Refining the Vision: Improving the Delivery of Real-time Evaluation

IEPEC 2019

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IMAGINE THIS!

a. USPS 2-day Express

b. Text message/Email

c. Immediately point it out!

Why Real-Time Evaluation?

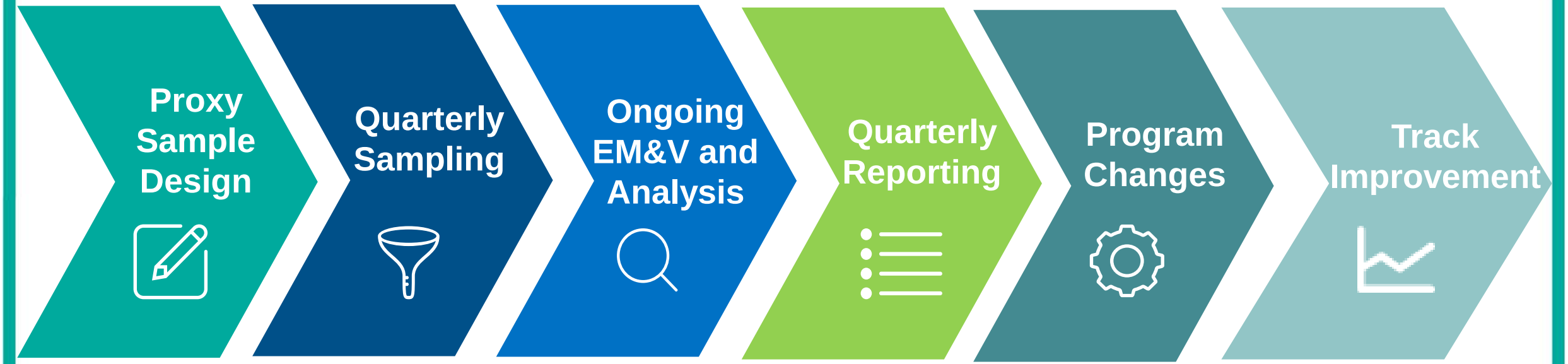
Traditional evaluation is too slow to be effective

- Late feedback on program performance
- Suggestions for program improvement become invalid
- Missed opportunities for realizing more energy savings
- Utilities, state agencies want to verify savings faster

