

Update on CBECS 2012



National Institute of Building Sciences

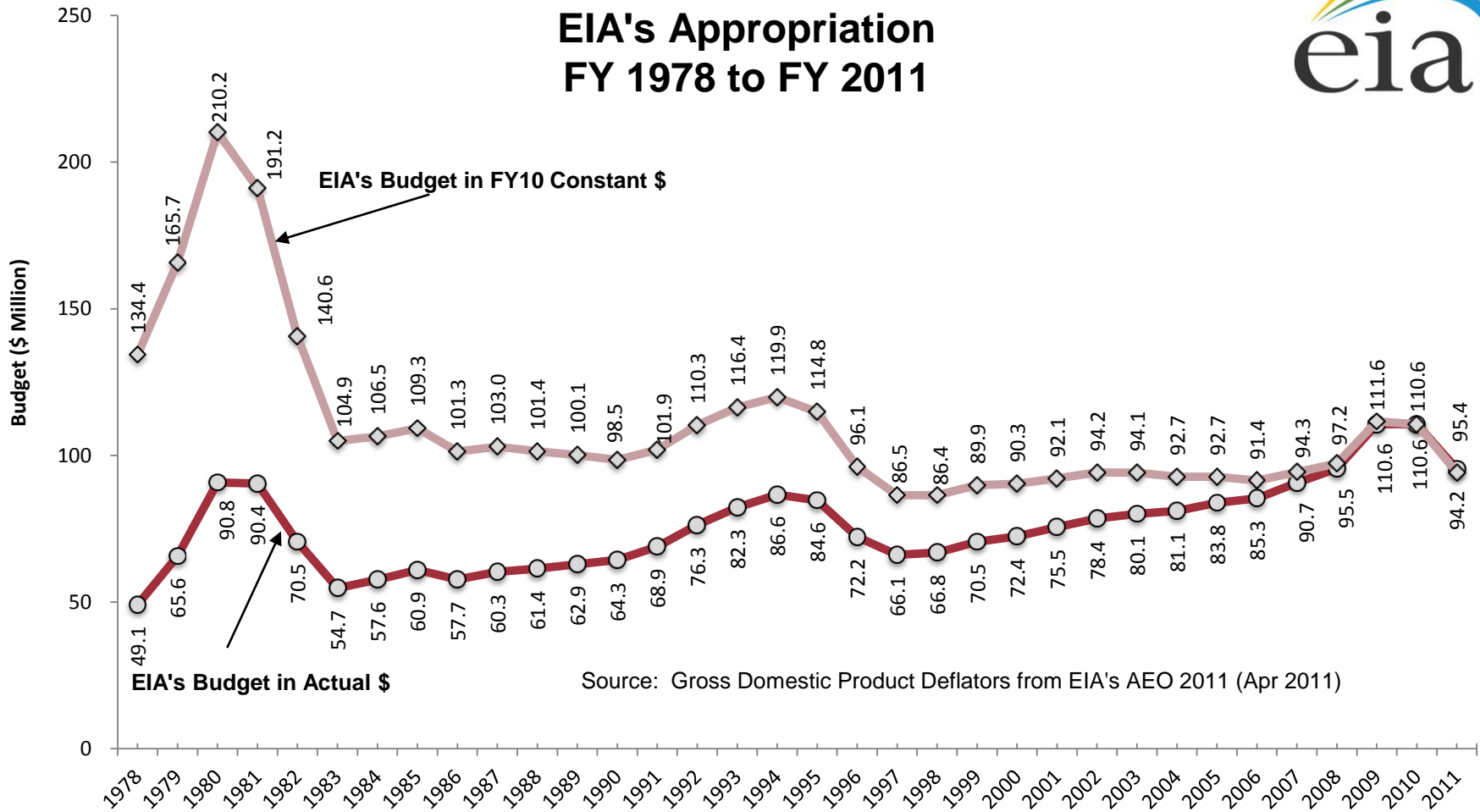
March 8, 2012

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Getting to Today: EIA's FY11 Budget Cut Sharply and Suddenly



EIA's Appropriation FY 1978 to FY 2011



Source: Gross Domestic Product Deflators from EIA's AEO 2011 (Apr 2011)

Getting to Today: CBECS Setbacks in April 2011

- EIA announced that 2007 CBECS data would not be published
 - the 2007 CBECS sample was updated using a relatively-low cost method, using an address-based list from the USPS
 - the resulting data did not meet our standards for quality, credible information
 - critical mistakes made during the sample selection were the main cause of the data problems
- EIA announced that the 2011 CBECS was being suspended
 - 2011 CBECS contract had been awarded in Dec 2010, a project plan was in place, and work was underway
 - EIA's FY11 budget came in at \$10 million less than expected
 - EIA was left with no option but to suspend the CBECS

