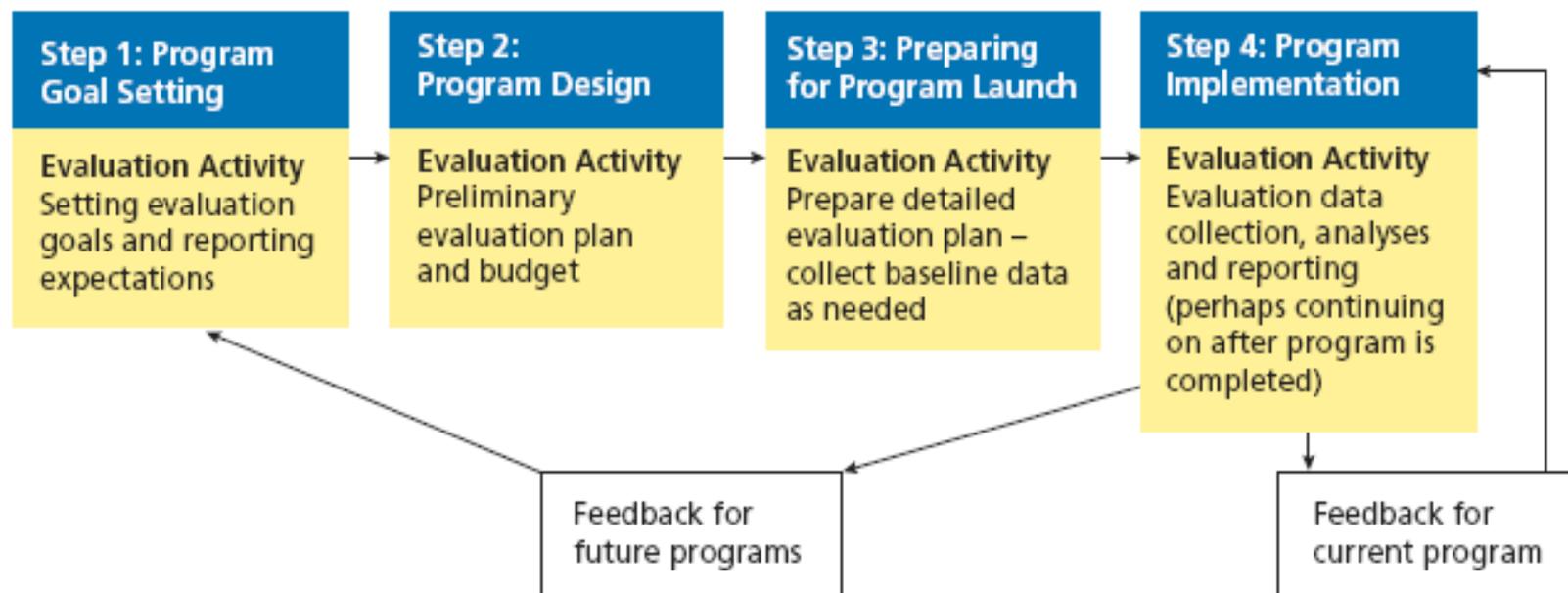




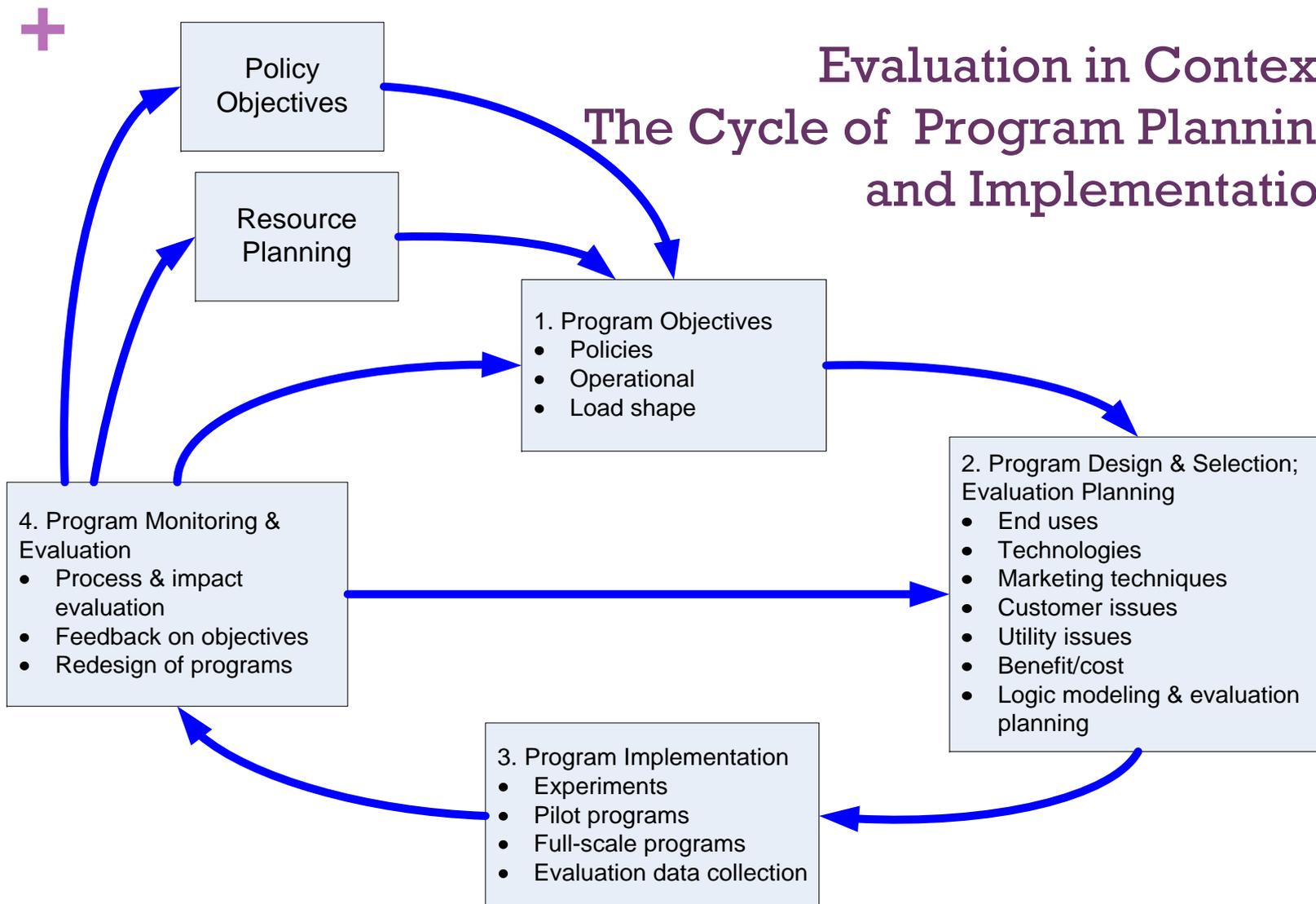
+ EM&V Planning and EM&V  
Issues

# + Planning and the Program Implementation Cycle

