

Energy Efficiency

TO-CODE PILOT

Status Update – April 11, 2016



Agenda

- » Status to date
- » Background
 - Discuss Purpose and details of Mini Pilots
- » Final Pre-Test designs/modification
- » Budget Review

Status to date

- » 3 Mini pilots completed
- » Customer selection finalized
- » Sample Randomization complete and submitted to field
- » Data tracking and logging tools complete
- » Report generation tools complete
- » Full experiment ready to launch

What is To Code

- » To Code, is an experiment designed to learn motivating drivers that lead to **82%** efficient equipment retrofit, i.e. **To (State) Code** vs above code retrofit.
- » Interventions tested:
 - Financial rebates for “To Code” savings
 - Technical expertise and assistance
 - Marketing approach

To Code Overview - Objectives

- » Define Target Segments and Technology:
 - Develop list of customers that are applicable for the To Code offer and experiment
 - Identify technologies and other attributes that further define the list to maximize resources
- » Duration:
 - 1 year or until success targets are met
- » Success:
 - Complete a minimum 300 retrofits
 - Complete a minimum of 150 from treatment group via power calculations

Background

» Documentation

- Utility scripts & procedures, work flows, work orders, and field training
- Check points to validate progress and data gathered

» Mini Pilots – Provided valuable in sights and shaped final experiment

- Followed overall experimental protocol
- Designed to test the approach, feasibility and identify limits
- Lessons learned were fed back into next pilot
- Final design utilizes feedback from all three mini-pilots

Implementation Strategy

» Assumptions:

- Customer uptake defined: Customer agreement to participate and IST producing a Boiler Flue Gas Analysis
- Retrofit and Treatment effects were not monitored for mini-pilots

» Mini Pilot Strategy Loop:

1. Develop customer list based on filtering strategy
2. Implement list to experiment
3. Review Uptake results
 - a) Evaluate results against decision and statistical integrity
 - b) Reveal data clarification opportunities
 - c) Review customer database and filtering required for data sufficiency
4. Revise filtering strategy and run new customer reports with new filtering parameters
5. Send updated customer report for randomization and selection to E2e

Mini Pilot 1 (MP1)

- » Purpose:

Understand drivers that increase rebate participation for customers whose usage is under 50K therms.

- » Desired customer uptake : 10%

- » Deployment Location: Epicenter – City of Downey (ERC)

