



Self Direct Program

Analysis and Findings of the First Two Years by the Energy Resources Center



Self Direct Program Background

#1. Establish and maintain an energy efficiency reserve account and accrue funds in the account for the purpose of funding, in whole or in part, energy efficiency measures of the customer's choosing

#2. Contribute annual to the energy efficiency reserve account a minimum amount equal to 2% of the customer's cost of natural gas (supply and delivery chargers), or \$150,000, whichever is less.

#3. Annual report to DCEO on the status of the reserve account (verifying that the financial obligations were met), providing a description of the energy efficiency measures undertaken with account funds, estimated energy savings, and providing verification that funds withdrawn were utilized for the reported measures.

#4. Annual reports are to be submitted by October 1st of each year starting with 2012. A year consists of June 1st to May 31st.



Who Can Apply to be a SDC?

#1: Large gas users (> 4 million therms in a single utility territory or > 8 million therms used statewide)

#2: Customers that use 60% or more of their natural gas as a feedstock may also apply

#3: Power plants using natural gas are exempt from Section 8-104



Disclosures

#1: This study was not an EM&V study due to limiting factors

#2: All values reported were taken at face value and not verified, and ERC stated assumptions for all estimates made to fill in gaps

#3: Several companies restricted access including disallowing any pictures to be taken



ERC Tasks (Years 1 & 2 Only)

#1: Evaluate the completeness of the reports in terms of the requirements placed on SDC Customers by the law.

#2: Perform a randomly selected sample of site verifications to assess the implementation of the energy efficiency projects reported by SDC Customers.

#3: Analyze all reports and results of the site visits to provide conclusions and recommendations to DCEO.

#4: Evaluation included 29 companies in Year 1 and 31 companies in Year 2. 58 reports in total, with one company not submitting reports either year and being removed from the program.