Getting to Today:

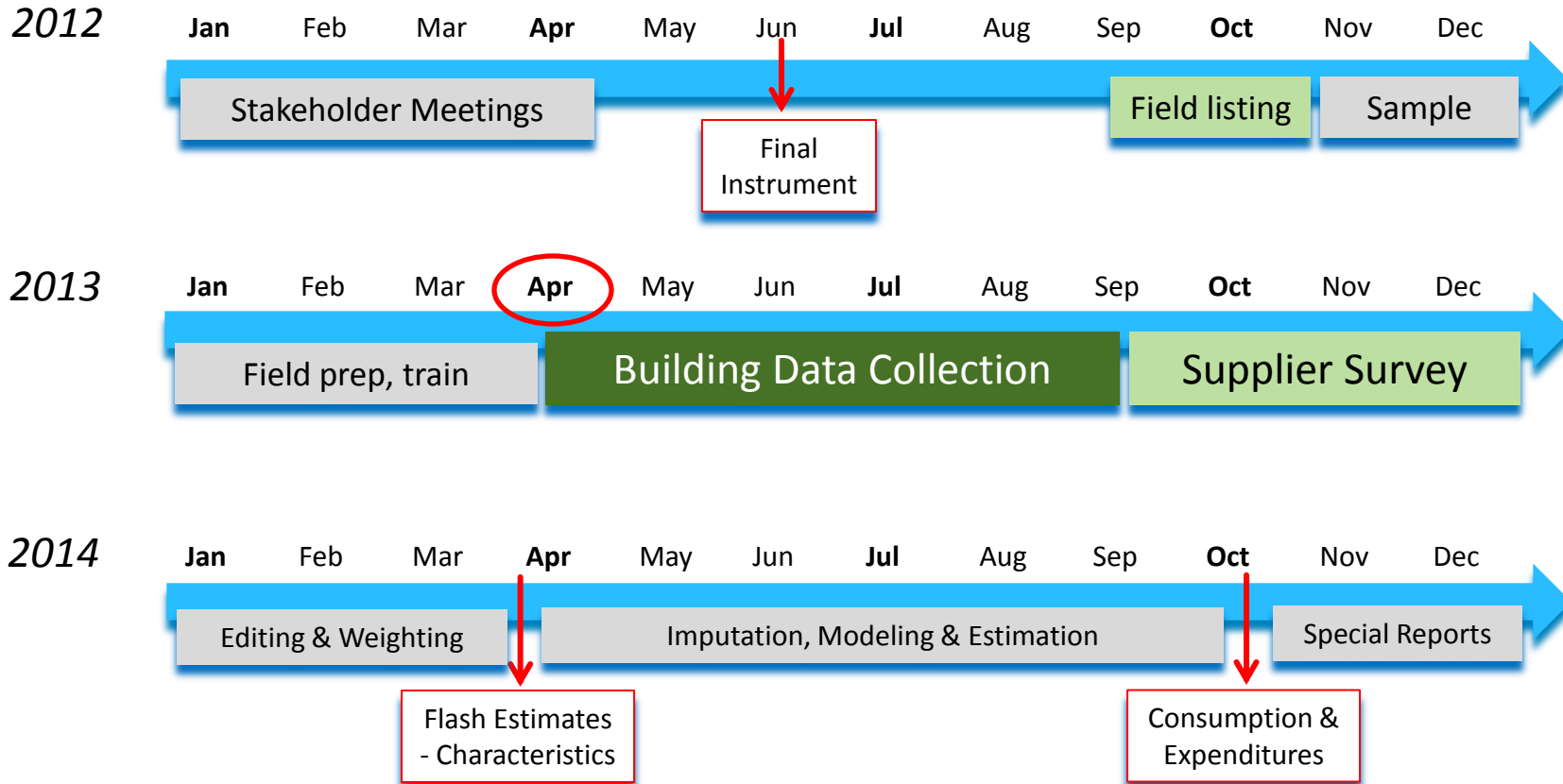
Flawed sample design Compromised CBECS 2007

- As a cost saving tactic, we intended to use a list of business addresses to update the 2003 frame for new construction
 - New construction was expected to supplement the 2003 frame by a small amount, about 5 percent
 - This method replaced a labor-intensive survey step called “listing”
- Unfortunately, two unmitigated human errors compromised this method in CBECS 2007:
 - Instead of adding about 5 percent to the 2003 frame, the address list was used for about half the sample
 - The most common size and use category, small buildings, were selected only from the address list, at unacceptably low rates

Getting to Today: The Good: FY12 Budget increase

- EIA's budget for FY12 set at \$105 million
- CBECS 2012 resumed in advance of the final appropriation in December 2011
- Positive stakeholder interaction contributed
- Procurement vehicle and contractor support remained in place