- » Customer Outreach mode: SCG calls customer to schedule appointment

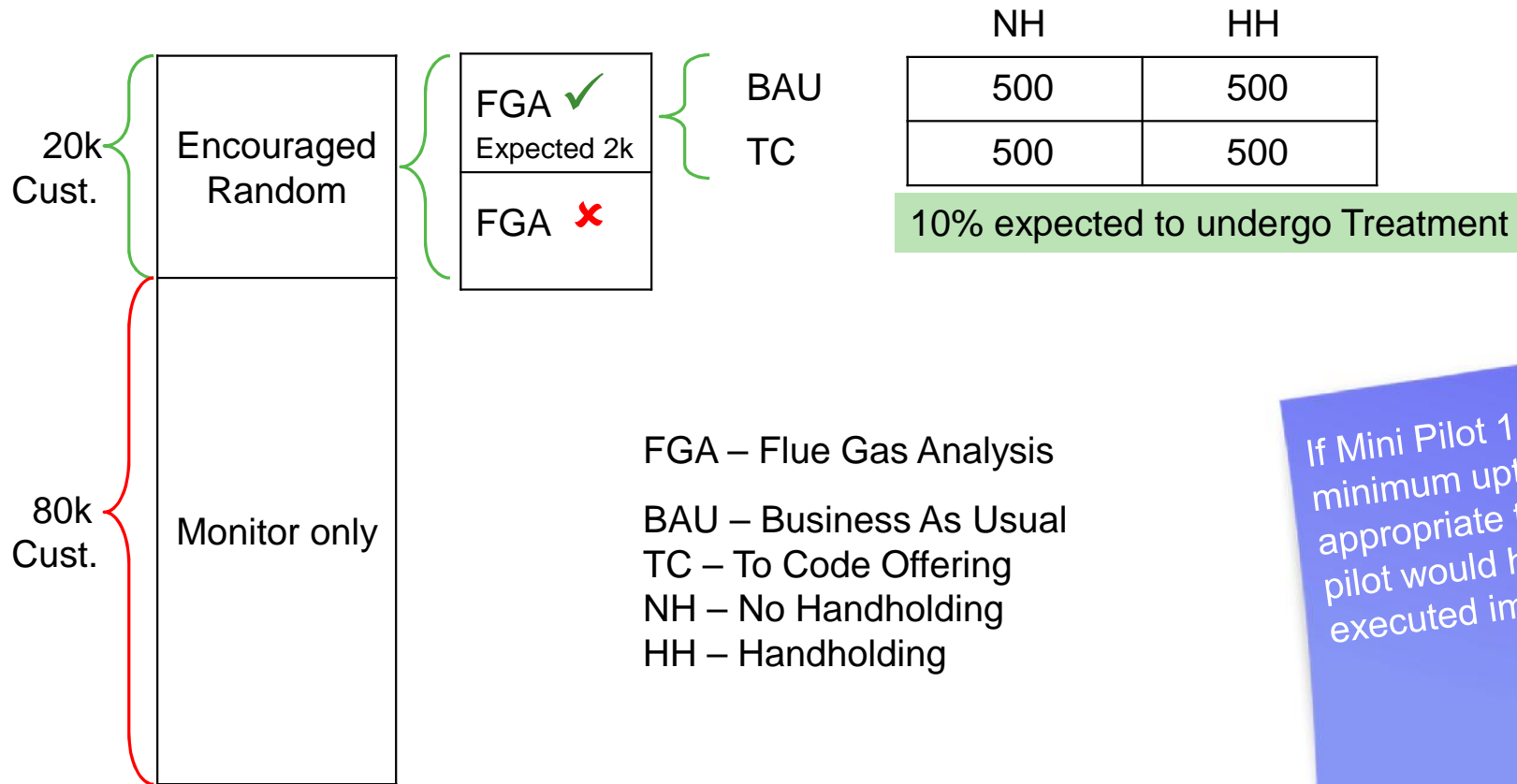
- » Equipment and compliance verification: SCG Inspector

MP1 Cnt'd

» Limits for personnel interacting directly with customer:

- Caller
 - Must not mention that customer has been selected for a CPUC pilot
 - Attempts - no more than 3 times per customer, or 5 if a follow-up requested by customer
 - To provide 800 number for customer follow ups/direct customer to SCG EE online
- Inspector
 - Must not discuss technology other than to gain access to site and equipment
 - Must not discuss the experiment, selection criteria or eligibility with any customer
 - Must engage in discussions regarding alternative customer owned locations
- Customer
 - Only customers in the randomly selected BAID (Billing ID) list are to be considered, regardless of multiple businesses owned
 - Customer who are on the list and decline, are allowed to be reinstated

MP1 Cnt'd – Customer Selection



FGA – Flue Gas Analysis

BAU – Business As Usual

TC – To Code Offering

NH – No Handholding

HH – Handholding

If Mini Pilot 1 had met minimum uptake of 10% and appropriate technology, full pilot would have been executed immediately

Mini Pilot 1 (MP1) – Cnt'd

» Results

- Customer acceptance rate **9%** vs **10%** desired
- Customer pool comprised of Water Heaters, which were served by Midstream and not Downstream
- Average usage was under 3,000 therms, some match residential usage
- Usage was too low for rebate to make an impact on payback analysis

» Lessons Learned – Increase usage threshold, filter out water heaters and seasonal usage

» Resources

- Duration 16 days
 - 1 Caller
 - 2 Inspectors
 - Program costs excluded

Mini Pilot 2 (MP2)

- » Purpose:

Understand drivers that increase rebate participation for customers whose usage is under **between 20k - 50K** therms.

