

THE AGE OF ANALYTICS

Why Efficiency Will Never Be the Same

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IN JUST THE PAST FEW YEARS...

**Greater Availability of
Interval Meter Data
(Smart Grid AMI and AMR)**



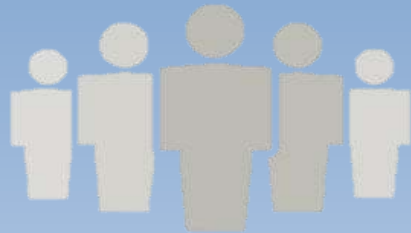
**Emergence of Advanced
Data Analytics Platforms**



THREE BIGGEST ENERGY ASSETS



Infrastructure



People



Data

Widely Underutilized Asset

THE FUTURE OF COMMERCIAL EE

ANALYTICS-ENABLED EFFICIENCY



EFFICIENCY PAST

- Limited customer/building targeting
- Time-intensive, costly on-site assessments
- Emphasis of capital-intensive retrofits
- 'Measure-by-Measure' action
- Savings persistence unclear

EFFICIENCY PRESENT/FUTURE

- Data-driven, segmented opportunity targeting
- Remote assessments at very low cost/time
- Equal focus on retrofits and operational
- Holistic, 'whole-building driven' EE
- Savings persistence ensured

ADVANCED DATA ANALYTICS: TRANSFORMATIONAL FOR OUR INDUSTRY

Increase
Scale



- *Reach more buildings*
- *Identify deeper savings potential*

Improve Customer
Outcomes



- *Lift program participation*
- *Increase customer satisfaction*
- *Improve measure persistence*