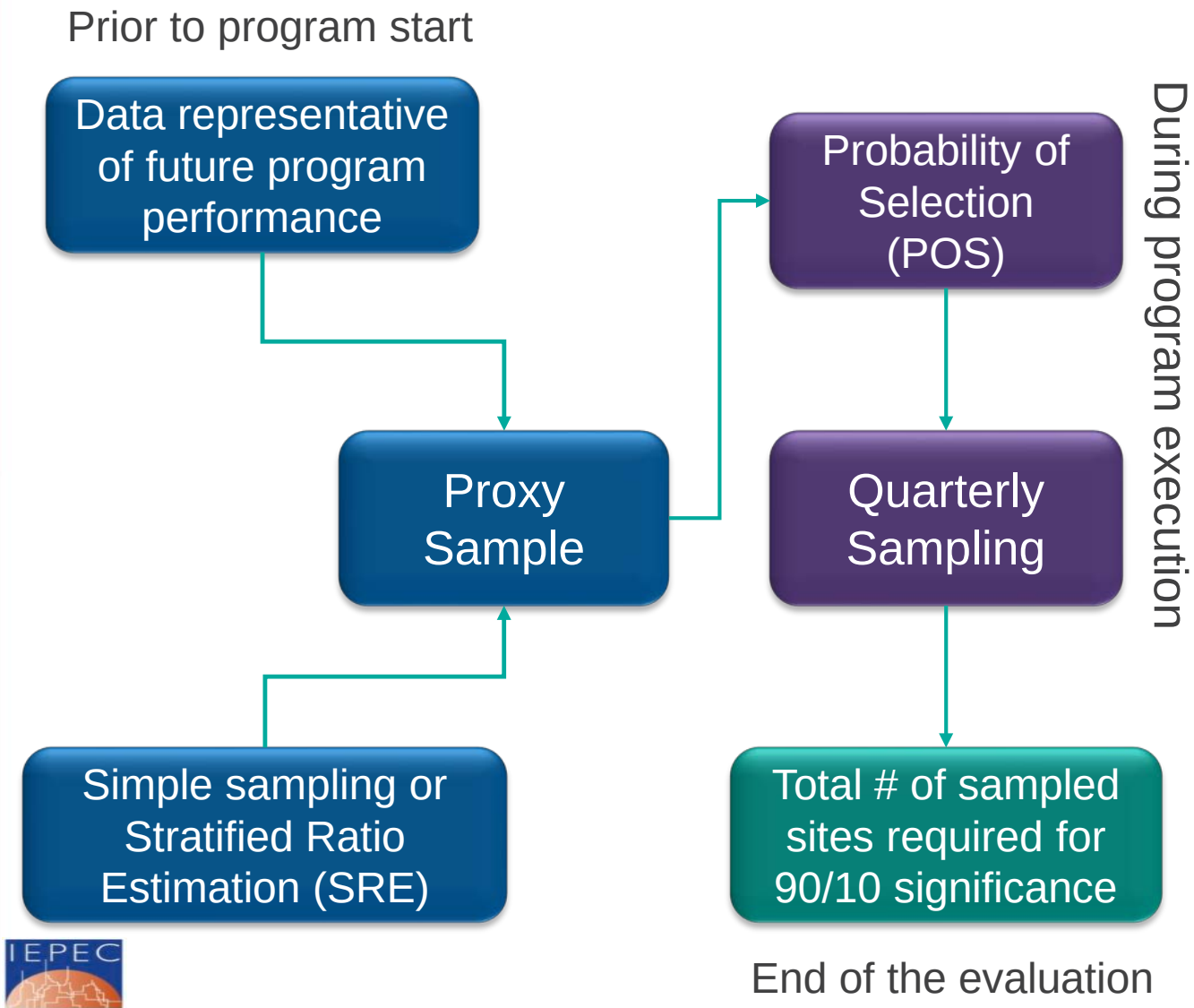
WHAT WE WILL COVER

1. A readily deployable strategy for “real-time” evaluation
2. Key elements of the approach
3. A demonstrative case study
4. Benefits, challenges and risks to consider

