

# Energy End Uses in the U.S.: measurement, uses and challenges



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*For*

*IEA-France G20 Workshop on End Use Data and Metrics*

*December 12, 2016 | Paris, France*

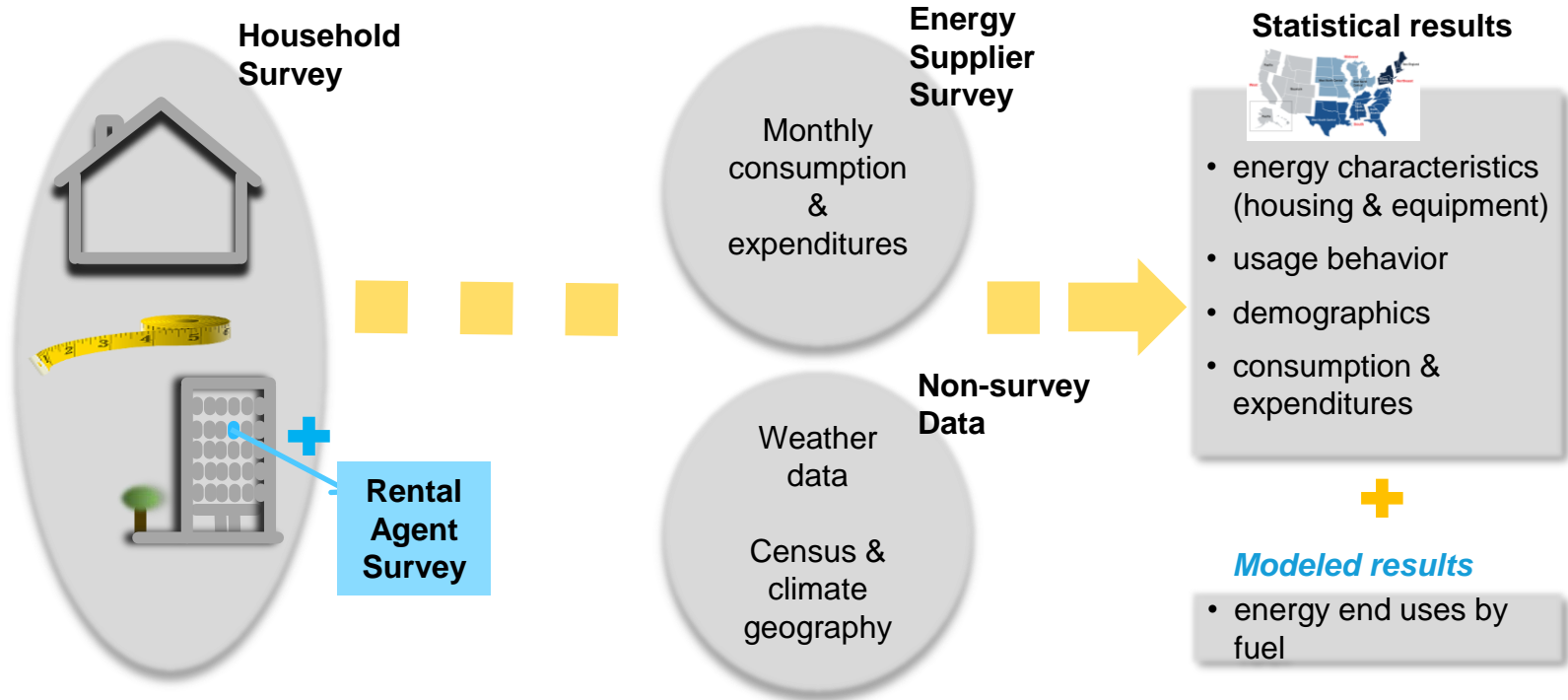
*By*

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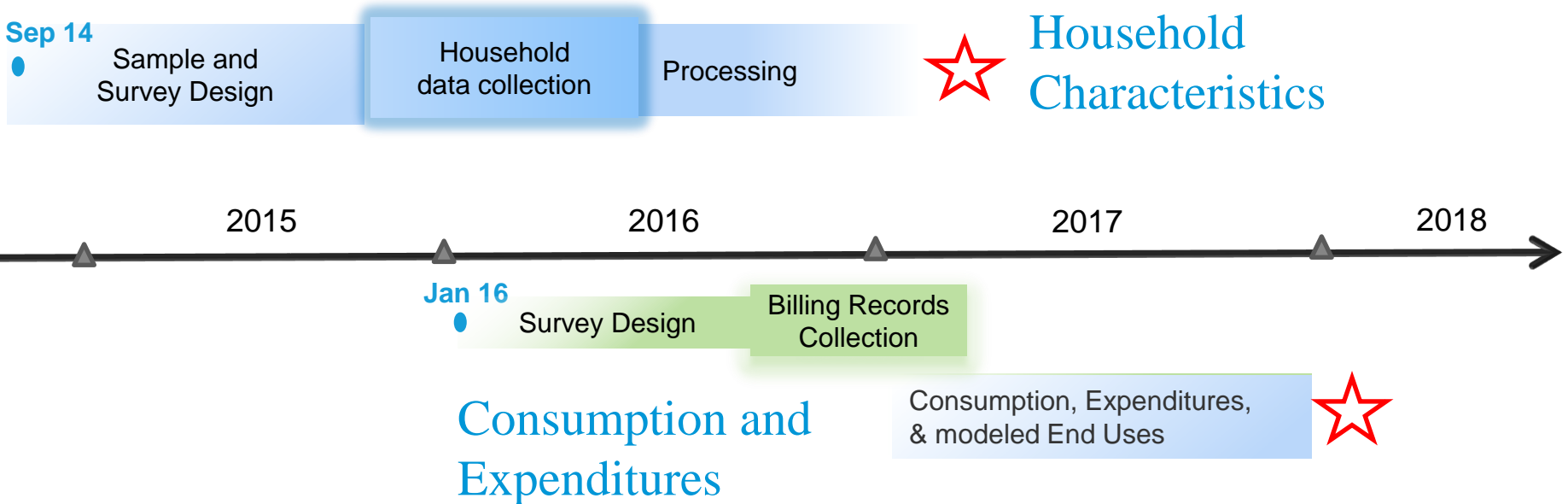
# Motivation for program, policy and other uses of EIA consumption data

- U.S. laws require EIA collect these data. Consumer participation is voluntary; utility participation is mandatory.
- U.S. laws require results serve as benchmarks for key energy policy and performance goals: appliance standards, building codes, building performance rating systems, energy intensities and emissions
- Private branding of efficiency and uses of these data are growing
- Large, federal social programs such as home energy and housing assistance use these data to assess needs of low income households