Reduce
time



- *Speed efficiency services*
- *Minimize time-lags*
- *Get to faster savings*

Reduce
costs



- *Find more low-cost savings*
- *Conduct less onsite work*

1. TARGET BETTER OPPORTUNITIES

TARGET
OPPORTUNITIES

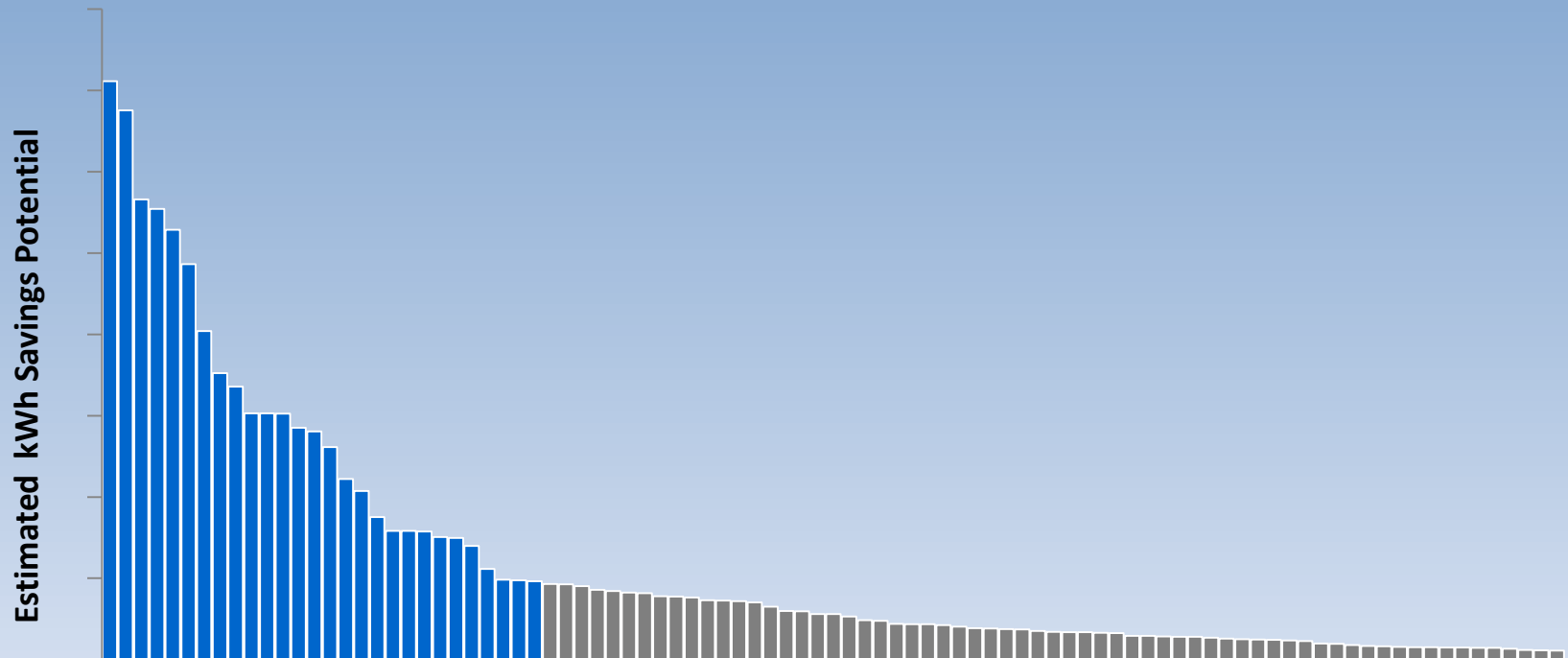
CONDUCT
AUDITS

ENGAGE
AND PLAN

IMPLEMENT
MEASURES

