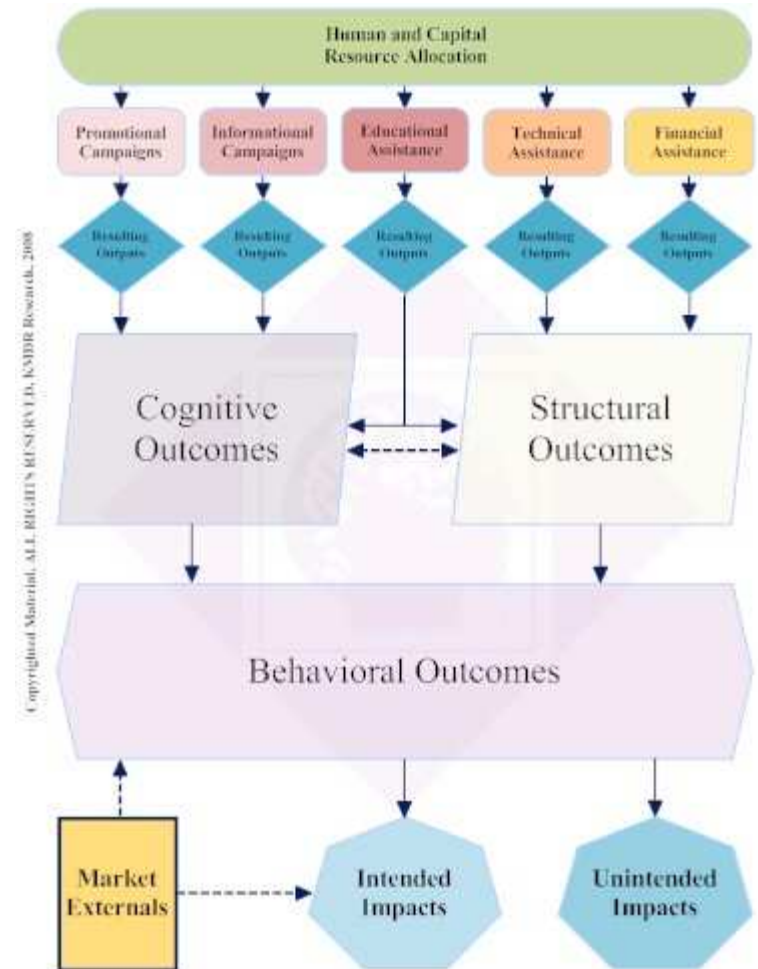
- capital expenditures
- infrastructure (in-kind)
- human (in-kind)
- strategic relationships

## ACTIVITY CATEGORIES

- promotional campaigns
- informational campaigns
- educational materials
- technical assistance
- financial assistance

## CSB CONSTRUCT

- see the session we are giving Thursday, “Exploring Behavioral Change Theory”



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# ***SCOPING THE EVALUATION EFFORT***

## **BASIS IN PROGRAM THEORY**

- **Market transformational programming, popular throughout the European Union, is difficult to properly scope**
- **How does one determine the length of time evaluations must occur to document the persistent effects of transformational initiatives: one year, two years, twenty years?**
- **If twenty years, do you measure annual, every two years, five years, etc?**

## **RESEARCH QUESTIONS BEING EXPLORED**

## **METHODS AND RESOURCES AVAILABLE**



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# ***STANDARDS VS. FLEXIBILITY***

**PROTOCOLS AND REQUIREMENTS BASED ON BEST PRACTICES**

**STEPS OUTLINED ENSURE THEORY-BASED EVALUATION**

**INTEGRATION OF SMART METER DATA MANDATED**

**STAKEHOLDER INTERESTS MUST BE BALANCED,  
EVEN IN A SINGLE PROVINCE --- LET ALONE A EUROPEAN UNION**

**SYSTEMATIC PROCESS OF INQUIRY IMPROVES THE QUALITY  
OF RESULTING EVALUATIONS**

**PREFERRED A STANDARDIZED SCIENTIFIC INQUIRY THAT GIVES  
RESEARCHER FLEXIBIITY OVER A RIGID METHOD FOR STATING  
SAVINGS ESTIMATES**

**REQUIRES SOLID FACILITATION SKILLS AND EXPERIENCE**



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***I appreciate the  
time you have given  
this discussion***

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