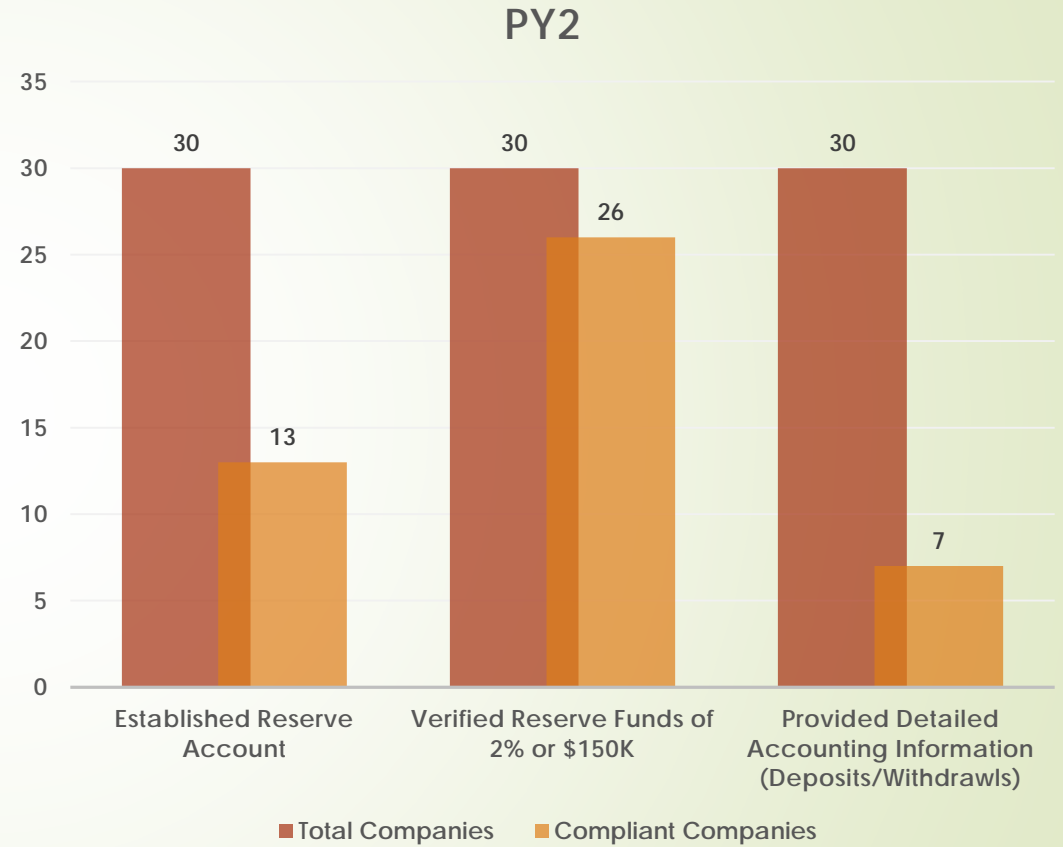
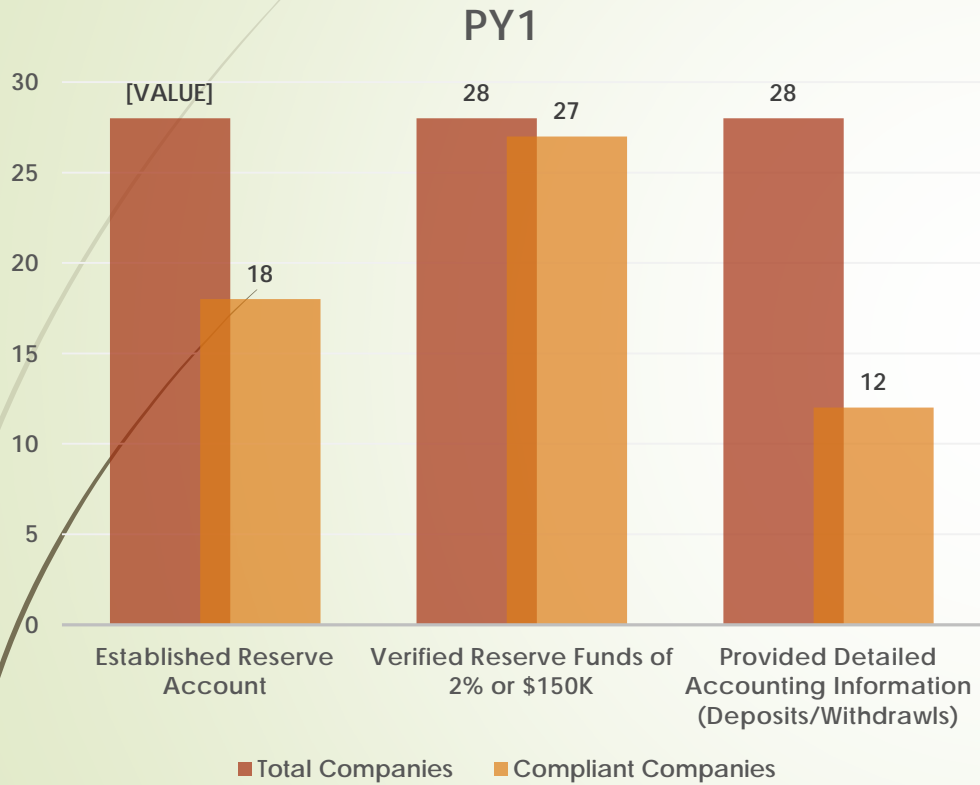
Financial Criteria

#1: SDC Customer established a stand-alone energy efficiency reserve fund for the purpose of meeting and tracking the financial requirements of the SDC program.

#2: SDC Customer verified funding levels being equal to 2% of the customer's cost of natural gas or \$150,000 (whichever is less) for use on the SDC program.

#3: SDC Customer provided DCEO detailed financial information (deposits/withdrawals) regarding the energy efficiency reserve fund.