Real-time Approach Elements



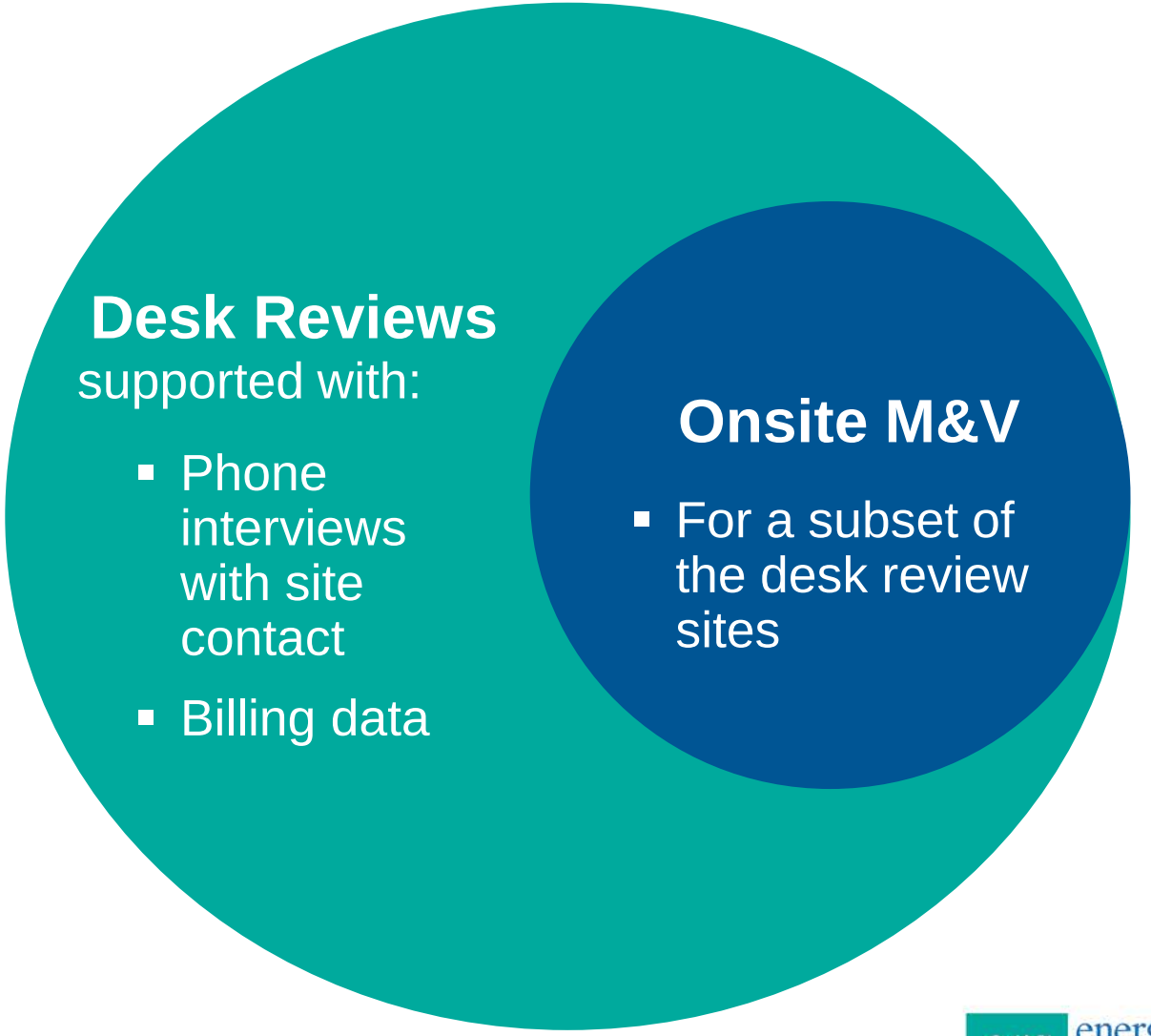
Real-time Sampling



The objective of the proxy sample and quarterly sampling is to estimate the number of samples required to produce results at the desired statistical significance

EM&V AND ANALYSIS

- All sampled sites receive desk reviews
- Desk review results available in within 3 months, onsite M&V results within 6 months depending on the measure
- High EM&V completion rates (connected with 91% of the original sampled sites)



Reporting Elements

"Round-table" Discussion

- PA, Implementers and Evaluators collaborate
- Two-way feedback
- Future program changes

Trended Realization Rates

- Track program performance

Discrepancy Analysis

- Factors impacting realization rates

Online Database

- Individual site detail
- Implementer "forensic analysis"

Program Changes & Tracking Improvements

Evaluator Feedback

Evaluators suggest program or protocol changes

Track Performance

Evaluators track how program changes have impacted performance

Implementor/PA Response

Implementor/PA determine how and when to implement program changes

Make Improvements

The Implementor/PA make program changes; specify when these changes will take effect.

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Real-Time Evaluation in Action

Examples of reporting elements from a current “real-time” evaluation study

Real-time in Action

"Discrepancy Analysis"