- » Desired customer uptake : 10%

- » Deployment Location: **18 miles radius** from ERC, Downey, CA

- » Customer Outreach mode: SCG calls customer to schedule appointment

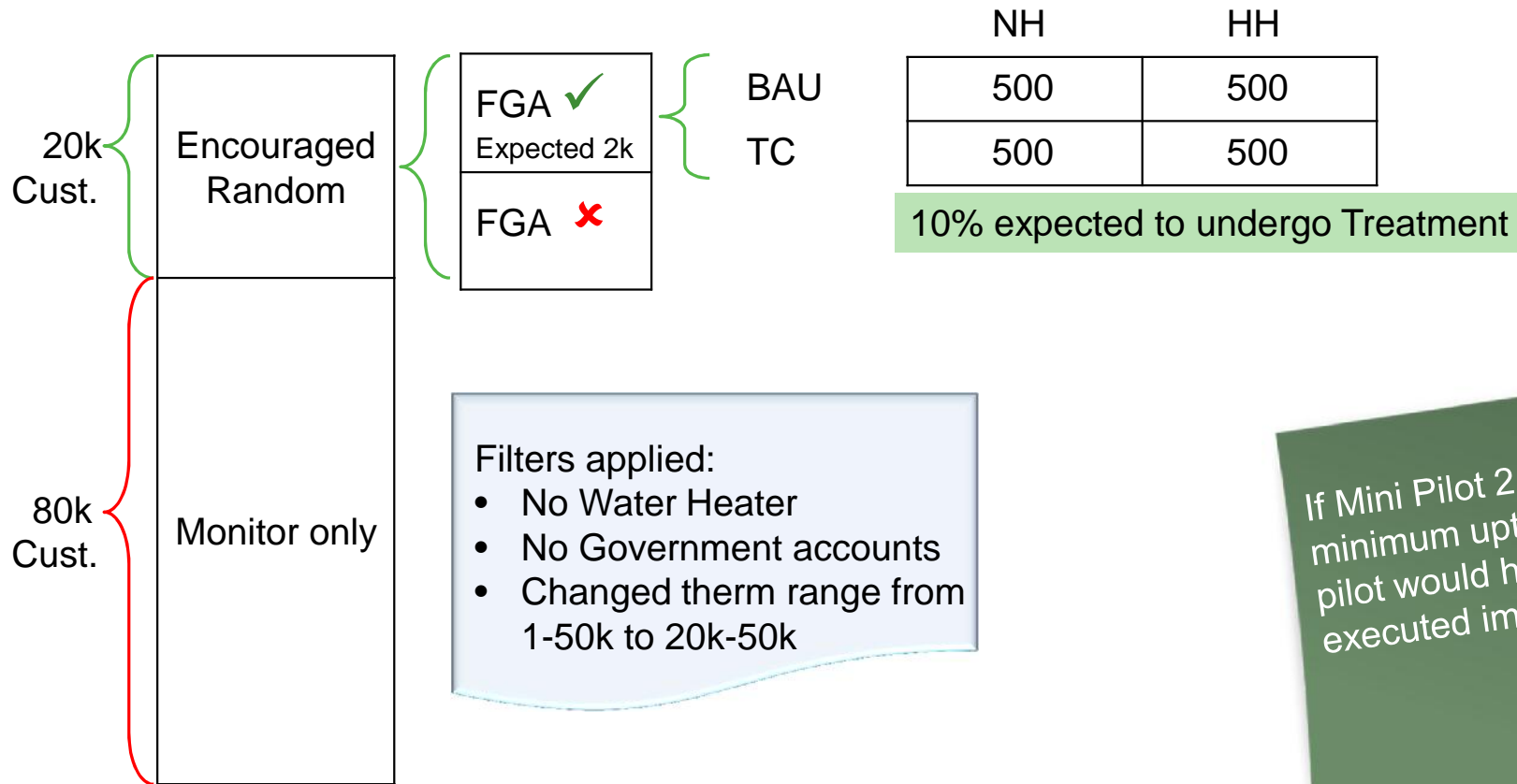
- » Equipment and compliance verification: **SCG Industrial Technician**