Figure 7-1. Program Implementation Cycle With High-Level Evaluation Activities

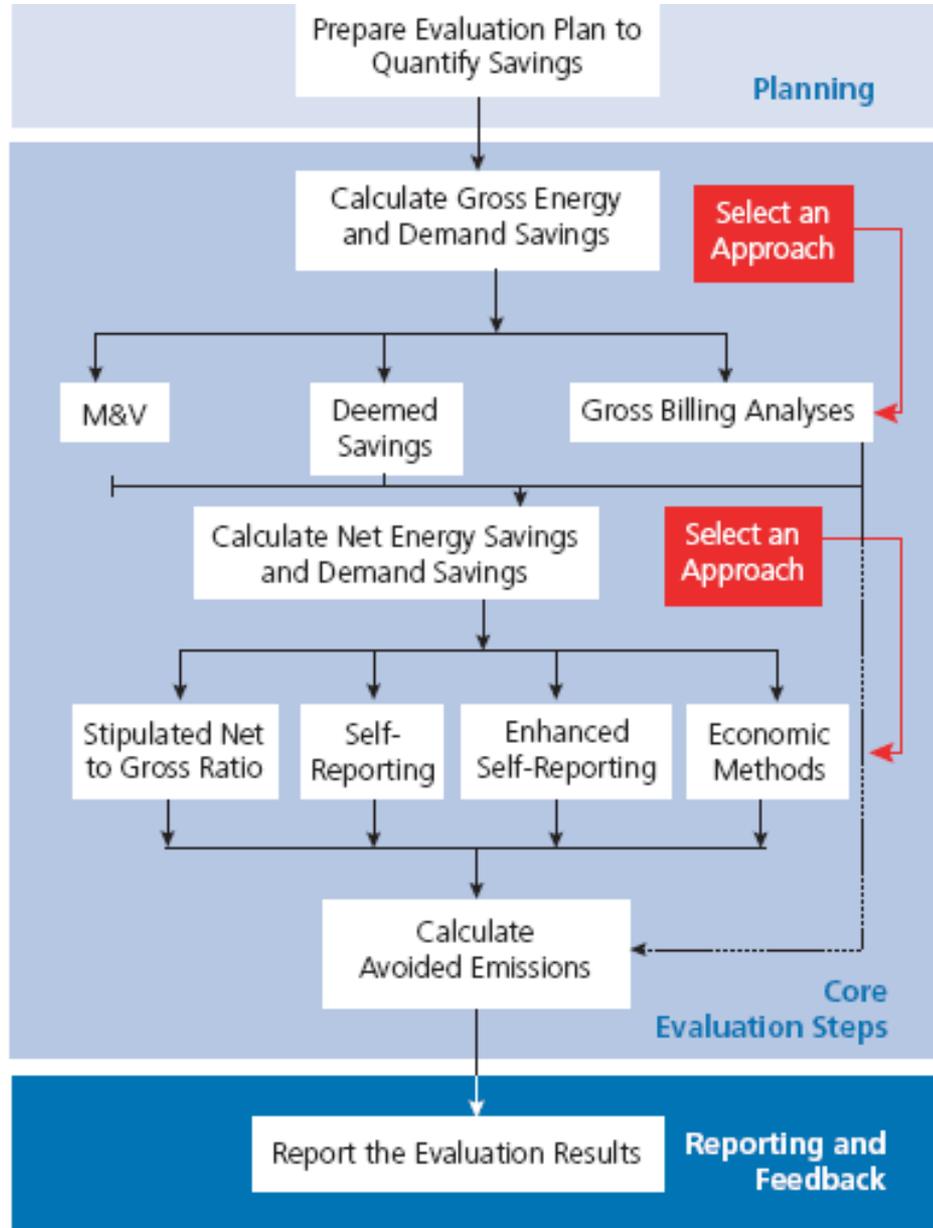


# Evaluation in Context: The Cycle of Program Planning and Implementation



Adapted by  
CEE from  
Pierre  
Landry, SCE,  
and *Demand-Side  
Management,  
Vol. 4:  
Commercial  
Markets and  
Programs,*  
EPRI, 1987.