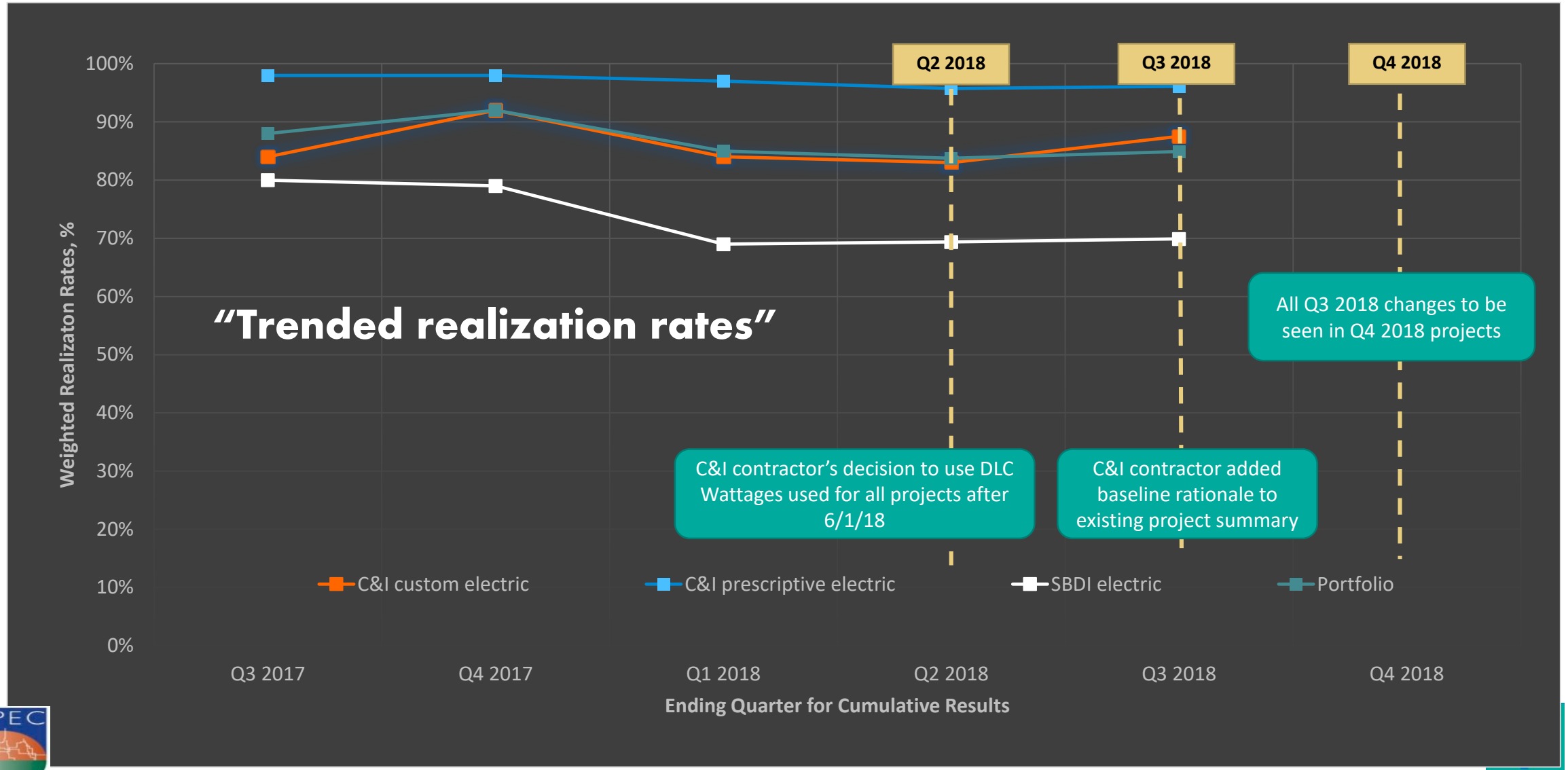
Discrepancy	Impact on Custom Electric (kWh) RR	Impact on Prescriptive Electric (kWh) RR	Impact on SBDI Electric (kWh) RR	Impact on Electric Portfolio (kWh) RR
Tracking/Clerical	0%	0%	0%	0%
Ineligible Measure	0%	0%	0%	0%
Algorithm/Adherence to TRM	0%	0%	0%	0%
Baseline	0%	0%	0%	0%
Quantity	0%	0%	0%	0%
Size/Wattage	-1%	0%	-23%	-16%
Efficiency	-4%	0%	0%	-1%
Hours/Load/Operation	-1%	-16%	-23%	-18%
HVAC Interactivity	-2%	0%	-2%	-2%
Other	-1%	0%	0%	0%
Total Impact	**-9%**	**-16%**	**-48%**	**-38%**
Program RR	91%	84%	51%	61%

Real-time in Action

Feedback and Suggestions for Improvements	Implementer Response	Description of Implementer Response
Include a baseline analysis that describes rationale for selected baseline on large custom projects to demonstrate that the baseline being selected for the measure is appropriate	Implemented	Updated existing project summary document by adding a dedicated section for description of baseline rationale in Q4 of 2018. This document is required for all custom non-lighting projects.
Ensure that the EFLH used in prescriptive savings calculations aligns with the correct building type. Use the EFLH for "Other" with facilities that have no commonality with TRM building descriptions.	Planned Implemented	Will add low rise and high-rise multi-family building types as separate selectable options in the calculator tools with corresponding EFLH as applicable in Q4 of 2018. Reviewers will scrutinize whether the use of another building type is appropriate in cases where “Other” is listed by the applicant.