Financial Criteria Results





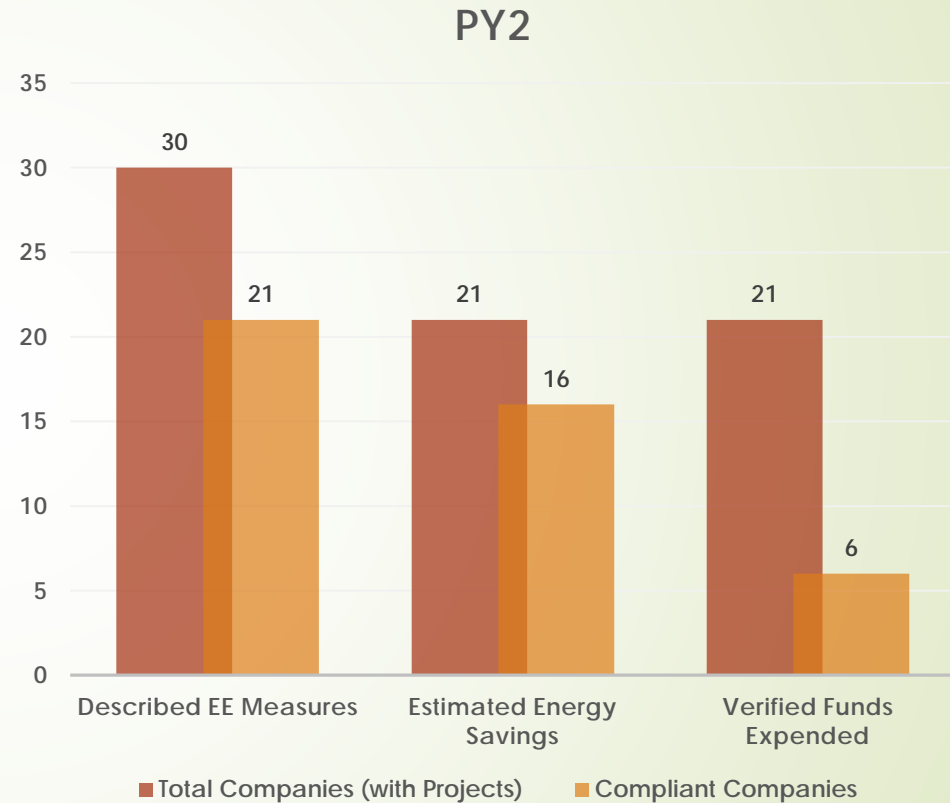
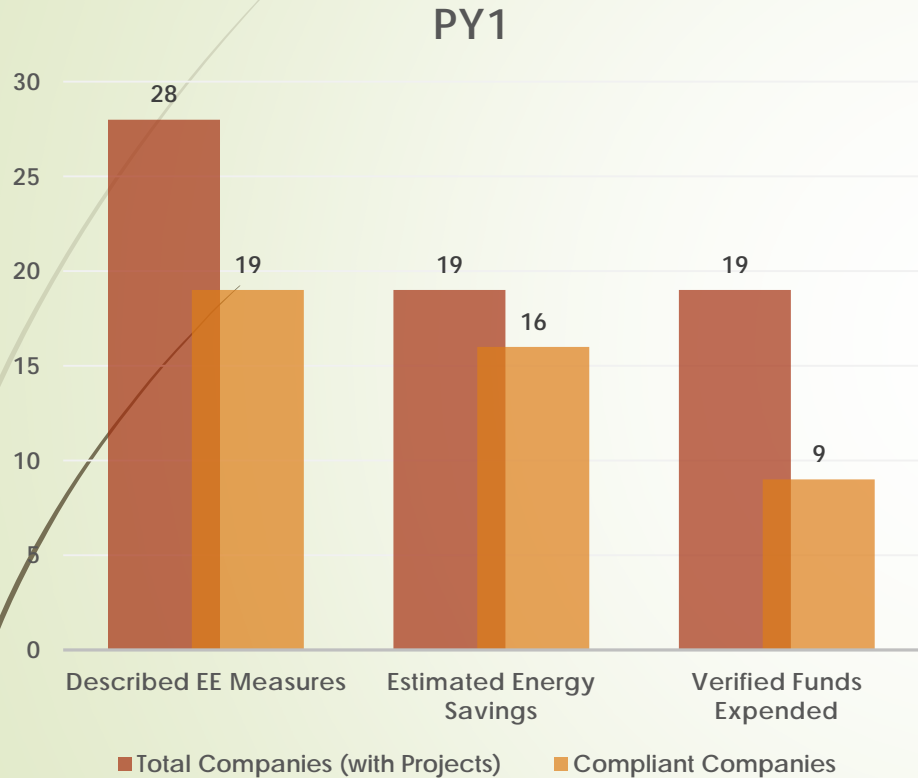
Energy Efficiency Criteria