# End uses data are the result of a series of surveys, processes, and models

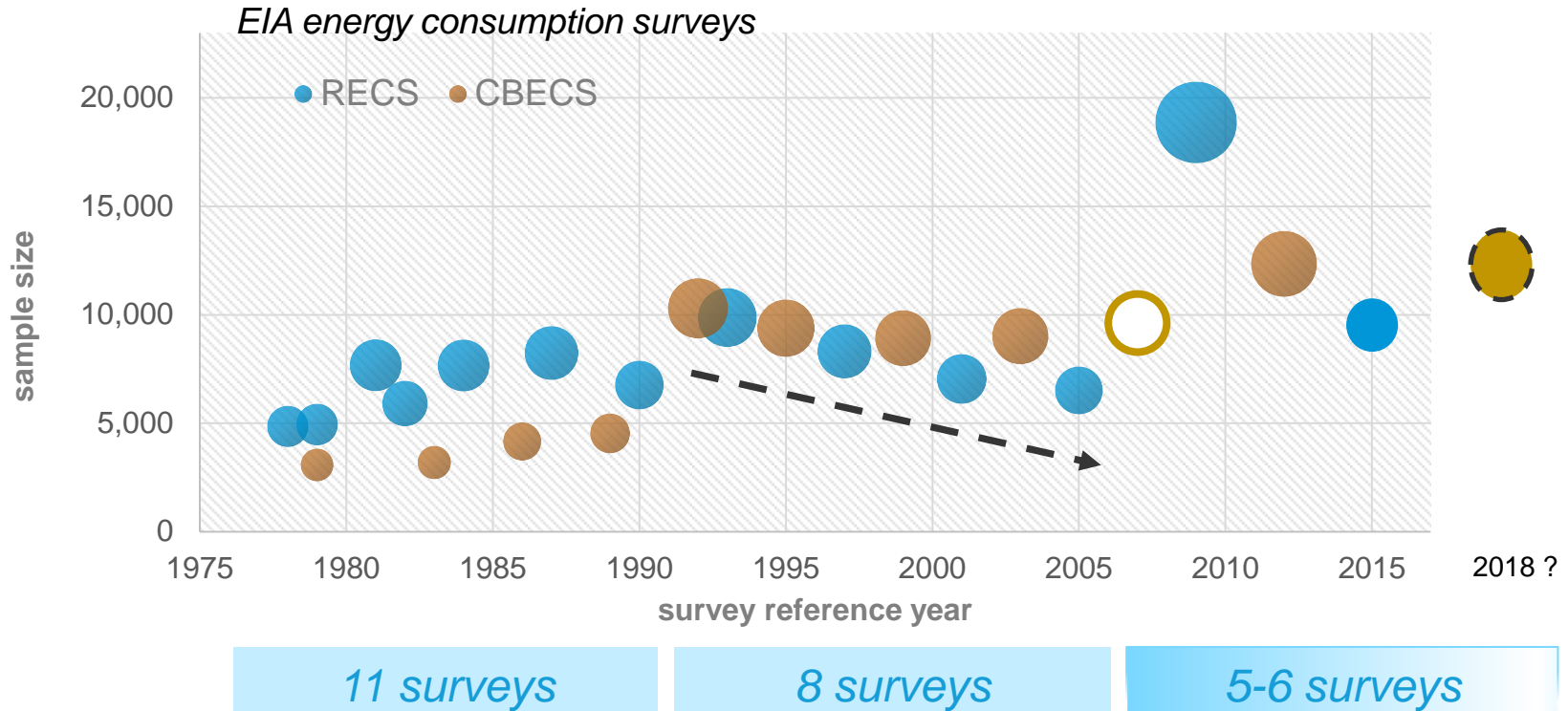


The principal threats to complex, periodic studies are timeliness and relevance. We don't