MP2 Cnt'd

» Limits for personnel interacting directly with customer:

- Caller
 - Must not mention that customer has been selected for a CPUC pilot
 - Attempts - more than 3 times per customer, or 5 if a follow-up requested by customer
 - Provides 800 number for customer follow ups/direct customer to SCG EE online
- ~~Inspector~~ **Industrial Service Technician (IST)**
 - Must not discuss ~~technology other than~~ more than EE business as usual to gain access to site and equipment
 - Must not discuss the experiment, selection criteria or eligibility with any customer
 - Must engage in discussions regarding alternative customer owned locations
- Customer
 - Only customers in the randomly selected BAID (Billing ID) list are to be considered, regardless of multiple businesses owned
 - Customer who are on the list and decline, are allowed to be reinstated

MP2 Cnt'd – Customer Selection



If Mini Pilot 2 had met minimum uptake of 10%, full pilot would have been executed immediately

Mini Pilot 2 (MP2) – Cnt'd

» Results

- Customer acceptance rate **8%** vs **10%** desired
- Customer decision maker reluctant or not accessible
- Technician limited by customer's acceptance
- Most equipment found were already to code

» Lessons Learned – Better identify active accounts, One account may hold many boilers, Realizing that visiting customer may increase acceptance rate

» Resources

- Duration 21 days
 - 1 Caller
 - 18 Industrial Technicians
 - Program personnel

Mini Pilot 3 (MP3)

- » Purpose:

Understand drivers that increase rebate participation for customers whose usage is under between 20k - 50K therms.

- » Desired customer uptake : 10%

- » Deployment Location: 18 miles radius from ERC, Downey, CA

- » Customer Outreach mode: ~~SCG calls~~ **IST visits** customer to schedule appointment

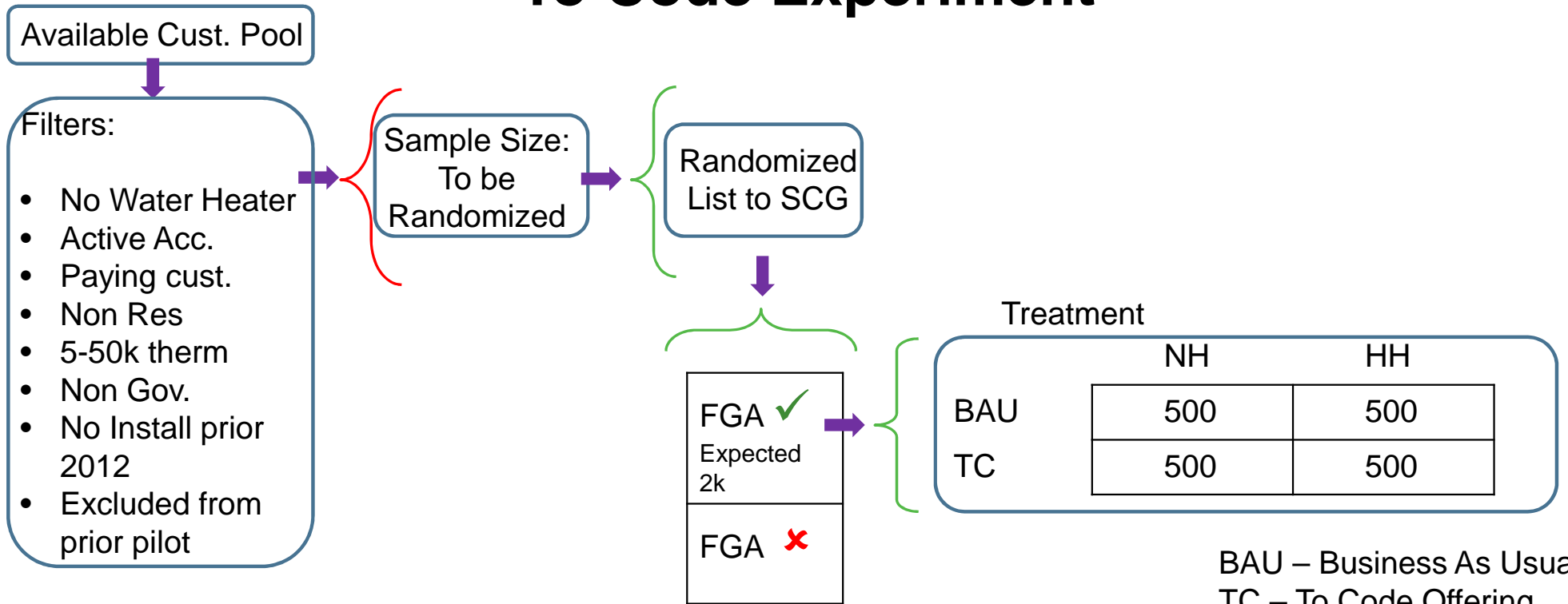
- » Equipment and compliance verification: SCG Industrial Service Technician (IST)