#4: SDC Customer provided adequate descriptions of the energy efficiency measures implemented with funds from the energy efficiency reserve fund.

#5: SDC Customer estimated the energy savings to be realized by implementing each of the defined energy efficiency measures.

#6: SDC Customer verified that energy efficiency reserve funds were used for the implementation of the energy efficiency measures.

Energy Efficiency Results



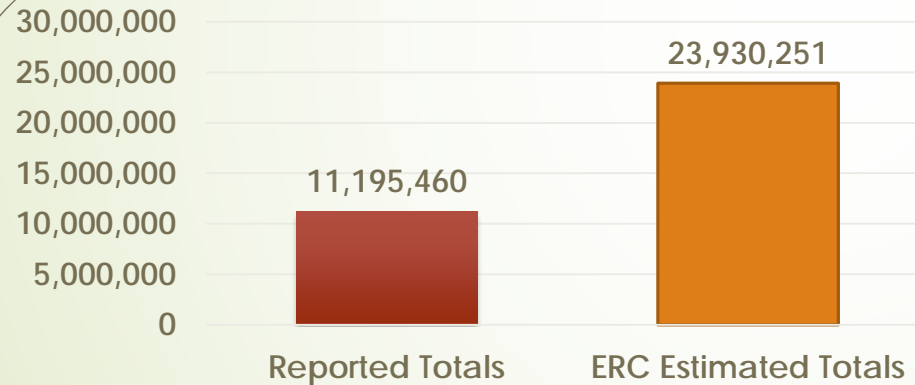
Criteria Summary

SDC Customers Criteria	Percentage of SDC Customers who met criterion in PY1	Percentage of SDC Customers who met criterion in PY2
Established a reserve account	64%	43%
Verified 2% OR \$150K	93%	73%
Deposits / Withdrawals information	43%	23%
Described EE measures	68%	70%
Estimated Energy Savings*	84%	80%
Verified funds expended towards EE*	47%	25%

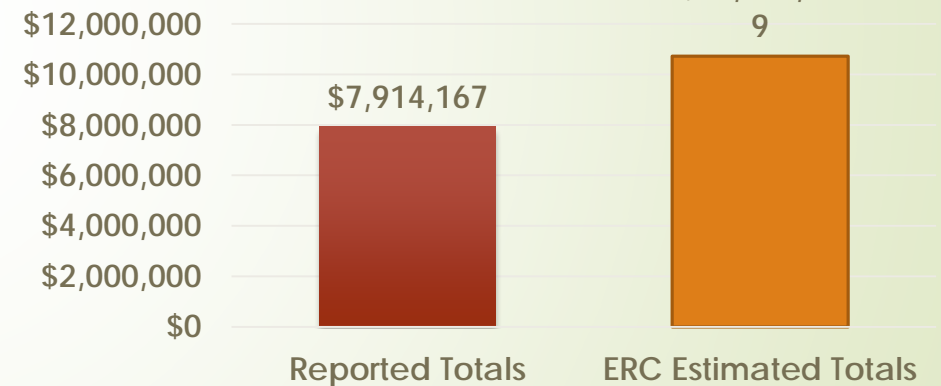
* Percentages in these rows do not include companies which did not report energy efficiency projects.

63 total energy efficiency projects and \$19,207,448 in reported funds spent on projects

Natural Gas Savings (Therms)



Total Dollar Savings (PY1&2)



A rate of \$0.45 (Source: US EIA Data) was used by the ERC to estimate missing natural gas and dollar savings.