produce useful results fast enough.

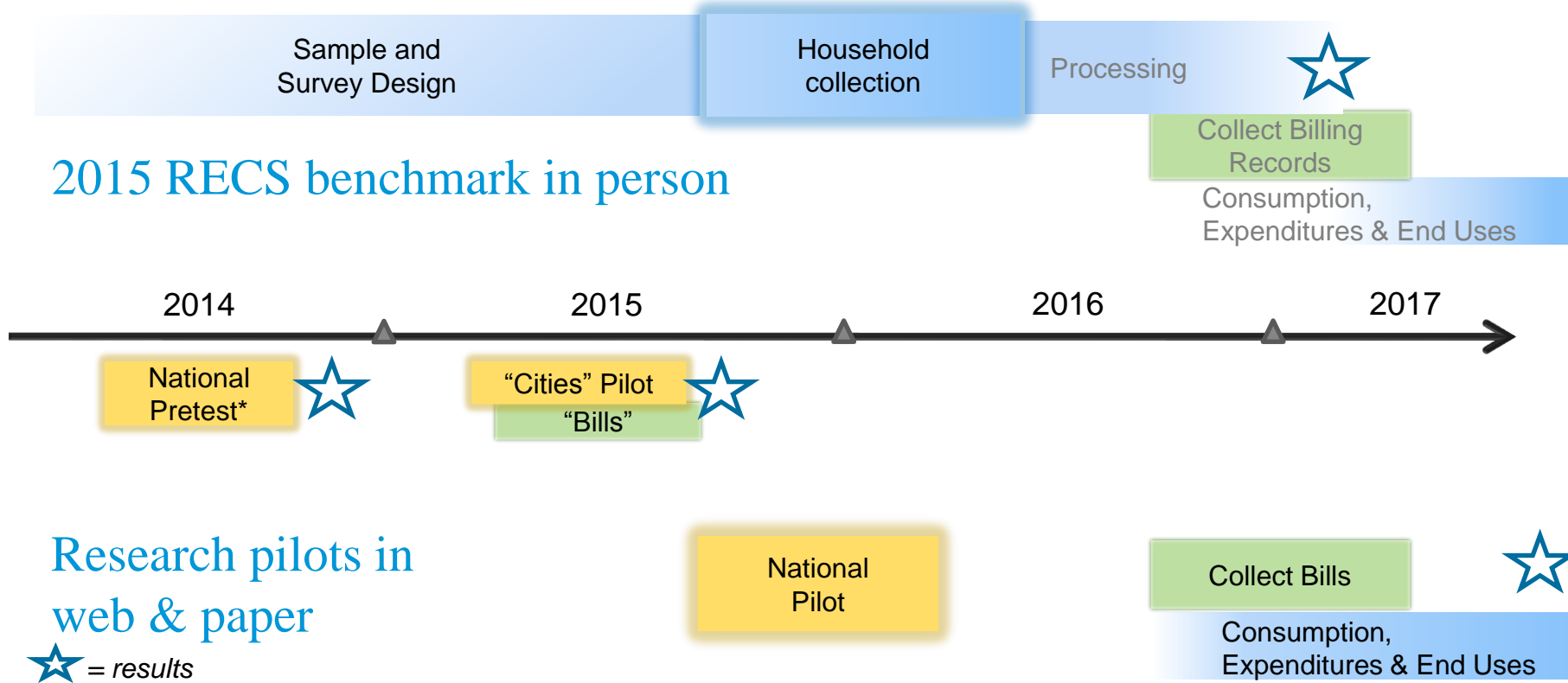


★ = results

These studies are expensive. Over time, tight budgets and rising survey costs have reduced sample size and frequency.