MP3 Cnt'd

» Limits for personnel interacting directly with customer:

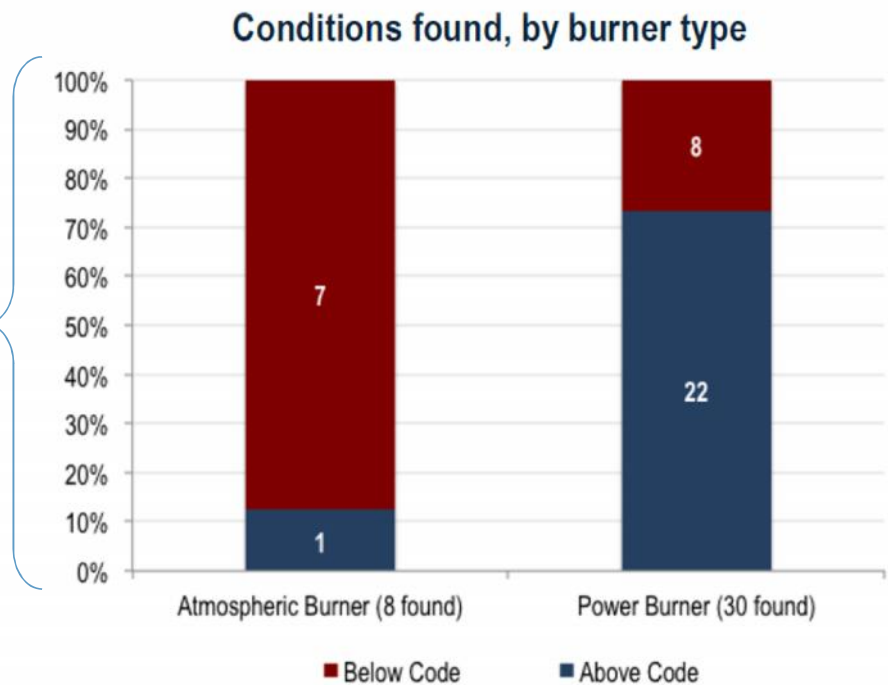
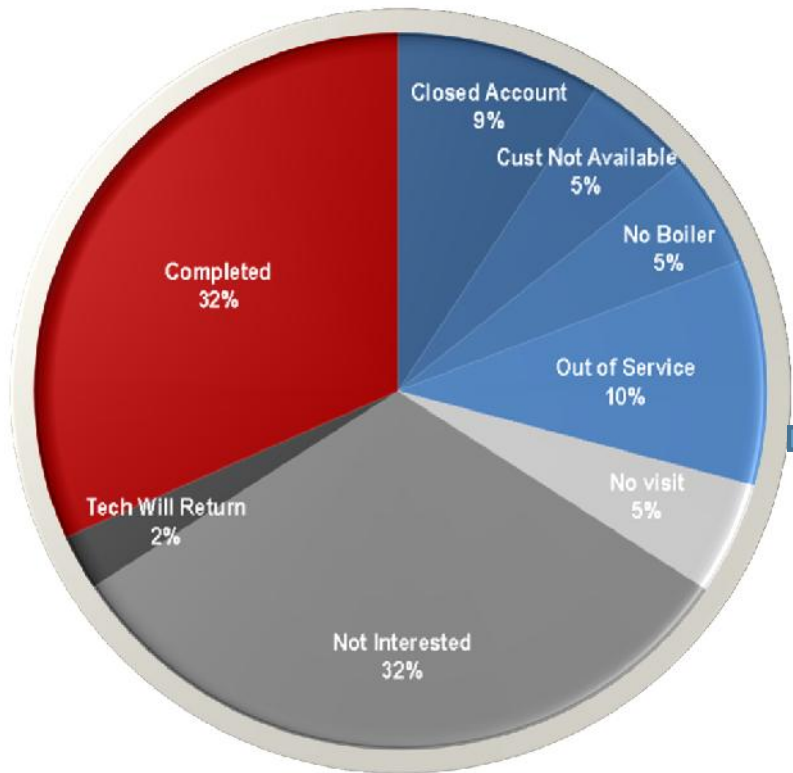
- ~~Caller~~
 - ~~Must not mention that customer has been selected for a CPUC pilot~~
 - ~~Must insist no more than 3 times per customer, or 5 if a follow-up requested by customer~~
 - ~~To provide 800 number for customer follow ups/direct customer to SCG EE online~~
- ~~Inspector~~ **Industrial Service Technician (IST)**
 - Must not discuss ~~technology other than~~ more than EE business as usual to gain access to site and equipment
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 - Must engage in discussions regarding alternative customer owned locations
- Customer
 - Only customers in the randomly selected BAID (Billing ID) list are to be considered, regardless of multiple businesses owned
 - Customer who are on the list and declined, are allowed to be reinstated