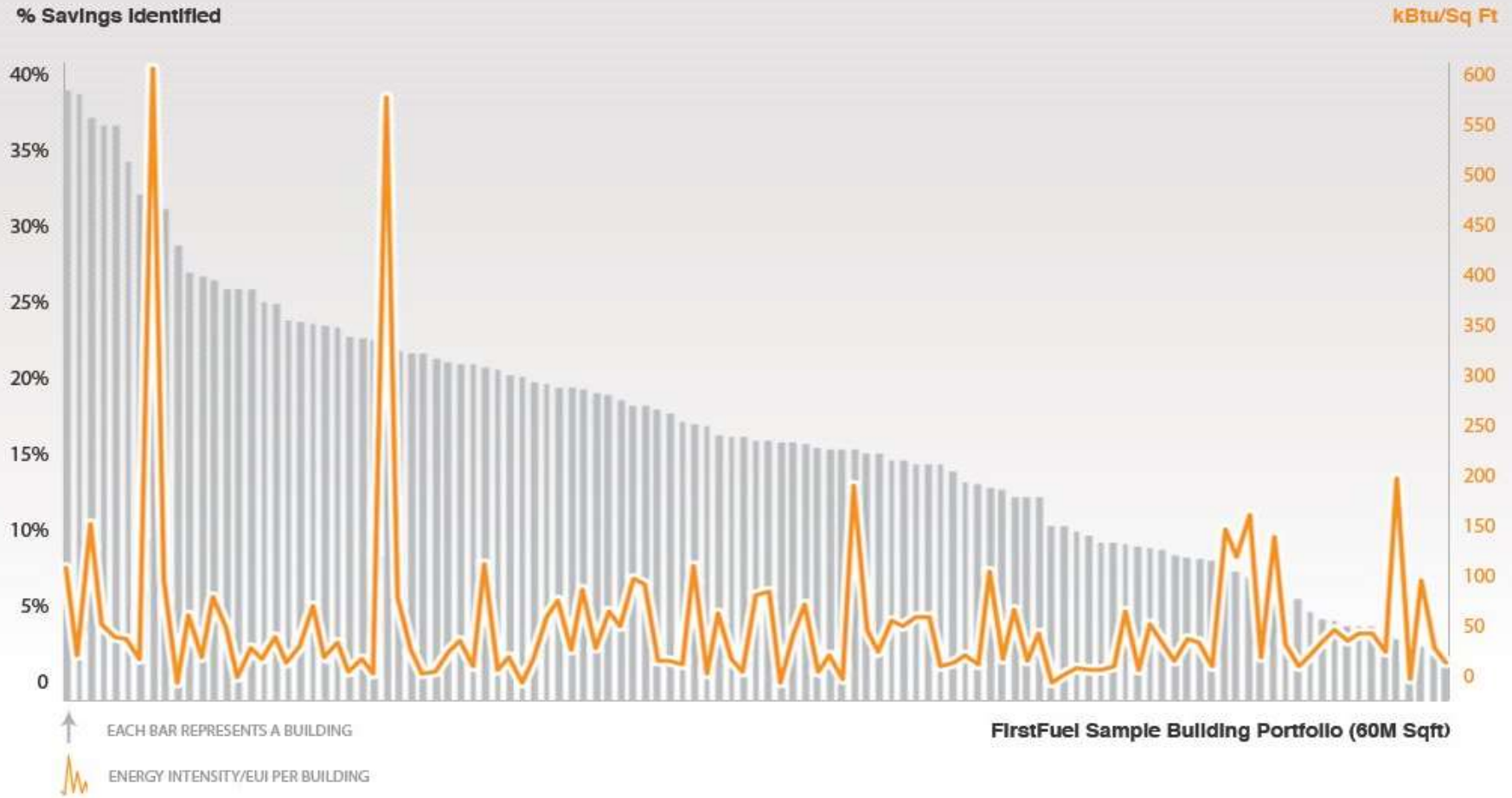
MONITOR
SAVINGS

Prioritize buildings with the largest efficiency savings + propensity to act

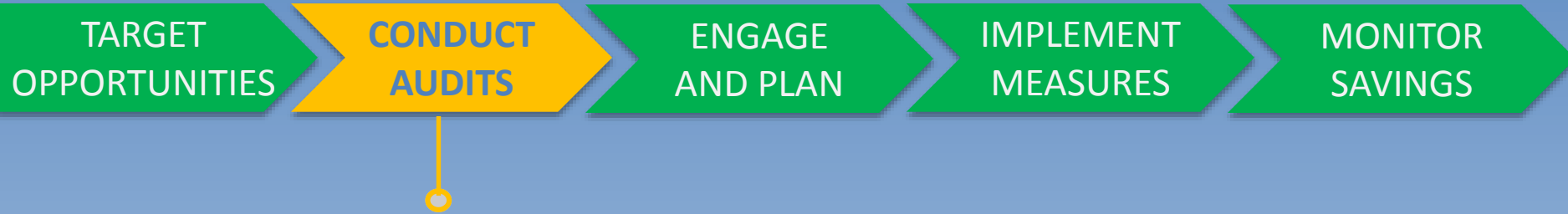


Example Commercial Portfolio

EXAMPLE: EUI VS ANALYTICS TARGETING



2. REMOTE AUDITS: BETTER THAN ONSITE?



Operational Measures