Expenditure Data

Overall Project Total Costs

\$19,207,448

ERC Estimated SDC Funds Spent

\$4,905,906

Reported SDC Funds Spent

\$1,414,551

\$0

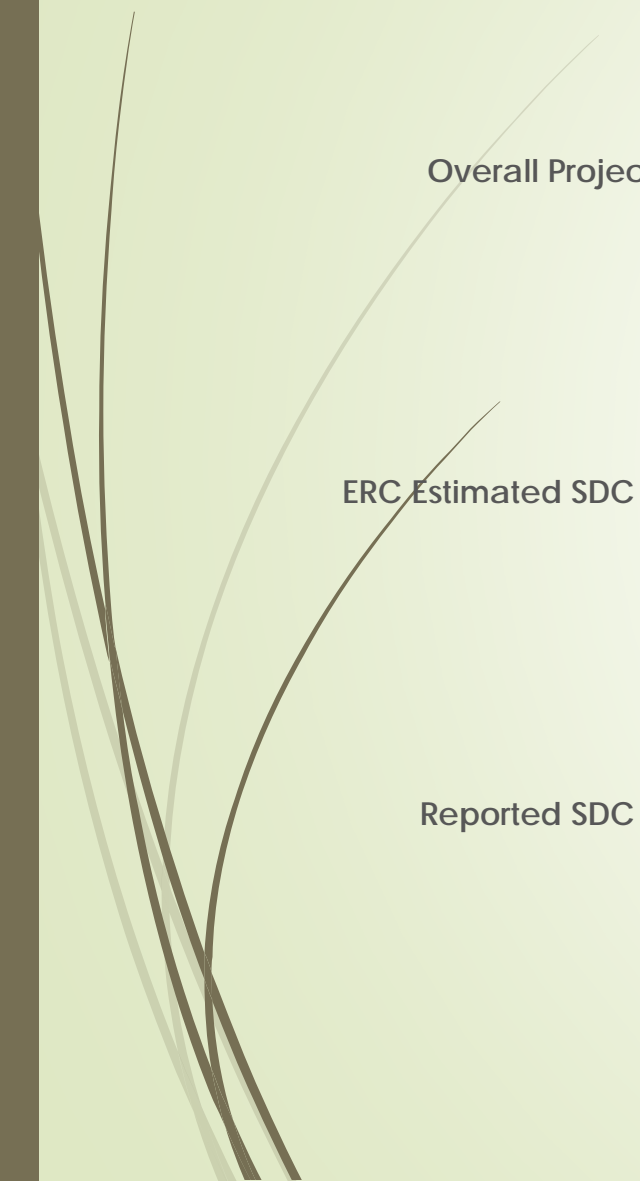
\$4,000,000

\$8,000,000

\$12,000,000

\$16,000,000

\$20,000,000





Verification Assumptions

#1: All SDC can be considered to belong to the same market sector (large industrial customers)

#2: Each report is considered a unique project in which multiple EE measures may have been implemented without interactive effects between EE measures contained in the same report, or for different reports from the same SDC Customers

#3: EE measures that SDC Customers reported are not time dependent, meaning that whether a measure was implemented in PY1 or PY2, the savings associated with the measure are solely dependent on the measure itself.