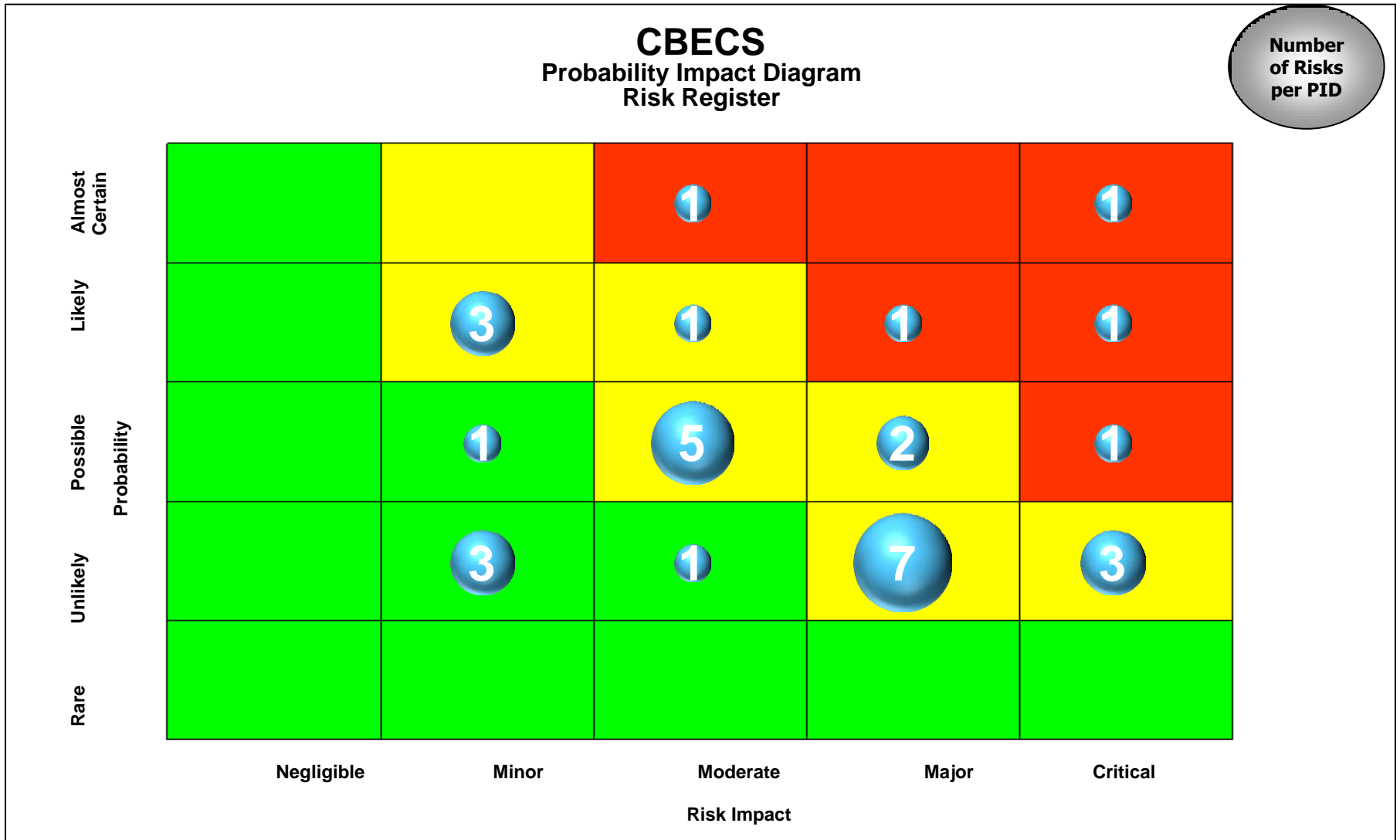
Moving Forward: Key milestones



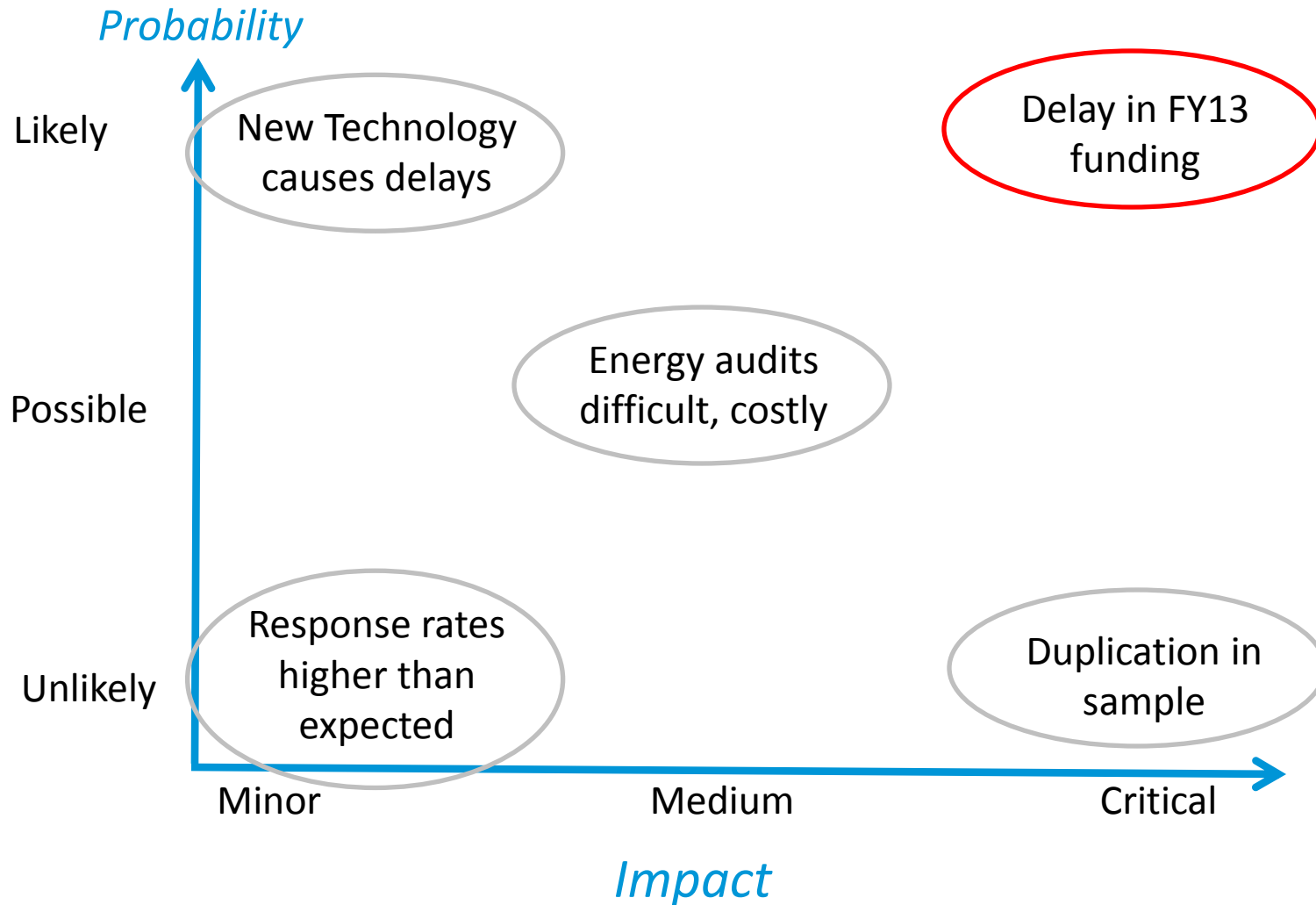
Moving Forward: Planned Improvements for CBECS 2012

Item	Improvement	Challenge
Proven sampling methods	High data quality, low risk	Cost
50 percent more buildings (8,400 Buildings in all)	Better accuracy and coverage	Cost
Energy Audits	Calibration of responses and end use estimates	Implementation, data integration
Telephone Interviews	Lower cost	Using multiple modes, data quality, budget management
Energy-Water Nexus (new questions on water use)	High relevance, increased value of data	Instrumentation, validation, accuracy & precision
Streamlined Edits	Timeliness, improved monitoring, consistent quality	Implementation & integration

Moving Forward: Summary of CBECS 2012 Risk Distribution



Moving Forward: Identification and Mitigation of Risks



Moving Forward: National Academy Study, Major Recommendations:

- Explore methods to improve timeliness, frequency and measure change
 - rotating sample design
 - revisit a subset of buildings and housing units over time
 - use multiple modes to collect data
- Increase access to more data for public, academic, and commercial research uses
- Balance respondent burden, data quality, and relevance
 - use administrative records to replace/reduce existing/new survey questions
 - use energy auditors and routinely debrief survey interviewers
 - review and update question wording
- Fill data gaps, prepare for new energy uses and data sources
 - research uses of 'smart meter' data
 - collect information on the capacity for electric vehicles

Beyond CBECS 2012: “State of the Art” Consumption Surveys

- Develop a comprehensive survey of all energy-consuming premises
- Develop Interactive online tools to engage sample members in understanding their home/building's energy consumption
- Use digital photographs to capture building and equipment characteristics