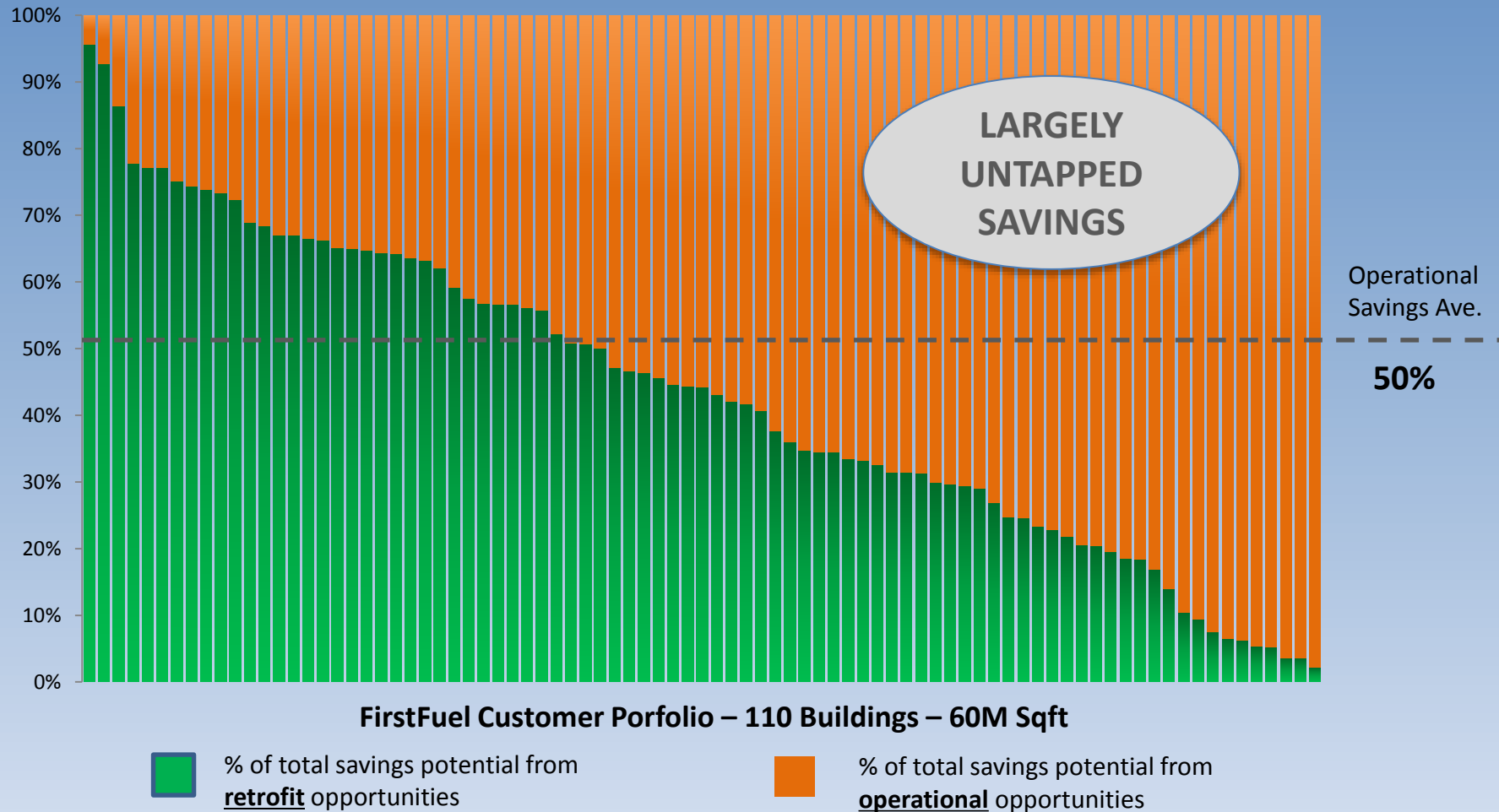
- Scheduling controls (e.g. lighting)
- Temperature setpoints
- Equipment staging
- Simultaneous heating and cooling
- Variable frequency drives

Asset-Related Measures (Retrofits)

- Lighting system upgrades
- Cooling system upgrades
- Refrigeration
- HVAC upgrades
- Controls installation

