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# Self-Report Methods for Estimating Net-To-Gross Ratios in California: Honest!

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# Outline

- The Social Science Framework
- The Self-Report Method (SRA)
- Challenges
- The SRA Guidelines
- Application of the SRA
- Early Application of the Revised Non-Residential SRA
- Conclusions

# Social Science Framework

- Historically, the positivist tradition has dominated methods to establish causality
  - Causal relationships not directly observable
  - One must rely on:
    - Observed regularities in the data
    - Research designs that avoid threats to internal validity (i.e., Is there a causal relationship?)
- The so-called “gold standard”

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# Emerging Alternatives

- In early 1970s, many evaluators began to realize this approach was not always possible
- As a result, alternative approaches were created
- Real causal mechanisms and processes are in principle observable
- This “realist” approach:
  - Highlights contextual factors and mental processes
  - Provides strong support for case studies and other strategies that do not use strictly experimental methods

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# The Self-Report Method (SRA)

- Historically, evaluations of energy efficiency programs also stressed experimental and quasi-experimental designs
- However, in many cases, such approaches were not possible, particularly for large commercial and industrial customers
  - Program savings too small to warrant the evaluation effort
  - Timing
  - Low statistical power (low signal-to-noise ratio)
  - Lack of a comparison group

# The SRA (Cont.)

- The SRA is rooted in the realist approach
- The choice of “self-report” to describe this approach is unfortunate since it relies on much more than information self reported by a single participant
- A better name might be program-influence (PI) index
  - An index is composed of “cause indicators” that determine the level of a construct.
  - Indices are often used to summarize the collective effect of multiple causal variables
  - The SRA, like an index, involves multiple sources of quantitative and qualitative data and analyses.

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# Challenges

- Surveys generally used to collect information from people. Different biases create challenges:
  - Keep the program bias
  - I'm a good person bias
  - Intention to act bias
  - Complicated lines of influence bias
- Other challenges
  - Several decision makers
  - Number of measures installed
- SRA Guidelines were developed to address these challenges

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# The SRA Guidelines

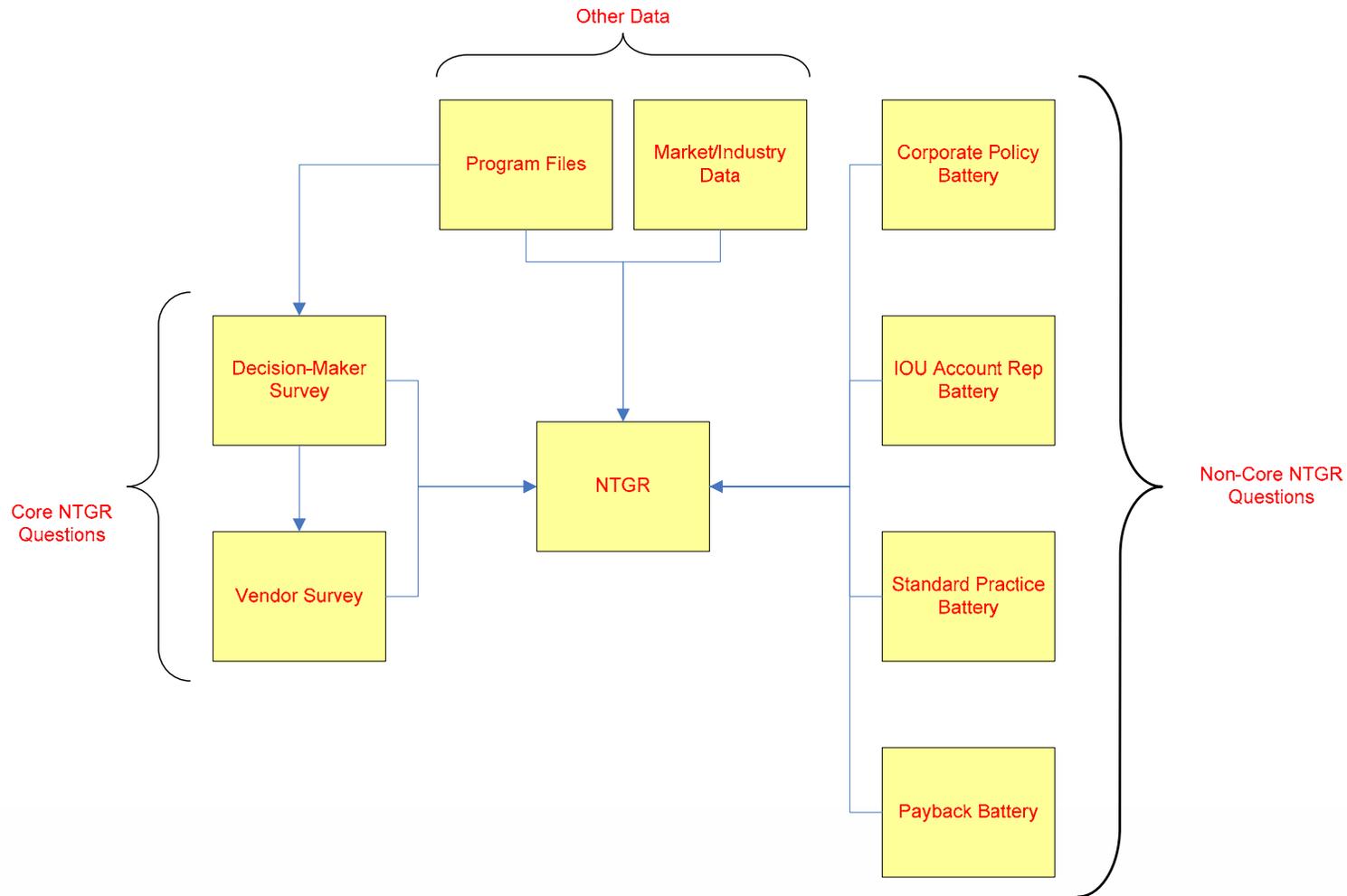
- Released by CPUC in 2007
- Guidelines call for:
  - Timely interviews
  - Use of consistency checks
  - Multiple questions
  - Triangulation
  - Elimination of rival hypotheses
  - Use of both quantitative and qualitative data
  - Incorporation of other documentation