Verification Methodology

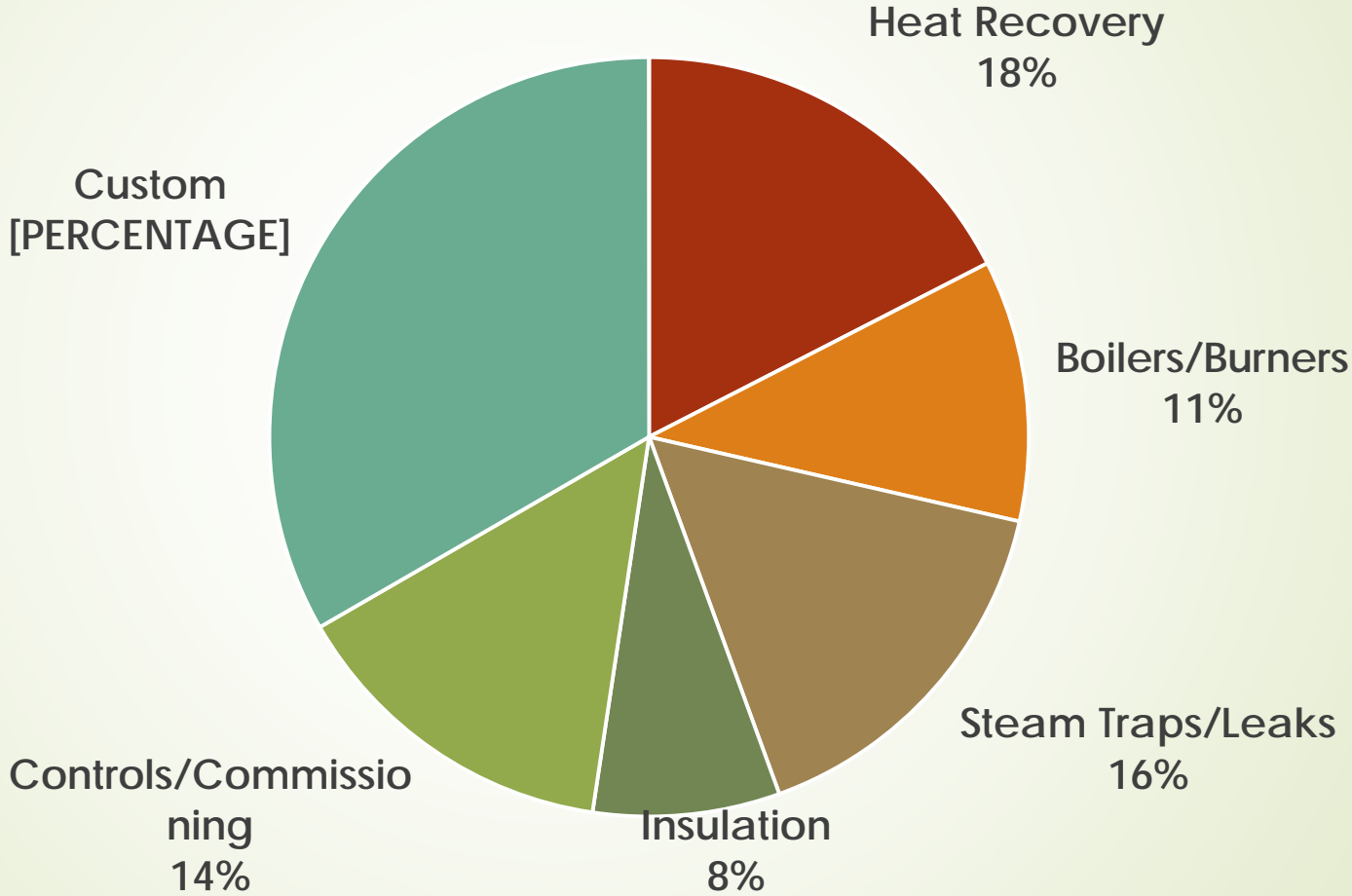
#1: ERC randomly selected 20 reports to verify in order to achieve a confidence level of 85% with an interval of confidence of $\pm 15\%$

#2: Verification consisted of visiting each site and confirming each EE measure described in the report were actually implemented