“Stakeholder Feedback”

Real-time in Action



Challenges/Risks

Solutions

	Challenges/Risks	Solutions
Seasonal Measures	▪ Waiting up to a year to collect meter data	▪ Set up trend data during implementation
Coordinating EM&V	▪ Uncoordinated outreach ▪ Metering project from wrong quarter	▪ Track repeating customers ▪ Verify project scope before metering
Cost	▪ 2-3 % additional costs	▪ Tight sampling ▪ Simple reporting formats ▪ Efficiencies from collaboration
Sampling	▪ Sampled more/less projects than needed for statistical significance	▪ Track program changes ▪ Track quarterly relative precision values ▪ Hold analysis on some samples

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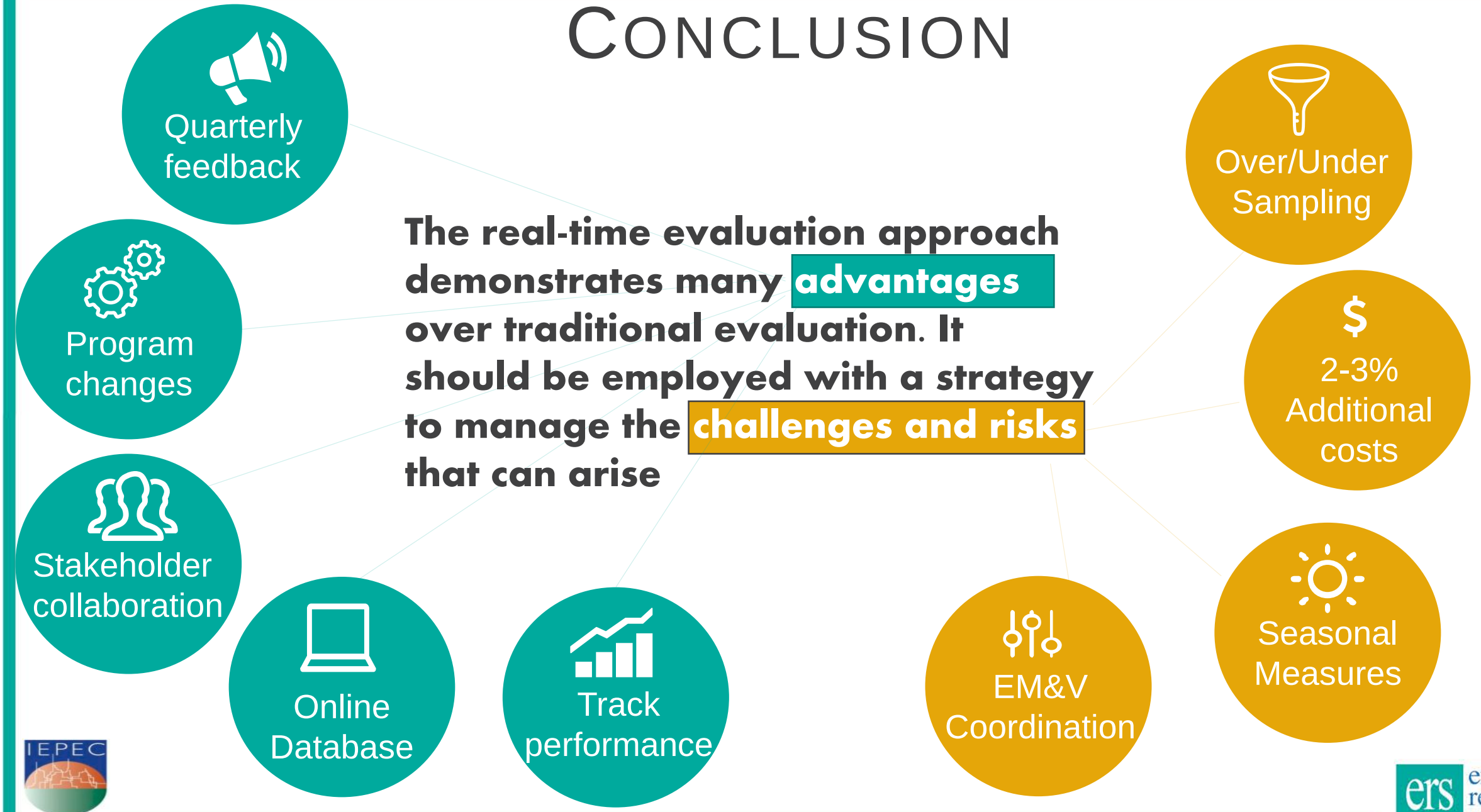
Conclusion

The real-time evaluation approach demonstrates many advantages over traditional evaluation. It should be employed with a strategy to manage the challenges and risks that can arise



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QUESTIONS?

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