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# Application of the Non-Residential SRA

- Consistent with the SRA Guidelines
- Three versions
  - Basic (30%)
  - Standard (50%)
  - Standard – Very Large (20%)
- All three have the same core questions but incorporate additional information as size and complexity of projects increase

# Sources of Information on Free Ridership



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# Data Analysis and Integration

- The case study approach is preferred given the multiple sources of information and analytical methods
- Relies on both quantitative and qualitative data
- Relies on a preponderance of data approach
- The involvement of two analysts working independently can improve the reliability of results and is recommended by the California SRA Guidelines
- It is vital that rules regarding the interpretation and integration of data be established to insure inter-rater reliability

# Rules

- The responses to the core NTGR questions are used to develop the initial estimate of free-ridership for the project.
- Vendor interview data are used **in the direct calculation of the NTGR** when the decision maker indicates significant vendor influence.
- Qualitative *and* quantitative information from non-core questions and other sources are used to alter core inputs only if contradictions are found between qualitative and quantitative information. Judgments are made by multiple raters in deciding which information is more compelling when there are contradictions.

# Rules

- Data from non-core NTGR questions are also used to **cross-check the consistency** of responses to core NTG questions.
  - When an inconsistency is found, it is presented to the Decision Maker respondent and they will be asked to explain and resolve it if they can.
  - If they are not able to do so, their responses to the core NTGR question with the inconsistency may be overridden by the findings from these supplemental probes.
  - These situations are handled on a case-by-case basis.
- Any differences between raters must be resolved
- Responses to all questions and information from other sources should support a credible **NTGR “story”** around the influence of the program.

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# Early Application of the Revised Non-Residential SRA

- Pre-tested in June - November 2008
- Has been applied to a number of large projects involving multiple installations of a single measure
- Very complex decision process
- Presented an excellent opportunity to test the PI index

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# Early Application of the Revised Non-Residential SRA

- Core questions appear to support the calculation of an internally consistent NTGR
- Interviewing multiple project stakeholders and triangulating results has provided important context
  - Participating vendors
  - Account representatives
  - Program representatives
- Valuable cross-checking has occurred

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# Early Application of the Revised Non-Residential SRA

- The standard practice and corporate policy batteries have also proven particularly valuable
- Consistency checks (now automated in the CATI) have proven to be very valuable in uncovering conflicting answers
- The case study approach has produced coherent and internally consistent stories regarding complex decisions

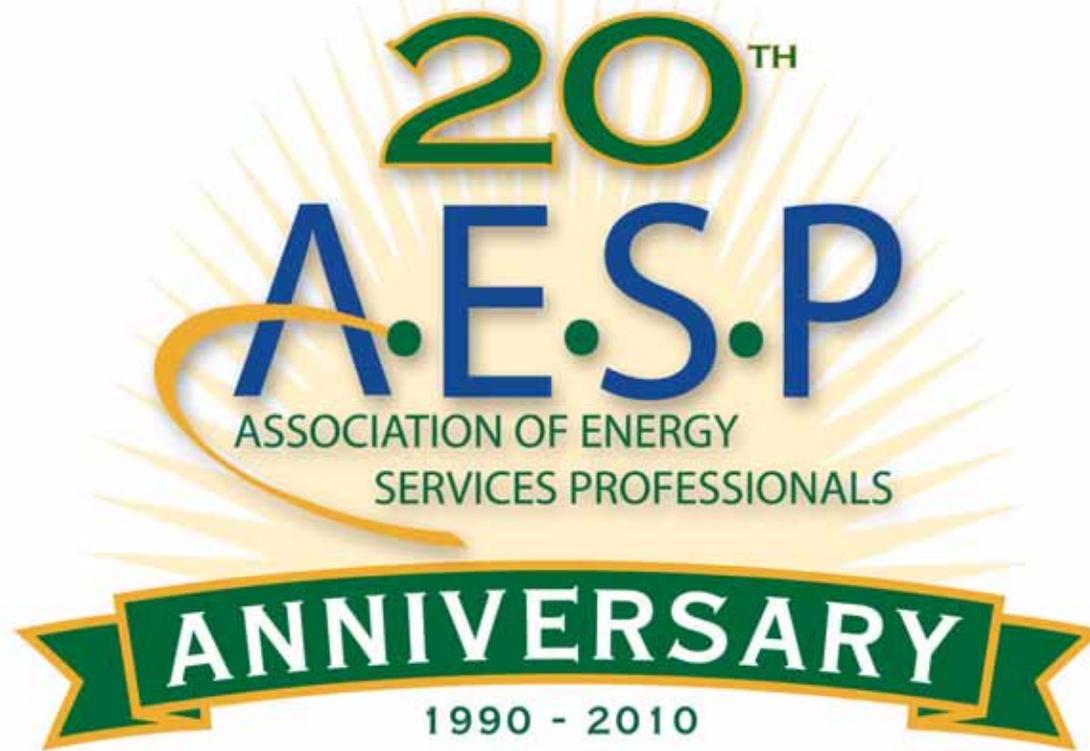
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# Conclusions

- The SRA continues to evolve
- Despite the simplistic label, this approach incorporates evidence from sources and employs a variety of analytical methods
- By such triangulation, a robust and defensible assessment of program influence can be reached

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# Questions?



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