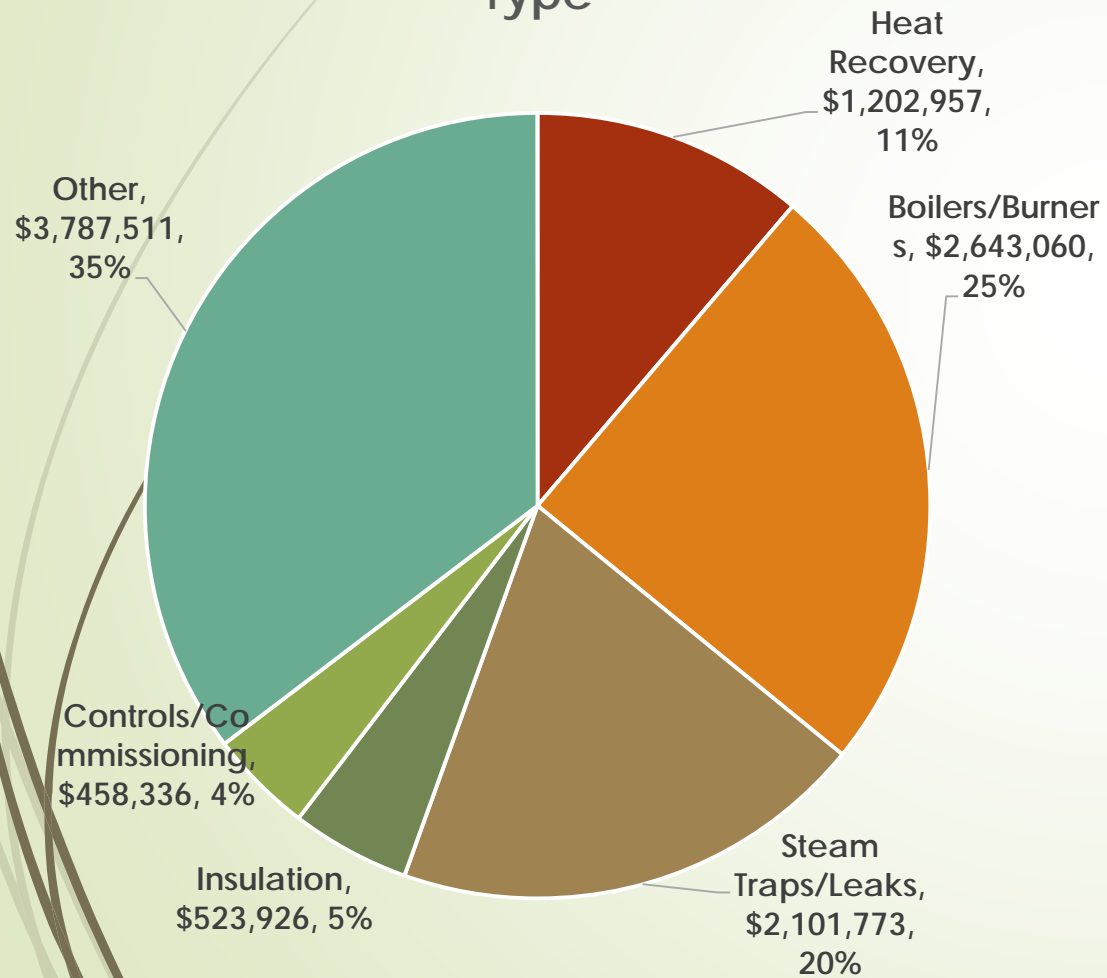
#3: SDC Customers were contacted first via a letter from DCEO and then followed up with phone calls to schedule a site visit

#4: 17 total site visits were conducted, with the remaining three companies stating no visit was necessary as projects had not yet been implemented