# + Determining Gross and Net Energy Savings



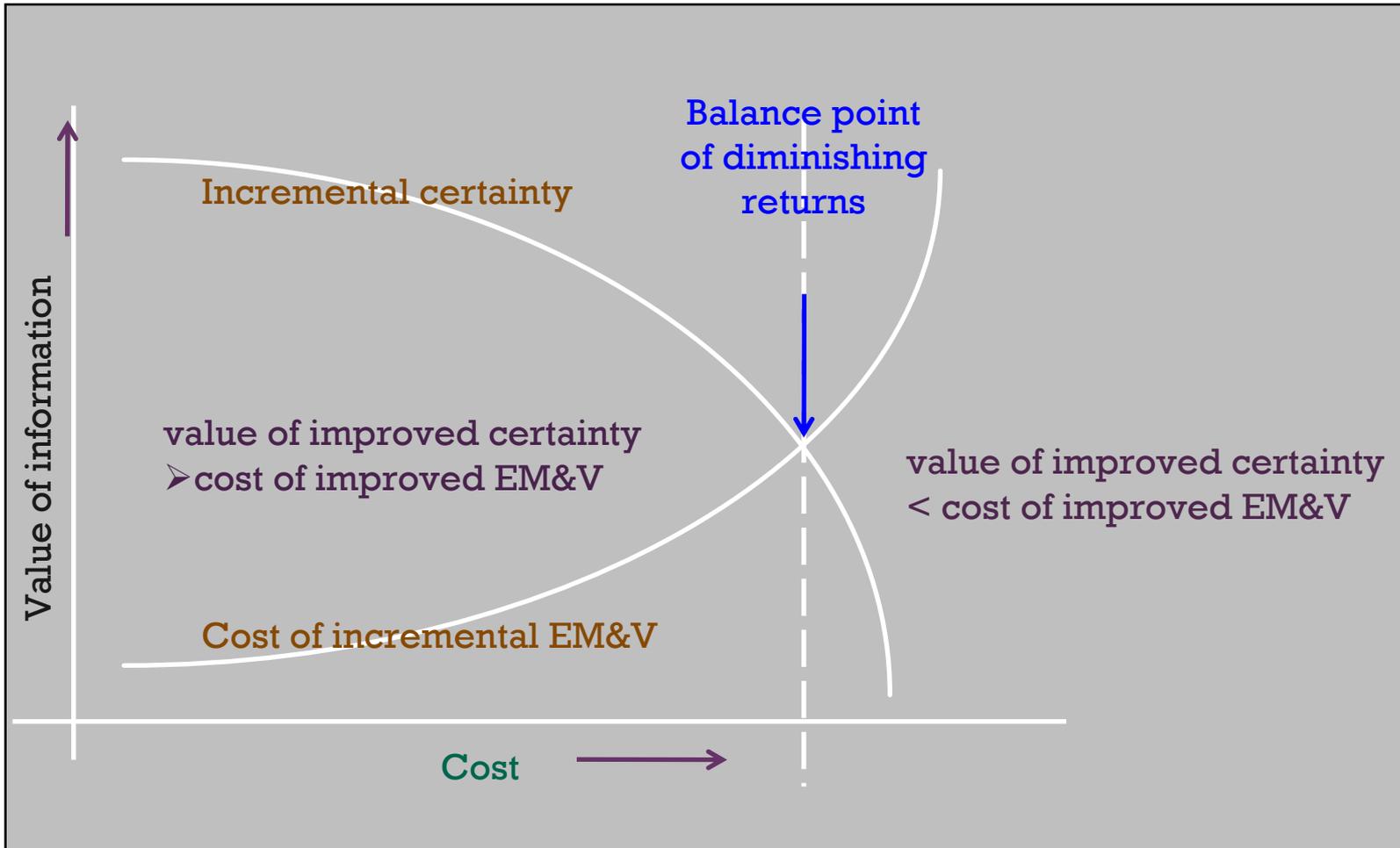


# Planning Issues

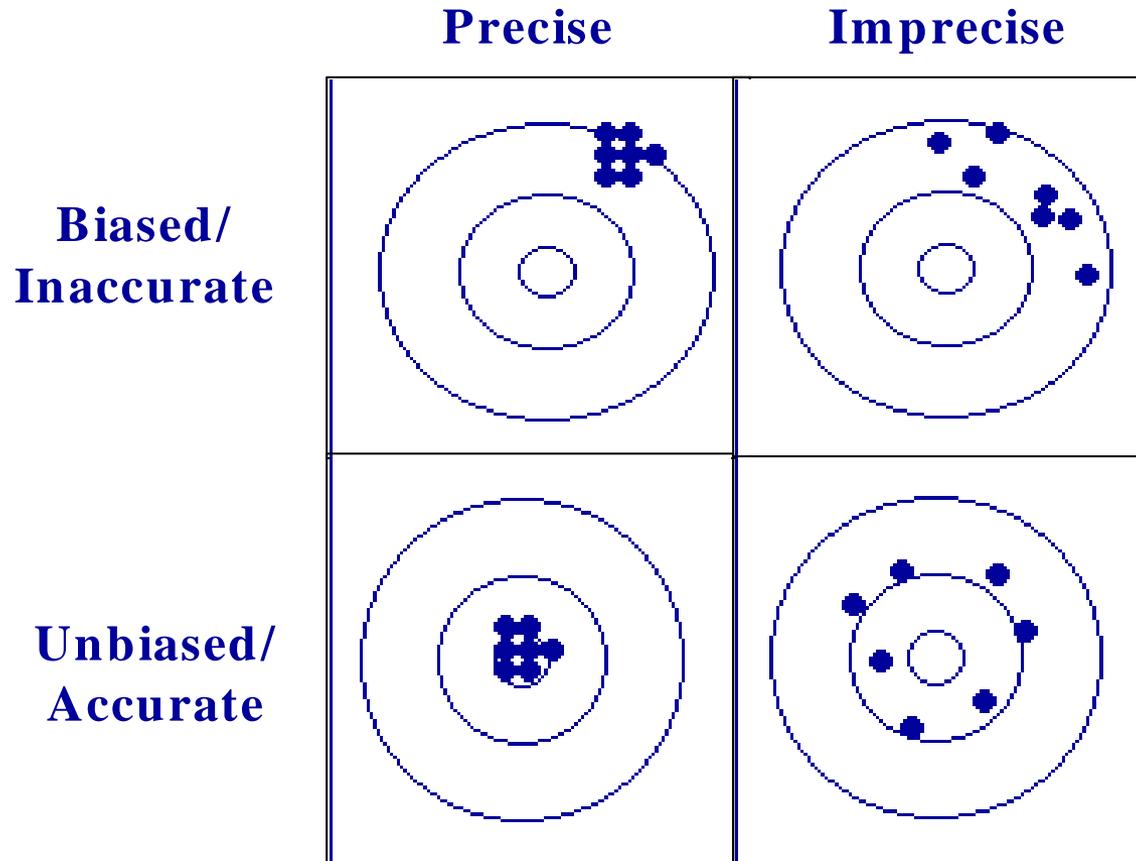
- Defining evaluation goals and scale, and which benefits to evaluate
- Setting time frame for evaluation and reporting expectations
- Establishing budget vis-à-vis expectations for quality of reported results
- Defining baseline, baseline adjustments, and data collection requirements
- Selecting impact evaluation approaches for gross and net savings calculations and avoided emissions calculations
- Selecting who (or which type of organization) will conduct the evaluations
- Identifying and integrating stakeholders

**Successful evaluations harmonize the costs of evaluation with the value of the information received—that is, they appropriately balance risk management, uncertainty, and cost considerations.**

# + How Good is Good Enough?



# + Precision and Bias



# + Technical Reference Manuals and Evaluation Protocols – EM&V Resources

## Technical Reference Manuals

- In the simplest form ‘TRMs’ are databases of deemed savings values with applicability conditions
- Examples of database contents are:
  - kWh, kW, therm savings values
  - Measure effective lifetimes
  - Net to gross ratios
  - Measure cost information
  - Local/regional utility cost information for TRC calculations
  - Work papers that document basis for values

## Evaluation Protocols

- Documents with varying level of detail that define how the evaluations (and M&V) are to be conducted with a particular jurisdiction. Contents might include:
  - Which approaches to use
  - Sample size requirements
  - Evaluation timing
  - Reporting requirements

# + The Documentation (EM&V) Issue and Solution

**Issue** Addressing the challenge of quantifying a counterfactual situation whose characteristics can never be *proven* ex-post, i.e. how much energy would have been consumed or emissions produced in the absence of the efficiency activity

**Solution** Applying the experience and protocols and TRMs already in place - EM&V has and is being done for billions of dollars worth of programs

**Conclusion** EM&V can be defined and implemented to a level of sufficient accuracy for any international, national, regional, state or local energy efficiency program

EM&V is not a barrier for efficiency, it is an opportunity