EXAMPLE: THE HIDDEN OPERATIONAL RESOURCE

Operational vs. Retrofit Savings Split



3. ENGAGEMENT & ACTION

TARGET
OPPORTUNITIES

CONDUCT
AUDITS

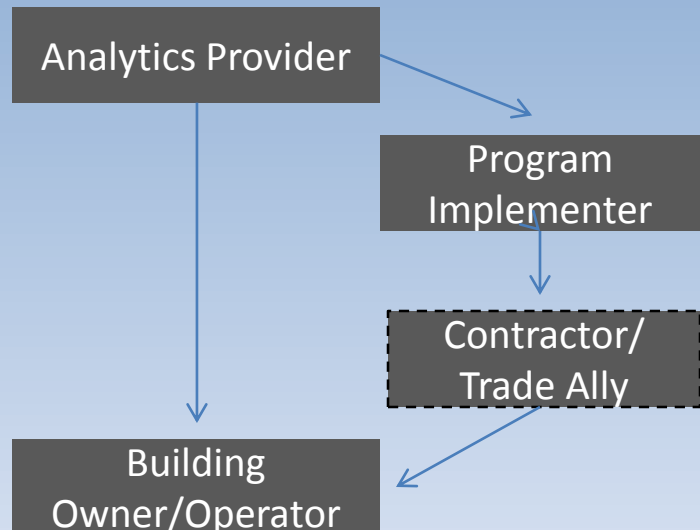
ENGAGE
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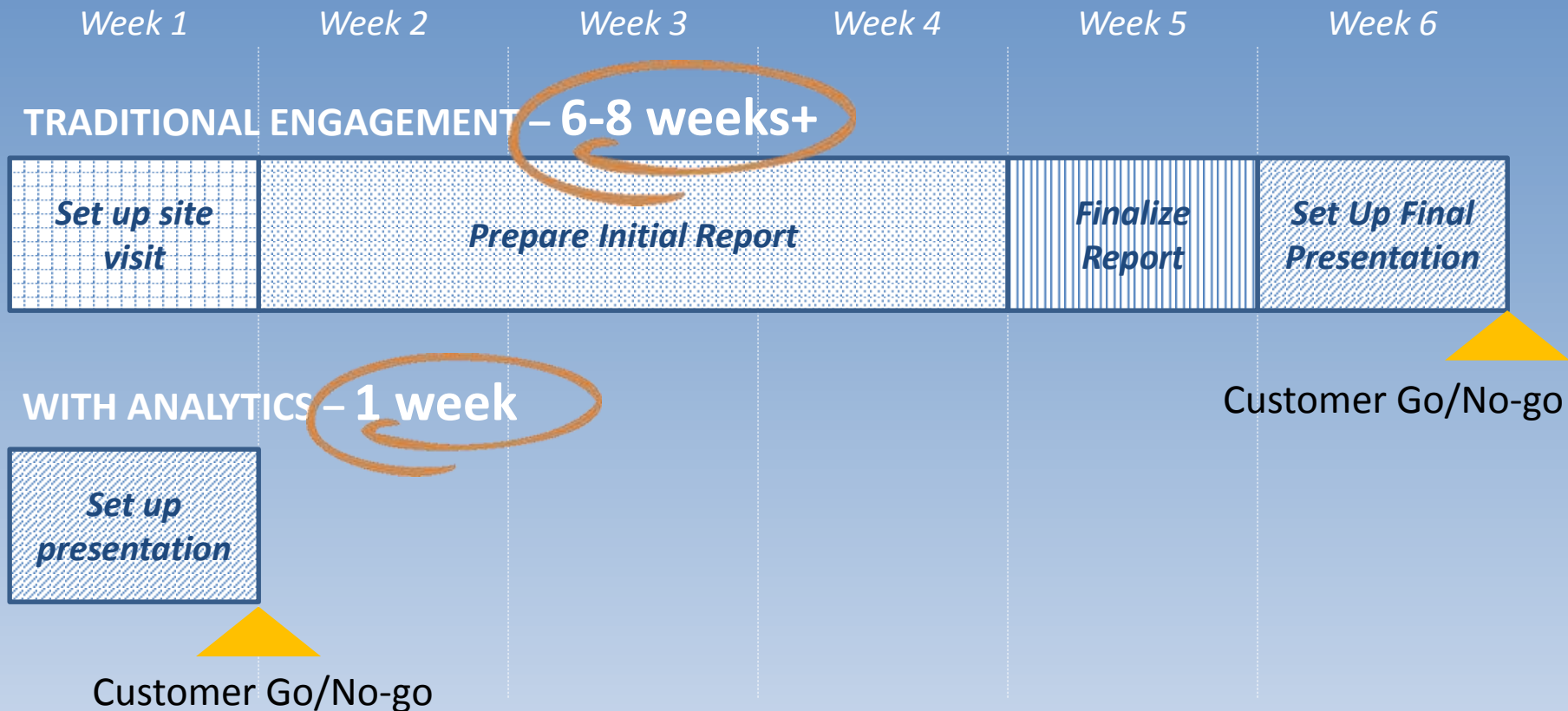
MONITOR
SAVINGS