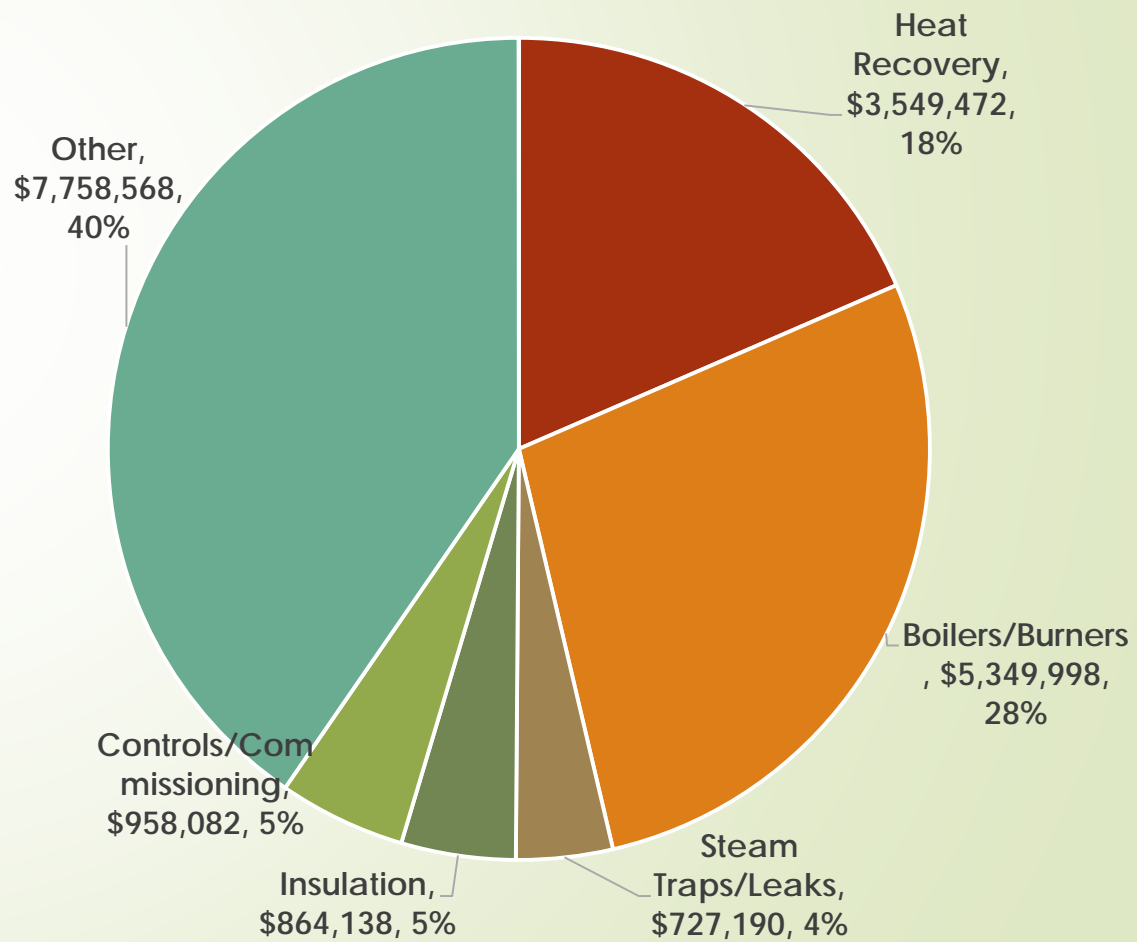
Reported Project Types



Estimated Annual Savings by Project Type



Reported Cost by Project Type





Recommendations

Standardized Report Format (Develop a Report Template)

#1: Helps SDC Customers properly identify and report the data required for financial and energy efficiency criteria

#2: Helps DCEO or an assigned verifier to easily process information reported in order to check for compliance, verify savings, and quantify the impact of the program



Recommendations

Measurement and Verification Protocol

#1: Develop a set of standardized guidelines for reporting annual savings

#2: Establishing dynamic baselines, reporting periods, and process loads

#3: Evaluate metered data before/after implementation



Recommendations

Frequently Asked Questions (FAQ) Website

#1: Several SDC Customers had questions over funding cycles and restrictions on projects

#2: Questions on different types of projects and time tables for longer projects

#3: Questions on preventative energy loss projects and in house equipment instead of external contracting



Recommendations

Case Studies

#1: Several SDC Customers asked for help with potential new projects to pursue for their facilities

#2: ERC recommends having a list of case studies of various types of projects available for SDC Customers



Conclusions

#1: Program has shown mixed compliance so far in the first two years

#2: There has been an estimated 23,930,251 therms saved per year with total reported expenditures of \$19,207,448 from the 30 SDC Customers in the first two years

#3: The estimated cost per therm saved is \$0.80, or \$0.21 if using only SDC funding for projects as a metric.