To Code Experiment



BAU – Business As Usual
 TC – To Code Offering
 NH – No Handholding
 HH – Handholding
 FGA – Flue Gas Analysis

Mini Pilot 3- Honing on Technology Breakdown (List of 120 customers)



Mini Pilot 3 (MP3) – Cnt'd

» Results

- Customer acceptance rate 32% vs 10% projected
- Most technology differences exposed from above/below to code

» Lessons Learned –

- Atmospheric burners, IST were the most effective mode of customer engagement, increase pool **FROM** 20k-50k **TO** 5k – 50k therm in order to validate customer reluctance to participate in programs

» Resources

- Duration 30 days
 - 18 Industrial Technicians
 - Program personnel

Final - To Code Workflow

1. IST Visits facility conducts FGA on all boilers
2. A report is generated from IST data and submitted to E2e
 - Survey shows rebate options based on E2e selected treatment
3. Customer reviews report
4. Customer retrofits and applies to our regular rebates
5. Rebate check is sent to customer with additional funds IF randomly selected for To Code Treatment

IF Customer is selected for special Hand Holding treatment...

6. IST visits customer to discuss the report and EE opportunities
7. IST fills out rebate application OR documents customer's reasons for not participating in our rebate program

Budgets

- » MP1 – Program Costs, Caller time.
- » MP2 & MP3 - \$13.5k
- » Full Pilot – Visits/FGA's \$145k, Training \$2k.

SCG Next Steps

- » SCG intends to use lessons from this pilot to evaluate its viability as a full program offering, and also evaluate how to frame our incentive structure across our programs that address to-code opportunities

- » Lessons Learned:
 - Learned customer engagement limits, experienced technical limitations and modified plans along the way
 - Continuously strive to increase communication and awareness