Motivate building operators and businesses to take action

- Deliver insight from first touch point
- Focus discussions on measures and action
- Minimize customers' upfront time investment



EXAMPLE: BETTER, FASTER ENGAGEMENT



Source: Utility Pilot Results (anonymized)

4. MONITORING & FEEDBACK

TARGET
OPPORTUNITIES

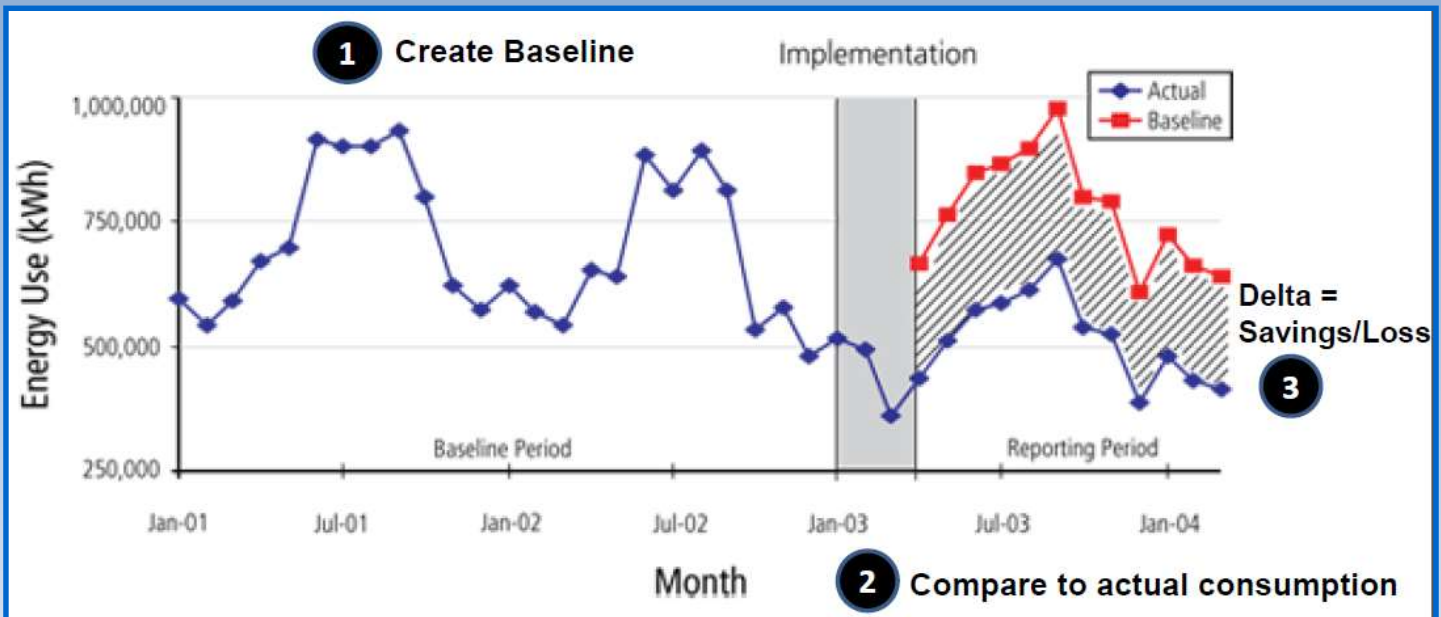