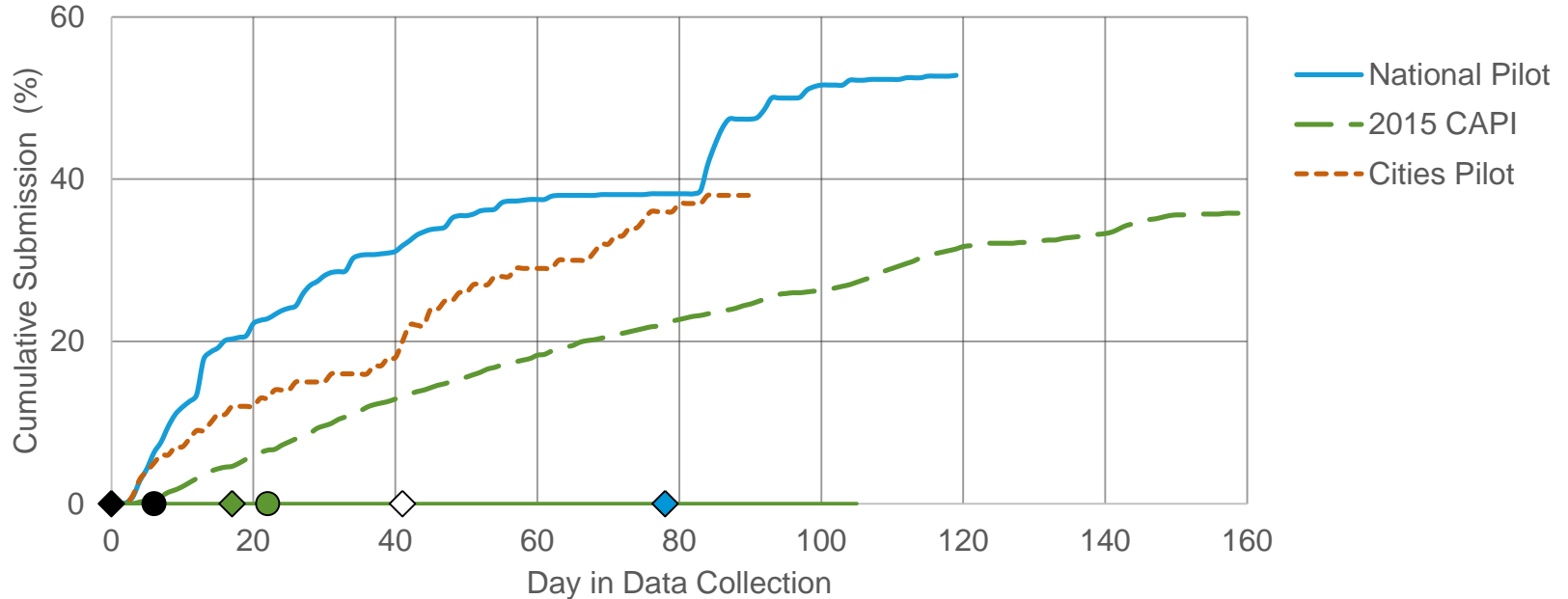
EIA took a strategic step forward to rebuild the residential data program by testing web/mail against traditional, in person methods.



Research pilots in web & paper

# Web and mail “won”, beating the low performing in-person collection on time, cost, and in some cases, quality.

Cumulative Submission Rate



■ CAPI launch    ◆ Web/mail mailing 1    ● Reminder 1    ◆ Mailing 2    ● Postcard 2    ◇ Mailing 3 (UPS)    ◆ Nonresp. followup (NRFU)

# Planned innovations and emerging big ideas

- More self response, less in-person collection
- Statistical end-use models augmented with engineering components
- Integration of “big data” to amplify or replace frame, survey and modeled data (housing characteristics data from public records, administrative records from program participation, census data)
- Introduction of objective end uses data: testing and embedding automated, whole house submetering technology on a portion of the RECS sample