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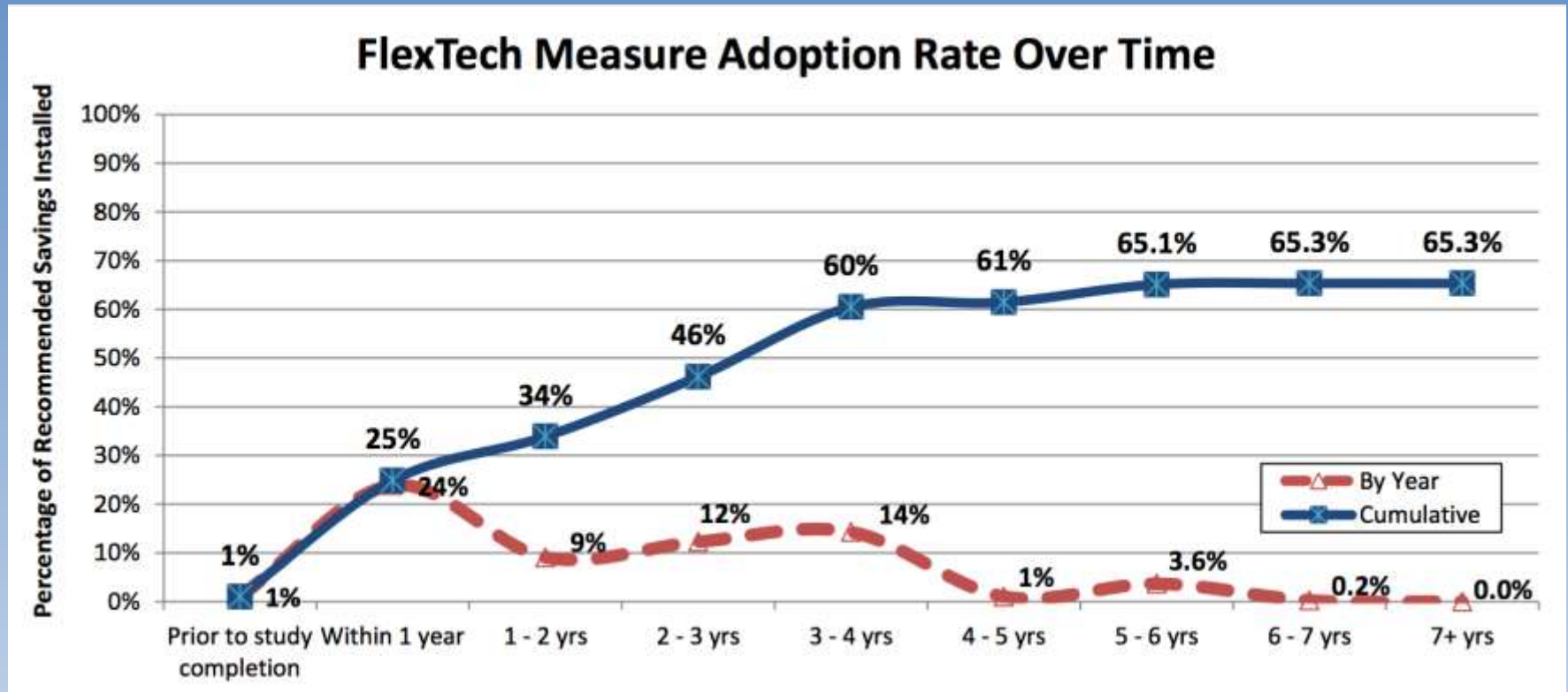
IMPLEMENT
MEASURES

MONITOR
SAVINGS

Track the impact of actions and ensure savings persistence



EXAMPLE: WHY MONITORING MATTERS



Installed measures more than double in buildings after the first year of engagement

- *NYSERDA ETAC Study*

WHAT THIS MEANS FOR THE FUTURE OF EFFICIENCY

